



Planning, Transport
and Environment

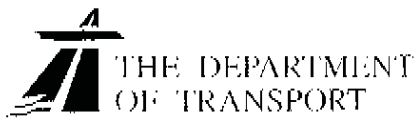
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ENVIRONMENTAL STATEMENT

1-15

A1 MOTORWAY DISHFORTH TO NORTH OF LEEMING

REPUBLISHED SEPTEMBER 1995



THE DEPARTMENT
OF TRANSPORT



HIGHWAYS

AGENCY

NORTH LONDON DIVISION

VOLUME 2
CULTURAL HERITAGE

A1 MOTORWAY
DISHFORTH TO NORTH OF LEEMING

CULTURAL HERITAGE

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A1 MOTORWAY DISHFORTH TO NORTH OF LEEMING: CULTURAL HERITAGE

PREAMBLE

P1 Main Features of the Scheme

- P1.1 The Department of Transport proposes to improve and convert to motorway standard the A1 London - Edinburgh - Thurso Trunk Road. The Dishforth to North of Leeming Scheme is one of nine similar projects in Yorkshire which form part of that conversion.
- P1.2 The Scheme would provide a dual three-lane motorway, approximately 22 kilometres in length. It would tie in to the A1 (M) Walshford to Dishforth motorway scheme at Dishforth Interchange and proceed northwards to a point three kilometres north of Leeming Bar Junction with the A684, where it would tie in to the A1 (M) Leeming to Scotch Corner Scheme which was published in April 1994.

The Scheme would be an on-line proposal generally constructed parallel to the existing road, along the eastern boundary of the existing A1 between Dishforth and Leeming. There is an exception at Londonderry, where the position of the village has favoured a short section of parallel widening to the west of the existing line. The proposals also include for a continuous local road to cater for local access and non-motorway traffic. This is generally located along the northbound carriageway of the existing A1.

- P1.3 The Scheme is illustrated in its regional context by Figure 1.1.

P2 Legal Basis for the Statement

- P2.1 This Environmental Statement is issued in accordance with EC Directive 85/337 as applied by Section 105A of the Highways Act 1980.

P3 Structure of the Environmental Statement

- P3.1 The Environmental Statement is divided into three parts as follows:
- **Volume 1:** This is a comprehensive document drawing together all the relevant information about the Scheme.
 - **Volume 2:** This comprises separately bound, specialist reports, of which this report is an example, concerned with the assessment of an environmental topic affected by the proposals. The topics covered are as follows:-
 - Landscape
 - Agriculture
 - Ecology
 - Policies and Plans
 - Cultural Heritage
 - Traffic Noise
 - Air Quality

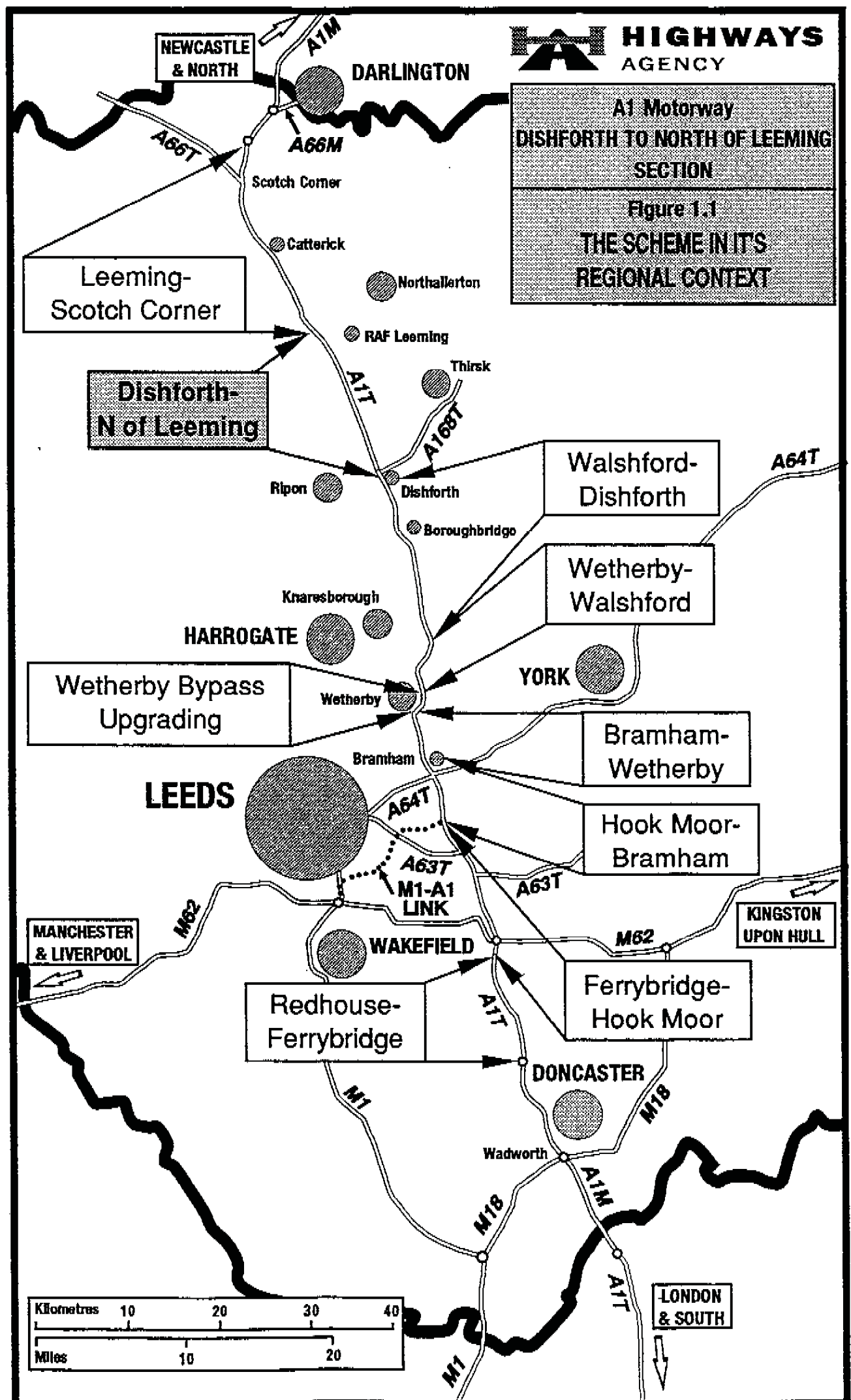
- **Non Technical Summary (NTS):** This summarises in a straight-forward and understandable way the main points addressed in the Environmental Statement as a free standing document on its own.

P4 Comments on the Environmental Statement

- P4.1 Written expression of support for or objection to the Draft Scheme and Orders and the Environmental Statement should be sent to:-

The Highways Agency
Northern Operations Division
Sunley Tower
Piccadilly Plaza
Manchester
M1 4BE

- P4.2 Letters should be headed "A1 Motorway Dishforth to North of Leeming", and should be received before 28 December 1995.



1 INTRODUCTION

- 1.1 In December 1993, Anthony Walker and Partners (AWP), now Barton Howe Warren Blackledge (BHWB) produced a Cultural Heritage Stage 2 Assessment Report¹ conforming to the requirements of the Department of Transport's Design Manual for Roads and Bridges, volume 11 "Environmental Assessment" (DMRB). This identified 123 sites of archaeological, architectural and/or historic interest within the study corridor defined for the proposed A1 Dishforth to north of Leeming Improvements. The report highlighted the fact that the potential impact of the scheme on a number of the archaeological sites or areas could not be assessed until further information had been gathered. Accordingly, a programme of DMRB Stage 3 detailed evaluation works was initiated.
- 1.2 On the basis of the results of the Stage 2 Assessment Report and the extent of the proposed construction corridor, fieldwork strategies were prepared for 46 sites or areas. For the archaeological sites, these strategies used different combinations of five techniques, namely initial fieldwalking, detailed fieldwalking, geophysical survey, earthwork survey and trial trenching; where appropriate, staged strategies using two or more techniques were used. An initial assessment of the built environment was also carried out.
- 1.3 This report summaries the methodology and results of the Stage 3 fieldwork. From this, an assessment of the effects of the scheme has been produced. Mitigation measures designed to offset these effects are also outlined.
- 1.4 Throughout this report, the term "site" refers to those sites identified and numbered in the Cultural Heritage Stage 2 Assessment Report, whereas the term "area" refers to the areas in which archaeological fieldwork took place.

2 INITIAL FIELDWALKING

2.1 Introduction

- 2.1.1 The Stage 2 Assessment Report recommended that a total of approximately 88 hectares of land should be the subject of a programme of initial fieldwalking. The bulk of this area lay within the proposed construction corridor between the A1/A168 junction near Dishforth and the A1/A61 junction at Baldersby, in an area considered to have significant potential for prehistoric archaeology. At the time of carrying out the work, modifications to the proposed route alignment meant that approximately 33 hectares of land no longer required fieldwalking. A further 31 hectares allocated for fieldwalking were unavailable or in an unsuitable state of cultivation.
- 2.1.2 The total area in which initial fieldwalking took place was therefore approximately 25 hectares, which represented 45% of the amended area. This area was divided into 10 areas, identified on figures 2.1 to 2.2 as Areas 3, 8, 9, 11 to 14, 19, 30 and 39. All the fieldwalking was carried out in September and October 1993^{2,3}.

2.2 Methodology

- 2.2.1 The initial fieldwalking method is designed for rapid coverage of large areas at a low level of intensity. The purpose of the technique is to examine areas of archaeological potential in which specific archaeological sites are unknown or unlocated. Concentrations of artefacts, which could indicate the positions of buried archaeological features, are identified and recorded in sufficient detail to recover their positions and extent at a later date. This enables recommendations to be made for more detailed fieldwork over smaller discrete areas.
- 2.2.2 Temporary site grids were laid out, consisting of parallel lines spaced 10m apart. Each line was walked by one archaeologist, who observed and recorded on pro-forma sheets any artefacts lying on the surface of the ground in each 10m segment of the line. Artefacts were divided into nine categories, namely Prehistoric, Roman, Anglo-Saxon/Medieval and Post-medieval pottery; Brick/Tile; Flint/Chert; Other stone; Iron; Other. Only particularly significant or vulnerable artefacts were collected.

2.3 Summary of results

Area 3

- 2.3.1 Area 3 was centred on NGR SE364736 and comprised an area of 3.4 hectares on the west side of the A1, close to a concentration of Neolithic and Bronze Age ritual and funerary monuments. A

total of 14 artefacts were observed, of which the only items of interest were 5 struck flint flakes, all lying in the southern half of the field.

Area 8

- 2.3.2 Area 8, centred on NGR SE359746, was an irregularly-shaped area of approximately 2.03 hectares on the west side of the A1, north of Shambles Lane. The Stage 2 Assessment Report had recorded a group of probable cropmark enclosures in this area (site 1/14). A total of 56 artefacts were observed in the survey area, including 6 flint artefacts, 3 sherds of Roman pottery and 4 sherds of medieval pottery.

Area 9

- 2.3.3 Area 9, centred on NGR SE361750, comprised an irregularly shaped area of 0.96 hectares on the east side of the A1, immediately to the south of Howlamarr Plantation. This area lay within a zone of potential prehistoric activity. A total of 27 artefacts were recorded, including 1 flint flake, 9 sherds of Roman pottery and 1 sherd of medieval pottery.

Area 11

- 2.3.4 Area 11 was centred on NGR SE357760 and was an irregularly-shaped area measuring approximately 3.41 hectares in a field to the south-east of Baldersby junction. This area lay within a zone of potential prehistoric activity which would be the subject of considerable future disturbance. A total of 53 artefacts were observed, including three sherds of Roman pottery and 23 flint artefacts, including three tools.
- 2.3.5 The struck flint collection from Area 11 represented the largest quantity of flintwork found in any of the initial fieldwalking areas, and was second only to Area 13 in the density of flintwork. These results suggested that more detailed fieldwalking was required; this was done and the results are described below.

Area 12

- 2.3.6 Area 12, centred on NGR SE357762, was an irregular area of approximately 1.75 hectares to the east of Baldersby junction and immediately to the north of Area 11. This area lay within a zone of potential prehistoric activity which would be subject to considerable future disturbance. A total of 30 artefacts were observed, including 7 struck flint flakes.

Area 13

- 2.3.7 Area 13, centred on NGR SE354760, was a narrow strip of land to the south-west of Baldersby junction, measuring 0.48 hectares. This area lay within a zone of potential prehistoric activity which would be the subject of considerable future disturbance. A total of 46 artefacts were observed, including 18 flakes of struck flint or chert and one flake of black volcanic glass (obsidian, Arran pitchstone or similar).
- 2.3.8 The site contained the highest density of struck flint of any of the initial fieldwalking areas; it also lies adjacent to another concentration of flint on the opposite side of the road in Area 11. Further, more detailed fieldwalking was undertaken and the results are described below.

Area 14

- 2.3.9 Area 14, centred on NGR SE355766, was an irregularly-shaped area measuring approximately 5 hectares on the north-east side of Baldersby junction. A total of 22 artefacts were observed, including 2 sherds of Roman pottery and 3 flint flakes.

Area 19

- 2.3.10 Area 19 was centred on NGR SE331824 and was an area of 1.6 hectares on the east side of the A1 south of Roxby House. The Stage 2 Assessment Report noted that a prehistoric stone axe had been found here (site 3/21), and that Roxby House supposedly marked the site of a deserted medieval village, although there was little evidence to support this (site 3/22). A total of 189 artefacts were observed, all of post-medieval and/or modern date.

Area 30

- 2.3.11 Area 30 was centred on NGR SE318851 and lay in two fields on the east side of the A1 between Street House and a Texaco garage. The southern area totalled 0.8 hectares while the northern area measured 3.96 hectares. The Stage 2 Assessment Report had identified the soilmarks of a possible square enclosure in the southern part of the area (site 4/16) and other features, probably deriving from early agricultural activity, were seen in the field to the north (site 4/17).
- 2.3.12 A total of 2,738 artefacts were observed, of which 2,676 were post-medieval/modern building debris, suggesting the former presence of a recent building, with which the square enclosure (site 4/16) could be associated. The remaining 62 artefacts included 1 sherd of Roman pottery and 2 of medieval pottery.

Area 39

- 2.3.13 Area 39, centred on NGR SE276917, was an area of 1.57 hectares on the west side of the A1 to the south of Little Holtby. The Ordnance Survey 1857 6" map (sheet 70) names this and the surrounding area as "Cloven Hills" with the annotation "Skeletons and pieces of armour have been dug up here". The Stage 2 Assessment Report was, however, unable to add any more information (site 6/21).
- 2.3.14 A total of 26 artefacts were observed, including 9 struck flint artefacts comprising 5 flakes, 1 core and 3 tools. The flint distribution was concentrated to the south of the area. Further, more detailed fieldwalking was carried out in this area and the results are described below.

3 DETAILED FIELDWALKING

3.1 Introduction

- 3.1.1 Following the recommendations in the Stage 2 Assessment Report, five areas were selected for a programme of detailed fieldwalking (Areas 15, 16, 21, 24 and 25 on figures 2.1 to 2.2). Three additional areas (Areas 11, 13 and 39) were added as a result of the initial fieldwalking results, giving a total area of 23.55 hectares. Due to the advanced state of the crop, Areas 15 and 16 were walked in early September 1993⁴, in advance of the main programme which was undertaken during and after the initial fieldwalking programme in late September to October 1993⁵. For similar reasons, fieldwalking in Areas 13 and 39 could not be undertaken until October/November 1994 and March 1995⁶.

3.2 Methodology

- 3.2.1 The detailed fieldwalking method is designed to search the whole of the survey area at a uniform level of intensity, thus obtaining a consistent sample of the artefacts in the ploughsoil which can be subjected to detailed examination and statistical/spatial analysis.
- 3.2.2 A grid of 10m squares was laid out over the whole site, and tied into the Ordnance Survey national grid and other suitable survey stations. This survey work also enables the production of a contour plan if desired. Each grid square was searched by one archaeologist for five minutes and all observed artefacts were collected and bagged according to material type and grid square. Post-medieval/modern brick and tile were excluded, although large concentrations were noted. Individually significant items worthy of study and reporting in their own right were separately bagged and their positions marked for detailed recording.

3.3 Summary of results

Area 11

- 3.3.1 In Area 11, which covered approximately 3.41 hectares, initial fieldwalking had identified an unusually high concentration of flint artefacts. Detailed fieldwalking was therefore undertaken over the whole area.
- 3.3.2 A total of 188 artefacts were recovered, not including brick and tile. Those of interest included 40 pieces of flint and 4 of oyster shell. The flint collection included 16 flakes, 2 cores and 22 tools. This material was concentrated in two areas at the north and south ends of the field, with a large relatively blank area in the centre, although some flint did occur in the centre on its western fringe (see figure 4). This distribution pattern was not repeated in any

other artefact category; the oyster shell fragments occurred in two squares within the southern flint concentration and one square within the northern concentration. No marine mollusc shells were found at any other fieldwalking area. It seems likely that these two flint concentrations represent areas of prehistoric activity of an unknown nature.

Area 13

- 3.3.3 Area 13, centred on NGR SE354760, was an irregularly-shaped area totalling 1.43 hectares positioned to the south-west of Baldersby junction. A total of 12 artefacts were found, including 11 prehistoric flint artefacts and one sherd of Romano-British pottery.

Area 15

- 3.3.4 Area 15, centred on NGR SE368726, comprised a rectangular area of 3.52 hectares on Howe Moor, equidistant between The Croft and Bedale Hunt Inn. The Stage 2 Assessment Report had identified the cropmarks of a possible enclosure and a ring-ditch near the south end of the survey area (sites 2/14 and 3/01) and a ploughed-down earthwork enclosure at the north (site 3/02). A Roman silver coin had been found within this enclosure during the Stage 2 preliminary walkover survey.
- 3.3.5 A total of 46 artefacts were found in Area 15, including 31 flint artefacts, 10 of which were tools (see figure 5). The flint was concentrated in the general area of the earthwork enclosure, possibly suggesting a prehistoric rather than a Roman date for this feature.

Area 16

- 3.3.6 Area 16, centred on NGR SE368730, covered 1.68 hectares and lay immediately to the south of The Croft and north of Area 15. A total of 25 artefacts were recovered, including 17 fragments of flint (8 of which were tools), 3 sherds of Roman pottery and 4 sherds of uncertain date (see figure 5).

Areas 21, 24 and 25

- 3.3.7 The Stage 2 Assessment Report had identified the area around Healam Bridge as being of major archaeological potential. Observations made during road improvements in 1949 and fieldwork carried out in 1986 had suggested the probable presence of a Romano-British settlement to the north of Healam House and a possible fort to the south of Healam Bridge (sites 4/03 and 4/04). A programme of detailed fieldwalking was therefore undertaken in the three fields available for survey on either side of the road.

