

## **Chapter 5 Cultural heritage**

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### **Introduction**

- 5.1 This chapter deals with cultural heritage issues arising from the proposed development on land south west of Bicester. Cultural heritage issues were identified during the scoping process as being of primary importance. The area of land proposed for development has not experienced recent infrastructural development but certain areas in the north-eastern section have been the subjects of archaeological evaluation. All categories of cultural heritage such as historic landscape character and features, extant historic buildings and archaeological sites and monuments are assessed in this chapter.
- 5.2 The specific objectives of this study were to:
- establish the cultural heritage baseline within and adjacent to the proposed development site
  - consider the scheme area in terms of its archaeological and historic environment potential
  - assess the potential impacts of the construction and post-construction phases on the heritage/archaeological resources identified
  - define measures, where appropriate, to mitigate any predicted significant negative impacts.

### **Legislation**

- 5.3 The importance and intrinsic value of cultural heritage is recognised in legislation at national level. Certain features are protected by the Ancient Monuments and Archaeological Areas Act 1979 and the Town and Country Planning (Listed Buildings and Conservation Areas) Act 1990. Further advice on how cultural heritage should be treated is given in Planning and Policy Notes (PPGs) 15 and 16. PPG 15 deals with the historic environment, especially listed buildings and conservation areas, whilst PPG 16 deals with archaeology. PPG 16 aims to ensure that the archaeological sensitivity of a site is fully taken into account in relation to development proposals. It also suggests that early consultation should take place to identify the archaeological sensitivity of sites. The underlying principle is that archaeological remains represent a non-renewable resource and that their conservation (preservation *in-situ*) should be a primary goal.
- 5.4 The Oxfordshire Structure Plan 2016 (adopted October 2005) refers to the important role of the county's historic environment. The historic buildings, landscapes, conservation areas and archaeological monuments are all an irreplaceable part of the county's heritage. Policies EN8 – EN10 state the importance of protecting this valuable resource when considering any development proposals.
- 5.5 The relevant policies of the Non-Statutory Cherwell District Local Plan, C18 – C26, refer to the rich cultural heritage resource of the district. The most relevant policies in relation to the site at Bicester deal with archaeological areas in the district. Policy C26 states; '*Before determining an application for development that may affect a known or potential site of archaeological interest or its setting, applicants will be required to provide detailed information, and may be asked to provide an archaeological field evaluation*'.

- 5.6 The Cherwell Local Plan 2011 (Deposit Draft 2001) refers in greater detail to how the district's rich and diverse inheritance of cultural heritage features should be properly dealt with in relation to development proposals. The relevant policies, EN39 – EN49, deal with the heritage assets of the area including conservations areas, listed buildings and the archaeological heritage.

### Methodology

- 5.7 The data sources consulted are outlined below in figure 5.1.

Birmingham University Field Archaeology Unit 1997 'Whitelands Farm, Bicester' Geophysical Survey report.
Booth, P.M. <i>et al.</i> 2001 Excavations in the Extramural settlement of Roman Alchester, Oxfordshire, 1991 Oxford Archaeology Monograph No. 1
Cox, C. 2005 Land South west of Bicester, Oxfordshire: Interpretation of Aerial Photographs for archaeology Air Photo Services Ltd.
Darvill, T. 1996 Prehistoric Britain from the air Cambridge.
Davis, M.J. <i>et al.</i> 2004 Mitigation of Construction impact on archaeological remains English Heritage
DOE 1994 Planning Policy Guidance Note 15: Planning and the Historic Environment
DOE 1990 Planning Policy Guidance Note 16: Archaeology and Planning
Oxfordshire County Sites and Monuments Record
Halkon, P. & Millett, M. 1999 Rural settlement and industry: Studies in the Iron Age and Roman Archaeology of Lowland East Yorkshire Yorkshire Archaeological Report No.4
IFA 1999 (revised 2001) Standard and Guidance for Archaeological Desk Based Assessments.
Ordnance Survey maps, all editions (from one inch 1833 edition – modern day)
Oxford Archaeology 2002a Land adjoining Middleton Stoney Road and Oxford Road, Bicester, Oxfordshire Archaeological Evaluation Report.
Oxford Archaeology 2002b Proposed Community Hospital, Bicester Archaeological Evaluation Report.
Pugh, G. 2004 Whitelands Farm, Bicester, Oxfordshire: Archaeological Desk Based Assessment (unpublished).
Rivet, A.L.F. 1970 Town and Country in Roman Britain Hutchinson University Library.
Sauer, E. 2004 'Alchester: In search of Vespasian' in Current Archaeology 196, 168-176.
Stratascan 2006 Land Southwest of Bicester: Geophysical Survey
Steane, J. 1996 Oxfordshire Pimlico Press London
Taylor, C. 1987 Fields in the English Landscape Alan Sutton.
The Oxfordshire Structure Plan 2016 (adopted 2005)
The Cherwell District Council Local Plan (adopted 1996)
Victoria County History 1959 'Bicester' in Victoria County History of Oxford Vol. I Oxford University Press.
Williams, A. and Martin, G.H. (eds.) 1992 Domesday Book: A complete translation Penguin.
Wilson, D.R. 2000 Air Photo Interpretation for Archaeologists Tempus.
<a href="http://www.imagesofengland.org.uk">www.imagesofengland.org.uk</a>

Figure 5.1 Data sources and references

### *Context*

- 5.8 The Oxfordshire County Sites and Monuments Record (SMR) for the land south west of Bicester was consulted to ascertain the scale to which archaeological finds or features survive in a 1 mile radius of the site. A map showing the location of sites and/or findspots in the general vicinity of the proposal is reproduced as figure 5.3, while figures 5.2 and 5.6 describe the particular sites. Further details of these are given in the baseline section of this chapter.
- 5.9 A map regression exercise was carried out to produce an historic landscape assessment to inform the design of the master plan. This involved a review of the first edition Ordnance Survey county series map for the study area (figure 5.10) and a search of the listed buildings database maintained by English Heritage ([www.imagesofengland.org.uk](http://www.imagesofengland.org.uk)). This was undertaken independently of the SMR search. The conservation areas of Bicester town centre and Chesterton were also assessed, with key information fed into the design elements of the proposed development.
- 5.10 As there were a number of references in the SMR to possible remnants of prehistoric sites within, and in close proximity to, the proposals, an archaeological aerial photographic interpretation report was commissioned. AirPhoto Services undertook this study, and the results are integrated with the known archaeological information for this area. Noteworthy features are shown in figure 5.3 and the full report is presented as cultural heritage technical appendix 2.
- 5.11 It was agreed following consultation with Paul Smith, Oxfordshire County Archaeologist, that a scheme of non-intrusive investigation, in the form of a full geophysical survey of the proposed areas subject to infrastructural development should be undertaken as part of the assessment of impacts in these defined areas. This survey was completed in January 2006 by Stratascan. Their report is presented within cultural heritage technical appendix 2, with the features and anomalies revealed from the survey presented as figure 5.4. To avoid confusion with the numbered sites 1-18 on figure 5.3, the redrawn geophysical figure assigns letters for the identified features/anomalies (A-R). The technical appendix retains the numbering of the original report, while the assessment below refers to the most informative aspect of the assessment – the results of the intrusive site evaluation undertaken by Wessex Archaeology (technical appendix 2a).
- 5.12 The final stage of the site evaluation was a scheme of intrusive archaeological trenching to target the findings of the non-intrusive surveys, in order to adequately assess the impact of the development proposals across the site. The County Archaeologist produced a design brief for an archaeological evaluation scheme in June 2006. The scope and methodology was subsequently adopted by the successful archaeological contractor, Wessex Archaeology, to produce a written scheme of investigation (WSI). The WSI set out the intended location of trenches in relation to five areas (A-E on figure 5.11) that were highlighted by the County Archaeologist as areas of archaeological interest. (Area F was evaluated at the end of the scheme to investigate the impact of the proposed secondary school). A total of 134 trenches were excavated, 17 of which were assigned along the proposed road alignment. Regular site visits and monitoring by County Archaeologist allowed flexibility to reassign trenches from areas of no excavated archaeological interest (e.g. eastern end of Area C) to areas where the presence of noteworthy archaeological

features were uncovered (e.g. trenches 100-104 south-west of Area B). Further discussion and analysis of the findings is provided below.

