APPENDIX D

Features Linked to Animal Husbandry within the Field Systems

Trackways

At Lings Farm near Dunsville, an enclosure that formed one part of a double-ditched cropmark and associated coaxial fields was identified on aerial photographs and excavated in 1974 (Magilton 1978). The double ditches were sometimes only 2m apart (Fig. D.01), but Magilton astutely noted that the ditch forming the northern part of the feature had 'successive re-cuts migrating towards its centre' (Magilton 1978: 58). He firmly interpreted this feature as a droveway, and one that had been maintained over some period of time. Furthermore, it had a funnel-shaped entrance opening up to the east, approximately 10m wide. It is likely from their shape that the enclosure and the ditch forming the northern boundary of the trackway were laid out at the same time, or that the trackway post-dated the enclosure.

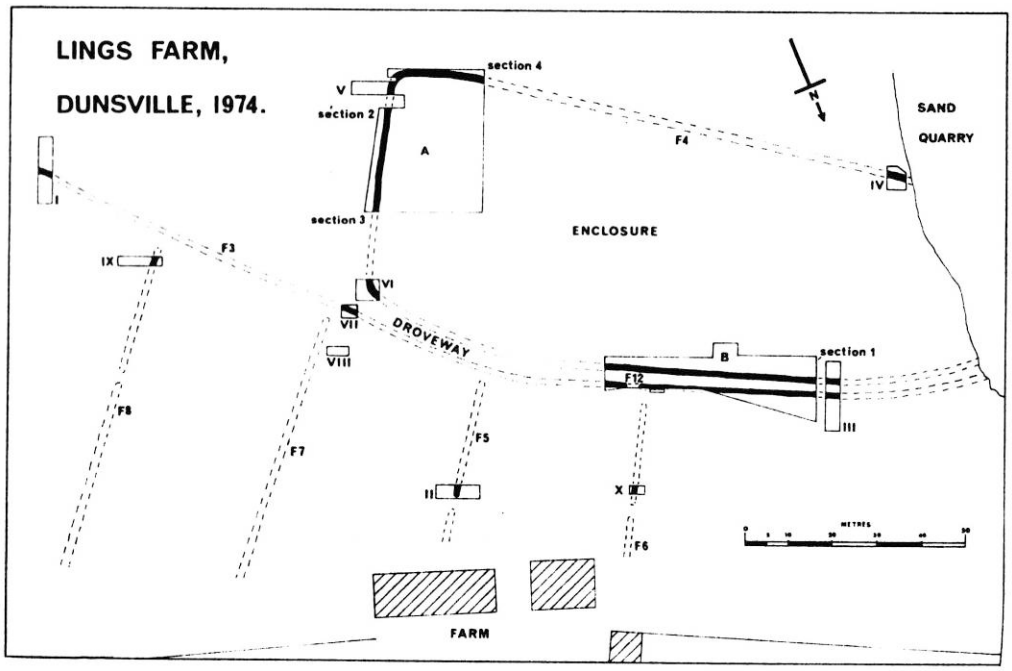


Figure D.01. *Cropmark features and excavated areas at Ling's Farm, Dunsville near Doncaster, S. Yorks. The double-ditched trackway and funnel-shaped entrance to the south-east are visible across the centre of the image. (Source: Magilton 1978: 60).*

Sometimes traces of possible wear and/or rutting have been found within trackways, as at Belmoor Quarry near Retford, where on a published section possible ruts are visible in between the two ditches (Cox and Hurcombe 1989: 170, fig. 13.4). At Stripe Road on the eastern edge of New Rossington in South Yorkshire, a dark band running between the two ditches was visible on an aerial photograph (Riley 1980: 12, plate 1) (Fig. 7.12), and possible ruts were subsequently identified in the area between the two ditches (Chadwick 1992: 8). Just west of Goldthorpe, an 18-20m wide trackway identified by Riley was excavated, and a dark, central band noticeable on the aerial photographs proved to be a depression, probably caused by erosion while the trackway was in use (Merrony 1993: 50) (Fig. D.02). A pronounced holloway was recorded between two trackway ditches at Mexborough (Williams 2006).

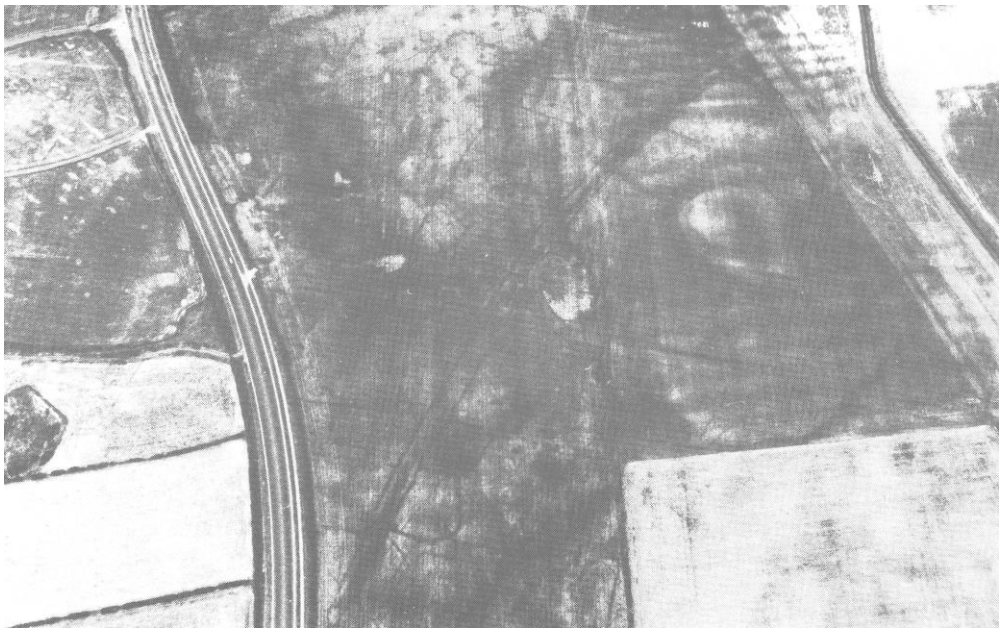


Figure D.02. *Pronounced double-ditched trackway and associated internal holloway at Goldthorpe, S. Yorks. (Source: Merrony 1993: 46).*

Such ruts or holloways between double ditches are visible within trackways elsewhere. Trampling by people and animals, and in some cases the passage of wheeled carts, were probably the processes that formed them. Good examples of this occur at Broom Hill and Ruins Plantation near Harworth, where a sinuous trackway with a pronounced central 'shadow' leads towards/away from a very large, irregular enclosure or corral (see below) close to the floodplain of the River Ryton (Riley 1980: 29 plate 5, 103 map 12) (Figs. D.03.-D.04).

Figure D.03. *Cropmarks near Ruins Plantation, Harworth, Notts. The trackway with a pronounced dark holloway within it runs left to right across the lower part of the image. (Source: Riley 1980: 29, plate 5).*

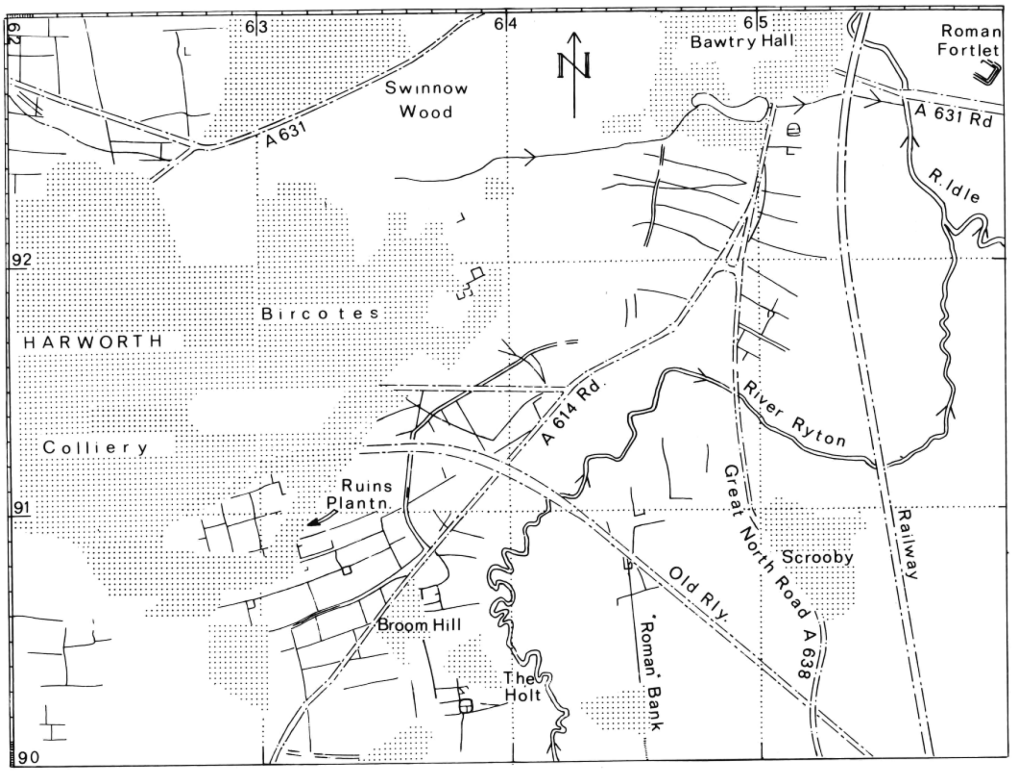


Figure D.04. *Plot of the cropmarks from the same area. The trackway and enclosures shown on the aerial photograph above lie just to the east (or right) of Ruins Plantation. (Source: Riley 1980: 103, map 12).*

Another trackway runs out/into the Ruins Plantation enclosure on the opposite side. This indicates heavy erosion, perhaps from large numbers of livestock and/or wheeled vehicles. Cropmarks of trackways near the enclosures at Ledston also contain darker bands within the double ditches (Deegan 2001: 26, fig. 9c; Roberts 2005: 4, fig. 2).

Some of the trackways at Ferrybridge also had rutting or holloways visible on aerial photographs (Roberts, Berg, Carter and Gaunt 2005: 14, fig. 8). Excavation confirmed this wear, but also found metalled limestone surfaces between the ditches in several places (Richardson 2005c: 73-75, 81, figs. 62, 69-70). One north-west to south-east routeway, partially defined by later Iron Age and Romano-British pit alignments and further ditches, followed the line of the so-called 'cutting', an earlier earthwork feature that might have been established in the later Neolithic or early Bronze Age, and that was perhaps associated with quarrying for the construction of the henge bank (Martin, Roberts, Carter and Gaunt 2005: 53). This formed a pronounced holloway curving around the western margin of the henge complex, which the later Iron Age and Romano-British features then respected (Figs. D.05.-D.06). Around 4m deep originally, this was a significant feature of the local landscape for millennia, until post-Roman colluvium sealed both the cutting and the linear boundaries within it.

Figure D.05. *The deep soil-filled channel or 'cutting' at Ferrybridge. (Source: Roberts et al. 2005: 19).*

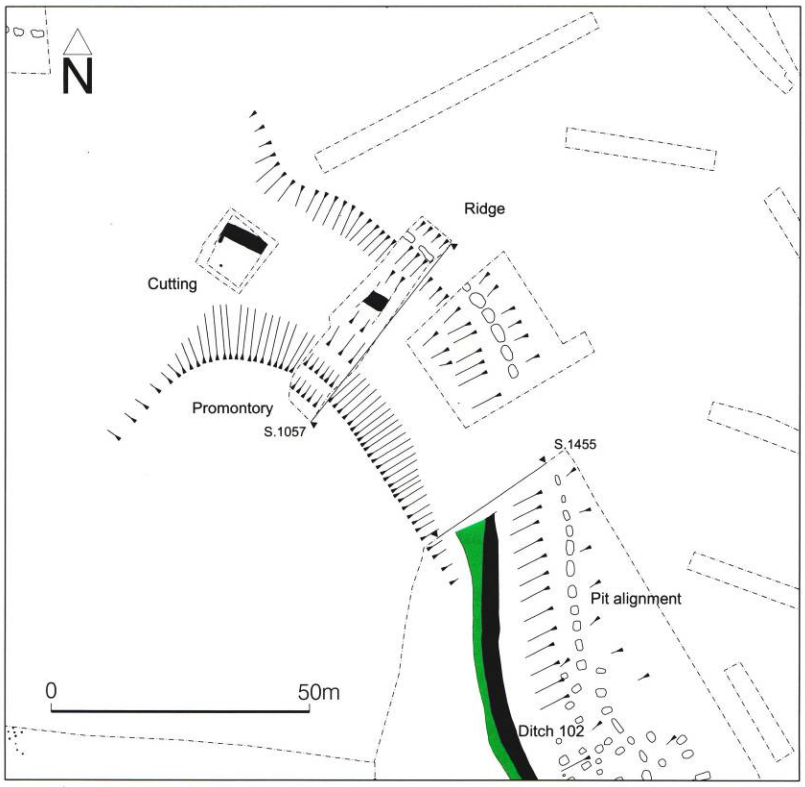


Figure D.06. *Excavations through the 'cutting' at Ferrybridge. (Source: Martin et. al. 2005: 52).*

The area around the Ferrybridge henge and round barrows was largely respected by these later features, whilst at the same time formed the focus for the funnel-shaped entrances of at least two trackways, linked to another trackway curving round the earlier monuments (Roberts 2005a: 215). Another trackway ran off towards a further, more scattered group of round barrows approximately 600m to the north-west, where an unusual palisaded enclosure and the square-ditched barrow of the Ferry Fryston carriage burial were located (see Chapter 11 and Appendix F).

