ARCHAEOLOGICAL INVESTIGATIONS ALONG ROMAN ROAD, HEREFORD, 2002-2005

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Archaeological investigations along Roman Road, Hereford, 2002-2005

Tom Vaughan

With contributions by Laura Griffin, Katie Head, Derek Hurst, Alan Jacobs, Cathy King (Ashmolean Museum), Stephen Lancaster (Headland Archaeology), Andrew Mann, Elizabeth Pearson, and Gaynor Western (Mercian Archaeology)

Abstract

Archaeological investigations were undertaken on the A4103, Roman Road, between Stretton Sugwas and Tillington Road, Hereford (NGR: SO 4645 4250 to SO 4875 4235), as part of a road improvement scheme. As the name suggests, the current road overlies a stretch of the earlier Roman route which linked the Roman settlements at Stretton Grandison and Kenchester (*Magnis*).

A number of extant stretches of the Roman road were identified, comprising a compacted layer of cobbles and smaller pebble gravel, bedded directly over the natural boulder clay. Roadside ditches were also observed, although at no point was the full width of the road exposed.

It was determined to have been constructed in the mid 1st century, probably during conquest of Wales (AD 47-70) when forts were being established along a supply line from the fortress at Gloucester (*Glevum*). It was maintained down to the late 2nd or early 3rd century, after which time the ditches were allowed to silt up and seasonal alluvium accumulated on the road surface. The route however remained in use, as is indicated by the late 3rd and 4th century coins recovered from the surface.

Three unurned cremation burials were identified within the alluvial subsoil directly overlying the north side of the road at Stretton Sugwas, where it appeared to meander to the south. Although heavily truncated, one was identifiable as an older juvenile or adolescent. Radiocarbon dating gave a number of date ranges, from which the mid/late 4th century is considered as the most probable.

Roadside activity was minimal. The surrounding landscape in the Roman period was one of open, often wet, ungrazed grassland, interspersed with occasional areas of arable cultivation and distant tree cover. There was no evidence for settlement activity immediately adjacent to the road. However, residual traces of iron smithing to the north of Stretton Sugwas were testament to rural industrial activity in the vicinity. A small number of additional ditches on the mound at Lower Veldifer included one which drained water off the road into a large pool, possibly for stock watering. Two deep pits were thought to be quarries. A small stretch of metalling alongside the Yazor Brook and another south-east of Stretton Sugwas were interpreted as track ways.

Earlier activity included two substantial Middle Iron Age ditches, north of Stretton Sugwas. They are conjectured to form a drove way, which remained visible in the landscape well into the Roman period. The mound at Lower Veldifer, previously

suggested to be a prehistoric monument, was determined to be an entirely natural geological feature.

Although the road surface silted over in the mid Roman period, it remained in use as both a route and as an administrative boundary through the post-Roman and medieval periods.

1. Introduction

1.1 Planning and project background

Between May 2002 and April 2005 Worcestershire Historic Environment and Archaeology Service (WHEAS) undertook investigations on the A4103 Roman Road, between Stretton Sugwas and Tillington Road, Hereford (Fig 2; NGR: SO 4645 4250 to SO 4875 4235). The fieldwork was undertaken on behalf of Herefordshire Council as part of the redevelopment of the highway, as it was considered that remains of potential archaeological interest associated with the Roman road (HSM 11130) would be affected.

The scheme included the construction of a new roundabout and link roads adjacent to the Traveller's Rest public house, the realignment of the Skew Bridge on the A480 south of Stretton Sugwas and the Yazor Brook around The Bolts; plus the retention of sections of the existing road at Stretton Sugwas and adjacent to Bovingdon Caravan Park, where the new road runs to the south and north respectively.

1.2 Methods of investigation

The project comprised stages of desk-based assessment and field evaluation (including fieldwalking, geophysical and radar survey, metal detection and evaluation trenching), followed by targeted open area excavation and a watching brief of the groundworks associated with construction. In addition building recording and survey were undertaken at The Bolts and the Skew Bridge.

The site codes assigned to the various stages of the fieldwork project by Herefordshire Sites and Monuments Record (HSMR) are as follows: HSM 32103, 32104, 36655, 38193-5, 38197 and 393180.

Each phase of works is described below. The locations of the interventions are presented in Figs 3a and 3b.

1.2.1 Desk-based assessment

Desk-based assessment was undertaken as a first stage of works to inform the subsequent fieldwork (Halcrow 2002; Woodiwiss 2002). Sources consulted included Herefordshire Sites and Monuments Record (HSMR; available at www.smr.herefordshire.gov.uk/hsmr/db.php) and Listed Buildings database; oblique and vertical aerial photographs held by the National Monuments Record (NMR) and Cambridge University Collection of Aerial Photographs (CUAP), Hereford City Local Studies Library, cartographic and primary documents, excavation reports and other secondary sources. These sources have been revisited in the light of the findings of the fieldwork.

1.2.2 Geophysical and radar surveys

Non-intrusive survey on the scheme was undertaken utilising two methods: magnetometer survey of the fields to the north; and ground-probing radar survey of the existing highway.

The results of the magnetometer survey were inconclusive and no anomalies were identified which could be interpreted to be of archaeological origin. This was

determined to be a function of background 'noise' resulting from the variable natural geology, frequent modern services, metal fencing, and road traffic, rather than a reflection of the actual pattern of buried deposits. The ground-probing radar survey however identified a probable buried road surface in eleven of the twelve traverses across the existing road (Mercer 2002; Patrick *et al* 2002, 5; Figs 4a and 4b).

1.2.3 Evaluation trenches and fieldwalking

Evaluation trenches were excavated within all of those available fields which lay within the proposed road corridor. Fieldwalking was undertaken within a corridor approximately 25m wide to either side of the existing road, of those fields which had been recently ploughed (Patrick *et al* 2002; Patrick *et al* 2004).

1.2.4 Excavation and watching brief

A total of 36 areas were investigated along the route of the road construction. Area 1 (The Bolts sluice) and Area 2 (the Skew Bridge over the disused railwayline) were surveys of existing post-medieval structures. Area 3: Trenches 19-21 were evaluation trenches, within a previously unavailable field. Areas 4, 5a, 5b, 6, 7b, 8c and 9e were open area excavations. Areas 7a, 8a, 8b, 9a-d, 9f, 10a-d, and 11-36 involved monitoring of groundworks (easements, boreholes, test pits and trenches) associated with the development (Figs 3a and 3b).

The watching brief involved monitoring and rapid recording of the trenches, easements, boreholes and test pits excavated by the construction team as part of the on-going development. The exposed sections were generally sufficiently clean to observe well-differentiated archaeological deposits. However any less well defined would not have been visible.

1.3 The archive

An assessment report has been prepared (Vaughan 2007). The site archive and all finds are currently retained at WHEAS. They will be passed to Hereford City Museum and Art Gallery for long term curation.

All artefacts, except articles defined as treasure under the Treasure Act 1996 (or other legal requirements), discovered in the course of the archaeological project are the property of the Client. The Client has agreed to the deposition of the archive at Hereford City Museum and Art Gallery.

2. Background

2.1 Topography, soils and geology

The site comprises a *c* 2.25km section of Roman Road between Stretton Sugwas and Tillington Road, Hereford (Fig 2; NGR: SO 4645 4250 to SO 4875 4235). It is aligned east to west, forming the north to south boundary between the parishes of Breinton, Burghill, Holmer, and part of Stretton Sugwas, which it also bisects.

This section of the road lies across the floodplain of the Yazor Brook. The stream meanders from Kenchester in the west-north-west to the confluence with the River Wye, south of Hereford. It is overlooked by Credenhill to the north-west which rises to *c* 221m AOD. Along much of the scheme the modern A4103 road lies along a slight

causeway which is *c* 1m higher than the surrounding fields. This indicated that earlier surfaces and associated features might survive underneath the modern road. In contrast, adjacent to Bovingdon Caravan Park, the road lies within a holloway. Earlier road surfaces would be expected to have been worn away along this stretch.

At the junction with Tillington Road, at the east end of the road scheme, the height is *c* 73.5m AOD. From there the route dips gradually before rising to its highest point, *c* 74.20m AOD, adjacent to Bovingdon Caravan Park. The road then slopes down to the floodplain. The lowest point is *c* 63.40m AOD, at Tow Tree Lane, where a tributary stream from the north-east feeds into the Yazor Brook, which crosses the road at The Bolts, *c* 0.35km to the west. Within the western third, there is a slight mound within the floodplain, at Lower Veldifer, which rises to *c* 66.10m AOD. The road then continues across the level ground, gradually rising to *c* 70m AOD at the junction with the A480 at Stretton Sugwas to the west end.

The predominant soils along this stretch of the road belong to the Escrick 1 Soil Association (571p). These comprise deep well drained reddish coarse loamy soils, some similar soils with slowly permeable subsoils and slight seasonal waterlogging, and some slowly permeable seasonally waterlogged reddish fine silty soils (Soil Survey of England and Wales 1983). The soils of the associated Bromyard group, which cover much of the county, have been identified as having poor water bearing properties, such that run off '…causes the rapid silting of surface ditches and streams…' (Wilmott and Rahtz 1985, 41).

The drift geology consists of reddish till or boulder clay, with the exception of the course of the Yazor Brook, which comprises a narrow band of alluvium (British Geological Survey 1989). This overlies fluvioglacial gravel terrace deposits within a northerly curve of the proto-Wye subglacial river created during the late Devensian glaciation which extended from the west into the Hereford Basin, *c* 26,000 BP; (Brandon 1989, 34, 36 and 39).

2.2 Archaeology and history

2.3 Prehistoric period

Although there are no known sites of defined prehistoric date within the immediate vicinity of Roman Road, cropmarks and earthworks have been identified, particularly of ring ditches, conjectured to represent Bronze Age round barrows or Iron Age (and Roman) settlement enclosures and associated field systems (HSM 819, 2452, 2453, 6018, 6026, 6027, 6300, 6308, 6885, 7015, 7022, 7025, 7026, 9088, 9143, 9146, 23172, 30180, 30371 and 48838). A number of artefacts have also been recorded in the area, most notably stray finds of flint scatters and tools of Mesolithic, Neolithic and Bronze Age date (HSM 6285, 7086, 8311, 8367 and 12084). Five sherds of possible Iron Age pottery have also been recovered from fields south of Shelwick to the east of current scheme (HSM 9447).

Credenhill hillfort, occupied from *c* 390 BC to AD 75, lies 2.25km to the north-west of Stretton Sugwas (HSM 906). Roman settlement activity just to the east of Kenchester had Mid/Late Iron Age (mid 3rd-1st C BC) origins in the form of an enclosed farmstead with associated burials and a field system to the south (HSM 119, 819 and 7250; Wilmott and Rahtz 1985, 53; Buteux and Atkin 1997, 5). Several cropmarks in the vicinity are conjectured to be of prehistoric and/or Roman in date, including linear ditches and a circular enclosure south-west of Pipe and Lyde (HSM 3938 and 6885),

rectangular enclosures at Swainshill, south of Stretton Sugwas (HSM 7025) and possible cropmarks at Pound Furlong field, south of Roman Road, between The Bolts and Yazor Brook (HSM 23172; Hurst 1996, fig 4).

A distinctive mound opposite Veldifer Cottages at Lower Veldifer had been conjectured to be a possible prehistoric monument, such as a Bronze Age barrow, over which the Roman road was deliberately laid (Woodiwiss 2002, 5-6). It was clearly considered to be an important feature in the landscape in the post-Roman period, as the boundary of the parish of Breinton, to the south, extends in a very narrow spur northwards to coincide with the road on this feature.

A recent large scale evaluation within two fields to the south-west of The Bolts, immediately south of Roman Road, revealed a 22m wide, north to south aligned, linear feature with a small quantity of pottery of either Late Neolithic or Late Bronze Age/Early Iron Age date. It is unclear what function the feature performed, although a boundary ditch or quarry ditch for a ploughed out Neolithic long barrow have been tentatively postulated (SO 475 419; HSM 45144; Craddock-Bennett 2008).

2.4 Roman period

2.4.1 Roman Road

The section of the present A4103 road known as Roman Road stretches from Lugg Bridge in the east (SO 5316 4183) to Stretton Sugwas (SO 4616 4250) in the west, a distance of approximately 7km (HSM 11130; Fig 1). The modern road follows a section of a long-distance Roman road, which follows a broadly east to west route across Herefordshire. This road was described in Margary's survey of the Roman road network in Britain, and identified as Margary 63 (Margary 1973, fig 13, 340-1). The route (HSM 5559) can be traced from a point near the Roman fort and settlement at Stretton Grandison (*Eposessa*?; HSM 2511, 16775, 16776 and 16778; SO 6320 4400), westwards through the small walled town of Kenchester (*Magnis*; HSM 121; SAM HE 29; SO 4405 4280) along the Wye Valley to the forts at Clifford (SO 2490 4670) and Clyro (SO 2285 4345) and then south-west to Y Gaer, Brecon (*Civicium*; SO 003 296; Margary 1973, 340-342: Margary 63a and 63b; Esmonde Cleary 1987, 100-1; Ray 2003, 12).

The origins of this road are thought to lie in the period of the conquest of Wales (AD 47-70) when forts were established along a supply line from the fortress at Gloucester (*Glevum*), initially under Governor Ostorius Scapula in AD 48-9 (Wilmott 1980, 120-1; Jones and Mattingly 1990, 66 and 79, maps 4.16 - 4.17). On this basis it has been argued that Roman Road was a 'penetration' road following the army westwards and that the town of Kenchester overlies a fort of the conquest period (Wilmott 1980, 120; Davies 2002, 115-6, fig 53), although it has also been argued that the town simply developed around a crossroads (Esmonde Cleary 1987, 100).

From the mid 70s until the mid 2nd century the road was an important strategic route for supplying the extensive network of garrison forts in Wales (Jones and Mattingly 1990, 102, maps 4.33-4.37). It has been suggested that the roads to the south and west of Kenchester declined in importance from the late 2nd century, as the forts it supplied (Brecon and Abergavenny) were abandoned (Wilmott 1980, 130). Despite this possible change in the strategic importance of the east to west route, the road network around Kenchester undoubtedly remained regionally important for supplying

the town (Jones and Mattingly 1990, map 4.38; Buteux 1996a), which remained an important centre into the early 5th century (Wilmott 1980, 125-6).

This is borne out by the discovery in 1796 in the north wall of the town of a milestone with the inscription *IMP C MAR AVR NVMORIAN O(fficina) R(es) P(ublicae) C(ivitas) D(obunnorum).* The accepted translation is 'For Imperator Gaius Marcus Aurelius Numerianus (Pius Felix Augustus), [made by] the department of public works for the tribal council of the Dobunni', which dates to AD 283/4 (HSM 8929; Collingwood and Wright 1965, RIB 2250; Wilmott 1980, 128). This has been argued to indicate that the roads around Kenchester were in fact being maintained in the later 3rd century (de la Bédoyère 1992, 68), although others consider that such inscriptions were often simply erected to commemorate the inauguration of a new emperor (Davies 2002, 29). Even if the former is accepted, sadly it is unclear to which road this milestone may relate. The *civitas* capital of the Dubonni was at Cirencester (*Corinium Dobunnorum*), which lies off the southern end of the east to west route to Stretton Grandison and on through Gloucester. It is conjectured that Kenchester was a flourishing *vicus* or sub-capital of the *Civitas Dobunnorum* from the late 2nd century through to the end of Roman period (Wilmott 1980 127-8). It is therefore considered that Roman Road remained important as part of the primary direct overland route to Cirencester and thus would have been maintained throughout the Roman period, so the suggestion that the east to west routes declined with the abandonment of the military forts in Wales is too simplistic.

2.4.2 The construction of Roman roads

The general form of Roman roads in Britain has been summarised by Margary (1973, 19-24) and more recently by Davies (2002, 33-5, 53-63 and 67-78).

The typical form of construction was on an embankment or agger, often created by piling up the spoil from a broad shallow ditch or a series of pits alongside the required alignment. It some areas the agger was a simple earth bank, in others it was carefully built up of differing layers. On important national routes, the agger has been observed to be anything up to 1.5m (5') high and 15m (50') wide. However, on routes of lesser importance, aggers have been found only 0.30-0.60m (1-2') high, while elsewhere the road was simply placed directly onto the levelled ground surface with little or no preparation.

Margery argued that there were standard road widths, of 7.30m or 9m (24' or 30') along important routes. Along lesser routes the general width was 3.8-4.5m (15-18'), although as little as 3-3.65m (10-12') is also found, for example where terracing along a hillside was required. Davies has found that the average metalled surface was 6.50m, which would have been adequate to allow two vehicles to pass.

The roadway itself was often comprised of distinct layers. Larger stones lay below a compacted surface of fine gravel, smaller stones or flint. Occasionally, however the entire road make-up comprised just a single thin layer of gravel and sometimes it appears to have been entirely without metalling of any kind. Local materials were generally used in their construction, although this may have come from some distance within the vicinity, such that the road make-up can vary considerably along any single stretch. Paving with flat stone slabs was rare, except within urban areas. In areas of iron production the waste iron slag was often used, it being an extremely durable material. An obvious local example would be the roads and surfaces in the settlement at Worcester (*Vertis*), a major centre of iron production through the Roman period (Dalwood and Edwards 2004, 16 and 18).

The surface was often steeply cambered from the centre, down to either side, such that individual layers could vary from 0.60m (2') thick in the centre to 0.05m (2") towards the edges.

Davies (2002) has researched all published excavations across Roman roads and has determined that the average depth of metalling used in Britain is 0.50m, from a minimum of 0.07m (3", at Glossop, Derbyshire) to maximum of 4m (13', at Wellington Road, York; Davies 2002, 56-7). Layering is often seen within the metalling, generally a bottom foundation and a discrete upper surface. The use of larger stones to form the foundation, known as 'hard' or 'heavy' bottoming has been noted in a quarter of Roman roads, particularly in the north and west, areas where the Roman army was active for longer. This has been taken to argue that this construction technique was favoured by the military road builders, although may equally be a function simply of the availability of suitable materials (*ibid*, 58).

Wheel ruts are often observed, although Margary argues that generally conclusions cannot be drawn from them as to the wheel-base width of individual vehicles, as it is largely impossible to determine which alignments form an actual pair. This is exacerbated toward the edge of the road where any camber would cause the outer wheel to bear a greater portion of the weight on the wagon, causing it to dig in more deeply, while the inner may not have left any trace. Where they have been found through gateways and other confined locations, the average wheelbase is considered to be 4'8½" (143.5cm).

In some areas two additional shallow ditches were dug either side of the road, although not immediately adjacent to the road surface to act as drainage, but rather at some distance, defining a wide 'road zone' generally covering three times the width of the agger. Margary defined two standard 'road zone' widths, 18.90m (62') and 25.60m (84'), measured from the centre of each ditch. Davies suggests however that there were in fact many variations within this range; many roads did not have any ditches at all, or just on one side, and that there were no enforced standards, such that there was in reality no 'typical' form of road construction at all and that width and depth of metalling cannot be taken to infer the relative importance of individual routes (Davies 2002, 142).

Where the roads subsequently fell out of use and lie within agricultural fields, ploughing often reduces the height of the agger, breaking up the metalled surface and spreading it across a wider area. However a loose band of stones is often conspicuous within the plough soils, although this can be indistinct within areas of natural gravel. In areas of disuse, vegetation grows up and over, creating humic soil deposits which result in burial of the surface. Where Roman roads were subsequently maintained, particularly as turnpike roads in the 18th century, then they are argued to have frequently been so substantially altered that no trace of their Roman origins can be seen.

2.4.3 The local Roman road network

Excavations have recorded the east to west road (HSM 11130; Margary 63a) inside the town of Kenchester (HSM 121) and outside its east gate. Excavations in 1912-13 inside the town identified a well-constructed road, about 8-9m wide, with a central surface drain. The road surface, of small cobbles in fine gravel, 0.125m thick, was founded on coarse gravel 0.25-0.45m deep, lined with rough masonry, with flanking drains and pavements (HSM 16886; Jack 1916, 178, plates 2 and 3; Jack 1928, 13-15). A section excavated *c* 107m east of the east gate in 1924 revealed two apparent

parallel alignments, with a loosely cobbled 7.9m wide area between. The northernmost course was 5.7m wide with defined kerbstones, *c* 0.25m thick, comprising a 0.18m thick lime concrete foundation below *c* 0.07m of small cobbles. The southern alignment was more substantial, measuring 8.50-10.30m wide, with cobbles 0.30m thick, laid over a bed of sand, ashes and lime. The foundation layer contained pottery from *c* AD 120-160 (HSM 20792; Jack *et al*, 1928, 10-11). Aerial photographs taken in 1957 did not identify any evidence for two continuing parallel roads. It has therefore been suggested that the northern course may in fact be a discrete occupation layer (Baker 1967, 194).

There have been limited observations elsewhere on the route of the road. A section has been recorded at Garnons Park (*c* SO 396 436) 4.5km west of Kenchester, where it lies on a visible *agger,* which was found to be 2.4m wide (HSM 31335; Margary 1973, 341). An archaeological assessment of the trackway between Magna Castra Farm and Field Barn, Kenchester (1km to the west of the length examined in the present project), concluded that a section of metalling visible at the surface may form part of the Roman road surface, although the majority is probably a post-Roman route, used to transport stone from the abandoned Roman town, similar to the Period 5 surface identified by Wilmott and Rahtz (Buteux and Atkin 1997; Wilmott and Rahtz 1985, 91-2). Archaeological monitoring of groundworks associated with the road realignment and replacement of a canal bridge at Roman Road, Holmer (3.25km to the east of the present project), did not reveal any deposits of Roman date, although a possible roadside ditch of later origin was recorded (HSM 22164; SO 523 419; Cook 1995, 2).

The Roman road has been identified at Rosemullion House, Bishopstone, 1.75km to the west of Kenchester, to the south of the existing modern road (SO 4207 4309). At this point it was found to comprise distinct layers. The surface was formed of cobbles, bedded on a layer of red gravel which in turn overlay a further band of cobbles, bedded on soil (Lewis 2008).

In 2003 a watching brief of works either side of Roman Road, associated with a sewer scheme alongside Tow Tree Lane, revealed a probable buried plough soil or occupation layer at *c* 1.30m depth. To the immediate north of the road, at *c* 1.50m depth, this layer was found to seal a large pit or linear feature, which lay at an oblique angle to Roman Road. It was not traced to the south of the road and was conjectured to represent a boundary ditch of Iron Age (or Saxon) date, although this is speculative as no finds were recovered. The overlying deposit comprised a sandy silt with inclusions of clay, charcoal and frequent gravel. There was no apparent metalling or any indication that it represented a disturbed road surface (HSM 35532 and 42839; Cruse 2003, 6-7).

Watling Street (West) is a major north to south road which follows a route from Chester (*Deva*) to Wroxeter (*Viroconium;* Margary 6a), to Monmouth (*Blestium*?; Margary 6c), Caerwent (*Venta Silurum*; Margary 6d) and Caerleon (*Isca Silurum;* Margary 60a) (Fig 1; HSM 3938, 6883 and 11129; Margary 1973, 318-324; Jones and Mattingly 1990, maps 4.33-4.37). In the vicinity of Roman Road, this road follows the A4110 to Elton's Marsh (SO 4925 4375). At the point where the modern road turns to the south, a slight agger, hedge lines and a footpath indicate that Watling Street (West) continued on the same south-east alignment to bisect Roman Road (Margary 630) at Orchard Close, Holmer (SO 5040 4215; HSM 3938).

In 1931, excavations for an electric cable within an orchard on the former Widemarsh Common between 'Armadale' and the cider works revealed a band of cobbles within

the subsoil, overlying the natural gravel, approximately 6m wide. The cobbles were up to 0.18m long and although they were disturbed and did not form a continuous metalled surface, were considered to represent a disturbed section of the Roman road (*c* SO 505 407; Hoyle 1938, LXXVI). The exact alignment southwards through Hereford is currently unknown, although it is conjectured to have forded the River Wye within the modern city where the site of a possible Roman fort has been tentatively postulated along the axis of Church Street (Margary 1973, 322; Shoesmith 1982, 6 and 88-9).

The average depth of metalling on Watling Street (West) has been found to be 0.50m, and the width of metalling was 6.8m, from all published excavations undertaken across it. This matches the average depth of metalling of all recorded excavations of roads across the province of Britannia (Davies 2002, 57 and 75).

Outside the east gate of Kenchester the east to west road (Margary 63a, HSM 11129/11130) is crossed by a north to south road (Margary 630, HSM 258, 6883 and 11123) which diverges from Watling Street (West; Margary 6c) near Burghill Lodge, Tillington (*c* SO 4775 4670). Margary 630 continues southwards (HSM 6883), crossing the River Wye via ford or possibly a wooden bridge at Old Weir (HSM 258; SO 4421 4123) and on to Abbey Dore and Abergavenny (*Gobannium*; Margary 1973, 322, 342-3). This north to south road, known locally as Stone Street (HSM 11123), has been investigated in a number of places to the south of Kenchester.

In 1924 a slot was excavated approximately 110m south of the east gate (although described erroneously as Watling Street). The metalling was found to comprise four distinct layers. The surface consisted of 0.075m of small cobbles, overlying 0.05m of red sand, over 0.18m of larger cobbles, bedded on 0.23m of hard compacted gravel with lime, thought to be naturally occurring. It extended to 6.7m wide, was without defined kerbstones, but with shallow gutters within the cobbles to either side, which was most pronounced to the east. In 1920 three inhumations were recorded immediately to the north of this intervention. Two lay alongside the road edge, and were found in association with 3rd century pottery, while the third lay prone (face down) over the surface of the road itself. These burials are considered to indicate that a larger 3rd century cemetery is located at this point, although the latter burial is an anomaly, given its unusual form and location over the road itself, so may be of post-Roman date (HSM 20790; SO 4430 4267; Jack 1928, 9).

A series of trenches were excavated in the field/s in the loop of the River Wye, south of Old Weir Farm, as part of the televised 'Big Roman Dig' series in 2005. This work identified two adjacent road surfaces. To the west lay a lower surface of rough cobbles and large gravel, 6m wide with deep and wide wheel ruts. To the west, at a higher level, lay a surface of fine uniform gravel, bedded in lime mortar. This latter was also 6m wide and lay on a noticeable agger, up to1m higher than the surface to the west. It contained light wheel ruts and evidence of systematic and thorough re-surfacing on three occasions. Although the western portion appears stratigraphically to have been constructed first, it is argued that both surfaces were in use at the same time. Toward the river, the replacement surfaces successively shifted 3-5m eastwards each time, indicating that the crossing of the river altered gradually through time. It is argued that the earliest led to a wooden bridge, postholes for which were identified (HSM 258 and 6883; *c* SO 4423 4143; pers comm Tim Hoverd; Ray 2005).

A section of the southern continuation of this road was exposed near the former railway station at Abbey Dore, *c* 12km to the south. It comprised '… a rough pavement of limestone nodules 12'9" [3.90m] wide, and 9' [0.23m] in thickness …'

with parallel wheel ruts 4'8" (1.42m) apart. This was considered to represent only the foundation of the original road construction, the upper gravels having been disturbed subsequently (HSM 4201; *c* SO 384 305; Jack 1918, 178).

A number of other north to south road alignments have been identified which intersect with Margary 63a, including a road north-east of Leominster, southwards to the small Roman town at Weston-under-Penyard (*Ariconium*; Margary 1973, 331-2: Margary 613). At Stretton Grandison at the eastern end of Margary 63 it meets a road that runs south-east to Gloucester (Margery 1973, 328-9: Margery 610). It has been proposed that the main east to west road may have come from the east (roughly along the route of the modern A4103) from a ford over the River Severn at Worcester (Shoesmith 1982, 4). A section of a metalled surface has been identified at Castle Frome to the north-east, which has been argued to support this theory (HSM 33760; SO 66 45). In a similar vein, it is conjectured that the south-eastern route (Margary 610) also continued north-north-west of Stretton Grandison (HSM 33806).

2.4.4 Roman settlement

There is no known roadside occupation along the length of the road investigated. However, a number of settlements have been identified further afield. It is the agricultural produce of these settlements, notably the high-status farms or villas, surrounding Kenchester which would have formed the economic basis of the town (Wilmott 1980, 128; Ray 2003, 7-8).

