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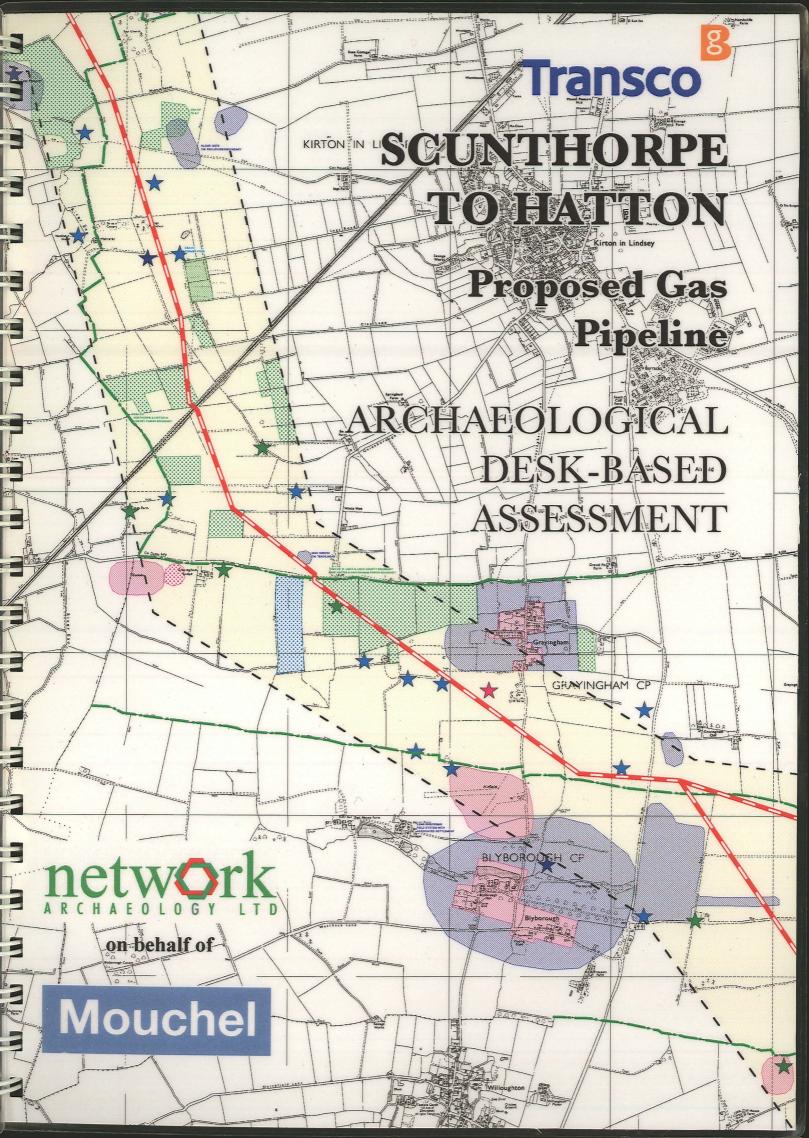
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SCUNTHORPE TO HATTON

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Proposed High Pressure Natural Gas Supply Pipeline

ARCHAEOLOGICAL DESK-BASED ASSESSMENT

Prepared by

NETWORK ARCHAEOLOGY LTD

for

MOUCHEL CONSULTING LTD

on behalf of

TRANSCO

Report No. 151

September 2000

Contents

- 3

1.	SUMMARY	1
2.	INTRODUCTION	3
3.	METHOD OF ASSESSMENT	5
4.	DESCRIPTION OF PROPOSED PIPELINE ROUTE	7
5. 5.1 5.2 5.3 5.4 5.5 5.6 5.7 5.8 5.9 5.10	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND Palaeolithic Mesolithic Neolithic Bronze Age Iron Age Romano-British Anglo-Saxon Medieval Post-Medieval Modern	10 10 10 11 11 12 13 14 14 16 16
6.	EXPLANATION OF GAZETTEER	18
7.	CRITERIA FOR GRADING SITES	18
8.	RELIABILITY AND POTENTIAL LIMITATIONS OF DATA	20
9.1 9.2 9.3 9.4 9.5 9.6 9.7	ASSESSMENT OF IMPACTS AND RECOMMENDATIONS General Impacts and Recommendations Site-specific Impacts and Recommendations Category A Sites Category B Sites Category C Sites Category D Sites Category E Sites	21 21 22 22 22 24 27 31
STAT	EMENT OF INDEMNITY	32
ACK	NOWLEDGEMENTS	32
COPY	RIGHT	32
BIBL	IOGRAPHY	33
APPE APPE	- Explanation of Phased Approach to Mitigation Mea NDIX B - List of Abbreviations - Gazetteer of Archaeological Sites - Archaeological Constraints Maps	isures