- 3.3.8 Area 21 was centred on NGR SE325834 and comprised a rectangular area of 2.6 hectares on the east side of the A1 to the south of the Healam Beck. A total of 131 artefacts were recovered, including 19 sherds of Roman pottery and 34 of medieval pottery.
- 3.3.9 Area 24, centred on NGR SE323834, was an irregularly-shaped area of 5.8 hectares on the west side of the A1 between Healam House and the Healam Beck, opposite Area 21. The supposed Romano-British settlement lay on a north-facing slope at the southern end of this area while the northern half was occupied by a prominent knoll. A total of 1,192 artefacts were recovered, including 425 sherds of Roman pottery and 122 sherds of medieval pottery (see figure 7). 103 fragments of animal bone were also recovered. Finds of individual significance included a copper alloy object (possibly Roman tweezers), a Roman flagon neck, a silver coin of Elizabeth I and a worked jet object.
- 3.3.10 Area 25 was centred on NGR SE322839 and was 2.9 hectares in extent, located to the west of the A1 and north of the Healam Beck. The southern end of the field is on a steep south-facing slope while the north end is a relatively level plateau. A total of 364 artefacts were recovered, the great majority of which were modern in date. Five Roman and 12 medieval potsherds and 28 flakes of struck flint were found.
- 3.3.11 The low density of artefacts in Area 21 as compared to Area 24 was seen as a product of the different stages of cultivation which applied in these fields during the fieldwalking. Conditions in Area 24 were much more favourable for the recognition of artefacts than in Area 21, and it was noticeable that the bulk of the finds from Area 21 were located in the southern half of the field where conditions were slightly better than in the northern half. In Area 25, however, conditions were similar to those in Area 24 and the contrast between the numbers of Roman artefacts found in these two areas probably reflects a genuine archaeological difference. These conclusions were partially confirmed by the results of geophysical survey and trial excavation (see below).
- 3.3.12 Within Area 24, there was clearly a recognisable pattern in the distribution of Roman pottery (see figure 7). A very dense concentration was identified on the knoll in the north end of the field, with a second larger, but more diffuse, scatter on the lower part of the north-facing slope to the south. The saddle between the knoll and the slope had a lower density of Roman finds, and there were relatively few finds at the base of the slopes close to the beck. An exception to this was a small concentration of material lying close to the beck in the southern half of the field; this coincided to a certain extent with a concentration of animal

bone finds, and could indicate that specialised activities were taking place in this area.

- 3.3.13 Although the fieldwalking results from Area 25 did not provide any evidence for significant Roman activity, the quantity of struck flint (28 flakes) did indicate the possibility of some prehistoric activity in the field. The distribution of flint artefacts however, suggested that any prehistoric site lay just to the west, beyond the main area of survey.

Area 39

- 3.3.14 Area 39 was an irregular block of land totalling 2.21 hectares, centred on NGR SE276917, lying adjacent to the west side of the A1 south of Little Holtby, with a long narrow strip running for over 300m to the west along the southern boundary of the field. The east edge of the area is on the summit of a broad ridge, with a steep slope down to the west.
- 3.3.15 A total of 102 prehistoric flint artefacts were collected, all from within 100m of the A1 (see figure 12). This represented by far the highest density of flint artefacts (63 per hectare) found in any area between Dishforth and north of Leeming.
- 3.3.16 The greatest concentrations of flint artefacts were in the southern part of the area, on a steep west-facing slope. No flint was found further than 100m from the A1, although one sherd of prehistoric pottery was found 340m from the road. A total of 14 sherds of medieval pottery were also found.

4 GEOPHYSICAL SURVEY

4.1 Introduction

- 4.1.1 Following the recommendations in the Stage 2 Assessment Report, and the results of the initial and detailed fieldwalking programme, 20 areas were selected for geophysical survey (Areas 1, 2, 4 to 8, 10 to 13, 15, 16, 18, 19, 21 to 25 on figures 2.1 to 2.2); five further areas (Areas 20, 26 to 28 and 39) were added at a later stage. The majority of these areas were concentrated in the southern part of the study area, which was considered to have a high potential for prehistoric archaeology, and around Healam Bridge, the suspected site of a Roman fort and settlement.
- 4.1.2 The total area allocated for geophysical survey was 46.03 hectares. The survey areas at Healam Bridge (Areas 20 to 28) (12.71 hectares) and at Area 39 (2.21 hectares) were surveyed in their entirety; all the other areas were initially subject to samples of between 40% and 66%, which were extended where positive results were achieved to between 54% and 100%. The total area actually surveyed was 37.50 hectares (81.5% of the total allocated). Areas 21 to 25 were surveyed in October 1993 and the rest between February 1994 and March 1995⁷.

4.2 Methodology

- 4.2.1 The geophysical survey was carried out using a combination of two techniques. A magnetometer survey was undertaken on most of the survey areas, a technique which measures small differences in the magnetic field of the earth caused by buried archaeological features. The strong magnetic effect of large buried ferrous objects can render this technique useless and in one area a gas pipeline had this effect. Here, an alternative technique was employed, which measures variations in the electrical resistance of the soil caused by the different water-retention characteristics of buried archaeological features.
- 4.2.2 The geophysical survey utilised a grid of 20m squares which was established over each of the survey areas. Each grid square was surveyed using traverses at 1m intervals, with a reading taken every 0.5m along each traverse, giving a total of 800 readings in each 20m square. The grids were tied into the Ordnance Survey National Grid and other survey stations. In areas which had been the subject of detailed fieldwalking, the grids were designed to be compatible to assist with comparison of the results.

4.3 Summary of results

Areas 1, 2, 4 and 5

- 4.3.1 Areas 1, 2, 4 and 5 lay either side of the A1, immediately north of the Dishforth junction. Area 1 (NGR SE368729) was a rectangular area of 1.8 hectares, lying west of the A1. Area 2 (NGR SE366732) was an irregular area of 1.44 hectares, and lay between Area 1 and the Great Raygill Dyke. Area 4 (NGR SE368732) was an L-shaped area of 0.92 hectares, east of and at right-angles to the A1. Area 5 (NGR SE367735) was a rectangular area of 1.44 hectares immediately north of Area 4. These areas were investigated in response to the proximity of known prehistoric sites to the west. Areas 1 and 2 were specifically positioned to assess the location of a proposed slip road while Area 4 was designed to assess a possible balancing pond location and Area 5 was positioned to assess part of the proposed construction corridor. These areas were subject to sample surveys of between 60% (Area 4) and 83% (Area 5).
- 4.3.2 The geophysical surveys identified groups of pit-like anomalies in all these areas, those in Area 5 forming chevron patterns (see figure 3); these do not appear to extend beyond the A1 to the west, into Area 2. Linear anomalies were also observed in Area 1 and there was a group of possible pits in the southern part of Area 2. All these features were considered likely to be prehistoric in date, although agricultural or geological origins were also possible.

Areas 6 and 7

- 4.3.3 Areas 6 and 7 lay to the east of the A1, immediately to the north of Area 5 and south of a Happy Eater restaurant. Area 6 (NGR SE365737) was 3.36 hectares in extent and was subject to a 74% sample. It contained several groups of anomalies, including pit-like, linear and curvilinear anomalies, a weak L-shaped anomaly possibly representing part of an enclosure, and a very large, strong anomaly possibly representing a complex of features. While all of these appear to be archaeological in nature, some could be of natural or agricultural origins. Area 7 (NGR SE364741) was 0.87 hectares and was subject to a 55% sample survey. Some linear anomalies of unclear significance were recorded.

Area 8

- 4.3.4 Area 8 (NGR SE359745) was an irregular area of 2.12 hectares, lying in the angle of Shambles Lane and the A1. This area had been subject to initial fieldwalking and was subject to a 50% geophysical survey. The only significant anomaly revealed represented a recent field boundary and no evidence of the possible

cropmark enclosures (site 1/14) was observed within the surveyed area.

Area 10

- 4.3.5 Area 10 (NGR SE359753) was a rectangle 1.8 hectares in area, located on the east side of the A1 to the south of New Road. This survey area was designed to see if either of the two pit alignments identified by the Stage 2 Assessment Report (sites 1/16 and 1/17) extended into the proposed construction corridor, and a sample survey of 51% was undertaken. A few scattered anomalies, possibly representing pits and boundaries, were observed but the majority of the results were obscured by a high level of magnetic background "noise". One of the linear features could relate to a field boundary which is shown on 18th and 19th century maps.

Areas 11 and 12

- 4.3.6 Areas 11 and 12 (NGR SE357762) combined to form an irregular area of 6.2 hectares, located to the south-east of Baldersby junction. The area was positioned to examine a flint scatter recorded by initial and detailed fieldwalking, as well as attempting to provide information on any other prehistoric material. The combined sample survey area totalled 65% (see figure 4). The southern part (Area 11) contained a few scattered pit-type anomalies and some linear anomalies resembling field boundaries; however, these do not coincide with field boundaries shown on 18th and 19th century maps. The northern end of the area, at the junctions of Areas 11 and 12, contained strong linear anomalies possibly representing an irregularly shaped enclosure as well as other linear features and some strong pit-type anomalies.

Area 13

- 4.3.7 Area 13 (NGR SE354760) was an irregular area of 1.72 hectares, located in the south-west angle of Baldersby Gate junction. This was subject to an 85% sample which was positioned to examine a flint scatter identified by initial and detailed fieldwalking. Several large pit-type anomalies were recorded, including a group in the south-eastern part of the survey area and a diffuse sinuous anomaly which crossed the survey area approximately from east to west (see figure 4).

Areas 15 and 16

- 4.3.8 Areas 15 and 16 lay in two fields on Howe Moor to the south of The Croft. Area 15 (NGR SE343797) totalled 3.52 hectares while Area 16 (NGR SE341799) measured 1.6 hectares. Area 15 was subject to a 72% sample and Area 16 to a 40% sample. The two survey areas were positioned in relation to an earthwork (site

3/02), and the Roman coin identified during the Stage 2 Assessment and the flint artefacts recovered during detailed fieldwalking.

- 4.3.9 In Area 15, a large group of strong pit-type or short linear anomalies were recorded at the north end of the survey area, close to the location of the earthwork and the bulk of the flint (see figure 5). Approximately 90m to the south of the earthwork, a linear anomaly ran parallel to the A1, with a right-angled bend towards the A1 at its north end and a short linear anomaly lying at right angles just to the east. Further south, a long linear anomaly ran parallel to the A1. All these features could be related to each other and to the Roman Dere Street, the medieval/post-medieval road on the same line, or the present A1. A number of linear and curvilinear anomalies also lie in the centre of the area.
- 4.3.10 At the south end of the area, a long linear anomaly at an acute angle to the A1 has four shorter anomalies lying perpendicular to it. No evidence of the cropmark features which had been previously recorded on the east edge of Area 15 (sites 2/17 and 3/01) was recorded. In Area 16, a few linear anomalies of unclear significance were recorded.

Areas 18 and 19

- 4.3.11 Areas 18 and 19 were located on the east side of the A1 to identify any features which might be associated with a major cropmark complex on the west side of the A1 at Whinney Hill (site 3/20). Area 18 was centred on NGR SE331821 and measured 1.92 hectares while Area 19 was centred on NGR SE330824 and was 2.40 hectares in area. The sample surveys were 100% in Area 18 and 93% in Area 19.
- 4.3.12 Area 18 contained a number of pit-type anomalies and short linear anomalies towards the western edge of the survey area (see figure 6). A straight linear anomaly, possibly representing an old track, crossed the south-east corner on a north-east to south-west alignment. In Area 19, the southern field contained a number of linear anomalies, forming an unusual pattern which is not interpretable without further work. The northern field contained a linear feature lying parallel to the A1, similar to that seen in Area 18. A weak L-shaped anomaly lay further east and there was a scatter of pit-type anomalies along the western side, most dense towards the northern end.

4.4 Areas 20 to 29 (Healam Bridge)

- 4.4.1 Five areas were initially surveyed around Healam Bridge (Areas 21 to 25). Areas 21, 24 and 25 corresponded with the detailed fieldwalking areas, although different in layout and size, while

Areas 22 and 23 lay to the east of the A1 between Area 21 and the Healam Beck; these latter two areas had not been ploughed at the time of the survey and so were unavailable for fieldwalking. Results in these areas and subsequent modifications to the alignment of the proposed construction corridor led to Areas 21 and 22 being extended to the east and four additional areas being surveyed, Area 20 (located to the south of Area 21) and Areas 26 to 28 (located to the north of the Healam Beck), all on the east side of the A1. The complex as a whole is centred on NGR SE323835 and a total of 12.71 hectares was surveyed.

- 4.4.2 The results in the areas on both sides of the Healam Beck were highly significant (see figure 8). Large ditched features representing the outline of a Roman fort covering an area of approximately 1.82 hectares were recognised, crowning the knoll in the northern half of Area 24 and in Area 22; the fort is bisected by the present line of the A1. The position of the western half of the fort coincides with the very dense concentration of Roman pottery previously recognised in Area 24. The interior of the fort was densely packed with linear and non-linear features, most of which are aligned with it and respect its ditches. A number of linear features outside the fort to the north, east and west could represent defensive outworks, similar to those recently excavated at the newly discovered fort at Roecliffe near Boroughbridge. It is interesting to note that the position of the fort on the southern side of a water-course, is paralleled by other forts on Dere Street (the A1), for example at Roecliffe and Catterick.
- 4.4.3 A large area immediately to the south and east of the fort on both sides of the road was obscured to geophysical survey by a strong magnetic response resulting from a buried gas pipeline. This area was re-surveyed using the alternative resistance technique, again with limited success, although anomalies probably representing parts of the main fort ditch were recognised.
- 4.4.4 To the south of the fort, and possibly running to it, is a dense concentration of linear and non-linear features representing a complex of rectilinear enclosures with internal features, all aligned on the fort; the highest concentrations of features are in Area 21 and the southern half of Area 24. A sharply defined boundary aligned north-south in Area 21 marks the eastern edge of this concentration. To the east of this lies a 30m-45m wide band containing larger enclosures with fewer internal features. The eastern edge of this band is again defined by a substantial boundary ditch, visible in the eastern extensions to Areas 21 and 22. To the south, this ditch is just visible in Area 20, and features possibly associated with the main concentration are visible along the extreme western edges of Area 20.

- 4.4.5 This complex appears to represent a Romano-British civil settlement, probably a *vicus*, contemporary with the fort. As well as characteristic occupation enclosures with more than one phase of activity, the unusual strength of the anomalies in some parts of the site suggest the possible presence of areas given over to industrial activity. The pottery suggests that the site was occupied from the 2nd to the 4th century AD. The central area of occupation appears to have a well-defined boundary on its eastern edge; some features were recognised beyond this boundary but they are much less concentrated, and could represent the edge of a field system or a peripheral part of the settlement area. On the west side, however, the central settlement features continue beyond the surveyed area. To the south, there is a lower density of features and very few features were recognised in Area 20, the south-eastern extreme of the survey.
- 4.4.6 In Area 25, to the north of the Healam Beck and west of the A1, few features of archaeological interest were detected. A small area containing linear features, possibly representing part of a system of rectilinear enclosures, was identified on the eastern edge of the survey area. A curvilinear feature and other linear and non-linear anomalies were seen on the southern edge of the survey area, but it is unclear as to whether these are archaeological or relate to former stream courses.
- 4.4.7 Reports from local informants suggested the possibility of a Roman cemetery in and around the area of "Tillicum". Areas 26 and 27, located between the beck and "Tillicum" to the east of the A1, contained features similar to those interpreted as a Romano-British settlement to the south but they were partly obscured by ridge and furrow cultivation. No specific evidence for a cemetery was discovered by the geophysical survey.
- 4.4.8 The geophysical survey in Area 28, north of Area 27 and east of New Inn Farm, revealed no features of archaeological interest other than the earthworks of ridge and furrow. For this reason, the geophysical survey was not extended into Area 29, which lay further north.

Area 39

- 4.4.9 Area 39 was an irregularly shaped block of land totalling 2.21 hectares, centred on NGR SE276917. The bulk of the area lay adjacent to the west side of the A1 south of Little Holtby, while a long narrow strip extended for over 300m to the west along the southern boundary of the field. The east edge of the area is on the summit of a broad ridge, with a steep slope down to the west. Initial and detailed fieldwalking results had suggested the possibility that significant prehistoric activity had taken place here, and the area was surveyed in its entirety.

- 4.4.10 A number of large widely scattered pit-like anomalies were recognised in the central and eastern parts of the survey area, and at its western extreme. A long linear anomaly ran parallel to the A1 and 45m to its west in the southern half of the survey area, while a separate curvilinear anomaly occupied a similar position in the northern half (see figure 12). A further broad curvilinear anomaly aligned roughly east to west lay adjacent to the southern boundary of the field, 100m to the west of the A1.

5 EARTHWORK AND TOPOGRAPHIC SURVEY

5.1 Introduction and methodology

5.1.1 The Stage 2 Assessment Report recommended that 13 sites should be the subject of a detailed earthwork or topographic survey. Following revisions to the proposed construction corridor, 12 areas were selected (Areas 15, 17, 27 to 37 on figures 2.1 to 2.2), the work being undertaken in April 1994⁸. The remains of an ice house in the grounds of Leases Hall (site 6/20) was also surveyed in August 1993 (Area 38).

5.1.2 The survey work was carried out using electronic distance measuring (EDM) equipment. The positions of all earthworks, buildings and other structures considered to be of interest were recorded and the survey information was plotted at 1:500 scale. Sufficient background information was also collected to allow the survey area to be readily located through the use of topographical features, and the survey was integrated into the Ordnance Survey national grid and other survey stations. In all cases, the area of survey was confined to those fields directly within the proposed construction corridor.

5.2 Summary of results

Area 15

5.2.1 The Stage 2 preliminary walkover survey had identified two sides of a ploughed down earthwork measuring approximately 75m north-south and 65m east-west (site 3/02). Although the banks were very spread, approximately 10m across, a definite platform with a slightly concave interior had been visible. Nothing was depicted in this area on any historic maps or aerial photographs.

5.2.2 Few definite earthworks could be seen at the time of the earthwork survey, probably due to a combination of prevailing crops and the continued ploughing of the site. However, the area had been the subject of fieldwalking and a geophysical survey and, by using the survey points established for this work, a detailed contour plan was produced. This shows a very spread feature of similar dimensions lying on top of a natural rise some 2.5m above the general level of the field.

Area 17

5.2.3 The Stage 2 Assessment Report identified this area, to the south of Ramshaw Farm on the east side of the A1 (NGR SE332818), as containing the earthworks of ridge and furrow either side of a former northwest-southeast field boundary (site 3/18). The 1839 Sinderby tithe map and the Ordnance Survey 1856 6" map shows

the field boundary as extending on either side of the present farm access track.