### *Scope of the study*

- 5.13 This assessment comprised two distinct schemes of investigation; non-intrusive and intrusive. The non-intrusive aspects were; a desk-based assessment, an aerial photograph analysis and a geophysical survey in order to view the historical evolution of the land proposed for development, and to set the study area in the context of the wider surrounding landscape. The results of these initial surveys were fed into the design and intrusive evaluation of archaeological trenching to provide a description of the likely value, extent, state of preservation and potential significance of the all archaeological features in the study area that could potentially be affected by the proposal (see appendix 2 and 2a). All the studies and surveys undertaken for this assessment were produced with reference to the Institute of Field Archaeologists' (IFA) Code of Conduct and appropriate Standards (1999).

### *Limitations of study*

- 5.14 This chapter's conclusions are limited by the extent and quality of existing information and therefore its usefulness in predicting the actual archaeological resource must be qualified. Several schemes of investigation have been produced in support of this and previous planning applications (Oxford Archaeology 2002 a/b), which allow an appreciation of the archaeological potential in specific areas of the study area; zones of archaeology have therefore been proposed (see figure 5.11). Complete survival of archaeological deposits across all areas of the proposed development cannot be fully quantified. Additional schemes of specific, targeted intrusive excavation in association with watching briefs should greatly add to our understanding and knowledge of the true extent and survival across the site.

### *Assessment of significance*

- 5.15 It is crucial to assess each individual development in terms of the direct and indirect effects it may have on the cultural heritage of the area, whether it is visible above ground or buried beneath. Not all archaeological/cultural heritage features hold the same level of importance. It is important in advance of potential development to identify any features along with the significance (archaeologically or culturally) they may hold. This is done with the aid of national and local legislation, with reference to any specific policy statements and also with best professional practice.
- 5.16 The significance of potential effects has been determined using criteria developed from best practice techniques and expert knowledge. Significance has been derived from measures of the importance or sensitivity of the resource affected, and the magnitude or scale of the change. The cultural heritage sensitivity and magnitude criteria are shown on figures 5.7 and 5.8 respectively.
- 5.17 There are no known published 'standard' criteria for determining the significance of effects on cultural heritage interests. Reference has therefore been made to a wide range of criteria relating to the importance of the site or interest and the magnitude of the potential change to the feature or site. The generic definitions of potential effects can then be generated by feeding in the two resultant sets of criteria into the potential significance matrix (figure 5.9).

### *Immediate effects*

- 5.18 Available information on features or findspots that are known to be, or could potentially be, within the area directly affected by the proposed development was gathered. It is necessary to bear in mind the proposed foundations of the built environment (any upstanding structures or areas of hardstanding), as well as those areas proposed to be landscaped, drained etc when considering the cultural heritage aspects of the proposed site.

### *Ancillary effects*

- 5.19 These are concerned with the ongoing impact that the proposed development may have on the surrounding landscape, including scheduled ancient monuments (SAMs), conservation areas or listed buildings and their settings once built and occupied. Information on each is gathered from the SMR listings and published excavation reports, to set the proposed development within the broader cultural heritage landscape.

## **Baseline**

### *Geology*

- 5.20 The underlying solid geology of the study site consists of sandy clay and Jurassic Cornbrash Limestone. An examination of the ground investigation exercise undertaken by Pell Frischmann (2001) shows the strata covering the site consists of alluvial deposits (peat, sand and soft clay), gravel with limestone cobbles, stiff clay becoming mudstone. The evaluations in the north-eastern corner of the site (Oxford Archaeology 2002b) indicate that alluvial deposits are present in this area. **The recent evaluation scheme (Wessex Archaeology 2006) has shown areas to contain deep colluvium deposits (loose sedimentation build up at the bottom of a low grade slope, transported by gravity). This process is known to preserve archaeological features and deposits *in situ* as the dense quantities of clay effectively seal the surface between the moving portion of the soil and the stationary soil on which it slides.**
- 5.21 **A compact cornbrash limestone layer was encountered over much of the site at depths of between 0.7m – 1.7m below present ground level (bpgl). The north-western area consists of made ground infill associated with a historic quarry, with several trial pits uncovering material comprising ash, clinker, glass, metal and pottery to a depth of 2.5m bpgl. The exploratory pits in the north-eastern area revealed a layer of peat overlying soft clay with organic deposits to 0.6m bpgl with sand and limestone gravel below, and evidence of plant remains at 1.3m bpgl. These two areas (north-east and north-west corners) of the site therefore appear to comprise below ground strata that contain archaeological information in the form of refuse (fragments of glass, pottery and plant remains) from previous human settlement.**

### *Existing conditions*

- 5.22 Full listings of the relevant archaeological sites/findspots in the vicinity of the site are given below in figure 5.2 and shown on figure 5.3. These have been produced from information provided by Oxfordshire County Council SMR database and the identified features of the Aerial Photo Interpretation report (Cox 2005) (Cultural Heritage Technical Appendix 2).

SMR Ref.	TOR No.	Description
SMR 11214	TOR 1	Roman trackway and possible farmstead
SMR 16541	TOR 2	Iron Age/Romano-British farmstead
SMR 15846	TOR 3	Roman to Post-Medieval pottery, tiles and coins
SMR 5633	TOR 4	Possible Bronze Age round barrow remnants
Other	TOR 5	Evidence of trackways and enclosures visible on aerial photographs
Other	TOR 6	Iron Age and Romano-British settlement site uncovered during excavations in 1937
SMR 15867	TOR 7a/b	1 <sup>st</sup> /2 <sup>nd</sup> century Roman settlement evidence uncovered prior to construction of Bicester Retail Village
SMR 16213	TOR 8	Bronze Age/Iron Age burial and settlement site
SMR 16214	TOR 9	Neolithic and Anglo-Saxon settlements
SMR 16215	TOR 10	Iron Age gullies and pottery
SMR 1583	TOR 11	Alchester Roman Town and Fort <b>SAM OX18</b>
SMR 16137	TOR 12	Anglo-Saxon and medieval settlement
SMR 13598	TOR 13	Post Medieval windmill
SMR 1587	TOR 14	Iron Age and Romano-British settlement site
SMR 861	TOR 15	Bignell Deserted Medieval Village
SMR 13588	TOR 16	Bronze Age ring ditches
SMR 13589	TOR 17	Undated rectangular enclosure
SMREOX 50	TOR 18	Archaeological watching brief; no archaeology revealed.
N/A	TOR 19	Ridge and Furrow marks east of Whitelands Farm
N/A	TOR 20	A large hollow feature, possibly a pond or quarry west of Pingle Brook