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Contents

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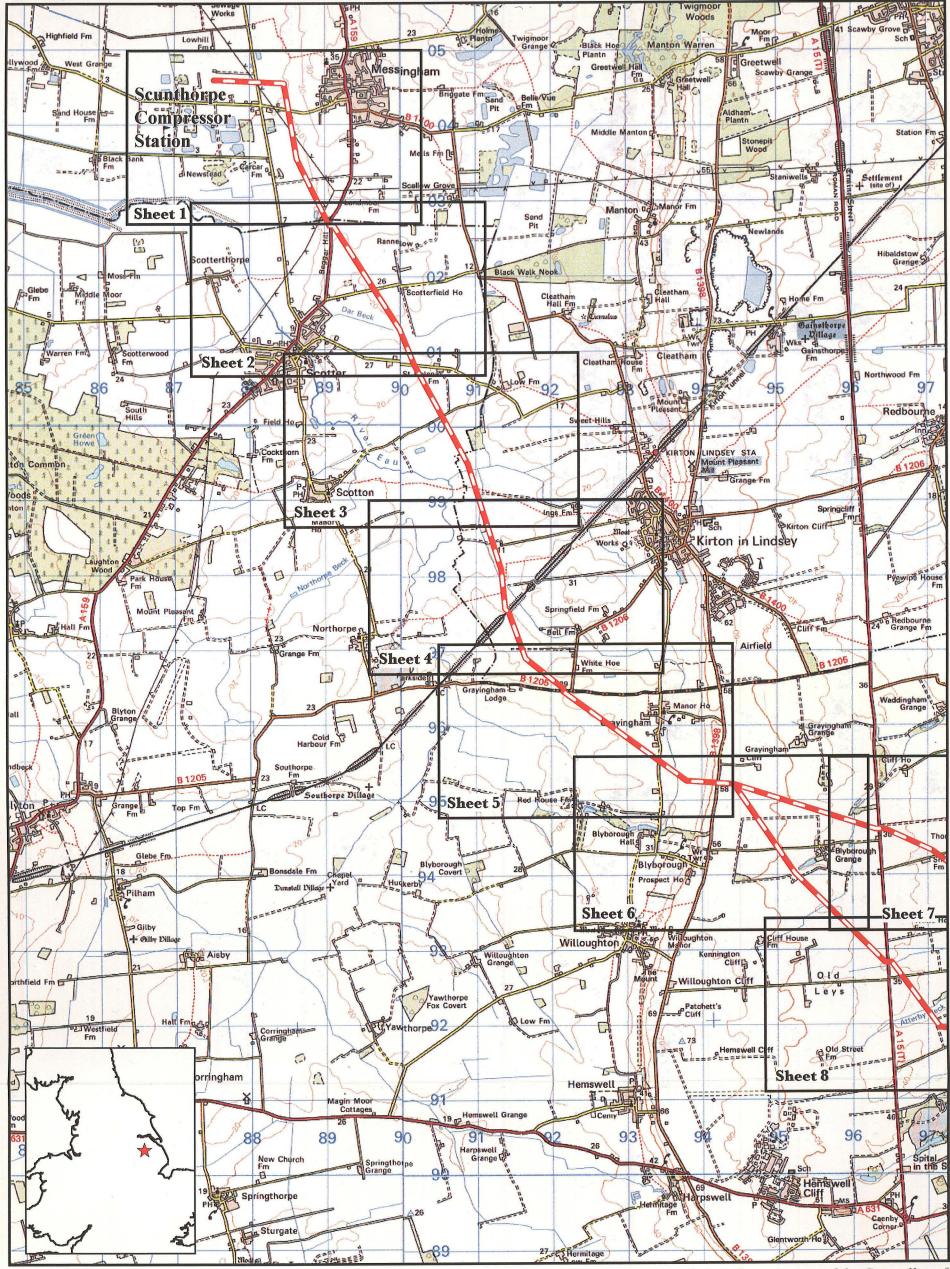
1.	SUMMARY	1					
2.	INTRODUCTION	3					
3.	METHOD OF ASSESSMENT	5					
4.	DESCRIPTION OF PROPOSED PIPELINE ROUTE	7					
5.	ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	10					
5.1	Palaeolithic	10					
5.2	Mesolithic	10					
5.3	Neolithic	11					
5.4	Bronze Age	11					
5.5	Iron Age	12					
5.6	Romano-British	13					
5.7	Anglo-Saxon	14					
5.8	Medieval	14					
5.9	Post-Medieval	16					
5.10	Modern	16					
J.1.	Wodelli	10					
6.	EXPLANATION OF GAZETTEER	18					
7.	CRITERIA FOR GRADING SITES	18					
8.	RELIABILITY AND POTENTIAL LIMITATIONS OF DATA	20					
9.	ASSESSMENT OF IMPACTS AND RECOMMENDATIONS	21					
9.1	General Impacts and Recommendations	21					
9.2	Site-specific Impacts and Recommendations	22					
9.3	Category A Sites	22					
9.4	Category B Sites	22					
9.5	Category C Sites	24					
9.6	Category D Sites	27					
9.7	Category E Sites	31					
J.1	Category E Sites	51					
STAT	EMENT OF INDEMNITY	32					
ACKI	NOWLEDGEMENTS	32					
COPY	RIGHT	32					
BIBL	IOGRAPHY	33					
	NDIX A - Explanation of Phased Approach to Mitigation Measu	ıres					
	NDIX B - List of Abbreviations						
	NDIX C - Gazetteer of Archaeological Sites						
APPE	APPENDIX D - Archaeological Constraints Maps						