- 5.2.4 The earthwork survey identified the former field boundary as a prominent earthwork bank 0.3m high, aligned parallel to and 70m to the east of the A1. The Stage 2 preliminary walkover survey had noted that the ridge and furrow to the east of this bank was quite prominent, 0.3m high, but to the west, within the proposed construction corridor, it was less well preserved, only 0.2m high. At the time of the earthwork survey, however, no clear earthworks could be seen and the site was not surveyed in detail.

Areas 27 to 29

- 5.2.5 The Stage 2 Assessment Report had identified ridge and furrow earthworks in a field immediately to the south of a bungalow called "Tillicum" (NGR SE323839) and in the fields to the east of New Inn Farm (NGR SE320840) (site 4/06). While the ridges near "Tillicum" were seen to be 0.3m high and aligned at right angles to the A1 during the Stage 2 preliminary walkover survey, access into the field behind New Inn Farm was not permitted.
- 5.2.6 The earthwork survey revealed that the field to the south of "Tillicum" contains well-preserved ridges standing to an average of 0.3m high with approximately 5m between each crest (see figure 9). The ridges are aligned at right angles to the line of the former Great North Road which runs along the western boundary of the field. At the western side of the field, the ridges terminate with a low bank some 5m in front of the present hedge, this area presumably representing a headland. A similar arrangement is apparent at the eastern side of the field although in this case the bank forms one side of a 5m wide flat-bottomed hollow. Although this is also likely to be a headland, it might also have served as an access track; a short section of double bank is apparent at the east end of the former orchard enclosure to the north ('a' on figure 9.1).
- 5.2.7 The field behind New Inn Farm contains very shallow earthworks representing the additional areas of ridge and furrow which were visible on aerial photographs taken in 1971 and 1991 (see figure 9.1). The ridges survive to less than 0.2m high and it was not possible to identify their full extent because of the long grass at the time of the survey. A prominent bank and ditch, 8m wide and 1m deep, follows the general alignment of the ridge and furrow and adjacent field boundaries ('b-b' on figure 9.1); this represents the earthwork remains of a field boundary which formerly divided this field into two and which is depicted on the undated 19th century tithe map and the Ordnance Survey 6" and 25" maps of 1856 (sheet 86) and 1892 (sheet 86(7)).

- 5.2.8 No earthworks were recorded in Area 29, to the east of Hope Town.

Area 30

- 5.2.9 The Stage 2 Assessment Report had noted the earthworks of a square enclosure, field boundaries, ridge and furrow and other earthworks to the south of Street House (sites 4/16 and 4/17). These features were shown on aerial photographs taken in 1971 but more recent aerial photographs revealed that they had been ploughed out.
- 5.2.10 This area was assessed during the period of earthwork survey but the features were much rounded and ploughed down and were impossible to survey in any detail.

Areas 31 to 34

- 5.2.11 The Stage 2 Assessment Report had identified several fields of ridge and furrow earthworks between Street House and Burneston Grange (site 4/24). The earthwork remains of two former lanes running east from the A1 were also recognised (sites 4/22 and 4/23), as well as an undefined earthwork to the west of Burneston Grange (site 4/25).
- 5.2.12 Access was not possible to all these areas during the Stage 2 preliminary walkover survey but the course of Scot Lane (site 4/22), to the north of Street House, was seen as a prominent earthwork, the southern boundary being formed by a hedge and the northern as a bank separating it from adjacent ridge and furrow. The course of Mouse Lane (site 4/23), although depicted as two parallel boundaries on the 1839 Burneston tithe map and the Ordnance Survey 1856 6" map, could not be identified on aerial photographs taken in 1942, 1971 or 1991 and was not seen during the walkover survey. Ridge and furrow earthworks were seen in all the fields between Scot Lane and Burneston Grange (site 4/24), the best preserved being 0.5m high in the northernmost field (Area 34). This field also contained an unclassified earthwork (site 4/25).
- 5.2.13 The earthwork survey revealed that no surveyable earthworks remain in the southern of the two survey areas, either side of Scot Lane, nor in the field to the north, through which Mouse Lane formerly ran.
- 5.2.14 The northern field, between Burneston Grange and the A1 (Area 34) contains ridge and furrow 0.3m high and approximately 5m apart, aligned north-south parallel to the A1 (see figure 9). It is best preserved in the western part of the field, and the western side of the ridge and furrow is marked by a bank (presumably the

boundary of the field), and there is a single east-west ridge running along the northern boundary of the field.

- 5.2.15 The north-west corner of the field contains the earthwork feature identified during the Stage 2 preliminary walkover survey (site 4/25). This is a shallow depression, up to 0.5m deep. This contains dumped and spread material and its original depth and extent cannot be determined however. To the east is a platform measuring 20m x 10m ('a' on figure 9.2); the sides are marked by banks on two sides with a small approximately rectangular depression within it. Immediately to the south there is another possible platform measuring 10m x 5m ('b' on figure 9.2), and to the east of these two features are two low banks which run eastwards parallel to the northern field boundary.
- 5.2.16 This earthwork complex is difficult to interpret without further investigation. It is possible that it represents some form of water management site but there are no records of a mill being in this location. The depression may be a former field pond but it may also have been dug in more recent times, possibly associated with the construction and/or maintenance of the existing A1 or the lay-by. The function of the two platforms is also unclear. The two low linear banks to the east of the depression appear to be converging and the Ordnance Survey 6" map of 1856 (sheet 86) shows a section of a "Green Lane" further to the east. The northern of the two banks may therefore represent one side of a continuation of this lane while the southern marks a headland associated with the ridge and furrow. All the features are, however, small-scale and are unlikely to represent a significant site.

Area 35

- 5.2.17 The Stage 2 Assessment Report noted that a considerable area of ridge and furrow earthworks had existed to the west of Londonderry (site 5/07). At the time of the preliminary walkover survey, only a small section remained to the west of Milton House (NGR SE30308750), Manor House (NGRs SE30208755 and SE30208760) and the A1 slip road (NGR SE30178736) in fields OS 2847, 2256, 2847 and 1839. Following revisions to the proposed route alignment, only the latter area lay within the proposed construction corridor (Area 35).
- 5.2.18 The earthwork survey revealed that ridge and furrow survived in a triangular field to the west of the A1 slip road. This area represents the western part of a much larger field which was divided by the construction of the Londonderry by-pass. The earthworks in the southern part of the survey area are the best preserved, the ridges being 0.3m high and approximately 6m apart. Some possible ridges were also seen in the northern part of the field although their identification was hampered by longer grass.

Area 36

- 5.2.19 The Stage 2 Assessment Report had noted a field of ridge and furrow earthworks to the south-east of Motel Leeming, bisected by the Leeming bypass (NGR SE28508920) (site 6/04). The preliminary walkover survey showed that to the east of the A1, within the proposed construction corridor, only a small section remained, the earthworks surviving to a height of 0.2m. At the time of the earthwork survey, however, only a few unsurveyable earthwork features could be identified.

Area 37

- 5.2.20 The Stage 2 Assessment Report had identified an area of ridge and furrow earthworks to the south of Thoroughway House (NGR SE278906) (site 6/10). The preliminary walkover survey noted that, to the east of a recent north-south boundary, the ridges were some 0.5m high while no earthworks remained to the west.
- 5.2.21 The earthwork survey revealed the well-preserved remains of ridge and furrow aligned east-west. In the northern part of the field, the ridges are 0.7m high and approximately 10m apart but to the south, they are only 0.2m high. This differentiation is probably a reflection of previous agricultural activity.

Area 38

- 5.2.22 An ice house identified to the north of Leases Hall (site 6/20) by the Stage 2 Assessment Report was also surveyed. It was subsequently listed as a Building of Special Architectural or Historic Interest (grade II) on 16 December 1993.
- 5.2.23 The structure is of brick and is partially buried under a 3m high ovate earth mound surrounded by trees. The chamber is circular, 3m in diameter, with a domed roof and apparently straight sides; it was not possible to measure its depth and modern debris obscured any drainage system. The entrance facade is on the north side and is composed of a simple brick revetment with a brick arch. Behind the arch is a straight brick entrance which contains the remains of wooden jambs for two doors.

6 TRIAL EXCAVATIONS AT HEALAM BRIDGE

6.1 Introduction

- 6.1.1 The significance of the results of the geophysical survey and fieldwalking in Areas 20 to 27 at Healam Bridge led to an initial phase of trial excavation in Areas 21, 22, 24 and 26. This work took place in June and July 1994⁹. Further trial excavation in Areas 26 and 27 took place in March to May 1995¹⁰.
- 6.1.2 A total of 13 trenches (A to M) were excavated in June and July 1994, with a further 9 trenches (N and P to W) excavated in May 1995, giving a total area of 1,270 square metres (see figure 8). This equated to approximately 0.72% of the site.
- 6.1.3 The general objectives of the trial excavation programme were:
 - i) to determine whether archaeological features and/or structures are present within each fieldwork area;
 - ii) to provide an assessment of the nature and date-range of any archaeological features identified;
 - iii) to determine whether further pre-construction archaeological investigation was necessary.

6.2 Methodology

- 6.2.1 The methodology for the excavations was defined in specifications written by Anthony Walker and Partners and agreed in advance of work with English Heritage and North Yorkshire County Council¹¹.
- 6.2.2 The 1994 excavations were concentrated in the area of the presumed Roman fort and associated *vicus* to the south of Healam Beck, with a view to firstly confirming the interpretation of the geophysical survey and to determine the quality of the archaeological remains, and secondly to determine the archaeological potential of a proposed route re-alignment to the east. These trenches were positioned to sample areas seen as representative of each major component of the site, ie. the fort and the settlement areas on each side of the existing A1, and the eastern peripheral area. The sample was weighted towards the eastern peripheral area, which would be affected by a proposed route re-alignment and which was hardest to interpret on the basis of the geophysical survey.
- 6.2.3 The 1995 excavations concentrated on the part of the *vicus* lying to the north of the Healam Beck and east of the existing A1, in order to obtain more detailed information on the archaeological importance and potential of this part of the site. The trenches

were positioned to sample each type of geophysical anomaly represented in this part of the site, together with each of the zones into which the area was subdivided by linear and curvilinear anomalies. Topographic variations were also taken into account.

6.3 Summary of results

The fort

- 6.3.1 Two trenches (A and K) examined parts of the fort defences and interior. The defences consisted of a large ditch, 12m wide on the south side and 8m wide to the east. Although the ditch was not fully excavated, it may be up to 4m deep. Originally, there was probably a rampart adjacent to the inner edge of the ditch but, apart from two parallel slots in Trench K which may represent the foundations of a timber revetment, nothing survives. Two much smaller ditches to the east of the fort and one to the south could have been defensive outworks. The interior of the fort contained features representing parts of timber-framed buildings, as well as pits and occupation deposits.
- 6.3.2 The stratigraphic evidence from both the interior and the defences suggests an extended period of use. This is confirmed by the dating evidence, which comes entirely from pottery and suggests a foundation date in the Hadrianic/Antonine period (the mid 2nd century AD) with activity continuing in the 3rd and 4th centuries. It was not possible to establish whether this activity was continuous, or whether it was military in character throughout the whole of this timespan.

Settlement south of the fort

- 6.3.3 Two trenches (B and C) were positioned to examine parts of the settlement located to the south of the fort.
- 6.3.4 Trench B contained the richest archaeological deposits of any of the areas excavated in 1994. Features included two cobbled surfaces, one possibly representing a yard surface and one a road or street. There were also a number of ditches and slots, the former representing boundary/drainage features, and the latter drainage or structural features. A number of rubbish pits and post holes were also identified. All these features represent human activity and settlement over a significant time span; in addition, they all cut or overlay an earlier occupation deposit. No features were recognised underlying this layer but, as only a small part of it was removed, earlier features could have been present. Trench B produced over half of the animal bone from the whole site, including horse, sheep/goat, pig, bird and frog bones. Approximately 27% of the pottery from the site was also found in

Trench B, and included material dated to the mid 2nd century AD, the late 2nd century, and the 3rd/4th century.

- 6.3.5 Although the excavated archaeology did not closely relate to the geophysical anomalies in Trench B, there was a strong correlation in Trench C. Most of the features were ditches, at least one of which had been re-excavated after having completely silted up. There were also a few small structural features and patches of occupation deposits. One of these overlay some of the earlier features in the trench. As in Trench B, there was a significant quantity of animal bone and a similar range of pottery.

Settlement north of the Healam Beck

- 6.3.6 One trench (M) was excavated in Area 26 in 1994, followed by nine more (N and P to U in Area 26, V and W in Area 27) in 1995. A wide variety of features of Romano-British date were found, together with evidence for complex remodelling of the site and artefacts suggesting occupation from at least the early 2nd century into the 4th century AD. The quality of preservation of the remains varied substantially across the site, with a significant build-up of deposits in the slopes and lower-lying parts of Areas 26 and 27 while only features cutting the natural clay subsoil survived in the higher parts of the site.
- 6.3.7 In Trench M, a possible road or street surface at the south end of the trench was probably cut by a later ditch. Further to the north, another ditch and gully were also recognised. All of these features appeared as anomalies on the geophysical survey. Two smaller features appeared in the area between the northern ditch and gully; on excavation, these were revealed to be a heavily disturbed, fragmentary human burial and a circular hollow filled with rounded stones, interpreted as a hearth. Again, animal bone and pottery were found in several features. The pottery dated some features to the Hadrianic/Antonine period (early to mid 2nd century AD) and others to the 4th century AD.
- 6.3.8 In Trench N, a small circular kiln, floored with a re-used rotary quern, lay close to the edge of an extensive stone cobbled surface in which fragments of amphora were embedded. These features lay at the base of a south-facing slope; on the slope itself, there was a build-up of redeposited soils up to 0.8m thick, overlying a shallow gully and possibly incorporating a later gully within its thickness. A very fresh coin of the emperor Constantine I, minted in Trier and dated to the year AD 313, was found near the kiln. Additional kilns could also be present, both in the trench and in the adjacent unexcavated areas.

- 6.3.9 In Trench P, a single V-shaped ditch aligned east to west was recognised. A coin of Vespasian (late 1st century AD) was found in its upper fill. This ditch forms a continuation of one seen in Trench M, dated by pottery in its fill to the Hadrianic/Antoine period.
- 6.3.10 Trench Q was located on a slope near the Healam Beck, and sampled two linear anomalies potentially representing two ditches flanking a trackway. Although there was a complex sequence of redeposited soils, only one ditch was tentatively recognised.
- 6.3.11 Trench R was positioned to sample a large amorphous geophysical anomaly, located in the interior of a large, roughly D-shaped enclosure formed by linear and curvilinear anomalies. The amorphous feature proved to represent a large level platform excavated horizontally into the slope. Structural features found in association with the platform suggested that it probably formed the floor of a building. Industrial residues in the fill of the platform suggested a function possibly associated with ironworking. The platform had been deliberately backfilled, and a line of large stones had been laid over the completed backfill. The backfill contained a coin of Hadrian (AD 117 to 138) and pottery of 2nd century date, including one sherd made by a known potter working in Gaul between AD 130 and AD 160.
- 6.3.12 Trench S sampled the ditches forming the west side of the D-shaped enclosure, together with an adjacent part of its interior. A coin of Constantinian (AD 330 to 341) was found in the westernmost of the ditches; this date is consistent with that assigned on the basis of pottery found in the same ditch in Trench M in 1994. The other ditch ran on to the north, and appeared in Trench T. The internal area contained only two patches of burnt clay, close to which were found pieces of tapping slag, possibly suggesting the locations of former hearths or kilns.
- 6.3.13 In Trench T, a long north-south ditch was shown to have silted up and was then cut by one of a line of substantial stone-packed post-holes aligned east-west. The ditch was a continuation of the eastern ditch found in Trench S. The post-holes formed part of one wall of a rectilinear building, and glass fragments found in one of them suggest that they are likely to date to the late 2nd/early 3rd century.
- 6.3.14 Trench U was positioned to sample two of a group of short parallel linear anomalies near the east edge of the site. No features were recognised by excavation, although there was a build-up of undifferentiated soil up to 0.6m thick, containing occasional fragments of Romano-British pottery.

- 6.3.15 A series of ditches of varying size and profile were found in Trenches V and W. One of them, in Trench W, contained the articulated head and neck bones of a horse; it is likely that more of the skeleton lies in the unexcavated part of the ditch. One ditch may have formed a northern boundary to the settlement during one phase of its layout.

Peripheral areas

- 6.3.16 Trenches D to J, and part of K and L were positioned to examine eastern peripheral parts of the settlement and fort defences, lying within the proposed re-aligned road corridor. No features of archaeological interest were recognised in Trenches F, G, H or L. Trenches D, I and J identified parts of ditches and possible hedgelines, probably forming boundaries within a Romano-British field system. The eastern part of Trench K contained only the possible defensive outworks associated with the fort, mentioned above. Trench E contained a wide, shallow depression, possibly a clay pit, in which one sherd of Roman pottery was found.

6.4 Conclusions

- 6.4.1 The trial excavations confirmed the presence of a Roman fort, bisected by the existing A1, with a civilian settlement or *vicus* both to its north and south, and boundaries probably forming part of a field system to the east. The fort and all parts of the settlement provided evidence of occupation from the Hadrianic/Antonine period (mid 2nd century AD) until the 4th century AD; it is possible that some of the later activity in the fort area was civilian rather than military in character. The excavations also provided evidence to suggest the presence of functional variations between parts of the settlement.
- 6.4.2 The site is important for a number of reasons. Much less is known about auxiliary forts such as this than legionary ones, and *vici* are among the most enigmatic features of the Romano-British landscape, particularly in the north of England. This site contains valuable archaeological evidence not only about the fort and the settlement, but also for the social and economic relationship between civilian and military in Roman Britain. The long period of occupation of the site, spanning almost the whole Romano-British period, enhances the importance of the site still further.
- 6.4.3 Although the area between the Healam Beck and "Tillicum" on the east side of the existing A1 contains features of archaeological importance, including evidence of industrial activity, the rest of the eastern peripheral area within the proposed re-aligned road corridor lies within a possible field system and contains relatively few significant archaeological features. The possibility that a cemetery could be present in the area between the Healam Beck and

"Tillicum" can be discounted following the 1995 excavations, although parts of the burial excavated in 1994 are still *in situ*.

7 TRIAL EXCAVATIONS AT OTHER AREAS

7.1 Introduction

7.1.1 The results of the fieldwalking and geophysical surveys reduced the number of archaeological sites requiring further investigation by limited trial excavation to eight, split into 12 fieldwork areas (Areas 1, 2, 6, 11, 12, 13, 15, 16, 18, 19, 34 and 39 on figures 2.1 to 2.2). Areas 1 to 19 and 39 represented areas of potential prehistoric activity identified as flint scatters and/or geophysical anomalies, with some potential for Romano-British activity at Areas 15 to 19. Area 34 was an earthwork site possibly including medieval house platforms. The trial excavations took place in March to May 1995^{10, 12}, with the exception of Area 6 where permission to carry out the work was refused.

