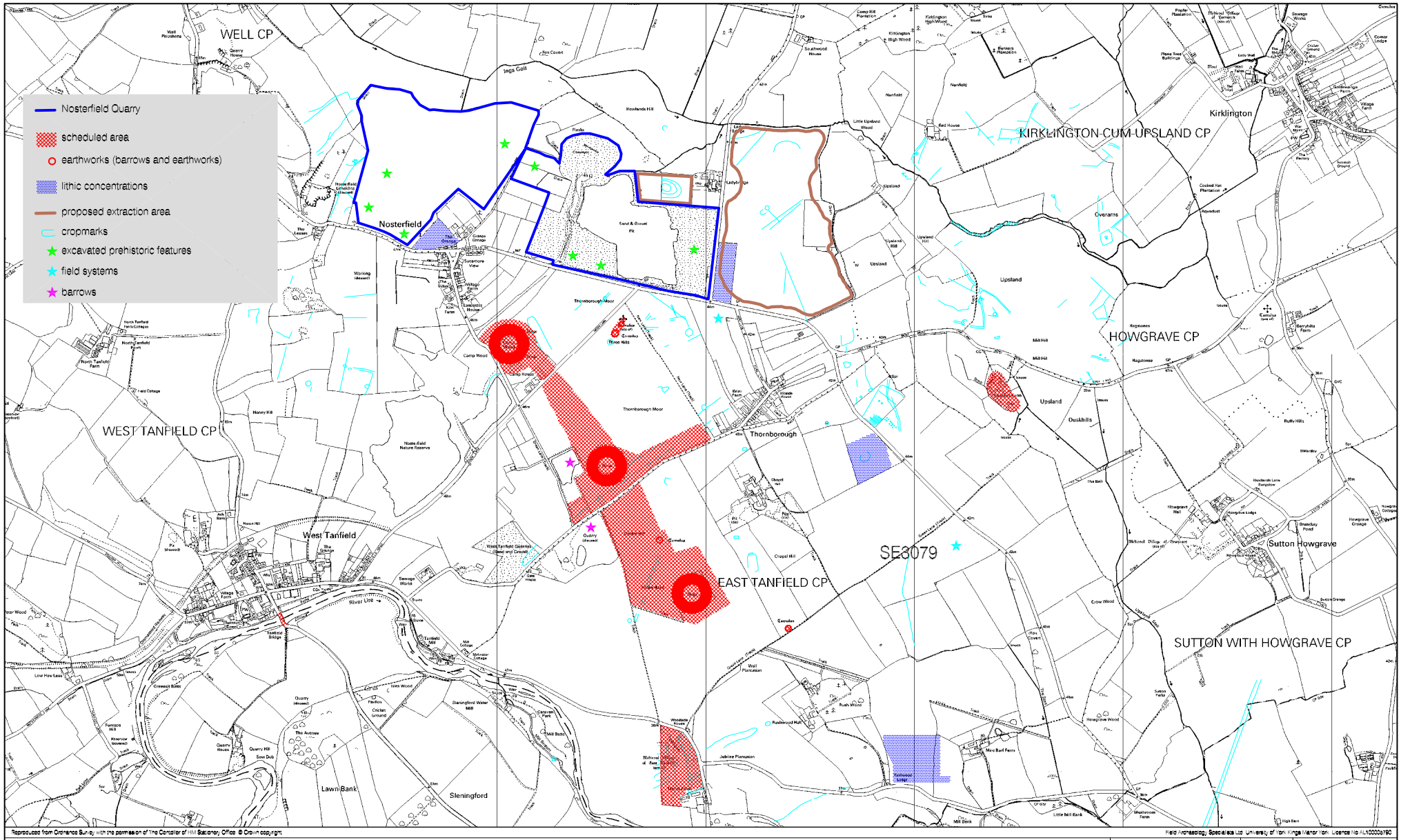
2.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Ladybridge Farm is situated within a landscape known to have been intermittently occupied and exploited in a wide range of ways during prehistory, and in subsequent periods to the modern day (Figure 2). The site lies to the north of the henges and barrows of Thornborough, which have prompted study and interest in this area since the 19th century. Consideration of the archaeological and historical background to this project, therefore, focusses primarily on the prehistory of the area, and the evidence for occupation and activity from the Mesolithic to the Iron Age. However, there is also a need to consider the later use of the landscape, since medieval agriculture, post-medieval enclosure, and modern activities, have all impacted on the remains of earlier activity, and shaped the landscape and the archaeological resource as it exists today.

2.1 PALAEOLITHIC AND MESOLITHIC (*c*.250,000BC - *c*.8000BC) (*c*.8000BC - *c*.4500BC)

Typically for this period of prehistory, there is very little evidence for Palaeolithic and Mesolithic activity in the Nosterfield area. The finds of flints in peat samples extracted at the Nosterfield Quarry reveal the potential for early lithic remains (Berg 1991), and since then, programmes of fieldwalking have allowed some conclusions to be drawn concerning human activity in the area during this period.

Fieldwalking undertaken as part of the Vale of York/Vale of Mowbray Neolithic Landscape Project revealed some limited evidence for later Mesolithic and early Neolithic activity in the landscape surrounding Ladybridge Farm (Harding 1994; 1998, 36-7) (Figure 3). These finds were identified throughout the area under study, and showed no notable concentrations that may have been indicative of occupation sites. A series of Mesolithic artefacts was recently recovered from excavations of a later Neolithic or Bronze Age burial monument, close to the Thornborough henges, including three microliths, an opposed platform blade core, a bladelet core and ten bladelets (Harding and Johnson 2004d, 16). This may provide stronger evidence for Mesolithic activity in the immediate area.