Figure 5.2 List of archaeological sites in the vicinity of land at South West Bicester (see figure 5.3)

- 5.23 Eight sites or findspots are listed within the boundary of the proposed development. The north-eastern area has been the subject of archaeological evaluation and geophysical survey, as part of previous planning applications (Oxford Archaeology 2002a/b), while the entire eastern boundary of the site was evaluated during the A41 carriageway extension in 1991 (Booth *et al.* 2001). Their results and findings have greatly added to the rich archaeological record in this particular area.
- 5.24 The SAM of the Roman Town and Fort of Alchester (TOR 11) lies *c.*700m to the south-east of Whitelands Farm. As a consequence, it was expected to uncover associated finds, archaeological features and sites from the Roman period in the course of the archaeological evaluation. The archaeological material that has been uncovered and therefore added to our understanding of this area, now extends from the Early Bronze Age period through to post-medieval and modern agricultural use.
- 5.25 The results of this assessment are divided into the non-intrusive survey findings, which involved the review of the known information from the SMR database held with Oxfordshire County Council, the aerial photograph analysis (Cox 2005) and a geophysical survey (Stratascan 2006). **The results of these three initial surveys lead to the intrusive target trenching of possible archaeological features. This work was carried out between July – September 2006 by Wessex Archaeology.**

*Non-intrusive survey results*

Palaeolithic – Mesolithic

- 5.26 There are no records from either period in the Oxfordshire SMR present anywhere in the study area. The nearest site of note is c.1.5km north at Slade Farm. The lack of sites or findspots from either period shows the isolated nature of such finds, and the potential of uncovering new finds from this study area is considered to be low.

Neolithic - Romano-British period

- 5.27 The Oxford Archaeological Unit undertook major excavations in the northern, extramural settlement of the Roman town of Alchester (Booth *et al.* 2001). These investigations to the south-east of the study area produced Neolithic/Bronze Age flintwork, and beaker pottery (from the Early Bronze Age). There was also evidence for Middle Iron Age settlement and extensive activity throughout the Roman period, as well as a number of Anglo-Saxon burials.
- 5.28 Two circular features were identified in the aerial photograph survey (Cox 2005) and also the geophysical survey (Stratascan 2006 K on figure 5.4) in the north-eastern section of the site (TOR 4). *The archaeological evaluation (Wessex Archaeology 2006) confirmed these anomalies to be the remains of ploughed-out Early Bronze Age ring barrow monuments (see discussion below).* The known burial and settlement evidence dating to the Late Bronze Age/Early Iron Age (TOR 8) uncovered adjacent to the A41 during the scheme of road widening measures in the 1990s (TOR 8 and 10; Booth *et al.* 2001), served as guidelines to contemporary evidence being uncovered as a consequence of these proposals. Where the aerial photo analysis failed, the geophysical survey identified the location of another two circular features in the immediate vicinity (L and M on figure 5.4). *The evaluation has shown feature L to be a geological anomaly (trench 87 on figure 5.11), with feature M interpreted as one of several possible borrow pit features that may have been excavated for the construction of the nearby Roman road (see below).*
- 5.29 A distinctive concentration of cropmarks (TOR 16 and 17), were identified by the aerial photo survey to the west of Whitelands Farm, possibly indicating another settlement or farmstead with associated field systems. All three of the evaluation trenches in this location (trenches 129-131) uncovered physical archaeological evidence to corroborate the aerial photograph analysis. Associated finds allowed a Late Iron Age date to be suggested for the occupation of this former farmstead, similar to the excavated evidence to the north east (TOR 1-3).
- 5.30 Evidence datable to the Late Iron Age – Romano-British period is well represented in the area. Several archaeological investigations as a consequence of work to improve the A41, have greatly added to our knowledge of the extent and importance of Alchester Roman town. In the first to early second centuries AD the Roman settlement was characterised principally by ditches on alignments relating to the early Roman Akeman Street. Later, a system of ditched plots developed on each side of a minor lane parallel to and north of the line of Akeman Street. These contained later Roman structures of varying plan and construction type, the character of the settlement at this time being largely agricultural. There is one such settlement site situated in the vicinity of Wendlebury Farm (TOR 14) that indicates the former extent of settlement in this area as a consequence of Alchester Roman

town.

- 5.31 Further evidence of Romano-British settlement was revealed in 1993 to the east of the site (TOR 7a/b) prior to the construction of Bicester Retail Village. A 1st-2nd century site lay in the floodplain of the Pringle Stream. This may be an extension of a once larger, more expansive settlement or farmstead, which has been revealed within the site (TOR 3). The location of this site is under the present car park at the far eastern end of the retail village. Unfortunately, the majority of the retail village construction area to the west had been heavily truncated and compressed by previous landfill operations, probably in the 1960s/70s. This was deep enough to remove any trace of archaeological features, so we cannot be certain of the exact association or extent of settlement here.
- 5.32 Settlement continued to the end of the Roman period and probably beyond, and there may have been continuity of agricultural practices into the post-Roman period. A small late Roman cemetery with a post-Roman phase complemented the domestic structures and other features. The discovery of an inscribed headstone at the western gate area of Alchester during excavations in 2003, shed light on the presence of Vespasian's Second Augusta Legion at this base from the year of invasion in 43AD. Such evidence clearly shows that Alchester *oppida* (Roman fort/small town) was an important strategic centre for the Roman Empire's most important generals and legion (Sauer 2004).

Early to late Medieval period

- 5.33 The main settlement of Bicester is of Saxon origin, probably 6<sup>th</sup> century in date. The 'cester' refers to the Anglo Saxon name for Roman defences and is common to several placenames locally. The location of the original Saxon settlement is postulated to the north of the study areas (TOR 12), within the modern town. The land surrounding Whitelands Farm was controlled in the 7<sup>th</sup> century Bishop of Dorchester (VCH 1959, 16). It is likely that this area was utilised for agricultural purposes, with certain field parcels leased to the inhabitants of the neighbouring village of Bignell.
- 5.34 The Domesday survey (1086) refers to the town of Berencestra being split between two established manor estates. One of these lay to the west of Whitelands Farm at Bignell (TOR 15), which was later deserted although no reason is given. By the 13<sup>th</sup> century, there is reference to two further manor estates, Market End and King's End, with all the sites under review being part of the latter estate. In 1182, an Augustinian Priory containing the shrine to St. Edburg was founded by Gilbert de Bassett, lord of Bury End. It was dissolved in 1536 and most of the buildings were demolished (Pugh 2004).
- 5.35 There are no sites listed in the SMR for the study area dating to the late medieval period. It seems probable that the land surrounding Whitelands Farm was utilised as purely agricultural land divided into field parcels (see figure 5.10). The evidence lies in the distinctive ridge and furrow marks still present in the three field parcels to the immediate east of the farm buildings (TOR 19), and elsewhere on the site and immediate vicinity. The cartographic and documentary evidence shows that late medieval development of Bicester north and west of Market Square formed a town of roughly triangular shape. The area of the proposed development provided much needed agricultural produce to the town's inhabitants.