Excavations west of Stretton Sugwas, in 1977-79 in advance of gravel extraction and evaluation trenching of Field Barn Farm in 2008 have revealed substantial extra-mural settlement activity up to 0.5km east of Kenchester, along both the east to west and north to south aligned roads (HSM 21032). This included Roman activity on the site of the aforementioned late Iron Age enclosed settlement, with evidence of iron working, associated burials, a 3rd century winged-corridor type villa expanded and remodelled in the 4th century with mosaic floors (HSM 119, 121, 7250, 20791, 30596 and 48822; Wilmott and Rahtz 1985, 94-6; Esmonde Cleary 1987, 100-1; Craddock-Bennett 2009). There is therefore evidence for occupation along the road between the eastern gate of Kenchester and the excavated villa settlement, but it is unknown if any settlement extended further eastwards (HSM 784 and 785). Quantities of Roman pottery, indicative of a farm or villa site, were reportedly found during quarrying to the south-east in Barnfields, south of Roman Road in the 1960s (HSM 6297; Shoesmith 1980, 153).

In 1891 and 1893, at New Weir, on the north bank of the River Wye, a cistern with stepped octagonal sides of dressed stone and two adjacent stone revetments, jutting out from the river bank were recorded. The latter have been described as '… the highest standing pieces of Roman masonry in Herefordshire…' (Shoesmith 1980, 154). Trial pits and a geophysical survey in 1977 determined the presence of a mid sized villa with at least two mosaic floors. The cistern is conjectured to be a *nymphaeum* or water shrine, which has been argued to indicate a possible religious function for the site, although it may equally have been involved in trade along the river with Kenchester, which lies 1.5km to the north (SO 4365 4185; HSM 718 and 30631; Shoesmith 1980, 134-54; Ray 2003, 7)

A Roman villa was discovered at Bishopstone, 2.1km west of Kenchester, when the parish rectory was built in 1812 (HSM 7223, SO 4178 4335). It lay on high ground 0.25km north of the east to west road and comprised a substantial house with a fine 10m² mosaic pavement bearing geometrical designs, a central octagonal motif and

four medallions with urns and rayed motifs. Associated finds also included cremations, miscellaneous bones (it is unclear if these were human or animal) and three coins of Constantine (AD 306-337; Bull 1882, 257; Ray 2003, 7)

Away from Kenchester, there is little evidence for intensive Roman occupation in the vicinity of the site. Although the recent large scale evaluation to the south-west of The Bolts, immediately south of Roman Road, revealed no evidence for Roman activity, geophysical survey did identify a rectilinear enclosure, which may be of Roman date (HSM 45144; SO 4769 4187). Elsewhere, recorded finds include bronze artefacts from near Stretton Rectory *c* 0.4km north of the road (HSM 8466), a coin hoard near to Priory Hotel *c* 0.6km south-west of the road (HSM 6298), a single *denarius* of Hadrian between King's Acre and Stretton Sugwas to the south (HSM 6299) and miscellaneous Roman material south of Shelwick to the east of the scheme (HSM 9085, 9144 and 9147). Miscellaneous Roman material has also reportedly been found in Credenhill village, such that it has been argued that Roman buildings may also lie in this area (Shoesmith 1980, 153).

There is therefore evidence of Roman occupation and villas on the higher ground to the west of the present scheme, but none along the road or within the immediate vicinity. This is probably simply a function of topography, the area of the current scheme being largely low lying.

2.5 Post-Roman, medieval, post-medieval and modern periods

No post-Roman or Anglo-Saxon sites have been identified in the immediate vicinity, nor stray artefacts recovered. However the continued importance of the road as a physical feature in the landscape is indicated by its alignment defining the boundaries of four early medieval parishes along the eastern two-thirds of the scheme: Breinton and Holmer to the south, Burghill and part of Stretton Sugwas to the north (Margary 1973, 341; Woodiwiss 2002, 8-9). This is a common feature of Roman roads nationally, and is mirrored to the west where the Roman road defines the boundaries of Byford and Monnington to the south, with Mansell Gamage and Staunton-on-Wye to the north (Margary 1973, 25).

Place-name evidence also indicates that the road remained in use as a route within the post-Roman landscape. Although the first documentary evidence for Stretton Sugwas is from the Domesday Survey of 1086, the name is thought to derive from a number of conjoined Old English/Anglo-Saxon words of *c* 7th century date.

Stretton comes from *stræt,* meaning 'a road', which is generally taken to refer specifically to a metalled or paved road of Roman origin, and *tun*, a settlement; hence 'a settlement on a Roman road'. Sugwas is from *sucge, sugge* or *sugga*, a sparrow, plus w*æsse,* which is understood to mean 'land by a meandering river which floods and drains with spectacular speed', which would appear to be the Yazor Brook, or further afield the River Wye. Therefore Stretton Sugwas literally means 'the settlement on the Roman/metalled road within the alluvial (marshy) land frequented by sparrows' (Coplestone-Crow 1989, 186-187; Mills 1998, 331-2). Similarly the derivation of Stretton Grandison to the east is 'the settlement on the Roman road owned by the Grandison family' (Coplestone-Crow 1989, 186).

It should however be noted that it has also been argued that *stræt* may derive from the Welsh *ystrad*, meaning valley, which is also plausible, given Herefordshire's position in the Welsh Marches, or from the Old Cornish *stret,* meaning a stream (Richardson 1996, 454). In this instance, this interpretation is not out of place, given

the road's westward alignment along the Wye Valley. More recently is it purported that Stretton Sugwas was also colloquially known as 'Stoney Stretton' (Richardson 1996, 455).

In the medieval period, the focus of Stretton Sugwas is considered to have been around Priory Lane (SO 4655 4300), to the north of the modern village near to the earlier site of St Mary Magdalen's church (HSM 2208; SO 4675 4288). A plan of 1757 depicts eleven houses in the fields west of Stretton Court Farm, although the village subsequently shrank in size, and the focus shifted to its present location around the crossroads of the A4103 and the A480 (HSMR 6302; SO 4645 4250). The present church was built in 1877 to the south-west using elements of the medieval building (HSM 2207; SO 4594 4202).

The development of Hereford to the south, from *c* AD 676, would have militated against Roman Road becoming a major route in the medieval period, as it by-passed the city to the north, and as such probably remained as a 'green lane' down to the early 20th century (Hurley 2000, 235-246). Cartographic sources appear to bear this out. However it was only after the 12th century that roads radiated out on all sides of the city. Prior to that date, a marsh lay to the north of the river, between the current Bridge Street and the cathedral precinct. This would have prevented immediate access to the west of the city and may indicate that Roman Road was in fact the main route west out of Hereford, albeit indirect, through the post-Roman and early medieval periods (Thomas and Boucher 2002, 183-4, fig 9.1)

The earliest maps of the county (Christopher Saxton 1577, John Speed 1610, Johannes Blaeu 1645, Joannes Jansson 1646, Richard Blome 1673 and John Seller 1694) show the approximate locations of the settlements and the rough alignment of the Yazor Brook as a substantial river, but no indication of the roads (Smith 2004, plates 1, 2, 4, 6, 10, 13 and 15).

The maps of Thomas Jefferys and Thomas Kitchin from 1748 and of Alexander Hogg of 1784 show the major roads, such as those heading north out of the city. There is no indication of Roman Road which these would have crossed (Smith 2004, plates 17 and 18).

Isaac Taylor's county map of 1754 provides more detail of the road system and is the first to include Roman Road. However, it is not depicted as a straight line, but rather it undulates along a slight northward curve. The map also shows the alignment of Yazor Brook, apparently flowing under the road (Smith 2004, plate 21). John Cary's map of 1787 similarly shows the road as slightly curved (Smith 2004, plate 8). Conversely, the Stretton Sugwas parish maps of Meredith Jones from 1757 and James Cranston from 1794 indicate the western end of the road as absolutely straight and even (Smith 2004, plates 36 and 63).

With the introduction of the Highways Act of 1555, each parish became liable for the maintenance of their roads, and each adult parishioner was required to work four days per year on this task, under the auspices of a Surveyor of Highways. However, whilst simultaneously gushing over the county's natural beauty and fecundity, commentators from the late 16th century onwards regularly criticised the neglected state of Herefordshire's roads. They were particularly bad during the winter months when flooding of the River Wye and other streams was a frequent occurrence. In the late 18th century William Marshall complained about landowners who were improving their own estates whilst ignoring the state of the surrounding roads, which had been a

recognised duty of the squires in the medieval period (Smith 2004, 6-7 and 13; Shoesmith 1982, 1; Tonkin 1996, 398; Jack 1918, 180-1).

This is borne out by the fact that a number of (private) estate bridges crossing the Yazor Brook and a tributary existed whilst the public highways had to make do with fords. Over the Yazor Brook, 0.1km south-east of Stretton Court, is a single span bridge constructed of sandstone rubble with a segmental pointed arch of squared sandstone rubble, conjectured to be of 14th century date (grade II listed, LB 125455; SO 4667 4294). Horn Bridge, 5.2m wide and 2.5m long, over the tributary at the north-east boundary of the parish, is of the same construction and thus the same probable date (HSM 6294; SO 4741 4336); These bridges are conjectured to have been built and maintained by the lord of the manor for use on the farm and for the prestige of the estate.

Turnpike Trusts were first established in Herefordshire in 1721, allowing for the collection of tolls to fund the maintenance of the counties roads (Smith 2004, 13). They remained in force until the establishment of the County Councils in 1888 (Tonkin 1996, 398). The following toll routes have been identified in the vicinity of Roman Road (Tonkin 1996, 400):

- From a gate at Burcott, close to Lugg Bridge (HSM 34204; SO 5250 4180), northwards to Bodenham Moor (SO 544 505), established in 1730;

- From Whitecross, Hereford (HSM 34210; SO 5160 3960) to Swainshill (see below) and westwards to Bredwardine (SO 332 445) along the A438, established in 1730;

- From Whitecross, Hereford (HSM 34214; SO 5050 4010) westwards along A438 and A480 to Credenhill, Yazor and Norton's Canon to Eckley's (Eccles) Green (SO 376 487);

- From Lugg Bridge (HSM 34209; SO 5350 4180) eastwards to Newtown and Frome's Hill (SO 676 466) along part of the original Roman road and the modern A4103 to the east, established in 1730;

- From Fryers Gate, Hereford (HSM 34215; SO 5050 3970), adjacent to the river, westwards along Barton Road to Sugwas (the exact route is unknown).

The aforementioned Stretton Sugwas parish maps of 1757 and 1794 indicate that an apparently rough track, aligned north-east to south-west across the open fields to the south-west of the village, was formalised as a road during enclosure of the fields in the latter half of the 18h century (Smith 2004, plates 36 and 63). Turnpike houses were set up at either end. They are indicated on the tithe plan of 1840, to the south at junction with the main A438 east to west Brecon to Hereford road (HSM 18570; SO 4590 4184) and to the north alongside the junction of Roman Road A4103 and the A480 to Norton Canon (HSM 18569; SO 4639 4255). They relate to two of the routes identified above. Roman Road, however, was never turn-piked, indicating that it was not considered a high priority for repair and maintenance in the 18th and 19th centuries.

Despite the introduction of toll routes, the lack of investment in the public roads continued into the early 20th century: '… by far the greater part of our 464 miles of rural roads consists of 4 to 6 inches [0.10-0.15m] of Clee Hill Stone laid on virgin red clay. If such roads are subjected to heavy and continuous mechanical traffic during

the winter months their condition will be that of the middle ages or worse' (Jack 1918, 182).

The route of the Roman road may been indicated in field names recorded in the tithe surveys of the mid 19h century. There are four *Street Fields* recorded on the 1840 tithe plan for Stretton Sugwas parish, conjectured to derive from their ownership by the village or to a side road to the south of the main Roman road. The route eastwards can be deduced by the two field names *Street Croft* in Weston Beggard, *Street Fold* in Stoke Edith and *Street Orchard* in Yarkhill (Richardson 1996, 455).

The aforementioned investigations undertaken between 1977-79 to the east of Kenchester also involved the excavation of a slot across the extant track to the north of the Iron Age and Roman activity. This determined that the route was of post-Roman date, probably primarily laid out to facilitate removal of stone from the abandoned Roman town. The cambered surface was found to be deeply rutted and comprised a single layer of densely compacted cobbles, 0.20m deep and 3.60m wide. Although no dating evidence was recovered from the cobbles themselves, they sealed late 4th or early 5th century layers (HSM 119; Buteux and Atkin 1997, 6, fig 5 and plate 1). Non-intrusive investigation was undertaken in 1997 along the same track, between the road south of Magna Castra Farm (SO 4432 4269) and the disused railway line, north of Field Barn (SO 4540 4256), which had been closed to vehicles but maintained as a bridleway since the 1970s. Where visible the track comprised a metalled surface 3-4m wide, of compacted pebbles, generally 0.06m in diameter, with occasional larger pebbles up to 0.20m and very occasional larger stones. Where the modern track coincided with the Roman road (at Profile C), a higher proportion of angular stones were noted and the surface appeared to be more degraded. This was postulated to represent the original Roman surface, rather than the later surface, which may have been of early 20th century date (Buteux and Atkin 1997, 6-7 and 9, fig 2).

In the first two decades of the 20th century noticeable improvements were being made to many of the major roads across Herefordshire (Jack 1918, 182). A bridge over the Yazor Brook is first indicated on the OS map of 1904. The bridge was widened and rebuilt in its present form between 1937 and 1971 (Halcrow 2002, 8-11). Roman Road remained as a largely single track road, punctuated with ad-hoc short wider passing places through to the beginning of the 21st century and the present improvement scheme.

2.5.1 The Bolts sluice and Skew Bridge

The sluice at 'The Bolts' lies between the building of that name and the bridge over the Yazor Brook, where the stream divides into two channels (Plates 17 and 18). The regular course continues alongside Roman Road; the leat feeds around the south of The Bolts, rejoining the main course to the east, before flowing to Huntington Court Farm where it powered a wheel to drive agricultural machinery (HSM 47761). From cartographic sources, it is considered to have been built between 1830 and 1840 (HSM 31960).

The Skew Bridge, located to the south of Stretton Sugwas, is thought to have been erected during the construction of the Hereford, Hay and Brecon Railway in 1862 (Plates 19-23). The railway line was closed between 1962-4, by which time it had been amalgamated with the Mid Wales Railway (HSM 21017 and 21118; *ibid*; http://www.cpat.org.uk/projects/longer/histland/usk/mutran.htm).

A number of gravel pits are indicated on the 1st edition OS map of 1885 to the immediate west of the modern village of Stretton Sugwas (HSM 41190-3). These may be indicative of ancient sources of gravel used for construction works.

3. The Roman road

3.1 Areas of the road identified

Of 34 trenches dug within the fields alongside the present Roman Road during Evaluation Stage 1, evidence for the Roman road surface was only observed in one (Trench 11) although the roadside ditch was identified in five (Trenches 9, 10, 11, 17a and 17b, and possibly also in Trench 13). The ground-probing radar survey tentatively identified the surface of the Roman road within eleven of twelve traverses, between 0.30-1.30m deep (Figs 3a and 3b).

Excavations produced evidence for the structure of the Roman road in five locations along the road scheme, in Areas 4, 5a, 6, 7b and 9e. During the watching brief, traces of cobbles, interpreted to be the Roman road and associated features, were recorded in 18 of 43 discrete test pits, trenches, boreholes and soil strip areas observed (Plates 1, 5, 7, 8, 14-16 ; Figs 3a and 3b). Most were undated, but have been assigned to the Roman period by comparison with well-defined areas of the Roman road. The specific details of each area observed is summarised in Appendix 1.

There was no evidence for the survival of the Roman road within the holloway adjacent to Bovingdon Caravan Park (Test Pits 8a, 14 and Area 8c), although small patches of loose pebble gravel were recorded at higher ground, in Field 15 to the north (Test Pit 8b and Area 15).

3.1.1 The method of construction

The road generally consisted of a layer of cobbles and small-medium pebbles within a fine sandy/clayey silt matrix, laid within a trough. The topsoil and subsoil had been removed, such that the cobbles generally lay directly over and were impressed into the surface of the natural matrix. The segments recorded within Areas 5a and 9e were probably the best preserved of all the areas observed, and typified this method of construction (Plates 5 and 16; Figs 6 and 10).

Conversely the band of (disturbed) pebbles and cobbles in Area 4 was recorded overlying the subsoil, such that the soils had not been removed prior to construction (Plate 1).

As the natural comprised boulder clay with a variable quantity of pebbles and gravel, it was not always possible to distinguish between a natural band of gravel and a deliberately laid surface. This was particularly found to be the case where the road had been disturbed (by ploughing) and the original metalled surface had been lost, such as in Area 6 (Plate 14).

There was generally no apparent deliberate defined layering or difference in the pebbles used for the uppermost surface of the road to that of the lower strata. The main noticeable differences were the flatter and horizontal alignment of the uppermost cobbles and in Area 5a, the lower proportion of stones within the clay matrix lower down. The former may simply be due to wear and use of the road. The latter may represent a deliberate foundation layer, although it could equally be just the

interface where the general road cobbles have been impressed into the natural boulder clay below.

A white lime material was occasionally observed adhering to the cobbles within the north side of the road surface in Areas 5a and 9e. It is considered that this represented a natural effervescence rather than a deliberate repair or mortar consolidation (Section 3.1.9; Figs 6 and 9).

A slight camber was noted within the surfaces observed, generally from south to north, although this may simply be a function of greater wear toward the edge of the road (Plates 5, 7 and 16).

The Roman road was largely sealed by a layer of alluvial material and a developed topsoil/subsoil sequence, where it was observed beside the modern highway (Fig 10), or below a sequence of compacted redeposited clays and gravels where it lay directly below the highway (Plate 15).

Combining the results of Evaluation Stage 1 trenches and radar survey, the road was tentatively interpreted as approximately 0.75m thick (Patrick *et al* 2002; Mercer 2002). However where the full sequence of road surface and makeup was subsequently observed, such as Areas 5a and 9e, it was found to vary in thickness from only 0.08-0.40m.

3.1.2 The roadside ditches

East to west aligned ditches were identified in Evaluation Trenches 9-11, 13, 17a and 17b, and Areas 4, 5a, 6 and 9c-e. However, those in Trenches 13, 17a and 17b and Area 9c-e probably relate to later activity (Figs 4a and 4b).

In Areas 9c-e, where the ditch appeared to have been substantially recut in the post-medieval or modern period as a drainage ditch, cobbles were recorded either side of the ditch, although the main road surface appeared to lie to the south (Plate 16; Fig 9).

Lengths of ditch served to define the southern edge of the road in Trenches 9, 10, 11 and Area 4 (Plates 1-3; Fig 5), and the northern edge in Areas 5a and 6 (Plates 5-8 and 11-14; Figs 5, 7 and 8). The ditch in Area 6 was observed to have been recut, possibly twice in the Roman period (Plates 13 and 14; Fig 8). A further ditch cut across the original roadside ditch on a slightly different alignment and fed into a water feature adjacent to the north (Section 4.2.1; Plate 12; Figs 7 and 8). It is unclear if the road extended up to this outer ditch at any stage.

The sections of the ditch excavated generally contained a single homogenous fill (Plates 2, 3, 6, 11 and 12). This was determined to be the result of natural silting. Very little artefactual material was recovered.

The profile varied from shallow and sub-concave (Areas 4 and 5a; Plate 2) to steep and V-shaped (Area 6, Field 7; Plate 11). Segments of the ditch in Area 6 were found to have been recut in the Roman period, possibly twice, and on a slightly different alignment (Plate 13; Figs 7 and 8). Within Area 5a in particular, the road surface was observed to have slumped into the adjacent ditch within a number of the sections excavated.

3.1.3 Areas without defined edge or ditch

A possible roadside ditch was recorded in Areas 9c-e, Field 13. However it was visible as a hollow earthwork at the surface and contained a large amount of post-medieval and modern material, so is considered to have been heavily recut, if not wholly originating in the post-medieval period (Plate 16; Fig 9).

Topographically it would seem unlikely that the Roman road did not have a ditch at this point, as this is the lowest point along the route, and the present course of the Yazor Brook is only 120m to the west. The road proper appears to lie to the south of the ditch, although substantial cobbling also lay to the north. This did not comprise a flat surface, but had rather been dumped unevenly, petering out approximately 4.5m to the north. It is clearly excess stone, either dumped for use in future repairs, to consolidate this side of the road to prevent inundation, or removed from the road makeup itself when the ditch was (re)cut at a later date.

Neither edge of the road was observed in Area 7b, although this may be because it had been substantially disturbed by modern services and no extant metalled surface survived.

3.1.4 The road width

The full width of the original Roman road was rarely observed, due to disturbance by modern services, the design of the road improvements, practicalities of access and the siting of trenches (Figs 4a and 4b):

- Radar Section 7, west of the Yazor Brook, a surface was tentatively postulated to be 2.6m wide with a ditch to the south;

- Radar Section 12, adjacent to the Traveller's Rest, Stretton Sugwas, a surface was identified, 6m wide, with ditches either side, aligned north-north-east to south-south-west.

In Area 6, Field 7, the width identified at one point was 2.40-2.62m, from the roadside ditch to the north to a defined edge against two shallow oblique ditches to the south. However, this may represent only one phase of the road, as immediately adjacent the cobbles were observed to extend further to the south to at least 5.90m width (and potentially to 7.70m where the cobbles appeared to lie over a portion of the recut ditch (Fig 7).

The minimum width of the road can be ascertained in a number of areas:

- Area 5a, Field 3; the cobble surface extended at least 4.4m southwards of the north roadside ditch (Plates 5, 7 and 8; Fig 5);

- Areas 9c-e, Field; the cobble surface extended at least 7m southwards from the approximate north edge (or 3m southwards from the probably post-medieval ditch; Plate 16; Figs 9 and 10);

- Area 16, Field 5; the exposed cobble surface within the easement strip was at least 10.50m wide (although this alignment is to the south of the conjectured course, from observations made adjacent, and post-medieval material was recovered directly above);

- Radar Section 7, Field 10; a possible surface extends at least 2.6m northwards from a possible southern roadside ditch;

- Area 7b, south of Field 16; the disturbed cobble surface was found to be at least 3.6m wide, extending from a truncated southern edge, under the north baulk.

Combining the results of adjacent investigations also provides a possible width for the Roman road in a number of locations (Figs 4a and 4b):

- Evaluation Trench 9, Field 5, and Radar Section 11, indicates a width of approximately 6.20m;

- Evaluation Trench 11, Field 5, and Radar Section 10, indicates a width of approximately 7m;

- Test Pit 9c, Field 13, and Radar Section 5, indicates a possible width of 7.3m, from the recut roadside ditch (*or* post-medieval drainage ditch) to the north, to a possible roadside ditch to the south, or 10m from the rough north edge of the cobbles to the south ditch;

- Evaluation Trench 13, Field 6, and Radar Section 9, indicates a possible width of 6m;

- From the south ditch in Area 4 to the north roadside ditch in Area 5a, Field 3, at Stretton Sugwas, would give the road width at 15m.

This last is wildly at variance with the width identified elsewhere (and especially in adjacent Radar Section 12, although the findings from the radar survey must be considered as tentative, as the findings were frequently not borne out by the subsequent intrusive works. An explanation may be that the road in this area was re-laid on a slightly different course at a later period. The southern alignment within Area 4 is postulated as the latter section, given that its method of construction, bedded over the subsoil, is entirely different to that observed elsewhere along the route.

3.1.5 The sources for the road materials

Modern sand and gravel quarries exist within the vicinity of the road, at Stretton Sugwas, west of the road scheme (NGR: SO 456 422), and Upper Lyde, to the north-east (NGR: SO 492 447), which have contrasting geological signatures. In addition an area of pebble gravel lies under Hereford Racecourse to the south-east (NGR: SO 501 417). These may be the sources of the material used for construction of this section of the Roman road, and indeed there is a similarity between the stones used toward the eastern end of the investigated length of the road with the stones at Upper Lyde quarry, 2.5km to the north-east (pers comm Peter Oliver, Herefordshire and Worcestershire Earth Heritage Trust).

Nine samples of cobbles were taken from the road surfaces identified in Areas 4, 5a, 9e and Trench 29 and the modern open quarry, west of Stretton Sugwas (SO 454 423) for comparison and analysis by Rollo Gillespie (Herefordshire and Worcestershire Earth Heritage Trust; Appendix 3).

The local Raglan Mudstone and St Maughans Formations are often calcareous in nature and so any groundwater and local percolation water would be expected to be

calcarous which would give rise to pedogenic coatings on the cobbles, such as that observed in Areas 5a and 9e.

Most of the material used in the construction of the road was fluvio-glacial in origin or till (rounded quartz and gritstones/sandstones with clay). While a high proportion of the material was of Welsh origin, brought in during the last glaciation, some local material was also found. The type of material was similar throughout with the main differences being the matrix, some of the material was therefore well washed through and some of it was not.

Unfortunately it is not possible to determine the exact provenance of the cobbles used within the makeup of the road to any specific gravel beds within the vicinity. They simply comprise the coarse fraction of the gravel beds generally found within the glacial till of the immediate area (pers comm Stephen Lancaster).

The exception was Trench 29, within the course of the Yazor Brook, which contained angular and slabby cobbles. These were probably derived from the surrounding boulder clay, which would have been eroding out along the stream bed.

3.1.6 Crossing the Yazor Brook

In Trench 29 adjacent to the Yazor Brook a loose band of stones 0.30m thick (2903) was identified at 63.38m AOD, approximately 1.50m deep, overlying the natural clay and sealed by alluvium (Fig 4b). It is interpreted to indicate that the stream was probably crossed via a ford at this point, as had been anticipated (Jack 1928, lxxiii; Jack 1930, xxxiii). There was no structural evidence for a bridge pre-dating the existing one. The first known bridge was erected at the turn of the 19th-20th century (cartographic sources prior to 1904 record a simple ford; Woodiwiss 2002, 8-10).

3.1.7 Wheel ruts

The standard gauge of Roman horse drawn wagons and carts is 4'8½" (143.5cm). This is based on observation of pairs of wheel ruts and the dynamics of the most stable axle width when harnessed to the average girth of horse (Margary 1973, 21-2).

Narrow linear hollows in the surface of the Roman road were identified in Areas 5a and 9e and interpreted as wheel ruts. The distance between them may indicate the wheel span of the traffic using the road.

A number of parallel ruts were recorded in Area 5a, at varying distances 0.70m, 0.80m, 0.90m, 1.10m, 1.50m, 1.80m and 2.00m apart (Plates 7 and 8; Fig 5).

The two ruts defined in Area 9e were only 0.50m apart, although only a short length of the southern one was noted. The northern alignment of these, when projected eastwards, would have run into the ditch, further indicating a probable later date for this ditch (Plate 16; Fig 9).

Some of those ruts within Area 5a conform to the expected standard gauge for a wagon, although most do not. It must however be remembered that in neither of these areas was the entire width of the road surface observed, so the associated southern ruts may exist within the southern trench baulks.

3.1.8 The state of preservation

The road surface was observed to be in a variable state of preservation (Fig s 4a and 4b). It was found to be best preserved in Area 5a (Field 3), 7a and 9c-e (Field 7); the first and last being on the edge of fields to the north of the present road (Plates 5, 7-8 and 16); while 7a was a small test pit in the middle of the modern highway near Tillington Road (Plate 15). The road was identified in Area 7b adjacent, although it had been disturbed by frequent modern services and there was no extant metalled surface. Elsewhere, the road was identified in Areas 4, 6 (Field 7; Plates 1 and 14), 8b and 15 (Field 14), 16 (Field 5), 17 (Field 15) and 24 (Field 7) where ploughing had largely removed the metalled surface, leaving a variable band of cobbles; and in a similarly disturbed state in Areas 28a, 28b, 29, 30, 31, 33a, 33b and 35 adjacent to the Yazor Brook.

3.1.9 Patching and repair

There were no obvious areas of patching and repair of the road surface within any of the investigated areas. In some areas there were obvious differences in level between adjacent cobbled areas, which may indicate different phases of construction (ie Area 9e; Plate 16). This may be a function of the cobbles for the original road, being largely indistinguishable from later additions and alterations, rather than there never having been any subsequent renovation after the initial construction.