7.1.2 As with the work at Healam Bridge, the general objectives of the trial excavation programme at each site were:

- i) to determine whether archaeological features and/or structures are present within each fieldwork area;
- ii) to provide an assessment of the nature and date-range of any archaeological features identified;
- iii) to determine whether further pre-construction archaeological investigation was necessary.

Where appropriate, more specific objectives relating to individual sites are described below.

7.2 Methodology

7.2.1 The methodology for the excavations was defined in specifications written by Anthony Walker and Partners and agreed in advance of work with English Heritage and North Yorkshire County Council¹³. Trenches were positioned to sample areas seen as representative of each major component of each site.

7.2.2 In most areas, the topsoil was removed from each trench by tracked excavator under archaeological supervision, down to the top of the archaeological features and/or deposits. The archaeological features thus exposed were recorded in plan, and selected features were partially excavated by hand. In Area 34, however, the turf and topsoil were also removed by hand excavation.

7.2.3 Excavation and recording was undertaken in sufficient detail to achieve the limited aims of the evaluation exercise, ie. to test the overall interpretation of the nature and date of the site, to

determine the approximate density, significance and state of preservation of any archaeological features and deposits in each part of the site, and to determine whether complex stratigraphic relationships were present.

7.3 Summary of results

Areas 1 and 2

- 7.3.1 The excavation at Areas 1 and 2 was designed to examine a scatter of pit-like and short linear geophysical anomalies lying in proximity to a thin scatter of prehistoric flint artefacts observed in Area 3. Four trenches were excavated (1A and 2A to 2C), with a total area of 200 square metres (see figure 3).
- 7.3.2 Only one feature of archaeological interest was identified, a V-shaped ditch found in Trench 1A. All the pit-type geophysical anomalies which were examined in Trenches 2A to 2C proved to represent variations in the natural subsoil. One prehistoric flint artefact was found in the fill of the ditch, but this is insufficient evidence to confirm a prehistoric date for the feature. A few prehistoric flint artefacts and one fragment of Romano-British pottery were also observed on the ground surface in Area 1.
- 7.3.3 The trial excavations in Areas 1 and 2 proved to be inconclusive. The evidence indicates that some prehistoric remains are present, mainly in Area 1, but there is not sufficient information to determine the extent, nature or significance of the remains. It is most likely, however, that the ditch and associated remains represent a fragment of an early field system, and that the site is of low significance.

Areas 11 and 12

- 7.3.4 Initial and detailed fieldwalking identified an extensive scatter of flint artefacts, mainly concentrated in Area 11. Subsequent geophysical survey located few features of potential interest in Area 11, although a pair of ditches forming a T-shape was recorded. In Area 12, a group of linear anomalies apparently forming an enclosure and trackway lay mainly outside the area of the proposed widening corridor.
- 7.3.5 The evaluation involved the excavation of seven trenches (11A to 11F and 12A), with a total area of 750 square metres (see figure 4). The trenches in Area 11 were mainly positioned in relation to the densest parts of the flint scatter, but also took into account the geophysical survey results. Trench 12A lay across a peripheral part of the trackway recognised by geophysical survey.

- 7.3.6 The only archaeological features recognised by the excavations were the T-shape geophysical anomalies which appeared in excavation as two features forming an L-shape in Trench 11E. The small number of flint artefacts found were not adequate to provide a date for these features, which appeared very badly truncated by ploughing and damaged by biological disturbance of the soil profile. It is likely that any other archaeological features, particularly any prehistoric features which may have been present, have been almost completely removed by these processes.

Area 13

- 7.3.7 Although initial fieldwalking had suggested that a dense scatter of prehistoric flint artefacts was present in this area, detailed fieldwalking over a larger area did not identify any more flint artefacts than would be expected of a general background scatter. Geophysical survey identified a number of features, most of which appeared likely to be of natural origin. A small group of pit-like anomalies stood out however, due to their dense grouping and apparently organised layout.
- 7.3.8 A single trench (13A), with an area of 60 square metres, was excavated to determine whether the group of pit-like anomalies represented archaeological features (see figure 4). They were, however, shown to be of natural origin.

Areas 15 and 16

- 7.3.9 Evidence from the Stage 2 Assessment, detailed fieldwalking and geophysical survey had suggested the possibility that both prehistoric and Romano-British activity or occupation could be present, particularly in the northern part of Area 15.
- 7.3.10 A total of seven trenches (15A to 15F and 16A) were excavated, with an overall area of 200 square metres (see figure 5). Archaeological features were recognised only in Trench 15F. Four shallow pits and a broad, shallow linear feature were excavated. It was not possible to obtain sufficient evidence to date any of the features, to determine their functions, or even to confirm that they are of archaeological interest. Other geophysical anomalies proved to represent either natural variations in the subsoil or recent agricultural features.

Areas 18 and 19

- 7.3.11 Geophysical survey had revealed an extensive scatter of pit-like and linear anomalies throughout these areas, most densely concentrated in Area 18, the northern half of Area 19 and close to the line of the A1. Some of these features appeared to be

arranged in relation to the line of the A1, which follows the line of Dere Street Roman road.

- 7.3.12 Eleven trenches were excavated (18A to 18B and 19A to 19I), with a total area of 375 square metre (see figure 6). Archaeological features were recognised in Trenches 18A (a cobbled surface), and Trenches 19B and 19H (ditches aligned north to south). Although pottery of possible Romano-British date was found in one of the ditches, it was not possible to confirm a Roman date for these features.

Area 34

- 7.3.13 A single trench covering 60 square metres was positioned to sample two building platforms which had been identified as earthwork features (see figure 9). Both platforms had undisturbed floor surfaces which sealed pottery of 18th to 19th century date. Although some medieval pottery was found, it appeared to be in a residual position in a context which was stratigraphically later than the 18th to 19th century material. There is therefore no evidence for medieval structures on this site, which is likely to represent two post-medieval building platforms.

Area 39

- 7.3.14 Initial and detailed fieldwalking had identified an extensive scatter of 102 prehistoric flint artefacts on this site. A few long linear and pit-like geophysical anomalies had also been identified, but these did not relate to the flint scatter and seemed to be of lesser interest. The site lay on the summit and steep west-facing slope of a moraine ridge; the flint was most densely distributed on the southern half of the slope. Six trenches (39A to 39F) were positioned in relation to the flint scatter, the sharp topographic variations of the site and the geophysical anomalies (see figure 12).
- 7.3.15 Over 3,000 pieces of flint were recovered, virtually all of it from the uphill (eastern) half of Trench 39B. Within this area, the majority of the flint came from an area tentatively identified as an infilled hut platform. Nearly all the datable items among the flint assemblage were early Mesolithic (c.8,000 to 6,000 bc) in date. The majority of the flint pieces derive from the manufacture of tools on-site, using flint nodules from the Yorkshire or Lincolnshire Wolds. Some pieces appeared to have been broken in use however, while at least one derived from sharpening a used flint axe. These indicate that the use of the site may have been more complex and long-term than manufacture alone would suggest.

- 7.3.16 The great majority of known mesolithic sites in the region are located on the coast, or in upland areas such as the North York Moors and the Pennines. Very few sites are known in the intervening lowland areas, largely because they are hard to locate but easy to inadvertently destroy. The intrinsic importance of this site is therefore significantly enhanced by its rarity.

8 INITIAL ASSESSMENT OF THE BUILT ENVIRONMENT

8.1 Introduction and methodology

- 8.1.1 The Stage 2 Assessment Report identified eight sites or complexes considered to be of architectural interest which would be affected by the proposed scheme (sites 2/13, 3/15, 3/23, 4/07, 4/08, 4/20, 6/16 and 6/18 on figures 2.1 to 2.2). An initial assessment was therefore carried out at each of the sites to establish their architectural or historic importance and to assess the potential impact of the scheme.
- 8.1.2 The initial assessment work, which was carried out between November 1994 and January 1995¹⁴, involved a visual and photographic survey of both the exterior and, where possible, the interior of each building or structure. All the sites were inspected, although Hope Town Terrace (site 4/08) was only partially assessed due to access restrictions. Additionally, one structure (Milepost, Leases Hall (site 6/18)), was found to have been removed. The Stage 2 Assessment had also identified the Bedale Hunt Inn (site 2/13) as being worthy of further investigation but this building was demolished before any recording work was possible.

8.2 Summary of results

Sinderby Station and associated buildings (site 3/15)

- 8.2.1 Sinderby Station is a disused railway station comprising a house and administrative buildings, which are now used as a house and document store for the engineering firm of Swards Agricultural Machinery Ltd), a single outhouse or shed to the rear (west) of these, and a second small brick shed some 50m to the north-west.
- 8.2.2 The buildings all lie to the west of the former railway line which has been infilled to platform level. They are all brick-built, with the roof covering of blue slate. In plan the station buildings form an approximate L-shape, aligned north-south, the head being formed by the house at the north end and the administrative buildings to the south.
- 8.2.3 The house faces north, and this elevation has ashlar sandstone quoins and vertical sash windows, with ashlar lintels and painted stone sills. The interior of the house was not inspected in detail but it appears to contain few features of interest.
- 8.2.4 The single storey administrative buildings to the south of the house have been built in a similar style. There are 6 bays to the main block, which contains two unconnected cells, probably originally

used as offices or waiting rooms; to the south is a roofless building which appears to have been a toilet block.

- 8.2.5 In addition to these buildings, a detached outhouse lies across the rear yard to the west of the station buildings. This structure is in generally poor condition and is currently used as a store. A second outbuilding of plain construction lies some 50m to the north and once probably formed part of the station complex.

Roxby House (site 3/23)

- 8.2.6 Roxby House is an isolated farmhouse situated on the east side of the existing A1, with a farm complex to its north. The house was dated to 1864 by a plaque (since removed), although some of the farm buildings appear older, and are probably of 18th century date.
- 8.2.7 The house, which is brick-built with a blue slate roof, is of a common form for a 19th century farmhouse. It has a central stairhall plan, with a cellar, and a rear wing at the north-east corner, and later adjoining buildings running to the east of this. The internal plan form is largely intact but there are few fittings of any interest.
- 8.2.8 A complex of agricultural buildings is situated to the north of the farmhouse, dominated by modern sheds. However, a number of fragmentary and near-complete historic farm buildings were identified. These appear to represent the remains of a courtyard, but it was not possible to reach any firm conclusions regarding their original layout or appearance. They include a long north-south range of brick and stone buildings, essentially consisting of a wagon shed and barns. A number of the roof timbers within them are clearly re-used from earlier buildings.
- 8.2.9 To the east of this range is a remnant of a probably 18th century brick and cobble wall, which forms the south side of a modern shed; the north side of this shed is in part formed by the south wall of a partly demolished former shelter shed. These walls probably represent the north and south sides of a former foldyard.

New Inn Farm and Georgian House (site 4/07)

- 8.2.10 Georgian House and New Inn Farmhouse comprise two adjacent dwellings lying parallel to the existing A1 carriageway, with a number of outbuildings to the north and east. Georgian House and two outbuildings to the rear form one property, while a second is formed by New Inn Farmhouse (the northern house, rebuilt in 1937), and six agricultural buildings. It is clear however that the complex originated as a single property which served as a coaching inn, and later as a farmstead.

- 8.2.11 Georgian House dates from the mid 18th century and is a medium-sized house of some quality. It is of two storeys and double depth, with a central stairhall plan, and a symmetrical facade to the west. It is constructed of hand-made bricks with some sandstone dressings, including gable and ridge coping and kneelers, and the roof is covered with pantiles. The front elevation is of three bays, and to the rear are a number of features of interest, including a blocked central doorway with sandstone ashlar jambs. The interior retains the original plan to a large extent and contains some features of interest. There is a barrel-vaulted, brick-lined cellar beneath the north part of the house.
- 8.2.12 The outbuildings to this property include a brick-built three-bay cartshed which was probably added in the 19th century, and a detached outbuilding, smaller in size, to the east. It is built of hand-made bricks, rubble and pantiles, and appears to date from the 18th or early 19th century.
- 8.2.13 The farm complex at New Inn Farm is formed by a total of six buildings, of which four are of interest. These include a small threshing barn of the 18th century, a single storey building reduced from two storeys, probably dating from the late 18th or early 19th century, and two buildings of the early 20th century, including a stable block with hay loft or feed store over, and a milking shed.

Hope Town Terrace (site 4/08)

- 8.2.14 The built heritage at this site is represented by the complex of buildings known as Hope Town Terrace and some of the buildings within the adjoining property of Lodge Farm.
- 8.2.15 The terrace now comprises three property units, but appears originally to have consisted of seven individual cottages. It is aligned parallel to the existing A1, with a number of extensions running off to the rear. It is brick built, with the roof of blue slate for the most part. The original layout of the ground floor of the cottages within the terrace appears to have been simple, with a front room and a kitchen and stairs area to the rear. Few fittings of interest were noted. A number of outbuildings to the rear were not inspected but may be of historic interest.

Street House (site 4/20)

- 8.2.16 The site at Street House consists of a former farmhouse and two former agricultural buildings. Documentary and architectural evidence indicates that these date to the mid 19th century or possibly earlier. However, due to considerable alterations carried out in recent years, none of the three structures are of special architectural or historic interest.

- 8.2.17 The house faces west towards the existing A1 carriageway across a small garden; a single storey shed adjoins on the north side, from which a brick boundary wall up to 2m in height continues to the north, and forms the west wall of a small barn some 10m further north.
- 8.2.18 The house itself is built of brick and stone, with the roof covering of modern pantiles. It appears that the house was originally of single depth only, but was later extended by the addition of a two storey part to the rear. The front elevation is of three bays, with a central doorway flanked by a pair of windows. Internally, the layout within the older part appears essentially unchanged, but there are few decorative features or fittings. It is possible that there was a rear outshot which has been incorporated into the modern rear extension.

Boundary wall, Leases Hall (site 6/16)

- 8.2.19 Leases Hall is a grade II listed building and the boundary wall which runs along the west side of the complex forms part of the curtilage of the listed building, and is therefore subject to the same statutory protection as the Hall.
- 8.2.20 The boundary wall runs north-south along the eastern edge of the former A1 carriageway. It is constructed of hand-made bricks capped by pecked sandstone coping of semi-cylindrical section.
- 8.2.21 The wall measures approximately 180m in length. It has a maximum height of approximately 2m, at its south end. There is an original doorway through the wall by the Hall. There are two other gateways associated with the wall, at its northern end, but these are both of 20th century date.

Milepost, west side of boundary wall, Leases Hall (site 6/18)

- 8.2.22 No assessment could be undertaken at this site as the milepost was found to have been removed by January 1995, probably unlawfully. Its presence was last noted on 10 February 1993.

9 DETAILED SURVEY OF THE BUILT HERITAGE CARRIED OUT TO DATE

9.1 Introduction and methodology

- 9.1.1 Recommendations for further, more detailed, survey work were contained within the Initial Assessment of the Built Heritage Report for six of the seven sites of architectural interest: New Inn Farm and Georgian House (site 4/07), Oak Tree Inn and Hope Town Terrace (site 4/08), Sinderby Station and associated buildings (site 3/15), Roxby House (site 3/23), Street House (4/20) and Leases Hall boundary wall (site 6/17) (see figures 2.1 to 2.2).
- 9.1.2 To date, detailed survey work has been carried out at two of these sites, Georgian House (part of site 4/07) and the boundary wall at Leases Hall (site 6/17). This work was undertaken between December 1994 and May 1995¹⁵.
- 9.1.3 The survey work involved hand measuring to produce floor plans and elevation drawings of the buildings and structures, together with photographic recording to supplement that already carried out as part of the initial assessment.

9.2 Summary of results

Georgian House (site 4/07)

- 9.2.1 The initial architectural assessment established that Georgian House dates from the mid 18th century and is a medium-sized house of some quality. It is of two storeys and double depth, with a central stairhall plan, and a symmetrical facade to the west. The building once served as an inn but appears to have become divided into two properties following the demise of coaching in the mid to late 19th century.
- 9.2.2 A late 19th century illustration of the building from the south-west shows Georgian House largely as it appears today, with a fourth bay to the north, and a lower two-storey building adjoining beyond. It is recorded that this inn was the principal of two such coaching inns at Hopetown, but had been converted into a farmstead.
- 9.2.3 The building is constructed of hand-made bricks with some sandstone dressings; the roof, which has a central valley, is covered with pantiles. The front elevation is of three bays, and includes a doorway with rusticated sandstone jambs and a bow window to either side. To the rear there are a number of features of interest, including a blocked central doorway with sandstone ashlar jambs and various blockings to the windows (see figure 10).

- 9.2.4 The interior retains the original plan to a large extent and contains numerous features of interest including a moulded plaster ceiling decoration, although no original fireplaces remain. A passage appears to originally have led to a doorway connecting this house with the house to the north. There is a barrel-vaulted, brick-lined cellar beneath the north part of the house.
- 9.2.5 The outbuildings to this property include a three-bay cartshed which was probably added to the house in the 19th century. This is brick-built, with round-cornered pillars of rubbed brick forming the north wall; it is possible that the south wall was once part of a walled garden to the south. A second detached outbuilding lies to the east, built of hand-made bricks, rubble and pantiles, and appears to date from the 18th or early 19th century.

Boundary wall, Leases Hall (site 6/16)

- 9.2.6 The boundary wall at Leases Hall is a brick and stone structure, aligned north-south along the east side of Leases Road, the former carriageway of the A1 road prior to the construction of the Leeming Bar Bypass. Leases Hall is believed to date from c.1740, and the wall is likely to date from this period also.
- 9.2.7 The south end of the wall begins approximately 41m to the south of Leases Hall. From here it runs as a continuous boundary for some 173m, to a gateway located approximately 120m to the north of the Hall. Along this stretch it follows a straight line before turning slightly to the east and continuing for the remaining distance along a straight alignment.
- 9.2.8 The original wall fabric consists of bricks set in a mixture of bonds, tending to be irregular, with a sandstone coping. The bricks vary in size but are typically 250mm x 100mm x 65mm (10" x 4" x 2½"). They are set in a lime mortar of off-white colouring. The wall is capped with pecked sandstone blocks of semi-cylindrical section, of varying lengths. The coping is curved to follow a number of steps in the wall's height.
- 9.2.9 The east side of the wall is buttressed at irregular intervals. These buttresses are original to the wall structure and the brickwork is bonded in; the buttresses stand to the full height of the wall and are also capped with sandstone.
- 9.2.10 There is a doorway through the wall at the side of the Hall, which is probably original to the structure, but the two gateways at the northern end are both modern, although that to the north of the wall and no longer attached to it is probably a rebuild of the original gateway to the Hall.