Post-medieval to present day

- 5.36 The available cartographic sources provide an overview of the character of use and pattern of settlement in the area. Christopher Saxton's late 16<sup>th</sup> century survey of this area shows Chesterton and Burcester (Bicester). Both have illustrated depictions of churches of equal size and scale, the Church of St. Mary at Chesterton (TOR 22) and Church of St. Edburg at Bicester (TOR 28). A map of 1753 of the two manors of Bicester shows the area pre-enclosure, with the main site named as King's End Arable. The boundary with the neighbouring manor of Chesterton is clearly shown and corresponds to the field boundaries surviving today. The site of a windmill (TOR 13) is clearly defined in the north-west corner just outside of this named area. (The windmill was destroyed in 1886.) The south-eastern and southern areas of the study area are shown as a small already enclosed parcel named King's End Inclosure and an area of rough open ground named King's End Mead. There are further small named areas of enclosed land to the west on either side of Oxford Road at Little Bignell Inclosure and Great Bignell Inclosure. No structures or areas of copse are shown. To the east of King's End Mead a building is shown at Langford Farm.
- 5.37 Davies' map of Oxfordshire (1793) shows the unenclosed fields of King's End named as Bicester Fields. The windmill is still shown, as is the King's End Inclosure in the south-eastern corner now split into three distinct parcels. These field fences are still discernible in the aerial photographs. The two small areas of enclosed land either side of the Oxford Road at Bignell also appear on this map. The whole of King's End open field was enclosed in 1794, but no map survives. The farm at Langford to the east of the still-unenclosed King's End Mead is also shown. The Ordnance Survey Old Series (1833) shows the newly constructed Whitelands Farm, as well as Foxey Leys Copse and Redmoor Copse, the latter located in the south-east corner.
- 5.38 The 1885 1<sup>st</sup> edition County Series (figure 5.10) shows the area in detail. The triangular form of the town of Bicester and the right angle at the south-western edge of the town formed by the roads (now the A41 and the A4095) along the site boundaries dominate. The site of the former priory is situated on the southern edge of the town. The new feature of the railway runs to the east of the town, roughly parallel to the Roman Way. The form of the village of Chesterton remains as detailed on the earlier maps, with the distinctive square corners of the small park surrounding Chesterton Lodge. The course of the Roman road, Akeman Street is marked running through the park. The buildings of Whitelands Farm are shown surrounded by enclosed fields, with those in the south-eastern and south-western corners matching the areas of early enclosure shown on the 1753 and 1793 maps. There are two long straight tracks shown crossing the fields of Whitelands Farm from Bicester to Bignell and to Chesterton. The site of the windmill appears as a mound within a small enclosure but there is no sign of a building. To the west is the small area of parkland surrounding Bignell House, built in 1864.
- 5.39 The most significant additions to the 1955 edition are the new road alignment of the north-south Roman Way (A41) to the south, and the appearance of Redmore Cottages in the south-eastern corner of the Whitelands Farm area. The house at Chesterton Lodge within the small square park is a replacement built in 1890.

*Intrusive survey results*

- 5.40 In accordance with a design specification produced by Paul Smith, Oxfordshire County Council Archaeologist, a total of 134 trenches in six defined areas were excavated to target anomalies identified in the previous non-intrusive surveys, the aerial photograph analysis (Cox 2005) and a geophysical analysis (Stratascan 2006). The archaeological evaluation report is produced in full as Technical Appendix 2a, and describes in detail any relevant changes to trench location, re-location or removal that was agreed during the site monitoring exercise (Wessex Archaeology 2006). The findings should be considered as a representative sample of still extant archaeological anomalies/features that will in some part need further excavation and recording before construction can commence.
- 5.41 No clearly discernible features or artefacts attributable to any period earlier than the Early Bronze Age were discovered during the recent evaluation scheme undertaken by Wessex Archaeology (2006). For ease of understanding, the findings from each of the six areas, with an explanation of the intention for targeting trenches in that particular locale, are provided below, with figure 5.11 clearly illustrating their location and phase.

**Area A:** a total of 66 trenches were excavated to investigate the western extent of the previously discovered Romano-British farmstead (Oxford Archaeology 2002a/b; TOR 1 and 2 on figure 5.3); numerous pit-like anomalies; the presence of archaeology below cropmark features and the true nature and origin of the area surrounding the Pingle Brook. The depth of archaeology uncovered below present ground level (bpgl) in the area varies from 0.2m (trench 6) to 0.75m bpgl (trench 23). The findings from trenches 4 to 8, opened to investigate the nature of a c.100m diameter sub-circular feature, were closely examined by a specialist geoarchaeologist from Wessex Archaeology. Previously it was believed (Cox 2005 and Stratascan 2006) that this feature might represent an extensive quarry site, possibly utilised at the time of the construction of the nearby Roman roads. The excavated evidence does not support this theory, but possibly reflects intentional water management to divert the Pingle Brook for stone processing or industrial activity in the vicinity. Five trenches (19 to 23) had evidence of alluvial or overbank deposits indicative of a former watercourse. These particular trenches lie close to the formalised course of the present Pingle Brook, and may indicate its former extent before it was canalised in the post-medieval period. This is significant when considering the location of the Romano-British farmsteads (TOR 1 and 2) uncovered during previous evaluations in the north-eastern corner of the site (Oxford Archaeology 2002a/b, areas evaluated are denoted on figure 5.11).

A south-west to north-east orientated feature, identified in the aerial photograph analysis as an embanked feature, was uncovered in trenches 55 and 59, although it was almost completely ploughed out. This feature has been postulated as a possible headland with the ridge and furrow evidence shown in the field parcels to the immediate east and south-east of Whitelands Farm indicating a definite break between the north-south alignment of the remnant plough marks (Paul Smith *pers comm.*).

A number of ditch and bank features were uncovered in three trenches (6, 23 and 25) that produced Anglo-Saxon evidence in the form of pottery sherds. Possible settlement evidence in the form of two clear postholes was uncovered in trench 31 that was also dated to this period. This evidence may reflect agricultural

management practices by the Anglo-Saxon founders of Bicester town; further evidence is required before a broader appraisal can be delivered for these features. Numerous trenches in this area contained no archaeological deposits, in particular the numerous circular pit features identified during the geophysical survey in this area (marked B, I and J on figure 5. 4) were found to be fissures in the extant cornbrash limestone and therefore geological in origin, while a number of linear anomalies were modern field drains of various construction.

**Area B:** a total of 29 trenches were excavated, in particular to investigate the extent and below ground survival of the previously identified ring ditch features (TOR 4), but also the survival of archaeological strata below the cropmarks and deep soil areas highlighted in the aerial photo analysis (see figure 5.3).

The trenches excavated to examine the ring barrow monuments (trenches 77-79 on figure 5.5 and 5.11) revealed that both barrows were cut into the solid limestone and as a result the ring ditches have been very well preserved. The largest barrow (trenches 78 and 79) comprised a large ditch, the top of which was 0.5m bpgl and base 1.5m bpgl. The external diameter of the barrow was c.32m, the ditch was c.3.9m wide and 1.5m deep. The mound (probably constructed of cornbrash) has been almost completely leveled by modern ploughing, with the scattered spread c.0.4m bpgl. A further concentric ditch or gully, c.17m in diameter, was observed between the central point and the outer ditch of the larger barrow. The smaller ring-ditch has a diameter of 21.3m, was 0.58m deep and 1.45m wide. The top of the ditch was 0.3m – 0.4m bpgl with the base 0.8m bpgl. No evidence of any burials was uncovered in either barrow, as they would have been situated outside the limits of these three target trenches.