In Area 5a, the lower strata of the road appeared to have a lower proportion of pebbles, which may represent an earlier degraded surface, or simply the interface where the pebbles have been impressed into the natural boulder clay matrix below. In one segment however, wheel ruts were noted within the lower layer, which were filled in and not replicated within the upper horizon which contained a higher proportion of cobbles (Fig 5).

Possible evidence for alteration to the original road was observed in Area 6 where the original ditch was recut on a slightly different alignment and the (later) cobbled surface appeared to extend over the fill of the earlier ditch (Section 3.1.2; Fig 7). Further indications of alterations were identified in Area 6, where a short section of a southern road edge was identified, although adjacent, the cobbles extended further to the south. It should be stressed however, that the road surface was heavily disturbed and plough damaged in this area (Plate 14).

In Area 9e (Field 13), cobbles were noted to continue to the north of the ditch, although not laid as a horizontal layer (Plate 16; Figs 9 and 10). It is unclear if this represents an arbitrary dump of excess road stone for consolidation, a deliberate store for use in repairs, or simply redeposition from the ditch which appears to be of post-medieval, rather than Roman date.

In Areas 5a and 9e a fine white lime deposit was noted in discrete loose patches on the road surface adjacent to the north ditch. The local Raglan Mudstone and St Maughans Formations are often calcareous in nature and so any groundwater and local percolation water can be expected to be calcareous, which would give rise to pedogenic coatings on the cobbles. These are therefore considered to be a natural effervescence, rather than a deliberate lime mortar consolidation deposit (pers comm Rollo Gillespie).

4. Roadside activity

4.1 Pre-Roman activity

Evidence of prehistoric activity was limited. Initial fieldwalking of the route recovered two flint flakes and a worked stone tool of indeterminate function from Fields 4 and 7 toward the western end of the scheme. In addition a flint tool was recovered from a Roman pit in Evaluation Trench 3, Field 3, opposite the Traveller's Rest, Stretton Sugwas (HSM 32103 and 32104; Patrick *et al* 2002; Figs 3a and 3b).

Two parallel ditches were observed in Area 5b, Field 1, north of Stretton Sugwas (Figs 4a, 4b and 6). They were aligned east to west, *c* 8.50m apart, and had similar profiles, although the northernmost (1031/1037), was more substantial, at *c* 2.4m wide and 0.90-1.0m deep, compared with the southern ditch (1074/1080) which was *c* 1.75m wide and *c* 0.45m deep (Plate 4). Finds from the primary fill of 1031 were of Middle Iron Age date (Section 5.1.2), although 2nd-3rd century finds within the secondary fills and non-descript 1st-4th century pottery from one uppermost fill, indicate that they remained in use, if partly silted, long after the establishment of the Roman road *c* 55m to the south.

An earlier shallow sub-circular feature was cut by the northernmost ditch. It was unclear if this is a pit or simply the result of tree root activity. A linear feature (113) observed in Evaluation Trench 1, Field 3, to the east, may represent a continuation of the northern of the two ditches (1031/1037) as it lay on a similar alignment. This would make the feature at least 58m long. It had been truncated by feature (109) which contained Roman material, confirming the earlier date. The ditches are tentatively interpreted to form part of a longer droveway, although there are no aerial photographs of this specific area which might help trace the route.

Evaluation Trenches 17a and 17b in Field 7 to the north of the mound opposite Veldifer Cottages, revealed two linear features without intrinsic dating evidence, although they were proposed to be of possible prehistoric date (Patrick *et al* 2002). The area was subsequently fully exposed during the excavation of Area 6. An east to west aligned ditch (1707), was not observed in the excavation, and may have been a tree bowl or variation in the natural geology. A narrow north-north-west to south-south-east aligned ditch (1703 = 139/141) terminated to the north but its fill was slightly truncated by the road surface, indicating that it predated the road. An adjacent ditch (143/145) had a similar profile and contained an identical fill, although it respected the edge of the road (Figs 4a and 7). These two ditches are therefore considered to be very late Iron Age/early Roman date.

4.2 Contemporary Roman activity

Little evidence for contemporary activity was observed alongside the road.

4.2.1 The drainage and water feature

An additional ditch was noted alongside the mound at Lower Veldifer (Area 6, Field 7; Plate 12; Figs 4a and 7), cutting across the roadside ditch to the east and into a large sub-oval feature, 28m long and *c* 15.50m wide. Portions of the base of this large feature had been consolidated with large cobbles and pebbles. It is interpreted tentatively as a pond for watering livestock. It contained material of 1st-2nd century date, particularly adjacent to the outflow from the ditch to the east, indicating that it had been washed in from here and had silted up in the first half of the Roman

occupation. The base of the ditch rose and fell as it lay over the mound. Thus the ditch did not drain solely to the west, but rather to the east and west to either side of the mound.

A further ill-defined "sump" was also noted in Area 6, adjacent to the road, fed by a spur from the main roadside ditch. This appeared to extend beneath the road surface. It has ill-defined edges and no finds, indicating that it may have been of natural geological origin. The termini of two narrow adjacent ditches were recorded toward the summit of the mound (as described above, Section 4.1; Figs 4a and 7). Aligned approximately north-north-west to south-south-east, one respected the narrow southern edge of the road, although the fill of the other had been slightly truncated by it, indicating that it predated the road construction. Their function is unclear, and no associated features were identified.

4.2.2 The quarry pits and postholes

Two wide and deep sub-oval pits identified in Evaluation Trench 3a and Area 5a, Field 3, and Area 6, Field 7 were initially interpreted as quarry pits, although this seems unlikely given the low proportion of cobbles in the natural matrix. That in Area 5a was over 5m long and 1.65m deep, contained only very occasional and heavily abraded Roman material (Fig 5). That in Area 6 was *c* 4.75m long by *c* 1.10m deep, adjoined the roadside ditch to the south and was sterile (Fig 7).

The paucity of finds may indicate that the features are of earlier Roman date, possibly associated with the construction of the road. Their interpretation as quarries is tentative, however, as the mixed nature of the boulder clay at this point would have yielded a relatively low proportion of stone in comparison with the gravel beds in the vicinity, while the clay would have been contained too many inclusions to make of much practical use.

Three circular postholes, *c* 0.25m in diameter, were observed *c* 6m to the east of the quarry pit in Area 5a (Fig 5). In plan they formed an approximate L-shape, approximately 4m and 8m apart, with the long side roughly parallel with the roadside ditch, which lay *c* 3m to the south. What function they had is unknown.

A single posthole in Area 6 was recorded between the recut roadside ditch and the northern alignment (Figs 7 and 8). Although it was intrinsically undated, it may be dated by this association. It is conjectured to have acted as a marker during laying out of the road or the later alterations made to the ditches.

4.2.3 Iron working

Evidence of iron smithing and other activity was identified during Evaluation Stage 1, in contexts 104, 107 and 117, in Trench 1, Field 3, at the west end of the scheme (Fig 3a). A wide shallow pit or ditch terminus, an earlier narrow gulley and a sub-circular pit adjacent were recorded, containing hammerscale and burnt clay from a furnace lining or smithing hearth with material of indeterminate Roman date (mid 1st-4th century).

This was indicative of rural industrial activity, probably set back a few hundred metres from the road. It was thus outside the scope of this project, has not been subsequently investigated and should remain preserved *in situ* within the present field (HSM 32104; Patrick *et al* 2002). This material is discussed in Section 5.1.3.

4.3 Later Roman and post-Roman activity

4.3.1 Associated metalled surfaces

In Area 4, to the east of the Traveller's Rest at Stretton Sugwas, a metalled surface (125) was observed (Plate 3; Figs 4a and 5). Although heavily truncated and disturbed such that only four discrete patches survived, it was interpreted to be a trackway. It comprised a surface of small-medium pebbles and cobbles, 0.10m thick, bedded directly onto the natural boulder clay, aligned north-west to south-east, approximately 15m long and up to 2.80m wide, with a defined edge to the south-west. Two parallel wheel ruts lay along the south-west edge, 0.40m distant. A wheel rut was also observed within the south-easternmost patch, although too far distant from the aforementioned ruts to provide an axle width.

It overlay an east to west aligned linear feature (104), probably the roadside ditch, but was badly plough damaged and could not be related to the similarly disturbed cobble surface to the north. The track was considered to be Roman, although it post-dated the construction and initial use of the roadside ditch. The *Street Fields* recorded on the 1840 tithe plan for Stretton Sugwas parish may be named after this track (Richardson 1996, 455).

4.3.2 The cremation burials

Three cremation burials (1008, 1010 and 1012) were observed dug into the alluvial subsoil (1023/1059) directly over the road and north roadside ditch in Area 5a, Field 3 at Stretton Sugwas. They had been deposited within shallow irregular sub-circular pits (1007, 1009 and 1011), which had been truncated by later ploughing (Plate 9; Fig 5). There was no evidence for their having been placed within vessels, nor any other dating evidence. The extent of the features was determined by the distribution of charcoal flecks, rather than any discernible cut. Whilst they clearly post-dated the construction and use of the road surface, they are argued to be of later Roman date. The bone is discussed in Section 6. The interpretation of the radiocarbon dating is presented in Section 7. The radiocarbon dating report is in Appendix 6.

4.3.3 The stone dump

An irregular dump of pebbles and cobbles was observed within Areas 9c-e, Field 13, extending up to 4.90m north of a ditch (Plate 16; Fig 9).

Post-medieval material was recovered from the cobbled road surface and ditch in these areas. It is considered that the cobbled surface is Roman, but that the ditch is probably post-medieval or at the very least a substantial recut of a smaller Roman ditch. If the ditch was recut or in fact a later feature at this point, this would explain the irregular dump of stone adjacent, having been dug out of the original Roman surface.

4.3.4 Medieval, post-medieval and modern road surfaces

Medieval material was recovered from sections of the cobbled surface recorded in Area 9e, Field 13 (Plate 16; Fig 9). The materials used and the form of construction at this point appeared identical to that of the cobbled surface identified elsewhere. It is therefore conjectured that this stretch is of Roman date and is not a later road surface. The assemblage is therefore probably intrusive and associated with possible later re-exposure of the road during construction of a drainage ditch (see below,

Section 5.3.1) or simply use of the route during the winter months when the overlying deposits would have become churned up.

It is possible that some of the undated areas of cobbling observed may relate to medieval and/or post-medieval road surfaces, although this cannot be determined for certain. Mixed redeposited or disturbed clay layers with variable proportions of pebble gravel inclusions were frequently observed below the foundations for the modern road surface and above either alluvial layers sealing the Roman road or the undisturbed natural matrix. Although these did not portray any defined structure or metalled surface they may represent the *ad hoc* medieval road surface, which is considered to have been almost impassable over the winter months (Buteux and Atkin 1997, 6).

Post-medieval and modern road surfaces and foundation layers were identified below the present highway, generally comprising cobbling and gravel hardcore foundation deposits below the modern tarmac surface. It is unclear at this stage when the road was tarmaced.

The MacAdam form of road surfacing was introduced in the UK in 1816. It is comprised of compacted layers of small stones cemented into a hard surface by means of stone dust and water, with a slightly convex profile to allow for the rapid shedding of water (http://columbia.thefreedictionary.com/pavement; http://www.spartacus.schoolnet.co.uk/SCmacadam.htm). Unfortunately this form of construction is not dissimilar to that of the Roman road.

There was no indication of any pre-modern cobbled road within the holloway adjacent to Bovingdon Caravan Park (Test Pit 8b; Fig 3b). This holloway is thought to have formed during use of the route after the Roman period, although small patches of gravel and pebbles were recorded within the subsoil within Area 15 in Field 15, immediately to the north which may represent a post-medieval track.

A cobble and gravel surface (2908) was recorded in Trench 29 on the west side of the present course of the Yazor Brook, adjacent to the sluice at The Bolts. It was 0.62m thick and lay at 0.92m below the modern highway. Although similar in character to the Roman road observed adjacent, it was appreciably higher in the sequence, lying directly below make-up material for the modern road surface and contained two tile fragments of probable modern date and a hand-made nail.

4.3.5 Undated deposits

An undated, albeit pre-Roman, soil horizon was recorded below the cobbled road surface in Area 4 (Plate 1). Elsewhere the cobbles for the identified Roman surface were generally laid directly over the natural, the earlier soils having been stripped off.

An alluvial silt and clay horizon lay directly over the Roman surface and sealed below developed top/subsoil in Area 9a-e, Field 13.

Redeposited clay overlay the natural matrix and was sealed by the present highway in Area 9f adjacent (Figs 9 and 10). Although post-Roman, it was otherwise undated, and may represent reworked alluvial material, or a deliberate dump to raise the modern road surface.

5. Artefactual analysis

5.1.1 Results

The artefactual evidence recovered is summarised in Appendix 4, Tables 1 to 7.

A summary of the artefacts recovered can be seen in Table 1. The group consisted of 1,402 finds, weighing 29.86kg, which came from 52 stratified contexts and the site surface. Material could be dated from the prehistoric period onwards (Table 4) with the level of preservation very variable according to site location and the most abraded examples recovered from fieldwalking (Patrick *et al* 2002).

The assemblage included 655 sherds of pottery weighing 5.7kg, in addition to fragments of tile, brick, slag, bone, glass, shell, iron objects, lead objects, copper alloy objects, shell, flint and clay pipe stems which were also recovered.

5.1.2 The pottery

All pottery has been grouped and quantified according to fabric type (Tables 2-6). A number of diagnostic form sherds were present and could be dated accordingly, the remaining sherds were datable by fabric type to the general period or production span.

A representative sample of the pottery has been illustrated (Fig 11) as follows:

1 Cooking pot in mudstone-tempered ware (fabric 9), Middle Iron Age, primary fill 1034, of northern MIA ditch 1031/1037, Area 5b

2 Bowl in oxidised Severn Valley ware (fabric 12), cf Webster 1976, no 50 (2nd-3rd century AD), secondary fill 1039, of northern MIA ditch 1037/1031, Area 5b

3 Storage jar in oxidised Severn Valley ware (fabric 12), cf Webster 1976, no 3 (mid 1st-2nd century AD), subsoil 101, overlying road surface, Area 6

4 Flanged bowl with grooved rim in oxidised Severn Valley ware (fabric 12), cf Webster 1976, no 56 (3rd century AD), secondary fill 1072, of southern MIA ditch 1074/1080, Area 5b

5 Open-mouthed flagon in oxidised Severn Valley ware (fabric 12), cf Evans *et al* 2000, type 2, F12 (2nd-3rd century AD), secondary fill 1033, of northern MIA ditch 1031/1037, Area 5b

6 Storage jar in oxidised organically tempered Severn Valley ware (fabric 12.2), cf Webster 1976, no 7 (early 2nd century AD), secondary fill 1033 of northern MIA ditch 1031/1037, Area 5b

7 Narrow-mouthed jar in oxidised Severn Valley ware (fabric 12), no direct parallel (mid 1st-4th century AD), secondary fill 1033, of northern MIA ditch 1031/1037, Area 5b

8 Wide-mouthed jar in oxidised Severn Valley ware (fabric 12), cf Webster 1976, no 27 (late 3rd-4th century AD), primary fill 1045, of roadside ditch 1055, Area 5a

The discussion below is a summary of the pottery and associated location or contexts by period. Where possible, *terminus post quem* dates have been allocated and the importance of individual sherds commented upon as necessary.

Iron Age pottery, by Laura Griffin and Derek Hurst

A total of 22 sherds (102g) of pottery could be identified as being of Iron Age date. These sherds formed a relatively small part of the ceramic assemblage, comprising 4% by sherd count and 2% by weight. All sherds came from the primary fill (1034) of ditch 1031/1037 in Area 5b, Field 3, and were from a Mudstone-tempered ware cooking pot (fabric 9) dating to the Middle Iron Age and probably originating in the area of Martley, Worcestershire (Morris 1985). The presence of these sherds certainly indicates pre-Roman activity in the vicinity.

The crescent/chevron stamp (Fig 11.1) seems to be well represented in the immediate region, and it seems that it occurs on other main types of pottery in use at the time.

For instance, this same stamp was noticeably common at Sutton Walls, although here it was usually applied on its side (Kenyon 1953, fig 13), and seems to have occurred on Palaeozoic limestone-tempered ware, as Morris (1983) has indicated that the majority of sherds from this site were of this type. The same stamp was also well represented in the Credenhill Camp assemblage (Stanford 1970, fig 19), where as it was commented that pointing downwards, as in the assemblage from the current site (HSM 37314), was the more unusual orientation; Morris (1983) has defined Mudstone-tempered ware (Group D) as the main ware type in this site assemblage. Limited investigation of Dinedor Camp produced pottery that was '…a type of ware not found at that site…' (viz Sutton Walls; Kenyon 1953, 25), and Morris (1983) has identified the pottery from this site as evenly divided between Palaeozoic limestone- and Mudstone-tempered wares, but it is unclear whether the crescent stamp was used in both cases.

Similar Group D Mudstone-tempered pottery was recovered at the Iron Age settlement east of Kenchester, although here it comprised only 0.2% of the total Iron Age assemblage but was similarly argued to indicate predominately Middle Iron Age activity. Other fabrics within the assemblage portrayed similar stamps and linear tooling, although as at Sutton Walls, the crescent was sideways on (HSM 119; Tomber 1985, 103-117, fig 26).

Roman pottery, by Alan Jacobs and Laura Griffin

The Roman pottery formed the largest part of the ceramic assemblage, totalling 444 sherds and comprising 67% by sherd count and 52% by weight.

Severn Valley ware (fabrics 12, 12.1 and 12.2) predominated within the assemblage comprising 79% by count and weight. This follows the regional pattern for rural sites throughout Herefordshire and Worcestershire. Relatively few forms were present but examples of both narrow (contexts 101, Area 6, Field 7; and 1033, Area 5b, Field 3; Figs 11.3, 11.5 and 11.7) and wide mouthed jars (contexts 103 and 107, Evaluation 1, Trench 1, Field 3; and 1045, Area 5a, Field 3; Fig 11.8), as well as flanged bowls (contexts 1039 and 1072, Area 5b, Field 3; Figs 11.2 and 11.4) and tankards (context 110, Evaluation 1, Trench 1, Field 3) were recovered. Other regionally produced fabrics such as sandy oxidised ware (fabric 13), fine sandy grey ware (fabric 14) and wheel thrown Malvernian ware (fabric 19) were retrieved in very small quantities, amounting to just seven sherds in total.

Remaining coarse-wares were all of Black burnished ware type I and amounted to 47 sherds. Diagnostic sherds were of commonly identified everted rim jar (context 1047,

Area 5a, Field 3; and fieldwalking) and plain-rimmed bowl/dish forms (contexts 105, Area 4, unnumbered Field; and 106, Evaluation 1, Trench 1, Field 3), which could be dated to the second half of the 2nd century.

A comparatively large amount of Samian ware was present (fabrics 43, 43.2 and 43.3), indicating a predominantly 2nd century date for excavated features. This dating was supported by the presence of Central Gaulish form 31R bowl (context 110, Evaluation 1, Trench 1, Field 3), which dated to the latter half of the 2nd century. Likewise, the balance of forms within the assemblage as a whole would seem to indicate greatest activity in the 2nd century, which continues into the 3rd. However, the presence of only a few sherds of late Nene Valley and Oxfordshire colour-coated fabrics (fabrics 28 and 29), would appear to indicate a significant drop-off in activity by the late 3rd and early 4th centuries.

The scattered material recovered as part of the fieldwalking would appear to indicate post-Roman manuring of the fields or to represent residual material ploughed from disturbed Roman features.

Medieval pottery

The medieval pottery formed the smallest part of the ceramic assemblage, comprising 2% by sherd count and 1% by weight. The only two identifiable fabrics recovered from stratified contexts consisted of two sherds of Worcester-type glazed ware (fabric 64) dating from the late 12th-14th century (context 9037, Area 9e, Field 13) and one of oxidised glazed Malvernian ware (fabric 69), which could be dated between the 13th-15th centuries (context 9034, Area 9e, Field 13). Remaining sherds of this latter fabric type within the assemblage were of early post-medieval date.

Remaining sherds of medieval date were too small and abraded to be identified as of any specific fabric type and were therefore classed as miscellaneous (fabric 99).

Post-medieval pottery

The post-medieval pottery formed a relatively small part of the ceramic assemblage, comprising 13% by sherd count. This group was primarily represented by post-medieval red sandy ware (fabric 78; contexts 100 and 124, Area 4, unnumbered field; 101 and 157, Area 6, Field 7; 1083 and 1088, Area 5b, Field 3; 9030 and 9038, Area 9e, Field 13; and fieldwalking), with forms included pancheons and small jars represented. A similar range of forms was also present in post-medieval orange ware group (fabric 90; contexts 1706, Evaluation Trench 17a; 9029, 9030 and 9038, Area 9e, Field 13; and fieldwalking) and could be dated to the 18th century.

The post-medieval buff ware (fabric 91; contexts 100, Area 4, unnumbered field; 157, Area 6, Field 7; 1083, Area 5b, Field 3; and fieldwalking) was of slightly earlier date than the above earthenwares, and formed a small group represented by tankard, jar and platter forms of 17th-18th century date.

Likewise, four sherds of oxidised glazed Malvernian ware (fabric 69; context 9034, Area 9e, Field 13, and fieldwalking) and one Westerwald stoneware (fabric 81.2; fieldwalking), were also of earlier date, ranging between the 16th and early 17th century.

Remaining sherds in this group were of 18th century date and consisted of Nottingham stoneware (fabric 81; fieldwalking), white salt-glazed stoneware (fabric 81.5; fieldwalking) and creamware (fabric 84; context 1064, Area 5a, Field 3).

Modern pottery

The modern pottery formed a relatively small part of the ceramic assemblage, comprising 4% by sherd count and 9% by weight and consisted of a range of bottles and jars in late miscellaneous stoneware (fabric 81.4; context 101 and 157, Area 6, Field 7, and fieldwalking). A number of modern stone china sherds (fabric 85; contexts 100, Area 4, unnumbered field; 101 and 157, Area 6, Field 7; 1706, Evaluation Trench 17, Field 7; and fieldwalking) of cups, plates and fragments of teapot were also present.

5.1.3 Other artefacts

Ceramic building material

Only a small amount of Roman building material was recovered and all was highly abraded and undiagnostic (contexts 101, Area 6, Field 7; 125, Area 4, unnumbered field; 500, Evaluation 2, Trench 5, unnumbered field; and fieldwalking; Figs 3a and 3b). Given the small quantity of finds recovered during the various evaluations, excavation, watching brief and fieldwalking, it is considered unlikely that any substantial Roman structures lie in the *immediate* vicinity of this stretch of the road.

A fairly substantial assemblage of flat roof tile dating between the 13th and 18th centuries was also retrieved. The majority of these were highly abraded and fragmentary, displaying no obvious diagnostic features with the only exceptions being two fragments of glazed ridge tile within the fieldwalking assemblage.

Almost all other ceramic building material is definable to the post-medieval and modern periods with examples of roof tile and brick, much of which may relate to modern activity particularly road construction and maintenance.

Slag/burnt clay

All hearth/furnace lining came from Roman contexts in Evaluation Trench 1, Field 3 (Section 4.2.3). This material included a number of large pieces with a definite 'scoop' shape to them and a thick layer of vitrified clay adhered to the exterior. This clay contained large pieces of stone and some sand, both of which were commonly used as temper to help the structure withstand the high temperatures involved in the heating process (English Heritage 2001, 10). One piece of lining was perforated with a hole identified as a tuyère or blowing hole through which air would have been forced in order to raise the temperature within the structure (*ibid*, 10).

Large pieces of hammerscale, iron slag and fired clay were retrieved from environmental samples taken from 104, 107 and 117 within Evaluation Trench 1, Field 3; the largest proportion coming from 117 (Section 4.2.3). This material indicated the hammering and working of iron on the site and would therefore suggest the structure to have been that of a smithing hearth. The lack of tap slag within the assemblage would appear to confirm this interpretation. In addition a number of fragments of burnt clay were recovered from adjacent post-medieval context 1083 in Area 5b, Field 1 (*ibid*, 13-4).

Low levels of hammerscale, slag and fired clay were also recorded in some primary ditch fills alongside the Roman road from Area 5a, Field 3, indicating that smithing was carried out in the vicinity or that waste from such activities had been dumped into the ditch (probably related to the activity identified 150m to the north in Evaluation Trench 1).

Metalwork, by Derek Hurst

Thirty-three excavated contexts produced metal objects, including three coins. In addition a further coin was found during metal detection in Field 4 (Section 5.1.4). In general metal objects were radiographed.

Iron objects

A total of 217 iron items (weight 3.255kg) included many fragmentary scraps, so the minimum quantity of objects was probably closer to 51. Such a degree of fragmentation clearly indicates that this material was only present in a very poor state.

Some of these objects were from Roman contexts: in Area 4, cobble surfaces 125; in Area 5a, cobble surfaces 1006, 1056 and 1058, primary fills 1045 and 1068 of roadside ditch segments, upper fill 1018 of roadside ditch segment, upper fill 1062 of adjacent (possible) quarry pit 1061; in Area 5b, secondary fill 1072 of Middle Iron Age ditch 1074/1080; in Area 6 the homogeneous fill of roadside ditch 146; and in Area 7b cobble surface 7003. These were all nails, except for some pieces of plate and strip, and a few hobnails. Such items are likely to derive from road users and their conveyances. The alluvial subsoil (1017 and 1059) overlying the Roman road surface and thought to be of later Roman date, also contained nails and hobnails.

A small number of other iron objects were recovered from the cobbled road surface in Area 9e, Field 13. They comprised a possible drill bit and chisel from 9034 and 9037, and a small knife or prong from 9038 (nails and miscellaneous pieces are not listed here). These finds were more varied typologically, and none could be definitely assigned a Roman date.

Iron objects were also associated with later and undated deposits. These were also largely nails and miscellaneous plate fragments, except for three horse-shoes. One of these was of cart-horse size from recut ditch fill 9050 in Area 9e and so is likely to be post-medieval. Another from probable modern road foundation 8001, in Test Pit 8a adjacent to Field 15, was too incomplete for any comment. The only complete horse-shoe was recovered from alluvial soil 7001, in Area 7b, adjacent to Field 16, overlying disturbed cobble surface 7002 and 7003. Apart from its size, it bore little similarity to known Roman examples (eg from Maiden Castle, Dorset; Wheeler 1943, 290-1) which are generally quite rare finds in Roman Britain (Manning 1969, 284).

Copper alloy objects

There was a total of eight copper alloy objects (weight 48.5g), of which four were coins (Section 5.1.4 below). These objects were all in a relatively poor condition.

There was a possible plain spiral finger/toe ring from Roman road surface 7003 in Area 7b (Figs 4b and 12). Such personal adornments were fashionable in the Iron Age to early Roman periods judging by examples from, for instance, Beckford in south Worcestershire (Hurst forthcoming). A pin, probably broken below the head and, therefore, undatable, was recovered from cobble consolidation layer 176 at the

base of the roadside pond in Area 6 (Fig 7). The only other copper alloy was a piece of flat sheet from alluvial subsoil 9017, overlying the road surface in Area 9e (Fig 9).

Miscellaneous metal objects

A number of indefinable objects were also recovered, including a single piece of waste lead, a modern belt buckle and lead horse bridal rosette. These were mainly unstratified.

Other finds, by Laura Griffin

The flint assemblage consisted of seven flakes from contexts 101 and 125, Area 4, unnumbered field; 1006, 1034, 1072, Areas 5a and 5b, Field 3; and fieldwalking, one possible scraper, from 307, Evaluation Trench 3, Field 3 and three undiagnostic worked fragments from 100, Area 4, unnumbered field; 9030 and 9037, Area 9e, Field 13; Figs 3a and 3b).

The majority of stone recovered was undiagnostic and included a small number of burnt fragments retrieved from fieldwalking. Remaining finds were of post-medieval and modern date and consisted of clay tobacco pipe fragments and various shards of vessel glass.

A small fragment of clear uncoloured glass recovered from cremation 1008 in Area 5a, Field 3, is considered to be modern and therefore intrusive within this heavily disturbed and truncated feature, rather than pyre goods related to the cremation itself.

