

High Speed Rail (West Midlands - Crewe)

Environmental Statement

Volume 5: Technical appendices
CA4: Whitmore Heath to Madeley
Cultural heritage baseline report (CH-001-004)



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Department for Transport

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1 Introduction

1.1 Structure of the cultural heritage appendices

1.1.1 The cultural heritage Appendices for the Whitmore Heath to Madeley area (CA4) comprise:

- a baseline report (this Appendix);
- a gazetteer of heritage assets (Volume 5: Appendix CH-002-004);
- an impact assessment (Volume 5: Appendix CH-003-004); and
- survey reports, incorporating geophysical survey and remote sensing studies, which are available in the Background Information and Data document¹.

1.1.2 In addition there are two route-wide cultural heritage Appendices:

- a historic landscape character report (Volume 5: Appendix CH-005-000); and
- a geoarchaeology desk study report (Volume 5: Appendix CH-006-000).

1.1.3 Maps referred to throughout the cultural heritage Appendices are contained in the Volume 5: Cultural Heritage Map Book.

1.2 Study area

1.2.1 The Whitmore Heath to Madeley area lies within the Newcastle-under-Lyme district within Staffordshire, comprising parts of the civil parishes of Whitmore, Baldwin's Gate and Madeley.

1.2.2 All non-designated and designated assets within the land required for the Proposed Scheme and within 500m of it have been detailed in this baseline report. In addition, designated heritage assets have been examined within the zone of theoretical visibility (ZTV).

1.2.3 All identified assets are listed in Volume 5: Appendix CH-002-004 Gazetteer of heritage assets and shown in Cultural Heritage Map Series CH-01-214 – CH-01-215a-R1, CH-02-208 and CH-02-209 (Volume 5: Cultural Heritage Map Book).

1.3 Data sources

1.3.1 Sources examined as part of this baseline assessment include published secondary sources, cartographic sources, Historic Environment Record (HER) data for non-designated heritage assets and the Historic England national heritage list for designated assets. A full list of published sources can be found in Section 8 of this Appendix.

¹ HS2 Ltd (2017), *High Speed Two (HS2) Phase 2a (West Midlands - Crewe), Background Information and Data, Cultural heritage survey reports*, BID-CH-004-004, www.gov.uk/hs2

1.4 Survey undertaken

1.4.1 The following surveys were undertaken as part of the environmental impact assessment (EIA) process:

- light detection and ranging (LiDAR) survey of the majority of the land required for the Proposed Scheme and land around it (see BID-CH-004-004 Cultural heritage survey reports);
- a programme of non-intrusive surveys including geophysical prospection (see BID- CH-004-004); and
- field walkover and targeted field walking, and site reconnaissance field inspections to review the setting of historic assets and the character and form of the historic landscape.

2 Geology, topography and landform

2.1 Overview

- 2.1.1 The solid geology of the study area is dominated by deposits formed during the Carboniferous, Permian and Triassic periods. Broadly, these comprise deposits of Triassic period (251 - 200 million years) along the northern and southern fringes of the study area, with deposits from the Permian and Carboniferous period (312 - 271 million years) dominating the majority of the central areas. This represents a generalisation of what is in reality a highly complex geology within the study area and also the northern sections of the adjoining Stone and Swynnerton community area (CA3) study area south of Stoke on Trent and to the north of Stone. The Triassic deposits within the north of the study area comprise mudstones and siltstones of the Sidmouth Mudstone Formation, part of the Mercia Mudstone Group. To the south around Madeley and south of Stoke-on-Trent are Carboniferous mudstones, siltstones and sandstones of the Halesowen Formation (Warwickshire Group), with mudstone, sandstones and conglomerates of the Etruria Formation to the north-east around Madeley Heath. Carboniferous mudstones, sandstones and pebble conglomerates of the Salop Formation occur in the area broadly between the M6, the A53 Newcastle Road and the West Coast Main Line (WCML). The Halesowen, Salop and Etruria formations form part of the Warwickshire Group of Carboniferous sedimentary rocks. Triassic rocks are distributed to the south of this around Baldwin's Gate and Whitmore towards Swynnerton Old Park, comprising interbedded sandstone and conglomerates of the Kidderminster Formation and sandstones of the Wildmoor Sandstone Formation, both part of the Sherwood Sandstone Group.
- 2.1.2 The solid geology is partially overlain by superficial deposits formed during the Quaternary period (last 2.5 million years) as a consequence of the repeated advance and retreat of the ice sheets. Superficial deposits are patchy or absent entirely from large portions of the study area, particularly in the area between Mare Hills, Hey Sprink and Swynnerton Old Park to the east of Stoke-on-Trent. The study area is close to the margins of the last major ice sheet to have affected mainland Britain during the late Devensian (approximately 30,000 – 15,000 years BP²), which largely removed evidence of earlier ice sheets and palaeodrainage. On present evidence, the margins of the ice sheet reached a line from Lichfield to Wolverhampton, although the precise limits of the ice sheet are still a matter of debate. Consequently, it is possible that although the majority of deposits are of recent date, remnants of earlier glacial and fluvial sediments may be preserved beneath Devensian deposits. The superficial geology can be divided between four main deposit types: 1) fluvio-glacial sands and gravels; 2) till; 3) peat; and 4) Holocene alluvium.
- 2.1.3 Fluvio-glacial sands and gravels, deposited either by seasonal meltwater outwash at the edge of the Devensian ice sheet or as the ice sheet retreated at the end of the last ice-age, are distributed in the north of the study area, to the north and west of Madeley and to the west of Stoke-on-Trent. Modest deposits of poorly sorted tills (previously termed boulder clays) were laid down as ice sheets expanded to cover the

² BP - 'Before Present' is a time scale typically taken to be the number of years prior to 1 January 1950 when radiocarbon dating (C14) became practical, and also to indicate the number of years prior to nuclear testing which altered the isotope ratios in the atmosphere.

area. Tills are distributed around Madeley and along the line of the WCML towards Hey Sprink. Although they are likely to be late Devensian in date, the possibility of earlier pre-Devensian deposits should not be discounted in view of the aforementioned debate regarding the precise limits of the Devensian ice sheet.

- 2.1.4 Several deposits of peat occur across the study area, representing partially decayed organic matter preserved within waterlogged anaerobic (oxygen-free) conditions. The largest deposits of peat are distributed for approximately 3km along the line of the WCML from Hey Sprink to south of Baldwin's Gate, possibly infilling a former watercourse or lake. Several smaller deposits of peat occur among fluvioglacial sands and gravels and tills within and to the west of Madeley, in some cases infilling former channel courses, but in the majority of cases most likely infilling former kettle holes (hollows in glacial sediments created through the melting of blocks of ice).
- 2.1.5 Deposits of Holocene alluvium are present where former and extant river and minor tributaries cut across the study area. The most significant deposit of alluvium is that associated with the course of the Checkley Brook running from Wrinehill towards Madeley along the northern fringe of the study area. More restricted deposits of alluvium are associated with the River Lea running south through Madeley and with the Meece Brook running east of Hey Sprink south through Whitmore.
- 2.1.6 The geology of the study area supports a range of soils, predominantly slightly acid loamy and clayey soils, but with acid sandy soils around Whitmore and fen peat soils in association with the large peat deposit distributed from Hey Sprink to south of Baldwin's Gate. The soils are largely of moderate to high fertility, supporting both arable and grassland pasture with some woodland. The land required for the Proposed Scheme within the study area is situated within a low-lying and gently undulating landscape, varying little in elevation along the route between 100 – 125m above sea level (ASL), but with more pronounced undulating elevations across the study area between approximately 115 – 190m ASL.
- 2.1.7 The Whitmore Heath to Madeley area lies within the Staffordshire farmland of open rolling countryside, which extends from the Peak District Fringe in the north-east to the River Dee estuary in the south-west. It is bounded to the east by the lower foothills of Staffordshire hills; to the south by the blocky hill lands associated with Swynnerton and Chapel Chorlton; by the hills of Maer and Aston to the west; and to the north by the East Cheshire Plains.
- 2.1.8 A low valley from Meece Brook through to the River Lea runs in a south-easterly to north-westerly direction through the centre of the study area. To the west of this sits a low ridge oriented from Maer Hills to Bar Hill and Madeley, forming the east facing valley side of the watercourses mentioned above.
- 2.1.9 In summary, the form and historic character of the landscape within the study area is determined largely by geological processes occurring during the Quaternary period. Both the solid and superficial geologies have heavily influenced the post-glacial development of soils and therein the vegetation and subsequent land-use history. The superficial geology is largely confined to the north of the study area, but modest, although potentially significant, deposits of Holocene peat and alluvium are distributed across the study area.