At Swillington Common, a combination of aerial photographic analysis, geophysics and extensive open-area excavation revealed a major double-ditched trackway, running approximately north-south (Deegan 2001b: 31, fig. 13) (Fig. D.07). The trackway itself matched the line of a major north-south linear bank and ditch feature, Grim's Ditch, likely to be later Bronze Age or earlier Iron Age date. A ^{14}C date of 800-190 BC was obtained from charcoal in a lower ditch fill (Howell 2001: 54). The trackway seems to have subsequently been extended to the south, incorporating a

pronounced westwards 'kink' in its length. A distinct wear hollow seems to have developed in between the trackway ditches, and together with the samian pottery dated to AD 140-200 which was recovered from the upper ditch fills, this suggests that the trackway was maintained and used for many centuries after it was first laid out, potentially for around a thousand years or more. Only later, perhaps in the very late Iron Age or early Romano-British period, was this trackway incorporated into a system of field boundaries and an east-west minor trackway, eventually forming an axial 'spine' in a co-axial field system in use until the late Roman period.

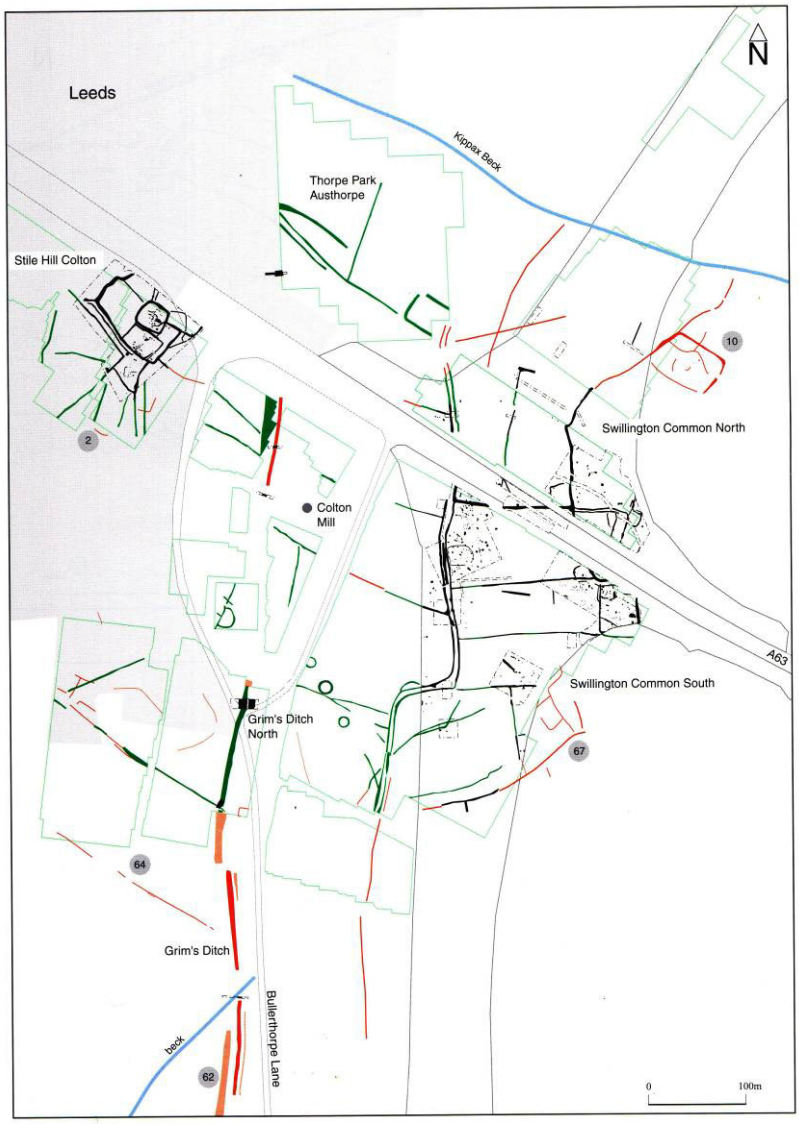


Figure D.07. *Composite evidence for Swillington Common, including cropmarks (red), geophysical survey (green) and excavation results (black). The trackway and its holloway run north-south from the top to the bottom of the image. The later landscape was structured around this feature, which may have been in use from the earlier Iron Age through to the later Romano-British period. (Source: Deegan 2001b: 31).*

Wheel ruts between 1.45-1.50m apart were identified in another excavated section of the Swillington Common trackway (Johnson 2002: 28, 32-33), and a rectangular post-Roman or early medieval enclosure also articulated with the feature (ibid.: 57-58), its single identified entrance formed by the earlier holloway (see Gazetteer). Part of the holloway may even have formed a pond-like feature during the medieval period.

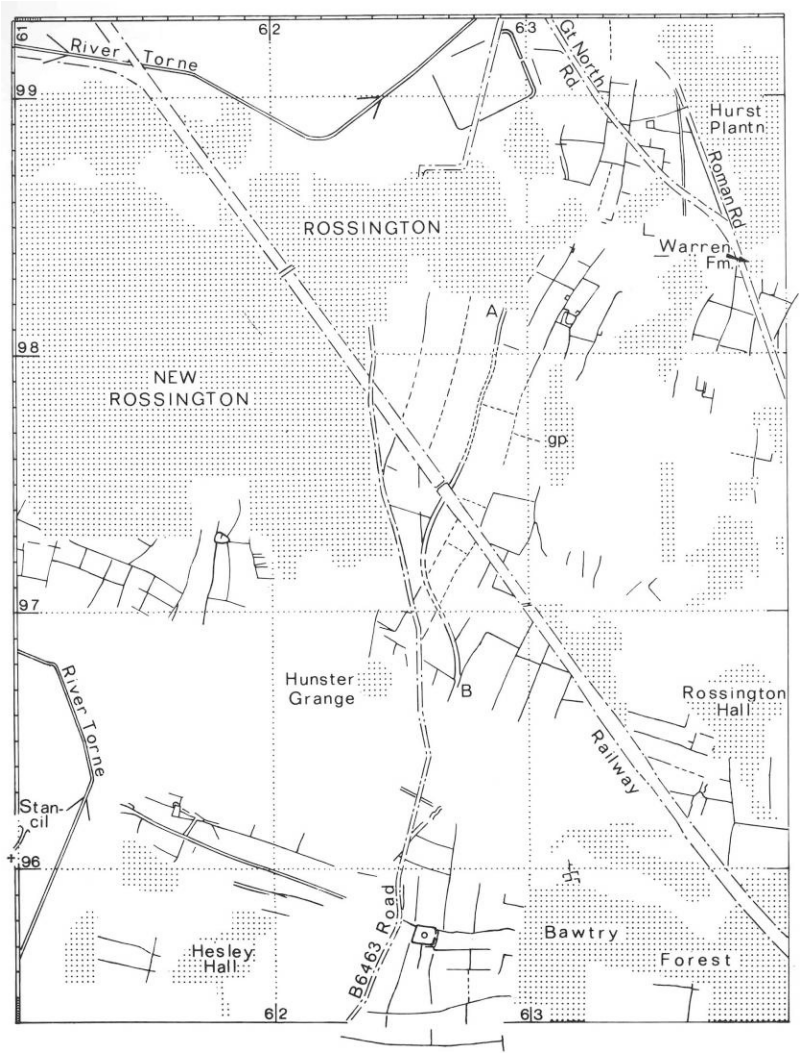


Figure D.08. (left). *Cropmarks south of Rossington, S. Yorks. The vexillation fortress is visible by the side of the River Torne (top left), together with a later Roman road, which may itself cut across an earlier trackway. One major sinuous trackway runs north-south between A-B, cutting some earlier fields. Another towards the bottom of the image is aligned east-west from the enclosure west of Bawtry Forest towards the floodplain of the River Torne. The enclosure and trackway are shown as cropmarks below in Fig. D.09.*

Just east of New Rossington, the trackway partially excavated in 1992 followed the general NNW-SSE alignment of the overall co-axial field system (Chadwick 1992; Riley 1980: 94, map 8). It then curved towards the south-east, however, cutting across the line of pre-existing 'brickwork' fields. This might imply that in this instance, the trackway was a later insertion, or was extended southwards across earlier land divisions (Fig. D.08). Around 800m to the north was the Roman vexillation fortress first identified by Keith St Joseph (St Joseph 1969, 1977), and it is possible that the

trackway supplied this military base. A straight double-ditched linear feature aligned north-south and which may be a Roman road has been recently identified in the same area, however (Roberts, Deegan and Berg 2007), orientated straight towards the fortress, and cutting across an earlier enclosure with a roundhouse set within it. This possible Roman road may reflect a third major phase of landscape change.

Figure D.09. *Cropmarks south of Rossington, S. Yorks., looking west; including an enclosure towards the bottom of the image (centred at SK 6255 9530), in addition to field boundaries and a trackway. The trackway (cut by the modern B6463 road) ran towards the River Torne floodplain. Riley plotted a single roundhouse within the enclosure (see Fig. D.08 above), but another can be seen in the lower right, and other possible structures and pits are also visible. Note the two parallel ditches cutting across this enclosure from lower left to right, perhaps with a more compacted area between them. This may be a later Roman road. (Source: Bevan 2006: 5).*

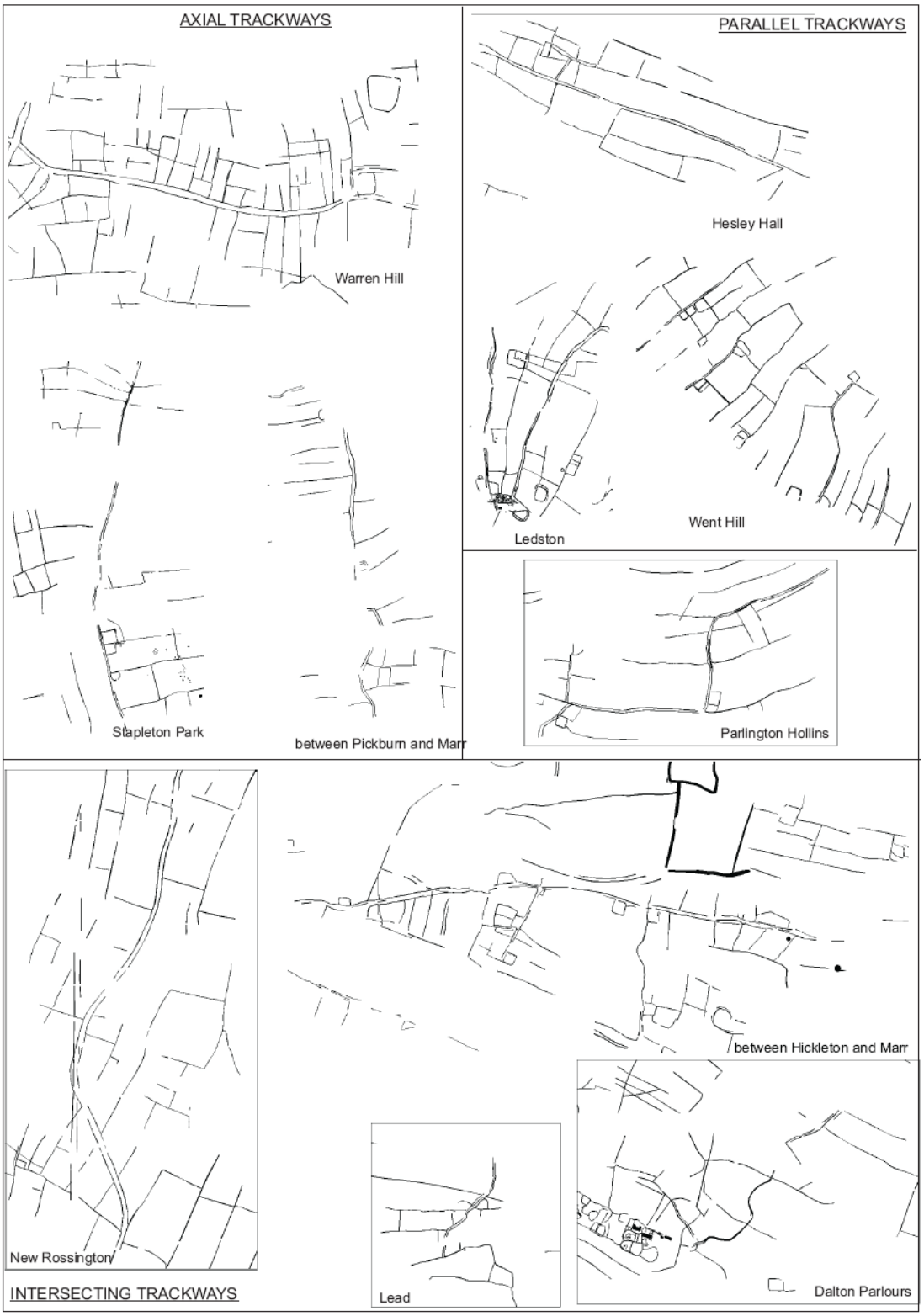


Figure D.10. *Alison Deegan's recent plots of the cropmarks of some particularly prominent trackways within West and South Yorkshire. Note at lower left the new plot of the cropmarks near New Rossington in S. Yorks., showing the additional straight double-ditched trackway or Roman road cutting across an earlier sinuous trackway and even earlier field boundaries, and aligned towards the fortress at Rossington Bridge. (Source: Deegan 2007: fig. 6.6b).*