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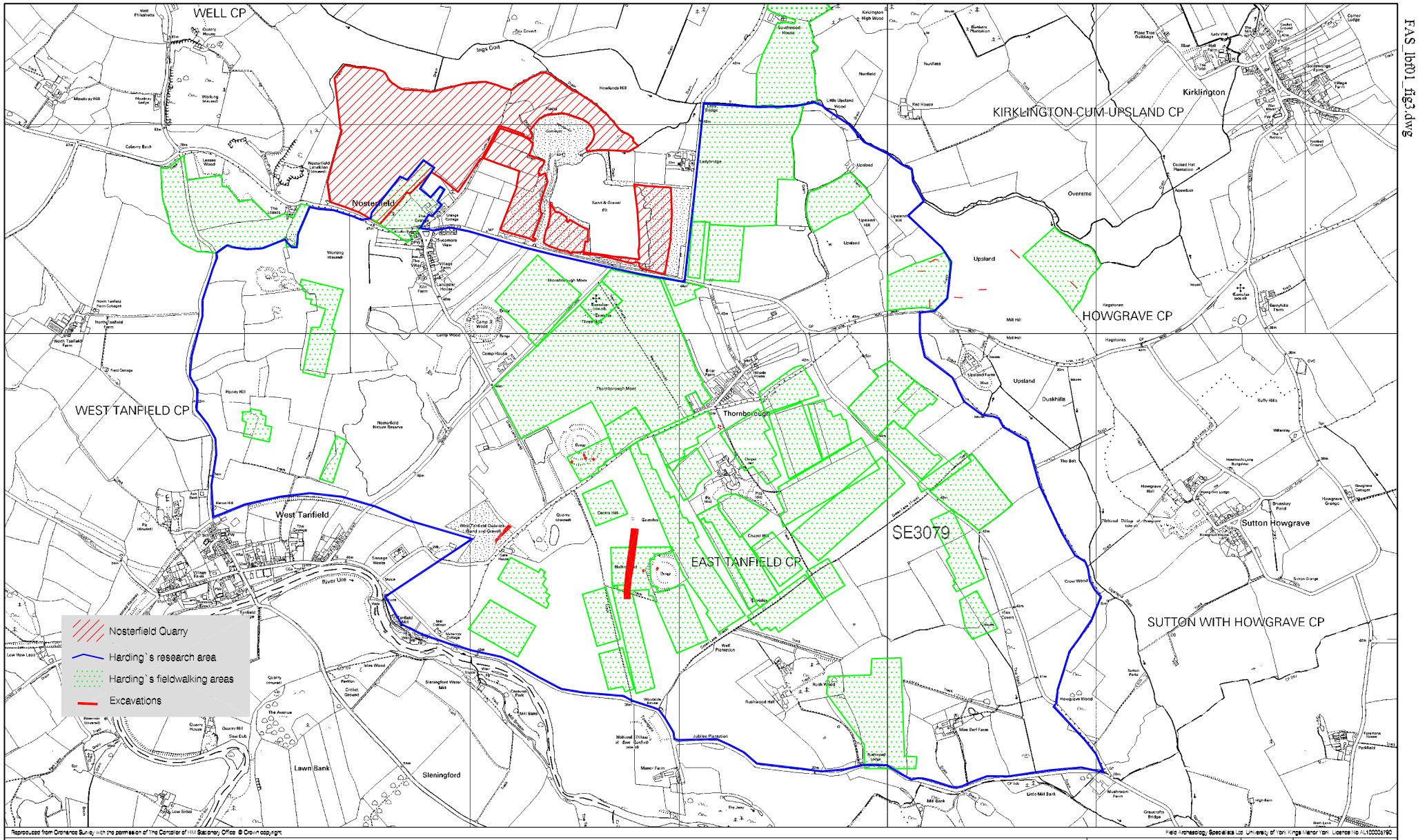
Map of known archaeology

Scale 1:25000

Figure 2



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Previous archaeological investigations

Scale 1:25000

Figure 3

2.2 NEOLITHIC (*c*.4500BC - 2500BC)

The landscape of the area in the early Neolithic is thought to have been heavily forested, with lakes and marshes located in valley bottoms (Muir 1997, 30). The high humus content of material recovered during excavation of the cursus ditch of the Thornborough monument complex was considered to represent a 'relatively close woodland under oceanic climate with plentiful rainfall' (Thomas 1955, 432; *cf* Vatcher 1960).

The Neolithic is seen as a period of transition, from the small-scale agricultural societies of the early Neolithic, to the development of a more complex society, and the 'emergence of powerful groups and individuals who were able to mobilise labour and construct large ceremonial complexes' (Harding 2000, 1-3). This general trend is evident in the chronology of monument construction in North Yorkshire. Although lying outside the Ladybridge Farm site, the Thornborough monument complex is likely to have dominated the area, both physically and in terms of investment of resources. Although investigated archaeologically since the 1950s, the evolution of this monument complex has not been well understood; modern excavation and dating techniques have allowed for further understanding of the chronology of this monument complex as it developed through the Neolithic and Bronze Age.

The earliest monument identified within the Thornborough monument complex is a cursus, which runs from northeast to southwest for at least 2.3km. The cursus was identified initially on aerial photographs of the 1940s and 1950s, and was verified by excavations in subsequent decades (Thomas 1955; Vatcher 1960). From environmental evidence within the cursus ditches, Vatcher and Thomas suggested a late Neolithic or early Bronze Age date (Vatcher 1960, 179), which would compare with other cursus monuments from the area (Topping 1982). This has recently been disputed, however, and Harding (1998, 29) suggests an early to middle Neolithic date would be more appropriate. During quarrying in 1958, a crouched inhumation was identified in the central line of the cursus, and was used to infer the importance of this feature as a focal point for ceremony. However, no secure stratigraphic evidence links the features, and the chronological implications of such a juxtaposition are not understood.

Although previously thought to have been an isolated monument within its contemporary landscape, recent studies of aerial photography detected the presence of an 'ovate enclosure' at the eastern end of the cursus (Harding 1998, 29). The site has been tentatively interpreted as a 'long mortuary enclosure', measuring some 19m by 16m, and provides some indication that this area may have provided a focal point for several monuments (Harding 1998, 29).

The subsequent construction of the three Thornborough henges, on a NW-SE alignment across the landscape, would have been a massive undertaking. Measuring 240m across, and placed at 550m intervals, the complex spans a distance of 1.3km across the landscape. Burl (1969) classified these monuments as Class IIA, a distinct regional group known to be confined to the henges of Thornborough, Hutton Moor and Cana Barn, with an outlier in the 'Big Rings' of Dorchester on Thames.

Little was previously known of the date and chronology of henge monuments of the area, despite some excavations at Nunwick (Dymond 1964), Hutton Moor (Raistrick 1929) and Thornborough (Thomas 1955). Thomas's investigation provided evidence that these monuments postdated the cursus, and also revealed the

presence of gypsum within the banks (Thomas 1955, 433). It was suggested that the gypsum had previously been used to coat the banks of the henge, and had permeated into its core over time, although this interpretation remains speculative. However, more recent excavations (Harding 1997; 1998, 29-32) identified three distinct phases of construction, and Harding tentatively suggests a date in the later Neolithic for their construction, although this relies on evidence from other henges and requires further substantiation (Harding and Johnson 2003, 19).