2.2 Geoarchaeological characterisation

2.2.1 The following geoarchaeological characterisation zones (GCZ) have been identified within the Whitmore Heath to Madeley area (see Volume 5: Appendix CH-006-000 Geoarchaeology desk study report):

- GCZ₂₉ – this zone comprises deposits of alluvium associated with the Meece Brook, with river terrace deposits distributed along the eastern bank and a small deposit of peat on the western bank. The peat deposit may reflect part of the sequence of Holocene alluvial deposits preserved within the floodplain, perhaps within palaeochannel features, or infilling the natural topography adjacent to the floodplain. The peat and alluvium may preserve waterlogged archaeology and are likely to contain a range of palaeoenvironmental remains of high geoarchaeological potential. The river terrace deposits are laterally restricted, but in common with similar deposits in other areas, may contain unstratified artefacts and ecofacts of Palaeolithic date, or seal stratified organic deposits of geoarchaeological significance;
- GCZ₃₀ – there are no superficial deposits recorded from this zone. The geoarchaeological potential of this zone is therefore considered to be negligible;
- GCZ₃₁ – there are no superficial deposits recorded from this zone. The geoarchaeological potential of this zone is therefore considered to be negligible;
- GCZ₃₂ – this zone includes large deposits of till and organic sediments extending north-west from Baldwin's Gate along the length of the zone. The organic sediments are likely to include peat deposits, infilling a possible former palaeolake of approximately 2km length by 400m width at maximum extent. The organic sediments have high potential for the recovery of waterlogged archaeological remains (dependent on the existing conditions of preservation), along with the recovery of sediments preserving a range of palaeoenvironmental proxies useful for providing a wider landscape context for any associated archaeology;
- GCZ₃₃ – superficial deposits comprise till, fluvioglacial sands and gravels and alluvium associated with the course of the River Lea. The till and fluvioglacial sands and gravels are most likely Devensian in date and although of little direct relevance, may seal geoarchaeologically significant organic deposits of late Devensian interstadial or earlier date. The alluvium is relatively restricted in extent, only occurring along the northern fringe of the zone, although there is still a possibility it may preserve waterlogged archaeological remains or preserve organic deposits of geoarchaeological significance. Roughly half of the zone contains no recorded superficial deposits;
- GCZ₃₄ – till deposits comprise the majority of the superficial deposits in this zone, along with more modest fluvioglacial sands and gravels. Again, as with other areas with similar sediments, their geoarchaeological value rests on the

possibility that they may seal organic deposits of late Devensian or earlier date; and

- GCZ35 – this zone comprises till, fluvioglacial sands, Pleistocene river terrace deposits and Holocene alluvium, the latter two associated with the courses and confluence of the River Lea and the Checkley Brook. The river terrace gravels are relatively modest in extent and along with the till and fluvioglacial sands and gravels, most probably date to the late Devensian. In all three cases, there is a possibility that these sediments may seal organic sediments of geoarchaeological significance, with the additional possibility that the river terrace gravels may yield unstratified Palaeolithic artefacts and ecofacts. The alluvium of the River Lea is relatively limited in lateral extent, with more substantial deposits associated with the Checkley Brook. Both deposits of alluvium may present conditions for the preservation of waterlogged archaeology and organic sediments of high geoarchaeological potential.

3 Archaeological and historical record

3.1 Introduction

- 3.1.1 This section provides a chronological overview of the wider archaeological context of the study area. This is intended to enable the potential for unidentified archaeological remains to be assessed and their likely location and form to be identified.
- 3.1.2 Descriptions of all identified cultural heritage assets are presented in Volume 5: Appendix CH-002-004; and shown in Cultural Heritage Map Series CH-01-214 – CH-01-215a-R1, CH-02-208 and CH-02-209 (Volume 5: Cultural Heritage Map Book).

3.2 Early prehistory

Palaeolithic 500,000BC – 10,000BC

- 3.2.1 The British Palaeolithic comprises the archaeological and environmental remains of early human societies that occupied Britain during the warm periods (interglacials) before, between and immediately after the three successive glaciations (Anglian, Wolstonian and Devensian) that impacted upon Britain. Britain was joined to the continent by a land bridge ("Doggerland") throughout this period and would have been deserted at the coldest times.
- 3.2.2 Three successive but overlapping species of humans occupied Britain during the Palaeolithic: *Homo heidelbergensis*, *Homo neanderthalensis* from about 230,000 years ago, and, from about 40,000 years ago, anatomically modern man, *Homo sapiens*. These species used a succession of evolving stone tool technologies that included sharpened flint flakes struck from cores, and handaxes. The stone tools used by *Homo heidelbergensis* defined the Lower Palaeolithic, those by *Homo neanderthalensis* the Middle Palaeolithic, and those by *Homo sapiens* the Upper Palaeolithic.
- 3.2.3 The recent discovery of Lower Palaeolithic flint-flake tools alongside the bones of scimitar-toothed cat, lion and hyena at Happisburgh and Pakefield on the East Anglian coast has pushed back the date of the first confirmed early human occupation of Britain to around 700,000 years ago, during the Cromerian interglacial³. Happisburgh and Pakefield would have been located on the northern and southern edges respectively of the delta of the Bytham River, which flowed through north-east Warwickshire and drained the southern part of the Trent catchment to the East Anglian coast. The Bytham River preceded and was subsequently erased by the Anglian glaciation.
- 3.2.4 The first, Lower Palaeolithic artefactual evidence of the early human occupation of the West Midlands also dates to the pre-Anglian Cromerian interglacial, to about 500,000 years ago, and was also found in sediments laid down by the Bytham River. The most significant finds to date have been made at Waverley Wood to the north of Warwick, where an assemblage of five handaxes in fresh condition and bones of a straight-tusked elephant were found in the organic deposits filling a former river

³ Street, M., Barton, N. and Terberger T. (2009), *Humans, environment and chronology of the Late Glacial on the North European Plain : proceedings of Workshop 14 (Commission XXXII "The Final Palaeolithic of the Great Plain / Le Paléolithique Final de la Grande Plaine Européenne") of the 15th U.I.S.P.P. Congress, Lisbon, September 2006*, Mainz : Römisch-Germanisches Zentralmuseum

channel⁴. This common association of early remains with rivers likely indicates that animals and early humans would have moved along such riparian corridors because of the constant access to water and food sources they afforded.

- 3.2.5 Following the end of the Anglian interglacial period around 423,000 years ago there is little evidence within the West Midlands aside from a number of stone tools and artefacts recovered from the terrace deposits of the River Avon and Severn in the south-west of the region.
- 3.2.6 The ice sheet present during the Devensian glaciation, between about 110,000 - 12,000 years ago, is thought to have extended as far south as the Trent-Sow confluence, so conditions are likely to have been too cold for human occupation within the study area until after about 12,000 years ago⁵. This means that any high-potential human activity sites that may survive within the Trent Valley in this community area will be of Late Upper Palaeolithic date. Older remains of hardy animals may survive, however, such as the near-complete, articulated skeleton of a woolly rhinoceros that was recovered, along with the disarticulated bones of other woolly rhinoceri, wolves, mammoth, horse, reindeer and bison, from a quarry at Whitemoor Hay, near Lichfield. These remains were dated by means of radiocarbon and optically stimulated luminescence techniques to about 30,000 years ago⁶. A geoarchaeological review (Volume 5: Appendix CH-006-000) has highlighted the gravel terraces located within the study area along the course of the River Lea, Checkley Brook and Meece Brook as likely dating to the Late Devensian and possibly containing unstratified artefacts of older date that have been disturbed and redeposited by the glacier and its outwash streams.
- 3.2.7 At the end of the last glaciation, the retreating ice sheet deposited unsorted boulder clays, sands and gravels in the glacial outwash, creating the kettle holes. These features, typically a hollow resulting from the melting of a mass of ice trapped in glacial deposits, subsequently developed into lakes that are characteristic of the Staffordshire/Shropshire border. One such lake has been identified from mapped locations of superficial deposits consistent with the presence of a former lake or watercourse at Madeley (WHMo83⁷), which stretches from Hey Sprink to Baldwin's Gate.
- 3.2.8 No artefacts of Lower or Middle Palaeolithic date have been found anywhere in Staffordshire to date and while Upper Palaeolithic artefacts have been recovered, these are associated with cave sites in the north-east of the county. High-quality, in-situ Palaeolithic archaeological and environmental remains are rare and usually deeply buried.

Mesolithic 10,000BC – 4,000BC

- 3.2.9 At the end of the last Ice Age, Britain was still connected to the European mainland by the Doggerland land bridge. Rapid climatic change led to the replacement of the late-

⁴ Garwood, P. (2011), The earlier prehistory of the west midlands. In Watts, S. (ed). *The Archaeology of the West Midlands: A framework for research*. Oxbow: Oxford

⁵ Myers, A.M. (2007), The upper Palaeolithic and Mesolithic archaeology of the West Midlands region, in P. Garwood (ed) *The Undiscovered Country: the earlier prehistory of the West Midlands*, Oxford, p23-38

⁶ Buteux, S. and Chapman, H. (2009), *Where Rivers Meet: The Archaeology of Catholme and the Trent-Tame Confluence*, CBA Research Report 161, Council for British Archaeology, p42-44

⁷ Asset reference numbers throughout refer to the Unique Identifier provided for each asset in the gazetteer (Volume 5:Appendix CH-002-004)

glacial tundra initially by birch and pine within a still open landscape, and subsequently by much denser mixed deciduous woodland comprising oak, alder, willow, hazel and elm. Environmental evidence suggests that in the West Midlands this process of succession spanned the period approximately 9,500/8,500BC to approximately 7,200/7,000BC⁸. The land bridge also facilitated colonization by red and roe deer, aurochs, boar, elk, wild pig and horse.

- 3.2.10 The material record of the Mesolithic in Britain comprises mostly lithic assemblages, with structural and organic remains rarely encountered⁹. Early Mesolithic (pre 6,500BC) assemblages are typically of broad-blade type, adapted to large-game hunting. After 6,500BC, Late Mesolithic assemblages are of narrow-blade type, suitable for a more diverse range of hunting and processing tasks¹⁰. The majority of finds have been from surface collection activities, of which only a handful of systematic surveys have been undertaken usually in connection with specific sites or projects¹¹.
- 3.2.11 There is no evidence for human activity dating to the Mesolithic period recorded within the Whitmore Heath to Madeley area. Analysis of known occupation areas from across the region highlights a general preference for settlement on well-drained soils such as the alluvial and river terrace deposits flanking the River Lea, Checkley Brook and Meece Brook¹². However, it should be noted that this does not mean heavier soils were not used for settlement and/or activity at this time¹³.