5.1.4 Coins, by Cathy King

Three out of the four coins in this small group came from surface 9034 and 9037 of the Roman road in Area 9e, Field 13 (Plate 16; Figs 4b and 9), while the fourth was recovered during metal detection of Field 4 and was unstratified (Fig 3a).

The earliest is a plated Roman *denarius* of the 2nd century which has lost its plating on the reverse and has been badly corroded on parts of the underlying copper alloy core. There is an illegible *antoninianus* of late 3rd century date (*c* AD 260-285) and a 4th century *nummus* with a GLORIA EXERCITVS legend and the two standards reverse type which is probably genuine and can be dated to the years between AD 330 and 335. The fourth coin is an imitation of the same period with a helmeted head of Roma left on the obverse and a reverse type with a wolf and twins. It can be dated to *c* AD 330-348.

This group of coins is not large enough to be able to assess how much coinage reached the area or when, although the predominance of late coins, particularly of low value, is characteristic of many British sites of all types. They cannot therefore be taken as dating evidence for the construction or initial use of the road, or even the main period of use of the road, however, they do indicate that the road remained in use in the late 3rd and early 4th centuries.

6. Osteological analysis, by Gaynor Western

The osteological evidence is summarised in Appendix 5, Tables 8 to 10.

6.1.1 Identification and quantification of cremated bone

The content of the bone from each context varied but, at a maximum of approximately 10%, was consistently well below the amount that would be expected had the cremated bone of a whole body been present. This is especially true when considering the amount of animal bone present (Section 6.1.6). It is likely that this is due to the badly disturbed nature of deposits 1008 and 1010. This may also be the case of 1012; although there were no obvious signs of disturbance of the feature, it was felt that the irregular nature of the cut of the feature might have been the result of post-depositional disturbance.

Only 1008 produced bone fragments that could be identified as definitely being human; one mastoid process, two rib fragments and one probable radial head. In addition, two fragments of unfused long bone diaphysis weighing 2.2g were recovered and from their trabecular structure it was deduced that these were probably human.

Context 1012 contained fragments that were considered to be probably human: one fragment of cervical vertebra and five fragments of joint surfaces, including that of a distal end of a proximal phalanx, either foot or hand, one proximal end of a proximal foot phalanx. The others joint surface fragments are unidentifiable but may belong to the larger joint surfaces of the long bones. In addition, one other possibly human bone was found - a complete neonate 1st metatarsal. This bone was unburnt and it is unclear due to the post-depositional disturbance of the feature if this bone is intrusive to the original deposit. If it is not, the nature of the possible human skeletal material recovered suggests that the remains of at least two individuals were contained in this pit. Overall, the very small proportion of identifiable human fragments may reflect the post-depositional disturbance to these contexts or bone fragmentation (see below, Section 6.1.4).

No identifiable human fragments, definite or probable, were recovered from 1010.

6.1.2 Demographic data

No fragments present were large enough to allow metric assessments to be undertaken, so observations were based upon morphological features.

Age

Context 1008 contained two fragments of unidentified long bone diaphysis that was unfused as well as the distal portion of the left mastoid process. This appeared to be quite gracile in morphology. The unfused diaphysis indicates that the individual represented by these remains was either an older juvenile or adolescent (approximately 10-18 years old). The gracile nature of the mastoid process may reflect the younger age of the individual represented by these remains.

No definite conclusions could be drawn from the evidence presented by 1012 since it was not possible to positively identify the remains as definitely human. However, those that were possibly human contained one neonate (36-42 weeks) element (1st

metatarsal, unburnt) as well as material that would have belonged to a considerably older individual.

Context 1010 contained no elements that could be analysed macroscopically to ascertain the age of this individual.

Sex

Context 1008 contained remains that were likely to be juvenile and, therefore no sex could be ascribed to this individual.

No elements were present in 1010 or 1012 that could be assessed for indications of the sex of these individuals.

6.1.3 Pathology data

No pathological changes were observed in any of the contexts. This is mainly due to the small size of the fragments recovered from the deposits (Section 6.1.4).

6.1.4 Bone fragmentation

Between 77.9% and 82.5% of the cremated bone recovered from 1008, 1010 and 1012 was less than 10mm in size. Although the maximum fragment size was between 30.4mm and 55.9mm, only a small percentage of the bone present was of this size. There was evidence of post-depositional fragmentation of one piece of bone, as two pieces were identified as originally having been one piece and the break of the bone was sharp. The vast majority of the bone, however, was rounded and indicated that the degree of bone fragmentation observed may have been present at the time of deposition. This may therefore have been the result of the cremation process employed. However, it must be remembered that these deposits have been truncated and it is difficult to assess the impact of post-depositional disturbance on the fragmentation of bone *in-situ*.

6.1.5 Efficiency of the cremation

Generally, the bone was observed to be white in colour but some variation was noted. 1008 and 1012 were found to contain unburnt bone. 1012 contained some black, charred bone, whilst all the contexts contained some blue-grey, incompletely oxidised bone fragments.

The analysis of colour variation in the fragments of bone indicate that all three deposits contained bone that had been exposed to heat at a sufficient temperature (i.e. above 600° C) for a sustained amount of time in order to completely oxidise the bone. The presence of blue/grey bone amongst completely oxidised bone is common. This was generally present along the internal surface, or in the cancellous bone, of long bones that were identified as being animal bones, which are generally denser than human bones. This may indicate that this more robust bone was exposed to high enough temperatures to oxidise the outside of the bone (or cortical bone) but not for long enough for the internal surface of the bone to oxidise (Murray *et al* 1993). This may well also be the case of the black, charred animal remains found in 1012, some of which were observed to also exhibit blue/grey shades of colour.

The presence of unburnt bone in 1008 and 1012 may well represent an event separate to the main cremation process. Analysis of this bone indicates that the vast majority of this bone is animal and is discussed below (Section 6.1.6).

The lack of the presence of unburnt bone contained in 1010 is due to the relative lack of recovery of bone overall. It is, of course, possible that this deposit may originally have contained unburnt bone also.

Fissuring and transverse cracking was present on several of the elements contained in all contexts. This indicates that soft tissue was present on the bone when it was cremated.

6.1.6 Presence and type of pyre goods

The identifiable animal bone that was present in contexts 1008 and 1012 was demonstrated to compose a significant part of the total amount of bone present.

1008 contained the remains of a bovid premolar, the long bone and vertebrae of a bird (possibly chicken), a rib fragment that belonged either to a small mammal or bird and a rib fragment, possibly sheep/goat, exhibiting butchery marks (Plate 1). Several unidentified animal bone fragments were also recovered.

1010 contained no identifiable animal bone due to the very small amount of bone recovered from this context.

1012 contained a fragment of scapula, rib fragments and a complete carpal from a medium sized dog, as well as several unidentified fragments of animal bone.

The fragment of oxidised animal bone rib (possibly sheep/goat) from 1008 was observed to exhibit two peri-mortem chop marks and two parallel slicing marks, indicating that at least some of the bone included in the cremation ritual had been butchered (Plate 10). It is therefore likely that at least some of the bones have been placed on the pyre after the bone was stripped of meat. Ibn Fadlan's contemporary account of Viking cremations (Broendsted 1965), for example, reveals that the dead were often cremated with their pets and that pieces of meat from sheep, goats or pigs were placed by the head as a food offering. This may be the explanation for the presence of this bone in this deposit. Alternatively, the bone may have been the remnants of funeral feasting.

From 1008 and 1012 the animal bone also consisted of two different types - burnt and unburnt. The presence of unburnt bone in both 1008 and 1012 may well represent an event separate to the main cremation process. It is a possibility that the bone has become unintentionally redeposited through post-depositional disturbance or that unburnt remains were placed deliberately in the pit with the burnt remains as part of an inhumation rite. It is also true that these bones may have been present on the cremation pyre, but did not get burnt.

The lack of the presence of unburnt bone contained in 1010 is due to the relative lack of recovery of bone overall. Originally, this deposit may also have contained unburnt bone.

A small quantity of emmer or spelt wheat, barley and oat grain was also recovered from 1008 (Section 8.1.3). It is unclear if it was simply used as fuel or was a deliberate votive offering placed with the individual as pyre goods.

6.1.7 Presence and type of pyre debris

Only one of the contexts, 1008, produced any definite pyre debris. This was a very small amount of debris that was likely to have been fragments of fuel ash slag. The relative lack of pyre debris allowed no inferences to be made regarding pyre technology. However, as the material present appears to have been well sorted and carefully collected, it confirms that these features contained deliberate inhumation of cremated bone rather than being used to discard pyre debris.

6.1.8 Conclusions and discussion

The osteoarchaeological analysis of the cremated bone recovered from three contexts revealed that one of the deposits contained definite human skeletal remains, one contained remains that were likely to be human and the other contained insufficient material for firm conclusions to be drawn. All three deposits were disturbed and truncated. As a result only a very small amount of bone was recovered from each deposit. The lack of pyre material present in each deposit indicated that these features contained intentional deposits of cremated bone rather than redeposited material. In all three cases the majority of the bone has been fully oxidised and therefore appears to have been burnt to a temperature of at least 600° C. Unburnt material was also present in two of the contexts, but it is unclear whether this material is intrusive.

Context 1008 contains the remains of an older juvenile or adolescent human whose cremated remains were interred with the remains of a cremated bird, possibly a chicken, as well as a butchered animal, likely to have been a sheep or goat. Other cremated and unburnt material was present, including an unburnt fragment of a bovid premolar. A fragment of glass is considered to be of modern origin and is therefore intrusive.

Context 1010 contains very little bone, prohibiting any detailed analysis of the remains.

Context 1012 appears to contain material that is possibly human. These remains are those of at least two individuals, one being neonate. Again, a relatively substantial amount of animal remains were recovered from this feature including several skeletal elements belonging to a medium-sized dog.

7. Radiocarbon dating, by Elizabeth Pearson

A total of 5 grains of unidentified wheat (*Triticum* sp) from cremation fill 1008, the pit for which cut the alluvial subsoil 1023/1059 directly over the road (Area 5a, Field 3; Fig 5) were submitted to Beta Analytic Inc. for AMS radiocarbon dating. The results are as follows:

- Conventional radiocarbon Age - 1660 +/- 40 BP
- 2 sigma calibration (95% probability) - Cal AD 260-290 and Cal AD 320-440 and Cal AD 490-520

At the 2 sigma calibration level, the BP results intercept with the calibration curve at a point where there are a couple of 'wiggles' resulting in three separate calibrated AD dates (Appendix 6; Hood 2008). As the pottery dating suggests that the road was not maintained after the late 3rd to early 4th centuries, the last two dates are considered to be more likely. However, if it is taken into account that an alluvial sub-soil had built up

prior to the burial of the cremation, the cremation is more likely to be contemporary with the latter end of the calibrated date range, although potentially could be of post-Roman date.

8. Environmental evidence, by Elizabeth Pearson, Katie Head and Andrew Mann

The environmental evidence is summarised in Appendix 7, Tables 10 to 18.

8.1.1 Methodology

A total of eleven bulk samples were taken from Evaluation Stage 1 (Table 10), of which nine contexts were ditches or pits of Romano-British date. Bulk samples of 10 to 60 litres were taken from 62 contexts during the subsequent excavations and monitoring (Table 11), which were mostly of Romano-British date. Spot samples were also taken from seven contexts of Romano-British date.

Macrofossil analysis

A total of 47 samples were selected for processing from significant contexts. A sub-sample of 10 litres was processed from each bulk sample by flotation using a Siraf tank during assessment (Vaughan *et al* 2007), but with the exception of the cremation deposits which were processed in full, no further processing was recommended. The flot was collected on a 300µm sieve and the residue retained on a 1mm mesh. This allows for the recovery of items such as small animal bones, molluscs and seeds.

During assessment the residues were scanned by eye and the abundance of each category of environmental remains estimated. A magnet was also used to test for the presence of hammerscale. The flots were scanned using a low power MEIJI stereo light microscope and plant remains identified using modern reference collections maintained by the Service, and seed identification manual (Cappers *et al* 2006). Nomenclature for the plant remains follows Stace (1997). Following assessment a number of samples were selected for full sorting of mollusc and charred plant remains (Section 8.1.2).

Pollen analysis

Seven pollen samples were selected from contexts within significant features, primarily ditches (where waterlogging might have occurred; Area 4: context 110; Area 6: 128; Area 5a: 1034; and Area 9e: 9035) and cremations (Area 5a: cremations 1008, 1010 and 1012). None of the deposits however, were exceptionally organic in character. Sediment samples of 2cm³ were measured volumetrically. The samples were soaked for 24 hours and then boiled in tetra-Sodium Pyrophosphate for 1 hour, sieved through a 120 mm mesh, washed onto a 10 mm mesh, and the residue collected. 10% Hydrochloric acid was then added in order to remove any calcium carbonate within the samples. Due to the silicaceous nature of the sediments, the samples were digested using Hydrofluoric Acid in a hot water bath for 1 hour, with the chemical refreshed every 30mins. The samples were then washed and sieved onto a 10mm mesh to remove any remaining clay or silica material. Finally the pollen pellet was stained with safranine, washed in alcohol to dehydrate the sample, and preserved in silicon oil.

Pollen grains were counted to a total of 250 land pollen grains (TLP) for assessment purposes, on a GS binocular polarising microscope at 400x magnification, and

identification was aided by using the pollen reference manual by Moore, Webb, and Collinson (1991). Nomenclature for pollen follows Stace (1997) and Bennett (1994), and results are listed in taxonomic order.

8.1.2 Results

No environmental material was retrieved during Evaluation Stage 2 (HSM 36655) and none of the samples recovered during monitoring of Area 7b (HSM 38193) were selected for processing.

Plant remains were poorly preserved in all samples. Only occasional seeds were recorded which would normally only survive in anoxic or waterlogged conditions. In these deposits they are most likely to be modern intrusive remains.

Hand-collected material

A total of 1.68kg and 336 fragments of animal bone were retrieved from contexts of Roman to post-medieval or modern date from Evaluation Stage 1, Areas 4, 5a/b, 6 and 9e/f (HSM 32104, 37314, 38189, 38192 and 38195; Table 14). A juvenile pig burial (Site 4, unnumbered field, 100) of post-medieval date accounts for a significant proportion of this assemblage. The bone was generally poorly preserved and relatively fragmented. No further work was recommended on this assemblage.

8.1.3 Macrofossil remains

Iron Age period

Primary fill 1079 of Middle Iron Age ditch 1080 in Area 5b, Field 1, contained only small unidentifiable fragments of charcoal and uncharred seeds of fat hen (*Chenopodium album*), from which little interpretation could be made. As the preservation of pollen in primary fill 1034 of parallel ditch 1031 was poor and did not merit further analysis, the bulk sample was not processed as pollen is more likely to survive than plant macrofossil remains (which are generally sparse across the site).

Only occasional mollusc remains were identified, within two ditches (138 and 142) in Area 6, Field 7, which appear to immediately pre-date the Roman road. Individual species of *Pupilla muscorum* and *Vallonia excentrica* were identified respectively; and they are indicative of short turfed grassland environments.

Roman period

Macrofossil remains were generally poorly preserved in most contexts. Organic content was generally low, and although sufficient pollen survived to interpret the nature of the surrounding environment (Section 8.1.4), survival of macrofossil plant remains (mostly seeds) was poor. The seeds that survived tended to be those which are relatively robust, such as fat hen (*Chenopodium album*) and, therefore, the assemblage as a whole is not representative of the surrounding vegetation.

However, in some roadside ditch fills (Area 4, unnumbered field, 110 and 111; Area 6, Field 7, 126 and 159; Area 9e, Field 13, 9043 and 9035) and a possible road surface (Area 28: 2803/4), molluscs were sufficiently abundant to provide some detail on the surrounding environment which can be used to complement the results of the pollen analysis (Section 8.1.4). The species noted during scanning of the flots were similar

to those from samples taken during the evaluation, which are described below, and are mostly indicative of the long, ungrazed grassland.

Mollusc remains were found within four samples taken from the roadside ditch during Evaluation Stage 1. These include 307 from Field 3 and 903/4, 904, 1003 and 1104 from Field 5. Of these, 903/4 contained the most useful assemblage, incorporating higher numbers of individuals and greater species diversity. Table 15 shows the minimum number of individuals from each context.

The assemblage from 307 in Trench 3A, Field 3, appears to represent a damp pasture environment. It is most likely to be one of ungrazed grassland, as *Carychium tridentatum,* the dominant species, is not tolerant of short pasture or human cultivation. The presence of *Zonitoides excavatus* in small numbers may also indicate that there was some woodland nearby, as this species inhabits leaf litter on woodland floors.

The assemblage from 903/4 appears to represent a damp densely vegetated area of land. A proportion of the species present, including *Vallonia* sp, *Vertigo pygmaea*, *Pupilla muscorum* and *Hellicella itala* inhabit short turfed grassland environments. However the dominant species are common in areas of dense vegetation. Of these *Carychium tridentatum* and *Carychium* sp may be found in long grassland, although they can also be associated with *Carychium minimum* in the moist leaf litter of deciduous woodland. *Punctum pygmaeum*, which is present in smaller numbers, also inhabits the leaf litter of woodland. However both of the latter species may also be present within well established and dense hedgerow.

Also of interest within this sample is a single slug plate, *Milax* sp. These species are often associated with man and often on cultivated agricultural land.

The assemblage from 1003 contains *Vallonia* sp*, Hellicella itala* and *Vertigo pygmaea*, indicating an open grassland habitat. However the presence of *Carychium tridentatum* in low numbers may indicate that the land was not heavily grazed or under cultivation. Thus the surrounding area may be of damp well-established grassland.

The assemblage from 1104 is again indicative of an open grassland habitat. This sample contains a number of species that favour such environments, including *Vallonia excentrica, Vallonia* sp*, Hellicella itala* and *Vertigo pygmaea*. There are also numerous examples of catholic species present within the sample, including *Cochlicopa* sp*, Oxychilus, Cepaea* sp and *Trichia hispida*. However these are of little use in interpretation. *Cecilioides acicula* was also disregarded due to the likelihood of it being a modern contaminant (Evans 1972).

Only a small quantity of waste from human activity was identified in the excavation. Chaff from either emmer or spelt wheat (*Triticum dicoccum/spelta*) was identified in ditch fill 159 (Area 6, Field 7) while charred cereal grain was identified in two cremation deposits in Area 5a, Field 3 (Table 16). The cremations (Sections 4.3.2 and 6) were dated to the later Roman period on the basis of a radiocarbon date from 1008 (Section 7). The charred remains were most abundant in cremation fill 1012, and was dominated by barley (*Hordeum vulgare*) with smaller quantities of an unidentified wheat (*Triticum* sp) and wild or cultivated oat (Avena sp). A smaller quantity of emmer or spelt wheat (*Triticum dicoccum/spelta*), barley and oat grain was also recovered from cremation fill 1008. The charred cereal grain in the cremation deposits may be the remains of votive offerings or could also derive from cereal crop waste used as

fuel, the chaff having burnt away in the heat of the pyre (Section 6.1.6). Preservation of the grain was poor, with most grain being puffed and in some cases warped which may indicate burning at a high temperature.

Small quantities of unidentifiable fragmented large mammal bone were also noted in ditch fill 1026 (Area 5a, Field 3).

Post-medieval period

Only occasional unidentifiable fragments of large mammal bone and charcoal were recovered from 1094 (Area 5b, Field 1), from which little interpretation was possible.

8.1.4 Pollen

The results of the pollen analysis are presented in Tables 17 and 18.

Iron Age period

Area 5b, Field 1, 1034

Pollen analysis was attempted for 1034, the primary fill of Middle Iron Age ditch 1031. Unfortunately pollen remains were extremely sparse and counts could not be undertaken. This was due to the exceptionally high silica content of the deposit and the degraded pollen grains.

Roman period

Area 4, unnumbered field, 110

This single fill of ditch 104 was dominated by Poaceae undiff. (grasses), as well as a reasonable number of *Cichorium intybus*-type, most probably *Taraxacum officinale* (dandelion), (Table 17). This tends to indicate meadowland, which is supported by occasional wetland herbs such as *Filipendula* (meadow sweet) and *Bidens*-type (bur-marigold). There were examples of *Polygonum* sp, appearing to represent *P. persicaria*, often found near ponds, and the aquatic, *Nuphar* (water-lily), both supporting the interpretation of damper ground on the site. Arboreal taxa mainly comprised *Alnus glutinosa* (alder) and *Corylus avellana*-type (hazel), but these were in low numbers.

Area 5a, Field 3 1008, 1010 and 1012

Cremation fill 1008 of cut 1007 contained pollen, which highlighted vegetation similar to that of previous contexts. Poaceae undiff. (grasses) the dominant taxon, was associated with very low numbers of *Alnus glutinosa* (alder) and *Corylus avellana*-type (hazel), (Table 18). Other herbs were low, represented by general grassland or meadowland species such as *Ranunculus acris*-type (buttercup). Spores were also low, consisting of *Pteropsida* (monolete) indet (ferns), *Polypodium* (polypody fern), *Pteridium aquilinum* (bracken), and *Lycopodiaceae* sp (clubmoss), as well as *Nuphar* (water-lily), the latter two taxa indicative of wetter areas. Most importantly, this context provides the only evidence of cereal cultivation, two examples of Cerealia pollen. Cultivation was likely to be occurring elsewhere, although the large presence of *Cichorium intybus*-type, most probably *Taraxacum officinale* (dandelion), lends support to arable cultivation in the surrounding area.

Cremation fill 1010 of cut 1009 was a particularly badly preserved sample in terms of pollen remains, and counts of only 65 grains could be obtained, providing an unrepresentative sample (Table 18).

Like the other two contexts, 1012 represented a fill of a cremation burial 1011. Poaceae undiff. (grasses), once again, dominated, together with *Cichorium intybus*-type (Table 18). In terms of species represented, the context was similar to previous contexts, with the exception of *Alnus glutinosa* (alder) and *Corylus avellana*-type (hazel), which were lower in number.

Area 6, Field 7, 128

Fill 128 of ditch 127 comprised slightly silty clay with occasional charcoal flecks. As with previous contexts, the pollen assemblage was dominated by Poaceae undiff. (grasses), together with other damp-loving or meadowland herbs (Env Table 8). The only exceptions not seen in other contexts were the taxa, *Drosera rotundifolia*-type (round-leaved sundew), and *Sagittaria sagittifolia* (arrowhead), both found in shallow water. There were two aquatic species, *Nuphar* (water-lily) and *Stratiotes aloides* (water-soldier), the latter a coloniser of ponds and ditches. These species suggest standing water, which may be related to the water feature 175/176 adjacent, into which this ditch fed.

Area 9e, Field 13, 9035

This single fill of roadside ditch 9036 was similar to most other contexts analysed, with Poaceae undiff. (grasses) dominant, and all other taxa in low numbers (Table 17). There were other trees previously unrecorded, including *Quercus* (oak), *Tilia* (lime), and *Pinus* (pine), but these were not significant and represent regional pollen rain.

8.1.5 Overview of environmental evidence

Iron Age period

The environmental information obtained for this period was minimal, and came from two ditches which appear to immediately predate the construction of the Roman road. The molluscs recovered indicate that the immediate surrounding landscape was one of short turfed grassland, probably pasture.

Roman period

Pollen and mollusc remains indicate that the Roman road was largely surrounded by a wet, fully cleared open landscape of ungrazed grassland (possibly meadow land with standing water), with slight evidence for arable cultivation locally. These results are similar to that recorded at Mill Street in Leominster to the north (Pearson, Head and Smith 2005). At Mill Street and other sites located on the floodplain of the River Lugg in the area, such as at Lugg Bridge Quarry, Herefordshire (Pearson 2000), pollen evidence highlights the presence of alder carr colonising the river edge. At Roman Road, Hereford, however, alder and hazel pollen is present only in very low levels, possibly due to clearance or simply because the road is some distance removed from the nearest major river, the Wye, *c* 3km to the south. Evidence of Roman and post-Roman cereal cultivation has been found in the pollen record at Wellington Quarry, a few miles north of Roman Road, although again this activity was

believed to be occurring away from the sampling site, on adjacent rich agricultural land (Head forthcoming).

Evidence for human activity along the route of the road is slight, with some charred cereal crop waste being found in the fill of the ditch adjacent to the road and small quantities of charred grain in two cremations, which may be votive offerings or the remains of pyre fuel.

9. Soil analysis, by Stephen Lancaster

9.1.1 Introduction

Two stratigraphic sections were examined, within Area 9e and Trench 9f adjacent (Field 13; HSM 38195; Figs 9 and 10), as well as more general observations made over the area, to investigate likely sediment and soil processes associated with the Roman road.

9.1.2 Area 9e

The road surface material (9021, 9027, 9034 and 9038) appears to be derived from the coarse fraction of the local glacial till. Immediately above the road surface is a thin (1 cm) layer of silt and small, mostly sub-rounded to rounded stones. This probably represents a worm-sorted layer, with small stones having been transported by earthworm action from the overlying material. The presence of earthworms was noted within the Roman road during the site visit. This layer is overlain by a thick (*c* 35-40 cm) deposit of a mid yellow-brown, well-sorted, virtually stoneless silt (9017, 9023 and 9030). The uppermost (top 8 cm) part of the deposit had a well-developed crumb structure. Below this, the deposit graded from a weakly developed crumb structure to a massive, weakly developed block structure.

This deposit is interpreted as an alluvial sediment, the uppermost part of which has developed into a silty soil. The interpretation is based on the high degree of sorting that the deposit exhibits, the deposits on the bed of a nearby Yazor Brook, which exhibit very similar texture and sorting, and the knowledge from local informants that the stream frequently floods.

9.1.3 Trench 9f

Trench 9f lay to the immediate south of Area 9e, through the former hedgerow and across part of the modern road. It had been excavated to the underlying glacial till. This section is somewhat more complex than that observed in Trench 9e adjacent. Towards the north of the trench, excluding the modern service trench, the sequence upwards from the glacial till is as follows (Fig 10): 9031 is a deep pinkish brown silt with abundant angular to sub-rounded stones, 1-6 cm across. This deposit is overlain by 9066. The colour of this deposit is yellow brown. There are frequent stones, angular to sub-rounded in shape, 1-6 cm across. The uppermost part of the deposit has a weakly developed crumb structure, which grades into a weakly developed blocky structure. The boundary between these contexts is diffuse, with the changes in stoniness and colour grading across the contexts. Overlying 9066 is 9030. This is a pale yellow brown silt, with very occasional rounded pebbles (2-5 cm across). The boundary between 9066 and 9030 is clear. This sequence is interpreted as a soil developed from the underlying till, with 9031 being a ‘B’ horizon (sub-surface mineral horizon), and 9066 being an ‘A’ horizon (surface horizon enriched with organic

matter). 9030 is interpreted as being an alluvial deposit, equivalent to that described in Trench 9e. On the southern side of the trench, 9030 does not occur, and appears to have been replaced by 9015. 9066 has been heavily truncated by 9015. 9015 is composed of redeposited glacial till, and has been truncated by modern road deposits. 9015 shows no trace of soil formation processes, suggesting relatively rapid deposition.

9.1.4 Conclusions

The local sequence of sediments and soils for Area 9e and Trench 9f can be reconstructed as follows:

A soil developed from the glacial till, represented by 9066, which was the 'A' horizon, and 9031, which was the 'B' horizon.

A road was laid during the Roman period. Correlation between the trenches suggests that this involved the partial truncation of the till-derived soil.

The Roman road and adjacent soil surface was covered by alluvium 9030, resulting from (seasonal) flooding of the road, presumably after heavy use and maintenance had ended.

The alluvium, and any soil that may have subsequently developed in it, was removed locally during the construction of a later, undated road, using redeposited till 9015.

10. Discussion and conclusions

10.1 Prehistoric activity

Prehistoric activity identified was minimal. Residual artefacts included a very small quantity of worked flints, recovered within later contexts. Their exact dating is unclear.