At West Moor Park at Armthorpe, around 365m of a NWW-SEE orientated trackway between 5-8m wide was recorded. Although in plan it appears to act as a primary feature for the laying out of a co-axial, 'brickwork' field system, it actually post-dated many of the fields and enclosures (Gidman and Rose 2004), only forming a double-ditched feature in a later phase (Fig. 7.19, 7.21) (see Chapter 7). The eastern end of the trackway had a metalled surface of cobbles and pebbles. At Warren Hill in South Yorkshire, a trackway 15-20m wide formed the focus for a series of field and enclosure boundaries running off at right angles to it (Riley 1980: 86-87, map 2). Although these latter features may have been broadly contemporary with the trackway, in stratigraphic terms at least they probably post-dated it (see Fig. D.10). Near Methley at the Aire-Calder interfluve in West Yorkshire, a straight double-ditched feature that may have been another possible Roman road was originally thought to run *underneath* a more sinuous trackway (Deegan 1999b) (Fig. D.11). More recent work (Deegan 2007) suggests the straight road post-dates the trackway.

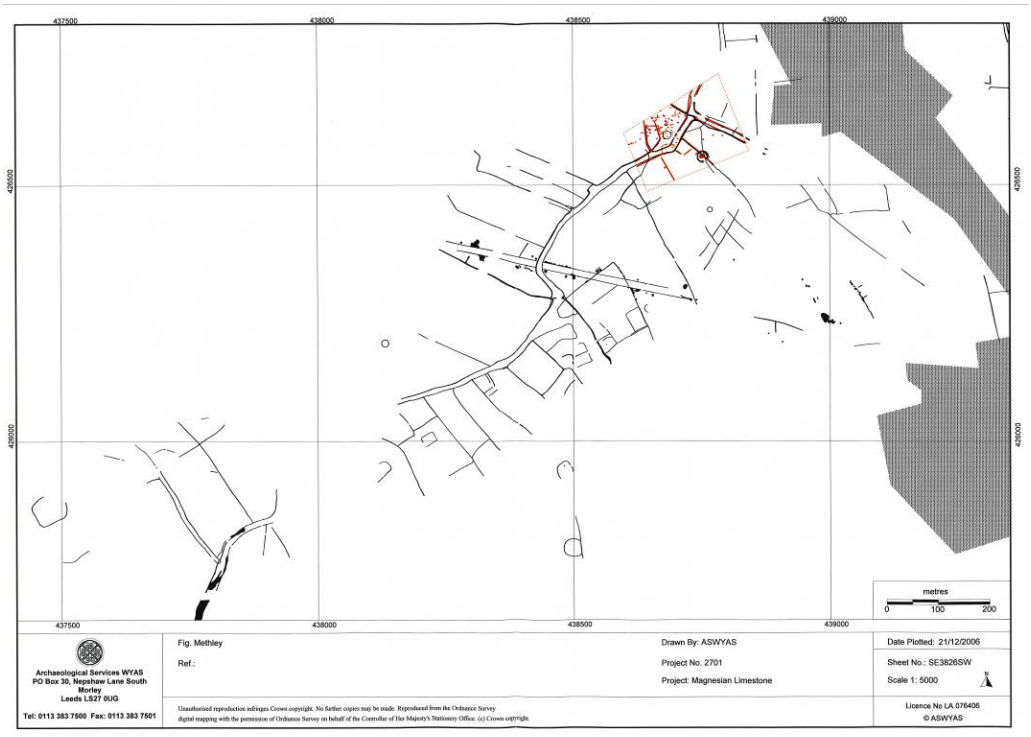


Figure D.11. *Detail of cropmarks on the interfluve of the Rivers Aire and Calder near Methley, W. Yorks. Just above the centre of the image is a funnel-shaped junction between two or three trackways, but just to the north of this junction, a straight double-ditched feature has an ambiguous relationship with the more sinuous trackway. The straight feature may be a Roman road, but if so, its relationship with the more irregular trackway is unusual, although more recent plots indicate that it may post-date the trackway. (Source: © AS WYAS).*

Figure D.12. *Cropmarks near Methley, W. Yorks., on the River Calder floodplain, showing some features plotted in Fig. D.11. The large rectangular enclosure and the wide trackway associated with it, visible in the centre of this photograph, are also seen at the centre of the previous image. (Source: D. Riley, SLAP 2780, SE 383 260).*

Just to the west of Edenthorpe and Kirk Sandall, a substantial trackway up to 25m wide was orientated roughly north-south, and incorporated a pronounced 'funnel' in its length (Fig. 7.16). To the east of this feature, a block of co-axial 'brickwork' fields appear to have been laid out at right-angles to this trackway (Riley 1980: 89-90, map 4). West of the trackway however, the field boundaries lay at an oblique angle to the double ditches, and a sinuous, curvilinear trackway also has an awkward relationship to it, although this smaller feature seems to have ran into/off of the main routeway. This suggests that the fields on either side of the main north-south trackway were laid out at different periods, although the cropmarks do not appear to show the main trackway cutting across any earlier boundaries, or *vice versa*. One or two linear ditch features on different alignments to the main block of eastern co-axial fields may be traces of earlier or later land allotment, but the situation is not at all clear.

Furthermore, excavation of part of the smaller, more sinuous trackway demonstrated that the double ditches were not laid out at once, but were instead part of a complex sequence of ditch cutting and recutting (Chadwick 1995a, 1995b) (see Chapter 7, Fig. 7.18). Again, this indicates greater stratigraphic and chronological complexity than is apparent on the cropmark plots. In addition to the main north-west to south-east aligned trackway investigated west of Goldthorpe (see above), a small, irregular enclosure seems to have been added to the northern side of the main trackway, and another, smaller trackway around 10m wide and orientated north-south seems to have been added to and respected the enclosure (Merrony 1993: 46, 48, figs. 45-46). The relationship between the two trackways was not established, however.

South of Hodsock Priory in Nottinghamshire, a roughly north-south trackway had a junction with another trackway running off eastwards, following the other principal axis of the 'brickwork' fields in this area (Riley 1980: 110-111, map 17). Cutting across both on a north-east to south-west alignment is another trackway, leading to a large 'funnel' at Crossley Hill (Fig. 7.26). Despite this radical imposition upon the landscape however, its southernmost end seems to have been reintegrated into the overall field pattern. Just to the east of this 'funnel', further short lengths of trackway also occur, some following the axes of the fields, but also two more curvilinear lengths pre- or post-dating these. Near Thoresby Park, it is clear that there were several different phases of land division, and amongst these stratigraphic relationships an oval enclosure either pre- or post-dated a double-ditched trackway, although so closely it seems likely that the two features were at some point in use at the same time (Deegan 1998; Riley 1980: 28, 142, map 31). At Swillington Common, a smaller (subsidiary?) trackway to the east of the major north-south example described above was probably constructed in the later Roman period, and seems to have been inserted into the earlier field system (Howell 2001: 65, fig. 34) (Fig. D.07). This formed a right-angled trackway approximately 2m wide along its east-west course, and widening to *c*. 10m where it turned at 110 degrees to the south-west.

At Spittalmoor Forest Farm, another series of trackways again appear to form the axial spines of the field system, in this instance orientated roughly NNW-SSE (Riley 1980: 143, map 32) (Fig. D.13). Here though, some of the trackways seem to have

been stratigraphically earlier or later than two of the enclosures (Deegan 1998). In both these examples, these trackways also seem to have been running towards watercourses – at Torworth and Barnby Moor, east-west between the River Ryton and a brook; and at Spittalmoor Forest Farm, towards the River Meden to the south, and the River Poulter 3km to the north. Near Budby Carr, the predominant axes of field boundaries and trackways appear to have been north-south, and running between the River Poulter and the River Meden two kilometres to the south (Riley 1980: 139, map 30). At Hodsock Forest Farm and Osberton Mill in Nottinghamshire (Riley 1980: 111 map 17, 128 map 25), trackways also approached watercourses at right angles.

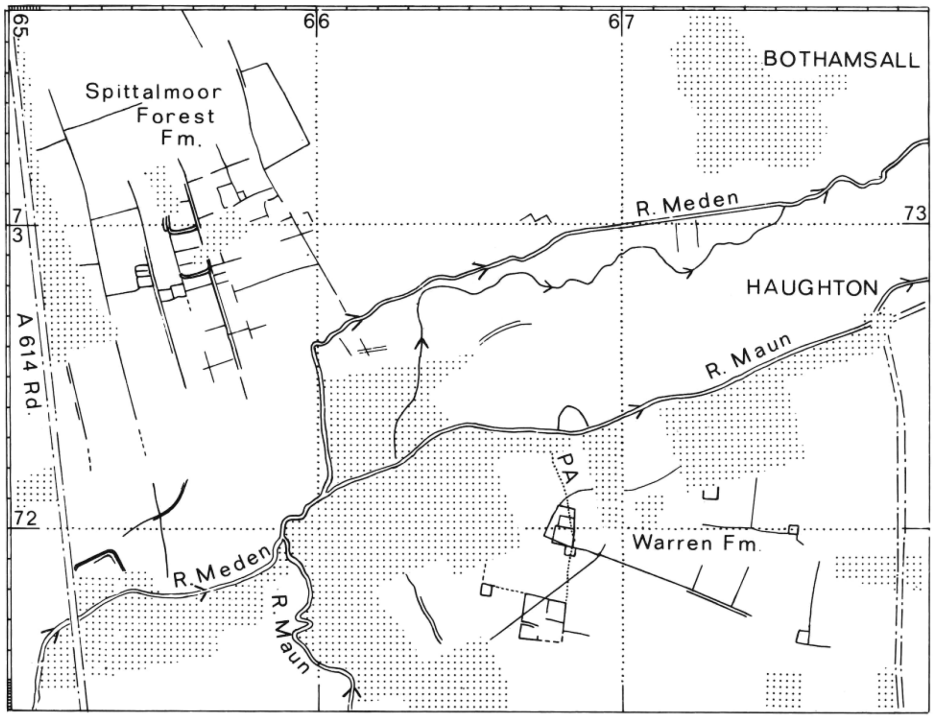


Figure D.13. *Cropmarks near Bothamsall, Notts., showing trackways, pit alignments and linear boundaries orientated towards the Rivers Meden and Maun. The stratigraphic relationships between the enclosures south of Spittalmoor Forest Farm and the one trackway are also interesting. (Source: Riley 1980: 143, map 32).*

Such orientations strongly suggest a concern with creating access to water and flood plains, and taking livestock to them for watering and for grazing. A particularly good example is at Tiln in Nottinghamshire, where a trackway ran towards the River Idle, then opened outwards onto the floodplain, with boundaries running off the trackway but parallel to the watercourse (Riley 1980: 124-125, map 24) (Fig. D.14). At East Carr, Mattersey, linear boundaries and trackways were all running out onto the

floodplain of the River Trent (Knight, Howard and Leary 2004: 142, fig. 6.17; Riley 1980: 117, map 20) (Fig. 7.27). Near both of these locales were a series of small, nucleated enclosures likely to be livestock pens (see below). At the location of the 'villa' at Stancil in South Yorkshire, a trackway around 9m wide was orientated north-east along the tongue of slightly higher ground on which this building was located, and opened out onto Stancil Carr and the floodplain of the River Torne (Riley 1980: 92-94) (Fig. D.15). Approximately 350m to the east across the river, another trackway also opened out onto the Torne's floodplain (Fig. D.08).