Neolithic 4,000BC – 2,200BC

- 3.2.12 During the Early Neolithic (approximately 4,000BC-3,400BC), domesticated animals (cattle, sheep and pigs) and plant species (principally wheat and barley) were introduced to Britain from the continent, and there started a more-or-less gradual transition from a mobile hunter-gatherer lifestyle to one of sedentary cultivation. There remains much debate at the national level as to the speed of this process, and to what extent it was the product of acculturation or colonization. In the West Midlands, however, the evidence suggests very gradual acculturation, in that woodland persisted down to at least 2,500BC, with little clearance and little cereal cultivation before that date¹⁴
- 3.2.13 It is in this context that excavations along the line of the M6 Toll found some limited evidence of tree clearance, cereal cultivation and presumably domestic occupation during the Early Neolithic outside the study area near to Wall. Part of a carinated bowl likely to date to before 3,700 cal BC was found in a tree hollow at Shenstone, and is likely to date tree clearance at that location. Two pits found at another location at Shenstone contained Early Neolithic bowl pottery, hazelnut shells and four grains of barley and emmer or spelt wheat. The barley grain yielded a radiocarbon date of 3,710

⁸ Garwood (2011), p27

⁹ Myers (2007), p27

¹⁰ Garwood (2011), p26

¹¹ Myers (2007), p33

¹² Myers (2007), p31

¹³ Myers (2007), p31

¹⁴ Buteux and Chapman (2009)

- 3,530 cal BC. Peterborough Ware bowl pottery of Mortlake variety was also found closer to Wall, and is likely to date to 3,350 - 2,900 cal BC¹⁵.

- 3.2.14 One of the most distinct features of the Neolithic period is the development of a monumental landscape. The Early Neolithic saw the emergence of communal burial in long barrows, and of a tradition of monumental communal meeting places that were perhaps also ceremonial centres, in the form of causewayed enclosures. These are ditched enclosures roughly circular, oval or ovoid in plan, with the ditch or ditches dug in discontinuous lengths with undug sections between. During the Middle Neolithic (approximately 3,400BC-2,800BC), the causewayed enclosures went out of use, and were replaced by cursus monuments such. The Late Neolithic (approximately 2,900BC-2,100BC) is particularly associated with henges, stone and timber circles, and oval barrows, which were often combined to form ceremonial landscapes.
- 3.2.15 There is little evidence for human activity in the study area from the Neolithic period with a single convex scraper found in the 1880s (WHMo62) and a polished stone axe found during tree clearance in Wrinehill Wood (WHMo64) the only recorded artefacts.

3.3 Late prehistory

Bronze Age 2,600BC – 700BC

- 3.3.1 The end of the Neolithic period saw an end to the use and maintenance of the former ceremonial landscapes, which had been characterised by its focus upon communal monuments. These communal monuments were initially replaced by circular burial mounds containing the crouched inhumations of a single individual, often buried with ceramic beakers and occasionally copper daggers and gold ornaments, with few, if any, secondary burials. By 2,200BC, multiphase barrows were used within the West Midlands region, which were structurally more elaborate than their predecessors and contained multiple secondary burials. The pace of construction of round barrows appears to have increased significantly from around 1,900BC.
- 3.3.2 The burial rites employed within the multiphase barrows appear to have been mixed to begin with but were later only cremations and could be either urned or unurned. The progression of phasing within round barrow use seems to suggest the earliest were focussed on celebrated individuals with the later examples celebrating lineages.
- 3.3.3 Within the Whitmore Heath to Madeley area, two round earthwork mounds located to the west of the route of the Proposed Scheme are recorded as the locations of possible Bronze Age barrows (WHMo63). A further round mound measuring approximately 37m in diameter is located close to Madeley Manor (WHMo28), although it has been noted the barrow lacks a surrounding ditch, which would be unusual for a monument of this scale.
- 3.3.4 The environment of north-west Europe in the late 3rd and early 2nd millennium BC has been described as 'poor' and unstable, which likely made agrarian farming practices difficult¹⁶. The early Bronze Age environment in the West Midlands is not well

¹⁵ Calibrated years Before Christ

¹⁶ Bell, M. and Walker, M.J.C. (2005), *Late Quaternary Environmental Change: physical and human perspectives*, Harlow; Tipping, R. and Tisdall, E. (2004), Continuity, crisis and climate change in the Neolithic and Early Bronze Age periods in north-west Europe, in I.A.G. Shepherd and G.J. Barclay (eds) *Scotland in Ancient Europe: The Neolithic and Early Bronze Age of Scotland in their European Context*, Society of Antiquaries of Scotland, Edinburgh, p76-7

understood, however, episodes of woodland clearance have been identified particularly in the lower Severn valley, although this did not take place until the early to mid 2nd millennium BC at the earliest¹⁷. By approximately 1000BC, the climate across Britain began to deteriorate¹⁸. The prevailing colder, wetter conditions led to an increase in waterlogging and the growth of peat deposits¹⁹. This led to a premium being placed on areas where the soils were able to withstand the demands of intensive exploitation such as the free-draining soils present in river valleys and close to water courses²⁰.

- 3.3.5 There is limited direct evidence for settlement during the Bronze Age in the West Midlands with the majority of sites represented by funerary monuments²¹. In some cases, evidence of earlier occupation has been uncovered within Iron Age hillforts in upland environments while in lowland areas the presence of burnt mounds are thought to provide an indication that a settlement is nearby²². Where settlements have been encountered they are extensive and unenclosed²³.
- 3.3.6 There have been two findspots dated to the Bronze Age within study area comprising a convex flint scraper found south of Bar Hill, Madeley (WHMo62) and, found further north, a polished stone axe in Wrinehill Wood (WHMo64).

Iron Age 800BC – AD43

- 3.3.7 Although the Bronze Age and Iron Age are distinct and generally distinguishable periods in British prehistory, the exact point at which the transition from one to the other is not clear, and particularly poorly defined in the West Midlands region²⁴. Settlements established in the Iron Age are often more visible than their earlier counterparts as they are often enclosed by ditches, which can be clearly visible on aerial photographs, although evidence of funerary practices is significantly reduced²⁵.
- 3.3.8 The dominant types of settlement in use during the Iron Age were enclosed farmsteads occupied by a single dwelling, often a roundhouse²⁶. These enclosures were often between 0.2ha and 1ha in area and could be rectilinear, curvilinear or irregular in shape with evidence from excavations suggesting once this type of landscape was established, there was little in the way of change until its eventual abandonment²⁷.
- 3.3.9 The multivallate hillfort²⁸ at Berth Hill (WHMo17) is located on a prominent sandstone outcrop on the south-east edge of the Maer Hills. The hillfort was undoubtedly the most prominent feature of the Iron Age landscape²⁹. The central area, approximately

¹⁷ Garwood (2011), p66

¹⁸ Champion, T. (1999), *The Later Bronze Age*. In Hunter, J. and Ralston, I. *The Archaeology of Britain: An introduction from the Upper Palaeolithic to the Industrial Revolution* London: Routledge, p103

¹⁹ Champion (1999), p103

²⁰ .Champion (1999), p103

²¹ Garwood (2011), p7.

²² Hurst, D. (2011), *Middle Bronze Age to Iron Age: A research assessment overview and agenda*. In Watts, S. (ed). *The Archaeology of the West Midlands: A framework for research*. Oxbow: Oxford, p105

²³ Hurst (2011), p104

²⁴ Hurst (2011), p101

²⁵ Hurst (2011), p106

²⁶ Hurst (2011), p106; Burnham, B.C., Collis, J., Dobinson, C., Haselgrove, C. and Jones, M. (2001), *Themes for further research, c. 100BC to AD200*, in *Britons and Romans*, Council for British Archaeology Research Reports, vol125, p117

²⁷ Champion (1999), p103; Hurst (2011), p106

²⁸ A hillfort enclosure with defences composed of more than one bank and ditch.

²⁹ .Hurst (2011)

3.75ha in size, is enclosed by an inner rampart and ditch with a second rampart in some areas beyond. The ramparts are complicated and retain evidence of their development, although they were initially formed through the redefinition of the natural hillslope. Access to the interior of the hillfort is provided by causeways in the central part of the south-west side and at the northern end of the east defences. These entrances comprise an inturned, funnel entrance originally approached from the north-west via an embanked causeway and by a break in the inner rampart, respectively. There are no internal earthworks associated with the occupation of the hillfort, although it is likely that substantial archaeological remains are preserved within the inner defences. The hillfort was encompassed into a 19th century landscape garden and there are several features associated with this, including an aqueduct, within the hillfort interior.

- 3.3.10 The report for the early 20th century archaeological excavations, describes the site as an exemplar of 'the whole social economy of a pre-historic settlement'³⁰. The report also indicates the hillfort comprised a 'stronghold, camp, cattle-sorting corral and enclosed cultivation areas'³¹ and likely provided a cultural, economic and administrative focus for the surrounding communities.
- 3.3.11 There are no other known assets dating to the Iron Age within the study area, although the presence of the fort and of free-draining soils in the vicinity of River Lea, Checkley Brook and Meece Brook suggest the potential for additional remains to be present.

3.4 Romano British AD43 – AD410

- 3.4.1 The study area lies within the area thought to represent the tribal lands of the Cornovii³². Following the Roman invasion of Britain in AD43, a fort was established in Wroxeter, near Shrewsbury, and grew to become the fourth largest settlement in Britain known as *Viroconium Cornoviorum*³³. *Viroconium Cornoviorum* served as the *civitas capital*³⁴ for the Cornovii territory and was located close to the junction number of major Roman roads, which included 'Watling Street'³⁵ and a road running to the north-east towards Newcastle-Under-Lyme³⁶. The course of this road is mapped by the Rural Settlement of Roman Britain as crossing the study area to the south of Bar Hill and Madeley and may be the same road traced by geographers in the mid18th century across Madeley Old Park³⁷.
- 3.4.2 The road from *Viroconium Cornoviorum* continues beyond the eastern edge of the study area to the north of Newcastle-Under-Lyme connecting with the Roman fort at Chesterton. Excavations carried out in the 20th century have uncovered evidence for a substantial rampart, associated ditches along with finds indicating the fort was established in the late 1st or early 2nd century AD and has been suggested the fort served as a supply depot for the Roman army due to its location at a crossroads along

³⁰ Simms, B.B. (1932), *Recent Investigations of the Hillfort and Camp at Maer*, North Staffordshire Field Club Transactions, vol 66, p 91-100

³¹ Bemrose, G.J.V. (1938), *Archaeology and History*, The North Staffordshire Field Club – Transactions and Annual Report, vol 72, pp 114-118, p 116.

