Cotswold Archaeology

Axis 50
Willington
Derbyshire

Archaeological Desk-Based Assessment

Report prepared for:
Brackley Property Developments

CA Project: 661089

CA Report: 18174a

August 2018

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issue	**2**

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SUMMARY

In March 2018, Cotswold Archaeology was commissioned by Brackley Property Developments to undertake an Archaeological Desk-Based Assessment of land north of Willington, Derbyshire. This assessment was undertaken following consultation with the Local Planning Authority's Archaeological Advisor regarding a proposed distribution centre. This report aims to identify any potential archaeological constraints to the proposals.

There are no recorded archaeological heritage assets within the Site, however a substantial number of Palaeolithic artefacts have been recovered during gravel extraction immediately to the north of the Site and as such corresponding geological deposits within the Site may contain further Palaeolithic artefacts.

Aerial photographs of the study area record the presence of cropmarks in the vicinity of the Site. These include prehistoric funerary monuments. Although no cropmarks are recorded within the Site, it is possible that features associated with those depicted as cropmarks will be present within the Site, and more specifically, in the south-eastern corner. The proposed development comprises the construction of 11 warehouses with vegetative screening. There is potential for archaeological remains to be impacted upon by construction of the units and associated landscaping; however it is considered unlikely that there will be remains of such significance as to influence or preclude development.

This Archaeological Desk-Based Assessment has been undertaken in accordance with paragraph 189 of the NPPF (2018), and on the basis of current information it is considered that the proposals are consistent with the provisions of the NPPF and Chapter 8 of the South Derbyshire Local Plan. Consultation will be undertaken with the Local Planning Authority's Archaeological Advisor to establish whether sufficient information has been provided to inform determination of the application. If planning permission is forthcoming and undesignated heritage assets of archaeological interest would be impacted upon, mitigation works may be required in accordance with the NPPF.

1. INTRODUCTION

1.1. In March 2018, Cotswold Archaeology was commissioned by Brackley Property Developments to undertake an Archaeological Desk-Based Assessment in respect of arable land north of Willington, Derbyshire (hereafter referred to as 'the Site'), The Site is located east of the A38 and to the south of its junction with the Derby Southern Bypass and is c.450m north of the settlement of Willington (NGR: 429059, 329347; Fig. 1); it lies adjacent to an area of quarrying and landfill (see Section 1.8, below).

1.2. The assessment area forms parts of a larger Application Site (Fig. 2), for which the proposed development will comprise the construction of a distribution centre comprising eleven units of varying sizes, with vegetative screening within and along the southern and eastern boundaries (Appendix 3). The extent of the assessment area was agreed with Derbyshire County Council on 20th March 2018 (see Sections 1.8–1.10) and is henceforth referred to as 'the Site'.

Objectives and professional standards

1.3. Cotswold Archaeology is a Registered Organisation with the Chartered Institute for Archaeologists (CIfA). This report has been prepared in accordance with the CIfA's 'Standard and Guidance for Historic Environment Desk-Based Assessment' (2014).

1.4. The composition and development of the historic environment within the Site and wider landscape are discussed. However, this report will discuss the archaeological element of the historic environment only, with built heritage being addressed in a separate report produced by Cotswold Archaeology (CA 2018; Report No. 18174b). A determination of the significance of any archaeological heritage assets located within the Site, and any heritage assets beyond the Site boundary that may potentially be affected by the development proposals, is presented. Any potential development effects upon the significance of these heritage assets (both adverse and/or beneficial) are then described.

1.5. This approach is consistent with the CIfA's 'Standard and Guidance for Heritage Desk-Based Assessment', which provides that, insofar as they relate to the determination of planning applications, heritage desk-based assessments should:

'…enable reasoned proposals and decisions to be made [as to] whether to mitigate, offset or accept without further intervention [any identified heritage] impact' (CIfA 2014, 4).

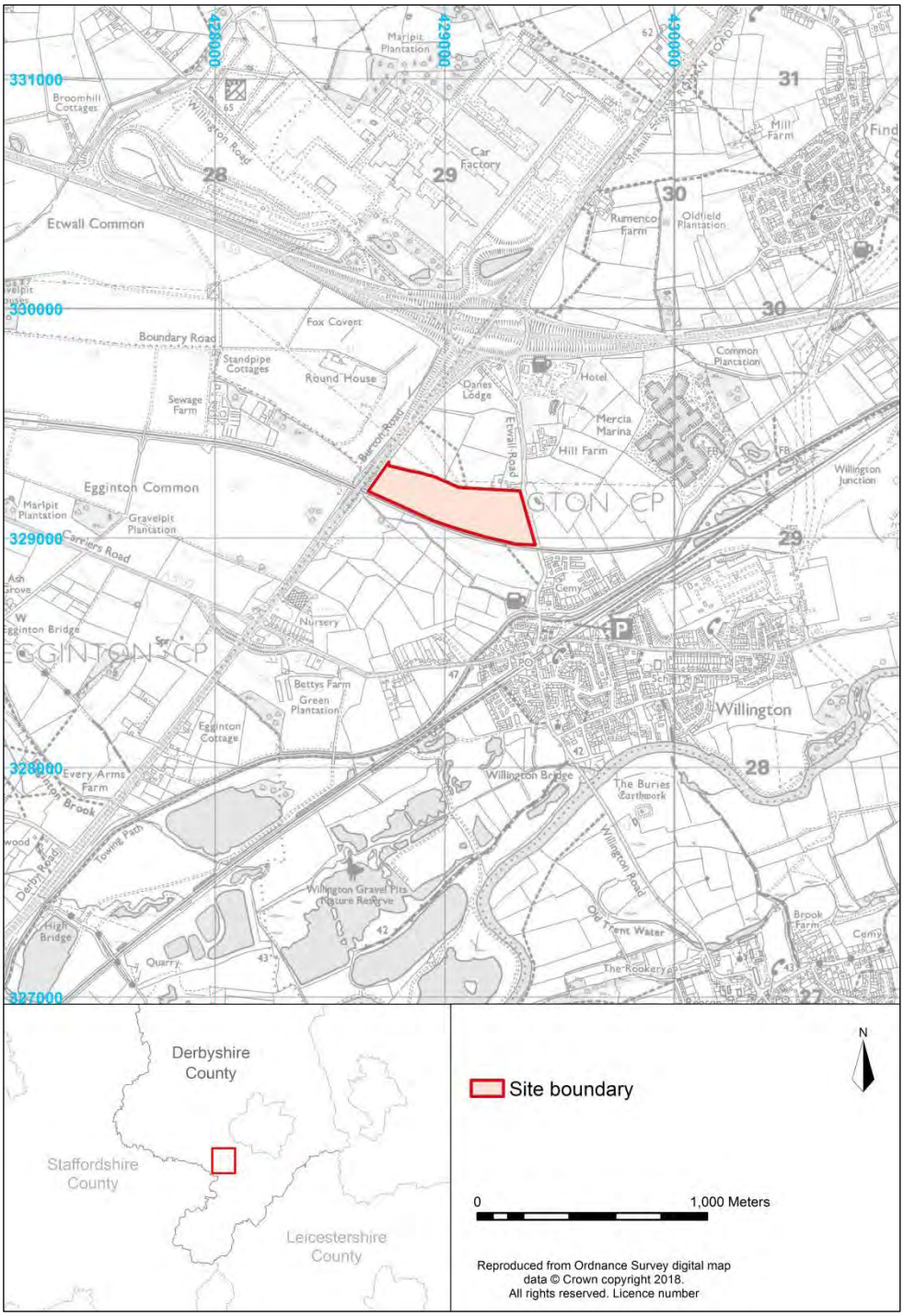

Fig. 1 Site location plan

1.6. Historic England's 'Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment' further clarifies that a desk-based assessment should:

'…determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area, and the impact of the proposed development on the significance of the historic environment, or will identify the need for further evaluation' (Historic England 2015, 3).

Statute, policy and guidance context

1.7. This assessment has been undertaken within the key statute, policy and guidance context presented within the table overleaf (Table 1.1). The applicable provisions contained within these statute, policy and guidance documents are referred to, and discussed, as relevant, throughout the text. Fuller detail is provided in Appendix 1.

Statute	Description
National Heritage Act 1983 (amended 2002)	One of four Acts of Parliament providing for the protection and management of the historic environment, including the establishment of the Historic Monuments & Buildings Commission, now Historic England.
Conservation Principles (Historic England 2008)	Guidance for assessing heritage significance, with reference to contributing heritage values, in particular: *evidential* (archaeological), *historical* (illustrative and associative), *aesthetic*, and *communal*.
National Planning Policy Framework (2018)	Provides the English government's national planning policies and describes how these are expected to be applied within the planning system. Heritage is subject of Chapter 16.
Good Practice Advice in Planning: Note 2 (GPA2): Managing Significance in Decision-Taking in the Historic Environment (Historic England 2015)	Provides useful information on assessing the significance of heritage assets, using appropriate expertise, historic environment records, recording and furthering understanding, neglect and unauthorised works, marketing and design and distinctiveness.
South Derbyshire Local Plan (2016)	Comprises the local development plan (local plan), as required to be compiled, published and maintained by the local authority, consistent with the requirements of the NPPF (2018). Intended to be the primary planning policy document against which planning proposals within that local authority jurisdiction are assessed. Where the development plan is found to be inadequate, primacy reverts to the NPPF (2018).