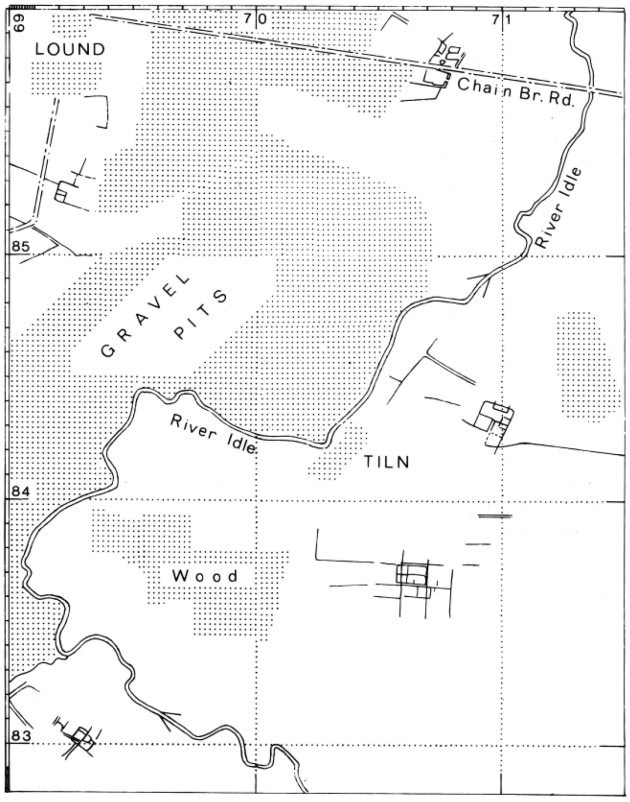


Figure D.14. (left). *Cropmarks south-east of Lound, Notts. The Chainbridge Lane enclosure complex is at the top right of the image. Just to the right of centre and north-east of Tiln, a funnel-shaped entrance and trackway are visible, close to one of the enclosure complexes situated near the floodplain of the River Idle. (Source: Riley 1980: 125, map 24).*

The line of trackways was sometimes influenced by topography. At Gunhills, Armthorpe, a double-ditched trackway turned through approximately 90 degrees from north-south to east-west (Deegan 2001a: 6-7, fig. 2) (Fig. D.18.). This may have joined up with a trackway at Cozencroft approximately 1km to the north-west (Riley 1980: 90, map 4). These two trackways both followed the 5m contour separating slightly higher ground from the low-lying peaty carr of West Moor to the north-east. At Barnburgh, a series of enclosures and trackways were orientated at right angles to the roughly NWW-SEE line of Barnburgh Cliffs, a pronounced ridge on the Magnesian Limestone (Chadwick 1998: appendix A8, B8; Deegan 2001c: fig. 4).

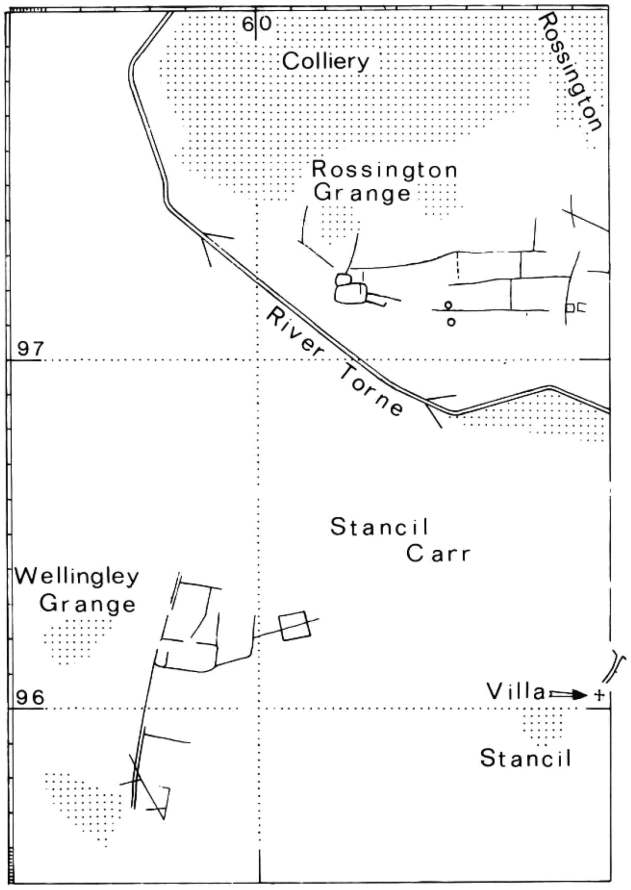


Figure D.15. (right). *Cropmarks south of Rossington Grange, S. Yorks., near the floodplain of the River Torne. Near the site of the excavated Stancil possible villa complex, a trackway opens out onto the floodplain (lower right of the image). No obvious villa boundaries are visible, however. (Source: Riley 1980: 92, map 7).*

At Sticking Lane north-west of Mexborough, a NEE-SWW orientated trackway followed the line of a ridge and the 25m contour (Chadwick 1998: appendix A2, B2). Just south of Barnsdale Bar, a trackway curved round the southern slope of the hill below Clump Plantation, roughly following the 65m OD contour (SYAS SMR map). At Ledston, the trackways that ran roughly north-south towards the double-ditched subtriangular enclosure made use of a subtle natural hollow on a generally south-sloping hillside (Deegan 2001: 26, fig. 9c; Roberts 2005: 4, fig. 2). Approximately 1km east of Bolton upon Dearne there is a 15-20m wide double-ditched cropmark, aligned north-west to south-east for at least 900m. I had previously proposed this was unlikely to have been a trackway because modern drainage channels in the area implied seasonally flooded ground in the past (Chadwick 1998 appendix A4), but I now realise that the trackway made subtle use of a slight natural hollow in the hillside to drop down from 25m to 15m OD onto the floodplain of the River Dearne (Fig. D.16). Furthermore, this trackway might have originally linked up with the north-west to south-east trackway excavated west of Goldthorpe (Merrony 1993), approximately 2km to the north-east. This would have been a major routeway in the past.

Figure D.16. *Large trackway east of Bolton upon Dearne, S. Yorks. The feature runs from Bolton (just left of centre, below the wing strut of the plane), towards the bottom centre of the image. (Source: D. Riley, SLAP 270, SE 468 030).*

Figure D.17. *Cropmarks near Kirk Smeaton, North Yorks., showing a sinuous trackway leading past fields to an enclosure, from the lower centre to the upper left of the image. (Source: D. Riley, SLAP 321, SE 503 170).*

Funnels and crushes

A funnel entrance up to 10m wide, facing east and linked to a double-ditched trackway or droveway was excavated at Lings Farm (Magilton 1978) (Fig. D.01). Several particularly pronounced funnels have also been noted on aerial photographs. East of Methley Park, a north-east to south-west orientated trackway opened out into a large funnel 30-40m wide, next to a large rectangular enclosure with internal subdivisions, and a series of other pens and enclosures (Burgess and Roberts 2004: 3, fig. 2). The trackway also seemed to bifurcate at this point (Fig. D.11).

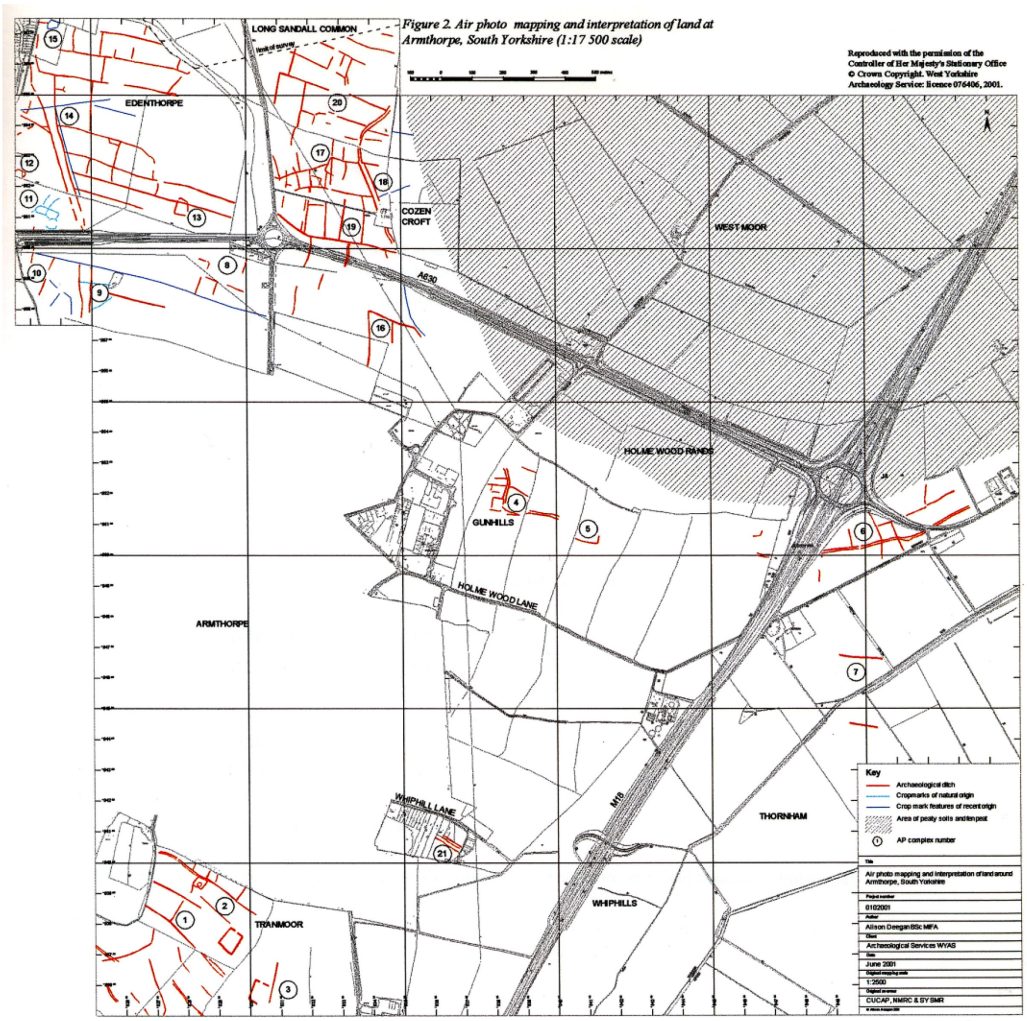


Figure D.18. *Cropmarks near Edenthorpe and Armthorpe, S. Yorks. Several trackways are evident, including one just to the south of Edenthorpe with a large funnel (top left of image); one near Cozen Croft with a notable constriction along its length (upper left); and one especially sinuous example near Gunhills (centre). (Source: Deegan 2001a).*

At Edenthorpe a large subtriangular funnel up to 150-200m wide formed part of a large north-south trackway (Riley 1980: 89-90, map 4). The right-angled boundary at its northern end perhaps indicates an emphasis on taking animals northwards. Less than 1km to the east, another more sinuous trackway approximately 10-15m wide runs southwards into a slightly wider (*c*. 20m) straight section of trackway (Deegan 2001a: 11, fig. 2; Riley 1980: 90). After a gap caused by modern development, the sinuous trackway appears again to the south (Fig. D.18). At the northern end of the wider straight section is a noticeable constriction, which would again have allowed livestock to have been concentrated and sorted. Further to the south-west towards Gunhills (see above), another funnel approximately 150m wide was associated with a crush at the end of a trackway between 8-10m wide (Deegan 2001a: 6-7, fig. 2).

At West Moor Park II, Armthorpe, two pronounced funnel-shaped entrances up to 14m wide were connected to two north-west to south-east orientated trackways, and opened out to the west (Chadwick and Richardson 2007) (see Gazetteer Appendix G). The northernmost funnel was also connected to another, east-west trackway that had been previously excavated (Hughes 2006). Although these trackways led from complexes of fields and enclosures, the area to the west did not produce much cropmark or geophysical evidence for land division, suggesting that it might have served as communal grazing land, and was perhaps open grassland or heath.