³² An Iron Age tribe whose land covered most of the present West Midlands

³³ White, R. and Barker, P. (2011), *Wroxeter: Life and Death of a Roman City*. Stroud: The History Press, p9

³⁴ An administrative centre for the region (*civitas*)

³⁵ One of the major Roman roads which ran from Dover (*Dubris, Dubrae or Portus Dubris*) to Chester (*Deva*)

³⁶ Although many of the roads which formed the Roman network have distinguishable names, the names of others are unknown

³⁷ Bemrose, G.J.V. (1939), *Archaeology and History*, The North Staffordshire Field Club – Transactions and Annual Report, vol 73, pp 112-115

the road network^{38, 39}. Excavations within the fort uncovered a structure interpreted as a baking oven, an *intervallum*⁴⁰ road separating the barrack blocks from other buildings within the fort and a paved surface⁴¹. The full extent of the fort is unknown due to a considerable amount of disturbance from 19th and 20th century activity.

3.4.3 Approximately 1km to the south of the fort lies the civilian settlement at Holditch. The settlement is thought to have been established prior to AD69 with excavations uncovering a primary phase of ephemeral timber structures followed by the construction of a substantial stone enclosure later in the 1st century AD⁴². From AD100 to around AD130/140, a series of stone buildings were constructed within the settlement, which includes possible workshops associated with military provision, a bathhouse and a small temple⁴³. By around AD150, the settlement at Holditch began to contract significantly, presumably due to the movement of the military further to the north, and had been largely abandoned by AD160, although some occupation may have continued into the mid to late 3rd century AD⁴⁴

3.4.4 Geophysical survey has identified a concentration of linear anomalies located to the west of Madeley, near Beechfields (WHMo61). These have been interpreted as a network of possible enclosures, although a certain date cannot be currently ascribed. Their regular shape and arrangement may indicate their origins lie in the Roman period, particularly considering their proximity to the purported route of the Roman road between Wroxeter and Chesterton, the presence of a Roman field system to the south-east⁴⁵ and anecdotal evidence from the 19th century suggesting 'Roman remains are frequently found at Madeley'⁴⁶. This evidence should be treated with caution, however, as the enclosures may in fact relate to medieval or later animal enclosures or land divisions and extraction pits (Volume 5: Appendix CH-004-004). Nevertheless, there remains a potential for as yet unknown archaeological remains within the study area to be present.

3.5 Early medieval AD410 - AD1066

3.5.1 Excavations at Wroxeter revealed that organised life continued there until about AD500, though the area under its control is unlikely to have extended as far east as Staffordshire at that time⁴⁷.

3.5.2 Written documents such as charters and the Tribal Hidage, a 7th or 8th century Mercian or Northumbrian tribute list, suggest that at the end of the Roman period, political power fragmented into numerous small British and Anglo-Saxon polities, which were gradually welded into a smaller number of Anglo-Saxon and British kingdoms from the later 6th century.

³⁸ Goodyear, F.H. (1970), *The Roman Fort at Chesterton, Newcastle-under-Lyme*, North Staffordshire Journal of Field Studies (10), pp 103-105

³⁹ Smith, A., Allen, M., Brindle, T. and Fulford, M. (2017), *The Rural Settlement of Roman Britain*. Britannia Monograph Series No. 29, p290

⁴⁰ An internal road

⁴¹ Boothroyd, N. (1996), *Archaeological Evaluation at Chesterton High School, Newcastle-under-Lyme, Staffs.*, Stoke-on-Trent City Museum Archaeology Unit Report No. 49, p5

⁴² Allen *et al.* (2017)

⁴³ Allen *et al.* (2017)

⁴⁴ Allen *et al.* (2017)

⁴⁵ Allen *et al.* (2017)

⁴⁶ Watkin, W.T. (1873), *On the Site of "Mediolanum" and the Portion of the Tenth Iter of Antoninus, South of Manchester*, The Archaeology Journal, p166

⁴⁷ White and Barker (2011), p137

- 3.5.3 In the late 6th or the early 7th century, Staffordshire was incorporated into the newly formed Anglo-Saxon kingdom of Mercia. The Tribal Hidage and the writings of Bede⁴⁸ make it clear that Staffordshire formed part of "Original Mercia", that is part of Mercia before its expansion in the 8th century, when it asserted control over much of central and southern England⁴⁹. Nevertheless, despite the fact that the Mercian kingdom was officially pagan until the reign of Peada (AD655 - AD656), archaeology would seem to support the place-name evidence in suggesting that Staffordshire was culturally British when incorporated. This is suggested by the almost complete absence of pagan Anglo-Saxon cemeteries in the county except for a cluster along the west bank of the Trent where it borders upon Derbyshire. Thus, there are pagan cemeteries at Stapenhill in Burton-on-Trent, Barton and Walton in the Trent valley⁵⁰, and at Tuckleholme Farm and Wychnor⁵¹ at the Trent-Tame confluence. The only other certain pagan burial in Staffordshire other than a group in the Staffordshire Peak district, which is part of a Derbyshire concentration, was a single, isolated burial found at Barlaston⁵². It remains to be seen whether evidence of pagan Anglo-Saxon burial or settlement will be found to the west of the Trent-Tame confluence, which would change the current interpretation of the Trent-Tame line as marking the boundary of two separate cultural provinces at this time.
- 3.5.4 In AD669, Wilfrid, Bishop of York, built a cathedral at Lichfield on land granted for this purpose by the Mercian King Wulfhere, and Chad was appointed bishop. It has been suggested that the adoption of Anglo-Saxon culture and the English language by families living in the vicinity of Lichfield would have started in earnest at this time for prudential reasons: social advancement and perhaps even personal safety would have depended upon an overt acceptance of a Mercian identity⁵³. It is to this time that the Staffordshire Hoard dates.
- 3.5.5 It has been suggested that Wilfrid may have thought that Lichfield was an appropriate place for an episcopal seat in part because it was already in the 7th century the centre of a vast multiple estate, and so appropriately resourced for the expense of ministry. Multiple estates comprised a number of dependent specialist settlements that rendered produce to an estate centre or caput, here Lichfield.
- 3.5.6 The place-name 'Madeley' is of early medieval origin. 'Ley' is derives from 'lēah', meaning a clearing in the woodland, and is usually found in conjunction with a personal name, in this case 'Mada'. Similarly named settlements are present in the surrounding area present in many settlements in the surrounding area including Betley, Onneley and Leycett⁵⁴
- 3.5.7 Madeley is first mentioned within a royal charter dating to AD975 in which King Edgar grants an area of land to Aethelwold, Bishop of Winchester⁵⁵. This land is thought to have been intended for the establishment of a Benedictine monastery, however,

⁴⁸ A monk who lived in a monastery in Northumbria in the 7th century AD and wrote a narrative history of the Anglo-Saxon kingdoms.

⁴⁹Phillips, A.D.M. and C.B. Phillips (eds). (2011), *A historical atlas of Staffordshire*. Manchester University Press, p30; Brooks, N. (1989), The formation of the Mercian kingdom. In Bassett, S., *The Origins of the Anglo-Saxon Kingdoms*. London: Leicester University Press, p160-163

⁵⁰ Gelling, M. (1992), *The West Midlands in the Early Middle Ages*. London: Leicester University Press, p21

⁵¹ Gelling (1992), p29-30

⁵² Gelling (1992), p29-30

⁵³ York, B. (2001), The Origins of Mercia. In Brown M.P. and Farr C.A. (eds.) *Mercia: An Anglo-Saxon Kingdom in Europe*. London: Leicester University Press, p21

⁵⁴ Kennedy, J. (1970), *Madeley: A History of a Staffordshire Parish*, Department of Adult Education, University of Keele, p8

⁵⁵ Kennedy (1970), p9

Edgar's sudden death in that same year led to a period of instability within the Mercian kingdom and the monastery was never constructed⁵⁶.

- 3.5.8 A number of other settlements within the study area were likely established in the early medieval period owing to their inclusion in the Domesday survey of 1086 following the Norman Conquest 20 years earlier. These settlements include Onneley, Whitmore⁵⁷, Shelton and Swinchurch. The settlements at Whitmore and Shelton are no longer extant while Swinchurch appears to have been subsumed into Chapel Chorlton.
- 3.5.9 This period is probably the least visible archaeologically⁵⁸. The only substantial early medieval settlement identified in Staffordshire was at Catholme and comprised 65 buildings of various sizes including wall-post buildings and *grubenhäuser*⁵⁹⁶⁰. The settlement consisted of a number of individual farmhouses and ancillary buildings and is thought to have gone out of use anywhere between the late 9th and 13th centuries⁶¹. Fourteen *grubenhäuser* were also excavated close to the cemetery at Wychnor⁶². In general, however, early medieval rural settlements have been rarely identified even where prolonged occupation from the Roman period into the medieval period has been identified⁶³.
- 3.5.10 Although there are no features dating to the early medieval period recorded within the study area, documentary evidence and place-name evidence indicate activity within the landscape comprising small settlements and an open field agricultural system.