Reconnaissance fieldwalking undertaken as part of the Vale of York/Mowbray Neolithic Landscape Project revealed a marked change in the distribution of later Neolithic finds. There appears to be a notable lack of Early to Middle Neolithic chert and flint (indicative of domestic occupation) in the immediate vicinity of the henges, corresponding with a clustering of finds at distances of over 600m away (Harding 1994, 1995, 1996, 1997, 1998). The same pattern is also evident in the later Neolithic (Harding 1998, 29). This has been interpreted as the restructuring of activity in the landscape over a long period of time, resulting in the spatial separation of the sacred and the profane. The closest concentration of activity to the henges occurs on the low ridge of Chapel Hill. The fact that this is one of the nearby sites from which the henges are not visible was considered to be significant (Harding 1998, 37).

More recent finds from Nosterfield Quarry have also been seen to reflect this division of the landscape. Finds of Neolithic axes, and assemblages of early Neolithic pottery (Grimston ware) and later Neolithic pottery (Peterborough ware, Late Neolithic Grooved ware) provide possible evidence for domestic activity. These finds were recovered from pit groups in the eastern half of the quarry, including an area immediately south of the Ladybridge Farm buildings (Dalland 1995; Gledhill and Griffiths 1995). To the west, however, evidence is lacking for Neolithic activity. The only material relating to domestic activity is provided by the finds recovered during an earlier programme of reconnaissance fieldwalking (Harding 1994), but no associated features were revealed during recent watching briefs (FAS 2005). The Ladybridge Farm area was identified by Harding and Johnson (2004b, 20) as an area worthy of further investigation, since evidence for domestic activity has been shown to favour gravel ridges at some distance from the major monument complex (Harding and Johnson 2004b; 2004c).

Pit alignments represent another feature that would have demarcated and divided the prehistoric landscape. A double pit alignment associated with the Thornborough henges was identified in aerial photographs during the dry season of 1976 (St Joseph 1977), and although it is was within a Scheduled Ancient Monument area, it was largely excavated (Harding 1998, 32). The monument was believed to post-date the henges and predate the Bronze Age barrows in the vicinity (Harding 1998, 32). Evidence for timber uprights was identified, and the presence of Bronze Age pottery in recuts associated with the removal of these posts has been used to suggest that the pit alignments were constructed in the later Neolithic or early Bronze Age, roughly contemporary with the development of the henges. This was further supported by radiocarbon dating of fragments of charcoal from the post-pipes of these features, which dates of 1750-1590 cal BC (3385 ± 38 BP: OxA-11009), 1000-825 cal BC (2761±35 BP: OxA-11033) and 925-800 cal BC (2716 ± 37 BP: OxA-11010) (Harding and Johnson 2003, 23). This has been compared to a radiocarbon date from one of three double pit alignments uncovered during the widening of the A1 at Dishforth, which provided a date in the later Neolithic (Tavener 1996, 185-6). Two further double rows of posts close to the Devils Arrows, produced late Neolithic/early Bronze Age dates of 4234 ± 80 BP (RCD-1596) and 4314 ± 87 BP (RCD-1597) from their post-pipes, used to suggest a later Neolithic date

for their construction (Harding and Johnson 2003, 23).

During watching briefs at the nearby Nosterfield Quarry, six further pit alignments were identified and excavated (FAS 2005), and the desk-based assessment revealed many more in the wider landscape (FAS 2003). At least one of these pit alignments was similar in plan to that excavated close to the henges, being a widely spaced, double pit alignment (FAS 2005), and may belong to the same period. Other single pit alignments, however, appear from stratigraphic and radiocarbon dating to belong to the Iron Age (see Section 2.4).

2.3 BRONZE AGE (2500BC - 700BC)

During the Bronze Age, the henges appear to have remained significant landscape features, and formed a focal point for Bronze Age burials, often beneath barrows or within ring-ditches. At least ten barrows have been identified in the vicinity of the Thornborough henges (FAS 2003, 21), and many are known to have been subject to antiquarian investigations, which produced evidence for urns, cremations and inhumation (Lukis 1870a). More recently, a detailed survey has been undertaken of barrows in 'Three Hills Field' to the southwest of Ladybridge Farm (Harding and Johnson 2004a, 5), which revealed a previously undetected barrow, and further evidence for a double ring-ditch identified previously by geophysical survey (Biggins 2003 in Harding and Johnson 2004a, 15). Investigation of a sample of monuments was advocated, as they are gradually being destroyed by modern agriculture, and two barrows were selected for evaluation: the poorest surviving monument, and one of the better preserved examples (Harding and Johnson 2004a; 2004d). The former, one of the Three Hills group, had previously been excavated by Lukis (1870), who recorded heat affected clay layers with evidence of burnt bone. Nearby examples excavated in contemporary investigations produced evidence for urned cremations, presumably Bronze Age (Lukis 1870). The more recent evaluation trench across this monument revealed two segments of the ditch, found to measure 0.8m and 0.4m deep respectively. No finds were recovered, and the destruction caused by ploughing was emphasised (Harding and Johnson 2004d, 10).

The second barrow investigated is referred to both as the 'double ring-ditch barrow' or the 'triple ditched barrow'; aerial photographs revealed two ditches, and a possible third was identified during geophysical survey and excavation (Harding and Johnson 2004d, 16). The evaluation of this feature revealed segments of three possible surrounding ditches, and a number of internal pits, which have been used to suggest the possibility of three phases of construction, although stratigraphic evidence appears to have been unclear (Harding and Johnson 2004d, 16). Excavation of the internal pits included at least three containing fragmentary human remains, suggested to represent at least five individuals. Finds recovered included Mesolithic and Neolithic flint artefacts, and although dating evidence was scarce, a later Neolithic date has been tentatively suggested for this monument, based on the presence of collective burials, the apparent disturbance and reburial of remains, and the lack of ceramic vessels (Harding and Johnson 2004d, 22, 25). A sherd of Grimston ware from surface collection is considered to be residual (Harding and Johnson 2004d, 25). The damage caused by ploughing was again noted, and full investigation of such monuments advocated (Harding and Johnson 2004d, 26).

Recent archaeological investigations at Nosterfield Quarry have added evidence for further examples of Bronze Age burial in the vicinity. A large ring-ditch, 17m in diameter, was excavated, and was found to have a centrally located, unurned cremation (SE 2740 8067; FAS 2005). To the northeast of this ring-ditch, a scatter of ten further cremation burials was excavated, seemingly adhering to the edge of a second ring-ditch. Four were

found to contain inverted urns, which have been dated to the middle Bronze Age. It is possible, therefore, that burial beneath barrows was a long-lived tradition in this area.

Evidence for Bronze Age occupation is limited. Rare fragments of Bronze Age pottery identified from recent investigations at Nosterfield Quarry (FAS 2005a), and the ceramic assemblage from excavations at Marton-le Moor, indicate some occupation in the general area, though the nature and extent of activity is uncertain. Many of the remaining Bronze Age finds from the area are the result of chance discoveries, and are therefore poorly provenanced (Harding and Johnson 2003, 24).