Table 1.1 Key statute, policy and guidance

Consultation

1.8. Land within the Site formed part of a previous planning application (Planning Ref: 9/2007/1470), where the proposed development comprised an outline planning application for B8 use of land. This application was refused and a subsequent appeal (Appeal Ref: APP/F1040/A/08/2081933/NWF) dismissed on heritage grounds relating to the impact of the scheme on the setting of nearby designated built heritage. The impact of the scheme on heritage assets of archaeological interest did not form part of the reason for refusal.

1.9. Correspondence with the County Archaeologist, Steve Baker, between the 9th and 13th March 2018 regarding a revised development scheme concluded that given the level of previous impact within the Site due to historic quarrying and landfill an assessment focusing only on the 'undisturbed' land within the application area was required, in order to identify and consider the potential for archaeological remains to be present. After establishing the known extent of disturbed ground the focus of the assessment was approved by the County Archaeologist on 20th March 2018 with the provision that further investigative works (geophysical survey or trial trenching) may be necessary at a post-determination stage, as discussed in earlier correspondence.

1.10. In addition to specifying the area upon which to focus the assessment, attention was drawn to the need to plot the full extent of cropmarks identified during the assessment and consider the potential for Palaeolithic remains to be present within local gravel deposits. These requirements are addressed below.

2. METHODOLOGY

Data collection, analysis and presentation

2.1. This assessment has been informed by a proportionate level of information considered sufficient to understand the archaeological potential of the Site, the significance of identified heritage assets, and any potential development effects. This approach is in accordance with the provisions of the NPPF (2018) and the guidance issued by the CIfA (2014). The data has been collected from a wide variety of sources, summarised in the table overleaf (Table 2.1).

2.2. Prior to obtaining data from these sources, initial analysis was undertaken to establish the extent of known historic impacts to have occurred within the application area. These include gravel works, the depositing of foundry waste and domestic landfill, as identified in 2004 as part of the 'Site Investigation and Environmental Risks' undertaken by Tamdown Regeneration. This initial analysis utilised industry-standard GIS software to locate the extent of previous impacts within the Application Site, and led to the identification of a region of no apparent previous disturbance which is the focus of this assessment (Fig. 2).

2.3. Following approval of the Site boundaries by the County Archaeologist, a 1km study area, centred on the Site, was considered sufficient to capture the relevant HER data and provide the necessary context for understanding archaeological potential and heritage significance in respect of the Site. All of the spatial data held by the HER – the primary historic data repository – for the land within the study area was requested. The HER records were analysed and further refined in order to narrow the research focus onto those of relevance to the present assessment and then listed in a cross-referenced gazetteer provided at the end of this report (Appendix 2). *Not all HER records are therefore referred to, discussed or illustrated further within the body of this report, only those that are relevant.*

2.4. A site visit was also undertaken as part of this assessment on 4th April 2018. The primary objectives of the site visit were to assess the Site's historic landscape context, including its association with any known or potential heritage assets, and to identify any evidence for previous truncation of the Site stratigraphy. The Site visit also allowed for the identification of any previously unknown heritage assets within the Site and an assessment of their nature, condition, significance and potential susceptibility to impact.

Source	Data
National Heritage List (NHLE)	Current information relating to designated heritage assets, and heritage assets considered to be 'at risk'.
Derbyshire Historic Environment Record (DHER)	Heritage sites and events records, Historic Landscape Characterisation (HLC) data, and other spatial data supplied in digital format (shapefiles) and hardcopy.
Derbyshire Archives and local studies library	Historic mapping, historic documentation, and relevant published and grey literature. In addition to other material specific to the locality
Historic England's Aerial Photograph Research Unit	Vertical and oblique aerial photography ranging in date from the 1940s to present.
Environment Agency (EA) website	1m DTM LiDAR imagery and point cloud data, available from the Environment Agency website.
Old-Maps, Promap, National Library of Scotland & other cartographic websites	Historic (Ordnance Survey and Tithe) mapping in digital format.
British Geological Survey (BGS) website	UK geological mapping (bedrock & superficial deposits) & borehole data.

Table 2.1 Key data sources

Assessment of heritage significance

2.5. The significance of known and potential archaeological assets within the Site, and any beyond the Site which may be affected by the proposed development, has been assessed and described in accordance with paragraph 189 of the NPPF (2018), the guidance issued by the CIfA (2014) and 'Historic Environment Good Practice Advice in Planning Note 2' (Historic England 2015). Determination of significance has been undertaken according to the industry-standard guidance on assessing heritage value provided within 'Conservation Principles' (English Heritage 2008). This approach considers heritage significance to derive from a combination of discrete heritage values, principal amongst which are: i) evidential (archaeological) value, ii) historic (illustrative and associative) value, iii) aesthetic value, and iv) communal value, amongst others. Further detail of this approach, including the detailed definition of those aforementioned values, as set out, and advocated, by Historic England, is provided in Appendix 1 of this report.

Assessment of potential development effects (benefit and harm)

2.6. The present report sets out, in detail, the ways in which identified susceptible heritage assets might be affected by the proposals, as well as the anticipated extent

of any such effects, i.e. resulting from the direct truncation of archaeological remains.

2.7. No designated archaeological heritage assets that have the potential to be affected by the proposed development are present within the Site; however there is potential for unrecorded non-designated archaeological heritage assets to be present that could be impacted upon by the proposed development.

2.8. The key applicable policy for non-designated heritage assets is paragraph 197 of the NPPF (2018), which states that:

'The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgment will be required having regard to the ***scale of any harm or loss*** *and the* ***significance of the heritage asset****'* [our emphasis].

2.9. Thus with regard to potential archaeological heritage assets this report seeks to identify the significance of the archaeological heritage asset(s) which may be affected and the scale of any harm or loss to that significance.

Limitations of the assessment

2.10. The assessment is principally a desk-based study and has utilised secondary information derived from a variety of sources, only some of which have been directly examined for the purpose of this assessment. The assumption is made that this data, as well as that derived from other secondary sources, is reasonably accurate. The records held by DHER are not a record of all surviving heritage assets, but a record of the discovery of a wider range of archaeological and historical components of the historic environment. The information held within this database is not complete and does not preclude the subsequent discovery of further elements of the historic environment that are at present unknown.

2.11. Cartographic depictions of the Site and wider study area held by Derbyshire Archives, and obtained online, have been georeferenced in order to locate any historic features or impacts within the Site. Whilst historic maps are an invaluable source for identifying historic development, the accuracy of geo-referencing cannot be guaranteed where maps are not produced in a standard way or scale.

2.12. Secondary sources of information relating to archaeological events or monuments occurring within the study area have been assessed where available; however due

to the limited accessibility of some documentary sources, these have not been reviewed in greater detail.

2.13. The scope of this assessment is limited to the archaeological potential of the Site informed from the known heritage record, as discussed above in paragraphs 2.1 – 2.4. The potential impact of the proposed development upon built heritage within the vicinity of the Site does not form part of this assessment. The effect of the proposed development to the significance of built heritage, including the setting of designated assets is discussed in a separate report produced by Cotswold Archaeology (2018; Report No. 18174b).

2.14. The Site walkover was undertaken in favourable weather conditions to carry out the assessment on the Site.

3. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Landscape context

3.1. The Application Site comprises a regular shaped parcel of land which is formed from six arable fields (Photo 1). It is defined to the west by the A38 and the east by the B5008 (Etwall Road).The northern boundary of the Application Site is defined by existing buildings and associated ground identified as 'Danes Lodge' which in turn is defined by the major junction between the A38 and the Derby Southern Bypass (Fig. 1). The southerly boundary of the Application Site is defined by the Crewe to Derby rail line. The Site is located within the southern region of the Application Site, with the northern boundary of the Site corresponding with present field boundaries marking the most southerly two fields and splitting the Site from the rest of the Application Site (Photo 2).

Photo 1 Looking south-east from the Application Site into the Site

Photo 2 Looking south-west into the Site from the northern boundary

3.2. The Application Site is located within a wider arable landscape with sparsely situated rural settlements, although it is separated by modern transport networks. Whilst the surrounding area appears to be predominantly rural, elements of 20th century commercial and industrial development are present in the wider landscape. The Site at its highest sits at 56-57m above Ordnance Datum (aOD) along its northern boundary and gently descends to 51m aOD towards the southern boundary. Whilst the Site has a relatively gradual fall, a distinct ridge is located across the central region of the Site, as highlighted through Lidar imagery. This ridge is considered to correlate with the underlying geology (see Sections 3.3–3.4; Fig. 2).

Geology

3.3. The bedrock geology within the Site and the surrounding area is recorded by the BGS (2018) as Gunthorpe Member Mudstone, a sedimentary rock formed approximately 237- 247 million years ago. Discrete overlying superficial deposits are recorded within the Site, comprising the Eggington Common Member of sand and gravel formed up to three million years ago, and Head deposits of clay, silt, sand and gravel deposited up to two million years ago (Fig. 3).