10 CONCLUSIONS FROM STAGE 3 FIELDWORK

- 10.1 The conclusions from the various elements of the Stage 3 fieldwork undertaken to date can be summarised as follows

Areas 1 to 3 (south of the Happy Eater Restaurant and west of the A1)

- 10.2 The results of geophysical survey and trial excavation in Area 1 have indicated the presence of some archaeological features in the area. While their date, extent and significance have not been fully defined, it appears that they are likely to represent field boundary ditches of an unknown but potentially prehistoric date. The trial excavations in Area 2 demonstrated that the geophysical anomalies previously identified in the area were of natural origin.
- 10.3 In the light of the trial excavation results from Areas 1 and 2, the small number of flint artefacts observed in Area 3 during the initial fieldwalking appear to represent a background scatter derived from occupation or activity nearby, but not directly on site.

Areas 4 to 7 (south of the Happy Eater Restaurant and east of the A1)

- 10.4 The results of the geophysical survey in the southern parts of this zone indicate the presence of features which, while probably of archaeological interest, are of unknown date and significance. Potentially the most significant remains are located in Areas 5 and 6. However, given the presence of considerable quantities of other prehistoric material in the vicinity, these features may represent parts of one or more prehistoric settlements.

Areas 8 to 10 (between Shambles Lane and New Road)

- 10.5 In Area 8, fieldwalking and geophysical survey failed to record any evidence which might have been associated with the possible prehistoric cropmark enclosures identified to the north of Shambles Lane in the Stage 2 Assessment Report (site 1/14). It is therefore unlikely that significant archaeological remains survive in this area.
- 10.6 Although some Roman pottery was found in Area 9 by fieldwalking, the size and nature of the assemblage suggests that it is simply part of an expected background scatter.
- 10.7 In Area 10, to the south of New Road, the geophysical survey recorded only a few scattered pit-type anomalies and three widely spaced linear anomalies. There was however an unusually high level of background "noise" which could be masking other features, and it remains possible that the Rainton Common pit alignments identified by the Stage 2 Assessment Report (sites 1/16 and 1/17) do continue to the east of the existing A1. Alternatively, they may terminate at the road, which would suggest a Roman or post-Roman date for these features, a significant fact in itself.

Areas 11 to 14 (Baldersby junction)

- 10.8 In the areas to the south of Baldersby Gate junction (Areas 11 to 13), initial and detailed fieldwalking identified a potentially significant scatter of Neolithic or Bronze Age (3,500-700 BC) flint artefacts on both sides of the existing A1. The geophysical survey confirmed the presence of some archaeological features but the greatest concentrations of features did not appear to relate closely to the known distribution of flint artefacts. Trial excavations identified very few archaeological features associated with the flint scatter or geophysical anomalies in Area 11, and none in Areas 12 and 13. While it is likely that some prehistoric activity took place in Area 11, little trace of it appears to have survived.
- 10.9 Initial fieldwalking in Area 14, north-east of the junction, identified no significant quantities of artefacts, and it is unlikely that the prehistoric complex extends this far north.

Areas 15 and 16 (Howe Moor)

- 10.10 A group of pit-like features identified by geophysical survey was associated with both flint artefacts and a Roman coin and the site of the earthwork enclosure identified during the Stage 2 preliminary walkover survey (site 3/02). Trial excavation identified very few features of potentially prehistoric or Romano-British date, and those seen were very poorly preserved. Some of the linear anomalies were shown to derive from recent agricultural activities.
- 10.11 There was no evidence from either fieldwalking or geophysical survey to suggest the presence of any significant remains associated with the cropmark features identified in the Stage 2 Assessment Report towards the eastern edge of Area 15 (sites 2/17 and 3/01).

Site 3/15 (Sinderby Station and associated buildings)

- 10.12 Initial assessment of this site has revealed that the group of structures here represent the remains of the mid 19th century railway station, and to a lesser extent the coal depot. They have survived relatively intact since closure in 1962 and are of some architectural interest.

Area 17 (Ramshaw Farm)

- 10.13 The earthwork survey identified a former field boundary as a prominent earthwork bank 0.3m high aligned parallel to and 70m to the east of the existing A1. Although the Stage 2 preliminary walkover survey had noted the presence of low ridge and furrow earthworks to the west of this bank, no clear features could be identified at the time of the earthwork survey.

Areas 18 and 19 (Roxby House)

- 10.14 In the fields to the south of Roxby House (Areas 18 and 19), large numbers of both linear and pit-type anomalies were identified by geophysical survey. No significant artefacts were observed in that part of Area 19 which was fieldwalked. Given the proximity of an extensive cropmark complex of likely Iron Age/Romano-British date in the field immediately to the west of the existing A1 (site 3/20) and the Romano-British settlement to the north at Healam Bridge (sites 4/03 and 4/04), it seemed likely that deposits and features associated with at least one of these periods was represented in Areas 18 and 19. Trial excavations, however, identified only two ditches in Area 19 and a cobbled surface in Area 18. While one of the ditches contained Romano-British pottery, this was found in the top fill of the ditch, and cannot therefore be regarded as providing a secure date for the feature.

Site 3/23 (Roxby House)

- 10.15 Roxby House appears from the initial assessment to be of relatively low importance, but the surviving farm buildings are more significant, as they have retained a good proportion of their original appearance.

Areas 20 to 29 (Healam Bridge)

- 10.16 The confirmation by field walking, geophysical survey and trial excavation of the presence of a Roman fort and civil settlement at Healam Bridge is highly significant both in terms of the national archaeological resource and the proposed road improvements. The nature of the pottery assemblage suggested that the site was of high status and that it was occupied between the early to mid 2nd century and the 4th century AD. The character of some of the geophysical anomalies and the excavated evidence suggests that some industrial activity took place within the settlement, both to the south of the fort and north of the Healam Beck.
- 10.17 Although sections of the fort and settlement have already been destroyed by past improvements to the existing A1 and the construction of a gas pipeline, extensive and significant remains of major importance survive up to 50m on both sides of the road; it should also be noted that the extent of the settlement has only been defined to the east and south-east. The results of the trial excavations, together with the data collected from the fieldwalking and geophysical surveys, confirm that the fort and its associated settlement are of national importance.
- 10.18 Fieldwork within the peripheral areas to the east of the fort and settlement confirmed that the proposed re-aligned road corridor passes through a possible field system which contains relatively few significant archaeological features.
- 10.19 Geophysical survey and trial excavation in Areas 26 and 27, between the Healam Beck and "Tillicum", identified further Romano-British settlement and industrial activity. While this area does form part of the overall Healam

Bridge complex, it is physically isolated from the remains to the south of the river and can be seen as of lesser significance. It is unclear whether any associated remains extend into the area of standing buildings further to the north, but there is no direct evidence to suggest that they do. Geophysical survey in Area 28, east of Georgian House and New Inn Farm, discovered no significant buried remains and the possibility of a cemetery in the area of "Tillicum" has been discounted.

- 10.20 An earthwork survey was also carried out in Areas 27 and 28. In Area 27, to the south of "Tillicum", there are well-preserved ridge and furrow earthworks standing 0.3m high and 5m apart running at right angles to the existing A1 alignment. To the north, in Area 28, only very shallow ridge and furrow could be seen although a prominent bank and ditch represents a former field boundary.

Site 4/07 (New Inn Farm and Georgian House)

- 10.21 Initial assessment at this site showed that the complex was originally a combined coaching and farm establishment. There are six agricultural buildings of interest at this site. A detailed survey of Georgian House has provided a more detailed record of this building.

Site 4/08 (Hope Town Terrace)

- 10.22 Assessment of parts of this complex shows that this terrace is of some historical and architectural interest, although conversion of some of it to a cafe has led to the loss of significant elements.

Area 30 (south of Street House)

- 10.23 No significant artefact concentrations were observed during initial fieldwalking in Area 30. The former earthworks identified by the Stage 2 Assessment Report in this area (sites 4/16 and 4/17) were much rounded and ploughed down, and so were not surveyed.

Site 4/20 (Street House)

- 10.24 The three buildings at this complex are survivors from an 18th or 19th century farmstead, but their historic quality has been reduced through substantial alteration.

Areas 31 to 34 (between Street House and Burneston Grange)

- 10.25 The earthwork survey revealed that no surveyable earthworks remained in Areas 31 and 32 although Scot Lane (site 4/22) was in a reasonable condition. No clear ridge and furrow earthworks could be identified in Area 33.

- 10.26 Area 34, between Burneston Grange and the existing A1, contains well-preserved ridge and furrow earthworks, 0.3m high and approximately 5m apart, running in a north-south direction parallel to the existing A1. The north-west corner of this area also contains earthwork features identified during the Stage 2 preliminary walkover survey (site 4/25), comprising a disturbed depression, two possible platforms and two low linear banks running eastwards. The depression may be a former pond of any date. One of the two linear banks may represent a continuation of a green lane while the other possibly a headland associated with the ridge and furrow. All the features are, however, small-scale.
- 10.27 Trial excavation across the platforms identified them as the sites of two small brick buildings of 18th or 19th century date and of minor importance.

Area 35 (west of Londonderry)

- 10.28 The earthwork survey revealed that a small area of ridge and furrow earthworks survive in a triangular field to the west of the existing A1 slip road. The ridges are 0.3m high and approximately 6m apart and are of minor importance.

Area 36 (west of Mill Farm)

- 10.29 The Stage 2 preliminary walkover survey showed that a small area of low ridge and furrow earthworks survived to the west of Mill Farm (site 6/04). No clear features could be identified at the time of the earthwork survey and these earthworks are likely to be of minor importance.

Area 37 (Thoroughway House)

- 10.30 The earthwork survey revealed the well preserved remains of ridge and furrow aligned east-west in a triangular field to the south of Thoroughway House (site 6/10). In the northern part of the field, the ridges were 0.7m high and approximately 10m apart but to the south, they are only 0.2m high and are much more difficult to identify. This differentiation probably reflects a different phase of agricultural activity.

Site 6/16 (Boundary wall, Leases Hall)

- 10.31 Initial assessment and detailed recording here have provided a detailed record of this wall, of which the majority is probably of 18th century date.

Area 38 (Ice house, Leases Hall)

- 10.32 The grade II listed ice house to the north of Leases Hall (site 6/20) is of brick construction and is partially buried under a 3m high earth mound which is surrounded by trees. Although the entrance is disturbed by vegetation, its interior remains in good condition.

Area 39 (Little Holtby)

- 10.33 Trial excavations have demonstrated that the prehistoric flint scatter identified by initial and detailed fieldwalking represents the site of Mesolithic occupation and flint tool manufacture. The full extent and nature of the remains are still unclear, but sites of this type and date are very rare in lowland areas and the site is of considerable significance.
- 10.34 The features identified by geophysical survey were either not recognised as features in excavation or were shown to represent natural geological variations.

11 ASSESSMENT OF THE EFFECTS OF THE PROPOSALS

11.1 Introduction

11.1.1 The effects of the construction, landscaping and on-site planting proposals identified on drawings 40014/09/01/1-9 on the sites and areas of archaeological, architectural and/or historic interest identified by the Stage 2 Assessment Report and the subsequent fieldwork have been assessed. It should be noted that the effects resulting from off-site planting, haul routes, construction compounds or temporary construction roads have not been considered.

11.1.2 For archaeological sites and monuments, the main impacts arising from road construction are likely to be:

- possible disturbance and/or destruction of archaeological deposits from works associated with the scheme, whether from actual construction or works associated with secondary operations such as landscaping, balancing ponds, site compounds and borrow pits;
- increased visual intrusion;
- increases in noise, vibration and disturbance;
- severance from other linked features such as field systems, agricultural complexes and landscapes;
- changes in the original landscape;
- loss of amenity.

11.1.3 For the built environment, the main impacts arising from road construction are likely to be:

- possible demolition, or loss of part of the structure or grounds of a listed building;
- increased visual intrusion;
- increases in noise, vibration and disturbance;
- severance from other linked features such as gardens, outbuildings, lodges etc;
- changes in the original landscape, townscape or garden setting of the house or building;
- loss of amenity.

- 11.1.4 It should be noted that in the following sections, the term "site" refers to those sites identified and numbered in the Stage 2 Assessment Report, whereas the term "area" refers to the areas of archaeological potential in which non-intrusive archaeological fieldwork has been undertaken.

11.2 Modifications to proposed construction corridor

- 11.2.1 Following the results of the various Stage 2 and Stage 3 surveys, the proposed construction corridor was re-aligned in two areas, at Healam Bridge and to the north of Leases Hall.
- 11.2.2 At Healam Bridge, the original route of the proposed construction corridor passed through substantial parts of the Roman fort and associated settlement (sites 4/03 and 4/04). In order to avoid damage and disturbance to these sites considered to be of national importance, the proposed construction corridor was moved further to the east (see figure 11). Although some elements of the complex considered to be of less potential and significance will still be affected, the impact has been significantly reduced.
- 11.2.3 The proposed new alignment at Healam Bridge does, however, have an impact on those buildings associated with New Inn Farm and Georgian House (site 4/07) and Hope Town Terrace (site 4/08). In all cases, the buildings will be demolished. The revised alignment will also have a significant impact on an area of ridge and furrow earthworks to the south of "Tillicum".
- 11.2.4 Following the detailed survey of the ice house to the north of Leases Hall (site 6/20), the proposed construction corridor was moved slightly to the west to avoid any direct impact on the listed structure.
- 11.2.5 The Stage 2 Assessment Report also identified the Bedale Hunt Inn as being a site of architectural interest worthy of further investigation (site 2/13). Unfortunately, this building was demolished before any recording work was possible. In addition, the mile post at Leases Hall (site 6/18) has recently been removed.
- 11.2.6 Other design alterations and/or corridor re-alignments due to constructional and engineering factors have meant that a number of other sites and areas identified by the Stage 2 Assessment Report and the Stage 3 surveys are no longer affected by the proposals. In addition, the Stage 3 surveys carried out to date have been able to confirm that no archaeological deposits associated with sites 1/14, 2/14 and 3/01 will be affected while deposits associated with sites 4/22, 4/24 and 5/01 are already largely destroyed.

11.2.7 The landscape proposals have also been amended to take account of the results of the Stage 3 work completed to date. In particular, the proposals at Howe Moor and at Healam Bridge would incorporate the minimal use of deep rooted vegetation to prevent damage to sensitive sub-surface archaeological deposits. In those locations where visual mitigation would be required, the use of alternative mounds and barriers would be considered to reduce the archaeological impact.

11.2.8 The following table summarises the effects, from south to north, resulting from the various route re-alignments and the Stage 3 investigations completed to date.

Site / Area No	Site name	Changes in impact
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Area 2	Geophysical anomalies, south of Great Raygill Dyke	No impact; no archaeological deposits identified by the Stage 3 fieldwork within proposed road corridor
Area 4	Geophysical anomalies, south-west of Southfield Cottages	No impact: proposals now confined to existing road corridor
Site 1/02	Neolithic flint scraper (isolated find), south-west of Southfield Cottages	No impact on this specific site although some geophysical features have been identified in Area 5
Area 5	Geophysical anomalies, south-west of Southfield Cottages	No impact: proposals now confined to existing road corridor
Site 1/04	Cropmarks (possible field boundary), north of Great Raygill Dyke	No impact: proposals now confined to existing road corridor
Site 1/14 Area 8	Cropmarks of possible enclosures, Rainton Common	No impact: no archaeological deposits identified by the Stage 3 fieldwork within proposed road corridor
Area 13	Flint scatter and geophysical anomalies, south-west of Baldersby junction	No impact; no archaeological deposits identified by the Stage 3 fieldwork within proposed road corridor
Site 2/05	Possible pond (field name), south of Underlands Lane	No impact: proposals now confined to existing road corridor
Site 2/13	Bedale Hunt Inn	No impact: site already demolished
Site 2/14 Area 15	Undated enclosures (cropmarks), Howe Moor	No impact: no archaeological deposits identified by the Stage 3 fieldwork within proposed road corridor
Site 3/01 Area 15	Possible prehistoric ring ditch (cropmarks), Howe Moor	No impact: no archaeological deposits identified by the Stage 3 fieldwork within proposed road corridor

Site 4/03 Areas 20 to 24	Romano-British settlement, south of Healam Beck	Reduced impact: proposed road corridor re-aligned to avoid majority and most important part of the complex
Site 4/04 Areas 22 & 24	Roman fort, south of Healam Beck	Reduced impact: proposed road corridor re-aligned to avoid majority and most important part of the complex
Sites 4/03 Areas 26 & 27	Romano-British settlement, north of Healam Beck	Major impact: re-alignment of proposed road corridor around nationally important archaeological site results in the destruction of part of the settlement
Site 4/06 Areas 27 & 28	Ridge and furrow earthworks, south of Tillicum and east of New Inn Farm	Major impact: re-alignment of proposed road corridor around nationally important archaeological site results in the destruction of ridge and furrow
Site 4/07	New Inn Farm and Georgian House	Major impact: re-alignment of proposed road corridor around nationally important archaeological site results in the demolition of these buildings
Site 4/08	Oak Tree Inn and Hope Town Terrace, Hope Town	Major impact: re-alignment of proposed road corridor around nationally important archaeological site results in the demolition of these buildings
Sites 4/16 & 4/17 Area 30	Square enclosure, ridge and furrow, field boundaries etc (site of), south of Street House	No impact: no archaeological deposits identified by the Stage 3 fieldwork within proposed road corridor
Sites 4/22 & 4/24 Areas 31-32	Ridge and furrow earthworks and Scot Lane, south of Burneston Grange	No impact: archaeological deposits already largely destroyed
Site 5/01	Ridge and furrow earthworks, Theakston Grange	No impact: archaeological deposits largely destroyed
Site 5/03	Theakston Grange	No impact: proposals now confined to existing road corridor
Site 5/06	Ridge and furrow earthworks, north and south of The Poplars	No impact: proposals now confined to existing road corridor
Site 5/07	Ridge and furrow earthworks, west of Londonderry	Reduced impact: impact now only on one small area of ridge and furrow
Site 6/18	Milepost, Leases Hall	No impact: site removed
Site 6/20 Area 38	Ice house, north of Leases Hall	No impact: proposed road corridor re- aligned to avoid listed structure

11.3 Initial Assessment of Value

Archaeological sites

- 11.3.1 Following the example of the Stage 2 Assessment Report and using the results of the Stage 3 fieldwork carried out to date, an initial assessment of the grade of importance of each archaeological site or area within the proposed construction corridor can be made. This assessment has been based on professional judgement, combined with the Secretary of State's criteria for scheduling ancient monuments and the criteria developed by English Heritage in their Monuments Protection Programme.
- 11.3.2 It should be stressed, however, that the various non-intrusive survey areas were defined by the proposed construction corridor and the identified sites are likely to extend beyond this. At this stage, and following the guidance given in DMRB volume 11, a four tier grading system can be applied.
- 11.3.3 Based on current knowledge, the grade of importance of each of the 40 archaeological sites or areas within the proposed construction corridor can be categorised as national (2 sites), regional or county (2 sites), district (6 sites) and local (30 sites).
- 11.3.4 In terms of importance or potential, the following grades of sites and areas have been recorded within the proposed construction corridor (see figures 2.1 to 2.2):