2.4 IRON AGE (700BC - AD43)

Prior to recent investigations at Nosterfield Quarry, there was a notable lack of evidence for Iron Age activity in this area; climatic deterioration was thought to have led to intensification of farming in lowland areas, and an abandonment of less favourable regions. Despite Iron Age settlements having been identified on the gravel terraces at Scorton (FAS 1997) and Catterick (Moloney 1996), it has been suggested that the area between the Swale and Ure was not settled during this period, possibly due to an exhausting of the soils during the Bronze Age (Tavener 1996).

At Nosterfield Quarry, evidence has started to reveal that this landscape was exploited as an area for burial and possibly occupation during the Iron Age. Two possible square barrows were excavated, similar in form to those known to be of Iron Age date elsewhere (FAS 2005). Although lacking central burials, one of the ditches was found to contain the skeletal remains of an adult male, which provided a radiocarbon date of 135 ± 35 BC (Holst 2004; SUERC-3780). An Iron Age context for these features is further supported by the presence of a quadruple horse burial close to the second square-ditch enclosure, which has produced a radiocarbon date of AD50 ± 35 (SUERC-2974). These finds suggest continued use of this area for burial, although the nature and location of associated settlements remains unknown.

Two single pit alignments, which crossed the quarry site on a roughly NW-SE alignment, provided some evidence for an Iron Age date. One of the features was found to cut a ring-ditch, from which the central burial provided a radiocarbon date in the Bronze Age. Carefully arranged disarticulated remains from one pit alignment which also cut the ring-ditch provided an Iron Age date (AD 40±35; SUERC-3778), and suggested that the landscape was being actively divided and demarcated during the Iron Age.

2.5 ROMAN (AD43 - AD409)

During the Roman period, evidence for settlement in the area is clearer. Ladybridge Farm lies some distance to the west of the modern A1, which follows the route of Roman Dere Street. The road would have been a major north-south route, linking the area to forts such as Aldborough and Catterick. The surface of this road has previously been identified at Healam Bridge (*YAJ* 1951, 522-3) and the Baldersby Gate crossroads (*YAJ* 1943, 97-9).

Forts, as noted, exist at Aldborough and Catterick, and more recently a further example and associated *vicus* was identified at Healam Bridge (Jones 1994). The landscape surrounding these forts would have been highly

Romanised, occupied by the villas and estates of the Roman military elite. The identification of several villas in the area attests to relatively high-status occupation in the area. At Well, less than 1km from Nosterfield, evidence for a bathhouse complex was excavated, and evidence for a tessellated pavement identified (Gilyard Beer 1951; Smith 1969). Another villa was recognised at Castle Dikes, probably dating to the early 2nd century, with mosaic floors and fine painted plaster (Berry 1953; Liversidge 1969).

Closer to the site of Ladybridge Farm, at Nosterfield Quarry, a possible corn-drying oven was excavated which was dated archaeomagnetically to the 2nd century AD, providing further evidence for occupation and agricultural activity in the area. Though evidence of charred grain or charcoal was not produced, it has been suggested that this oven would have been used for drying crops. Pottery assemblages from the quarry at Nosterfield have provided evidence for a 2nd to 3rd century settlement in the vicinity, whose inhabitants cooked and ate their food in a highly Romanised manner; little evidence for 'native' pottery was produced (Precious and Vince 2004).

The Roman assemblages also indicate the development of the palimpsest of the Nosterfield landscape. Many of the upper fills of pit alignments and ditches from earlier periods, including at least one ring-ditch, produced Roman pottery, demonstrating that these features would have been visible, although disused, during the Roman period. The find of a Roman brooch in excavations of the southern henge also attests to this phenomenon (Harding 1998, 32).

2.6 EARLY MEDIEVAL (AD409 - AD1066)

No archaeological evidence for settlement of early medieval date has been produced from the area, and little is known of the development of the landscape during the sub-Roman period. The best evidence for early medieval activity comes from antiquarian accounts of furnished burials, beneath a mound at Howe Hill, near Carthorpe (Lukis 1870b), and from accounts of finds near Camp Hill. Both sites lie to the northeast of Ladybridge Farm, up to 3km away.

Lukis' (1870b) account of the burials at Howe Hill records the identification of four burials, which had been interred with a variety of grave goods including beads, knives, buckles and strap ends. The description of their position suggests that the burials may have been in crouched positions. Lukis (1870b, 180) notes the occurrence of these burials on gravel ridges; this is a typical location for Anglo-Saxon burial, occupying high, prominent land within the landscape. The burial at Camp Hill is possibly later; Lukis stated, on the basis of the artefacts, that the skeleton was 'evidently of the Danish period' (Lukis 1870b, 180).

Evidence for ecclesiastical activity of early medieval date is slightly more prolific. There is known to have been an important bishopric established at Ripon by at least the 8th century, and the influence of the church in the surrounding area is evidenced by finds of Anglian period sculpture from Magdalen Field and Tanfield Lodge (Collingwood 1907; 1911). Whellan (1859) notes an 'alleged' chapel near Hall Garth, but no further evidence has been recorded for this foundation. These sites are situated to the south of Ladybridge; although tentative, it may be that burial activity moved from a slightly elevated landscape towards the lower land of the river valley.

Many of the settlements in the Nosterfield area are recorded in the Domesday book, suggesting pre-Conquest

origins, but beyond this, little is known of the early medieval landscape.

2.7 MEDIEVAL (AD1066 - AD1539)

By the 12th and 13th century, historical documentation provides clearer evidence for the nature of settlement in the area. The landscape appears to have been occupied by dispersed settlement, agricultural land and woodland, held by secular and ecclesiastical landholders. Many of the churches in the vicinity have 12th century fabric, indicating increased investment in ecclesiastical foundations, presumably to provide pastoral care for the rural population.

Much of the land in the area is thought to have been held by the church, although wealthy landowners are also recorded in historical documentation. The surrounding lands would have been given over to strip fields for farming, or as common land. The area surrounding Ladybridge Farm belongs to a large tract of common land, divided into Nosterfield Common, Thornborough Moor and Tanfield Common. Ladybridge Farm itself lies in land previously belonging to Thornborough Moor, known to have been enclosed by *c.*1799 (FAS 2003, Figure 5). Strip fields are preserved on 19th century maps, and in the plans of many of the surrounding villages; such evidence exists for the areas of land to the south of Ladybridge Farm, west of the village of Thornborough. As well as farming and grazing, other resources would have been exploited in the area. For example, documents of the 13th century provide evidence for peat extraction, meadows as well as woodland, pasture and farmland.