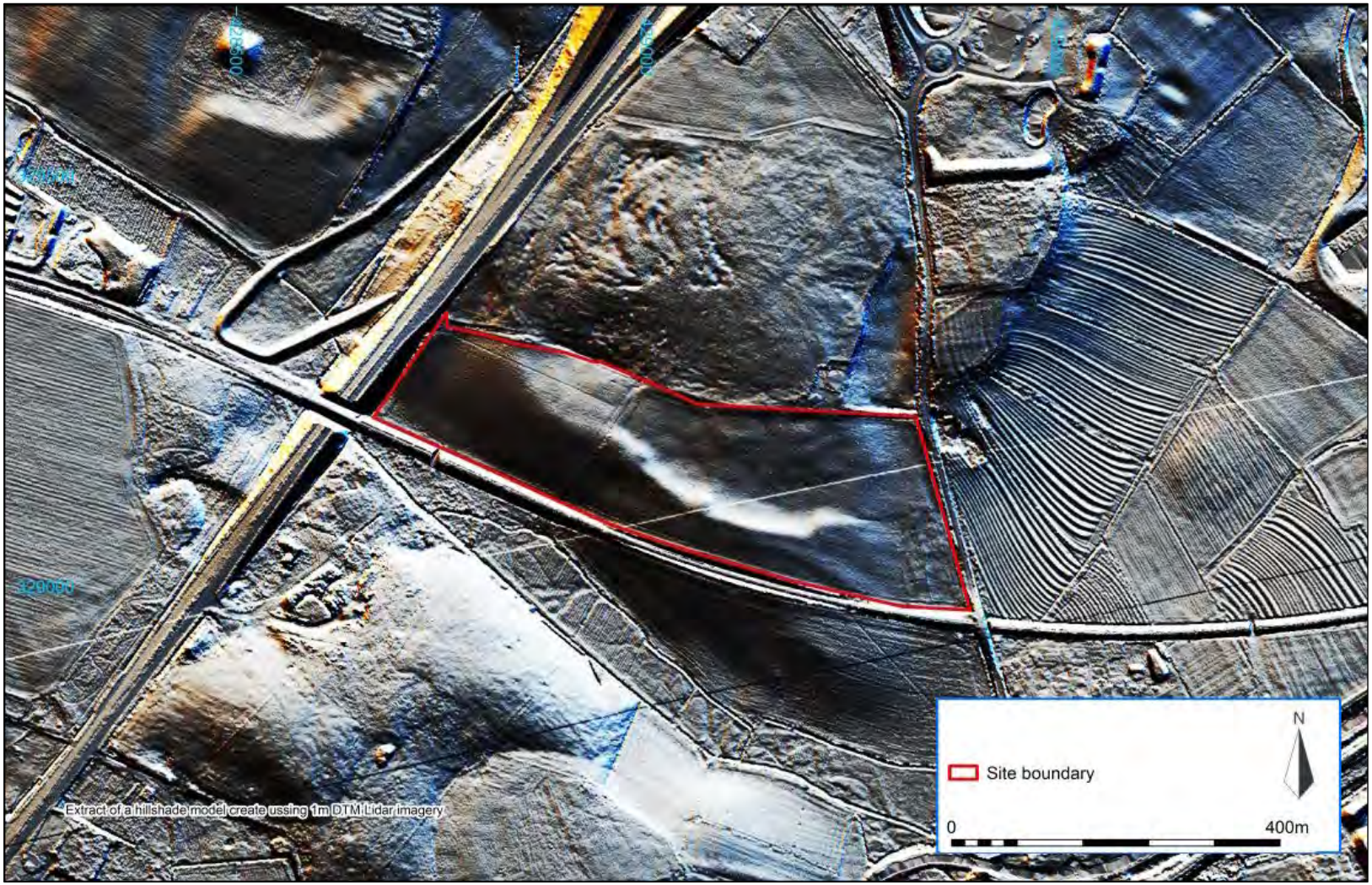

Fig. 2 Extract of 1m DTM Lidar imagery

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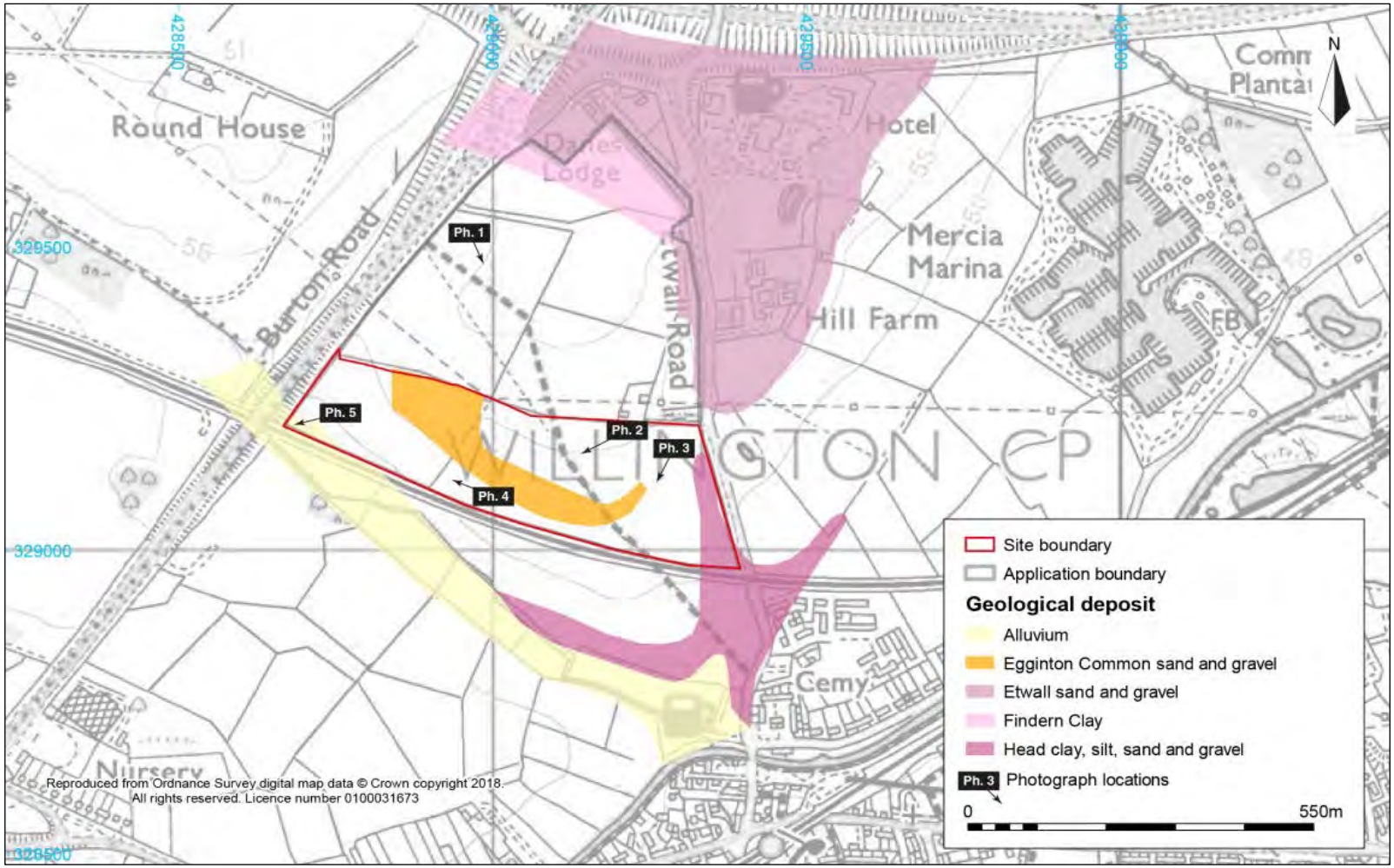

Fig. 3 Assessment area and recorded geological deposits

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3.4. Aggregate extraction is known to have occurred to the north of the Site, extending to cover the rest of the Application Site, and also immediately to the south of the railway line. Given the history of mineral extraction within the Application Site it is possible to suggest the surviving gravel deposit mapped within the Site represents the southern limit of mineral extraction within the wider Application Site.

Prehistoric archaeological investigations

3.5. No previous archaeological investigations have been undertaken within the Site, however a number of investigations have occurred within the study area.

3.6. Approximately 40m to the south-east of the Site a geophysical survey and archaeological evaluation were undertaken between 2012 and 2013 as part of an application for domestic development (Wegiel 2013; Fig. 4, **A**). The geophysical survey identified anomalies relating to ridge and furrow and cut features of potential archaeological origin, which had previously been identified through aerial photographic survey (see Section 3.7). The subsequent archaeological evaluation, comprising a total of seven trenches, confirmed the presence of archaeological features suggested by the cropmarks; however phasing of the features was not possible due to a lack of datable material (Wegiel 2013).

3.7. Aerial photograph assessments were undertaken in 1989 and 2004 in relation to Willington Power Station (Fig. 3, **B**). Land discussed above was included in the assessment and a variety of features were recorded, including prehistoric ring ditches, rows and scatters of pits, enclosures and the parallel banks of a Neolithic cursus (Whitley 2004; Fig. 4).

3.8. Approximately 520m to the north-east of the Site a series of archaeological investigations including geophysical survey, field evaluation and subsequent excavation have been undertaken on land at Hill Farm prior to aggregate extraction in the mid-1990s (Taylor 1990; Hughes 1996; Hughes and Jones 2001; Fig. 4, **C**). The investigations recorded the presence of archaeological features, some of which were initially identified during an aerial photograph assessment as part of the field evaluation (Fig. 5, **7**). These included earthwork remains of ridge and furrow cultivation practices and cut features, including pits, dating to the Neolithic period.

3.9. Following on from these investigations three areas approximately 930m to the east of the Site were targeted for strip, map and sample excavation during works to Mercia Marina (Brightman and Waddington 2012; Fig. 4, **D**). The investigations

recorded archaeological remains spanning the prehistoric period, with the earliest datable evidence comprising stone tools dating from the late Upper Palaeolithic period, through to boundary ditches of later prehistoric date.

3.10. Approximately 770m to the south-east of the Site, two phases of archaeological evaluation were undertaken at Willington Power Station (Fig. 4, **E**). Much of the site had been subject to previous development and therefore archaeological remains were only found in small discrete areas. However, evidence of prehistoric activity was identified, including field boundaries dating into the Roman period (Tannahill 2005).