There are two further zones of archaeology defined by the evaluation in area B. In trenches 68 to 70, three large quarry type features were uncovered and dated to the Romano-British period. One of these quarry (or borrow pit) features was c.27m long and extended beyond the limits of trench 70. Several smaller pits, c.3m diameter were also exposed. In close proximity to these features were a slightly curving ditch and three postholes in trench 71. A Late Iron Age date is postulated from one abraded sherd of pottery, but they may be later in date and contemporaneous with the quarry pits.

The third zone revealed features indicative of a Late Iron Age settlement, with a series of ring gullies, pits and a possible hearth (trenches 91, 92 and 104). A Middle Bronze Age palstave axehead was uncovered in a deposit of probable medieval or later date in trench 92. This trench also possessed Anglo-Saxon material in the upper fill of an Iron Age ditch feature. There are clear indications of the ridge and furrow plough sequence evident in both non-intrusive surveys. Such regular soil disturbance and movement by ploughing for several hundred years would start to explain the deposition of this artefact within a later archaeological sequence.

**Area C:** a total of 19 trenches were opened to investigate the location of the proposed balancing pond, the road alignment and the survival of archaeological deposits below the ridge and furrow remnants. This particular field parcel was known to the landowner as the ‘wet clay’ field, and the evidence uncovered shows the Oxford Kellaway clay in the majority of trenches here.

Only four trenches (96, 98, 118 and 137) contained archaeological deposits. There is almost a 10m differential between the eastern most trench (65.9m aOD at 118) and the western (73.13m aOD at 137). This is reflected in the progressively thicker

orange colluvial deposits containing bands of blue clays down slope from trench 93 to 99. A number of archaeological deposits were uncovered below the colluvium build-up in trenches 96 and 98 at c.0.5m bpgl. A ditch, gully (dated to the Romano-British period) and a pit filled with burnt stones were recorded in trench 96. Under a layer of bluish alluvial clay (indicative of overbank flooding) and below the colluvium (indicative of soil build-up at the bottom of a slope), a pit and postholes of probably contemporary date were uncovered.

Two further trenches along the road alignment (103 and 105) contained ephemeral features in the form of two ditches and a possible pit, but no datable material was recovered. Trenches 117 and 118 in the south-eastern corner outside Area C, were excavated to investigate whether or not the extramural settlement of Alchester (TOR 6, 9 and 14) extended westwards into the site. A north-west/south-west drain is denoted along an existing hedgerow between these two trenches. There was no archaeological material in trench 117, but it contained deep colluvial deposits (up to 0.5m) with water entering the trench at a depth of 65.50m aOD. Trench 118 contained two ditches with at least five tree/shrub throws. No datable material was recovered, but the location and depth of the ditches (0.3m bpgl) is in the vicinity of deposits uncovered during the A41 widening (TOR 10) where a series of Iron Age gullies with datable pottery were uncovered.

**Area D:** only four trenches were excavated in this area, as it was felt from the non-intrusive surveys that the area possessed little or no anomalies to warrant extensive trenching of the area while still under crop at the time of the evaluation. No archaeological features, deposits or artefacts were observed in Area D. As with a number of trenches opened in Area A, the anomalies shown in the geophysical survey were shown to be either field drains cut into the solid geology (trenches 116 and 122), or a fissure filled depression, as in the case of the east-west linear traversing the centre of trench 116.

**Area E and road alignment:** a total of 11 trenches were excavated primarily to investigate the concentration of cropmarks (TOR 16) suspected to be another Late Iron Age/Romano-British farmstead, and also to determine the survival of archaeological deposits below the extensive series of ridge and furrow to the south of Whitelands Farm (TOR 19).

Only four trenches contained archaeological deposits (129-131 and 133), and these were directly within the road alignment proposed. The archaeological evidence revealed in trenches 129-131 comprised a series of postholes, pits and gullies indicative of the suspected settlement/farmstead site with Late Iron Age/Romano-British pottery recovered. This site covers an area at least 150m x 50m based upon the plotting of the cropmark evidence (Wessex Archaeology 2006, 18). There were numerous archaeological features, 29 in total, within trench 133. A representative sample showed several convincing postholes cut into the solid cornbrash limestone. No datable material came to light, and the relatively small area evaluated makes identification of a structure difficult.

No other features or archaeological material were observed in any of the other seven trenches in Area E along the road alignment. Of interest is the absolute lack of archaeology in trench 132, suggesting that the two areas of archaeology (129-131 and 133) are separate sites.

**Area F:** a total of six trenches were excavated specifically to evaluate the infrastructural layout for the proposed secondary school site.

Archaeological features were observed in three of the six trenches (140-142; c.0.45m bpgl), notably the trenches nearest to the zone of archaeology at the south-eastern limit of area B (see figure 5.11). Trench 140 had a single north west/south east aligned ditch, probably part of a field system. No datable material was recovered from this feature. Two post-medieval/modern pits filled with coke were also recorded here, possibly indicating steam ploughing. Trench 141 had a moderate sized, shallow pit with two undatable fills. Also in this trench was a spread of material of a similar nature to that seen in trench 92. A north west/south east aligned ditch was recorded in this trench. Animal bone was found in reasonable quantities from features in trenches 141 and 142. A post-medieval/modern ditch was observed in the southern end of trench 139.

The evaluation in Area F has revealed further evidence of a possible Late Iron Age settlement. It also indicates that there was at least one phase of field system, but with the lack of artefacts from these possible field boundaries (as is typical of such features) and the lack of obvious pattern(s), further interpretation is impossible at this stage from such a representative sample.

### *The archaeological resource at the site*

- 5.42 The survey techniques adopted to assess the likely impact on the archaeological resource at this site, have led to a greater understanding of the location of previous activity from the Early Bronze Age to Post-Medieval periods. The results of all investigations allow 10 defined zones of archaeology to be proposed, in addition to the two zones (TOR 1 and 2; Oxford Archaeology 2002), previously known within the current site boundary.
- 5.43 Of the ten zones, seven are focused on areas of one to three trenches. Of the others, one overlaps between Area B and F to reflect the contemporary results uncovered; one extends for approx 150m x 50m in Area E along the road alignment and the final one – the largest area (but not density) of archaeology, is the zone within Area A. The features uncovered in Area B possessed the greater density and depth of archaeological features. In general the trenches in areas between the zones identified were almost entirely devoid of archaeological features (Wessex Archaeology 2006, 33).
- 5.44 The north-eastern corner of the site was the subject of archaeological evaluation and geophysical survey as part of previous planning applications. These investigations highlighted the presence of a 1<sup>st</sup>/2<sup>nd</sup> century Romano-British settlement in the form of boundary banks and ditches, as well as livestock enclosures attributable to a low-status farmstead (TOR 1 and 2). These settlements represent the single most numerous and widely scattered category of settlement known from prehistory (Darvill 1996, 46). The two schemes of evaluation undertaken by Oxford Archaeology (2002 a/b) are denoted in relation to the recent evaluation on figure 5.11. The evaluation results produced by Wessex Archaeology (2006) suggest that these settlements do not extend into any of the nearby areas evaluated as part of this scheme. This evaluation has shown a general lack of Romano-British features and artefacts across the site. This is considered unusual in terms of its siting close to Alchester and the already identified low-status farmstead site in the north-east corner (Wessex Archaeology 2006, 33).