The trackways noted at Stancil both had funnel-shaped entrances, the easternmost example up to 30m wide (Fig. D.15). They would have allowed livestock grazed on the River Torne floodplain to be gathered and concentrated before being driven down the trackways. Similarly, the large enclosure or corral near the River Ryton floodplain near Harworth had an internal funnel leading into the western trackway that was again approximately 25-30m wide (Riley 1980: 103, map 12) (Fig. D.04). A north-east to south-west aligned trackway at Crossley Hill near Hodsock Priory had a south-western funnel-shaped entrance 25-30m wide (Fig. 7.26). At Crow Wood near Osberton Mill (Fig. D.19), a sinuous trackway 10-15m wide and perpendicular to the River Ryton had a funnel up to 40m wide at its south-eastern end, where there may have been an irregular enclosure or corral (Riley 1980: 128, map 25).

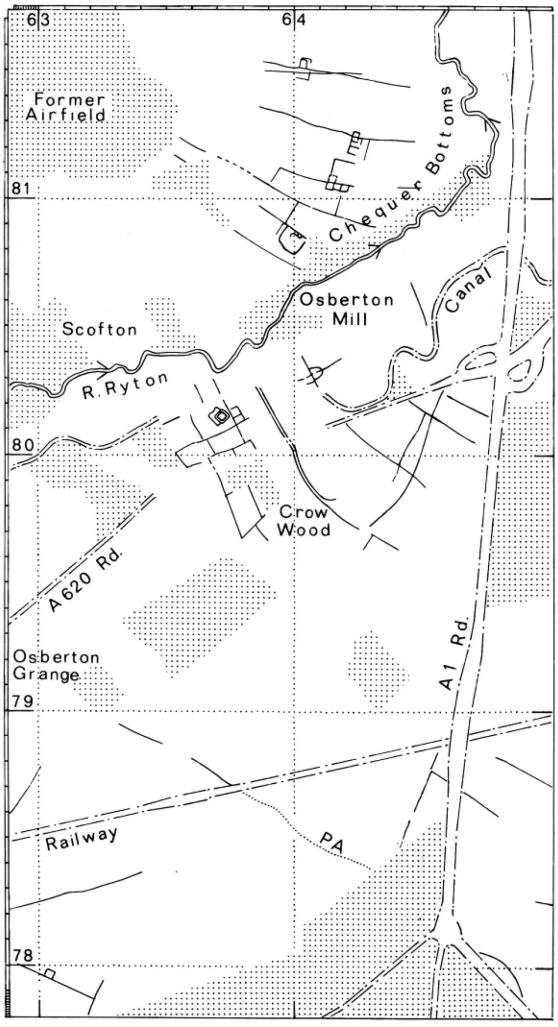
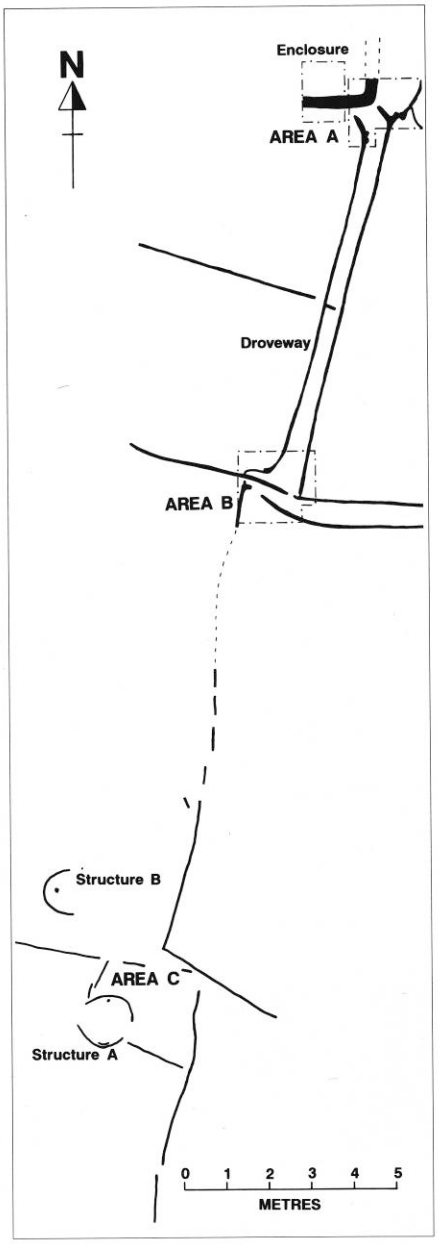


Figure D.19. (left). *Cropmarks at Osberton, Notts., showing field boundaries and a pit alignment (PA) orientated towards the River Ryton; and also a trackway with a funnel-shaped south-eastern end, perhaps even forming part of a larger enclosure. (Source: Riley 1980: 128, map 25).*

At Dunston's Clump, on the western side of Enclosures 1 and 2 were funnels up to 30m wide leading into trackways (Garton 1987: 20, fig. 2; Riley 1980: 129, map 26) (Fig. 6.08). Approximately 1km to the south near Forest Farm, a short trackway with another possible funnel 30-40m wide was linked to a subrectangular enclosure or corral (ibid.). The unusual trapezoidal plan of this feature may have allowed livestock to be concentrated before being moved into and out of the enclosure. A short funnel 15-20m wide led into an enclosure or corral south of Flint Hill, close to the River Poulter floodplain (Riley 1980: 133, map 27), whilst west of Budby a pronounced funnel up to 80m wide led into an east-west trackway 10-15m wide (Riley 1980: 139, map 30). To the east of Church Warsop, another large funnel up to 40m wide led into a 10-15m wide trackway close to the River Meden (Riley 1980: 144, map 33). A ditch cutting across this funnel may have pre- or post-dated it, but alternatively might represent part of a crush or a narrow gateway.

Races



At Pickburn Leys in South Yorkshire, Area B had a junction between an east-west and a NNE-SSW orientated trackway (Sydes 1993: 36-37, figs. 38-39; Sydes and Symonds 1985). At this junction, a complex arrangement of features, coupled with some degree of stratigraphic complexity, suggests that this area could have served to sort and separate animals before allowing them into different fields (Fig. D.20). However, the width of the two trackways, each between 4-5 metres, is not quite as narrow as a specialised race should be; whereas according to Pryor it should only be the equivalent of one animal in width. A 3m wide feature on the northern side of Enclosure E7 at Adwick-le-Street in South Yorkshire (Meadows and Chapman 2004; Upson-Smith 2002), leading to a restricted entrance or gate, is more convincing as a race (Fig. D.21).

Figure D.20. *The Pickburn Leys complex, showing roundhouses, field and enclosure boundaries, and the two trackways that were investigated. Area B is where the possible race and drafting gate were located. (Source: Sydes 1993: 36).*

Two possible races represented by short lengths of gully were associated with the funnel-shaped entrances of trackways at West Moor Park II, Armthorpe (Chadwick and Richardson 2007). These features were 2-3m wide, and their location is strongly suggestive of control over animal movements (Fig. D.22).

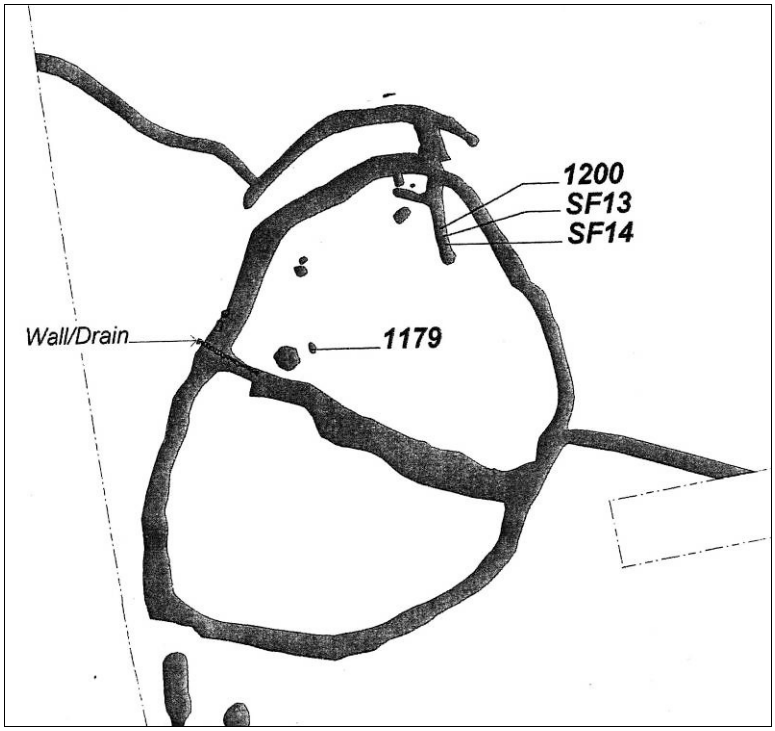


Figure D.21. *General plan of the excavated E7 enclosure at Adwick-le-Street, S. Yorks., showing the possible race and drafting gate located on the northern side of the enclosure. (Source: Upson-Smith 2002, fig. 8).*

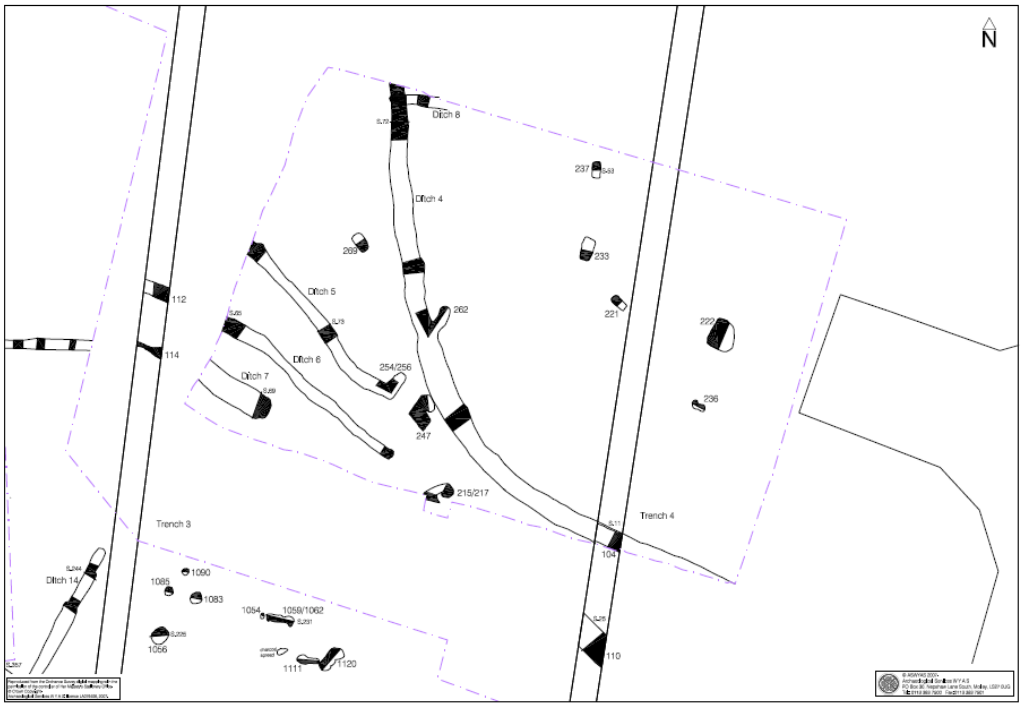


Figure D.22. *Detail of one of the funnel-shaped trackway entrances excavated at West Moor Park II, Armthorpe, S. Yorks. Ditch 5 may have acted as a race between Ditches 4 and 6, or Ditches 4 and 7. (Source: Chadwick and Richardson 2007).*

A series of sites excavated as part of the M1-A1 Link Road scheme in West Yorkshire provided further possible examples. At Bullerthorpe Lane two narrow subdivisions both approximately 2m wide formed part of Enclosure A and Enclosure B respectively (Wheelhouse 2001: 37-42, figs. 23, 24), and these may have acted as races at some point. The narrow (*c*. 2m wide) east-west section of the later Roman trackway at Swillington Common (Howell 2001: 65, fig. 34) could have acted as a race, with animals being driven into the wider (*c*. 10m) south-western end, before being taken across a wooden bridge over the ditch. At Parlington Hollins, Enclosure D contained two features (7024 and 7025) parallel to enclosure ditches, but only 1.5-2m apart from them, perhaps indicating the presence of banks in between (Holbrey and Burgess 2001: 94, fig. 70). Although this interpretation is perfectly reasonable, indeed more likely, it is also possible that these features could have represented short races within enclosures. Similarly, although the three concentric ditches around the enclosure at Hook Moor could have represented a series of banks and ditches laid out at the same time (O'Neil 2001b: 118-119, fig. 91), the profiles of these inner features were also steeper and interpreted as more like palisade slots. This might mean that here a race led round to an entrance where animals could be sorted.