The two substantial parallel ditches observed at the western end of the scheme, contained Middle Iron Age (3^{rd}-1^{st} centuries BC) material in their primary fills, similar to the Group D mudstone-tempered pottery recovered from the Iron Age settlement to the east of Kenchester, at Credenhill and Sutton Walls. The secondary ditch fills contained Roman material, indicating that they remained open and probably in use (although gradually silting up) into the 2^{nd}-3^{rd} centuries. The low density of associated finds indicates that there was probably no contemporary settlement immediately adjacent. They provide a tantalising glimpse of the prehistoric landscape and may represent a droveway within a wider field system or even an antecedent of the Roman road. The limited pre-Roman environmental evidence indicates that the area comprised short turfed open grassland, probably pasture. Unfortunately, there is at present no further evidence of prehistoric landscape divisions in the immediate area (White 2002).

The mound at Lower Veldifer, previously conjectured to be a prehistoric feature (Woodiwiss 2002, 5-6) such as a burial mound, was determined to be an entirely natural geological feature. Nevertheless it was clearly a significant landscape feature in the early medieval period, as parish boundaries were aligned on it.

10.2 Roman activity

10.2.1 Dating evidence for the road

Construction

No archaeological evidence for the actual date of construction of the road was found, as no finds were recovered from below or sealed by the cobbling and road makeup. This was not unexpected, given the low proportion of other roads investigated which have yielded accurate dating material from their construction layers (Davies 2002, 27-9 and 36-7). The date of construction for this road is generally considered to be the mid-1st century, specifically during the westward push into Wales, AD 47-70 (Section 2.4.1). The findings of the present project do not contradict this.

Artefacts recovered from within the road matrix itself was largely of indeterminate 1st-4th century date, although a few sherds could be more closely dated to the 1st-3rd century and 2nd-3rd centuries. Unfortunately, as it was not possible to identify or distinguish the original road make-up from areas of patching and repair, this material does not aid in dating of the road construction. Along with the material recovered from the roadside ditches, it does however allow inferences to be made regarding the possible decline in use and discontinuation of maintenance of the road.

Maintenance and decline

The artefactual assemblage is significant in that it gives a clear indication of the level of Roman activity in this area, the use of the road and the decline in its maintenance.

The pottery assemblage recovered from the road surface and roadside ditch was largely of 2nd century date, largely spanning the late 1st to early 3rd centuries, tailing off by the late 3rd to early 4h centuries (Section 5.1.2). Relatively little very early or later Roman pottery was recovered. The low level of Oxfordshire colour-coated wares in any number or specifically late Severn Valley Ware forms is argued to indicate that the ditches were allowed to silt up as early as the 2nd century, and were not subsequently cleaned out or maintained. This appears to be contrary to the late 3rd century milestone from Kenchester, which, it has been conjectured, indicates road maintenance *was* being undertaken at this time. The discovery of late 3rd to early 4th century coins on the road surface indicates that the route remained in use, although was *not necessarily maintained*, at this time.

Analysis of the soils in Area 9 indicates that the material overlying the cobbled surface is of alluvial origin (Section 9) from seasonal flooding of the Yazor Brook, and not simply due to settling of the metalled surface and the encroachment of vegetation. This would have inundated the adjacent floodplain and made the low lying portions of the road all but impassable during the winter months. From the pottery evidence, this silt appears to have been allowed to remain and develop from the 2nd century onwards. It is unknown if this change represented a deliberate policy of discontinuation of maintenance along the road, or was perhaps the result of sudden or rapid environmental change upstream along the Yazor Brook, such as an expansion of agricultural activities or urbanisation, causing increased water run off and alluviation downstream.

An increase in sedimentation has been identified in the Arrow Valley to the north in the late 2nd/early 3rd century. At the same time, at Pembridge within the valley, an

intensification of land division and thus also probably arable cultivation has been recorded, which may have been part of a wider pattern of landscape reorganisation or climatic change (Ray 2003, 16). Kenchester is known to have undergone a period of major reconstruction in the second half of the 2nd century, with the alteration of the street plan and the erection of earthwork defences both around the town and the extramural settlement to the east (Wilmott 1980, 123). However, it has not been possible archaeologically to definitely tie in these events with the decline in maintenance and silting of the Roman road to the east.

This discontinuation of maintenance and the development of an alluvial soil over the cobbled surface should not however be taken to imply that the road fell of out use entirely, although it does indicate a decline in heavy usage of the route. This is somewhat at odds with it being the primary route between Kenchester and Cirencester, the *civitas* capital of the Dubonni, to the south-east, and cannot at present be resolved.

10.2.2 The form of the Roman road

A number of extant stretches of the Roman road were identified and excavated. They were in a variable state of preservation, generally to the north of the present road. At no point did the excavated and exposed section of Roman Road conform with the typical construction of Roman roads as described by Margary (1973) and Hughes (2002; Section 2.4.2).

It was found to comprise a compacted layer of cobbles and smaller pebble gravel, up to 0.40m thick, and often bound with a sandy or clayey silt matrix, although this may have worked in over time.

There were generally no discrete layers within the cobbling indicative of foundation layers or relaying of the surface. In fact it is unclear if the extant cobbled 'surface' identified actually represented the original surface, or rather a layer within the original road. Margary states that road surfaces usually comprised fine gravel, over rough pebbles and cobbles, although Davies argues that rough cobbles often formed the surface. At no point was fine gravel recorded on the surface along Roman Road. Similarly, there was no evidence of 'heavy bottoming'; the use of larger stones as a foundation. This has been argued to have been a characteristic of military roads, which Roman Road is considered to be. It is therefore considered that Roman Road was originally of uniform construction with a rough surface, utilising the locally available pebbles and cobbles.

Unfortunately, it was not possible to determine the exact provenance of the cobbles used within the makeup of the road, due to their mixed nature, being the result of massive fluvio-glacial action across this part of Herefordshire, during the last glaciation. They are most probably derived from the locally occurring gravel beds however.

The road was not found to lie along the top of an *agger* or bank. Rather it was generally bedded within a trough directly over the natural matrix, such that it probably did not stand particularly proud above the surrounding landscape.

Within most of the excavation areas a roadside ditch was identified. Those areas where no ditch was found had been subject to disturbance by modern drainage and services, which may have removed all trace of the original ditch/es. Unfortunately as the full width was not exposed at any point, it is not certain if ditches lay on both sides

of the road. Combining the results of a small number of the radar survey traverses with adjacent excavation indicates that ditches did appear on both sides, although the radar evidence was often found to relate to modern services and other anomalies rather than Roman features, so should be treated with considerable caution.

The full width of the road was not exposed at any one point along the scheme. The width can however be postulated from adjacent excavation areas and trenches. These investigations provide widths ranging from 2.6-7.3m, although the majority appear to have been between *c* 6-7.30m, which would place Roman Road just below Margary's defined standard width for an *important* route (Margary 1973, 21).

Combining Areas 4 and 5 at Stretton Sugwas gives a road width of *c* 15m wide (from ditch to ditch). This seems unlikely; particularly given that the section of road excavated outside the east gate at Kenchester was only 8-9m wide. This may be explained by the route possibly meandering and having been realigned during the Roman period. This would explain the southern cobble surface not conforming to the model (having been bedded directly onto subsoil rather than in a trough over the natural clay) and the presence of cremation burials over the road surface along its north side.

Where observed, the profile of the roadside ditches varied along the length of the road, from shallow rounded scoops to steep and V-shaped (Plates 2, 6, 8, 11-13). This may indicate that discrete lengths of the road were constructed by different teams. Only in one area, Area 6 at Lower Veldifer, was the ditch found to have been recut. At the same point evidence of alteration of the road width was identified. Unfortunately this activity could not be dated to any specific part of the Roman period.

At no time were outer ditches identified, which Margary argues defined a 'road zone', which was generally three times the actual width of the road surface (Margary 1973, 22). It has been noted by Davies however that such ditches are seldom found to survive, due to their shallow nature, making them easily subject to erosion and plough damage (Davies 2002, 34). The later ditch which fed into the pool in Area 6 is not considered to have performed this function, given that it was not parallel with the earlier roadside ditch, but rather cut across it and butted up against the cobble surface toward the east end of the excavated area.

Little evidence of the form of the crossing of the Yazor Brook was found, beyond a loose band of cobbles overlying the natural and sealed by alluvium along one side of the present stream course. This is conjectured to represent a consolidation layer within the base of a ford. The presence of a ford, rather than a bridge, may be argued to indicate that the road was of lower importance than the evidence of the road width suggests. However it should be stressed that this area of the scheme was investigated within the constraints of the watching brief, rather than open area excavation, so the conclusions cannot be taken as definitive.

Roman Road clearly does not conform to the 'typical' form of Roman roads nationally. However Davies makes the point that few Roman roads actually portrayed all of the features of a 'typical' road (2002, 142). Similarly it is not possible to judge the relative status of any road on the archaeological evidence of width or depth of metalling.

10.2.3 Roadside activity.

The evidence for activity along the Roman road was very minimal, which is, on the face of it, somewhat surprising, given the proximity of Kenchester to the east and the

previously identified villas nearby (Section 2.4.4). However this was probably simply due to the low topography, the natural boulder clay and the route of the Yazor Brook, all of which combined to make this a comparatively wet area, which was prone to seasonal flooding.

Only 19 fragments of Roman ceramic building material were recovered, which is a clear indication of an absence of Roman structures within the immediate vicinity of the road.

The additional ditches on the mound at Lower Veldifer were related to the road itself, draining water off the surface and into a large pool or pond adjacent. The consolidation of the base of the pond is argued to indicate that it was used for stock watering.

It is unclear what function the two large pits close to the road at Lower Veldifer and Stretton Sugwas had. They may have been quarries, although the low density of pebbles within the boulder clay at these points meant they would not have been particularly productive, which suggests some other function. Similarly the function of the postholes noted adjacent to the pit at Stretton Sugwas is unknown.

Two small discrete stretches of metalling, to the south of the road alongside the Yazor Brook and east of Stretton Sugwas, may have been part of track ways, although to what or where they lead is currently unknown as there is no defined evidence for settlement activity in the vicinity.

The presence of iron smithing debris in the form of hammerscale, slag and fired clay recovered in residual contexts found *c* 130m north of the road at Stretton Sugwas, indicates nearby rural settlement. Although no further evidence has been uncovered during the current project, it may relate to the scatter of bronze artefacts (HSM 8466) recovered at Stretton Rectory, 0.4km to the north-east.

The discovery of the cremation burials (Sections 4.3.2 and 6) lends more weight to the possibility of Roman occupation to the north of the road and south of Stretton Court Farm, as burials were often made alongside Roman roads on the edge of settlement.

10.2.4 The cremations, by Gaynor Western and Tom Vaughan

Due to the relative lack of material within the cremation deposits, little can be said of the individuals buried.

The evidence suggests that the pyre technology used in the cremation of these remains was well understood and the deposition of both human and animal remains without any pyre debris was a careful process of deep symbolic significance. It is possible that the presence of specific animal species is especially meaningful in their cultural context (for example, it is thought that more dog remains are more commonly found in cremated Anglo-Saxon deposits, although the reasons for this are not yet clear (pers comm Jacqueline McKinley) and that the presence of butchered remains and unburnt bone possibly represents different aspects of funerary rites accompanying the deposition of cremated human bone.

It is unlikely that these cremations form part of a larger cemetery, although any shallow deposits may have been entirely removed during intensive ploughing of this field. No other cremation cemeteries have been found in the immediate vicinity, so no

comparative analysis can be undertaken on these remains which might expand on or clarify the nature of the funerary rites being performed.

On the basis of the radiocarbon analysis and the pottery assemblage, the cremations are considered to date from the mid/late 4th century. They are conjectured to have been deposited alongside the road where it had shifted to a slightly more southerly alignment. This might explain the 15m distance between the ditches at this point.

10.2.5 The wider Roman landscape

The excavated evidence represents new information on the landscape of this part of Herefordshire, and in particular the character of the Roman landscape to the east of the Roman town of Kenchester.

Although the road lay across the low lying floodplain of the Yazor Brook, it clearly made optimal use of the high ground within the landscape (the mound at Lower Veldifer and the rise at Bovingdon Caravan Park), to allow maximum access through the year.

It has been argued that the economic basis of Kenchester was the agricultural produce from the surrounding villas, a number of which have been identified (Section 2.4.4). Although the low lying nature of the ground and the seasonal inundation along this stretch of Roman Road would appear to preclude settlement immediately adjacent, it may be expected that the area would have been agriculturally rich and productive. The environmental evidence indicates that it the landscape around this section of Roman Road was one of wet, open ungrazed grassland with occasional arable areas, through the Roman period. A lot of this grassland would probably have been utilised as meadow pasture for cattle and the hay cropped for winter feed.

10.2.6 Comparison with Roman roads in the region

As noted above, the evidence of the form of construction of Roman Road found during the project does not conform to the 'typical' Roman road as defined by Margary (1973) and questioned by Davies as actually bearing any reality (2002).

Unfortunately no portions of Roman Road eastwards of the present scheme have been identified before it reaches Stretton Grandison, so no comparisons can be made along this same route. To the west however, a number of portions have been investigated. Close to Field Barn the extant track was largely of post-Roman construction. Two adjacent roads have been excavated outside the east gate at Kenchester, which portrayed entirely different characteristics. This is unsurprising however given the prominent sub-urban location of this section. The exposed sections of road west of Kenchester (essentially the western continuation of Roman Road), similarly do not appear to compare with those sections identified in the present scheme. For example, that at Garnons Park lay on an agger and was half the width, while that at Bishopstone was found to have comprised discrete layers bedded over soil.

The route of Watling Street (West) north of Hereford lies on a visible agger, which is at odds with Roman Road, although the section to the south at Widemarsh Common is of comparable width (6m) bedded directly on the natural matrix.

The southern branch off Watling Street (West) toward Kenchester and on down to the River Wye has been the subject of a number of excavations. Immediately outside the

town it was found to be 6.7m wide, which is similar to Roman Road, although was of discrete layers. At Old Weir Farm the route was more complex comprising a lower rough cobble track and an upper gravelled road on a substantial agger. Roman Road compares well with the former.

Roman Road does not therefore appear to portray many similarities in terms of width, depth or layering with those sections of Roman roads identified and investigated within the surrounding area. This is not surprising, given that the individual sections investigated along Roman Road itself are often dissimilar. Davies argues that there were no specific standards, as Margary believed, based on the stereotypical view of Roman society being entirely ordered and regimented, but that each individual length of road was constructed and maintained as per the requirements of the traffic using it, the limitations of the topography and the locally available materials (Davies 2002, 153).

10.2.7 Survival of the road

The extent to which the previous post-Roman road improvements have disturbed and removed the Roman road surface was found to vary along the entire length of the scheme such that it is not possible to produce an exact model of areas of survival and disappearance. This is also true of sections which were found to lie adjacent to and present alignment, within the fields which have been subject to ploughing.

10.3 The post-Roman road

Place-name evidence and the location of the parish boundaries demonstrate that the road remained in use and was an important feature in the landscape in the post-Roman period (Section 2.5 above). It is unclear exactly why this was the case, given the decline of Kenchester in the early 5th century coupled with the long-standing lack of maintenance and alluviation of the road surface from the late 2nd/early 3rd centuries.

The road appears to have retained its transportation function in the post-Roman period, linking the major routes which radiated out of Hereford from the later 7th century. It was certainly not the primary route to any substantial estate, while the medieval settlement of Stretton Sugwas lay along the modern A480 to the north. Similarly it was bypassed by the network of turnpike roads which was established in the early 18th century, although the focus of the village did shift to the crossroads of Roman Road and the A480 in the later 18th or early 19th century. It clearly did convey a substantial amount of traffic however, as is shown by the deep holloway, worn down through the slight hillock adjacent to Bovingdon Caravan Park.

It is conjectured that its primary function in the post-Roman period was as an administrative and property boundary. The parish and manorial system was established in the early medieval period. Therefore it is considered that Roman Road became fossilised in the landscape at this time (and remains so to this day) as the boundary between the parishes of Breinton, Holmer, Burghill and Stretton Sugwas. However, the narrow tongue of Breinton parish which extends from the south up to the mound on the road at Lower Veldifer indicates that the transportation function of the road also remained important in this period (Woodiwiss 2002, 5).

The name Roman Road is considered to have come into use since the town of Kenchester was 'rediscovered' in the early 18th century (Wilmott 1980 117) and to distinguish it from the turnpike roads in the vicinity, radiating out from Hereford.

It is unclear exactly why the present highway meanders and does not lie exactly over the Roman road. However, this has often been found to be the case, for example along Ermine Street at Cirencester (Mudd and Mortimer 1999, fig 5.1). This irregularity may be a function of the seasonal flooding and alluviation of the area, obscuring the surface each year (which also occurred during the Roman period), coupled with the adjacent open-field boundaries being only loosely fixed and ill-defined through into the modern period.

10.3.1 Medieval, post-medieval and modern activity

A very small quantity of residual medieval material was recovered from the overburden, and intrusive material from one area of the Roman road surface and adjacent ditch. Otherwise no medieval deposits, horizons, features or structures were recorded. It is possible that some of the undated areas of cobbling observed may relate to medieval road surfaces, although this could not be determined for certain.

Ill-defined post-medieval/modern road surfaces and foundation layers were identified below the present highway, often to a substantial depth generally comprising macadam deposits below the modern tarmac surface. Unfortunately this form of construction is not dissimilar to that of the Roman road, so some stretches of cobbles could not be dated accurately as either Roman or of later date. This has been noted as a common problem on other excavations of Roman roads (eg Davies 2002, 27-9 and 36-7).

Small patches of gravel and pebbles were recorded within the field to the north of the holloway adjacent to Bovingdon Caravan Park. They are interpreted to represent the remains of post-medieval consolidation for a track, laid down for use when the holloway became impassable in the winter months.

The great depth of modern road layers is unsurprising, given the low lying ground and the propensity for flooding. Depths of 1-2m and more have also been recorded elsewhere, such as on Ermine Street Roman road, on the A417/419, for example at Dartley Bottom (Mudd and Mortimer 1999, fig 5.2; Halcrow 2002).

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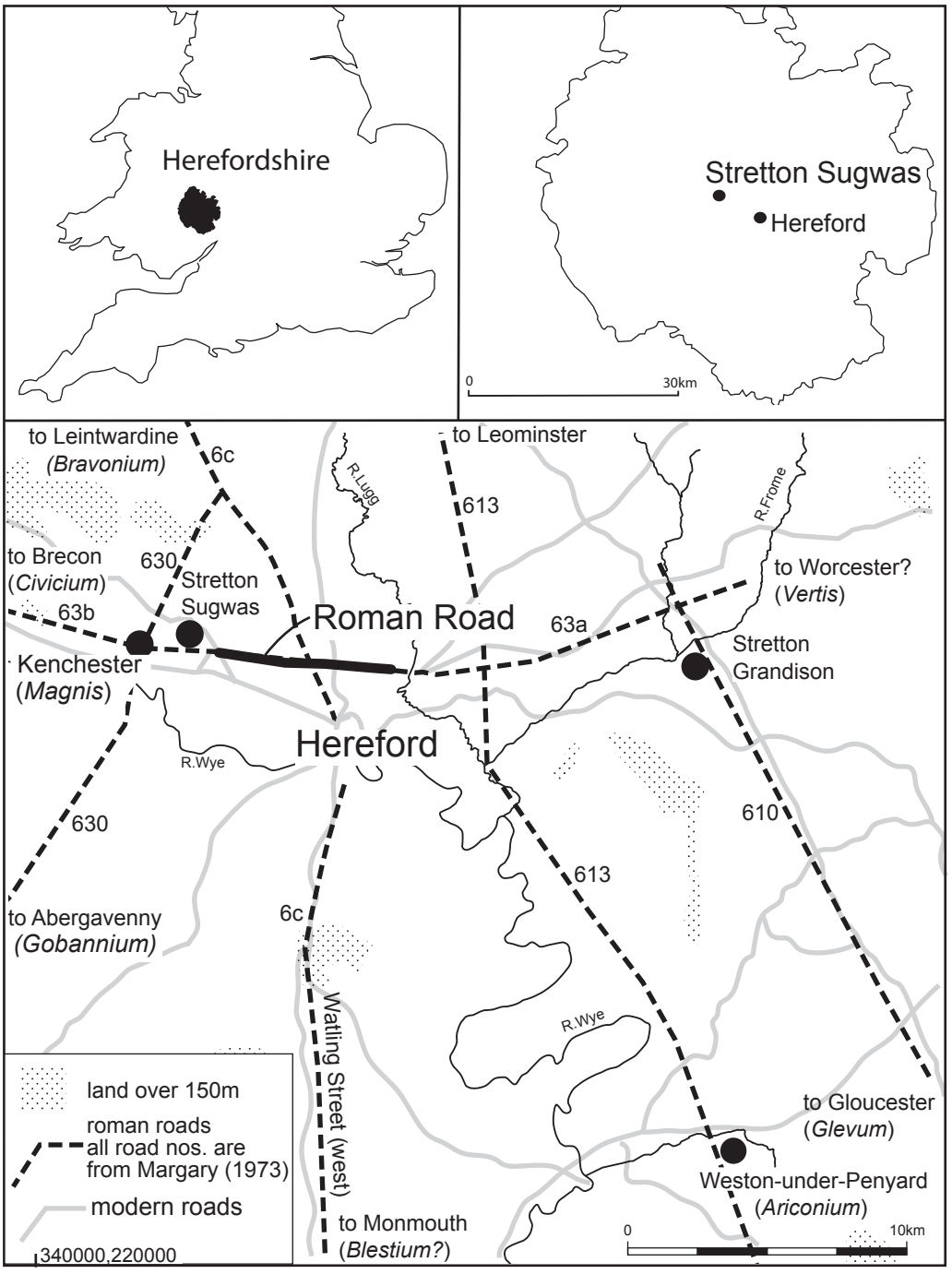
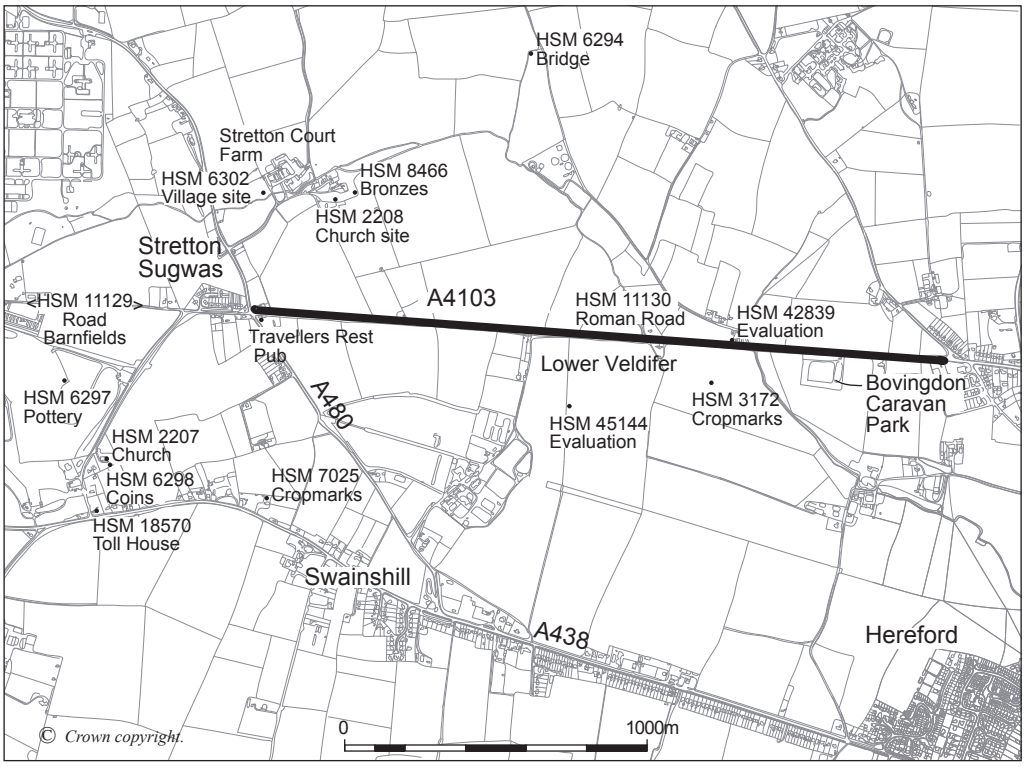
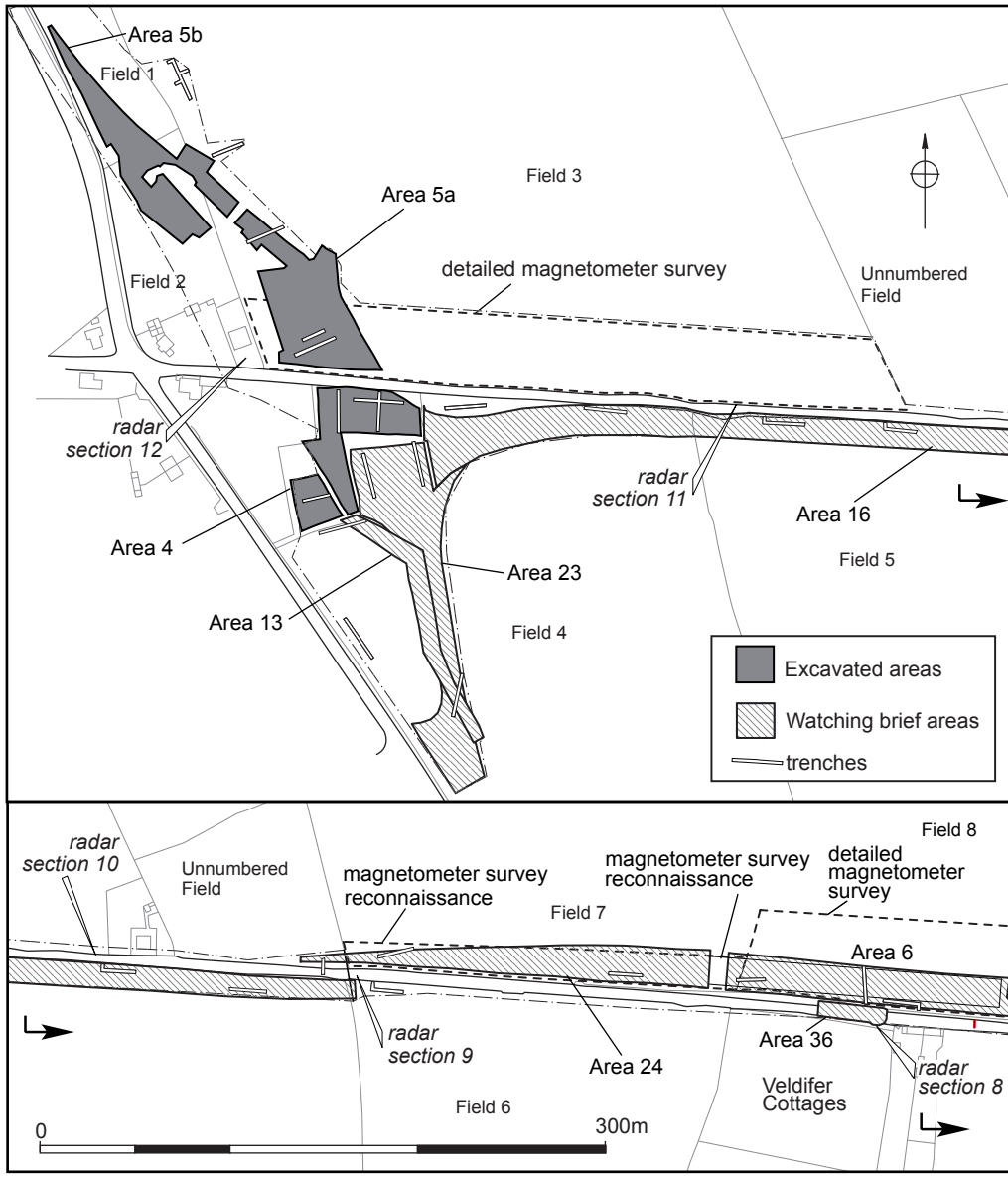
Figures