SUMMARY

- 1.1 This Archaeological Desk-Based Assessment deals with the proposed 45 km Transco natural gas pipeline between Scunthorpe in North Lincolnshire and Hatton in Lincolnshire (Figure 1).
- 1.2 The proposed route runs generally south-east, from the east side of the Trent Valley, crossing the limestone ridge, and running into the clay vale to the north east of Lincoln. The northern part of the route has a moderate density of known archaeological sites, particularly of later prehistoric and Romano-British date. On the heavier soils to the south, there are few sites from earlier than the medieval period.
- 1.3 Only a few stray finds are known from the Palaeolithic or Mesolithic periods. The Neolithic and Bronze Age are represented by the remains of a number of burial mounds, two of which are Scheduled Ancient Monuments. There are few securely dated Iron Age sites, but several areas of cropmarks probably date from this period. Two pit alignments could be affected by the pipeline, as well as several groups of enclosures.
- 1.4 A number of scatters of pottery, brick and tile indicate the presence of Romano-British activity, including two possible villa sites. At the point where the pipeline route crosses the modern A15(T) road, it follows the line of Ermine Street, a major Roman Road. Two other Roman roads have been identified in the study corridor.
- 1.5 Most of the villages along the route will have their origins in the Anglo-Saxon period but very little material evidence survives from this period. Surface finds of pottery and loom-weights have been recorded, but there are no confirmed archaeological deposits.
- 1.6 Medieval remains include four Deserted Medieval Villages wholly or partly within the study area. At least nine villages are likely to have reduced in size, and are classed as Shrunken Medieval Villages. These include Buslingthorpe, where part of the former extent of the village can be seen in an area of standing earthworks, which is a Scheduled Ancient Monument. There are a number of areas of ridge and furrow, the fossilised remains of medieval ploughing, distributed throughout the route but concentrated particularly towards its southern end.
- 1.7 The majority of post-medieval and modern sites are still occupied by existing buildings, and therefore unlikely to be affected by pipeline construction.