Into the 16th century, the settlement pattern appears to have shifted, and a move towards more nucleated settlements appears to have been made. Villages such as West Tanfield grew and survived as centres of population, while others, including the riverside settlement of East Tanfield, were abandoned. Many deserted medieval villages have been identified in the vicinity, with examples at Yarnwick Garth, Kirklington, Nunwick, Howgrave and Upsland (Beresford and Hurst 1971). The site at East Tanfield was described by Beresford and Hurst (1971, 64) as of 'medium quality, worthy of preservation'.

2.8 POST-MEDIEVAL AND MODERN (AD1539 - present)

Into the post-medieval period, many of the strip fields would have been obliterated with the division and allocation of the land after the Enclosure Acts. This would also have resulted in the loss of considerable tracts of common land, previously used for grazing and collecting firewood.

The areas of West Tanfield and Thornborough were enclosed during the 1790s, while land to the southeast, at Hutton Moor, remained unenclosed into the earlier years of the 19th century. The plans resulting from these enclosures are preserved in many contemporary documents, and have been discussed in more detail in the recent desk-based assessment (FAS 2003). The land appears to have remained primarily agricultural, and the settlement pattern remains much as it would have been in the 16th century, though from this period onwards, land ownership remained in the hands of a small number of wealthy families, whose seats are represented by a number of impressive halls in the surrounding landscape (FAS 2003, 35-6).

Post-medieval and modern extraction

Evidence also attests to the increasing exploitation of the mineral and aggregate resources of the land throughout these centuries (FAS 2003). In 1750, Bowen described the earth of North Yorkshire as 'full of a valuable treasure of metals and minerals, as lead, allum, jet, copperas, marble, pit coals & c.' (Bowen 1750). The underlying Magnesium limestone of the area is known to have been exploited since Roman times for building material, and also for cement and lime burning (Page 1914, 477-8). Few historical references relating to this industry survive, although cartographic evidence, and visible workings within the landscape provide an indication of the scale of such activities.

Ordnance Survey editions of 1856 label 'Old Quarries (Limestone), and the 'Nosterfield lime kilns' to the west of Nosterfield; the fact that such features are not represented on later 18th century maps is of unclear significance. Field boundaries are shown crossing these sites in 1792, which may have been in place prior to quarrying, or could represent later reclamation of land. However, field names such as 'Lime Kiln Close' and 'Kiln Close' shown on enclosure maps suggest that such activity may date back to the post-medieval period or earlier. In the wider area, post-medieval quarrying has also been evidenced at Magdalen Wood, near the banks of the River Ure.

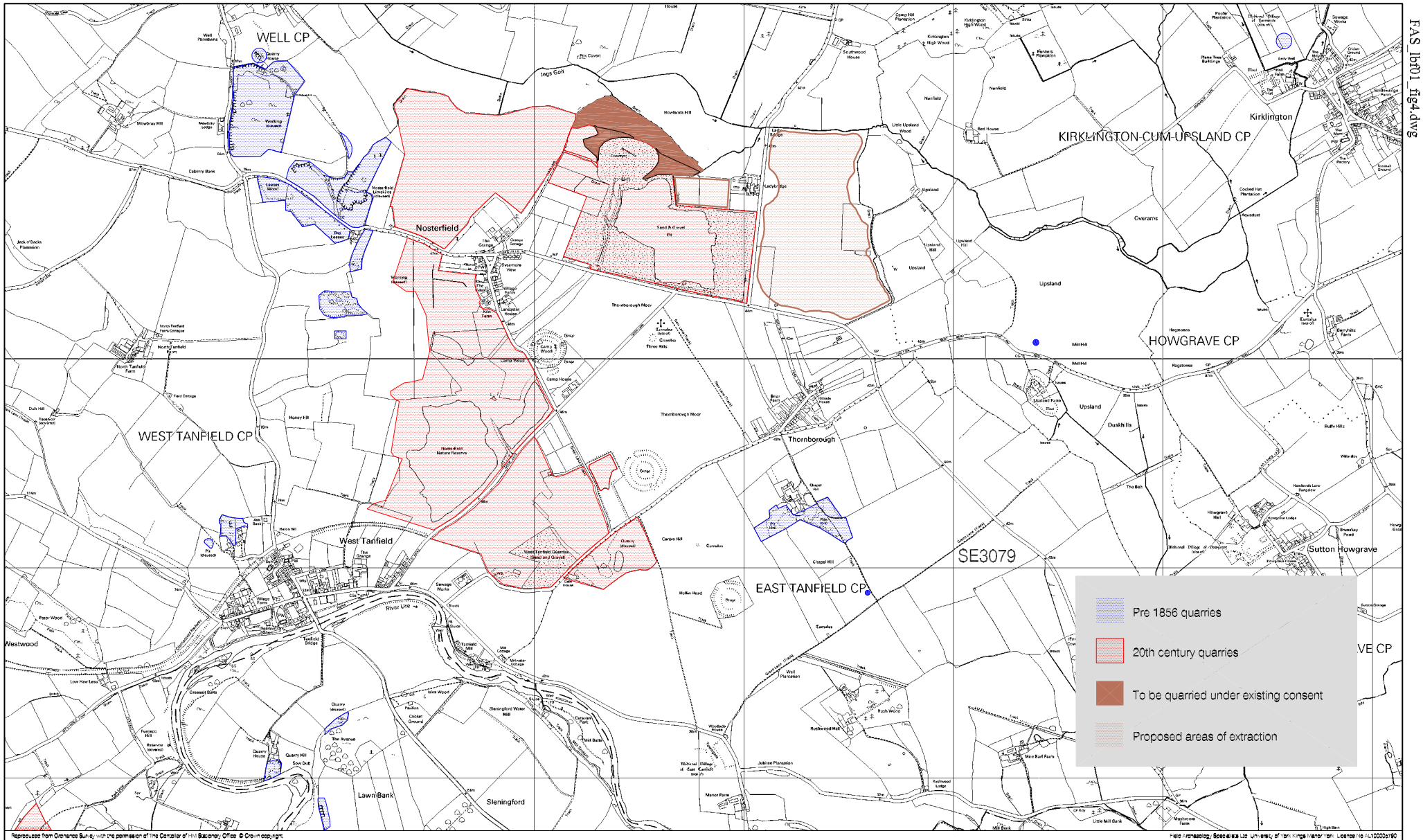
The rich deposits of sand and gravel present in the Nosterfield area also attracted quarrying throughout the late 19th and 20th century (Figure 4), with the most recent phase of mineral extraction being undertaken at Nosterfield Quarry, incorporating an earlier sand and gravel pit. Clay and marl may also have been extracted from the surrounding area for the production of brick and tile; brickworks in the much wider landscape are known from sites near Nunwick, and shown on the early 19th century Ordnance Survey maps.