A late Iron Age and Romano-British enclosure site at Apple Tree Close near Pontefract had a north-west to south-east trackway ended in an L-shaped feature 4-5m wide around the edge of one enclosure – a possible race (Wrathmell 2001: plate 1, fig. 1). At Sub-enclosure B on Low Common there was a double-ditched feature 1-2m wide around the northern and western sides of a subrectangular enclosure (Burgess and Roberts 2004: 11, fig. 10). At both Apple Tree Close and Low Common though, it is more likely that the narrow gap between the ditches represented the line of a bank rather than a race. At Stile Hill, Colton, however, a nucleated group of enclosures was associated with a north-west to south-east orientated trackway (Barkle 1995: fig. 4; Deegan 2001b: 31, fig. 13). A subdivision (ditch I) 2-2.5m wide within the overall 8-10m wide trackway probably functioned as a race (Fig. D.23). Two double-ditched features only 3-4m wide revealed during recent excavations at Wattle Syke near Wetherby may also be races – one led into a D-shaped subsidiary enclosure appended to one of the main subrectangular enclosures in the 'clothes line' complex (Fig. D.24).

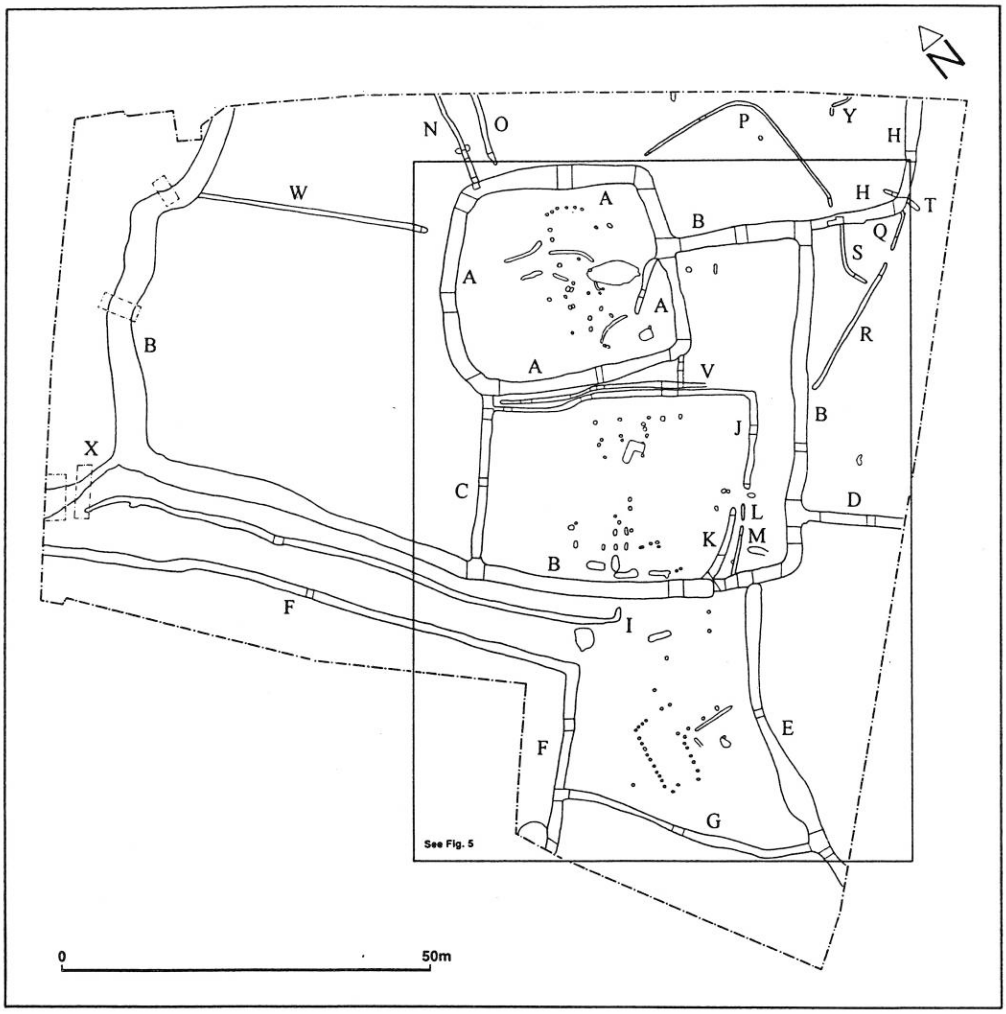


Figure D.23. *Plan of the excavated enclosure complex at Stile Hill, Colton, near Leeds, W. Yorks. The possible race can be seen within the north-west to south-east aligned trackway (running left to right across the centre of the image), between the points marked X and I. (Source: Barkle 1995: fig. 4).*

Most convincing of all though are examples that were associated with the late Iron Age and Romano-British settlement at Bottom Osiers, Gonalston, located on a low-lying gravel island on the River Trent floodplain. Here, attached to the northern and western sides of the enclosure were two or three narrow, linear features between 1-3 metres wide (Elliott and Knight 1997, 1998: 32, fig. 1). Several possible constricted entrances are visible in plan, and apparent 'dead ends' within these features may have marked gateways where ditches were bridged with planks (see Gazetteer Appendix G). Together with the waterholes and series of small subrectangular pens, this all suggests a strong emphasis on livestock management.

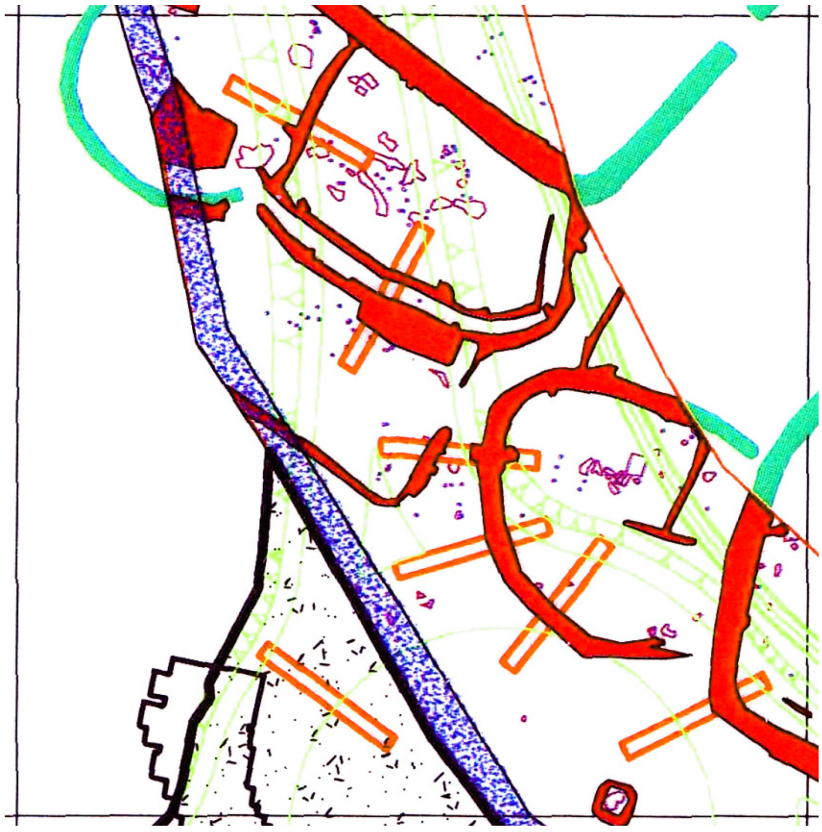


Figure D.24. *Detail of Area A at Wattle Syke, part of recent excavations at this agglomerated settlement complex near Wetherby in W. Yorks. Just above the centre of the image, a narrow trackway or race is visible leading into a D-shaped enclosure attached to a larger enclosure. The inner ditch of this feature narrowed to a gully or fence slot. The grid on the image is 100m^2. (Source: © AS WYAS).*

Pens

Riley identified notable groups of such features as cropmarks on aerial photographs. For example, south of Torworth in Nottinghamshire were two subrectangular groups of pens on the eastern edge of a notable area of co-axial 'brickwork' fields, and two of the trackways associated with these fields ran to these clusters (Riley 1980: 114-115, map 19) (Fig. 6.05). South of Dunston's Clump, pens and enclosures were also located in two further subrectangular groups to the east and south-east of Tiln, near the River Idle floodplain (Riley 1980: 124-125, map 24) (Fig. D.25), and can also be identified in the corners of fields, or attached to trackways. Excavated sites where small enclosures were themselves probably pens, or where such features were appended to or located within larger enclosures include Stile Hill Colton, Methley,

Moss Carr, Apple Tree Close, Field Lane South Elmsall, Bullerthorpe Lane, Swillington Common North and Parlington Hollins in West Yorkshire (Barkle 1995; Howell 1998, 2001; MAP 1996; McNaught 1998; O'Neill 1997, 1998; Wheelhouse 2001; Wrathmell 2001; Yarwood and Marriott 1988b, 1990); Billingley Drive, Goldthorpe, Thurnscoe, Balby Carr, Barnsdale Bar, Norton and West Moor Park, Armthorpe in South Yorkshire (Richardson 2001a; Burgess 1998; Deegan 2001a; Merrony 1993; Neal and Fraser 2004; Roberts and Richardson 2002; Rose 2003); and Dunston's Clump, Wild Goose Cottage, Chainbridge Lane and Bottom Osiers, Gonalston in Nottinghamshire (Eccles, Caldwell and Mincher 1988; Elliott and Knight 1997, 1998; Garton 1987; Garton and Salisbury 1995). These sites are described in more detail within the Gazetteer in Appendix G.

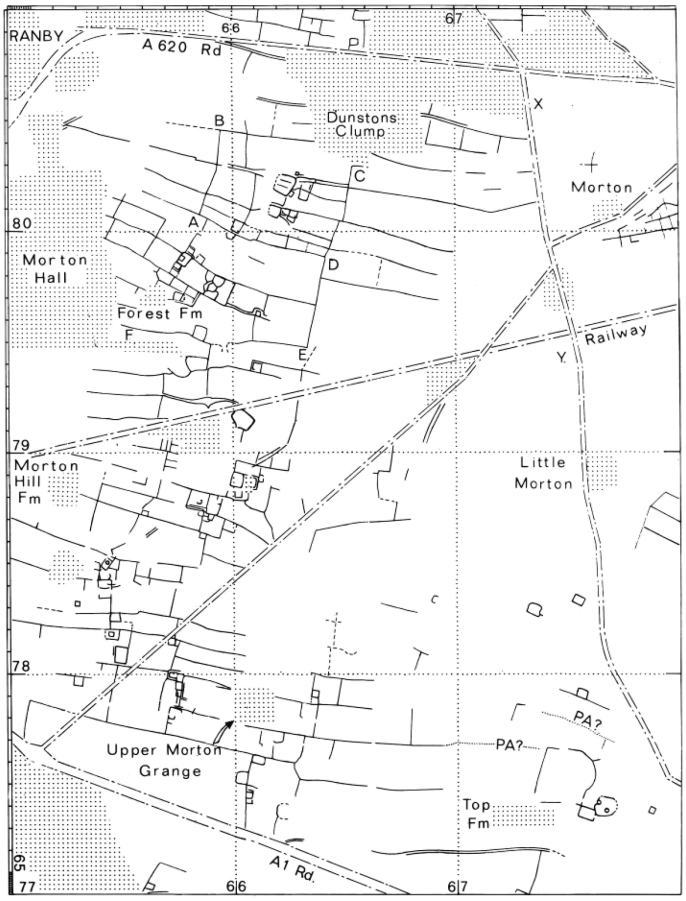


Figure D.25. *Cropmarks south-east of Ranby, Notts. The excavated enclosure complex at Dunston's Clump lies between letters A-D. In addition to 'brickwork' fields, trackways, pit alignments and 'domestic' enclosures near Forest Farm, Morton Hill Farm and Upper Morton Grange, many smaller enclosures or pens are visible as part of enclosure complexes, or within fields. Note the unusual trackway and enclosure or corral south of Forest Farm. (Source: Riley 1980: 129, map 26).*