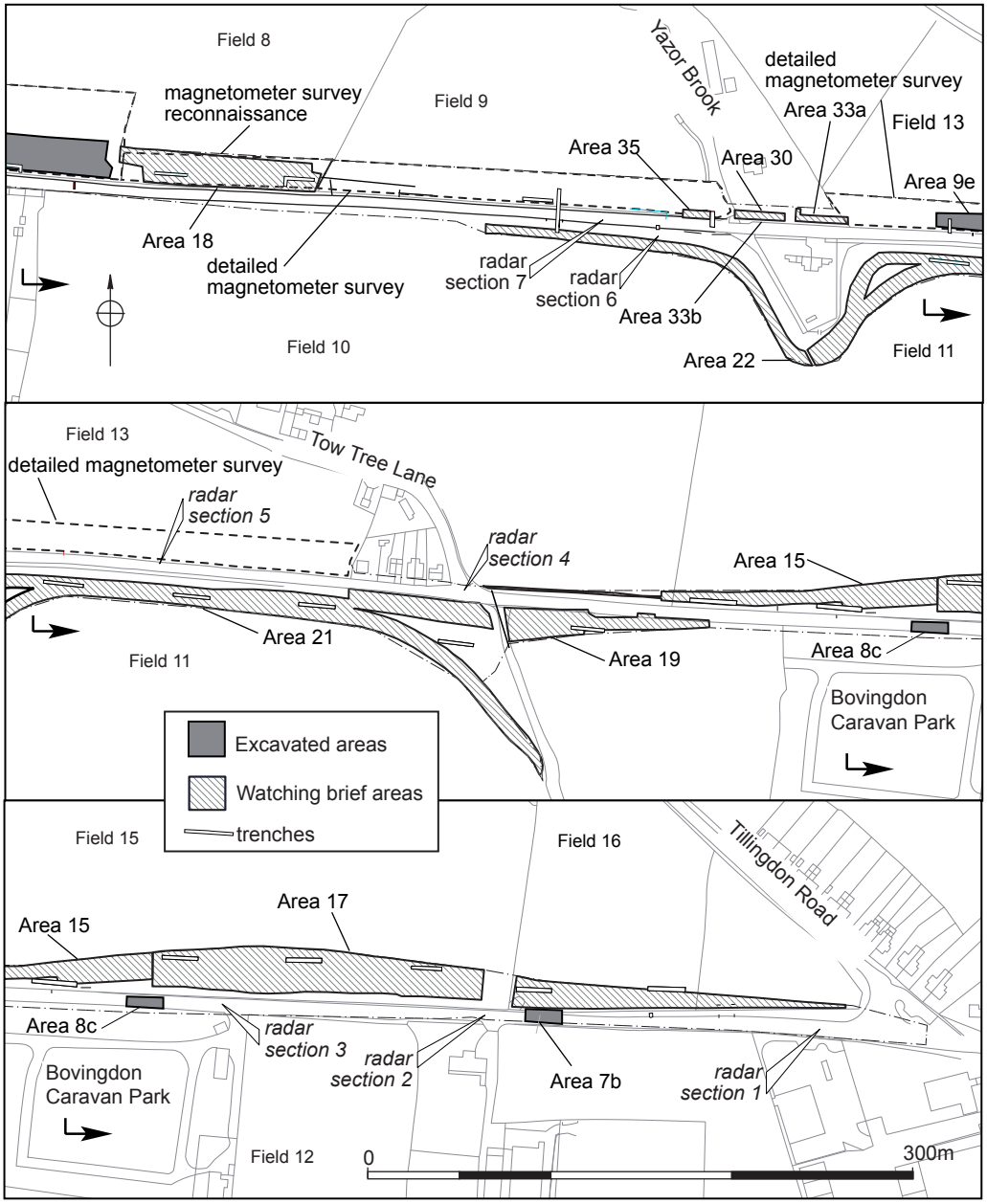
Roman Road site location within the immediate Roman road network *Figure 1*



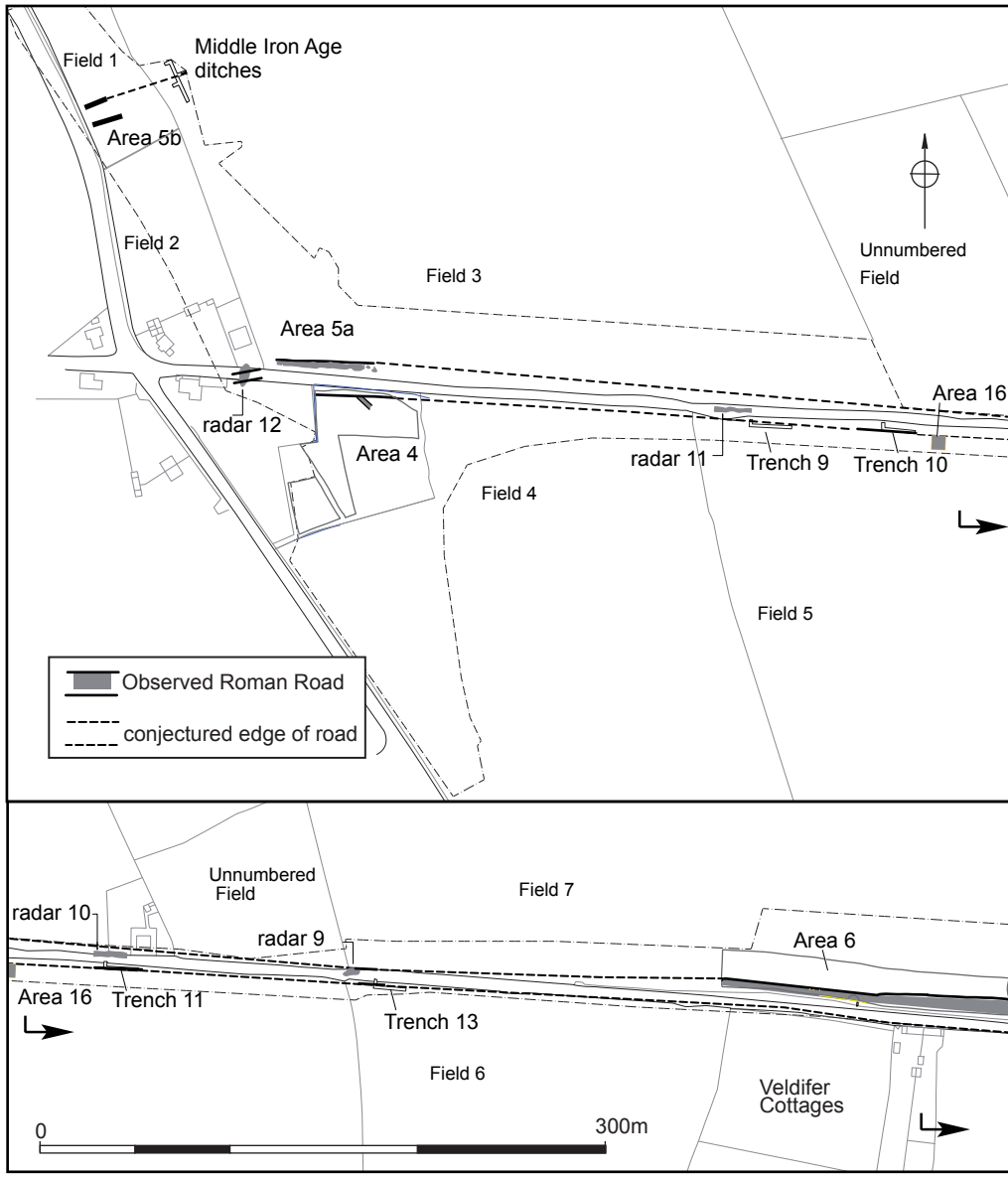
Detailed site location with adjacent SMR sites *Figure 2*



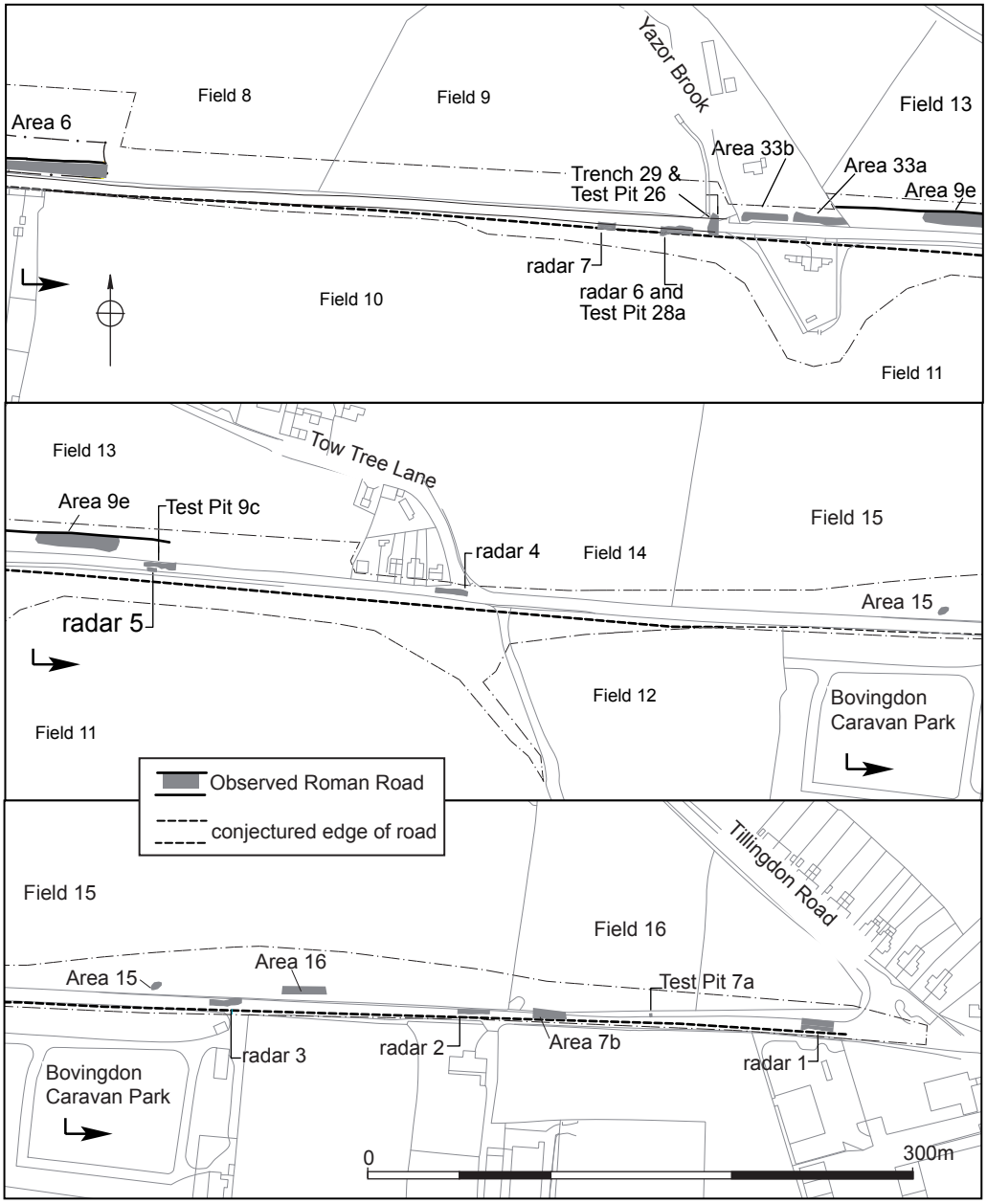
Location of all interventions along the scheme (west half) *Figure 3a*



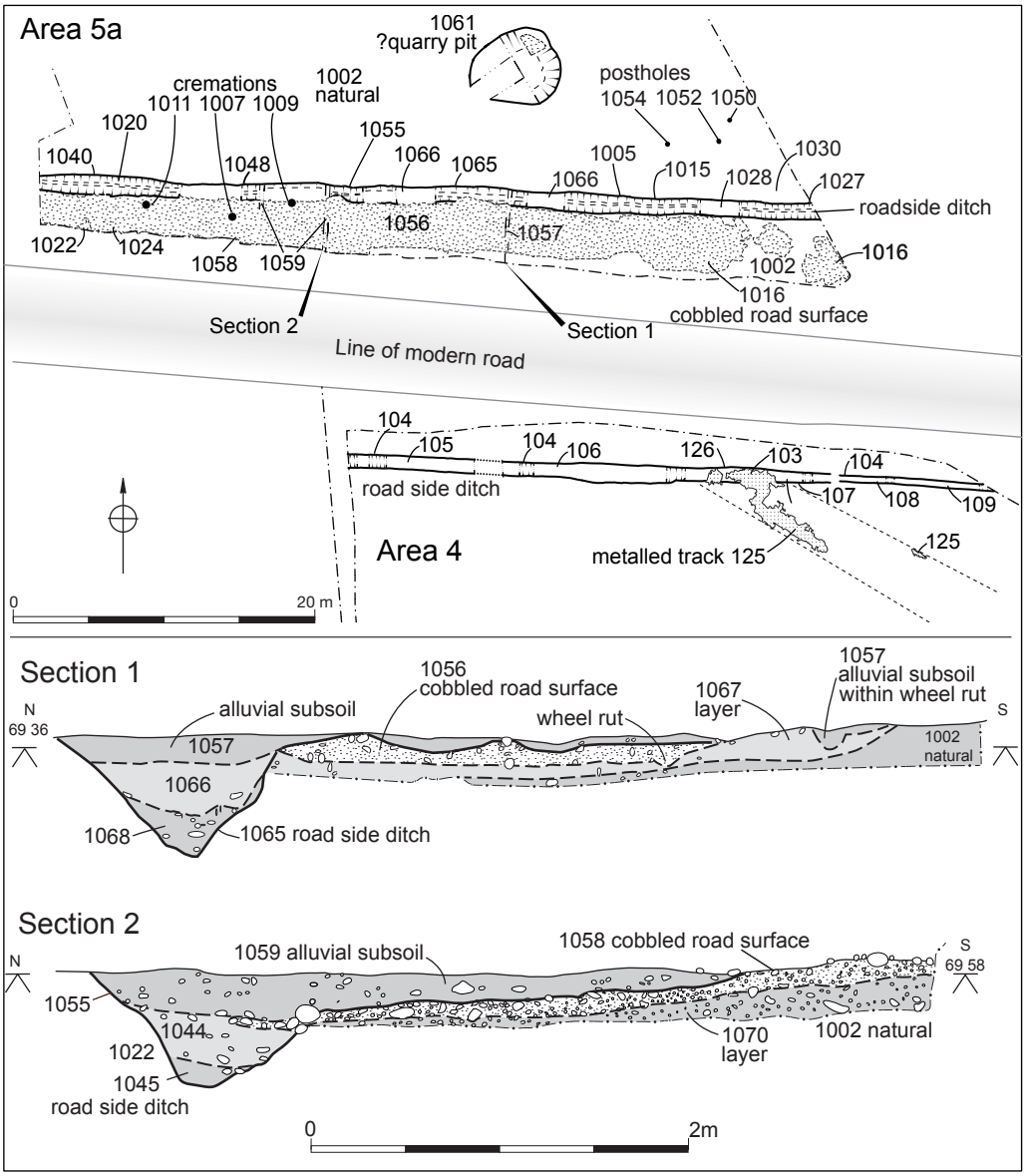
Location of all interventions along the scheme (east half) *Figure 3b*



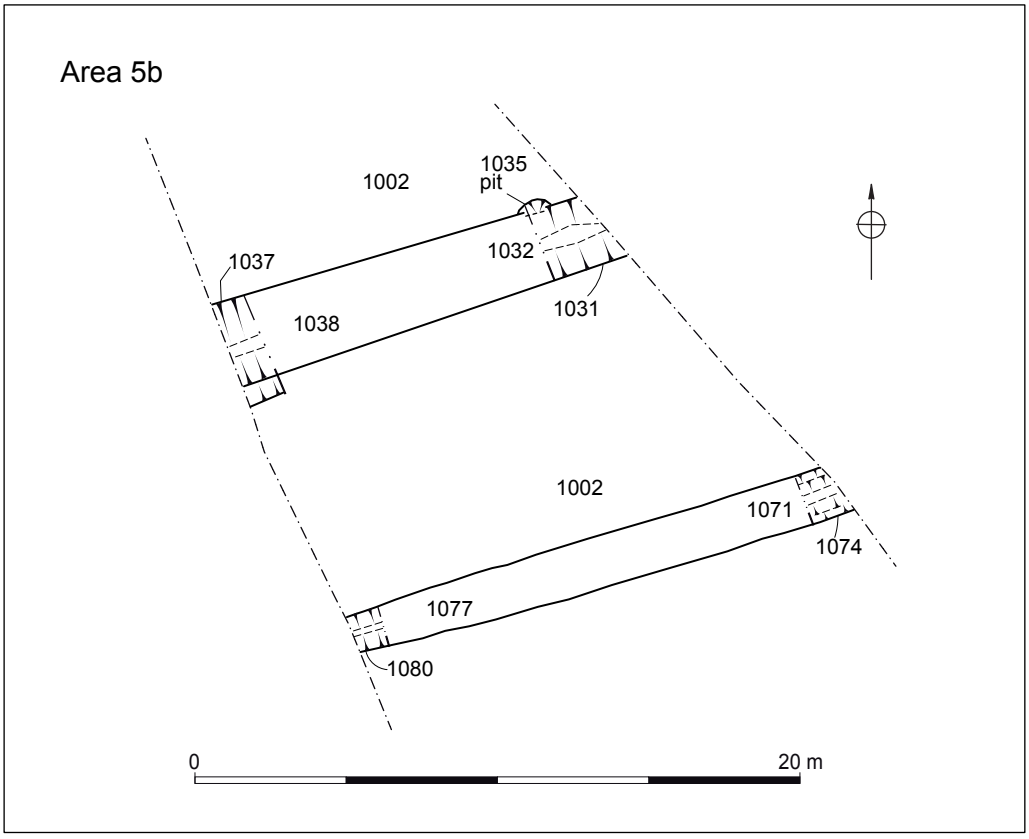
Location of all observed areas of the road and ditch (west half) *Figure 4a*



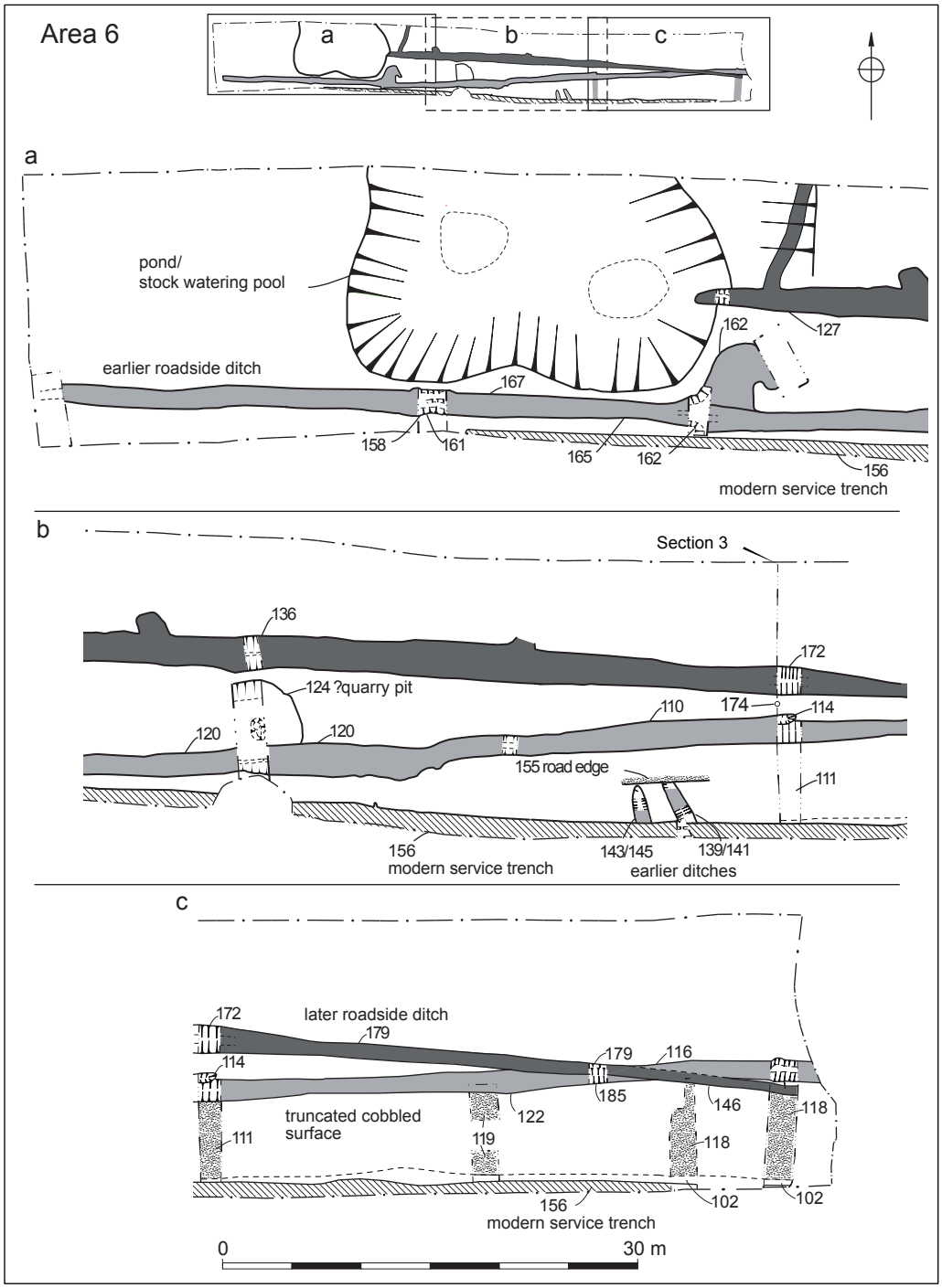
Location of all observed areas of the road and ditch (east half) *Figure 4b*



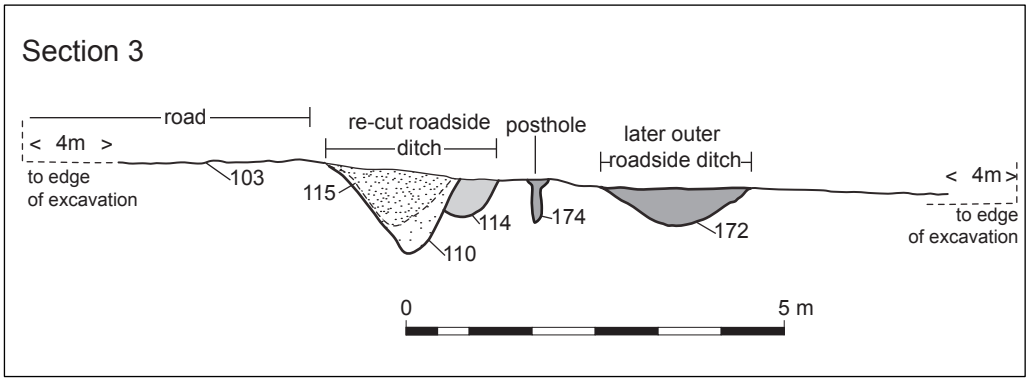
Areas 4 and 5a with Sections 1 and 2 across Area 5a *Figure 5*



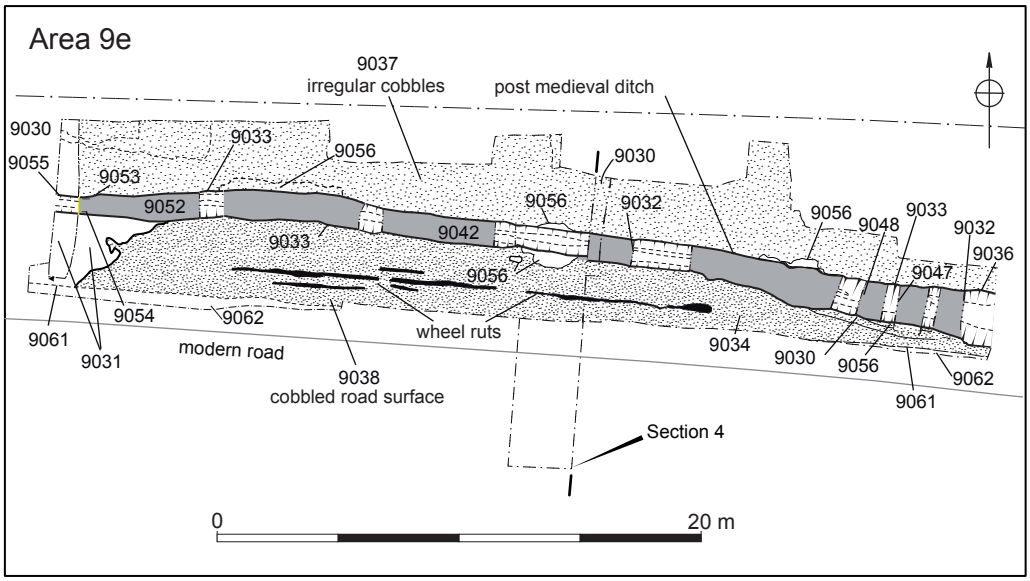
Area 5b *Figure 6*



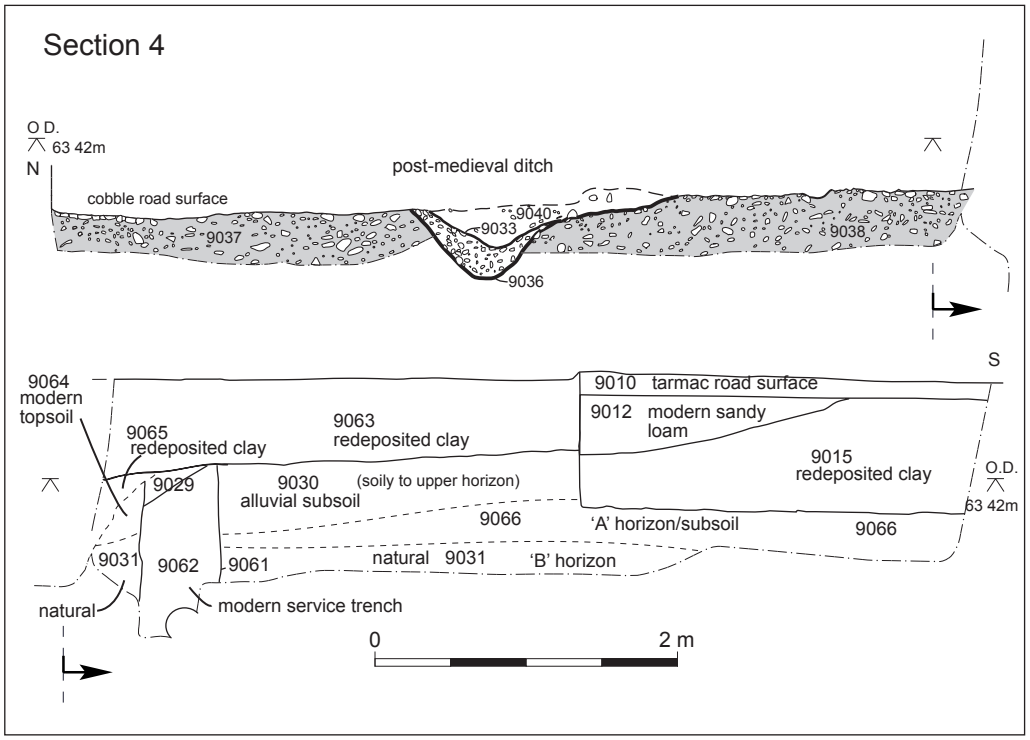
Area 6 *Figure 7*



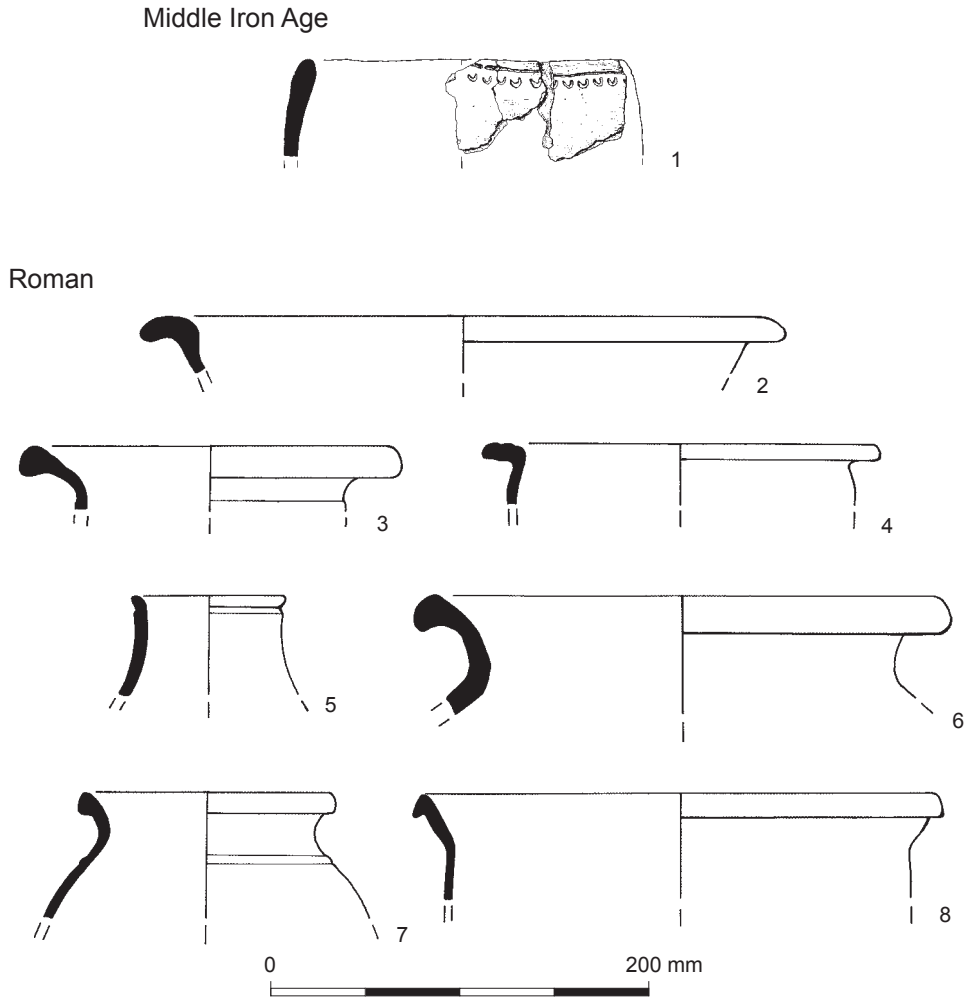
Section 3 across Area 6 *Figure 8*



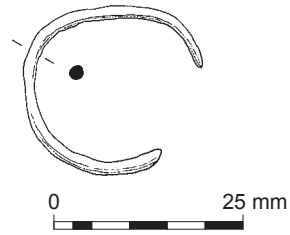
Area 9e *Figure 9*



Section 4 across Area 9e *Figure 10*



Middle Iron Age and Roman pottery *Figure 11*



Copper alloy ring *Figure 12*

Plates

Area 4

Plate 1, Disturbed cobbled road layer 204, and ditch, in section, view north-east (Fig 5)