2.9 PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

2.9.1 Fieldwork in the area surrounding Nosterfield Quarry

Prior to the early 1990s, archaeological fieldwork in the area surrounding Nosterfield had been limited, and dominated by antiquarian activity focussed on specific monuments, although some more recent investigation of the henges and surrounding barrows was undertaken during the 1950s and 1960s (Thomas 1955; Vatcher 1960). In 1994, the Vale of Mowbray Neolithic Landscape project began research in the area, which ran until 1999. This initially took the form of a programme of reconnaissance fieldwalking, carried out between 1994 and 1997, which led to the identification of domestic activity at some distance from the henge complex (Harding 1994 to 1998). This project covered a wide area of the surrounding landscape, focussing predominantly in an area east of the central Thronborough henge, but extending north into the Nosterfield Quarry area and Ladybridge Farm.

Subsequently, targeted geophysical survey and excavation has been undertaken to investigate a number of monuments within the Thornborough complex. An ovate enclosure, identified as cropmarks 250m from the eastern end of the cursus was excavated, and revealed a U-shaped section of ditch, interpreted as an early Neolithic mortuary enclosure. A topographic survey of the northern henge was undertaken in 1996 by Ed Dennison Archaeological Services Ltd. Further excavation was undertaken, with the consent of English



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Location of quarries

Scale 1:25000

Figure 4

Heritage, at the Thornborough monument complex itself. Sections of the outer and inner ditch of the southern henge were investigated in 1995 and 1997 respectively (Harding and Johnson 2003, 19); the inner ditch produced a radiocarbon date of 1695 to 1540 BC (Harding *et al* 1999), which is considered to be unreliable (Harding and Johnson 2003, 19). In 1998, excavation was undertaken at the central henge, where a 20m by 20m trench was excavated and again used to identify successive phases of monument development. A pit alignment within the Scheduled Ancient Monument area was largely excavated. The feature was explored using geophysical survey in 1995 and in 1998-9 was subject to archaeological excavation, when 82 of the 88 pits were investigated (Harding and Johnson 2003, 23). This work revealed evidence for post voids and packing stones indicative of timber uprights.

During August and September 2003, a further programme of reconnaissance fieldwalking was carried out in the surrounding area, covering land to the north of the central henge, as well as a large area east and north of Ladybridge Farm. Total lithic collection was also undertaken in August and September 2003 (Harding 2003, 16; Harding and Johnson 2004c). This was carried out in four locations which had previously produced flint artefacts during fieldwalking, and produced an assemblage of flint artefacts of Mesolithic to Bronze Age date, which allowed for identification of changing use of the landscape over time. Following this, forty-two test pits were excavated, revealing a number of field boundaries and linear features.

Geophysical survey of five known round barrows in the vicinity of the henge monuments was undertaken in July 2003, two of which were then subject to excavation (Harding and Johnson 2004d). Redeposited cremated bone was identified in soil which had been badly disturbed by ploughing (Harding 2004d, 10). Excavation of a double ditched barrow identified during geophysical survey revealed a number of pits containing skeletal remains (Harding 2004d, 16).

2.9.2 Fieldwork at Nosterfield Quarry

Prior to, and during research in the surrounding area, a programme of watching briefs, further evaluation and survey was carried out on the site of Nosterfield Quarry, to the west of Ladybridge Farm. This work began in 1991, with a desk-based assessment of the general area, which was followed by a programme of evaluation trenches in areas to the south and west of the Ladybridge Farm buildings, undertaken in support of the planning application for the current quarry operation (Dalland 1995; FAS 2005a: Investigation 2).

Following the commencement of gravel extraction at Nosterfield Quarry, watching briefs were carried out as each phase progressed, with the agreement of the County Archaeologist. In an area to the north of the Nosterfield road, and south of Ladybridge Farm, the watching brief encountered the remains of a number of pits and scoops which produced lithics and pottery of Neolithic date (FAS 2005: Investigation 3). Subsequently, an area to the west of pre-existing quarry workings at Nosterfield was subject to further watching brief, revealing evidence for further pits of likely prehistoric date (FAS 2005: Investigation 4). A watching brief over a small area to the east of this, carried out by the West Yorkshire Archaeology Service, revealed no further features (FAS 2005: Investigation 5), and a gradiometry survey over an area immediately to the north of the road revealed few features of archaeological significance (FAS 2005: Investigation 6). The lack of features which could be identified by these methods was highlighted by a watching brief in the same area, which revealed evidence for a pit alignment (FAS 2005: Investigation 7). However, a further watching brief to the west of this

area again revealed no features of archaeological significance (FAS 2005: Investigation 8). In 1998, work was undertaken by FAS over a larger area to the northeast of Nosterfield, in the central part of the quarry site, which incorporated a watching brief and surface collection (FAS 2005: Investigation 9). This revealed a series of pits, with lithic and pottery assemblages, which represented evidence for domestic activity surrounding the site of an infilled lake, and which appears to have peaked in the later Neolithic. Investigation of a number of sink holes in the area revealed environmental evidence for five periods of woodland recession and radiocarbon dates, which allowed these to be placed within a chronological framework. During 1999, work was carried out in an area immediately to the north of this intervention, in an area of poorly drained land, known as the Flasks. A walkover of the site revealed a number of topographical features which were then recorded (FAS 2005: Investigation 10). A watching brief undertaken within the same area revealed a number of features of archaeological interest, including a pit alignment and a number of sink holes (FAS 2005: Intervention 11).

Work began on a large area immediately to the north of Nosterfield in 1999, with a programme of fieldwalking in its northern quadrant (FAS 2005: Investigation 12). Few finds were produced, and in the following year, a watching brief in the same area produced evidence for a pit-ditch alignment and a number of isolated pits (FAS 2005: Investigation 13). Further linear features and pits were identified as the work progressed westwards in the following year (FAS 2005: Investigation 14). To the south of this, a further phase of watching brief was undertaken in 2002-3, revealing a complex of funerary and linear features dating primarily from the Bronze Age to the Iron Age (FAS 2005: Investigation 15). Linear features attested to the division of the landscape, and draining of agricultural land, into the modern day. These features continued, though in less density, as the watching brief progressed further east into the final quadrant of this area, where two square-ditch enclosures, possible Iron Age square barrows, were identified (FAS 2005: Investigation 16).