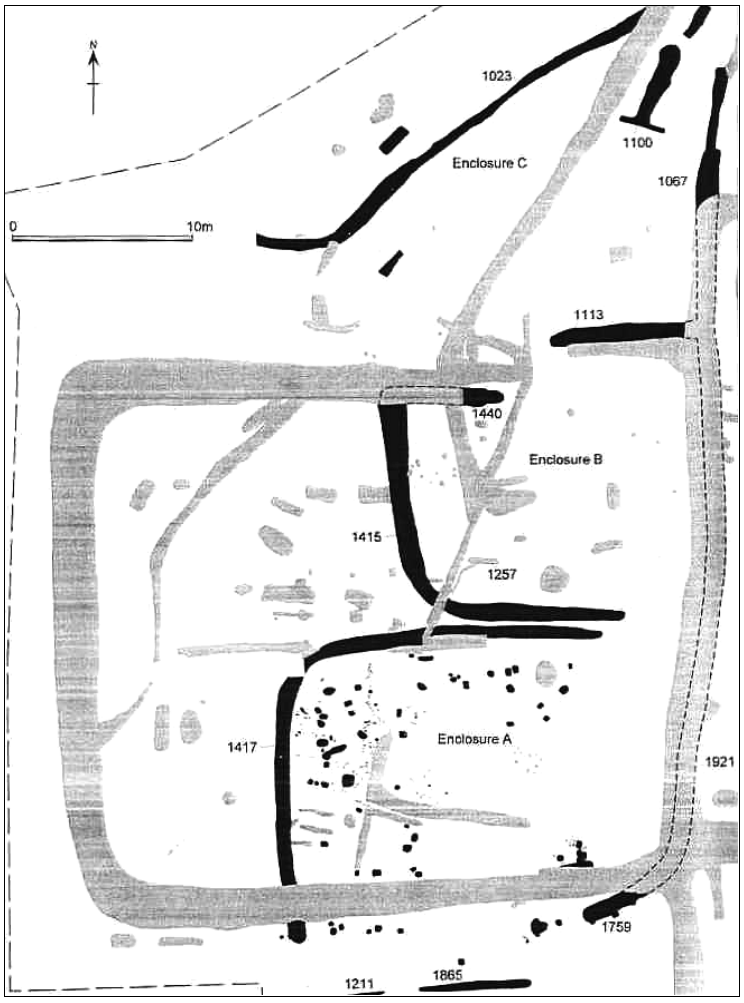


Figure D.26. *Phase I features at Billingley Drive, Thurnscoe, S. Yorks. These mid-second and early third centuries AD enclosures were linked to a trackway with a funnel-shaped entrance. Enclosure A was further subdivided into pens with posthole and stakehole structures. (Source: Neal and Fraser 2004: 15).*

Corrals

At South Kirkby, to the north-west and south-west of the small 'hillfort' or defended enclosure were smaller enclosures, trackways and fields revealed as cropmarks (Manby 1988a: 26-27; Yarwood and Marriott 1988a: 18-19) (Fig. 6.09). These included a double-ditched, subrectangular enclosure with a north-east facing entrance and a possible internal subdivision (Fig. D.27). Further enclosures included two examples with everted entrances that closely resemble 'banjo' enclosures. The multi-vallate enclosure at South Kirkby was also located just 1km to the south-east

(Yarwood and Marriott 1988a: 19) (see Gazetteer Appendix G). It is difficult to assess whether these enclosures and trackways represented different phases of activity, or were in use at the same time. Although some might have been farmsteads, their exposed location and the form of some suggests a more specialised role in animal husbandry, perhaps as seasonal upland corrals. Several springs emerge nearby.

Figure D.27. *Cropmark of the double-ditched hilltop enclosure near South Kirkby, W. Yorks., shown as a plot on Fig. 6.07. (Source: D. Riley, SLAP 187, SE 429 110).*

Other interesting group of enclosures in an elevated location occurs at South Hiendley in West Yorkshire, where there were at least five subrectangular and subrounded enclosures, some apparently with internal features and/or annexes added to them, associated with trackways and some field boundaries and trackways (Yarwood and Marriott 1988a: 16-17) (Fig. D.28). Similar groups of subrounded and subrectangular enclosures and trackways on hilltops or raised, undulating positions are located around Marr and Brodsworth; and between Wombwell Wood and Jump near Barnsley, all in South Yorkshire (see Gazetteer Appendix G).

Figure D.28. *Some of the enclosures and boundaries visible as cropmarks at South Hiendley, W. Yorks. (Source: Yarwood and Marriott 1988a: 17).*

By the late Iron Age, these elevated or hilltop locations would have probably been open area of grassland or heathland, used for upland grazing. People herding animals, particularly sheep and goats, may have brought them to these locations for weeks or months at a time, driving them into these protective corrals at night and sleeping close to their livestock. The groups of enclosures might represent the corrals of different extended family groups, or alternatively may reflect palimpsests of enclosures resulting from repeated but intermittent and/or seasonal occupation over time. The lack of evidence for sustained 'domestic' occupation even in some of the excavated examples also indicates seasonal, pastoral use. Several other sites of interest in this context are elevated enclosures at Ackton Pastures and Flockton (Fig. D.29) in West Yorkshire (Yarwood and Marriott 1988a: 22-23, 73); and Pastures Road, Mexborough in South Yorkshire. These had 'avenues' leading to the enclosures and connecting them to longer trackways, all eminently suitable for livestock control and movement.

Figure D.29. *Subrectangular upland enclosure at Flockton, W. Yorks., connected by a short length of trackway at right angles to a longer trackway or droveway. (Source: Yarwood and Marriott 1988a: 73).*

At Bolton House Farm near Goldthorpe, geophysical survey revealed a subrectangular enclosure with a west facing entrance, linked to two trackways or droveways (O'Neill and Webb 1999: 113). The enclosure at Hazel Lane Quarry, Hampole may also have been associated with livestock rearing – no structures were apparent within it (O'Neill and Brown 1999: 108). Apparently isolated subcircular and D-shaped enclosures such as Upton and Sandal Magna in West Yorkshire may also have been associated with the daily or seasonal movements of livestock (Roberts 1995: 21; WYAAS).

There were several subcircular or D-shaped enclosures, some with everted entrances, at sites such as Bottom Boat near Methley, on the Aire-Calder interfluve floodplain. These may reflect corrals located in low-lying, floodplain locales. At Potteric Carr in South Yorkshire, the large double or triple-ditched enclosed site had smaller enclosures appended to its southern side (Fig. 9.10), and nearby were trapezoidal and D-shaped enclosures (Deegan 2004: 8; Magilton 1977: plate 4; Riley 1980: 91, map 6). A small Romano-British subrectangular enclosure was recently excavated on low-lying ground at Balby Carr (Clements 2007, see Gazetteer Appendix G). All might have functioned in part as livestock corrals, probably primarily for cattle.

East of Rossington Grange Farm there were two conjoining subrectangular enclosures, the larger example connected to a short length of trackway (Riley 1980: 92, map 7) (Fig. D.15), and located at the end of a peninsula of slightly higher ground (5-10m OD) next to the River Torne floodplain. Stancil Carr lay to the south, and the 'villa' at Stancil was *c*. 1km away across the river and floodplain. South-west of Mission Springs were four subrectangular less than 0.4ha in area, associated with lengths of trackways (Riley 1980: 99, map 10). Some linear features plotted by Riley may be early modern drainage channels, but there also seems to have been Iron Age or Romano-British activity. The landscape here is extremely low-lying, much of it below 5m OD. North of Spital Hill was an unusual trapezoidal enclosure with a possible funnel entrance in the south-west, located at 10-15m OD but sloping down to the floodplain of the River Torne to the west (Riley 1980: 101, map 11). The double-ditched enclosed site at Moorhouse Farm lay just 1km to the south-west.

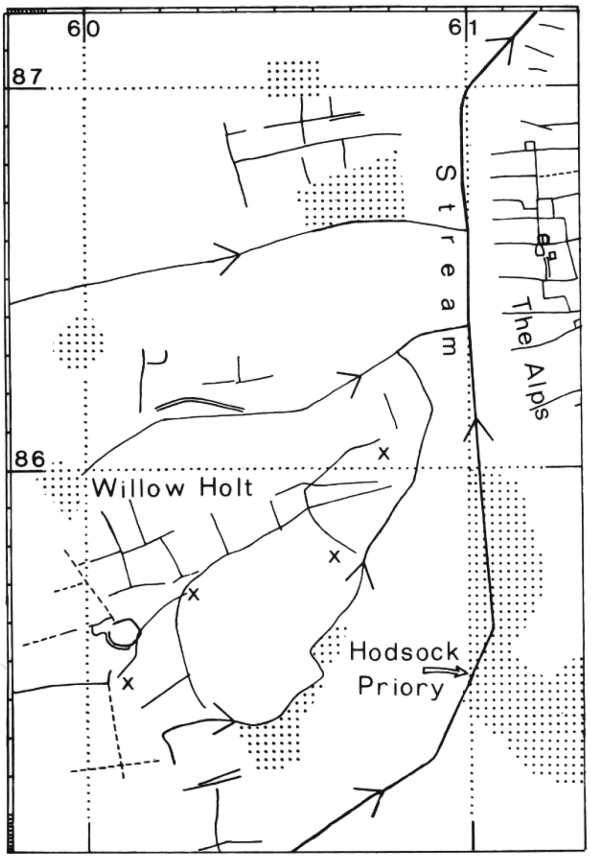


Figure D.30. *Cropmarks near Hodsock Priory, Notts. The large, irregular enclosed area is shown together with a smaller, partly double-ditched enclosure. These may have been associated with low-lying pasture close to the stream. (Source: Riley 1980: 109, map 16).*

The unusual subcircular enclosure at Broom Hill and Ruins Plantation in Harworth, Nottinghamshire that was noted above was approximately 1.8ha in area, with a further possible subrectangular enclosure appended to its south side. Sinuous trackways led out of its western and northern sides (Riley 1980: 29 plate 5, 103 map 12) (Fig. D.03). It appears that rectangular, broadly co-axial fields were constructed after this enclosure and trackway, which formed a focus for them but necessitated some more irregular boundaries too. This enclosure was on a slight rise (15m OD), with the River Ryton floodplain just to the east. North-east of Scaftworth Grange was a rectangular enclosure 0.7ha in extent with a trackway leading to it (Riley 1980: 104, map 13). This was on ground 5m OD next to the River Idle floodplain.

South-east of Willow Holt in Nottinghamshire, a 0.45ha enclosure was associated with an area approximately 550m long and up to 400m wide, defined by a curvilinear ditch to the north and west and a stream to the east, flowing into the River Ryton (Riley 1980: 109, map 16) (Fig. D.30). A smaller enclosed area may have been located to the north-east. Although these might represent medieval or post-medieval features, nineteenth century estate maps of Hodsock Priory did not show them (ibid.), and other cropmark field boundaries appear to respect and thus post-date them. Located on a gentle slope with ready access to water, it is possible that they represented demarcated pastures. North-west of Lound, a subrectangular enclosure 1.4ha in area was located on low lying ground at 5-8m OD (Riley 1980: 117, map 20). The enclosures at Wild Goose Cottage and East Carr Mattersey lay only 1.5km and 2km to the north-east respectively, whilst another enclosure complex was located 600m to the north. East of Forest House Farm was an oval feature *c*. 150m long truncated by the Chesterfield Canal (Fig. D.31). Although Riley did not consider this to be of any antiquity (Riley 1980: 123, map 23), its location on low-lying marshy ground at 15m OD near Sutton Cum Lound may be significant.

To the south of Dunston's Clump, large subcircular enclosures were recorded to the south of Forest Farm and east of Morton Hill Farm, several conjoined enclosures up to 0.7ha in area immediately to the north-east of Top Farm, one of which contained possible roundhouses; and a subrectangular example by West Drayton Avenue just to the north of Bothamsall (Riley 1980: 129-133, maps 26, 27) (Fig. 6.10). These were

all on undulating ground between 25-50m OD, close to the River Poulter. This area was not enclosed by field systems to the same extent as other areas to the west, and might have been relatively open heathland in the past, perhaps used as 'commons'. The enclosure complex at Aslockton (Palmer-Brown and Knight 1993: 146, see Gazetteer Appendix G) might also have been partly for the assembly and management of large numbers of livestock from the extensive floodplains surrounding the site. The faunal evidence suggests the husbandry of sheep and goats for meat and wool, and the consumption of cattle meat, the latter in large quantities (Hamshaw-Thomas 1992).

A note of caution must be sounded, however, in the interpretation of all low-lying features as Iron Age or Romano-British in date. Recent excavation at Holme Pierrepont adjacent to the River Trent floodplain revealed that 'oblong' or trapezoidal ditched enclosures were likely to have been post-medieval in origin, and possibly associated with a medieval rabbit warren (Guilbert 2006: 39-41).