National Importance (N)

Site 4/03 Areas 20, 21 & 24	Romano-British settlement, south of Healam Beck
Site 4/04 Area 22	Roman fort, south of Healam Beck

Regional or County Importance (R)

Site 4/03 Areas 26 & 27	Romano-British settlement, north of Healam Beck
Site 6/21 Area 39	Mesolithic flint scatter and possible building, south of Little Holtby

District Importance (D)

Area 6	Geophysical anomalies, north-west of Southfield Cottages
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Area 10	Geophysical anomalies and possible pit alignments, north of Howlamarr Plantation
Site 3/02 Area 15	Flint scatter, geophysical anomalies, square earthwork and excavated features, north of Bedale Hunt Inn
Area 18	Geophysical anomalies and cobbled surface, north of Ramshaw Farm
Area 19 Site 3/21	Stone axe (isolated find), geophysical anomalies and ditches, south of Roxby House
Sites 4/24 & 4/25 Area 34	Ridge and furrow and other earthworks, north of Burneston Grange

Local Importance (L)

Site 0/01	Dere Street (Roman road) (course of)
Area 1	Geophysical anomalies and ditch, north of Dishforth junction
Area 3	Prehistoric flint scatter, north of Great Raygill Dyke
Site 1/03	Old road (course of) (site of), north of Great Raygill Dyke
Area 7	Geophysical anomalies, south of Happy Eater Restaurant
Site 1/10	Brayekeld Road (course of) (site of), south of Sleights Lane
Site 1/13	Old road (course of) (site of), south of Shambles Lane
Area 9	Roman pottery, south of Howlamarr Plantation
Area 11	Flint scatter and geophysical anomalies, south-east of Baldersby junction
Area 12	Flint scatter and geophysical anomalies, south-east of Baldersby junction
Site 2/01	Section of Roman road, Baldersby Gate
Site 2/09	Leeds Northern Railway (Thirsk branch) (course of)

Site 2/10	Leeming Lane gate house and other buildings (sites of), south of Hargill Lane
Site 2/12	Possible windmill (field name), south of the Bedale Hunt Inn
Area 16	Geophysical anomalies, south of The Croft, Howe Moor
Site 3/03	Poor houses (site of), north of The Croft
Site 3/05	The Crabtree Inn (site of), north of The Croft
Site 3/14	Leeds Northern Railway (course of)
Site 3/18 Area 17	Ridge and furrow earthworks, Ramshaw Farm
Site 4/06 Areas 27 & 28	Ridge and furrow earthworks, south of Tillicum and east of New Inn Farm
Site 4/09	Brick kiln (field name), north of Hope Town
Sites 4/22 to 4/24 Area 33	Ridge and furrow earthworks and Mouse Lane (course of) (site of), south of Burneston Grange
Site 4/28	Buildings (sites of), south of Theakston Grange
Site 5/04	Roman artefacts and masonry, Gatenby Lane junction
Site 5/07 Area 35	Ridge and furrow earthworks, west of Londonderry
Site 6/04 Area 36	Ridge and furrow earthworks, west of Mill Farm
Site 6/09	Conygarth Hill, south of Thoroughway House
Site 6/10 Area 37	Ridge and furrow earthworks, south of Thoroughway House
Site 6/12	Ridge and furrow earthworks, south of Leases Farm
Site 6/25	Gravel pit (site of), north of Boltby Kennels

Built Environment

- 11.3.5 In terms of importance, the following grades of buildings and other structures have been recorded within the proposed construction corridor (see figures 2.1 to 2.2):

Listed buildings and structures

Site 6/16	Boundary wall to park, Leases Hall (Grade II)
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Non-listed buildings and structures

Site 3/15	Sinderby Station and associated buildings, north of Sinderby Lane End
Site 3/23	Roxby House
Site 4/07	New Inn Farm and Georgian House
Site 4/08	Oak Tree Inn and Hope Town terrace, Hope Town
Site 4/20	Street House

- 11.3.6 In order to correlate with the grades of importance given to the archaeological sites and areas, the grade II listed buildings and structures have been assigned a regional importance while the non-listed buildings and structures have been assigned a district importance. It should be noted that there are a number of other non-listed buildings and structures within the proposed road corridor but these are considered not to be of architectural merit and so are not included here.

11.4 Impact of development

- 11.4.1 When making an initial assessment of the impact of the proposed scheme on the known sites of archaeological, architectural and/or historic interest, all construction and landscaping works as specified on drawings 40014/09/01/1-9 have been taken into account. It should be noted that off-site planting schemes, haul routes, construction compounds or temporary construction roads have not been considered.
- 11.4.2 In order to help to assess the impact of the proposals on the identified sites and areas of archaeological and architectural importance, a simple three tier impact grading system has been devised, based on the scale of impact of the proposals, namely:

Major impact: Major disturbance (ie. more than 75% of the area of known or estimated archaeological deposits).

Significant impact: Significant disturbance (ie. between 25% and 75% of the area of known or estimated archaeological deposits).

Small-scale impact: Minor disturbance (ie. less than 25% of the area of known or estimated archaeological deposits).

In drawing up this information, consideration has also been made of the scale, significance, potential and current condition of the site, defined as the grade of the site.

- 11.4.3 Within the currently proposed and amended construction corridor, a number of identified sites of archaeological and architectural importance will be affected. A combination of the impact of the proposals and the grade of importance or potential of each site produces an assessment of overall impact, defined as being substantial, moderate or slight.

Archaeological sites

- 11.4.4 The proposals will have an impact on 40 sites or areas of archaeological importance or potential. Based on current knowledge, the overall adverse impact can be categorised as substantial on 2 sites, moderate on 4 plus 2 possible sites, and slight on 31 plus 1 possible site.

- 11.4.5 From south to north, the impacts can be summarised as:

Site / Area no	Site name	Grade of site	Impact of proposals	Overall adverse impact
Site 0/01	Dere Street (Roman road) (course of)	L	Significant	Slight
Area 1	Geophysical anomalies, north of Dishforth junction	L	Major	Slight
Area 3	Prehistoric flint scatter, north of Great Raygill Dyke	L	Small-scale	Slight
Site 1/03	Old road (course of) (site of), north of Great Raygill Dyke	L	Significant	Slight
Area 6	Geophysical anomalies, north-west of Southfield Cottages	D	Significant	?Moderate

Site / Area no	Site name	Grade of site	Impact of proposals	Overall adverse impact
Area 7	Geophysical anomalies, south of Happy Eater Restaurant	L	Major	Slight
Site 1/10	Brayekeld Road (course of) (site of), south of Sleights Lane	L	Small- scale	Slight
Site 1/13	Old road (course of) (site of), south of Shambles Lane	L	Small- scale	Slight
Area 9	Roman pottery, south of Howlamarr Plantation	L	Major	Slight
Area 10	Geophysical anomalies and possible pit alignments, north of Howlamarr Plantation	D	Significant	?Slight
Area 11	Flint scatters and geophysical anomalies, south-east of Baldersby junction	L	Major	Slight
Area 12	Flint scatter and geophysical anomalies, south-east of Baldersby junction	L	Significant	?Moderate
Site 2/01	Section of Roman road, Baldersby Gate	L	Significant	Slight
Site 2/09	Leeds Northern Railway (Thirsk branch) (course of)	L	Small- scale	Slight
Site 2/10	Leeming Lane gate house and other buildings (sites of), south of Hargill Lane	L	Major	Slight
Site 2/12	Possible windmill (field name), south of the Bedale Hunt Inn	L	Significant	Slight
Site 3/02 Area 15	Flint scatter, geophysical anomalies, square earthwork and excavated features, north of the Bedale Hunt Inn	D	Major	Slight
Area 16	Geophysical anomalies, south of The Croft	L	Significant	Slight
Site 3/03	Poor houses (sites of), north of The Croft	L	Major	Slight
Site 3/05	The Crabtree Inn (site of), north of The Croft	L	Major	Slight
Site 3/14	Leeds Northern Railway (course of)	L	Small- scale	Slight
Site 3/18 Area 17	Ridge and furrow earthworks, Ramshaw Farm	L	Significant	Slight

Site / Area no	Site name	Grade of site	Impact of proposals	Overall adverse impact
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Area 18	Geophysical anomalies, north of Ramshaw Farm	D	Major	Slight
Site 3/21 Area 19	Stone axe (isolated find) and geophysical anomalies, south of Roxby House	D	Significant	Slight
Site 4/03 Areas 20, 21 & 24	Romano-British settlement, south of Healam Beck	N	Small-scale	Slight
Site 4/04 Area 22	Roman fort, south of Healam Beck	N	Small-scale	Slight
Site 4/03 Areas 26 & 27	Romano-British settlement, north of Healam Beck	R	Major	Substantial
Site 4/06 Areas 27 to 28	Ridge and furrow earthworks, south of "Tillicum" and east of New Inn Farm	L	Major	Moderate
Site 4/09	Brick kiln (field name), north of Hope Town	L	Significant	Slight
Sites 4/23 & 4/24 Area 33	Ridge and furrow earthworks and Mouse Lane (course of) (site of), south of Burneston Grange	L	Significant	Slight
Sites 4/24 & 4/25 Area 34	Ridge and furrow and other earthworks, north of Burneston Grange	D	Significant	Moderate
Site 4/28	Buildings (sites of), south of Theakston Grange	L	Significant	Slight
Site 5/04	Roman artefacts and masonry, Gatenby Lane junction	L	?Slight	Slight
Site 5/07 Area 35	Ridge and furrow earthworks, west of Londonderry	L	Major	Slight
Site 6/04 Area 36	Ridge and furrow earthworks, west of Mill Farm	L	Major	Slight
Site 6/09	Conygarth Hill, south of Thoroughway House	L	Significant	Slight
Site 6/10 Area 37	Ridge and furrow earthworks, south of Thoroughway House	L	Significant	Moderate

Site / Area no	Site name	Grade of site	Impact of proposals	Overall adverse impact
Site 6/12	Ridge and furrow earthworks, south of Leases Farm	L	Significant	Moderate
Site 6/21 Area 39	Mesolithic flint scatter and possible building, south of Little Holtby	R	Significant	Substantial
Site 6/25	Gravel pit (site of), north of Little Holtby	L	Significant	Slight

Built environment

11.4.6 The proposals will have an impact on 6 sites of architectural importance. Based on current knowledge, the overall adverse impact can be categorised as substantial on each site.

11.4.7 From south to north, the impacts can be summarised as:

Site / Area no	Site name	Grade of site	Impact of proposals	Overall adverse impact
Site 3/15	Sinderby Station and associated buildings, north of Sinderby Lane End	D	Major	Substantial
Site 3/23	Roxby House	D	Major	Substantial
Site 4/07	New Inn Farm and Georgian House	D	Major	Substantial
Site 4/08	Oak Tree Inn and Hope Town terrace, Hope Town	D	Significant	Substantial
Site 4/20	Street House	D	Major	Substantial
Site 6/16	Boundary wall to park, Leases Hall (LB II)	R	Major	Substantial

12 MITIGATION MEASURES

12.1 Introduction

12.1.1 Archaeological remains survive both as upstanding earthworks or as buried features beneath the ploughsoil. All remains will be susceptible to damage and/or destruction as a result of ground disturbance associated with the construction of these proposals and their associated landscaping works.

12.1.2 The removal of topsoil and subsoil is likely to destroy most archaeological deposits and even where embankments and other methods are used to raise the overall ground level, preparation works often result in the destruction of any archaeological deposits which lie at shallow depths. In addition, while the burying of archaeological features beneath a development can sometimes be an accepted form of preservation *in situ*, this is not always the case and care must be taken to ensure that any significant deposits are not subject to undue compaction and shrinkage. Some form of monitoring might be required to ensure that this does not happen.

12.1.3 For archaeological sites, possible mitigation measures have been described in the DMRB volume 11 as:

- locate the route away from archaeological remains and their settings;
- design the scheme's vertical alignment and associated earthworks so that archaeological remains are not disturbed;
- undertake appropriate recording works and other investigations in advance of construction;
- undertake appropriate recording works and other investigations during construction;

In practice, a combination of these measures is often used.

12.1.4 Listed buildings and other elements of the built environment are, by definition, upstanding structures. In addition to demolition, they are particularly susceptible to increased visual intrusion, noise, vibration and disturbance and severance from other linked and associated features.

12.1.5 For the built environment, possible mitigation measures have been described in the DMRB volume 11 as:

- locate the route away from historic buildings or sites, avoiding demolition wherever possible;

- keep a route low within the natural topography to exploit any natural screening and enhance this by the use of cuttings and, in exceptional circumstances, tunnels. These measures will also help to reduce noise and vibration;
- use other landscaping techniques to integrate a scheme into its setting.

In practice, a combination of these measures is often used.

12.2 Archaeological sites

12.2.1 The effects the proposals might have on the archaeological resource were considered from an early stage. In all cases, and with all other constraints and environmental factors being equal, the physical preservation of an archaeological site would be the preferred option. The archaeological excavation of deposits (preservation by record) is seen as a last resort and would only be undertaken when all other avenues have been considered.

12.2.2 It is envisaged that five separate phases of work will be required to ensure that the archaeological heritage of the area covered by the proposals have been considered to an appropriate standard. The results of each phase will influence and set the parameters for the next. Phases 1 to 2 deal with the assessment and pre-construction works, phase 3 deals with the recording of archaeological deposits while construction is in progress, and phases 4 and 5 deal with the assimilation, publication and deposition of any results resulting from the previous phases. In detail, these phases comprise:

- Phase 1 **Detailed evaluation:** initial and intensive fieldwalking, geophysical survey, earthwork survey, trial trenching and initial building assessment as appropriate, leading to the detailed assessment of impact and recommendations for mitigation (DMRB Stage 3).
- Phase 2 **Pre-construction investigation:** detailed excavation and architectural recording in advance of construction of those sites identified during the previous phase to be of significant archaeological importance and for which no appropriate mitigation measures can be sought.
- Phase 3 **Watching brief during construction:** investigation and recording of those sites identified during the DMRB Stages 1 to 3 as not warranting prior investigation, as well as the recording of sites which may be exposed during the course of development.

Phase 4 Post-excavation assessment: assessment of the results of the archaeological investigations and the potential of the data for analysis leading to recommendations, timetable and costings for subsequent detailed analysis, publication, storage and deposition.

Phase 5 Post-excavation analysis and publication: data analysis, report preparation and publication followed by deposition of the archive and artefacts and all other materials associated with the investigations with the appropriate institution for long term storage and curation.

Phase 1 detailed evaluation works

- 12.2.3 This phase of work, comprising detailed evaluation through a combination of initial and intensive fieldwalking, geophysical survey, earthwork survey, trial trenching and initial building assessment as appropriate, corresponds to Stage 3 of the Department of Transport's Stages of Archaeological Assessment as defined in the DMRB volume 11. The majority of the Phase 1 has been completed and is summarised above. The only outstanding elements of this phase are intrusive trial excavations in Area 6 and an earthwork survey of site 6/12, where access to carry out this work was not permitted, and additional fieldwalking and trial trenching in Area 39. This work will now take place at a later date when permissions have been secured, in advance of construction.
- 12.2.4 The results of the Phase 1 investigations enable specific recommendations to be made for appropriate mitigation works, including preservation by record, that might be required to complete the Phase 2 (pre-construction investigation) and Phase 3 (watching brief during the course of construction) investigations. The results of the trial excavations show that some of the potential sites were not of archaeological importance while others were of such importance that varying amounts of further detailed excavation are required.
- 12.2.5 A summary of the proposed mitigation measures for all the identified archaeological sites, from south to north, affected by the proposals is given in the following table.

Site / Area no	Site name	Grade of site	Overall adverse impact	Proposed mitigation
Site 0/01	Dere Street (Roman road) (course of)	L	Slight	Phase 3 watching brief
Area 1	Geophysical anomalies, north of Dishforth junction	L	Slight	Phase 1 investigations complete. Phase 3 watching brief
Area 3	Prehistoric flint scatters, north of Great Raygill Dyke	L	Slight	Phase 1 investigations complete. Phase 3 watching brief
Site 1/03	Old road (course of) (site of), north of Great Raygill Dyke	L	Slight	Phase 3 watching brief
Area 6	Geophysical anomalies, north-west of Southfield Cottages	D	?Moderate	Phase 1 trial excavation outstanding. Further Phase 2 or 3 work if required
Area 7	Geophysical anomalies, south of Happy Eater Restaurant	L	Slight	Phase 1 investigations complete. Phase 3 watching brief
Site 1/10	Brayekeld Road (course of) (site of), south of Sleights Lane	L	Slight	Phase 3 watching brief
Site 1/13	Old road (course of) (site of), south of Shambles Lane	L	Slight	Phase 3 watching brief
Area 9	Roman pottery, south of Howlamarr Plantation	L	Slight	Phase 1 investigations complete. Phase 3 watching brief
Area 10	Geophysical anomalies and possible pit alignments, north of Howlamarr Plantation	D	?Slight	Phase 1 investigations complete. Phase 3 watching brief

Site / Area no	Site name	Grade of site	Overall adverse impact	Proposed mitigation
Area 11	Flint scatters and geophysical anomalies, south-east of Baldersby junction	L	Slight	Phase 1 investigations complete. Phase 3 watching brief
Area 12	Flint scatter and geophysical anomalies, south-east of Baldersby junction	L	?Moderate	Phase 1 investigations complete. Phase 3 watching brief
Site 2/01	Section of Roman road, Baldersby Gate	L	Slight	Phase 3 watching brief
Site 2/09	Leeds Northern Railway (Thirsk branch) (course of)	L	Slight	Phase 3 watching brief
Site 2/10	Leeming Lane gate house and other buildings (sites of), south of Hargill Lane	L	Slight	Phase 3 watching brief
Site 2/12	Possible windmill (field name), south of the Bedale Hunt Inn	L	Slight	Phase 3 watching brief
Site 3/02 Area 15	Flint scatter, geophysical anomalies, square earthwork and excavated features, north of the Bedale Hunt Inn	D	Slight	Phase 1 investigations complete. Phase 3 watching brief
Area 16	Geophysical anomalies, south of The Croft	L	Slight	Phase 1 investigations complete. Phase 3 watching brief
Site 3/03	Poor houses (sites of), north of The Croft	L	Slight	Phase 3 watching brief
Site 3/05	The Crabtree Inn (site of), north of The Croft	L	Slight	Phase 3 watching brief
Site 3/14	Leeds Northern Railway (course of)	L	Slight	Phase 3 watching brief
Site 3/18 Area 17	Ridge and furrow earthworks, Ramshaw Farm	L	Slight	Phase 1 investigations complete. No further action