The most recent phases of work at the quarry were undertaken in its northern area, where a topographic survey and auger survey were undertaken in order to further investigate the peat deposits within the infilled Pleistocene lake, and subsequent evaluation revealed a number of topographic features to be geological in origin (FAS 2005: Investigations 16-18). Future archaeological investigations at Nosterfield Quarry include further evaluation and phases of watching brief.

The archaeological fieldwork at Nosterfield Quarry has demonstrated not only the presence of archaeological remains dating from the Neolithic to the Roman period and into the modern day, but also the generally poor state of preservation of such material. Centuries of ploughing have damaged many of the features, and removed much of the stratigraphic evidence; similar observations have been made during fieldwork in much of the surrounding area (Harding and Johnson 2004d, 26).

2.9.3 Desk-based Assessment

In support of the planning application to extend mineral extraction at Nosterfield Quarry to the east into the Ladybridge Farm area, a desk-based assessment was undertaken in 2003 (FAS 2003). The assessment aimed to review existing work and present the results within the context of the wider landscape. Undertaken on two levels, this assessment included a comprehensive survey of a 2.5km square area surrounding the quarry site (Detailed Study Area), and a more general survey of information from the wider landscape (Landscape Study Area). Work included the mapping of archaeological features from aerial photographs and historic maps, and

a detailed consideration of the North Yorkshire Sites and Monuments Records, which were subsequently databased and mapped to allow for discussion of the development of the landscape.

Cropmarks and Historic Field Boundaries
During the desk-based assessment of the surrounding area (FAS 2003), a comprehensive study of all available aerial photographs was undertaken, and visible cropmarks plotted using AutoCad. Further field boundaries were identified from Ordnance Survey maps, and from a number of enclosure maps held at North Yorkshire County Record Office, allowing a map of historic field boundaries in the area to be reconstructed (Figure 5).

The area surrounding Ladybridge Farm formed part of Thornborough Common prior to 1799, when enclosure maps record the area to be enclosed. These areas would presumably have been used as common land for local settlements, providing pasture and resources. After 1799, the common land was divided and allocated to various landholders; large tracts of land were given over to the Earl of Ailesbury. Judging by the lists of field names and their land use in 1838, it seems that much of the land was given over to arable farming, with some pasture and meadow, and more limited areas recorded as woodland.

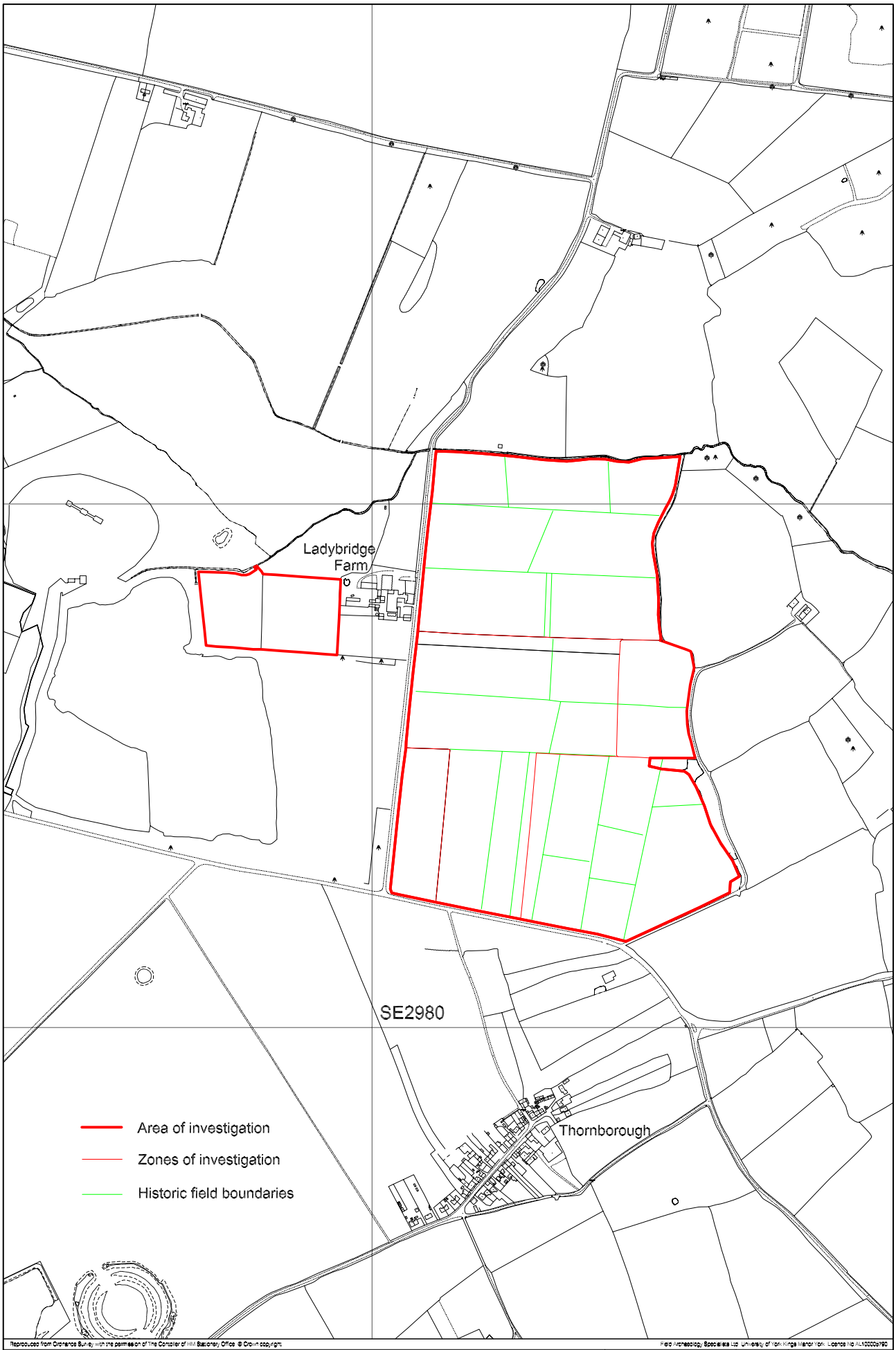
The mapped field boundaries on the Ladybridge Farm site suggest that the southern part of the site was enclosed into a series of rectilinear fields aligned north-south along Thornfield Road; the northern part of the site was divided east-west. Boundaries shown on the later Ordnance survey maps show these fields to have been further subdivided, to form a more irregular pattern of division. Many of these boundaries have since been removed, as farming methods have changed.