Pit alignments and floodplain occupation

Near Glebe Farm in Nottinghamshire, a pit alignment was orientated in a curving north-south arc, matching the course of a brook approximately 150m to the west (Riley 1980: 121, map 23). Part of this pit alignment seems to have been recut as a ditch that formed part of a small enclosure complex (Fig. D.30). At Warren Farm near Bothamsall, a pit alignment was orientated so that it ran parallel to the River Maun some 900m to the west, but at right angles to this river's east-west running change of course (Riley 1980: 143, map 32). It appears to have run underneath one probable late Iron Age or Romano-British cropmark enclosure complex, but to the south the pit alignment was incorporated into the line of another enclosure complex. These two enclosures thus seem to have had two different relationships to the earlier pits – one respecting its alignment, and deliberately incorporating it within later boundaries, and another ignoring its line. The latter enclosure may have been constructed when the pit alignment had silted up and was no longer visible in the ground, but it could also be that this was the result of the deliberate slighting of an earlier boundary.

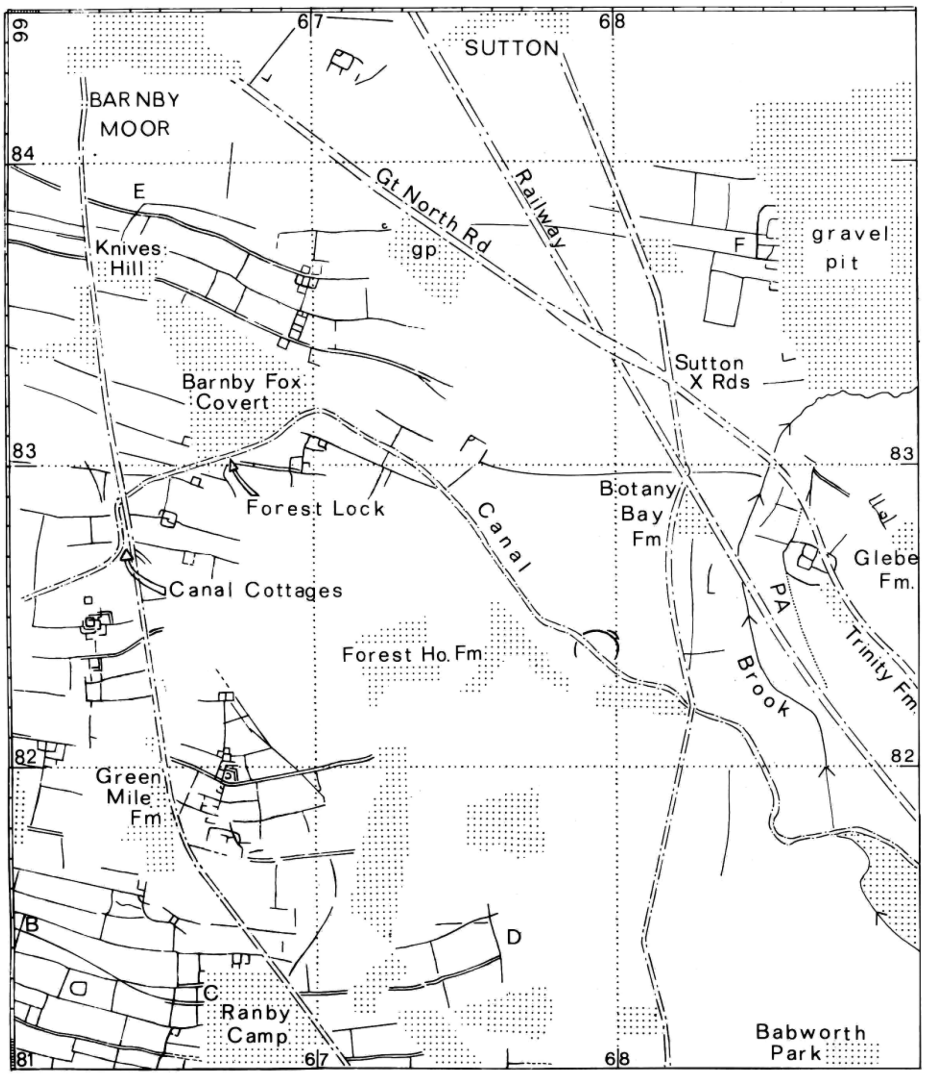


Figure D.31. *Cropmarks south of Sutton and Barnby Moor, Notts. A pit alignment parallel to the brook near Glebe Farm (to the centre right of the image) appears to have been partly recut and used as an enclosure boundary. East of Forest House Farm, and cut by a canal, is an unusual, possibly double-ditched ovoid feature that may have been a coral. (Source: Riley 1980: 121, map 23).*

Near Osberton Grange and Upper Morton Grange in Nottinghamshire, pit alignments appear to have been incorporated into later field system boundaries (Riley 1980: 128-129, maps 25 and 26) (Fig. D.24). These were relatively elevated (30-40m OD), undulating areas rather than floodplains. At South and North Muskham, the floodplain of the River Trent was divided up by a series of pit alignments forming a series of large blocks of land (Whimster 1989: 80-81, figs. 60-61) (Fig. 6.13., D.32). Some of these pits were later recut as linear ditches or double-ditched trackways.

Figure D.32. *Cropmarks at North Muskham, Notts. In addition to Bronze Age ring ditches and Iron Age and Romano-British enclosures, two lines of pits run left to right across the centre of the image, both apparently recut as ditches forming the junction of four trackways. Compare to Fig. 6.13. (Source: D. Riley, SLAP 8360, SK 798 602).*

Figure D.33. *A pit alignment at Farnsfield, Notts., funning obliquely across the image from lower left to upper right. To the right it has been recut as a linear ditch, and later ditch boundaries are orientated to it. (Source: D. Riley, SLAP 971, SK 652 580).*

Recent Nottinghamshire excavations have revealed further details of floodplain pit alignments. At Kilvington, 80 pits were identified in an alignment that stretched for over 250m on the floodplains of the Rivers Smite and Devon. Of these, 31 were half-sectioned, and although none produced dateable artefacts, the alignment was redefined at a later date by shallow gullies and bisected by a series of ditches all containing late Iron Age and early Romano-British pottery, forming part of a rectangular field system (Rylatt and Bevan 2007: 225). Most pits were dug into impermeable clay, but two examples cut into alluvial sands and gravels had been deliberately lined with thick clay, suggesting that the retention of water was important. The pits formed distinct groups based on their fill sequences, perhaps reflecting period redefinition of parts of the boundary (ibid.: 223).

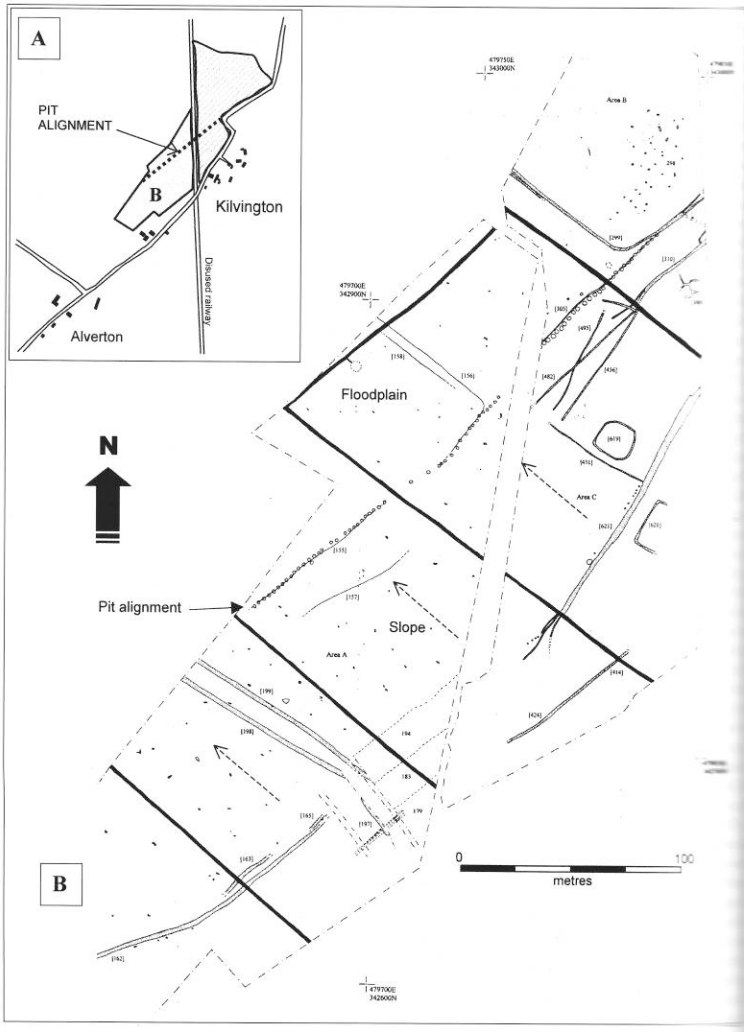


Figure D.34. *Some of the features excavated at the Kilvington Opencast Mine site, Notts., showing the north-east to south-west orientated pit alignment, and later gullies and ditches. (Source: Rylatt and Bevan 2007: 224).*

A cautionary codicil comes from excavations during 2002-2003 at Holme Pierrepont, where well-stratified medieval and post-medieval brick and tile were recovered from several of the pits forming a north-west to south-east alignment leading to the gravel terrace edge (Guilbert 2006: 43-44). The pits also appeared to cut across the lines of what transpired to be medieval ditches, but followed the same alignment as medieval ridge and furrow. In this instance, the pits may have been associated with hedge planting or some other relatively modern purpose. Clearly, pit alignment cropmarks must be securely set within a landscape stratigraphic sequence wherever possible.

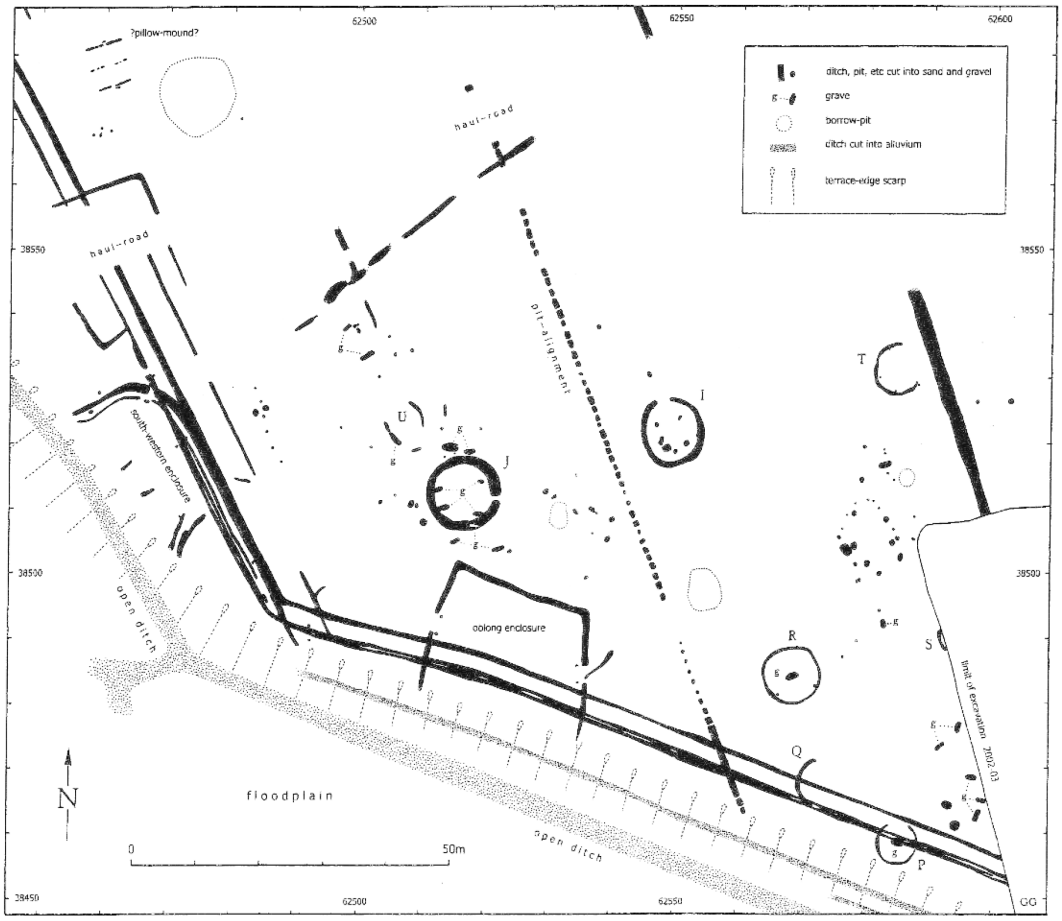


Figure D.34. *Part of the area at Holme Pierrepont, Notts., excavated between 2002-2003. The north-west to south-east aligned ditches, the pit alignment, the north-east to south-west ditch and the two southernmost subrectangular ditched enclosures were all medieval or later in date. (Source: Guilbert 2006: 28, fig. 5).*