- 5.45 The identification of possible borrow pits or quarry-type features close to the A41 (trenches 68-70 in Area B) suggests a limited scale of operation to construct or partly repair this north-south Roman road between Dorchester-on-Thames to Towester (Wessex Archaeology 2006, 30). It was normal practice to utilise the local stone resources in an area while continuing the line of a Roman road (Wilson 2000, 136). The remains of other quarry features were uncovered in Area A (trenches 16 and 37), but it is suggested that this area may have been due to some industrial activity associated with the exploitation of the water source of the Pingle Brook.
- 5.46 Numerous examples of ridge and furrow cultivation strips have been identified clearly through the aerial photograph analysis (see figure 5.3). One of the primary concerns of the trench evaluation scheme has been to investigate the areas of ridge and furrow for the possibility of archaeological deposits being sealed beneath these medieval landscape indicators. Well-preserved ridge and furrow was present in trenches 135 and 136 along the road alignment. Other examples were observed in section in trenches 133 and trench 60. The evaluation results have led to the presumption (Wessex Archaeology 2006) that the ridges could be preserving archaeological features, whereas the furrows are likely to have removed or at least disturbed any underlying deposits. Archaeological deposits were preserved under the ridges in trench 92, but the furrow had disturbed the upper stratigraphy of the trench as a Middle Bronze Age palstave axe was discovered in a deposit of inactive ploughsoil probably dating to the post-medieval period.
- 5.47 The feature identified in the SMR (TOR 16) to the west of Whitelands Farm as the remains of a Bronze Age burial mound was assessed as part of the aerial interpretation and found not to possess characteristics or features found in known examples of these sites. It is likely that these are of geological or agricultural origin. However, they are situated close to traces of ditched enclosures (TOR 17) with possible boundary divisions and tracks of unknown date. The southern limit of this area of archaeological settlement was discovered during evaluation of the proposed road alignment, in particular trenches 129-131. A substantial zone of archaeology is now estimated at c.150m long x 50m wide, with the datable material indicating a Late Iron Age date. It would appear that this is an isolated, individual settlement or farmstead with associated field systems. Similar features representing another small-scale isolated farmstead settlement is suggested based on the evidence from the zone of archaeology in Area B and F.
- 5.48 Where the presence of significant tracts of deep soil in the northern part of the site hampered the analysis of possible below ground archaeology (Cox 2005), the evaluation scheme has highlighted the reason for this soil occurrence across the site. Substantial deposits of colluvium and alluvium in the north east of Area A (between 0.5m and 0.7m thick), and the south east of Areas B (0.6 to 1m thick) and C (0.5m and 0.7m thick) coincided with the base of a noticeable, moderate slope and/or possible coombe (Area B and C) and also the potential original meander of the Pingle Brook (Area A).
- 5.49 The largest proposed zone of archaeology is shown in Area A and represents the possible Anglo-Saxon remains of a bank and ditch feature that is suggested as evidence of water management of land liable to flooding. There is also quarrying activity tentatively dated to the medieval period, as well as later field boundaries and agricultural features. The evidence in this locale indicates that settlement moved to the higher ground in the Anglo-Saxon period, and away from the marshy conditions described as typical of the farmstead to the north east (TOR 2). The large extent and irregular shape of the zone does not reflect

complete archaeological coverage, the density of features was generally moderate to low in this zone (Wessex Archaeology 2006, 33).

- 5.50 The most significant discovery during all phases of evaluation at the site was the intact below ground archaeological remains of the Early Bronze Age ring barrow monuments (TOR 4) in Area B. There is nothing to suggest that these monuments are part of a larger contemporary settlement that was somehow overlooked by the evaluation, and non-intrusive surveys. These types of monuments were constructed to honour the dead, and represent a move away from the communal burial internments of the Neolithic, towards distinctive individual burials, often incorporating the use of fire to cremate the body. The burial practice appears to have intentionally celebrated the individual and often included grave goods to indicate status. An earthen mound was normally laid over the burial, which may be interned within a pottery vessel. Excavations at more extensive Bronze Age barrow cemeteries have revealed small pits for secondary cremations dug into the flanks of the barrows, showing the re-use of these distinctive landscape features, either by subsequent generations of the same farming community, or as in the case of the extensive barrow cemeteries on the Isle of Wight, intentionally re-used by the Germanic conquerors now known collectively as the Anglo-Saxons, to lay claim to their newly acquired lands. Evidence for secondary burials was not identified at either barrow during the course of evaluation (Wessex Archaeology 2006).

### ***The built environment***

- 5.51 A number of historical areas and individual buildings in close proximity to the site are of sufficient historic and architectural interest to have been designated at either national or local level. Conservation areas have been designated at the historic village of Chesterton to the south and at the centre of Bicester old town. Figure 5.6 outlines all the known listed buildings in the study area.
- 5.52 The conservation area at Chesterton covers the village along Alchester Road and the park at Chesterton Lodge up to the old boundary with the manor of Bicester. Several of the most important buildings within this conservation area are included on the statutory list of buildings of special architectural or historical interest, a number of them at a high grade (see figure 5.6). The Church of St Mary (TOR 22) is late 12<sup>th</sup> century with medieval additions and some Victorian restoration. Manor farmhouse (TOR 23), the former manor house of Chesterton, has an early 12<sup>th</sup> century range, with the remainder mainly 16<sup>th</sup> and 17<sup>th</sup> century. The medieval part of the house has a barrel-vaulted undercroft with a first floor hall or chamber above, one of the earliest known. There is evidence of a surrounding moat dating from the same period. Chesterton Lodge (TOR 26), was built in 1890 replacing an earlier house for a local banker, and is a dressed stone country house with an elaborate interior. To the north-west of the house is an H-shaped block of stables and coach houses built at the same time (TOR 27). A number of smaller houses and cottages, mainly built of coursed limestone rubble, are also listed including 4 Tubbs Lane (TOR 24) which is 17<sup>th</sup> century or earlier, Thatchover (TOR 28) which is also 17<sup>th</sup> century, and 6 Tubbs Lane, a former mill house with a datestone reading 1769. Outside of the conservation area other listed structures within the study area are the road bridge to the south-east of the village near Lodge Farm (TOR 29) and further east the 18<sup>th</sup> century farmhouse Langford Park Farm (TOR 30).