A series of linear and curvilinear features were identified as cropmarks, most of which are visible on a photograph held by the National Monuments Record (MAL 71178, November 1971, ©NYCC) (Figure 6). These features included a series of three, concentric, sub-oval features to the west of Ladybridge Farm which were considered to be geological in origin. A large curvilinear cropmark in the northwestern corner of the main area of investigation, and a further curvilinear feature in the northern part of the area were considered to be of archaeological interest, although it was recognised that they may simply reflect local topography. The remaining cropmarks were also potentially archaeological, particularly the very ephemeral circular and curvilinear features in the centre of the area of investigation; however, the possibility that these features reflected geological variation or land drainage had not been discounted.

2.9.4 Palaeoenvironment

The nature of the geology and sediments in the Nosterfield area are such that a number of palaeoenvironmental studies have been carried out, most notably concentrating on the peat which had accumulated in a relict lake in the north of the Nosterfield Quarry site, and also on sediments within a number of sink holes which have formed in the area, caused by the collapse of surface strata due the dissolution of the underlying gypsum deposits.

Work on peat sediments from the Nosterfield area has been used to discuss the past vegetation and topography of the locality, and environmental change. During the earliest phases of investigation at Nosterfield, a 1.0m monolith was extracted from the area of the Flasks, which identified phragmites peat, formed in the edge of the ancient lake (Berg 1991; FAS 2005: Investigation 1). More recently, a radiocarbon date has been acquired at



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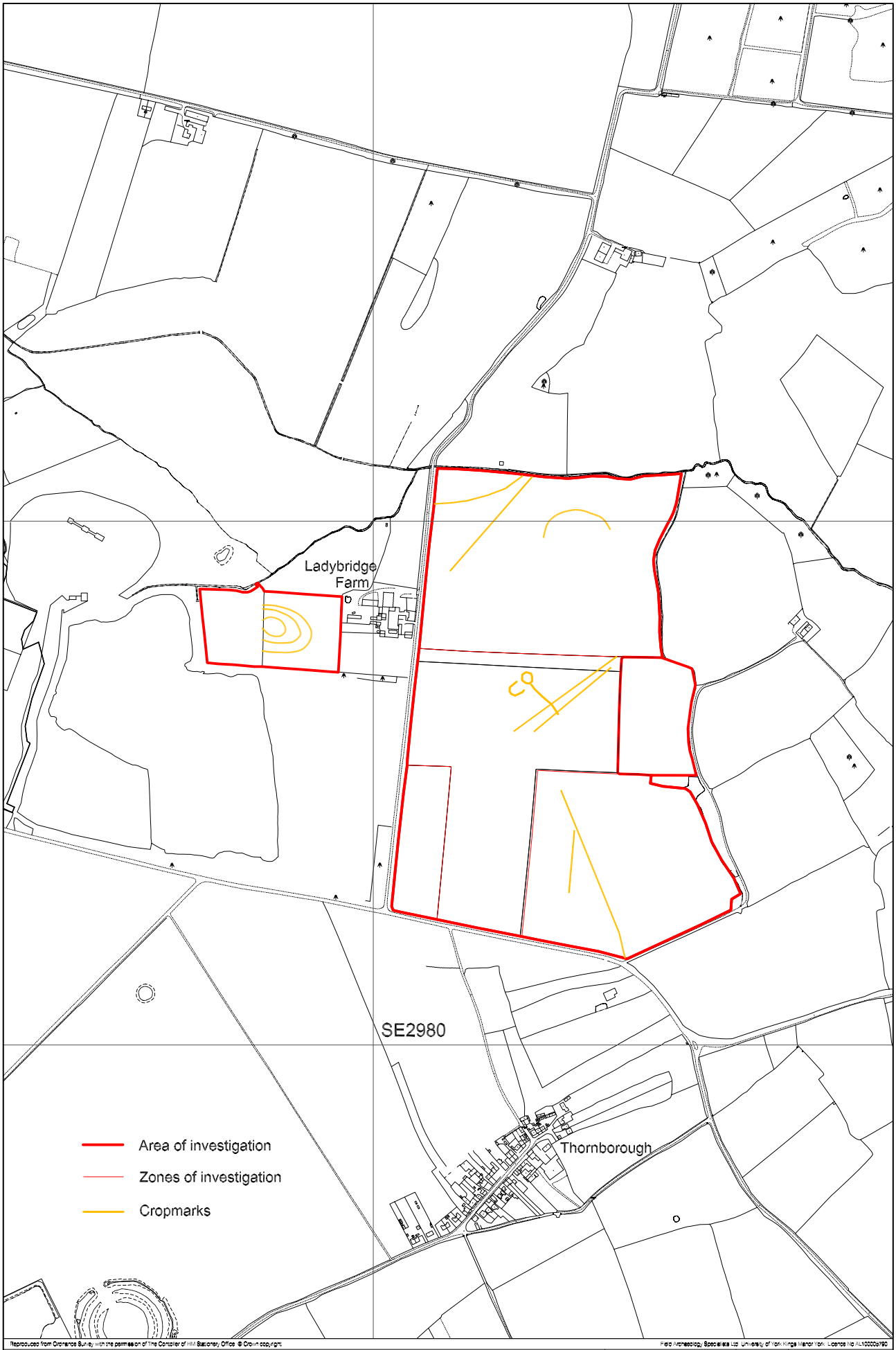
Historic field boundaries within area of investigation | Scale 1:10000 | Figure 5



Cropmarks within area of investigation | Scale 1:10000 | Figure 6

the interface between the marl that formed in this lake and the overlying peat; the resulting date was 8705-8440 cal BC (Beta-143458; FAS 2005: Appendix F), indicating that the lake had been terrestrialised by the beginning of the Mesolithic.

Analysis of sediments from three sink holes close to the edge of this lake have been subject to sediment analysis, with one selected for more detailed palynological study and radiocarbon dating (FAS 2005: Appendix F). This work has been used to describe the vegetational history from the late Neolithic to the Iron Age, identifying five periods of woodland recession, when the landscape appears to have been characterised by more open land, with some limited evidence for cereal production. The final phase of woodland recession, dated to the Iron Age, is considered to have been climatically instigated, but the remaining phases are considered to have been the result of human activity, and the opening and clearance of woodland (FAS 2005: Appendix F).

Further environmental evidence from the wider area is represented by samples taken during quarrying adjacent to Ripon race course, radiocarbon-dated to 9710 ± 60 BP, which revealed pollen and macrofossils indicative of a marshy, damp grassland (Howard *et al* 2000, 31). This evidence has been used to discuss climate change during the Mesolithic, when there is thought to have been a change from an open, woodland environment, to greater forestation, with a shift from shrubs, such as juniper or willow, to trees like birch and pine; this situation is considered typical of the early Holocene in the British Isles (Howard *et al* 2000, 35; FAS 2003, 10).