3.11. Approximately 840m to the south-west of the Site, an archaeological watching brief was undertaken prior to the construction of a new food production facility in 2009, where boundary ditches dating from the 19th century were recorded along with unstratified flints of Mesolithic or Neolithic date (Lewis 2010 Fig. 4, **F**).

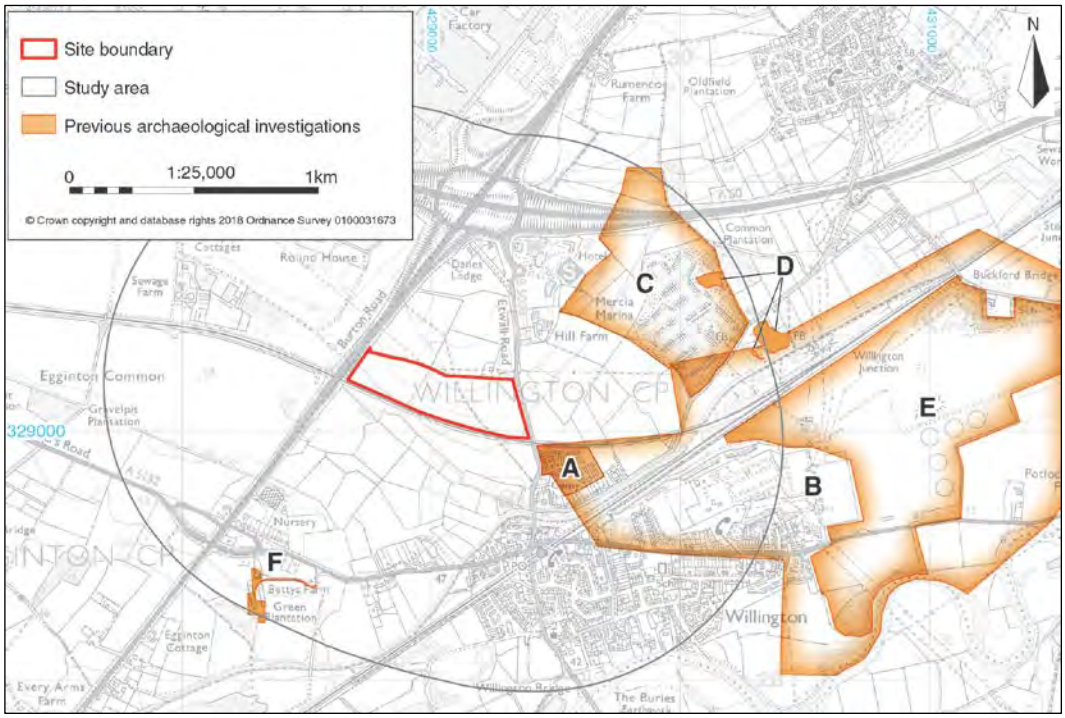
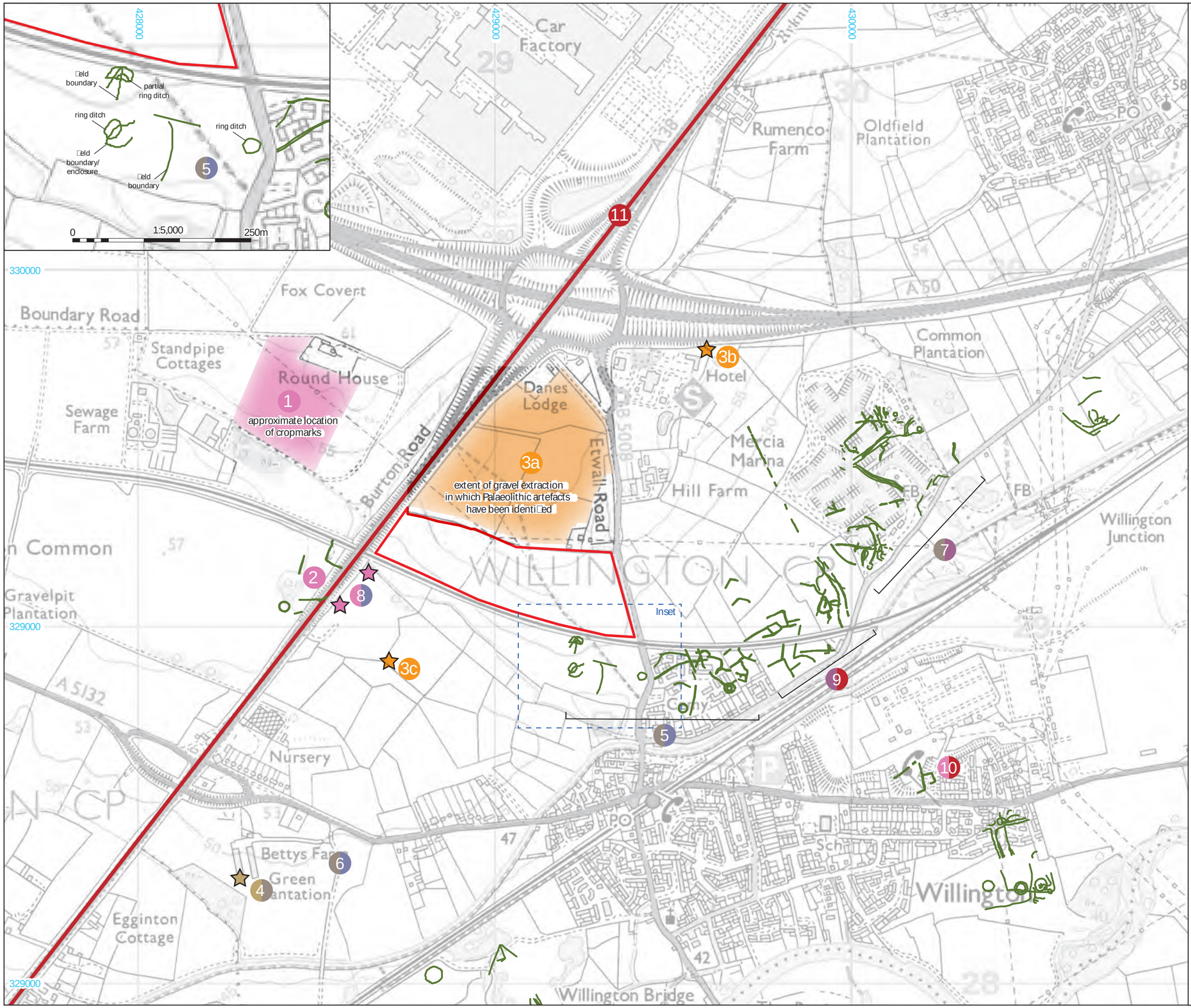


Fig. 4 Previous archaeological investigations



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PROJECT TITLE
Axis 50, Willington, Derbyshire

FIGURE TITLE
Prehistoric and Roman heritage assets

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Prehistoric

3.12. There is extensive evidence of prehistoric activity within the study area ranging in date between the Palaeolithic to Iron Age, however not all recorded features within the study area are attributable to specific periods. Such features comprise cropmarks identified from historic aerial photographs recording a rectangular enclosure and two linear features approximately 270m to the west of the Site (Fig. 5, **1**), and a ring ditch located upon Eggington Common approximately 270m to the west of the Site (Fig. 5, **2**).

Palaeolithic and Mesolithic

3.13. The earliest datable evidence recorded within the study area dates to the Palaeolithic period, where a large collection of hand axes and flakes were recovered over a thirty year period between 1930 and 1960, during aggregate extraction within the Application Site (Fig. 5, **3a**). Further Palaeolithic artefacts were recorded 650m to the north and 270m to the south of the Assessment Site (Fig. 5, **3b; 3c**) during aggregate extraction.

3.14. There appears to be no distinct correlation between the presence of Palaeolithic artefacts and specific geological deposits; however as the recorded geology within the Site is a continuation of that extracted immediately north, it is possible further Palaeolithic artefacts may be present within the extent of the geological deposit identified within the Site (Fig. 2).

3.15. In general the location of Palaeolithic artefacts relates to secondary deposition which is dictated by natural geological processes. It is likely those artefacts found within the study area are as a result of these processes and are not representative of in situ use of the surrounding landscape. A Mesolithic flint scraper, its core and a primary flake have been identified 980m to the south of the Assessment Site (Fig. 5, **4**) that may represent more primary activity occurring within the wider landscape.

Neolithic and Bronze Age

3.16. However more clear interaction with the landscape is present from the Neolithic and Bronze Age as indicated through cropmarks seen on historic aerial photographs (Fig. 4, **5**). The cropmarks represent the buried remains of ring ditches, a hengiform enclosure and rectilinear enclosures. Cropmarks located c.25m to the south- of the Site appear to depict different phases of activity, with the earliest represented by ring ditches, the probable remains of Bronze Age funerary monuments. The features have been recorded as cropmarks on aerial photographs; this does not

indicate the limit of activity in this region, and therefore it is possible further evidence (including further ring ditches) may be present within the vicinity of those identified.

3.17. Further evidence of funerary and ceremonial use of the surrounding landscape is recorded approximately 600m to the east of the Site (Fig. 4, **7**). Archaeological investigations undertaken ahead of gravel extraction identified substantial quantities of pottery and charred remains ranging in date between the Neolithic and the Iron Age and were recovered from features including pits and ring ditches, indicating prolonged use of the region. The range of evidence recorded indicates the surrounding landscape initially functioned as a ceremonial, funerary landscape, but later became the focus of more occupational based activity.

3.18. Evidence for occupation is recorded 820m to the south of the Site where excavations have recorded settlement activity, including pits and post holes (Fig. 4, **6**). Pottery dating to the Bronze Age has also been recovered within the study area, indicating a human presence during this period; however the nature and extent of activity is unclear (Fig. 4, **8**). These artefacts have been identified within the proximity of a Roman road (Fig. 4, **11**), which could suggest earlier movement along this routeway.