TOR No.	Description
TOR 21	Ivy Cottage, Alchester Road, Chesterton; grade II
TOR 22	Church of St. Mary, Manor Farm Lane, Chesterton; grade II*
TOR 23	Manor Farm House, Chesterton; grade II*
TOR 24	4 Tubbs Lane, Chesterton; grade II
TOR 25	6 Tubbs Lane, Chesterton; grade II
TOR 26	Chesterton Lodge, Chesterton; grade II
TOR 27	Chesterton Lodge, stables and coachhouse, grade II
TOR 28	Thatchover, Alchester Road, Chesterton; grade II
TOR 29	Road bridge near Lodge Farm, grade II
TOR 30	Langford Park Farmhouse, grade II
TOR 31	Church of St. Edburg; grade I
TOR 32	The Old Priory, Priory Lane; grade II*
TOR 33	Stables and garden walls at the Old Priory, Priory Lane, grade II
TOR 34	Old Place Yard House, Old Place Yard, grade II
TOR 35	The Old Vicarage, Church Street; grade II*

Figure 5.6 Listed buildings in the vicinity of the proposed development areas

- 5.53 The southern edge of the conservation area at Bicester town centre falls within the study area. This part of the historic town centre was referred to as King’s End and adjoined Palace Yard, the former location of the Augustinian Priory. The Old Priory (TOR 32) refers to the Hospice of the Priory, situated at Old Place Yard House. A dovecote, (TOR 34) is also incorporated into this 16<sup>th</sup> century structure. A group of nationally listed structures are around the church of St Edburg (TOR 31) and include a number of monuments in the churchyard and the Old Vicarage (TOR 35) c.1500. Many of the houses within the conservation area at King’s End are individually listed, including the 18<sup>th</sup> century Bicester House with adjoining walls, and a number of houses along King’s End (nos. 11, 22, 24, 41, 45, 47), Stable at Home Farm and London Road (nos. 1 - 6 Station House).

*(Figures 5.7 – 5.12 are included at end of this chapter)*

### ***Sensitive receptors***

- 5.54 Based on the baseline data, the sensitive receptors listed in figure 5.13 have been identified and their sensitivity determined in accordance with figure 5.7.

Receptor	Sensitivity of Receptor
Archaeology	High
Listed Buildings	High-Medium
Conservation Areas	Medium
Alchester Roman Town; SAM	High

Figure 5.13 Sensitive receptors



## **Potential effects**

### ***During construction***

#### *The likely impact of the development*

- 5.55 The development will involve extensive groundworks (see chapter 3), which will inevitably have an impact on all below ground archaeological remains, where they exist. **Apart from the zones of archaeology denoted on figure 5.11, and transposed on the development proposals on figure 5.12, the rest of the site evaluated was largely clear of archaeological features or finds (not including the ridge and furrow across the site).**
- 5.56 Overall, the below existing ground level impact is likely to be significant on all areas scheduled for any form of infrastructural development. This includes the proposed perimeter road (c7.5m wide and covering 2.6ha), as well as the built form proposed across the site. Any buried material of archaeological importance that is still present will be subject to impact during initial site clearance, construction, ground preparation or drainage works.
- 5.57 **Areas identified as containing unexcavated archaeological material will be subject to agreed further investigation. Dissemination of the findings from this archaeological evaluation will be an essential and highly beneficial process. The findings from the northern area surrounding the Pingle Brook and the information available from the topographical surveys in this area should be examined and considered for the development proposals in this area. The intrusive evaluation has shown that from the Late Iron Age to the present day, ditches, drains and banks, as well as the re-routing of the Pingle Brook, either for industrial necessity or to ensure drier settlement ground conditions, has been foremost in controlling and managing this watery landscape.**
- 5.58 Effects on upstanding buildings and historic areas during construction are likely to be restricted to temporary effects on the settings of buildings and the character of the conservation areas. As no change to the understanding and appreciation of this historic resource is envisaged, the likely effects of the scheme are deemed to be negligible.

### ***Post-construction***

#### *Impact upon the historic built environment*

- 5.59 There are no listed buildings on or immediately adjacent to the proposed development site. The largest concentration of listed buildings is to the south-west of Whitelands Farm, in the village of Chesterton, which is a designated conservation area. There will be an area of retained agricultural land to the south of the perimeter road, and this will ensure that impacts to the setting of the built environment in Chesterton are minimised. The north-eastern corner of the proposed development site is sufficiently distant from the boundary of the Bicester town centre conservation area not to affect it.
- 5.60 The topography affords no significant views from the site into Chesterton conservation area to the south-west, or towards Bicester conservation area to the north-east. Further zones of visual influence (ZVIs) are dealt with separately in chapter 7 (Landscape and visual effects). The heights of the built form proposed for the northern section of the site will not detract from the current built form along the northern side of Middleton Stoney Road.

5.61 The proposal to link the A41 with the B4030 road along the western boundary of the site would effectively remove and/or reduce current traffic movements on Alchester Road through the village of Chesterton. This may have a beneficial effect on the setting of the listed buildings and noise and vibration levels experienced in the conservation area from road traffic. The overall impact of the proposals on the historic built environment in the vicinity will be negligible, as there will be no change in the ability to understand or appreciate the resource.

Topic	Sensitivity of Receptor	Magnitude of Change	Significance of Effect
Archaeology	High	Large	Very Substantial
Listed Buildings	High-Medium	Negligible	None
Conservation Areas	Medium	Negligible	None
SAM	High	Negligible	None

Figure 5.14 Potential impact on cultural heritage issues

### Mitigation

5.62 A development of this size will undoubtedly have a long lifespan, with development occurring in stages or phases as set out in chapter 3. It is therefore imperative that the agreed mitigation strategy for the archaeology is set for the entirety of the scheme at this site, with assurances by all parties that there will be a process in place ensuring dissemination of information to all parties involved with any form of design or construction work. What follows is a draft proposal for a workable strategy based on professional judgment of the results of all evaluations at the site.

5.63 Further agreement and discussion with the Oxfordshire County Archaeologist is advisable on receipt of the evaluation report (Wessex Archaeology 2006) that compliments this chapter (see Technical Appendix 2a). This will allow an informed mitigation strategy to be produced that can be adopted for phased development. At this stage the zones of archaeology identified (see figure 5.11 and 5.12) should be treated as indicators of below ground deposits and not confined by the boundaries suggested here.

#### *The Bronze Age ring barrow monuments – see figure 5.15*

5.64 The most significant mitigation procedure to be recommended as a consequence of the impact assessment is the preservation *in situ* of the two Bronze Age ring barrow monuments. This is in line with local and national policy on the preservation of nationally important archaeological discoveries during the assessment of development proposals. It is therefore recommended that due to the excellent state of preservation of these monuments below the present ground level, an archaeological buffer zone of 50m from the centre point of both ring barrows be imposed. On the advise of the Oxfordshire County Archaeologist, the two ring barrows will now be preserved *in situ* below the playing field associated with the proposed primary school. The ground will be raised where any natural topographical undulations occur to create the necessary contour for the playing pitch. This design iteration is shown on figure 5.15, and in all design and landscape documents that accompany this document.