3.6 Medieval AD1066 – AD1540

- 3.6.1 Staffordshire was an underdeveloped county at the start of the medieval period. It has been calculated using the area of woodland recorded for each manor in Domesday Book that 32 per cent of the land area of Staffordshire was under woodland in 1086.
- 3.6.2 The medieval period divides naturally into two halves. From the 11th until the mid 14th century, the population of the country doubled or trebled and existing settlements expanded and new ones were formed; much woodland and waste was brought into agricultural production. From 1348 to about 1520, repeated outbreaks of plague reduced the population of England by a third or a half, which precipitated social and economic changes that caused the economically and socially weaker settlements to shrink and some to become deserted.
- 3.6.3 Medieval and post-medieval England are typically divided into two broad character areas by landscape historians: champion and woodland. Champion landscapes predominated across a strip of country running north-east from Somerset to County Durham, including the East Midlands. Woodland landscapes predominated in the east and west of the country, including the West Midlands. In champion landscapes, each

⁵⁶ Kennedy (1970), p9

⁵⁷ The name 'Whitmore' is derived from Old English for White, meaning an infertile area, and Moor, a barren upland

⁵⁸ Hooke, D. (2011), The post-Roman and the early medieval periods in the west midlands: a potential archaeological agenda. In Watts, S. (ed). *The Archaeology of the West Midlands: A framework for research*. Oxbow: Oxford, p149

⁵⁹ A 'sunken-feature building' (SFB) originating from Germany which is partially dug into the ground

⁶⁰ Hooke (2011), p154

⁶¹ Hooke (2011), p155

⁶² Hooke (2011), p155

⁶³ Hooke (2011), p154

parish usually contained a single settlement, typically a nucleated village, and all or the vast majority of the agricultural land in the parish was divided into two or three large open fields, farmed communally. Farmhouses were located in the village. There was typically little woodland and permanent pasture, and beasts, principally used for traction, grazed upon whichever of the two or three open fields was lying fallow that year. In woodland landscapes, on the other hand, there was frequently more than one settlement in any parish.

- 3.6.4 Open-field agriculture was practiced in woodland landscapes too, and there is evidence that a two- or three-field communal system was practiced throughout Staffordshire, but it may be the case that separate systems operated in parishes that contained multiple settlements, and it is likely that open-field agricultural systems operated beside enclosed fields that were farmed individually.
- 3.6.5 Woodland landscapes typically contained reserves of pasture and woodland that could be brought into agricultural use as the population expanded, and they contained a much higher incidence of moats than champion districts; moats are thought to have been dug by manorial lords and prosperous freeholders as status displays (though they also provided security from brigandage and functioned as fish ponds) principally from the 12th to the mid 14th century.
- 3.6.6 Following the Norman Conquest in 1066, four of William's followers (Henry de Ferrers, Robert de Stafford, William Fitz-Ansculf, Roger de Montgomery, first Earl of Shrewsbury) were granted land across Staffordshire as tenants in chief of the king. In turn, they sub-let their estates⁶⁴.
- 3.6.7 Madeley is recorded in Domesday survey of 1086 as belonging to Robert de Stafford. The estate at Madeley was held by Wulfgeat and supported six ploughs, and contained deer parks and a mill. The village was supported by three arable 'Townfields', which can be traced through field names on post-medieval enclosure maps⁶⁵. Five villeins, or tenants, who held land in return for labour services, and seven bordars, or smallholders who had brought land into cultivation on the edges of the village, are recorded. By 1272, the deer park known as Madeley Great Park (WHM021) had been established. It was not disparked until the late 18th or early 19th century although some of its boundary is still well defined by a substantial earthwork. A Market Charter was granted to Madeley in 1341 with the population at this time estimated to be between 100 and 120. The Church of All Saints, Madeley (WHM057) was originally constructed in the 12th century with extensive remodelling undertaken in the 14th, 15th and 19th centuries.
- 3.6.8 Old Madeley manor (WHM035) is recorded as having been granted a licence to crenellate⁶⁶ in 1348, suggesting a building was present on the site prior to this date. Structural evidence from the 14th century manor house survives in the form of a length of standing masonry and slight earthworks. The former moat is visible as a water-filled ditch to the north and west, while to the south and east the platform on which the manor is set was defined by natural topography. By 1422 - 1423 the site was referred to as 'Old Madeley Manor' suggesting it had fallen out of use and was in a state of

⁶⁴ Greenslade, M.W. and Stuart, D.G. (1984), *A History of Staffordshire*, 2nd edition. Phillimore and Co Ltd, Chichester, p28.

⁶⁵ Kennedy (1970), p14

⁶⁶ To build a wall with battlements

disrepair. It is unclear if the ornate timber framed house of the late 16th/17th century occupies same site as the former crenellated manor, though there are no earthworks indicating the presence of a house elsewhere on the site

- 3.6.9 Two further moated manorial sites are recorded with in the study area. The Lea Head moated site (WHMo82) has been largely untouched by modern development and is likely to contain significant archaeological remains relating to the buildings, which occupied the site until around 1671. At Moor Hall (WHMo58), cartographic evidence from 1765 shows the presence of a moated site located under the current buildings.
- 3.6.10 Elsewhere in the study area, the settlements noted within the Domesday Survey are small in size and in some cases, such as Onneley, contain no additional information as to the settlements makeup. The settlement at Swinchurch is the largest outside of Madeley and is described as having land for 25 ploughs with a population of 17 villages, 40 small holders and one slave while the adjacent land at Chapel Chorlton is described as 'waste'. Chapel Chorlton is, however, the location of the earliest known domestic structure in the study area, the 15th century cruck-frame Green Farmhouse (WHMo02) indicating the establishment, relocation or expansion, of settlement here sometime in the medieval period.
- 3.6.11 Its entry in the Domesday Book suggests that Whitmore was a small settlement in a landscape that appears to have been heavily wooded in the early medieval period, with enough arable to support three plough teams, as well as meadow. A chapel is first mentioned in 1175, when it belonged to Trentham Priory. The estate had passed into the hands of the Boterel family by the early 13th century and subsequently via marriage to the Mainwaring family in 1519 who have remained owners of the estate ever since. Whitmore Hall was rebuilt in brick in the later 17th century. It has an associated very well-preserved Elizabethan stable block (grouped together as WHMo20). Earthworks to the east of the old school at Whitmore represent the remains of the earlier medieval village (WHMo12) while to the south-east of Madeley at Wrinehill Wood, earthworks interpreted as a hollow way and boundary banks and ditches suggest the presence of a deserted medieval village (DMV; WHMo64).

3.7 Post-medieval AD1540 to AD1901

- 3.7.1 During the post-medieval period, the Staffordshire landscape became increasing enclosed. Some of the land cleared of trees and taken into cultivation between the 11th and 14th centuries is likely to have been enclosed from the beginning, but during the medieval period most of the agricultural land in any given parish was divided into two or three communally farmed open fields, each farmer holding strips of land scattered more or less evenly across the fields. The open fields of Staffordshire were primarily enclosed piecemeal, through consolidation of holdings achieved through exchange and purchase⁶⁷. Field systems derived from piecemeal enclosure predominate throughout the study area to the north of the River Trent. The chronology of the process of piecemeal enclosure is not known in detail, because the transactions to achieve it were not usually recorded. Nevertheless, as land holdings were consolidated and the open fields were enclosed, farms that were hitherto

⁶⁷ The process of piecemeal enclosure was carried out through a means of informal, verbal agreements between farmers who wished to consolidate their holdings into a block rather than being scattered across two or more fields

located primarily in villages and hamlets migrated outwards to sit amidst their now-consolidated holdings.

- 3.7.2 The date of the dispersed farmsteads may therefore cast light on the chronology of piecemeal enclosure within the study area. Isolated farmsteads such as Church Farmhouse (WHM001), the farmstead converted into the Cock Inn (WHM004), Lakehouse (WHM013), Snape Hall (WHM023), Lower Stoney Low Farmhouse (WHM024), Birches Farmhouse (WHM042), Manor Farmhouse (WHM047), Higher Thornhill Farmhouse (WHM051), Aston Cliff Farmhouse (WHM053) and the barn at Shutlanehead Farm (WHM080) are all of 17th century date, and suggest the process was well underway if not almost complete by the close of that century.. Elsewhere within the study area, acts of parliament were used principally to enclose areas of waste across which common rights extended.
- 3.7.3 Enclosure was effective in boosting the incomes of the landowners and, coupled with other factors, led to what has been termed the 'Agricultural Revolution', which saw an unprecedented increase in agricultural production across Britain and resulted in a dramatic change to the landscape.
- 3.7.4 The major defining element of the post-medieval period is undoubtedly the industrial revolution. Although the exact date, cause and origin of the industrial revolution are debatable, the rapid industrialisation of Britain from the mid 18th century to mid 19th century transformed the country⁶⁸. The effects of industrialisation can be seen across every English landscape from the factories and mills of the sprawling towns and cities, to the steam powered mills and extraction scars in the countryside⁶⁹. The Whitmore Heath to Madeley area contains no evidence of large scale industrialisation, although historic mapping indicates the presence of gravel pits in the vicinity of Whitmore Heath, Madeley Park and Hill Chorlton.
- 3.7.5 With this expansion in industry came innovations in transport and infrastructure, which was dominated in the first instance by the development of the canal system and later the rail network. The major infrastructure work required for construction of the canal and railway networks also had a significant and lasting effect on both the rural and urban landscapes⁷⁰.
- 3.7.6 The canal network does not run through the Whitmore Heath to Madeley area. The closest canal is the Trent and Mersey Canal, which runs through Stoke-on-Trent. The canal was championed by Josiah Wedgwood as it allowed the movement of raw materials and finished products from the extensive pottery production⁷¹
- 3.7.7 In 1837, the Grand Junction Railway was constructed through Staffordshire, providing a link between Birmingham and Merseyside. In 1846 a merger between the Grand Junction Railway and other companies created the London and North Western Railway, a name retained until the nationalisation of the railways in the 20th century.