Iron Age

3.19. Occupation and use of the study area continued into the Iron Age, as indicated by cropmarks located 250–500m to the east of the Site. The cropmarks include pit alignments and rectilinear enclosure which have been interpreted as possible field boundaries (Fig. 4, **9**). The location of the cropmarks indicates this focus for settlement is likely to have occurred due to the southerly aspect over the River Trent, where freely draining soils would provide suitable conditions for cultivation.

3.20. Further evidence of occupational activity is recorded 1.1km to the south-east of the Site, where cropmarks indicate the presence of linear ditches. Evidence recorded through archaeological investigation also indicates Roman activity at this location (Fig. 4, **10**).

Roman

3.21. No recorded Roman features are present within the Site; however its western boundary is defined by Ryknield Street, a known Roman routeway (Fig. 4, **11**). Ryknield Street was an important route on a south-north alignment spanning the

Midlands and giving access to settlements such as Cirencester, Alcester, Derby and Templeborough (Margery 1973). Whilst the routeway has been subject to development with the construction of the modern A38, it is reported the Roman road lies directly beneath its modern counterpart (Oakley 1955).

3.22. In addition to the historic routeway evidence of activity within the study area during this period comprises a series of cropmarks recorded on historic aerial photographs. The features identified include rectilinear enclosures and linear features which may represent boundary ditches and possibly indicate a continuation of the earlier, Iron Age pattern of land use (Fig. 5, **9; 10**).

Early medieval, medieval and post-medieval

3.23. Evidence for Anglo-Saxon occupation was recorded approximately 1.4km to the south of the Site (not illustrated) during archaeological investigations undertaken between 1970 and 1972 ahead of gravel quarrying here (Wheeler 1979). The excavations were undertaken in an area of recorded cropmarks and confirm the presence of intermittent occupation, with the Saxon period represented by a settlement of three 'grubenhausen', a scatter of pits, and post holes[1].There is no recorded evidence of Anglo-Saxon activity within the study area or the Site.

3.24. The Domesday Survey includes an entry for Willington. It is recorded as a small settlement, which was under the lordship of Leofric (brother of Lefnoth) in 1066 and had been granted to Ralph son of Hubert by 1086[2].

3.25. The Site is located within the north-west of the historic parish of Willington (Fig. 6). The historic core of the settlement was located further south in the parish, most likely having been focused around the 12th century Church of St Michael located 800m to the south-east of the Site (Fig. 6).

3.26. Historic aerial photographs record the presence of extensive ridge and furrow within the historic parish surrounding the historic settlement, in addition to further blocks of ridge and furrow in the neighbouring parishes (Whitely 2004; Fig. 6). Earthwork remnants of the ridges associated with this cultivation practice have also been identified in additional areas by Lidar imagery, including to the east and west of the Site (Fig. 6).

[1] See: http://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/attach/County-assessments/Anglo-SaxonDerbyshire.pdf
[2] See: http://opendomesday.org/place/SK2928/willington/

3.27. The location of the Site within the parish of Willington and the distribution of ridge and furrow evidence within the study area would suggest that during the medieval and post-medieval periods the Site formed part of the wider agricultural hinterland of Willington. Historic Landscape Characterisation (HLC) data classifies the Site as formed from 'Large Irregular Fields' containing a number of smaller irregular fields as recorded on the First Edition Ordnance Survey (Fig. 7). It is likely that land within the Site would have comprised smaller irregular fields in the medieval period, which were amalgamated at a later date whilst a few smaller parcels remained. However its peripheral location within the parish of Willington, and the proximity of Eggington Common, may also indicate the Site formed part of a wider area of common land beyond the open field systems associated with the settlement.

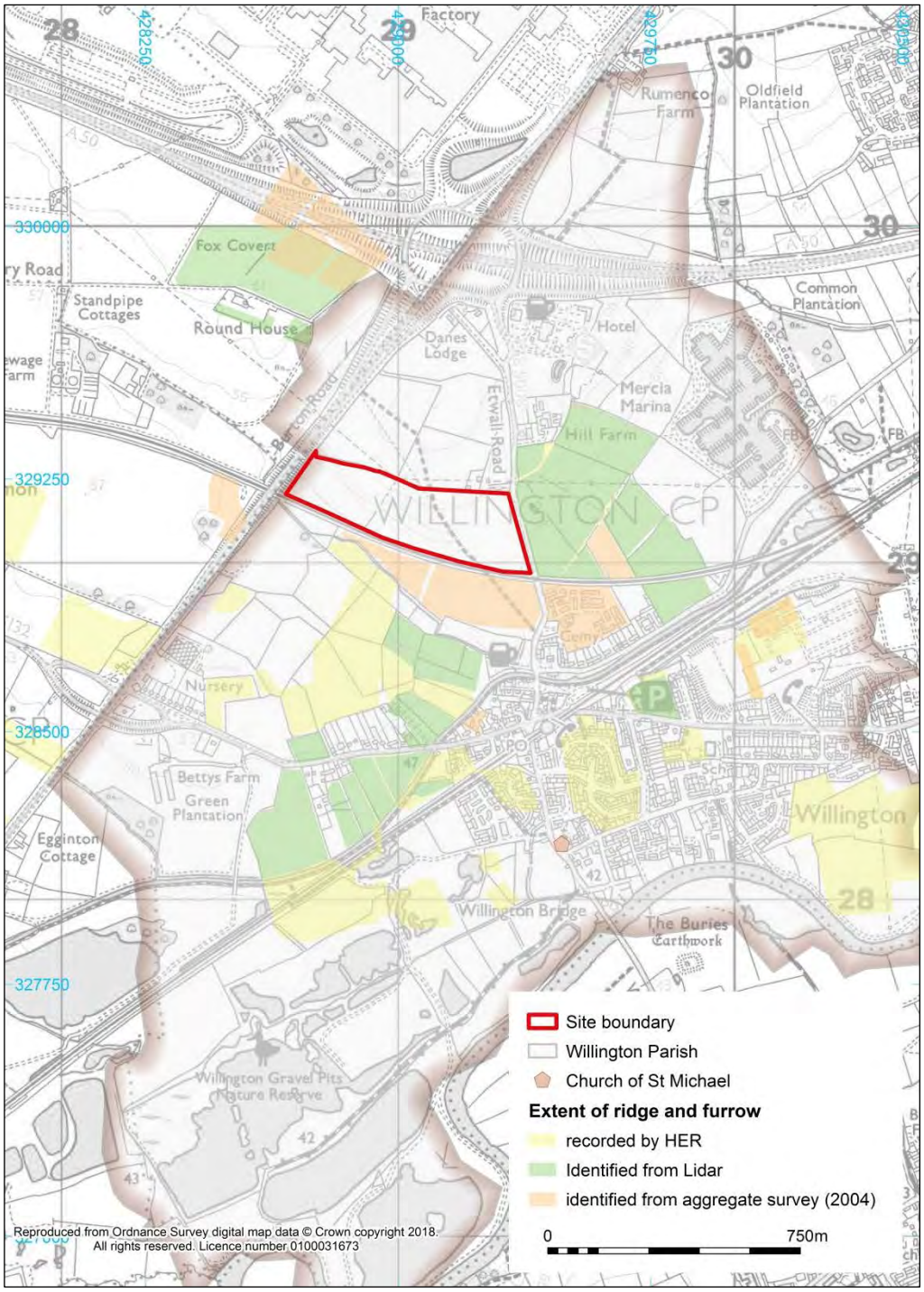

Fig. 6 Medieval and post-medieval landscape

Modern

3.28. The earliest available historic cartographic source depicting the Site is the First Edition Ordnance Survey map dating from 1882 (Fig. 7). The Site at this time is comprised of four irregular parcels of land which appear as agricultural land. The Site is sparsely populated with trees and a public footpath is noted to extend across

the Site from the south-eastern corner, following a south-east/ north-west alignment to the northern boundary, to continue across into the Application Site.

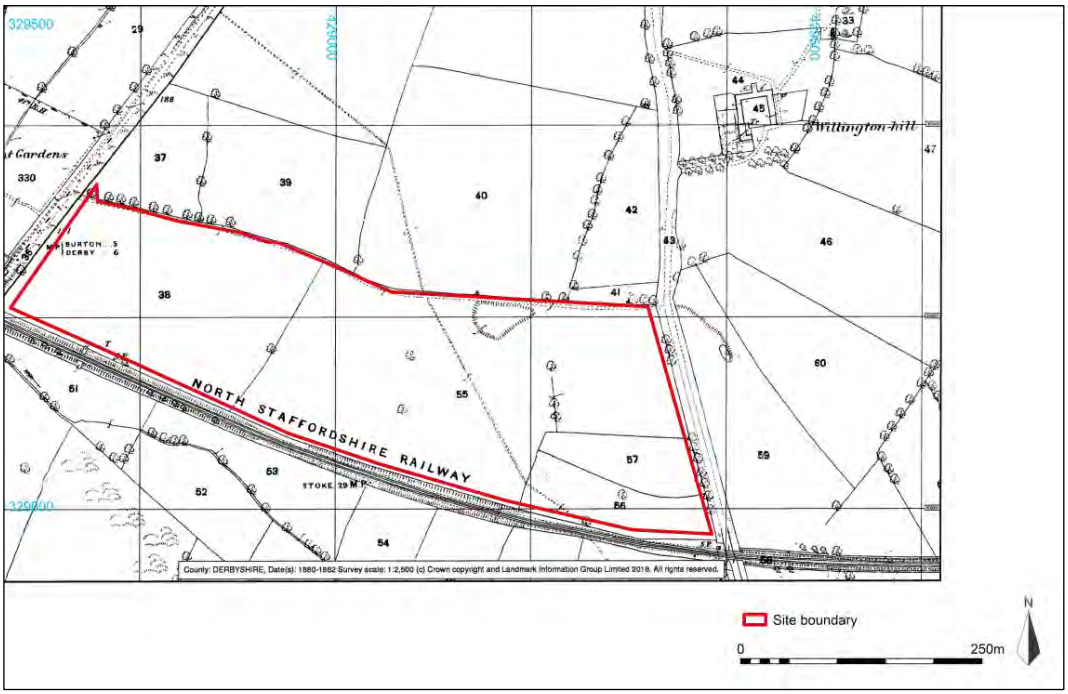

Fig. 7 Extract of the First Edition Ordnance Survey map (1850–1882)

3.29. An amorphous feature is recorded in proximity to the northern boundary on the First Edition Ordnance Survey map. The pit-like feature is likely to relate to localised extraction practices with the extent being limited. The feature is no longer clearly visible on Lidar imagery (Fig. 2) and the Site walkover only identified a change in ground level from the northern boundary of the Site in the approximate location of the feature (Photo 3).