Site / Area no	Site name	Grade of site	Overall adverse impact	Proposed mitigation
Area 18	Geophysical anomalies, north of Ramshaw Farm	L	Slight	Phase 1 investigations complete. Phase 3 watching brief
Site 3/21 Area 19	Stone axe (isolated find) and geophysical anomalies, south of Roxby House	D	Slight	Phase 1 investigations complete. Phase 3 watching brief
Site 4/03 Areas 20, 21 & 24	Romano-British settlement, south of Healam Beck	N	Slight	Phase 1 investigations complete. Phase 3 watching brief
Site 4/04 Area 22	Roman fort, south of Healam Beck	N	Slight	Phase 1 investigations complete. Phase 3 watching brief
Site 4/03 Areas 26 & 27	Romano-British settlement and possible cemetery, north of Healam Beck	R	Substantial	Phase 1 investigations complete. Phase 2 pre- construction excavation
Site 4/06 Areas 27 to 28	Ridge and furrow, south of "Tillicum" and east of New Inn Farm	L	Moderate	Phase 1 investigations complete. No further action
Site 4/09	Brick kiln (field name), north of Hope Town	L	Slight	Phase 3 watching brief
Sites 4/23 & 4/24 Area 33	Ridge and furrow earthworks and Mouse Lane (course of) (site of), south of Burneston Grange	L	Slight	Phase 1 investigations complete. No further action
Sites 4/24 & 4/25 Area 34	Ridge and furrow and other earthworks, north of Burneston Grange	D	Substantial	Phase 1 investigations complete. Phase 3 watching brief
Site 4/28	Buildings (sites of), south of Theakston Grange	L	Slight	Phase 3 watching brief
Site 5/04	Roman artefacts and masonry, Gatenby Lane junction	L	Slight	Phase 3 watching brief

Site / Area no	Site name	Grade of site	Overall adverse impact	Proposed mitigation
Site 5/07 Area 35	Ridge and furrow earthworks, west of Londonderry	L	Slight	Phase 1 investigations complete. No further action
Site 6/04 Area 36	Ridge and furrow earthworks, west of Mill Farm	L	Slight	Phase 1 investigations complete. No further action
Site 6/09	Conygarth Hill, south of Thoroughway House	L	Slight	Phase 3 watching brief
Site 6/10 Area 37	Ridge and furrow earthworks, south of Thoroughway House	L	Moderate	Phase 1 investigations complete. No further action
Site 6/12	Ridge and furrow earthworks, south of Leases Farm	L	Moderate	Phase 1 earthwork survey outstanding. Further Phase 2 or 3 works as appropriate
Site 6/21 Area 39	Mesolithic flint scatter and possible building, south of Little Holtby	R	Substantial	Additional Phase 1 fieldwalking and trial excavation outstanding. Further Phase 2 or 3 work as appropriate
Site 6/25	Gravel pit (site of), north of Little Holtby	L	Slight	Phase 3 watching brief

- 12.2.6 In addition to the identified sites and areas of archaeological interest or potential, it is likely that some as yet undiscovered sites or areas will be affected by the construction works. For this reason, an archaeological watching brief would be carried out along all of the proposed construction corridor during the initial phases of construction, with a more intensive watching brief being carried out in those areas highlighted above.

12.3 Built environment

12.3.1 The only listed building to be directly affected by the proposals is the Grade II boundary wall at Leases Hall. This has been surveyed prior to re-erection in an appropriate alternative location. Mitigation measures designed to off-set the adverse visual impacts for the various listed buildings and other elements of the built environment would normally be achieved through appropriate landscaping techniques. These have been considered in the Landscape and Visual Specialist Report and so are not included here.

12.3.2 A summary of the proposed mitigation measures for the built environment, from south to north, affected by the proposals is given in the following table. It should be noted that the various phases of work described below correspond to those phases outlined in paragraph 12.2.2 above.

Site / Area no	Site name	Grade of site	Overall adverse impact	Proposed mitigation
Site 3/15	Sinderby Station and associated buildings, north of Sinderby Lane End	D	Substantial	Phase 1 building assessment complete. Phase 2 detailed survey
Site 3/23	Roxby House	D	Substantial	Phase 1 building assessment complete. Phase 2 detailed survey
Site 4/07	New Inn Farm and Georgian House	D	Substantial	Phase 1 building assessment complete. Phase 2 detailed survey
Site 4/08	Oak Tree Inn and Hope Town terrace, Hope Town	D	Substantial	Phase 1 building assessment complete. Phase 2 detailed survey
Site 4/20	Street House	D	Substantial	Phase 1 building assessment complete. Phase 2 detailed survey
Site 6/16	Boundary wall to park, Leases Hall (LB II)	R	Substantial	Phase 1 and 2 building survey complete. Re-erection

13 REFERENCES

- 1 Anthony Walker and Partners, December 1993, **A1 Dishforth to north of Leeming Improvements: Cultural Heritage Stage 2 Assessment Report**
- 2 Anthony Walker and Partners, April 1994, **A1 Dishforth to north of Leeming Improvements: Initial Fieldwalking Area 13 final report**
- 3 MAP Archaeological Consultancy Ltd, December 1993, **A1 Dishforth to north of Leeming Improvements: Archaeological Fieldwalking Area A**

MAP Archaeological Consultancy Ltd, December 1993, **A1 Dishforth to north of Leeming Improvements: Archaeological Fieldwalking Area B**

MAP Archaeological Consultancy Ltd, December 1993, **A1 Dishforth to north of Leeming Improvements: Archaeological Fieldwalking Area D**

MAP Archaeological Consultancy Ltd, December 1993, **A1 Dishforth to north of Leeming Improvements: Archaeological Fieldwalking Area E**
- 4 Northern Archaeological Associates, May 1994, **A1 Dishforth to north of Leeming Improvements: Archaeological Fieldwalking on Howe Moor for Anthony Walkers and Partners**
- 5 MAP Archaeological Consultancy Ltd, December 1993, **A1 Dishforth to north of Leeming Improvements: Archaeological Fieldwalking Area A**

MAP Archaeological Consultancy Ltd, December 1993, **A1 Dishforth to north of Leeming Improvements: Archaeological Fieldwalking Area C**
- 6 MAP Archaeological Consultancy Ltd, December 1994, **Archaeological Fieldwalking: A1 Dishforth to north of Leeming Improvements, Area 13**

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- 7 Geophysical Surveys of Bradford, November 1993, **Report on Geophysical Survey: Healam Bridge** (Report no. 93/121)

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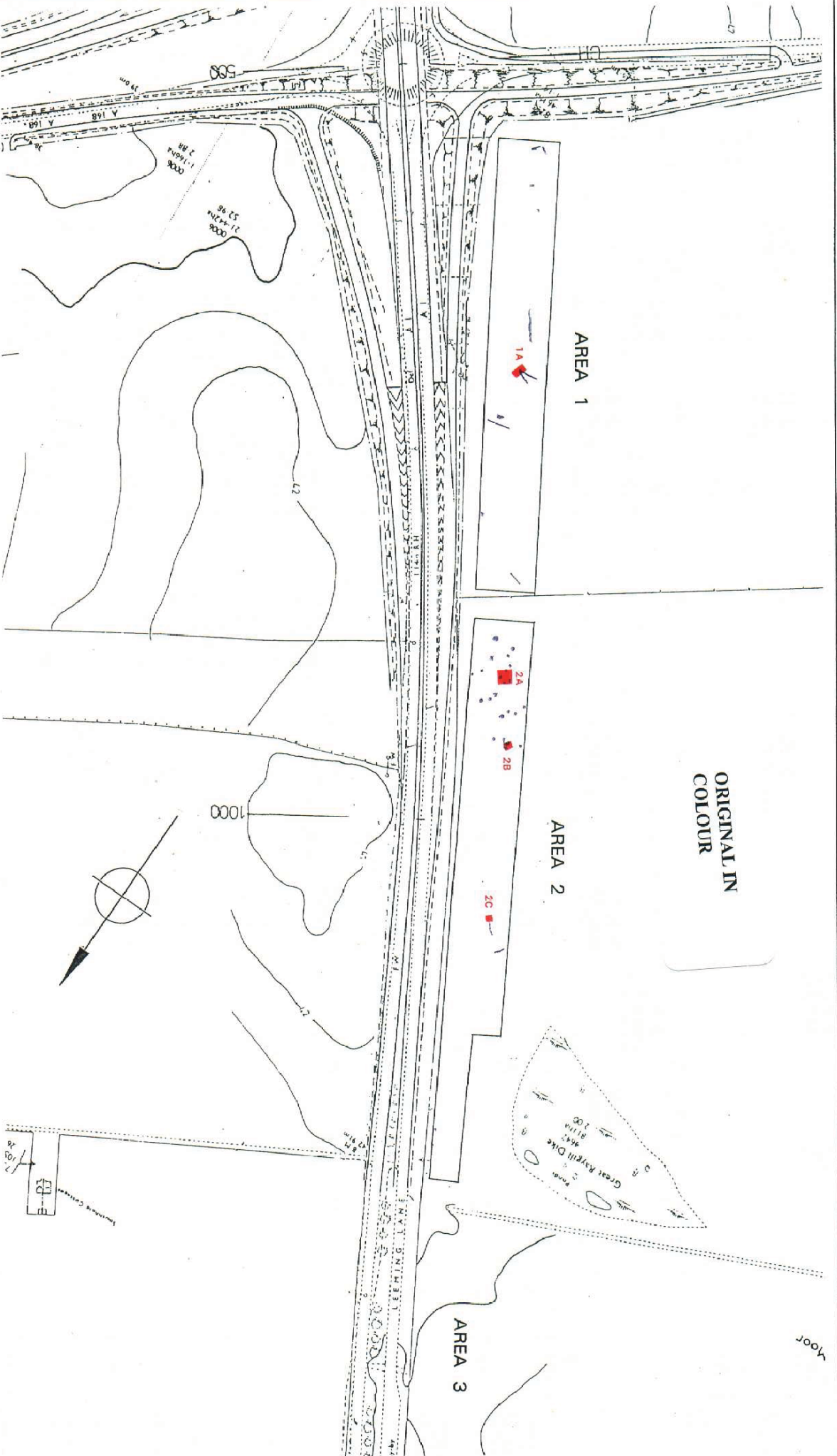
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- 8 **Anthony Walker and Partners, May 1994, A1 Dishforth to north of Leeming Improvements: Report of Earthwork Surveys**
- 9 **Birmingham University Field Archaeology Unit, September 1994, Healam Bridge, North Yorkshire: An Archaeological Evaluation** (Report no. 306)
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- 11 **Anthony Walker and Partners, April 1994, A1 Dishforth to North of Leeming Improvements, North Yorkshire: Contract and Specification for Trial Excavation at Healam Bridge**
- 12 **Lancaster University Archaeological Unit, August 1995, A1 Dishforth to north of Leeming (Harrogate Museum), North Yorkshire: Final evaluation report**
- 13 **Anthony Walker and Partners, January 1995, A1 Dishforth to North of Leeming Improvements, North Yorkshire: Contract and Specification for Trial Excavations**
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- 15 **Barton Howe Warren Blackledge, May 1995, A1 Dishforth to North of Leeming Improvements: Cultural Heritage: Detailed Survey of the Built Heritage**



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M1 4SE

Key:-
[Red Box] EXCAVATION TRENCHES
[Blue Box] INTERPRETATION OF GEOPHYSICAL SURVEY
[Dashed Line] EXTENT OF GEOPHYSICAL SURVEY

Drawn
SR/K/LA
Date
AUG 95
Project No.
40014
Project
AI DISHFORTH TO NORTH OF LEMMING

Figure
3
Revision
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BTWB
Environmental Planning
Assessment and Design
Telephone 0113 2741480

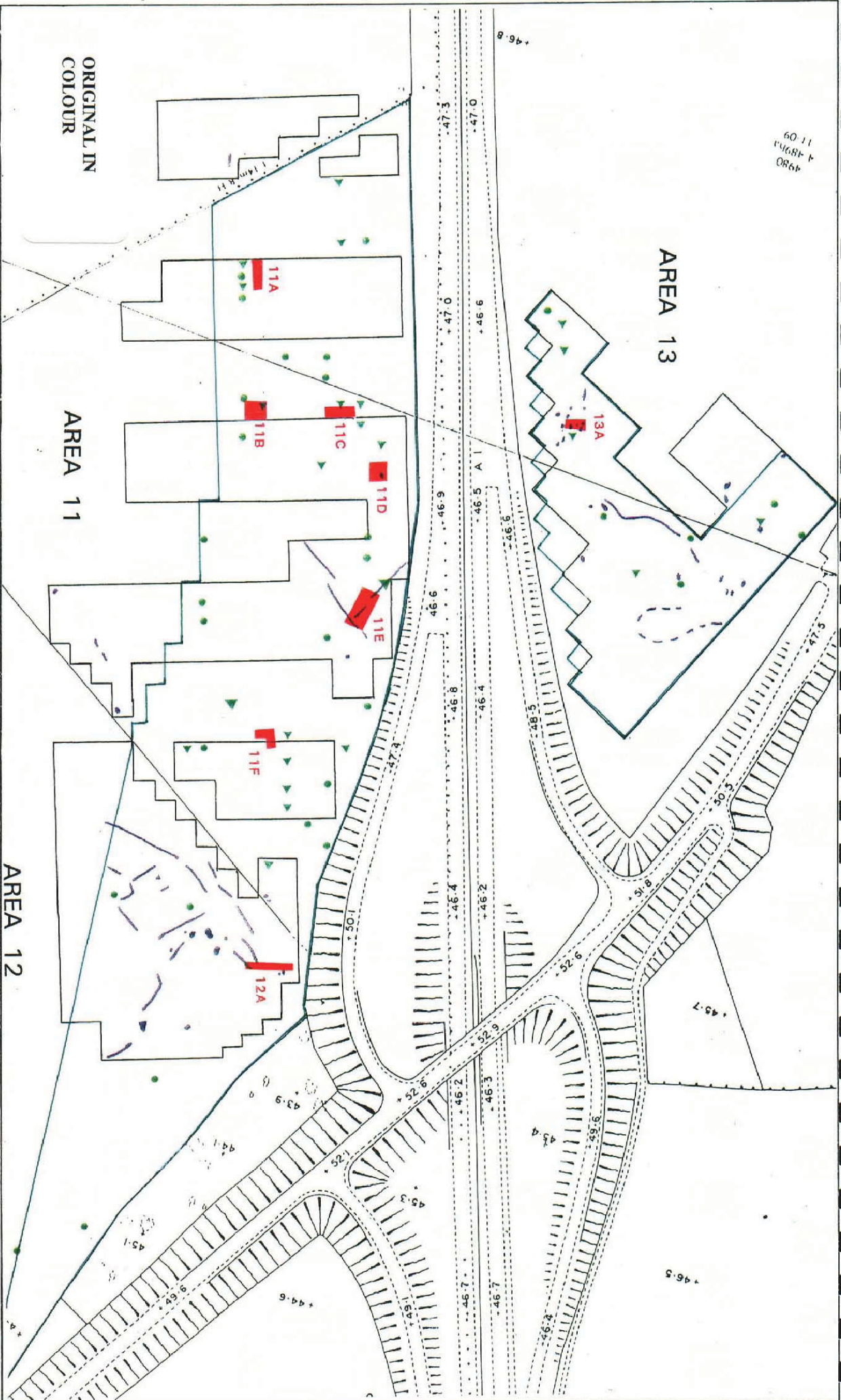
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AUG 95
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Title
AREAS 1-3 GEOPHYSICAL SURVEY RESULTS
AND LOCATION OF TRAIL TRENCHES

Figure
3
Revision
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Hi Techman Consulting Ltd
Consulting Engineers
George House George Street Walsley
West Yorkshire WF1 1TY
Tel: (0204) 30045
Fax: (0204) 30043

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SAFETY ENGINEER
MANAGER
MANAGER

Key:-
[Red rectangle] EXCAVATION TRENCHES
[Green triangle] INTERPRETATION OF GEOPHYSICAL SURVEY
[Green square] FLINT FLAKE X 1

[Green triangle] FLINT TOOL X 1
[Green square] FLINT TOOL X 2

[Hatched rectangle] EXTENT OF GEOPHYSICAL SURVEY
[Hatched rectangle] EXTENT OF FIELDWALKING

PHC
Georg Hines
Georg Hines
11000 11000
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11000 11000

BHWB
ENVIRONMENTAL PLANNING
11000 11000
11000 11000
11000 11000

Drawn	Date	Project No.	Project
SP/K/LA	AUG 95	40014	AI DISHFORTH TO NORTH OF LEEMING
Checked	Date	Scale	Title
ED	AUG 95	1 : 2500	AREAS 11-13 FIELDWALKING AND GEOPHYSICAL SURVEY RESULTS AND LOCATION OF TRIAL PITS

Figure

4

Revision

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YS
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MANCHESTER
M13 9RS