⁶⁸ Clark, K. (1999), The workshop of the world: The industrial revolution. In Hunter, J. and Ralston, I. *The Archaeology of Britain: An introduction from the Upper Palaeolithic to the Industrial Revolution* London: Routledge, p280

⁶⁹ Belson, P. (2009), English Industrial Landscapes – Divergence, Convergence and Perceptions of Identity. In Horning, A., and Palmer, M., (eds). *Crossing Paths or Sharing Tracks: Future directions in the archaeological study of post-1550 Britain and Ireland*. Woodbridge: The Boydell Press, p180

⁷⁰ Whyte, I. (1999), The historical geography of Britain from AD1500. In Hunter, J. and Ralston, I. *The Archaeology of Britain: An introduction from the Upper Palaeolithic to the Industrial Revolution* London: Routledge, p275

⁷¹ Canal & River Trust (2017), *Trent and Mersey Canal*, <https://canalrivertrust.org.uk/enjoy-the-waterways/canal-and-river-network/trent-and-mersey-canal>

Whitmore originally served as the rail-head for North Staffordshire, and was lined to Newcastle-Under-Lyme by a horse drawn carriage route while a reservoir adjacent to the line at Madeley was built to supply locomotive watering troughs (WHM074).

- 3.7.8 Over the course of the 19th century, a number of railway lines were constructed in the study area. These included the Stoke to Market Drayton Railway (WHM026), which crossed and connected with the London and North Western Railway Line at the Madeley Chord; and a mineral railway line (WHM076), which was built to link the coal working sites around Leycett to sidings at Madeley and the main London and North Western Railway line.

3.8 Modern AD1901 to present

- 3.8.1 The landscape of the end of the post-medieval period has remained relatively unchanged during the modern period with only two assets within the study area recorded, a milepost on the A53 Newcastle Road (WHM039) and the Madeley War Memorial (WHM037). The war memorial serves as a visible reminder of the most significant events of the modern period, the First and Second World Wars. Aside from the memorial there are no other physical assets relating to the two wars, although the effects of the post-war periods, particularly the period following the Second World War, are visible within the landscape of the study area.
- 3.8.2 The second half of the 20th century saw technological advances in farming practices with the widespread introduction of tractors and combine harvesters along with advancements in the production of chemical fertilizers⁷². This industrialised farming necessitated the removal of field boundaries, which led to the creation of large, prairie type fields.
- 3.8.3 In addition to the changes to the agricultural landscape the modern period saw the expansion of towns and villages across the region in order to cope with the increasing population. Historic Ordnance Survey mapping shows between 1954 and 1960 the settlement at Madeley expanded significantly to the east of the railway line and to the north while residential development at Baldwin's Gate took place around the railway line and the A53 Newcastle Road. Residential development at Whitmore Heath began in the 1960s with the current layout visible on Ordnance Survey mapping from the 1980s.

⁷² Williamson, T. (2002), *Living Landscapes: Hedges and Walls*. London: The National Trust Enterprises, p62-63

4 Built heritage

4.1 Introduction

- 4.1.1 This section provides baseline information relating to all built heritage assets within the land required for the Proposed Scheme; all designated and key non-designated built heritage assets within 500m of the land required for the Proposed Scheme; and any built heritage assets that lie between 500m and 2km from the land required for the Proposed Scheme and within the ZTV of the Proposed Scheme, where the Proposed Scheme will have adverse effects of moderate or major significance.
- 4.1.2 Further information on all these assets, plus any designated assets that lie between 500m and 2km of the land required for the Proposed Scheme and within the ZTV, but are not described below, can be found in Volume 5: Appendix CH-002-004.
- 4.1.3 All assets are depicted in Cultural Heritage Map Series CH-01-214 – CH-01-215a-R1, CH-02-208 and CH-02-209 (Volume 5: Cultural Heritage Map Book).

4.2 Built heritage assets within the land required for the Proposed Scheme

The Mile Post at National Grid Reference SJ 7687 4413 Bar Hill Road

- 4.2.1 The 19th century Grade II listed milepost at National Grid Reference (NGR) SJ 7687 4413 on the A525 Bar Hill Road (WHM049) lies within the land potentially required for the construction of the Proposed Scheme and adjacent to the proposed A525 Bar Hill overbridge.
- The contribution setting makes to the significance of the asset*
- 4.2.2 The position of the milepost on the A525 Bar Hill Road is an integral part of the significance of the asset. This would be lost if removed from its setting on the road.

4.3 Key built heritage assets within 500m of the land required for the Proposed Scheme

Whitmore Conservation Area

- 4.3.1 The Whitmore Conservation Area includes the Church of St Mary and All Saints (Grade II* listed), the Grade II listed memorials at Whitmore Hall Lodge (including its gate piers); Grade II listed, and 'Estate Cottages', comprising Grade II listed buildings (Asset WHM019).
- 4.3.2 The Whitmore Conservation Area is an exceptionally well-preserved medieval historic town. The 12th century Grade II* listed Church of St Mary and All Saints, along with four Grade II listed 18th and 19th century memorials in the churchyard sits within the centre of the town. The character of the conservation area's surroundings is rural with open fields on either side.
- 4.3.3 The A53 Newcastle Road is a busy road, which runs through the town.

- 4.3.4 Also within centre of the conservation area is the Grade II listed 19th century Whitmore Hall Lodge, 17th - 18th century gate piers to Whitmore Hall and two sets of Grade II listed estate cottages.

The contribution setting makes to the significance of the asset

- 4.3.5 The rural setting of the Whitmore Conservation Area and the built heritage assets within it are a key part of the character of the area, being mentioned in the listing entry itself. The church sits on a prominent hill surrounded by mature trees. The traffic from the A53 Newcastle Road is constant and audible. A footpath connects this feature with Whitmore Hall to the north-east. Views are restricted by the number of mature trees lining the roads and paths creating a sense of enclosure. This enhances the significance of the conservation area.

Whitmore Hall, Grade I listed, with associated old stable block, Grade II* listed, and bridge, Grade II listed (WHMo20)

- 4.3.6 Whitmore Hall is a timber framed 16th century country house, which was remodelled in 1676 and has later alterations and additions. Also associated with it are its Grade II* listed 16th/17th century old stable block and a mid 18th century Grade II listed bridge.

The contribution setting makes to the significance of the asset

- 4.3.7 The old stable block is located on a rural tree lined road, removed to the north of the main settlement of Whitmore, with the Hall being notably set back on its landscaped grounds and largely shielded from the nearby road by the trees that line it.
- 4.3.8 The historical and spatial relationship between the buildings enhances their setting and their significance.

Madeley Conservation Area, including Church of All Saints, Grade I listed

- 4.3.9 At the heart of the Madeley Conservation Area (WHMo56) is the Grade I listed 12th century Church of All Saints, with a further eleven Grade II listed 18th and 19th century memorials and tombs within the churchyard. Additional listed buildings within the conservation area are the Sir John Offley Primary School, the School House and a K6 telephone box, which are all Grade II listed.

The contribution setting makes to the significance of the asset

- 4.3.10 Aspects of the setting, such as the views of the historic buildings, the large pond, the trees and historic hedgerows, characterise the conservation area and are therefore integral to the significance of the asset. The church is set back from the road and has views to the north across to the Sir John Offley Primary School and the west to an open car park. The existing WCML is not visible. The A525 Bar Hill Road is an active busy road, which is audible from the church. The rural setting of the conservation area and its relationship to surrounding fields contributes to its setting.

Chorlton Mill, Grade II listed

- 4.3.11 Built in 1848 from sandstone blocks, the former mill is presumed to exist on the site of an earlier mill, as the wheelhouse and mill house from an earlier building have been incorporated into it. The mill complex also includes a mill pond and race (WHM006).

The contribution setting makes to the significance of the asset

- 4.3.12 The rural setting of the mill and associated landscape features such as the mill pond and race contribute to the significance of the building. The reuse of an earlier mill site is also significant in providing a spatial and functional history with the setting. The area is a quiet attractive farm location with hedgerows lining roads and paths and some mature trees. Views are open in all directions although the existing WCML is obscured in cutting.

Former Cock Inn, Grade II listed

- 4.3.13 This building (WHM003) was constructed as a house in the late 17th century, with extension and remodelling work occurring in the early to mid 18th century. In the late 19th century, it was remodelled and converted to an inn (see Photomontage LV.01.663 in Volume 5: Appendix LV-001-004 Landscape and visual assessment and photomontages).

The contribution setting makes to the significance of the asset

- 4.3.14 The original setting of the building within farmland has mostly been lost with development to the east and south, although an associated farmstead still remains nearby (WHM004). The change of use to an inn in the late 19th century is also tied to its setting and association with what is now the A51 London Road.

Station House, Baldwin's Gate, Grade II listed (WHM016)

- 4.3.15 The Station House was constructed in the early 19th century. Whilst it would have been designed by a local builder, the influence of Sir John Soane may be present as he is known to have worked in the area. It is associated with the construction of the Grand Junction Railway and its setting relates to that feature.

The contribution setting makes to the significance of the asset

- 4.3.16 The house is located immediately next to the railway line as it passes through Baldwin's Gate and this association is integral to the asset's significance.

Milepost at National Grid Reference SJ 7980 4045, Baldwin's Gate, Grade II listed (WHM015)

- 4.3.17 This mid to late 19th century cast iron milepost marks the distances to Whitmore, Ashley, Market Drayton, Whitmore and Newcastle.

The contribution setting makes to the significance of the asset

- 4.3.18 Designed to provide a reference point for travellers, the highly visible milepost is located on the A53 Newcastle Road at the northern end of the town of Baldwin's Gate. This location is essential to its significance, given its relationship to the wider landscape and the towns it references.