3.30. The 1920 sales particulars for the Willington Estate provide detail on the ownership and tenancy of land surrounding the settlement of Willington, along with their associated properties during the 20th century. A plan included within the particulars depicts the Site (Fig. 8), which is separated into two parcels, each under different tenancy; the plan depicts the majority of the Site as associated with Pilsbury Farm, and a plot in the south-eastern corner of the Site as tenanted by Mr Chambers. Both parcels are identified as well–drained rich pasture land.

Photo 3 **Looking south into the Assessment Site from its northern boundary**

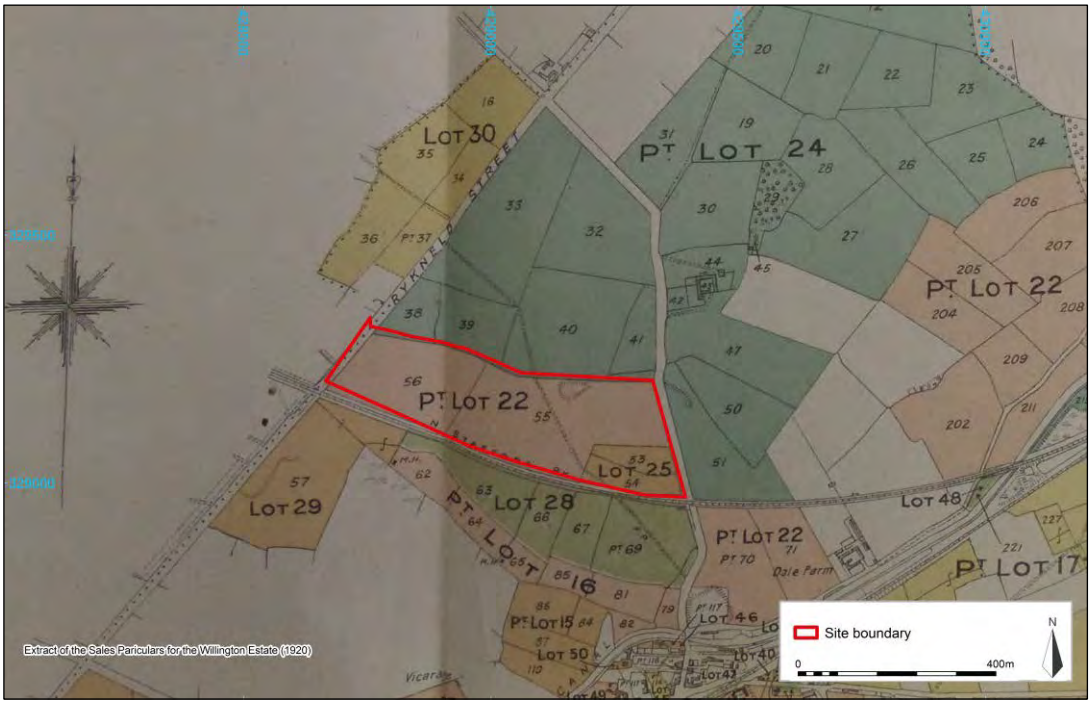

Fig. 8 **Extract of Plan of the Sales Particulars for Willington Estate (1920)**

3.31. By the mid-20th century, the Application Site had been subject to extensive aggregate extraction and was subsequently backfilled with domestic and industrial refuse (Fig. 9). An assessment undertaken in 2004 defines the southerly limit of extraction as the northern boundary of the Site, also reflecting the extent in land tenancy as depicted by the 1920s sales particulars plan (Fig. 7; **8**). It is possible to suggest on this basis that the land to the north of the Site may have been sold in the 1920s for gravel/sand extraction. As no extraction apparently occurred within the Site, and given the clear definition of tenancy on the Site, it is considered unlikely that the process of extraction did extend into the Site. However it is possible that any activities associated with extraction to the north would have resulted in a degree of impact to the area at/across/along the northern boundary of the Site.

3.32. No further change is recorded within the Site until the late-20th century when the small parcel in the south-eastern region of the Site was amalgamated with the rest of the Site. Some of the historic field boundaries still remain, as identified during the site walkover (Photo 4).

Photo 4 Looking north-west across the Site from the southern boundary

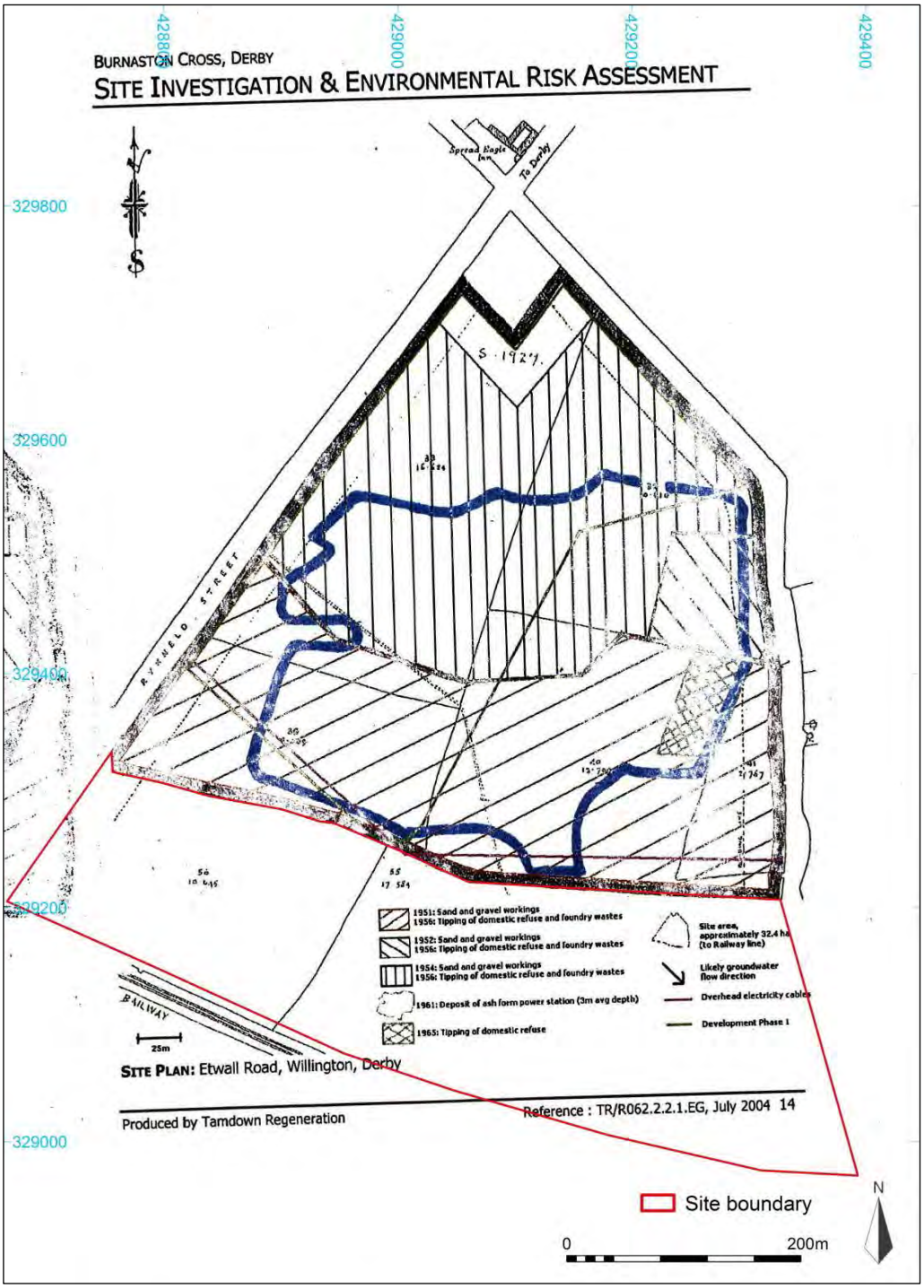

Fig. 9 **Extract from 2004 report, showing the extent of aggregate extraction and landfill within the Application Site**

4. ARCHAEOLOGICAL SIGNIFICANCE & POTENTIAL EFFECTS

The significance of known and potential archaeological remains within the Site

4.1. This assessment has identified that no designated archaeological remains are located within the Site; no *designated* archaeological remains will therefore be adversely physically affected by development within the Site.