Plate 2, Section through roadside ditch 208, view west (Fig 5)

Plate 3, Detail of cobble surface or trackway overlying and to south of roadside ditch, view east with roadside ditch continuing into background (Fig 5)

Area 5

Plate 4, Middle Iron Age to Roman ditch 1080, view west (Figs 4a and 6)

Plate 5, Work in progress along the road, view east (Fig 5)

Plate 6, Detail of roadside ditch 1065 in Section 1, view east with cobbled road layers 1056 and 1067 to south (Fig 5)

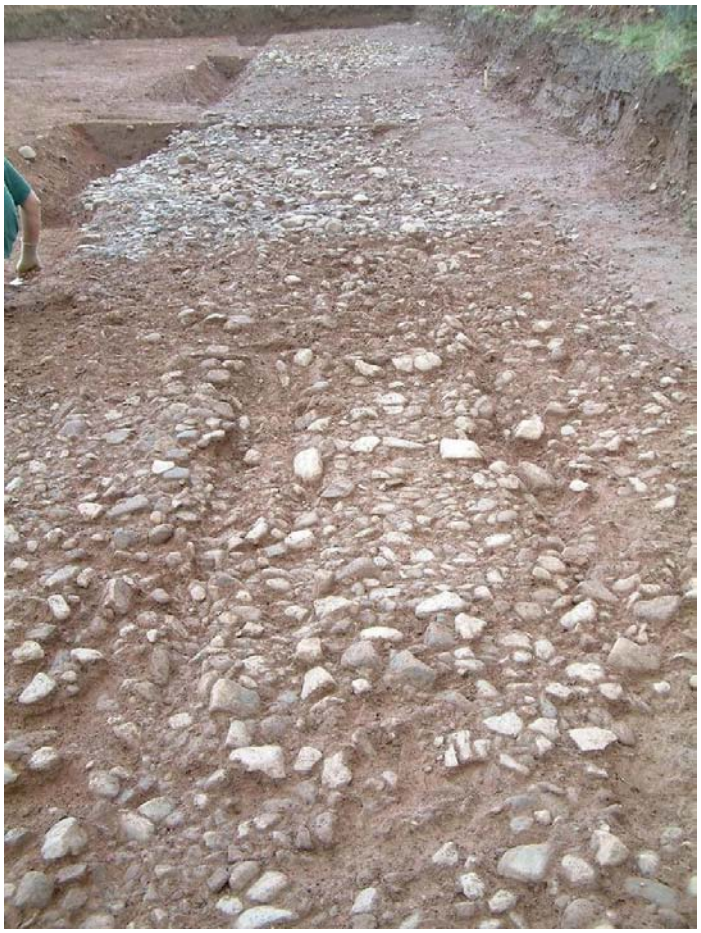


Plate 7, Wheel ruts within cobbled road surface 1024, 1056 and 1058, view east (Fig 5)

Plate 8, General elevated view of road alignment, view west (Figs 4a and 5)

Plate 9, Cremation 1012 cut through alluvium overlying cobbled road surface (visible in base), view south (Fig 5)

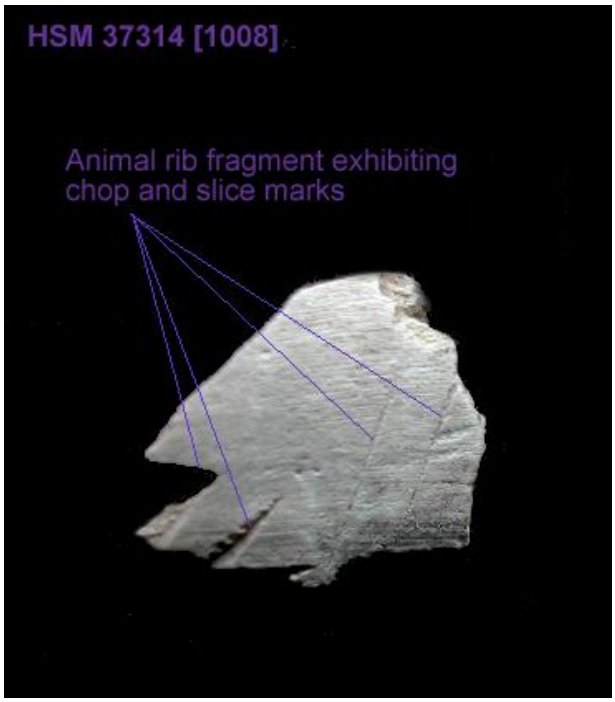


Plate 10, Cremated animal rib fragment from cremation 1008, exhibiting butchery marks

Area 6

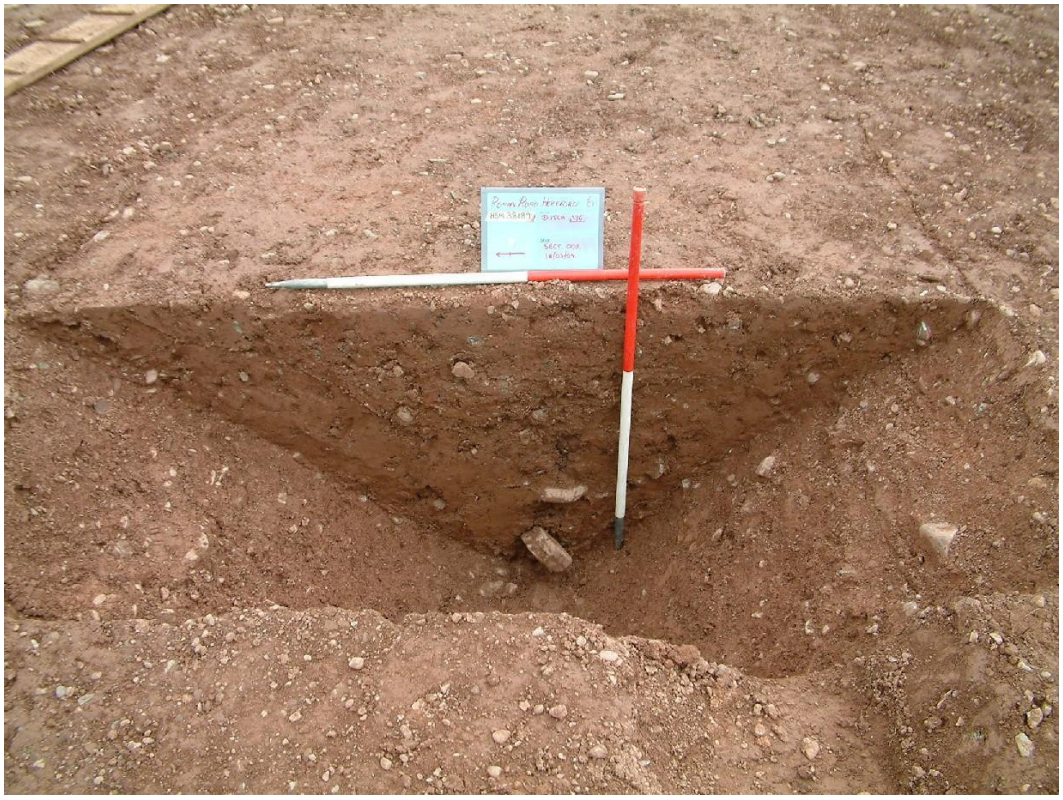


Plate 11, Sample roadside ditch section, view east (Fig 7)

Plate 12, Later roadside ditch section, view east (Fig 7)

Plate 13, Recut roadside ditch section, view west (conjoins with Plate 14 below; Figs 7 and 8)

Plate 14, Cobbled road layer, view west (conjoins with Plate 13 above; Figs 7 and 8)

Test Pit 7a

Plate 15, Cobbled road surface below existing modern road surface, view north (Fig 4b)

Area 9e

Plate 16, Detail of cobbled road surface and wheel ruts, view east (Fig 9)

The Bolts sluice (Area 1)

Plate 17, Sluice gate, view west

Plate 18, Sluice and leat, general view north

The Skew Bridge (Area 2)

Plate 19, West elevation, north buttress, view east-north-east

Plate 20, West elevation, south buttress, view east-south-east

Plate 21, East elevation, north buttress, view west

Plate 22, East elevation, north buttress, view west-south-west

Plate 23, North buttress and spring of vaulting, view north

Appendix 1 Summary of excavation and watching brief areas with probable Roman road surface and/or associated activity

Area number (field); chainage; description

Excavation Area 4 (unnumbered field), Stretton Sugwas South, 480-542m. Diffuse band of plough disturbed cobbles 114/121/133, between 0.05-0.20m thick, at 0.59-0.77m depth, c 69.60-69.90m AOD, overlain by silty clay 112/113/134 and sealed by subsoil 102. Overlying a possible relict subsoil 119/122/132 and natural clay 101. No finds recovered from these layers so cobbled surface is undated, although appear similar in make-up to surface in Area 5a, 11m to the north. Linear ditch 104/126 aligned approx. east/west lies to the south, partially covered by cobbles 103/115/128 in places. Generally a single fill, with shallow sub-concave profile. Only 1 Roman sherd and no other finds were recovered from the fill. Possibly other ditch 118 located to south, only observed in north-east section, alignment indeterminate and undated. Another very truncated patch of cobbles 125, aligned approx. north-east to south-west lies to the south, at 69.28-69.55m AOD, with a few badly abraded Roman sherds and iron fragments. It may relate to 103, the patch of cobbles adjacent to the north. May represent another road or track off to roadside activity to the south?

Excavation Area 5a (Field 3), Stretton Sugwas North, 240-264m. Cobbled surface 1006, 1016, 1022, 1024, 1056, 1058, at a height of 69.12-69.68m AOD, aligned east to west along south side of area, defined by ditch 1005, 1015, 1020, 1027, 1030, 1040, 1048, 1055, 1065 to north. Overlain by cremations 1007, 1009, 1011 cut into subsoil layer 1017, 1021, 1023, 1043, 1057, 1059 sealing the road below subsoil 1001. The road was noted to be between 0.08-0.12m thick at the northern edge and 0-18-0.31m thick toward the middle. It generally comprised an upper layer of dense cobbles and stones, over silty clay with variable pebbles and cobbles 1067, 1069, 1070, probably representing an interface of road material impressed into the natural clay 1002 which lay directly below. It was well preserved in all but the eastern end of the area and was at least 4.4m wide, continuing under the southern baulk. Frequent wheel ruts were noted within the surface, which was well preserved except toward the eastern end. The roadside ditch was a linear feature between 0.50-0.75m deep and 0.66-1.08m wide, with a varying, weathered profile. In discrete areas the road material had slumped into the adjacent ditch. Toward the east end of the site, sub-oval pit 1061, 1.69m deep and 5.30m wide, interpreted as a possible quarry pit, lay c 6m to the north of the road. Three postholes 1050, 1052 and 1054 were recorded further east, *c* 3-5m north of the road.

Excavation Area 5b (Field 1), Stretton Sugwas North, 33-105m. Two parallel ditches 1031/1037 and 1074/1080 noted, on approx. east-north-east to west-south-west alignments. A primary fill of the north ditch contained Middle Iron Age material, while a (possibly deliberate) backfill contained 2nd/3rd C. sherds. An otherwise undated possible pit (1035) was cut by the northern ditch. A group of burnt out postholes and stake-holes 1087, 1089, 1096 & 1097 located between the ditches is considered to be of modern origin. A series of post-medieval linear ditches 1075 and 1081 lie to the north, forming three sides of a rectangular enclosure. 17th-18th C. Material was found within and associated within this feature. It cut an irregular pit to the north-west, which may be a tree bowl.

Excavation Area 6 (Field 7), c 1397-1552m. Variably truncated and plough damaged cobbled surface 111, 118, 119, 155, 161, 164 along south side of site, disturbed by modern service trench 156 along modern hedge. The cobbled surface

comprised a layer of compacted small/medium pebbles and sub-rounded and sub-angular stones. The road surface was noted to be 0.10-0.26m thick. It generally sloped down slightly from south to north and lay at approximately 62.68-62.81m AOD to the eastern end of the site and at approximately 65.08-65.18m AOD in the western half, directly over natural clay and gravel 102. The road was defined by ditch 114, 116, 120, 122, 150, 158, 165, 167, 185 on north side. There was no ditch along the south side, although a southern edge was defined in two places (111, 155), where it was determined to be 2.40-2.68m wide. However elsewhere the cobbles extended further to the south from 5.90-7.70m width. One segment of roadside ditch was noted to have been recut, possibly twice (110 and 115). Another to the west may have comprised two separate parallel ditches (165 and 167), which may indicate re-aligning of the road. Further to north another ditch (127, 136, 146, 172, 179, fed into pond or stock watering hole 175 and 176, 28m long and >15.50m. At the eastern end of the site the northernmost ditch (146, 179) cut across the main roadside ditch (116, 185). It is unclear if the road surface at any stage extended up to the northern ditch. Material within the pond was of 1st/2nd C date, indicating that it silted up in the first half of the Roman period. The northernmost drainage ditch was engineered with a roughly level base along almost its entire length, at 64.35-64.46m AOD. The pond had a deep layer of stones at its base, 63.91m AOD, possibly deliberately dumped to consolidate.

The termini of two adjacent linear ditches were noted south of the road surface (139, 141) and (143, 145). The former was slightly truncated by the road; the latter respected the edge of the road; their fills were identical. A further possible north to south aligned ditch (162) lay further to the west, below the road, feeding into an ill-defined sump or pond.

Test Pit 7a (adjacent to Field 16), 165m. Well-defined cobbled surface (7003) at c 71.73m AOD below large loose cobbles (7002) and mid pinkish reddish brown sandy clay (7001) (alluvium?) below existing road surface.

Excavation Area 7b (adjacent to Field 16), 220-240m. Road cobbles (7003) at 0.99-1.09m depth, 71.35-71.52m AOD, directly over natural sandy clay (7004). Cobbles disturbed, no defined surface, generally only one layer extant. Truncated by modern services to middle and south. No defined southern edge; continued under north baulk. Sealed by silty clay alluvial subsoil 7005.

Test Pit 8b (Field 15), 536m. Loose diffuse scatter of cobbles and pebbles (8006) on north side, at 0.39m below hedge (as 1505 in Area 15 to north). Unsure.

Test Pit 9c (Field 13), 881m. Cobbled surfaces (9027 and 9028) cut by a probable post-medieval drainage ditch and modern water service, at c. 62.84-62.92m AOD, below subsoil (9023) with post-med finds, over natural clay.

Test Pit 9d (Field 13), 932m. Cobbled surface (9021) cut by a probable post-medieval drainage ditch and modern water service, at c 63.1m AOD, below subsoil (9017), over natural clay.

Excavation Area 9e (Field 13), 898.50-988.50m. Cobbled surface (9034/9037/9038) cut by a probable post-medieval/modern ditch (9036), itself recut by (9033). Cobbles 0.25-0.40m thick, at *c* 62.13m AOD, below subsoil (9030), over natural clay. Surface to north (9037) irregular, thinner and peters out with undefined edge approximately 4.5m to the north - dump of stone redeposited during ditch recutting? Lime material (9056) adhering to cobbles along ditch sides, probably a natural effervescence.

Wheels ruts were noted within the surface, which, if projected eastwards, would disappear into the (recut) ditch.

Area 15 (Fields 14 and 15), 440-703m. Gravel and larger pebbles in silty clay (1505) at 0.36-0.47m deep, sealed by subsoil (1504), over natural clay, at 530-551.5m & c446m, only along south side. (Probably a post-medieval surface).

Area 16 (Fields 4 and 5), 1752-2212m. Small-medium pebbles and larger boulders over small-medium gravel (1602), *c* 0.17m thick, sealed by subsoil (1601) containing post-medieval material, over natural clay, at 1920-1932m and at least 10.50m wide north to south, *c* 1m below existing road surface to north. Natural matrix generally not observed elsewhere. (Probably a post-medieval surface).

Area 17 (Fields 15 and 16), 440-64m. Dense but disturbed scatter of cobbles (1702) up to 4.90m out from south side, at c 340-360m, 0.31-0.43m deep, sealed by subsoil (1701), overlying natural.

Area 21 (Field 11), c 694-1010m. At eastern end adjacent to Yazor Brook only, compacted cobbles (2103) at 0.50-0.67m deep max, no finds, below field drains, at west extent contains grey gravel and gravel dust (as modern levelling).

Area 24 (Field 7), 1560-1778m. Loose c 1m patch of cobbles (2402) impressed into natural clay, no finds, c 0.85-0.95m deep, at c 1641m. General area was not deep/clean enough.

Trench 28a (Field 10), 1070-1078m. Loose cobbles (2803) at 1m deep, 63.70-63.54m AOD, bedded in alluvial/natural clay, no finds, only extant in north section. (This trench is within area of Radar Section 6, but no roadside ditch identified).

Trench 28b (Field 10), 1054-1062m. Loose cobbles (2803) at 1.10m deep, 63.60-63.30m AOD, bedded in alluvial/natural clay, no finds, only extant in north section.

Trench 29 (within course of Yazor Brook, adjacent to Field 9), 1058-1066m. Compact cobble surface bedded in sandy clay (2908), at 0.92m deep, maximum 0.62m thick, 63.18-64.05m AOD, probably post-medieval/modern surface. Loose cobbles in sandy silty clay with a white-grey sandy silt lens (2903), sealed by alluvial clay (2902), overlying alluvial/natural clay, 1.50m deep, maximum 0.30m thick, 63.08-63.38m AOD, only extant in north section.

Area 30, Borehole 1 (Pinstone House), 1033m. Silty clay with pebbles (3001), at 0.60-0.70m deep, below silty clay top/subsoil, overlying clay and gravel natural.

Area 30, Borehole 2 (Pinstone House), 1043m. Silty clay with pebbles (3001), at 0.58-0.72m deep, below silty clay top/subsoil, overlying clay and gravel natural.

Trench 31 (Field 9), 1276m. Compact small-medium pebble gravel in sandy clay (3105), 0.55-0.90m deep, no finds, possible road surface, sealed by clayey silt top soil (3101), overlying compact clay and pebble gravel with manganese (3106).

Trench 33a (Pinstone House), 989-1018m. Small-medium cobbles and pebbles in silty clay with occasional chalk patches (3302), 0.96-1.23m deep, irregular but generally 0.20m thick, sealed by slightly silty clay subsoil (3301), overlying sandy clay natural.

Trench 33b (Pinstone House), 1025-1053m. Small-medium cobbles and pebbles in silty clay with occasional chalk patches (3302), 0.96-1.23m deep, irregular but generally 0.20m thick, sealed by slightly silty clay subsoil (3301), overlying sandy clay natural, not extant in west end - eroded by stream or ford not gravelled?

Area 35 (Field 9), 1066-1084m. Irregular patchy cobbles (3502), <0.12m thick, 0.74-0.90m deep, only in north section, sealed by redeposited clay (3501), overlying natural clay (see also Trench 29).

Appendix 2 Summary of areas without defined Roman road surface or activity

Area number (field); chainage; description

Area 3: Trenches 19-21 (Field 9), 1089.50-1110m / 1149-1170m / 1219.50-1238m. Natural clay and pebble gravel observed at 0.44m+ (max 63.73m AOD) below subsoil with frequent cobbles and pebbles - possible plough-disturbed road material? - at *c* 64m AOD in Trench 19 to west. Sump/pond? filled with modern debris in Trench 21 to east, to max depth 1.10m.

Test Pit 8a (adjacent to Field 15), 500m. Compacted irregular cobbles and yellow/beige dust (8001) at *c* 71.13m AOD directly below modern road surface and impressed into natural below. Associated with modern brick frag. Unlikely to be Roman, probably just modern road make-up.

Excavation Area 8c (adjacent to Field 15), 440-460m. Natural clay with occasional large pebbles at 71.50-72.26m AOD directly below post-med./modern road surface.

Test Pit 9a (adjacent to Field 13), 890m. Small-medium rounded pebbles (9004) impressed into surface of natural, at 63.65m AOD, associated with brick frag,, on south side, probably modern road foundation.

Test Pit 9b (adjacent to Field 13), 922m. Small-medium rounded pebbles (9014) impressed into surface of natural, at 63.65m AOD, associated with brick frag., on south side, probably modern road foundation.

Test Pit 9f (adjacent to Field 13), 918m. No road surface but contained alluvial subsoil sequence as observed in Area 9e to north.

Test Pit 10a (Field 16), 124m. Natural clay directly below the topsoil; disturbed by service trench.

Test Pit 10b (Field 16), 131m. Natural clay directly below the topsoil, disturbed by service trench.

Test Pit 10c (adjacent to Field 16), 122m. Natural clay directly below the topsoil.

Test Pit 10d (adjacent to Field 16), 136m. Natural clay directly below the topsoil, disturbed by service trench.

Trench 11 (adjacent to Field 7), 1418m. Modern road foundation layers over natural clay.

Test Pit 12 (adjacent to Field 10), 1093m. Natural not observed due to a modern service.

Area 13 (Field 4), Stretton Sugwas South, 345-475m. Clayey silt plough soil directly over natural clay.

Test Pit 14 (Field 15), c 485m. Shallow topsoil directly over natural clay, disturbed by modern services.

Area 18 (Field 18), 1284-1395m. Natural clay only observed in drainage trench along north side, elsewhere only the topsoil and subsoil sequence.

Area 19 (Field 12), 569-689m. No natural clay observed, just topsoil and subsoil sequence.

Area 20 (Field 6), 1652-1707m. No natural clay observed, just top/plough soil.

Area 22 (Field 10), c 1004-1188m. Natural clay only observed in drainage trench along north side, elsewhere only the topsoil and subsoil sequence.

Area 23 (Field 4), Stretton Sugwas South, 321-510m. Top/plough soil, over natural clay, only observed below 410m.

Trench 25 (unnumbered field), 1768m. Loose redeposited soil over clay with pebbles and gravel, redeposited natural?, at >0.77m.

Test Pit 26 (adjacent to Field 9), 1057-1059m. Loose redeposited topsoil over clay with pebbles and gravel, redeposited natural?, at >0.77m (extended to west as Trench 29).

Test Pit 27a (adjacent to Field 10), 1146-1150m. Tarmac/topsoil over subsoil/redeposited clay over natural at >0.47m (expanded as Trench 32).

Test Pit 27b (adjacent to Field 10), 1155-1158m. Tarmac/topsoil over subsoil/redeposited clay over natural at >0.47m.

Trench 32 (Fields 9 and 10), 1148-1152m. Top and subsoil overlying natural clay at >1.07m (see also Test Pit 27a).

Trench 34 (Field 9), c 1230-1280m. Topsoil over subsoil over natural clay at >0.87m (see also Area 18).

Trench 36 (adjacent to Field 7), c 1470-1505m. Tarmac and mixed foundation gravels and subsoil, generally too shallow to observe natural clay, at <65.80m AOD (see also Area 6).

Appendix 3 Geological analysis of the Roman cobbles

(based on notes made by Rollo Gillespie, Herefordshire and Worcestershire Earth Heritage Trust)

HSM 38192 (Site 4 – u/n field, Stretton Sugwas South, centred on NGR SO 465 424)

Cobble surface 125

Mainly sandstone pebbles, some quartz, mostly well rounded but some are sub-angular. The sandstone is fine to medium grained, greenish, slightly micaceous. Difficult to say if they are fluvial or fluvio-glacial material, but they are probably fairly locally derived – Devonian St Maughans Formation, perhaps.

The quartz pebbles are possibly derived from conglomeritic cornstone beds in the parent sandstones.

HSM 37314 (Area 5a – Field 3, Stretton Sugwas North, NGR SO 465 425)

Cobble surface 1058

Some cobbles limey on outside, similar to other samples. Could be pedogenic/evaporitic limestone due to wet context.

HSM 38192 (Area 4 – u/n field, Stretton Sugwas South, NGR SO 465 424)

Cobble surface 114

Some quartz and gritstone/sandstones. Possibly from Wales or the Wye Terrace. Fluvial or fluvio-glacial.

HSM 38195 (Area 9e – adj. Field 13, Pinstone House, chainage 880-930m, NGR SO 478 423)

Cobble surface 9037

Same as above. Some quartz and gritstone/sandstones. Possibly from Wales. Fluvial or fluvio-glacial.

HSM 37314 (Area 5a – Field 3, Stretton Sugwas North, NGR SO 465 425)

Cobble surface 1056

Some arkose fine grained rounded gravel, but mostly cobbles and well rounded and sorted. Grey compact sandstone. Typically fluvial point bar.

HSM 38195 (Area 9e – adj. Field 13, Pinstone House, chainage 880-930m, NGR SO 478 423)

Cobble surface 9038/9056

Silty and poorly sorted (Diamictite). Coated with Calcitic fine material that is most likely pedogenic in origin. Sample contains rotten rootlets. Cobbles are similar type to that seen in other boxes.

HSM 38195 (Area 9e – adj. Field 13, Pinstone House, chainage 880-930m, NGR SO 478 423)

Cobble surface 9034

Sample contains quartzite and sandstone clasts. One sampled cobble showed a leaching/ demineralisation effect on outside borders. Some of the more local sandstone is slabby and sub-rounded.

HSM 38197 (No site – from west edge of Stretton Sugwas gravel quarry, NGR SO 454 423)

Gravel quarry stone - no assigned context

Bedded grey sandstone mostly very hard and some clay cobbles. Quartz cobbles also present. Local sandstone is flaggey. The sample was noted as being very clean, such as in a riffle deposit where it could have small material washed out.