Milepost at National Grid Reference SJ 8132 4112, Whitmore (A53 Newcastle Road), Grade II (WHM008)

- 4.3.19 A probably mid to late 19th century milepost at Whitmore.

The contribution setting makes to the significance of the asset

- 4.3.20 The position of the milepost on the A53 Newcastle Road is an integral part of the significance of the asset.

Lake House, Whitmore, Grade II listed (WHMo13)

- 4.3.21 A 17th century timber framed building, which has undergone considerable later additions and alterations. It was originally constructed as a working farmhouse, now a private residence.

The contribution setting makes to the significance of the asset

- 4.3.22 The Lake House's history as a farmhouse is linked to the rural setting, which has been retained to the present day. Whilst it has now been converted to use as a domestic dwelling, the relationship of the asset to its rural, agricultural landscape contributes to its significance. The setting of the Lake House is to the west, with views across rural fields and the lakes to the north. It is this relationship, particularly to the lakes, that contributes to its significance.

Snape Hall Farmhouse, Grade II listed (WHMo23)

- 4.3.23 A mid 17th century farmhouse, which has undergone later additions and alterations. The listed building forms part of a group of non-listed buildings (see Photomontage LV.01.6o8 in Volume 5: Appendix LV-01-004).

The contribution setting makes to the significance of the asset

- 4.3.24 The setting of the farmhouse has retained its open agricultural use and has not been notably altered over time, thus it adds to the significance and enhances the asset. It is set back from the road, facing towards the main group of buildings and towards the open rural fields surrounding it on two sides. Its relationship to the farm buildings and rural fields contributes to its setting.

Scheduled Monument of Old Madeley Manor and Grade II listed building (WHMo35)

- 4.3.25 The remains of Old Madeley Manor date from the late 16th or early 17th century. However, occupation of the site dates back to at least the early 14th century. The site also includes evidence associated with the remains of the associated moat and fish ponds.

The contribution setting makes to the significance of the asset

- 4.3.26 The setting of what remains of Old Madeley Manor is linked to the significance of the site and includes its topography. It is situated on the side of the higher ridgeline above the valley. This would have influenced the historical choice of location, creating views towards the rural setting of the building. The setting is also tied to links to other local historic features such as Madeley's water mill and historic water features. The manor itself is set back from the road, surrounded by tree lines to the west and south.

Manor Farmhouse, Madeley, Grade II (WHMo47)

- 4.3.27 A red brick farmhouse dated to 1770, with additions made in the 19th century.

The contribution setting makes to the significance of the asset

- 4.3.28 The rural setting of Manor Farmhouse remains relatively unchanged and serves to enhance the asset by retaining its relationship to the landscape and land use of the area.

Hey House, Madeley, Grade II (WHMo34)

- 4.3.29 Dating from the early 18th century, this house was extended in the early 19th century and has undergone later additions and alterations.

The contribution setting makes to the significance of the asset

- 4.3.30 The significance of the building lies mainly in its character as a 17th century building. There have been a number of notable changes to the setting of Hey House, such as the construction of the railway to the immediate east and the presence of features associated with its current use as a boarding kennel and cattery. However, these have not affected the significance of the asset, which lies in its historical and architectural value.

Netherset Hey, Madeley, Grade II (WHMo33)

- 4.3.31 An early 19th century three storey farmhouse, which is constructed in an 'L' plan in red bricks, with a plain tiled roof and integral end stacks.

The contribution setting makes to the significance of the asset

- 4.3.32 The significance of Netherset Hey is derived from its historic fabric (as a well preserved example of a 19th century farmhouse) and its functional relationship to its rural, agricultural setting. It is surrounded to the north, east and west by non-designated farm buildings and open fields to the south. Views are to the north.

Offley Well Head, Madeley, Grade II (WHMo48)

- 4.3.33 In 1850, Annabel Hunderford erected this Jacobean style fountain as a memorial to her aunt, with inspiration possibly drawn from late antique funerary monuments in the Middle East. The fountain is within a tile-floored basin featuring red brick walls and stone capping, with moulded triangular projections from these. This then stands upon a platform, which is accessed by way of short flights of steps. Slate benches are on either side of the steps and wrought iron gates are at their base.
- 4.3.34 The fountain remains within allotments, which were created at the same time and given to the poor of the parish.

The contribution setting makes to the significance of the asset

- 4.3.35 The asset's significance lies in its historic function as a well head, its fabric and architecture, and its relationship with the surrounding allotments.

Town House, Madeley, Grade II (WHMo44)

- 4.3.36 Built as a farmhouse in the late 16th century, it was remodelled in late 18th century and later underwent further considerable alterations and additions. It is now in use as a residential dwelling.

The contribution setting makes to the significance of the asset

- 4.3.37 The townhouse backs onto the existing WCML with views to the east. Its significance lies in its historic association with the growth of Madeley and its architecture.

Offley Almshouses and front boundary wall, Grade II (WHMo45)

- 4.3.38 Terms in the 1645 will of Sir John Offley of Madeley saw the construction of this row of almshouses, with ten being present originally. In 1889, they were extended and improved, at which point number 1 was added. Further restoration work was undertaken in 1968.

The contribution setting makes to the significance of the asset

- 4.3.39 The almshouses are significant for their historic function and their architecture. They back onto the existing WCML with views to the east.

Bridge Cottage 'Ye Olde House', Madeley, Grade II (WHMo46)

- 4.3.40 Bridge Cottage, 'Ye Olde House' dates from the 16th century, though it was extensively remodelled in approximately 1700 with further later additions and alterations. The property has been divided into two. It is a lower rendered two storey with an 18th century rear wing, with modern accretions.

The contribution setting makes to the significance of the asset

- 4.3.41 The significance of the asset lies predominantly in its fabric, its architecture and its historical association as one of the earlier buildings of note in Madeley. The setting of the building is much changed from its original setting with the WCML running to the west and the A525 Bar Hill Road running to the south.

Birches Farmhouse, Madeley, Grade II (WHMo42)

- 4.3.42 This farmhouse partly dates to the 17th century, for there have been a considerable number of early to mid 19th century additions and alterations.

The contribution setting makes to the significance of the asset

- 4.3.43 The location of the asset is rural in character with views of open fields to the south and west. The significance of the asset lies in its historic associations and its relationship with surrounding rural fields.

The Old Hall, Grade II*(WHMo57)

- 4.3.44 The Old Hall is a 16th century house, which was constructed to be cruciform in shape. This is theorised to have had allegorical significance for it is believed to have recusant connections. In the 19th and 20th centuries a considerable number of additions and alterations were made to the property.

The contribution setting makes to the significance of the asset

- 4.3.45 The Old Hall is situated on the eastern side of the historic town of Madeley facing the A525 Bar Hill Road where the main entrance to the property lies. Its significance is associated with its history, its fabric and its function (communal value) as a town hall. The Old Hall is situated back from the A525 Bar Hill Road.

The White House, Grade II (WHM057)

- 4.3.46 The White House most likely dates to approximately 1700, but it was extended in the early 19th century, with further later additions and alterations.

The contribution setting makes to the significance of the asset

- 4.3.47 The asset fronts the A525 Bar Hill Road with access direct from this road. Its significance lies in its historic associations and its architecture.

4.4 Key built heritage assets within 2km of the land required for the Proposed Scheme, where this also falls within the ZTV

- 4.4.1 The criterion for inclusion within this section is that the Proposed Scheme is assessed in Volume 5: Appendix CH-003-004 Cultural heritage impact assessment table as having a major or moderate adverse effect upon a designated asset that lies within 500m and 2km of the land required for the Proposed Scheme and also lies within the ZTV of the Proposed Scheme. Descriptions of all designated assets within this area can be found in Volume 5: Appendix CH-002-004.
- 4.4.2 There are no designated heritage assets within the area defined above upon which the Proposed Scheme will have adverse effects of moderate or major significance.

5 Historic landscape

5.1 Introduction

5.1.1 A process of historic landscape assessment has been carried out, identifying Historic Landscape Character Areas (HLCA) along the route of the Proposed Scheme. HLCA are based on historic landscape characterisation undertaken by Staffordshire County Council and Cheshire County Council and through consultation with these authorities and Historic England. HLCA have been defined where the historic landscape has a broadly distinct area of homogeneity. Descriptions of individual HLCA are presented in Volume 5: Appendix CH-005-000 Historic landscape character report.

5.1.2 HLCA identified within the Whitmore Heath to Madeley area comprise:

- HLCA14: Onnerley, Maer and Baldwin's Gate;
- HLCA15: Whitmore, Valley and Woods; and
- HLCA16: Madeley.

6 Archaeological risk mapping

6.1 Introduction

6.1.1 The archaeological character of the route has been broken down into a series of Archaeological Character Areas (ACA) and Archaeological Sub-Zones (ASZ). These are described below and depicted in Cultural Heritage Map Series CH-03-213b – CH-03-215a-R1.

6.2 Archaeological character areas

ACA6: Whitmore and Madeley

6.2.1 This ACA is centred on the valley of the Madeley Basin and Whitmore Trough, which runs northwards from Baldwin's Gate to Madeley before opening out north-westwards onto the Cheshire Plain. The WCML already runs along this corridor, which is 6km long and 1km wide. The Meece Brook runs southward from Whitmore, while the River Lea runs north from Old Madeley Manor, through Madeley itself.

6.2.2 The geoarchaeological study (see Volume 5: Appendix CH-006-000) identifies this valley as a palaeolake, a periglacial feature of a kind that was typically created at the end of the last ice age at the margins of the retreating Devensian ice sheet⁷³. While the Madeley Basin contains largely glacial sands, Whitmore Trough contains glacial sands and clays overlain by peat.