4.2. Known and potential *non-designated* archaeological remains identified within the Site comprise:

- Potential Palaeolithic artefacts
- Potential ring ditch or other prehistoric features associated with those identified from cropmarks
- Potential finds or features associated with nearby Roman activity.
- Potential evidence of ridge and furrow cultivation practices

4.3. The significance of these assets is discussed further below.

Potential Palaeolithic Artefacts

4.4. A number of Palaeolithic artefacts have been identified within the immediate vicinity of the Site including within the Application Site. Although these do not appear to correspond directly to a specific geological deposit, there is some correlation between the location of recorded artefacts and the presence of sand and gravel.

4.5. The Trent Valley (within which the Site lies) is an area where Palaeolithic artefacts are known occur in high concentrations[3]. The finds distribution indicates the importance of riverine terraces for exploitation of resources during this period. Given that aggregate extraction is still occurring across the Trent Valley, such material represents an important and finite resource in understanding early development of Palaeolithic tool manufacture. Any such artefacts within the Site would add to the known dataset and could contribute to the understanding of Palaeolithic tool manufacture; however in not being 'in situ', having been subject to secondary deposition processes, such remains would only be of local significance.

[3] See http://archaeologydataservice.ac.uk/researchframeworks/eastmidlands/attach/County-assessments/PalaeolithicDerbyshire.pdf

Potential ring ditches and other prehistoric features associated with cropmarks

4.6. Cropmarks located to the south of the Site indicate the presence of prehistoric features, including ring ditches, which form part of a ceremonial funerary landscape. The density and distribution of these features within the study area indicates there is potential for further contemporary features to be present within the Site that have not, to date, been identified as cropmarks.

4.7. The significance of such features is derived from their evidential value and the potential this has to contribute to an understanding of ritual, ceremonial and funerary practice in the region, and as such any potential remains of the nature within the Site would be of local, potentially regional, significance.

Potential Roman evidence associated with the nearby routeway

4.8. Within the study area a number of cropmarks that indicate Roman activity, potentially as a continuation of earlier settlement, have been recorded (Fig. 5, **9; 10**). Ryknield Street, a known Roman road, defines the western boundary of the Site; and it is possible further activity may have occurred in the vicinity of the routeway, since roadside activity is commonly known to occur during this period.

4.9. Although no evidence of roadside activity has previously been identified within the study area, the presence of such evidence within the Site cannot be ruled out given the adjacent road. Such evidence would contribute to the understanding of the significance of the region's roads in relation to the dynamics of settlement activity and distribution, as well as contributing to a better understanding of settlement and land-holding patterns during the Iron Age and Roman transitional period. As such, any potential remains present within the Site would be of local and/or regional heritage significance.

Potential evidence of ridge and furrow cultivation practices

4.10. Historic aerial photographs and Lidar imagery indicate the Site formed part of the wider agricultural hinterland associated with the parish of Willington. Despite the apparent lack of such evidence within the Site, it is possible that modern land use has impacted upon any former above-ground remains (i.e. earthworks, for example of ridge and furrow). However there may be surviving below-ground remains, of furrows and former field boundaries, which have to date not produced cropmarks. The heritage significance of ridge and furrow earthworks is typically derived from the visible contribution they make to the understanding of the historic landscape. As such, any buried remains within the Site would make only a very limited contribution

to understanding the historic landscape and are accordingly of only very limited heritage significance.

Previous disturbance within the Site

4.11. A site investigation and environmental risk assessment undertaken within the Application Site in 2004 (Tamdown Regeneration) recorded the occurrence of sand and gravel workings along with the tipping of domestic refuse and ash from a nearby power station across two thirds of the Application Site (but focused on the northern and central area). The map depicting this disturbance appears to indicate the impacts did not extend into the Site, the southern extent defined by the field boundaries which define the northern boundary of the Site.

4.12. Whilst this map does not indicate any impacts occurring within the Site it is possible that unmapped extraction of sand and gravel and/ or the tipping of refuse may have extended into the northern part of the Site, which in turn may have impacted upon the potential for archaeological evidence to survive within its limits. However, on balance it is considered the remaining land within the Site has been subject to only limited impacts from aggregate extraction.

4.13. Development in transport networks within the region have resulted in the construction of the railway line defining the southern boundary of the Site, in addition to improvement works along the modern road that traces the Roman road of Ryknield Street along the western boundary of the Site (Photo 5). Construction works associated with these routeways are likely to have impacted on the adjoining land, not least, perhaps, within the Site. The level and extent of such impacts upon the potential buried archaeological resource is unclear; however should any impact have occurred it is considered likely this would have been localised, affecting only the areas immediately within the western and southern boundaries of the Site.

Photo 5 **Looking south-west from the south-western corner of the Site towards the railway line and road that define its southern and western boundaries**

Potential development effects

4.14. No known archaeological remains have been identified within the Site but potential has been identified for Palaeolithic finds within gravel deposits as well as evidence of Roman roadside activity and medieval and later agricultural land use.

4.15. The proposed development comprises the construction of 11 industrial units across the Application Site. Within the Site are proposed Units 5–11 with vegetative screening along the southern boundary and a balancing pond at the south-eastern corner.

4.16. Physical development effects upon the buried archaeological resource of the Site would primarily result from groundworks before and during the construction phase. Such activities include:

- pre-construction impacts associated with ground investigation works;
- ground reduction;
- construction groundworks, including building and road foundation trench excavations and the excavation of service trenches;

- excavation of new site drainage channels (including soakaways); and
- landscaping and planting.

5. CONCLUSIONS

5.1. This Archaeological Desk-Based Assessment has considered the potential for the presence of buried archaeological remains within the Site (as a part of the Application Site) and the potential for the proposed development to affect such remains.

5.2. The assessment has established that aggregate extraction undertaken immediately to the north of the Site resulted in the discovery of a significant number of Palaeolithic artefacts. The underlying geology within the Site suggests that further artefacts may be present within the confines of corresponding geological deposits. However, in being secondary deposits, such material would be of local significance only.

5.3. Historic aerial photographs record the presence of cropmarks within the immediate vicinity of the Site. The cropmarks indicate buried features associated with a prehistoric funerary landscape and are unlikely to be found in isolation. Given the distribution of these cropmarks it is possible that buried remains of associated but currently-unknown features may be present within the south-eastern region of the Site. Such remains would be of local, potentially regional, significance.

5.4. Historic maps, historic aerial photographs and Lidar imagery have indicated that during the medieval, post-medieval and modern periods the Site formed part of the wider agricultural hinterland of Willington. Ridge and furrow earthworks have been recorded in the immediate vicinity, but no above-ground remains are present within the Site; however, it is likely that there are buried remains of furrows and former field boundaries, including those shown in the south-eastern corner of the Site on the First Edition Ordnance Survey map. Such evidence of historic agricultural land use would be of negligible significance.

5.5. This Archaeological Desk-Based Assessment has been undertaken in accordance with paragraph 189 of the NPPF (2018). Consultation will be undertaken with the Local Planning Authority's Archaeological Advisor to establish whether sufficient information has been provided to inform determination of the application. If planning permission is forthcoming and undesignated heritage assets of archaeological interest would be impacted upon, mitigation works may be required in accordance with the NPPF.

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1901–1902	Ordnance Survey: Derbyshire
1913–1920	Ordnance Survey: Derbyshire
1920	Willington Estate and Part Repton Estate
1972–1978	Ordnance Survey Plan
1978–1996	Ordnance Survey Plan

APPENDIX 1: HERITAGE STATUTE POLICY & GUIDANCE

National heritage policy: the National Planning Policy Framework (2018)

Heritage assets and heritage significance

Heritage assets comprise '*a building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest*' (the NPPF, Annex 2). Designated heritage assets include Scheduled Monuments, Listed Buildings, Registered Parks and Gardens, Registered Battlefields, Protected Wreck Sites, and World Heritage Sites. The NPPF (Annex 2) states that the significance of a heritage asset may be archaeological, architectural, artistic or historic. Historic England's 'Conservation Principles' looks at significance as a series of 'values' that include 'evidential', 'historical', 'aesthetic' and 'communal'.

Levels of information to support planning applications

Paragraph 189 of the NPPF identifies that '*In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance*.'

Local heritage policy: South Derbyshire Local Plan

The South Derbyshire District Local Plan was adopted on 13th June 2016.

Policy BNE10: Heritage

'Applications for development that affects heritage assets, as defined in Policy BNE2, will be determined in accordance with national policy for conserving and enhancing the historic environment.

In particular the following will apply:

- *all applications should be accompanied by a heritage assessment, prepared with the appropriate expertise, to a level of detail proportionate to the asset's significance. The assessment should describe the asset's significance, identify the impact of the proposed development and provide clear justification for the works. Where appropriate, the Council may also require historical research and archaeological recording to be undertaken before works to a heritage asset commence*
- *developments affecting a heritage asset or its setting, including alterations and extensions to existing buildings, will be required to demonstrate how the proposal has taken account of design, form, scale, mass, siting and setting of the heritage asset, in order to ensure that the proposed design is sympathetic and minimises harm to the asset*

- *the loss of buildings and features which make a positive contribution to the character or heritage of an area should be avoided through preservation or appropriate reuse, including enabling development*
- *any proposed development which impacts on archaeological remains will be required to be accompanied by an archaeological evaluation of the site and a statement demonstrating how it is intended to overcome the archaeological constraints of the site. Development will be resisted which would result in the loss of or substantial harm to Scheduled Ancient Monuments or other archaeological sites of equivalent significance. Development affecting non-designated archaeological sites will be assessed having regard to the scale of any harm and the significance of the site. In all cases measures will be undertaken to minimise impact and, where possible, to preserve the site in situ. The District Council will require public display and interpretation where appropriate*
- *development that will lead to substantial harm to or loss of significance of any other designated heritage asset will be refused, unless it can be demonstrated that the development is necessary to achieve substantial public benefits that outweigh that harm or loss. Where less than substantial harm would result this will be considered against the public benefits of the proposal*
- *effects of the development on the significance of other non-designated heritage assets on the local list will be assessed having regard to the scale of any harm and the significance of the asset.'*

Good Practice Advice 1–3

Historic England has issued three Good Practice Advice notes (GPA1–3) which support the NPPF. The GPAs note that they do not constitute a statement of Government policy, nor do they seek to prescribe a single methodology: their purpose is to assist local authorities, planners, heritage consultants, and other stakeholders in the implementation of policy set out in the NPPF. This report has been produced in the context of this advice, particularly 'GPA2 – Managing Significance in Decision-Taking in the Historic Environment'.