HSM 38197 (Trench 29 – adj. Field 9, Pinstone House, chainage 1058-1066m, NGR SO 477 424)

Pebble-rich horizon 2903

A different material in this sample. Contains rotten peatified wood. Devonian Local Old Red Sandstone or maybe St Maughans Formation. Cobbles are angular or slabby. The sample is silty/diamicritic with very hard grey sandstone. Smaller calcrete fragments exist within the finer matrix and are probably derived from cornstones in the St. Maughans Formation.

Appendix 4 Artefact Tables

Table 1: Quantification of the assemblage

Material	Total	Weight (g)
Iron Age pottery	22	102
Roman pottery	444	3,827
Medieval pottery	12	46
Post-medieval pottery	84	1,137
Modern pottery	100	673
Roman tile	19	699
Tile	103	2,099
Brick	87	6,733
Brick/tile fragments	26	193
Fired clay	39	297
Stone	10	1,965
Ceramic drain	1	210
Lead objects	2	49
Copper alloy objects	8	48.5
Iron objects	217	3,255
Iron slag	149	7,812.5
Coins	5	5
Coal	4	14
Charcoal	1	36
Clay pipes	11	53
Flint	11	24
Glass	49	575
Total	**1,402**	**29,860**

Table 2: Quantification of the Iron Age pottery by fabric type

Fabric number	Fabric name	Total sherds	Weight (g)
9	Mudstone tempered ware	22	102

Table 3: Quantification of the Roman pottery by fabric type

Fabric number	Fabric name	Count	Weight (g)
12	Severn Valley ware	318	24,958
12.1	Reduced Severn Valley ware	11	81
12.2	Oxidised organically tempered Severn Valley ware	21	278
13	Sandy oxidized ware	2	2
14	Fine sandy grey ware	2	17
19	Wheelthrown Malvernian ware	3	80
22	Black-burnished ware, type 1 (BB1)	47	269
28	Nene Valley ware	4	9
29	Oxfordshire red/brown colour coated ware	3	6
32	Mancetter/Hartshill mortarium	1	25
33	Oxfordshire white mortarium	1	39
37	Severn Valley mortarium	1	71
42.1	Dressel 20 type	1	303
43	Samian ware - undefined	21	109
43.2	Central Gaulish samian ware	2	21
43.3	Eastern Gaulish samian ware	2	1
104	German or Rhenish mortaria	1	3

Table 4: Quantification of the medieval pottery by fabric type

Fabric number	Fabric name	Count	Weight (g)
64.1	Worcester-type sandy glazed ware	2	7
69	Oxidized glazed Malvernian ware	1	1
99	Miscellaneous medieval wares	9	38

Table 5: Quantification of the analysed post-medieval pottery by fabric type

Fabric number	Fabric name	Count	Weight (g)
69	Oxidized glazed Malvernian ware	4	29
78	Post-medieval red sandy wares	39	640
81.2	Westerwald stoneware	1	3
81.3	Nottingham stoneware	2	14
81.5	White salt-glazed stoneware	2	20
84	Creamware	1	1
90	Post-medieval orange ware	13	123
91	Post-medieval buff wares	8	138
100	Miscellaneous post-medieval wares	2	5

Table 6: Quantification of the analysed modern pottery by fabric type

Fabric number	Fabric name	Count	Weight (g)
81.4	Miscellaneous late stoneware	14	309
85	Modern stone china	77	303

Table 7: Quantification of the ceramic building material by site and period

Site	Roman brick/tile		Medieval/ post-med tile		Post-med /modern brick/tile		Post-med/ modern brick		Modern tile	
	No.	(g)	No.	(g)	No.	(g)	No.	(g)	No.	(g)
HSM 32103	2	103	70	1060	26	193	151	2047		
HSM 32104							17	2201		
HSM 36655									2	18
HSM 38189	15	587	1	141			8	1048		
HSM 38192	1	3					12	648		
HSM 38193										
HSM 38194							1	8		
HSM 38195							4	684		
HSM 38197									1	899
HSM 37314							1	66		
Total	**18**	**693**	**71**	**1201**	**26**	**193**	**194**	**6702**	**3**	**917**

Appendix 5 Osteological Tables

Table 8: Summary of the quantification analysis

Context	**1008**	**1010**	**1012**
Total Weight of Cremated Materials (g)	80.6	0.5	112.8
Total Weight of Identifiable Human Fragments (g)	2.0 + 2.2?	0	1.3?
Minimum Number of Individuals	1	0	2

Table 9: Summary of the results of the quantification of cremated bone present by sieve fraction weight and percentage of total weight

Context	**1008**	**1010**	**1012**
>10mm Weight (g)	12.6	0	23.2
>10mm Percentage of Total	*15.6%*	*0*	*21%*
>5mm Weight (g)	44.6	0.2	62.4
>5mm Percentage of Total	*55.3%*	*40*	*55.3%*
>2mm Weight (g)	21.9	0.2	25.5
>2mm Percentage of Total	*27.2%*	*40*	*22.6%*
Assessment of Bone Content Percentage <2mm residue	98%	90%	80%

Table 10: Summary of the findings of the osteological analysis of cremated bone deposits 1008, 1010 and 1012

	1008	**1010**	**1012**
Type of deposit	Unurned Burial Badly Disturbed	Unurned Burial Badly Disturbed	Unurned Burial Slightly Disturbed
Total weight of cremated materials	80.6g	0.5g	112.8g
Quantification of bone	Cremated Bone: 59.8g 2g Definite Human, 2.2g Possible Human	Cremated Bone:0.5g 0g Definite Human	Cremated Bone:56.3g 1.3g Possible Human
Minimum Number of Individuals	1	0	2
Demographic data: Age	Older Juvenile/Adolescent	Unobservable	Possible Neonate + Possible Adult
Demographic data: Sex	Unobservable	Unobservable	Unobservable
Pathology data	Unobservable	Unobservable	Unobservable
Maximum Fragment Size	30.4mm	8.8mm	55.9mm
Degree of fragmentation - average fragment size	10mm	2mm	10mm
Efficiency of the cremation	Overall colour: White Brown Orange & Blue Grey (10%)	Overall colour: White Blue/Grey (10%)	Overall Colour: White Black & Orange Brown (20%)
Presence and type of pyre goods	Pyre Goods: 20.8g Chicken(?), butchered sheep/goat (?) and other animal bone. Small fragment of intrusive glass.	Pyre Goods:<0.1g Animal Bone	Pyre Goods: 56.5g Medium-sized Dog and other animal bone
Presence and type of pyre debris	Fuel Ash Slag? <1mm	None	None

Appendix 6 Radiocarbon dating

Sample Data	Measured Radiocarbon Age	13C/12C Ratio	Conventional Radiocarbon Age(*)
Beta - 237897	1620 +/- 40 BP	-22.6 o/oo	1660 +/- 40 BP

SAMPLE : HSM37314/1008
ANALYSIS : AMS-Standard delivery
MATERIAL/PRETREATMENT : (charred material): acid/alkali/acid
2 SIGMA CALIBRATION : Cal AD 260 to 290 (Cal BP 1690 to 1660) AND Cal AD 320 to 440 (Cal BP 1630 to 1510)
Cal AD 490 to 520 (Cal BP 1460 to 1430)

CALIBRATION OF RADIOCARBON AGE TO CALENDAR YEARS

(Variables: C13/C12=-22.6:lab. mult=1)

Laboratory number: **Beta-237897**

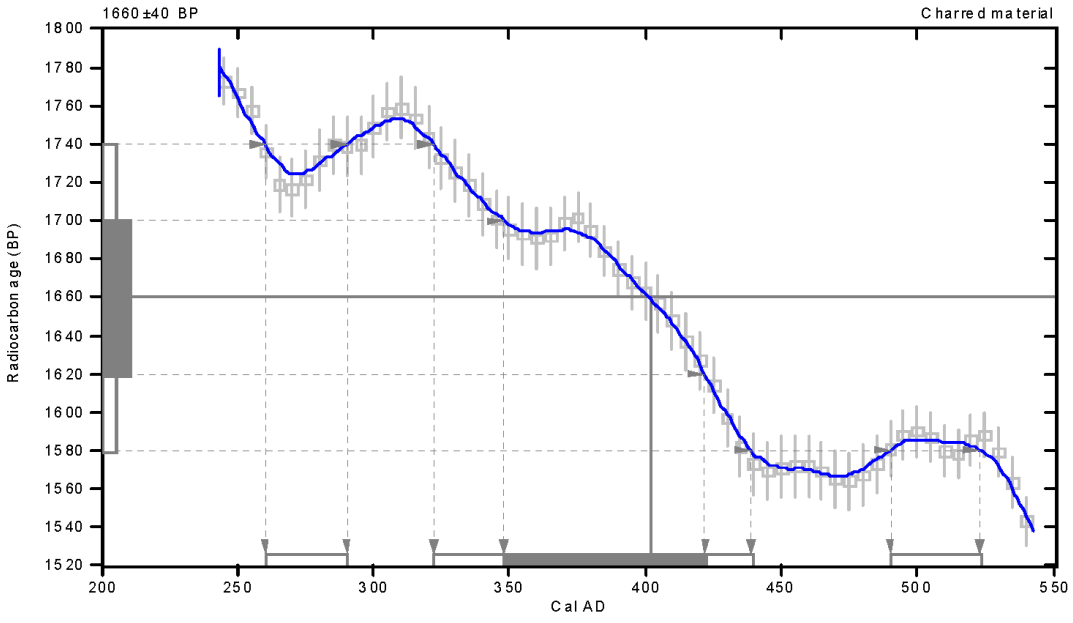
Conventional radiocarbon age: **1660±40 BP**

2 Sigma calibrated results: (95% probability) **Cal AD 260 to 290 (Cal BP 1690 to 1660) and Cal AD 320 to 440 (Cal BP 1630 to 1510) and Cal AD 490 to 520 (Cal BP 1460 to 1430)**

Intercept data

Intercept of radiocarbon age with calibration curve: Cal AD 400 (Cal BP 1550)

1 Sigma calibrated result: (68% probability) Cal AD 350 to 420 (Cal BP 1600 to 1530)



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Mathematics
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Talma, A. S., Vogel, J. C., 1993, Radiocarbon 35(2), p317-322

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Appendix 7 Environmental Tables

Table 10: List of environmental samples from Evaluation Stage 1 (HSM 32104)

Context no	Context type	Period	Sample vol	Vol processed	Res assessed	Flot assessed
104	pit/ditch	RBR	10	10	Y	Y
106	pit/ditch	RBR	10	0		
107	pit/ditch	RBR	10	10		Y
117	pit	RBR	10	10	Y	Y
307	pit/ditch	RBR	10	10	Y	Y
309	ditch	PRE-ROM	10	10	Y	Y
903/904	ditch	RBR	10	10	Y	Y
1003	ditch	RBR	10	10	Y	Y
1104	ditch	RBR	10	10	Y	Y
1706	ditch	MOD	10	10	Y	Y
1708	ditch	PRE/ROM	10	10	Y	Y

Key: RBR = Romano-British; PRE-ROM = pre-Roman; MOD = modern

Table 11: List of environmental samples from excavation (HSM 37314, 38189, 38192, 38195 and 38197)

Site code	Context	Sample	Context type	Description	Period	Sample volume (L)	Volume processed (L)	Residue assessed	Flot assessed
HSM 38189	0107	3	Ditch	ditch 115	RBR	10	10	Y	Y
HSM 38189	0108	2	Ditch	secondary fillditch 110	RBR	10	10	Y	Y
HSM 38189	0109	1	Ditch	primary fill ditch 110	RBR	10	10	Y	Y
HSM 38189	0112	5	Ditch	secondary fill ditch 114	RBR	10	10	Y	Y
HSM 38189	0113	4	Ditch	primary fill ditch 114	RBR	10	10	Y	Y
HSM 38189	0121	7	Ditch	secondary fill ditch 120	RBR	10	10	Y	Y
HSM 38189	0126	6	Ditch	primary fill ditch 120	RBR	10	10	Y	Y
HSM 38189	0128	8	Ditch	ditch 127	RBR	10	10	Y	Y
HSM 38189	0138	9	Ditch	ditch 139	?PRE-ROM	10	10	Y	Y
HSM 38189	0142	10	Ditch	ditch 143	?PRE-ROM	10	10	Y	Y
HSM 38189	0148	11	Ditch	secondary fill ditch 136	RBR	10	10	Y	Y
HSM 38189	0151	12	Ditch	ditch 150	RBR	10	10	Y	Y
HSM 38189	0159	13	Ditch	ditch 158	RBR	10	10	Y	Y
HSM 38189	0170	14	Ditch	secondary fill ditch 172	RBR	10	10	Y	Y
HSM 38189	0173	15	Post-hole	secondary fill ditch 172	RBR	10	10	Y	Y
HSM 38189	0177	16	Ditch	secondary fill ditch 179	RBR	10	10	Y	Y
HSM 38189	0183	17	Ditch	secondary fill ditch 185	RBR	10	10	Y	Y
HSM 37314	1004	9	Ditch	primary	RBR	10	10	Y	Y
HSM 37314	1008	5	Misc	?cremation	UNDATED	60	60	Y	Y
HSM 37314	1010	2	Misc	cremation	UNDATED	10	10	Y	Y
HSM 37314	1012	1	Misc	cremation	UNDATED	60	60	Y	Y
HSM 37314	1014	12	Ditch	primary	RBR	10	10	Y	Y
HSM 37314	1019	3	Ditch		RBR	10	10	N	N
HSM 37314	1026	13	Ditch	primary	RBR	10	10	Y	Y
HSM 37314	1029	11	Ditch	primary	RBR	10	10	Y	Y
HSM 37314	1034	4	Ditch	ditch 1031	IA	10	10	N	N

Site code	Context	Sample	Context type	Description	Period	Sample volume (L)	Volume processed (L)	Residue assessed	Flot assessed
HSM 37314	1041	7	Ditch	primary	RBR	10	10	Y	Y
HSM 37314	1045	8	Ditch	primary	RBR	10	10	Y	Y
HSM 37314	1047	10	Ditch	primary	RBR	10	10	Y	Y
HSM 37314	1051	6	Post-hole	?cremation	UNDATED	0.2	0.2	Y	Y
HSM 37314	1063	20	Pit		RBR	10	10	Y	N
HSM 31892	107	307	Ditch		RBR	40	10	Y	Y
HSM 37314	1079	17	Ditch		RBR	10	10	Y	Y
HSM 37314	1091	19	Pit		RBR	10	10	Y	Y
HSM 37314	1092	18	Pit		RBR	10	10	N	Y
HSM 37314	1093	21	Post-hole		?PMED	0.5	0.5	Y	Y
HSM 37314	1094	22	Post-hole		?PMED	0.5	0.5	Y	Y
HSM 37314	1095	24	Post-hole		?PMED	10	10	N	N
HSM 37314	1098	23	Post-hole		UNDATED	10	10	N	N
HSM 31892	110	300	Ditch	primary	RBR	20	10	Y	Y
HSM 31892	111	301	Ditch		RBR	20	10	Y	Y
HSM 31892	119	306	Layer	buried land surface	RBR	20	10	Y	Y
HSM 31897	2803/4	2	Layer	road surface	?RBR	40	10	Y	Y
HSM 38195	9019	1	Ditch		UNDATED	40	10	Y	Y
HSM 38195	9025	2	Ditch		UNDATED	40	10	Y	Y
HSM 38195	9035	7	Ditch		RBR	40	10	Y	Y
HSM 38195	9043	6	Ditch		RBR	40	10	Y	Y

Key: RBR = Romano-British; PRE-ROM = pre-Roman; PMED = post-medieval

Table 12: summary of environmental remains from bulk samples from excavation

Site code	Context	Sample	large mammal	mollusc	charcoal	charred plant	mineralized plant	Uncharred plant	hammerscale	Comment
HSM 38189	0107	3								No remains
HSM 38189	0108	2								No remains
HSM 38189	0109	1		occ						
HSM 38189	0112	5			occ*					
HSM 38189	0113	4								No remains
HSM 38189	0121	7		occ				occ		
HSM 38189	0126	6		abt						
HSM 38189	0128	8		occ				occ		
HSM 38189	0138	9		occ						
HSM 38189	0142	10		occ	occ*					
HSM 38189	0148	11						occ		
HSM 38189	0151	12		occ				occ		
HSM 38189	0159	13		mod		mod				
HSM 38189	0170	14								No remains
HSM 38189	0173	15			abt*			occ		
HSM 38189	0177	16		occ				occ		
HSM 38189	0183	17								
HSM 37314	1004	9								No remains
HSM 37314	1008	5		occ	mod*	mod		occ		
HSM 37314	1010	2	occ	occ	occ*			occ		
HSM 37314	1012	1		occ		abt		mod		
HSM 37314	1014	12						occ		
HSM 37314	1026	13	occ	occ				occ		
HSM 37314	1029	11						occ		
HSM 37314	1041	7		occ				occ	occ	

Site code	Context	Sample	large mammal	mollusc	charcoal	charred plant	mineralized plant	Uncharred plant	hammerscale	Comment
HSM 37314	1045	8							occ	
HSM 37314	1047	10			occ*			occ	occ	
HSM 37314	1063	20								No remains
HSM 31897	107	307		occ				occ		
HSM 37314	1079	17			occ*				occ	
HSM 37314	1091	19								No remains
HSM 37314	1092	18								No remains
HSM 37314	1093	21				occ				
HSM 37314	1094	22	occ		occ*					
HSM 31897	110	300		abt						
HSM 31897	111	301		abt						
HSM 31897	119	306		occ						
HSM 31897	2803/4	2		mod						
HSM 38195	9019	1		occ	occ			occ		
HSM 38195	9025	2		occ						
HSM 38195	9035	7		mod						
HSM 38195	9043	6		mod						

Key: Occ= occasional; mod = moderate; abt = abundant
* = small unidentifiable fragments

Table 13: Hand-collected animal bone

Sitecode	Context	Period	Weight (g)	No fragments	Notes
HSM 32104	1706	PMED/MOD	5	2	
HSM 37314	1003	RBR	47	1	
HSM 37314	1006	UNDATED	51	9	Poor preservation
HSM 37314	1017	RBR	16	1	
HSM 37314	1018	RBR	32	7	
HSM 37314	1024	UNDATED	38	7	
HSM 37314	1056	RBR	107	9	
HSM 37314	1058	RBR	18	4	Poor preservation
HSM 37314	1059	RBR	112	8	Mostly cattle teeth
HSM 37314	1076	PMED	154	5	
HSM 37314	1085	UNDATED	24	1	Cattle tooth
HSM 37314	1088	PMED	22	4	
HSM 38189	101	RBR	125	11	Poor preservation
HSM 38192	100	PMED	143	164	Incl discrete animal burial
HSM 38192	110	RBR	205	2	
HSM 38195	9030	PMED/MOD	206	56	
HSM 38195	9037	RBR/MED	372	45	

Key: MOD = modern; PMED = post-medieval, RBR – Romano-British

Table 14: Hand-collected animal bone by period

Period	Weight (g)	No fragments
RBR	662	43
RBR/MED	372	45
PMED/MOD	530	231
UNDATED	113	17
TOTAL	1,677	336

Key: MOD = modern; PMED = post-medieval, RBR – Romano-British

Table 15: Mollusc remains from Evaluation Stage 1 (HSM 32104)

	Table 1:Minimum Numbers of Individuals			
Context Number	**307**	**903/4**	**1003**	**1104**
Mollusca				
Carychium tridentatum	10	26	5	3
Carychium minimum		32		
Carychium sp		11	9	
Cochilicopa lubrica	1	7		1
Vertigo moulusiana	1			
Vertigo pygmaea		2	1	2
Pupilla muscorum		1		
Vallonia costata		2		
Vallonia pulchella				
Vallonia excentrica		14		4
Vallonia sp	6	4	2	5
Oxychilus sp		12	1	1
Trichia hispida		8	2	6
Hellicella itala		6		2
Punctum Pygmaeum		14		
Cepaea sp		3		2
Zonitoides excavatus	2			
Ceciliodes accicula				1
Limacaidae		1		

Table 16: Charred plant remains

Latin name	Family	Common name	Habitat	0159	1008	1012
Triticum dicoccum grain	Poaceae	emmer wheat	F		3	
Triticum dicoccum tail grain	Poaceae	emmer wheat	F		1	
Triticum spelta glume base	Poaceae	spelt wheat	F	8		
Triticum dicoccum/spelta glume base	Poaceae	emmer/spelt wheat	F	2		
Triticum dicoccum/spelta spikelet fork	Poaceae	emmer/spelt wheat	F	1		
Triticum sp grain	Poaceae	wheat	F		5	11
Hordeum vulgare grain (hulled)	Poaceae	barley	F		7	53
Cereal sp indet grain	Poaceae	cereal	F		12	
Cereal sp indet grain (fragment)	Poaceae	cereal	F			++
Avena sp grain	Poaceae	oat	AF		3	2
cf *Avena* sp grain	Poaceae	oat	AF			3
Festuca/Lolium sp	Poaceae	fescue/rye-grass	ABD	2		
Poaceae sp indet grain	Poaceae	grass	AF	1		

Key:

Habitat	Quantity
A= cultivated ground	+ = 1 - 10
B= disturbed ground	++ = 11- 50
C= woodlands, hedgerows, scrub etc	+++ = 51 -100
D = grasslands, meadows and heathland	++++ = 101+
E = aquatic/wet habitats	
F = cultivar	

Table 17: Pollen results from selected contexts (Excavation sites 4, 6 and 9)

Latin name	Family	Common Name	Habitat	110	128	9035
Equisetum	Equisetaceae	horsetail	CDE		1	
Pteropsida (monolete) indet	Pteropsida	ferns	BCDE	5	9	11
Osmunda regalis	Osmundaceae	royal fern	CDE		4	
Hymenophyllum	Hymenophyllaceae	filmy-fern	C		1	
Pteridium aquilinum	Dennstaedtiaceae	bracken	CD	3	1	2
Pinus sylvestris	Pinaceae	pine	C			2
Nuphar	Nymphaeaceae	water-lily	E	1	3	6
Ranunculus acris-type	Ranunculaceae	meadow buttercup	CD		1	
Quercus	Fagaceae	oak	C	2	1	2
Betula	Betulaceae	birch	C	1		1
Alnus glutinosa	Betulaceae	alder	C	7	2	7
Corylus avellana-type	Betulaceae	hazel	C	16	4	9
Chenopodiaceae sp	Chenopodiaceae		ABCDE			2
Caryophyllaceae sp	Caryophyllaceae			1		
Polygonum	Polygonaceae	knotgrass	AB	2	9	
Tilia cordata	Tiliaceae	small-leaved lime	C			1
Drosera rotundifolia-type	Droseraceae	round-leaved sundew	DE		1	
Rosaceae sp	Rosaceae		ABCDE	1	2	1
Filipendula	Rosaceae	meadow sweet	CDE	3	1	3
Potentilla-type	Rosaceae	cinquefoil	BCD		1	1
Viscum album	Viscaceae	mistletoe	C	1		
Ilex aquifolium	Aquifoliaceae	holly	C			1
Apiaceae sp	Apiaceae		ABCDE	1	2	
Plantago lanceolata	Plantaginaceae	ribwort plantain	D			1
Cichorium intybus-type	Asteraceae	chicory, wild succory	BD	27	76	37
Bidens	Asteraceae	bur-marigold	E	3	5	
Artemisia-type	Asteraceae	mugwort	BCD			1
Sagittaria sagittifolia	Alismataceae	arrowhead	E		1	
Stratiotes aloides	Hydrocharitaceae	water-soldier	E		2	
Cyperaceae undiff.	Cyperaceae	sedge	CDE		1	
Poaceae undiff.	Poaceae	grass	ABCD	186	143	181
Sphagnum	Sphagnum	moss	E		1	

Key: A = cultivated ground; B = disturbed ground; C = woodlands, hedgerows, scrub, etc; D = grasslands, meadows, heathland; E = aquatic/wet habitats; F = cultivar

Table 18: Pollen results from selected contexts (Excavation Sites 5 a and b)

Latin name	Family	Common Name	Habitat	1008	1010	1012
Lycopodiaceae sp	Lycopodiaceae	clubmoss	DE	4	2	8
Pteropsida (monolete) indet	Pteropsida	ferns	BCDE	3		4
Polypodium	Polypodiaceae	polypody	CD	5		
Pteridium aquilinum	Dennstaedtiaceae	bracken	CD	5	2	10
Nuphar	Nymphaeaceae	water-lily	E	2		3
Ranunculus acris-type	Ranunculaceae	meadow buttercup	CD	1		
Betula	Betulaceae	birch	C	1		1
Alnus glutinosa	Betulaceae	alder	C	9		2
Corylus avellana-type	Betulaceae	hazel	C	7		4
Polygonum	Polygonaceae	knotgrass	AB	3		2
Empetrum nigrum	Empetraceae	crowberry	D	1		
Rosaceae sp	Rosaceae		ABCDE	2		2
Filipendula	Rosaceae	meadow sweet	CDE			2
Potentilla-type	Rosaceae	cinquefoil	BCD	2		1
Daphne	Thymelaeaceae	mezereon	C		2	
Apiaceae sp	Apiaceae		ABCDE	1		
Cichorium intybus-type	Asteraceae	chicory, wild succory	BD	43	15	40
Bidens	Asteraceae	bur-marigold	E	1	1	1
Potamogetonaceae sp	Potamogetonaceae				1	
Poaceae undiff.	Poaceae	grass	ABCD	175	46	195
Cerealia	Poaceae	cereal	F	2		

Key: A = cultivated ground; B = disturbed ground; C = woodlands, hedgerows, scrub, etc; D = grasslands, meadows, heathland; E = aquatic/wet habitats; F = cultivar

Appendix 8 Management of the surviving sections of the Roman surfaces

Those areas of the Roman road exposed within excavation Areas 5a and 9e were covered over with a permeable membrane and sand and preserved below the new road surface. Generally along the route, the new road surface was raised so that it would not impinge on the Roman surface. However, many service trenches were excavated through the horizon which contained Roman layers, and were subject to the watching brief.

It is recommended that any future interventions and excavations below the modern highway should be similarly subject to watching brief, to define further extant sections of the Roman road surfaces, to clarify the nature of its structure in comparison with the current evidence, and to determine the impact of the recent improvement works upon it.

Appendix 9 Retrospective critique of the methodology

The original aims of the archaeological investigations were to record, prior to and during development, all archaeological remains present on the site. The primary intention was to make a satisfactory detailed record of those archaeological deposits to be destroyed or negatively affected by the development.

Unfortunately, at no point was the full width of the Roman road observed. The most practical location to have obtained this would have been between Sites 4 and 5a adjacent to the Traveller's Rest, Stretton Sugwas. Unfortunately, this was not possible however, given the necessity of keeping the road open.

The findings of the intrusive investigations were consistently at variance with those of the ground probing radar survey. The latter postulated the existence of a substantial extant Roman road surface in almost all traverses. However, upon excavation, this was seldom observed. It is considered that the variable nature of the natural clay and gravel matrix, combined with the post-medieval and modern road surfaces and modern services lead to these misinterpretations.

On occasion, features recorded within the evaluation trenches and considered to be pits, postholes and ditches were subsequently determined during open area excavation to be tree bowls or other natural variations in the geology. This was particularly the case in Areas 4 and 5, Fields 2 and 3, where postulated roadside settlement identified during the evaluation was discounted when the larger area was stripped and the features found to be tree root activity associated with 19th-20th century orchards.

In seven of the areas subject to the watching brief, the easement strip was generally not undertaken to a sufficient depth to remove all of the soils and/or overburden to expose the natural matrix. Thus the Roman road surface may exist and survive in these areas (Test Pit 12, Areas 18-20, 22, 23 and 36), which were otherwise archaeologically blank. However, given the constraints and limitations of the development works, it is considered that the methods adopted for the watching brief allowed a high degree of confidence that the aims of the project were met; namely that those areas of the road, and adjacent fields, which were the subject of disturbance during the scheme, were made available for investigation, allowing an archaeological record to be successfully made at an appropriate level.