6.2.3 While the area remains substantially unexplored archaeologically, the presence of these post-glacial features indicates the presence of a fertile valley with good water resources in the early Holocene period. This would certainly have been attractive to both animals and humans. In later periods, the valley, which is well-watered, sheltered and has fertile soils, would have been very attractive for prehistoric and later settlement. This is reflected by the presence of numerous traces of Iron Age and Bronze Age settlement in the wider area, particularly in the Maer Hills and Bar Hill to the west. There are suggestions that a Roman road may run through the area and a 2016 geophysical survey identified a possible Roman building in the valley to the west of Madeley.

6.2.4 The area continued to attract settlement in the medieval period, with the establishment of Madeley and the development of water mills in the Lea Valley. In the post-medieval period the presence of coal deposits to the east of the valley led to the development of coal mining to the east of the Madeley valley.

6.3 Archaeological sub-zones

ASZ54: Meece Brook

6.3.1 The risk zone is located on Holocene and probably Pleistocene deposits of alluvium, peat and gravel. The area comprises flat pasture in the Meece Brook valley south of Whitmore and farmland near the outskirts of Whitmore and Baldwin's Gate. An earlier mill on the same site was likely to have pre-dated the 19th century Chorlton Mill. The

⁷³ Myers, J. (1945), *Staffordshire, The Land of Britain, Land Utilisation Survey*

Grade II Chorlton Mill stands in the ASZ and there is potential for archaeological evidence associated with this, as well as potential for evidence of agricultural practices.

ASZ55: Chorlton bank

- 6.3.2 The risk zone is located on mudstone comprising high ground overlooking Meece Brook from the west. The area is characterised by open farmland, between Chorlton and Whitmore. There are no known heritage assets but the potential exists for evidence of agricultural practices and land use.

ASZ56: Whitmore south

- 6.3.3 The risk zone is located on mudstone deposits comprising sloping fields between the tributaries of Meece Brook to the south of Whitmore. The area is characterised by open agricultural land. There are no known heritage assets, but the area has the potential to reveal evidence of agricultural practices.

ASZ57: Whitmore fields

- 6.3.4 The risk zone is located on sandstone comprising fields west of Whitmore Village. The area is characterised by agricultural land, with ridge and furrow field systems. The area has the potential to reveal evidence of medieval field systems and other agricultural land use.

ASZ58: Whitmore Heath

- 6.3.5 The risk zone is located on sand and gravels comprising the former Whitmore Common. The area is characterised by steep slopes running down to a valley in the south-west. Whitmore Common is characterised by gravel pits dating to the post-medieval period. A possible barrow has been identified near the eastern boundary.

ASZ59: Madeley palaeolake

- 6.3.6 The risk zone is located on till and organic sediments including peat deposits, which run approximately 3km from Hey Sprink to Baldwin's Gate filling a palaeolake. The area is characterised by the lake and the historic footprint of Madeley Great Park, the 17th century Snape Hall Farmhouse and associated fields. Geoarchaeological remains are likely to be associated with the palaeolake. The area has the potential to reveal evidence of prehistoric and medieval field systems and land use.

ASZ60: Whitmore woodland

- 6.3.7 The risk zone is located in siltstone and sandstone comprising farmland and woodland overlooking the Madeley palaeolake to the west. The area is characterised by the 17th century Lake House Farmhouse, the 19th century Dab Green Farm and associated farm land and incorporates a part of Madeley Great Park. Areas of ridge and furrow have been identified. Potential exists for evidence of prehistoric and medieval field systems and land use.

ASZ61: Lea Valley south

- 6.3.8 The risk zone is located on till, fluvioglacial sands and gravels, and alluvium associated with the course of the River Lea valley floor to west of Madeley. The area is

characterised by a Manor at its southern edge, earthworks (likely representing landscape management) and agricultural activity. The till and fluvioglacial sands and gravels are most likely Devensian in date and, although of little direct relevance, may seal geoarchaeologically significant organic deposits of late Devensian interstadial or earlier date. The alluvium is relatively restricted in extent, only occurring along the northern fringe of the zone, although there is still a possibility it may preserve waterlogged archaeological remains or preserve organic deposits of geoarchaeological significance.

ASZ62: Madeley slopes

- 6.3.9 The risk zone is located on slopes overlooking Lea Valley south of Madeley. The area comprises farms and associated agricultural land to the west and south-west of Madeley. Geophysical survey has identified potential significant archaeological features, of possible Roman date, as well as evidence of a deserted medieval village and medieval woodland management.

ASZ63: Lea Valley north

- 6.3.10 The risk zone is located on Pleistocene river terrace deposits and Holocene alluvium comprising the Lea Valley west of Madeley. Wrinehill Hall and the associated gardens are notable landscape features within the area. The area has potential to reveal further archaeological evidence associated with the landscaped gardens and industry associated with Wrinehill Hall.

ASZ71: Onneley, A525 Bar Hill Road corridor

- 6.3.11 The risk zone is situated upon deposits of sand and gravel, predominately to the west, and till deposits, predominately to the east, with areas of peat also in the western end of the zone. The area comprises a corridor that follows the line of the A525 Bar Hill Road / Newcastle Road, to the east of Madeley. The landscape is characterised by dispersed farm and associated agricultural land, and also includes the small settlement of Onneley. Known heritage assets are the 17th century Grade II listed Yew Tree Cottage and the incised country lane of Bar Hill Lane, which forms part of the A525 Bar Hill Road, and there is the potential for evidence associated with agricultural practices and land usage. The peat deposits are also considered to be of high significance, with a potential for associated with human activity and good preservation of environmental evidence.

ASZ72: Woore

- 6.3.12 This risk zone is located upon underlying deposits of sand and gravel, with till deposits in the southern area. The zone is focused around the Woore, and as such the landscape is predominately the associated settlement activity. Also of note is the cemetery associated with the Grade II Church of Saint Leonard in the central area; landscaping around the Grade II Woore Manor in the east of the zone; and agricultural land also covered by the west of the zone. Two further Grade II listed structures also feature in the risk zone, and there is the potential for evidence associated with earlier settlement activity and agricultural practices and land use.

7 Analysis and research potential

7.1 Introduction

- 7.1.1 A good general understanding of the character and significance of the archaeology within the study area can be reached using desk based sources and taking into account additional factors such as topography, geology, historic character and distribution of known archaeological finds, sites and assets.

7.2 Research potential and priorities

- 7.2.1 An Archaeological Research Framework for the West Midlands⁷⁴ provides an introduction to key research themes in the region by period. Reflecting the potential of the land required for the Proposed Scheme in this area and drawing on the general themes identified in the published research framework, the following questions could provide a focus for further investigation carried out in this study area in terms of period based and multi-period based research.

General

- 7.2.2 To what extent can palaeoenvironmental information and deposits be contained within the buried palaeochannel and predicted Madeley palaeolake, contribute to our understanding of past landscapes and the utilisation of these?
- 7.2.3 Evidence suggests that phases of woodland clearance have occurred across the study area. What can archaeological evidence tell us about this in terms of when it occurred and how it related to changes in population, agricultural expansion and settlement activity over time?

Early and later prehistory

- 7.2.4 Within the study area there is limited data relating to the prehistoric period other than at Berth Hill and scattered tumuli. To what extent is this a true reflection of the nature of utilisation of the landscape during this period?
- 7.2.5 Prehistoric evidence is often associated with waterways and their associated landscape and in the study area in the vicinity of the River Lea, an early Neolithic to middle Bronze Age stone axe has been found. Is there any more substantial evidence for prehistoric activity in such environments in the study area?

Romano-British

- 7.2.6 There is a scarcity of evidence for Roman British activity within this area, though this could be partly explained by a lack of archaeological investigations in the area. Undertaking investigations across a large stretch of the landscape would provide the chance to begin to test this theory. If no remains are encountered the negative evidence can prove useful in showing a low level of Roman potential. Or conversely, what could any encountered Roman remains show about activity during this period?

⁷⁴ Watt, S., ed. (2011), *The Archaeology of the West Midlands: a framework for research*. Oxford: Oxbow Books

- 7.2.7 Geophysical surveys have suggested strong evidence for potential Roman evidence near Beechfields. How does the archaeological evidence relate to what was anticipated by the survey results?

Early medieval

- 7.2.8 Evidence for early medieval activity within this study area is slight. Is this lack of evidence a true reflection of the nature of occupation at this date?

- 7.2.9 It is believed that the early field systems and patterns in the study area originated in the late medieval period. Does any evidence from this period survive? If so, how does it relate to settlements and what can it reveal about the rural economy during this period?

Medieval

- 7.2.10 Can the arrangement of manorial estates and lesser estates contribute to our understanding of the arrangement of this landscape?

- 7.2.11 The potential for a deserted medieval village has been identified near Madeley via evidence of a hollow way and earthen banks. How does this correspond to the archaeological evidence? What information can be gleaned about the date of establishment and abandonment? How does this relate to changes in the population, land use and changes to the landscape? Can this provide and insight into future identification of deserted settlement sites?

Post-medieval and 20th century/modern

- 7.2.12 Signs of earthworks associated with agricultural practices and land use exist across the Whitmore Heath to Madeley area. Comparing the results of visual recording and geophysical surveys with archaeological investigations, how effective are the former methods for gaining an accurate understanding of the landscape and its development? Do they risk over or under estimating the potential evidence?
- 7.2.13 To what extent did the arrival of the Grand Junction Railway influence or change the arrangement of the landscape?
- 7.2.14 To what extent did the expansion of the mineral extractive industry influence or change the arrangement of the landscape?

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8.2 Cartographic resources

Chapel and Hill Chorlton Township Estate Map, 1838.

Madeley Estate Map, 1800.

Madeley Tithe Map, 1840.

Ordnance Survey County Series 1:2,500 map of 1876-1891.

Ordnance Survey County Series 1:2,500 map of 1899-1900.

Saxton, 1577.

Speed, 1610.

Yates, 1798.

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