GPA2 - Managing Significance in Decision-Taking in the Historic Environment

GPA2 sets out the requirement for assessing 'heritage significance' as part of the application process, stating that: '*understanding the nature of the significance is important to understanding the need for and best means of conservation*.' This includes assessing the extent and level of significance, including the contribution made by its 'setting' (see GPA3, below). GPA2 notes that '*a desk-based assessment will determine, as far as is reasonably possible from existing records, the nature, extent and significance of the historic environment within a specified area, and the impact of the proposed development on the significance of the historic environment, or will identify the need for further evaluation to do so*'.

Heritage significance

Discussion of heritage significance within this assessment report makes reference to several key documents. Regarding Listed Buildings and Conservation Areas, it primarily discusses 'architectural and historic interest', which comprises the special interest for which they are designated.

The NPPF provides a definition of 'significance' for heritage policy (Annex 2). This states that heritage significance comprises '*The value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic*'.

Regarding 'levels' of significance, the NPPF provides a distinction between: designated heritage assets of the highest significance; designated heritage assets not of the highest significance; and non-designated heritage assets.

Historic England's 'Conservation Principles' expresses 'heritage significance' as comprising a combination of one or more of the following values: evidential; historical; aesthetic; and communal.

Effects upon heritage assets

Heritage benefit

The NPPF clarifies that change in the setting of heritage assets may lead to heritage benefit. Paragraph 200 of the NPPF (2018) notes that '*Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably*'.

Paragraph 28 of GPA3 notes that '*good design may reduce or remove the harm, or provide enhancement*'. Paragraph 84 of 'Conservation Principles' states that '*Change to a significant place is inevitable, if only as a result of the passage of time, but can be neutral or beneficial in its effects on heritage values. It is only harmful if (and to the extent that) significance is reduced*'.

Specific heritage benefits may be presented through activities such as repair or restoration, as set out in 'Conservation Principles'.

Effects upon non-designated heritage assets

Paragraph 197 of the NPPF (2018) guides that '*The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non designated heritage assets, a balanced judgment will be required having regard to the scale of any harm or loss and the significance of the heritage asset.*'

APPENDIX 2: GAZETTEER OF HERITAGE ASSETS

CA Ref.	HER Ref. *NHLE Ref.*	Description	Period
1	**MDR2589**	Cropmarks of a rectangular enclosure and two linear features south of Boundary road, Etwall were recorded from aerial photographs.	Prehistoric
2	**MDR2585**	Cropmarks of a ring ditch and linear on Egginton Common evident on aerial photographs.	Prehistoric
3	**MDR2575** **MDR13154** **MDR2588**	A collection of over 20 Acheulean hand axes and flakes were recovered from a gravel pit in north Willington. A further hand axe was identified during construction work of the Derby Southern Bypass. A slim flake-like hand axe was recovered in a gravel pit south of the A5132 in conjunction with a disc or tortoise core.	Palaeolithic
4	**MDR12344**	A scraper, small core and a primary flake were recovered during a watching brief on the site of The Castle Way, Willington.	Mesolithic to Neolithic
5	**MDR7691**	Situated within the vicinity of Etwall Road. Cropmarks of several ring ditches and a double ring ditch with entrance gaps suggesting the site of a Neolithic hengiform enclosure. Further linear features and rectilinear enclosures are also evident as cropmarks. These features, situated within periglacial and geological features, were identified from aerial photographs.	Neolithic to Bronze Age
6	**MDR7147**	Uncovered during a watching brief and excavations by the University of Leicester Archaeological Service (1997) was evidence of an occupation site along Willington Quarry haul road, Willington which included a pit, postholes and possible stake holes. Further archaeological investigations revealed finds including a polished stone axe of Welsh origin.	Neolithic to Bronze Age
7	**MDR4333**	Cropmarks of ring gullies, ring ditch enclosures and potential funerary landscape monuments and further linear features were excavated during the 1990s at Hill Farm, prior to gravel extraction on the site. Substantial amounts of pottery and charred material were uncovered during the excavations.	Neolithic to Iron Age
8	**MDR2577** **MDR2582** **MDR2576**	Two cinerary urns found in 1937 in a gravel extraction pit along Burton Road, Willington. Prehistoric pottery was found on Egginton Common with further fragments of a cinerary urn recovered adjacent to Ryknield Street (Roman road).	Bronze Age (and undefined prehistoric)

CA Ref.	HER Ref. *NHLE Ref.*	Description	Period
9	**MDR2584** **MDR14504** **MDR15821**	A series of cropmarks indicating field boundaries, rectilinear enclosures situated east of Dale Farm with further medieval cropmark evidence of ridge and furrow. A late prehistoric pit alignment has also been visible as cropmarks on aerial photography in addition to two linear cropmarks identified as Iron Age to Roman field boundaries situated north of Dale Farm, Willington.	Iron Age to Roman
10	**MDR12143**	A rectilinear enclosure was identified on aerial photography as a cropmark north of Twyford Road, Willington. Further linear ditches were also identified along with boundary ditches within the vicinity.	Prehistoric to Roman
11	**MDR10207**	The alignment of Ryknield Street, a Roman road running approximately north/south linking important Roman settlements, thought to be traced by the modern A38.	Roman

APPENDIX 3: PROPOSED PARAMETERS PLAN AND MASTERPLAN

+61.500 Level at top of Landscaped Bund

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Burnaston Cross
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Parameters Plan

Drawing status:	Preliminary
Cad reference:	16-078 A004
Drawn:	CD
Team:	CD
Date:	June 2018
Scale:	1:2500 @ A2

Project no:	Dwg no:	Rev:
16-078	A004	C

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Notes:

To be read in conjunction with relevant consultants drawings.

Revision:

A CD 09/03/2018
Masterplan Updated.
B TM 03/05/2018
Masterplan Updated to BWB final comments.
D CD 12/06/2018
Masterplan Updated.
E CD 02/07/2018
Masterplan Updated.
F CD 06/07/2018
Swales and Bunds Updated.
G CD 01/08/2018
Landscaping Updated.
H CD 01/08/2018
Landscaping Updated.

UNIT 1:		
Warehouse	55,140 sqft	5122.7sqm
Office [2 Storey]	4,320 sqft	401.3 sqm
Total	59,460 sqft	5524.0 sqm
NDA		3.7 acres
UNIT 2:		
Warehouse	195,850 sqft	18195.1 sqm
Office [2 Storey]	9,500 sqft	882.5 sqm
Total	205,350 sqft	19077.6 sqm
NDA		8.3 acres
UNIT 3:		
Warehouse	134,800 sqft	12523.3 sqm
Office [2 Storey]	9,000 sqft	836.1 sqm
Total	143,800 sqft	13359.4 sqm
NDA		6.3 acres
UNIT 4:		
Warehouse	245,125 sqft	22772.8 sqm
Office [2 Storey]	10,450 sqft	970.9 sqm
Total	255,575 sqft	23743.7 sqm
NDA		11.2 acres
UNIT 5:		
Warehouse	17,653 sqft	1640.0 sqm
Office [1 Storey]	1,622 sqft	150.7 sqm
Total	19,275 sqft	1790.7 sqm
NDA		1.2 acres
UNIT 6:		
Warehouse	14,394 sqft	1337.2 sqm
Office [1 Storey]	1,640 sqft	152.4 sqm
Total	16,034 sqft	1489.6 sqm
NDA		1.1 acres
UNIT 7:		
Warehouse	22,370 sqft	2078.2 sqm
Office [1 Storey]	1,410 sqft	131.0 sqm
Total	23,780 sqft	2209.2 sqm
NDA		1.4 acres
UNIT 8:		
Warehouse	16,079 sqft	1493.8 sqm
Office [1 Storey]	1,410 sqft	131.0 sqm
Total	17,489 sqft	1624.8 sqm
NDA		1.2 acres
UNIT 9:		
Warehouse	70,551 sqft	6554.4 sqm
Office [2 Storey]	4,086 sqft	379.6 sqm
Total	74,637 sqft	6934.0 sqm
NDA		3.5 acres
UNIT 10:		
Warehouse	63,287 sqft	5879.5 sqm
Office [2 Storey]	5,260 sqft	488.7 sqm
Total	68,547 sqft	6368.2 sqm
NDA		3.4 acres
UNIT 11:		
Warehouse	67,581 sqft	6278.5 sqm
Office [2 Storey]	5,616 sqft	521.7 sqm
Total	73,197 sqft	6800.2 sqm
NDA		3.3 acres
Total GIA:	957,144 sqft	88921.4 sqm
Gross Site Plan:		77.9 acres
Net Developable Total Areas:		44.6 acres

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Masterplan

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16-078	MP05	H

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