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FLINT FLAKE X 1

FLINT TOOL X 1

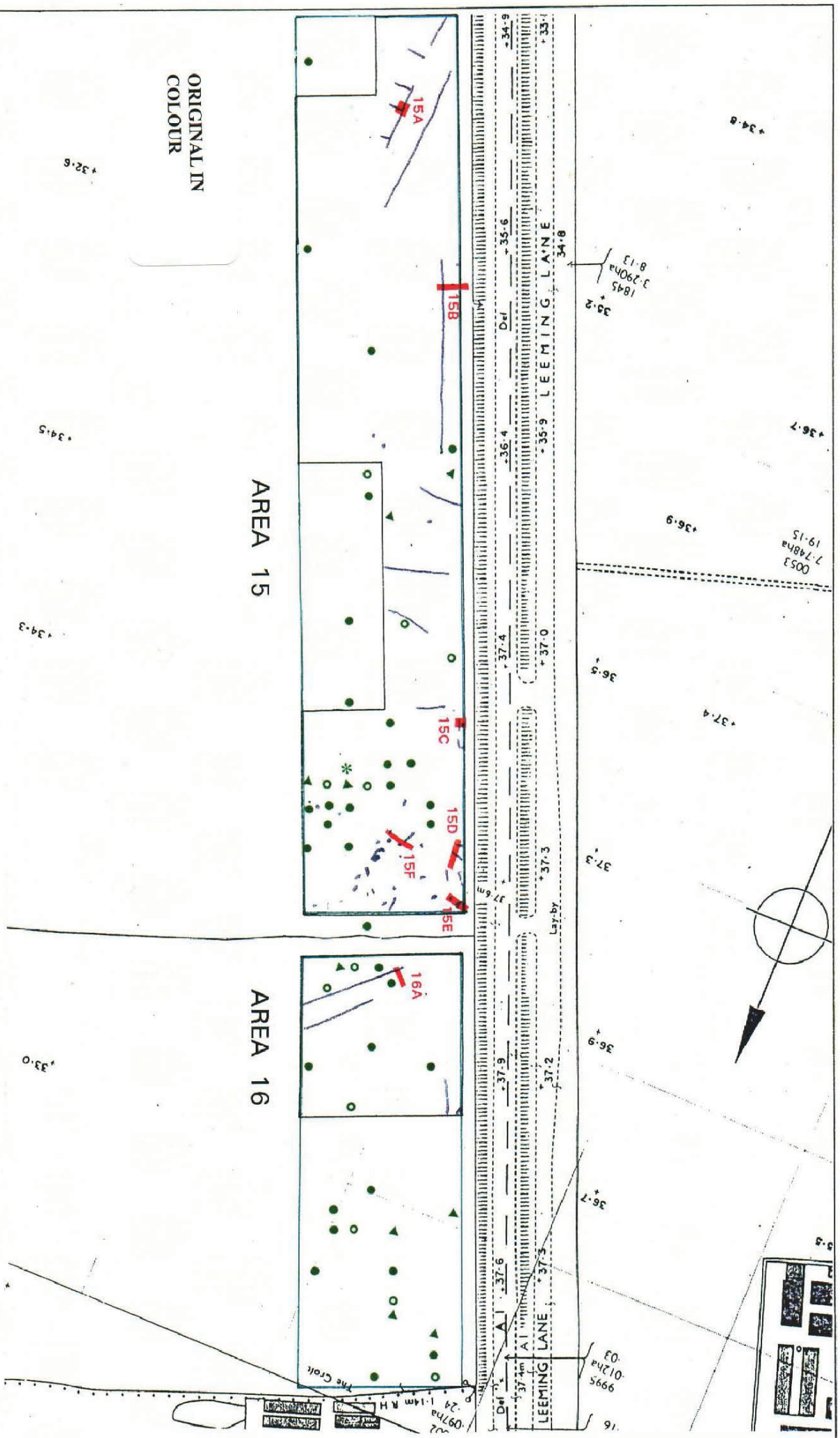
ROMAN POTTERY

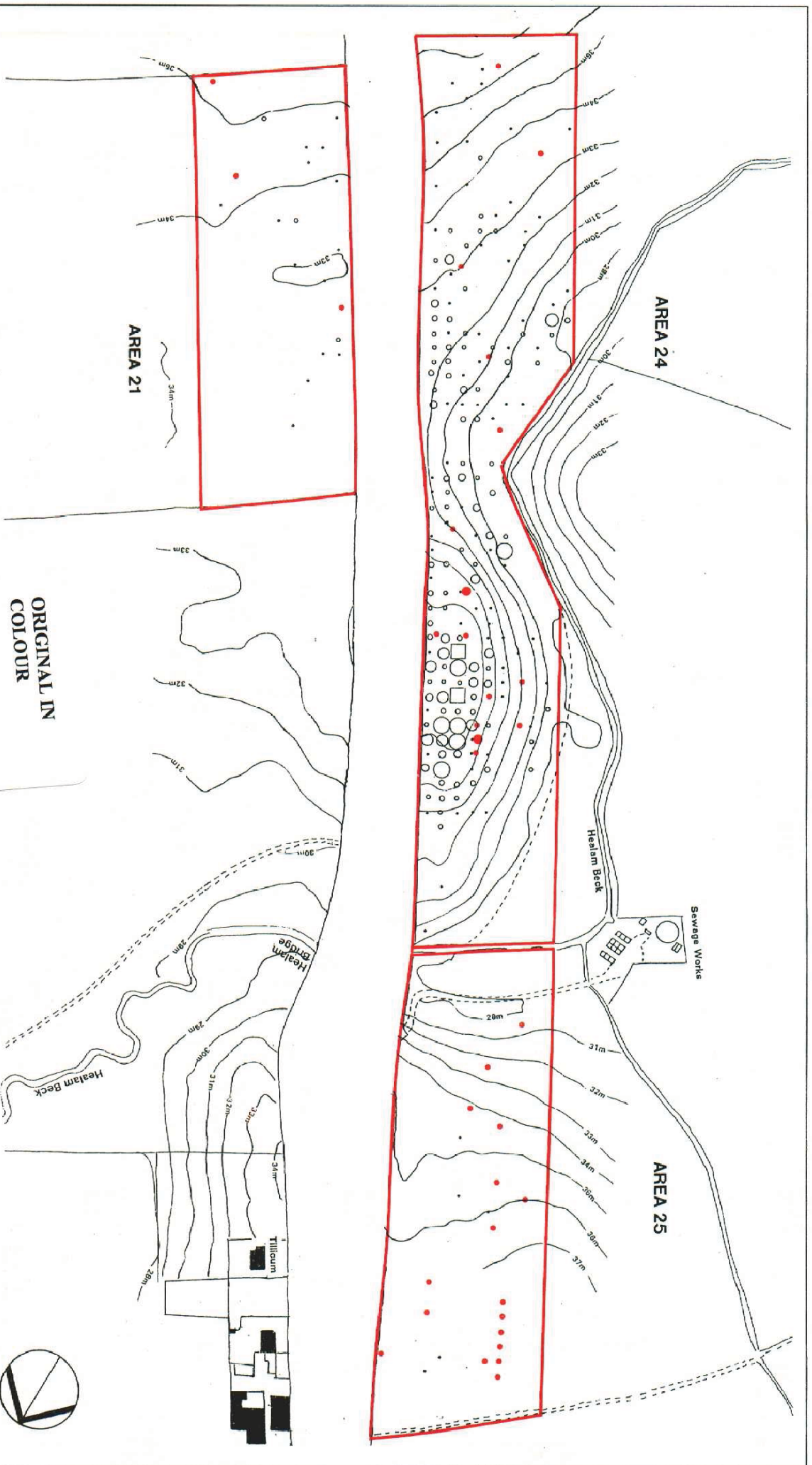
HUMAN COIN

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AREA 15

AREA 16





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Key:-

- 1 SHERD
- 2 SHERDS
- 3 SHERDS
- 4 SHERDS
- 5 SHERDS
- 6 SHERDS
- 7 SHERDS
- 8 SHERDS
- 9 SHERDS
- ☐ 10 + SHERDS
- FLINT FLAKE X1
- FLINT FLAKE X2

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ASSESSMENT AND DESIGN
MIDLANDS
Telephone 0115 2741180

Drawn	BM	Date	Project No.	Project	Figure
Checked	ED	Date	Scale	Title	Revision
		OCT 94	40014	AI DISHFORTH TO NORTH OF LEEHING	7
		OCT 94	N.T.S	AREAS 21 - 25 FIELDWALKING RESULTS (ROMAN POTTERY)	



Healam House

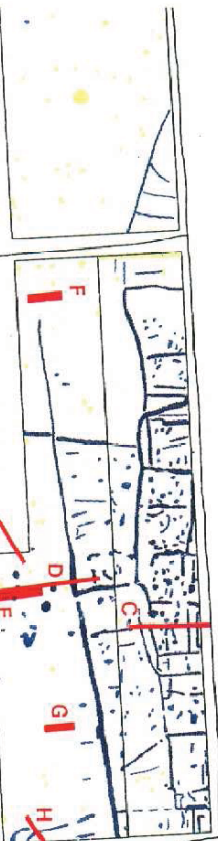


AREA 24

Healam Beck

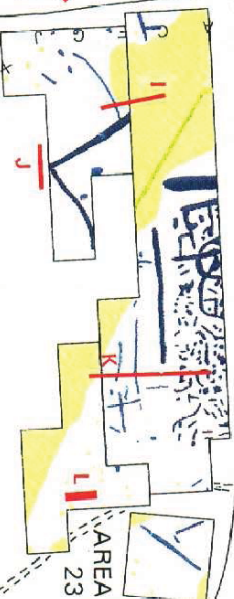
Sewage Works

AREA 25



AREA 20

AREA 21



AREA 22

AREA 23

AREA 26

AREA 27



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GEOPHYSICAL ANOMALIES

EXCAVATION TRENCHES

SAFETY TOWER

RECORDING PLANT

INTERVIEWER

MA 085



Group Data Centre, Sheffield
Tel: 01224 381415
Fax: 01224 381416

BHWPB

BRANDENBURG, PLANNING
AND SURVEYING
Telephone: 0113 241140

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AUG 95
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AUG 95

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AI DISHFORTH TO NORTH OF LEEHING
Title
AREAS 20-27: GEOPHYSICAL SURVEY RESULTS
AND LOCATION OF TRIAL TRENCHES

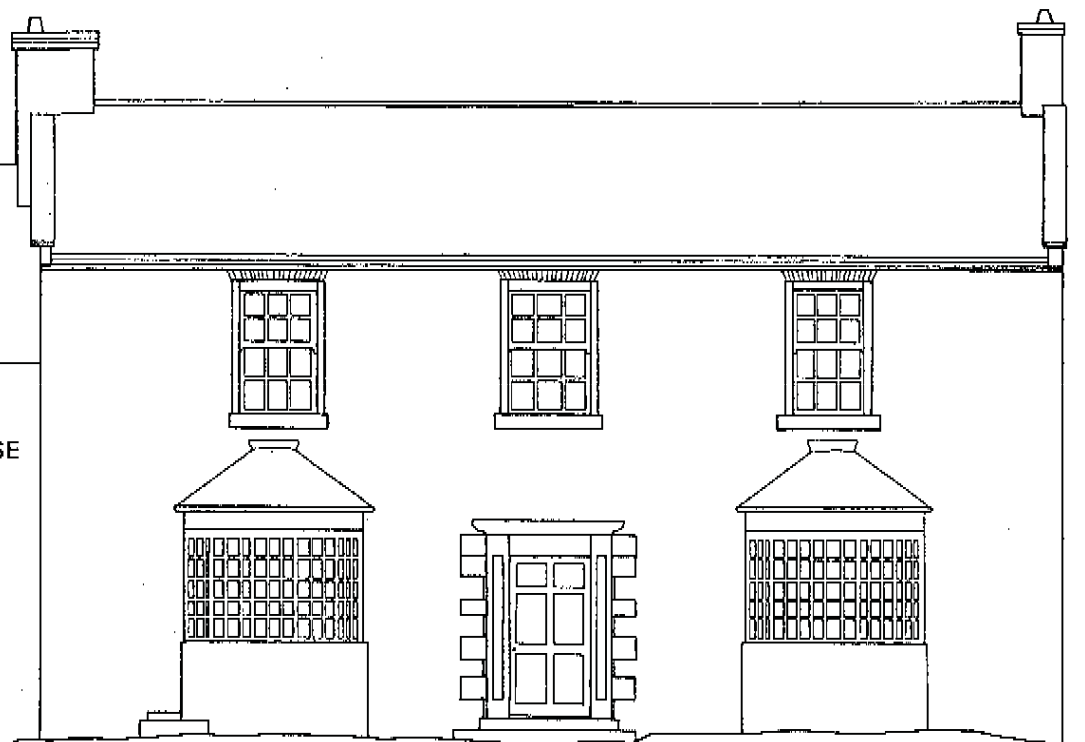
Figure

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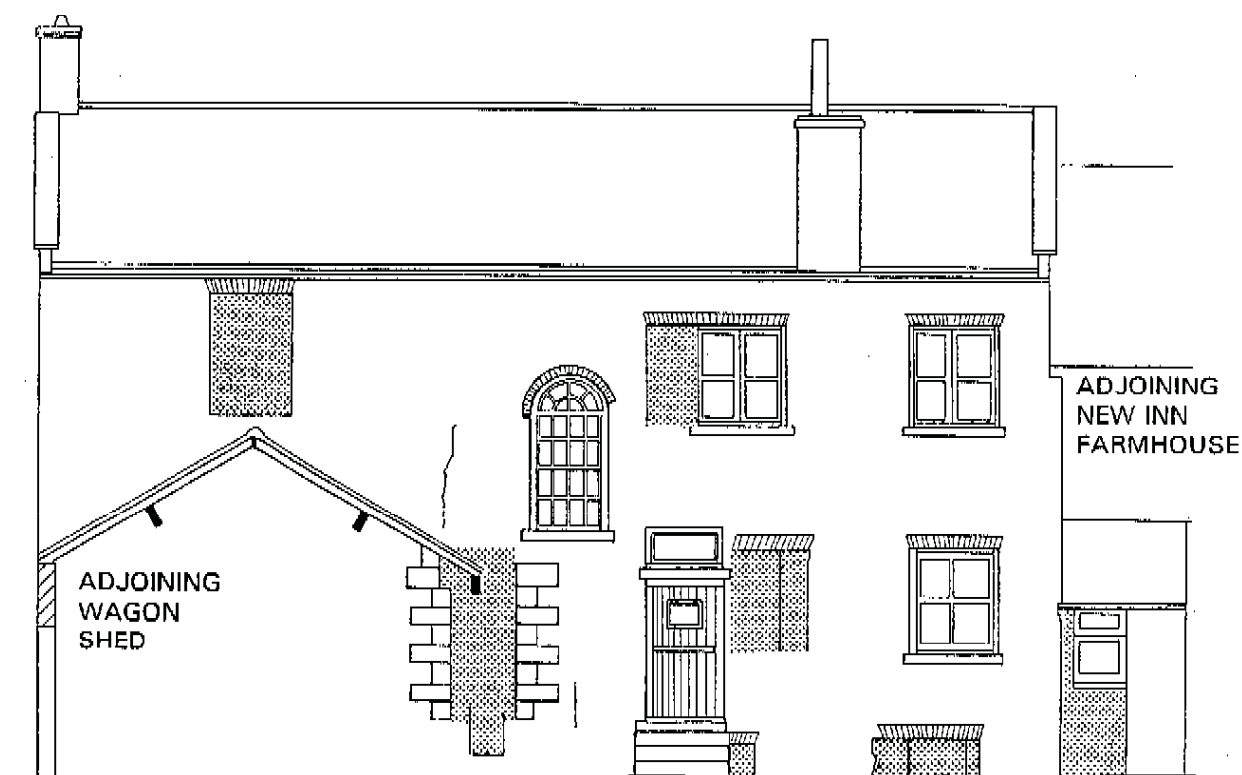
Revision

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ADJOINING
NEW INN
FARMHOUSE

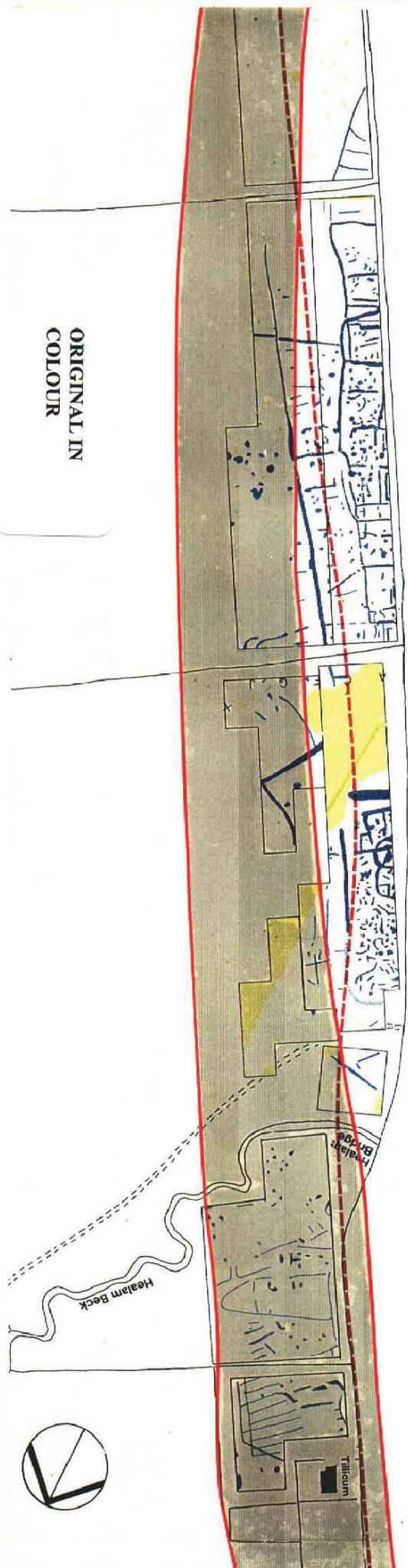
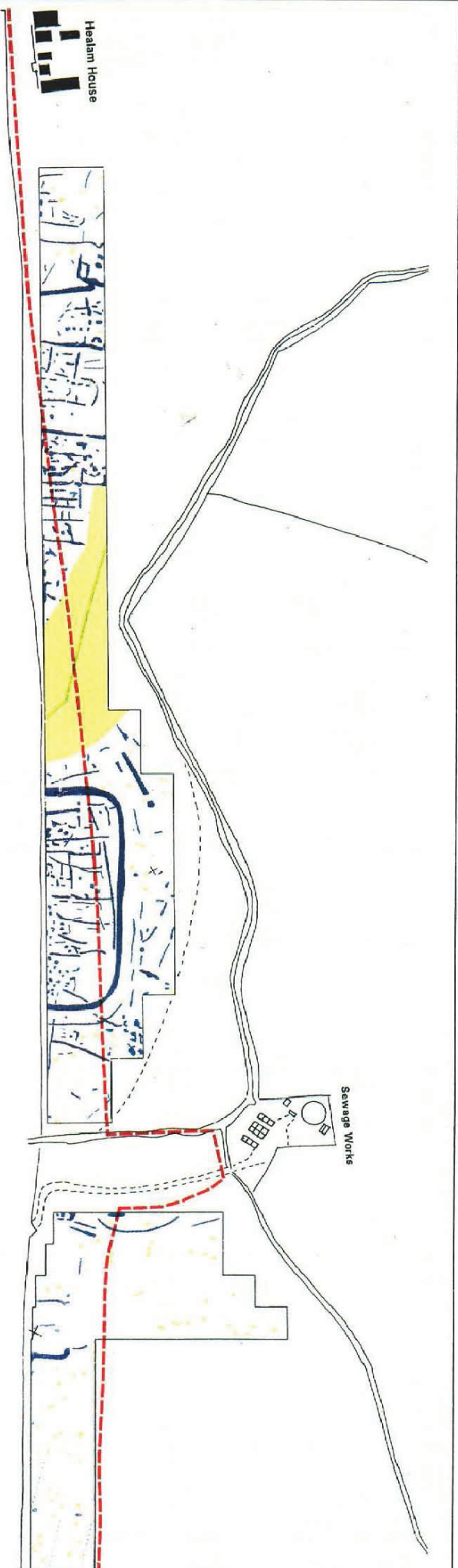


FRONT ELEVATION



REAR ELEVATION

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POCCOLLY PLAZA
MANCHESTER
M1 3ES

Key:
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AREA OF DISTURBANCE
ORIGINAL CONSTRUCTION CORRIDOR
AMENDED CONSTRUCTION CORRIDOR

By Richard, Contract Ltd
Contract Ref: 1000000000
George House, George Street
M1 2WT
Tel: (0201) 3045
Fax: (0201) 3045

BHWP
ENVIRONMENTAL PLANNING
ASSESSMENT
Telephone: 0113 274100

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Checked	ED	Date	AUG 95	Scale	0 50m	Title	ROAD ALIGNMENTS AT HEALAM BRIDGE

Figure	11	Revision	A
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