- 5.65 These sites may be at risk from works for the numerous amenity services that will be required to link into the proposed development areas. The various agencies – telecommunications, energy, water and drainage – should be made aware of the sensitivity of the Bronze Age barrows, and instructed to avoid the proposed playing field of the primary school. None of these services can be facilitated within the agreed 50m buffer zone (see figure 5.12), as each has a depth differential that would cause extensive damage to the known archaeological deposits.
- 5.66 The developer should endeavour to ensure the other known zones of archaeological interest denoted on figure 5.11 and 5.12 are properly excavated and recorded, or avoided in the case of the known below ground remains of the Bronze Age ring barrows. The threat of all construction impact upon *in situ* remains will be removed by adequate dissemination of information to engineers, landscape architects and others. Good project coordination and communication will ensure construction activity within buffer zones of archaeological remains is avoided where necessary. Where possible, the agreed buffer zone can be delineated on the ground and on all design plans for the project.
- 5.67 The outline construction methodology proposed for the numerous development areas will need archaeological input so as to define areas of high, moderate and low archaeological sensitivity to construction impacts across the site. Of particular benefit would be information detailing the depth of archaeological horizons in relation to the predicted foundation construction scheduled, as well as necessary service installations and landscaping for the zones outlined as a guide in figure 5.11, and shown in relation to the various development areas on figure 5.12.
- 5.68 The depth of excavation for strip foundations/footings below the present ground surface is governed by the depth of competent soil in that particular area of the site. It is important to stress that for the construction of the load bearing walls of a typical house, minimum depths must be achieved in order to avoid foundation distortion caused by seasonal ground movement and frost. These range from c.1m deep on clay soils to 0.45m on sandy soils. The width of these footings will vary depending on the height of the building, but will generally not exceed 1m. Shallow cut trenches will be excavated for the associated services during the initial house foundation construction. Within a group of buildings however, it will be necessary to construct large sewer chambers (c.2-3m<sup>2</sup> x c.1.5m in depth). Such dimensions will therefore require extra vigilance on their agreed location.
- 5.69 While it is acknowledged in local and national policy that preservation of archaeological remains should be considered as a first option, the proposed development works present an opportunity to advance our knowledge of the wider historic landscape and its complex evolution since prehistoric times. There would be an advancement of knowledge at a local and regional level arising from the necessary archaeological investigations in the zones of potential that have been identified by the evaluation schemes.
- 5.70 Based upon the results of the intrusive evaluation scheme, and the proposed development the following mitigation measures are proposed for the zones known to still contain archaeological features and finds and shown on figure 5.12.

**Area A:** Open area excavation or strip and record of at least the archaeology zone indicated in the northern section where direct impact from the proposals is unavoidable. A watching brief may be adequate for the areas shown to contain individual, isolated features. The

Anglo-Saxon evidence from this area will require further investigation, and the proposed open area excavation for the balancing pond (between trenches 6 and 7) provides the best opportunity in the northern part of this area to test the survival and extent of associated contemporary features.

**Area B and F:** Open area excavation or strip and record of at least the archaeology zone indicated between trench 91 and 142.

The quarry type features uncovered in trenches 68 – 70, c.0.5m bgl are defined by a zone of archaeology with the possible associated ditch/gully and posthole features of Late Iron Age date in trench 71. Closer examination in the immediate vicinity of the latter features to establish the extent and state of preservation of any associated finds would be advisable, as it may define the possible association with the nearby quarry features. These appear to be situated within the hardstanding area of the proposed hotel. Their significance is difficult to gauge and without construction specifications no definitive methodology can be proposed.

**Area C:** The majority of this area is scheduled to remain as green fields, with landscape modification for playing fields and an oval cricket ground. An associated pavilion building is proposed along the north-south alignment of trench 99. No archaeological features were discovered within the limits of this trench. The zone of archaeology denoted around trenches 96 and 98 will not be subject to deep excavation for any form of infrastructure. There is c.0.5m of topsoil and colluvium above the first archaeological deposits in this area. Close consultation with the landscape architects employed to create this sports area should ensure that impacts in this area are avoided if possible, or provisions are made to monitor groundworks envisaged by the site archaeologist.

The ephemeral features uncovered in the zone around trenches 103 and 105 can be investigated further during a watching brief exercise as the area is stripped before construction of the road junction in this area. A definitive area around trench 137 could also form part of the watching brief in this area.

The zone of archaeology surrounding trench 118 lies west of the proposed balancing pond in an area outlined as an area for an athletics track for the adjacent secondary school. Again the methodology for landscaping this area will need to take this highlighted zone into account to allow the possibility of monitoring the initial site preparation and topographical changes.

**Area D:** No further detailed archaeological investigations are envisaged in this area. The solid geology in this area lies only 0.2m bgl. No possible features or anomalies resulted from the aerial photograph survey in this particular part of the site, with the evidence from the geophysical survey shown to highlight changes in the geology, whether they are fissures in the bedrock, recent plough scarring or modern land drains.

**Area E:** The evaluation trenching has allowed two definitive areas of settlement activity to be identified; they appear to be separate entities archaeologically but will require closer open area excavation before preparation for the road construction commences. The zone surrounding the assumed site uncovered in trench 133 could form a more concentrated strip and record exercise, while the larger site between trenches 129 and 131 is postulated at 150m x 50m, and will require a detailed scheme of open area excavation to preserve by record all the below ground archaeology that will be impacted upon by the road alignment. It is recommended that this particular excavation is undertaken and completed before any road preparation works take place. This is to ensure that archaeology is properly recorded in this important area, and strict timetable restrictions due to the design and build contract avoided.

- 5.71 This scheme produces a number of significant benefits to the identified cultural heritage receptors in the area. Firstly, the built heritage, especially the conservation area of Chesterton, will experience reduced levels of traffic, and hence noise and vibration with the new route alignment to the north of the village. Secondly, a scheme of archaeological investigation should ensure that the limited features uncovered in all of the site evaluations are now properly understood and gaps are effectively filled so that the true significance and relationship to other sites in the area will be known. The findings from the excavations can be used to heighten local awareness of the archaeological origins and evolution of the town of Bicester. The preservation *in situ* of the nationally important Bronze Age ring barrows underneath the proposed playing field area of the primary school will greatly benefit these monuments, as it will effectively remove them from land under the destructive process of the modern plough.
- 5.72 As the Sustainability Appraisal that accompanies this application sets out, the ultimate form of dissemination of the information that this and any future excavation at the site would be the provision by the developer for publication of the findings, in both academic and public realms, e.g. on the development website. This, along with adequate archaeological site records in the two schools that are proposed, would ensure a future audience to appreciate the archaeological resource uncovered in the course of the development.

#### **Residual effects**

- 5.73 If archaeological finds are uncovered during development, the measures set out in the mitigation section will ensure that appropriate actions will be undertaken, but some residual effects will result from the development proposals.
- 5.74 The necessary archaeological excavation of zones of archaeology is in itself a destructive process, but the benefit to the current body of knowledge for this site will be effectively filled through the material and artefact assemblage uncovered, accompanied by publication of the findings.
- 5.75 The residual effects of the proposed development on the cultural heritage of the immediate vicinity are shown in figure 5.16.

Topic	Significant residual effects	Importance of receptor	Magnitude of change	Duration	Nature	Significance	Level of certainty
<b>Cultural heritage</b>	<b>Pre construction</b> Master plan design alterations to ensure the preservation <i>in situ</i> of nationally important monuments	High	Large	Permanent	Beneficial	Very Substantial	Uncertain
	<b>Post Construction</b> Removal and loss of setting of on-site archaeology	High	Large	Permanent	Adverse	Very Substantial	Uncertain
	<b>Overall</b> Voids in current archaeological knowledge filled by these and all future schemes of archaeological investigation	High	Large	Permanent	Beneficial	Very Substantial	Certain

Figure 5.16 Cultural heritage residual effects