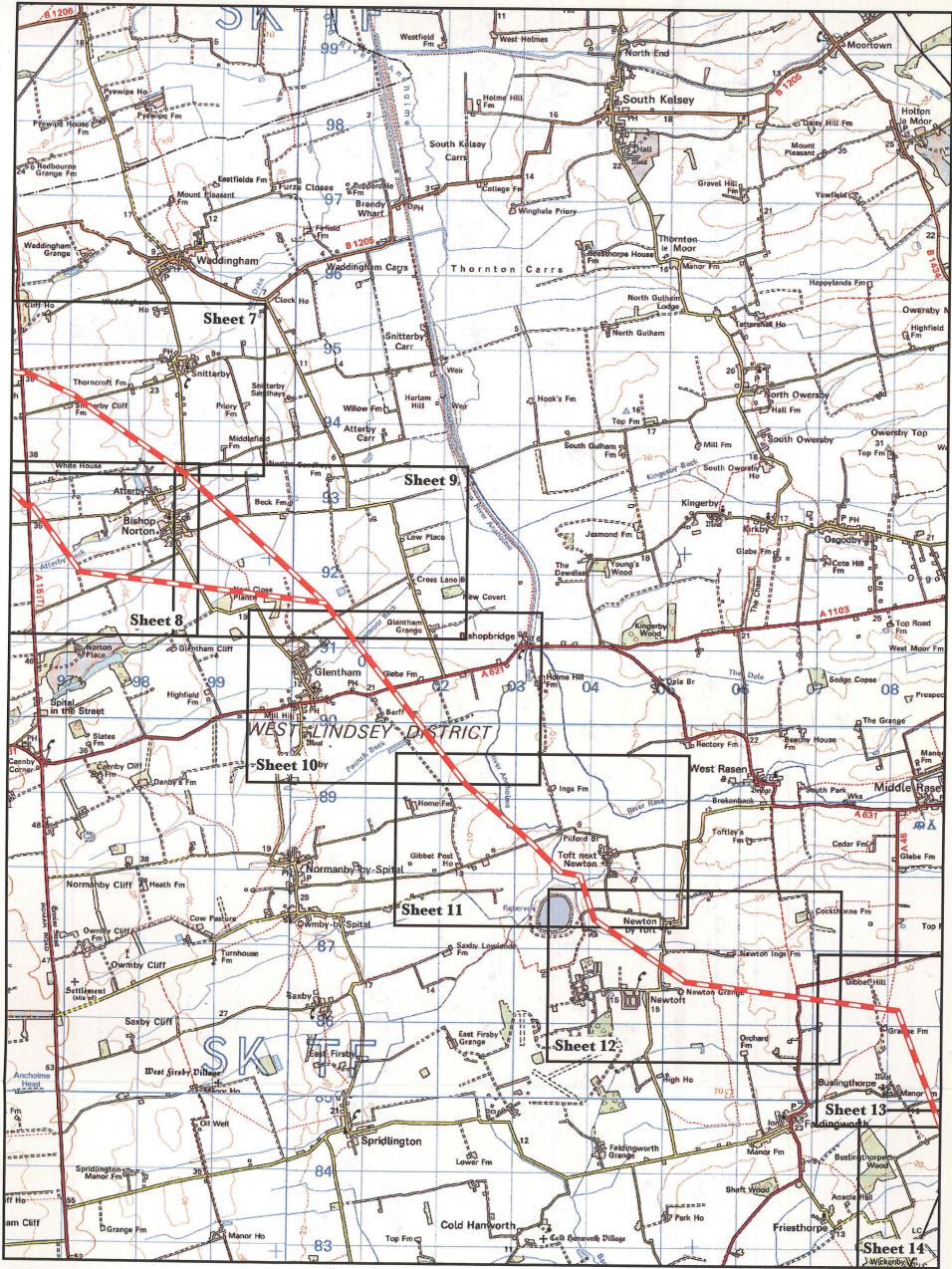
1.8 Site Specific Impacts and Recommendations

- 1.8.1 Three hundred and ninety-four archaeological sites have been identified within the study corridor, of which ninety-three are located directly in the path of the proposed pipeline.
- 1.8.2 All of the sites have been placed into one of five categories, ranging in significance from Scheduled Ancient Monuments (category A) to single find spots (category E).
- 1.8.3 There are eleven areas of concern (categories B and C) where re-routes, or use of the alternative proposed routes, is recommended:

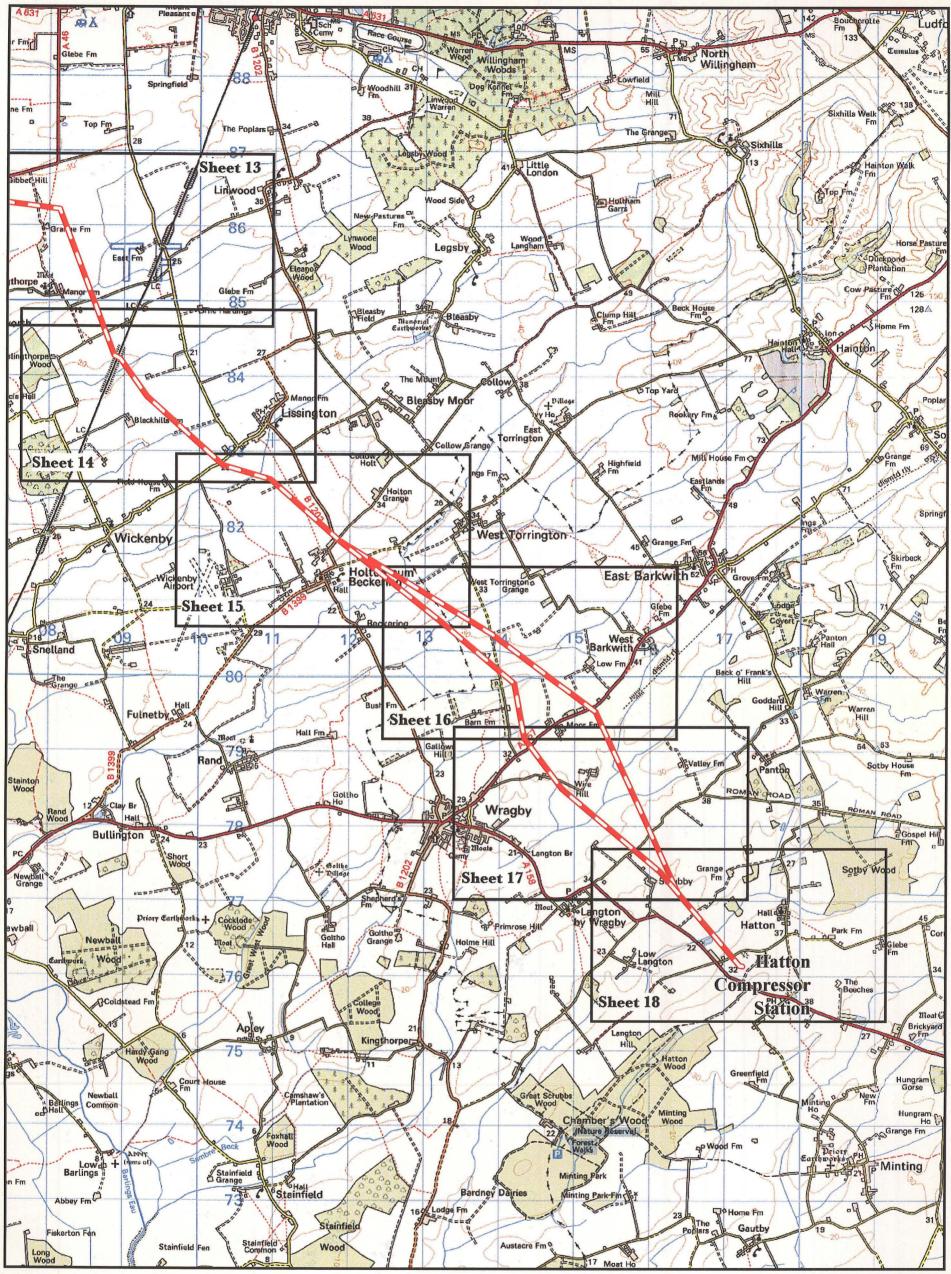


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Figure 1: Location of the proposed Pipeline, showing the areas covered by the Constraint Maps



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Category B

• LSMR 50593 (Sheet 9, SK 9893 9174) Cropmark pit alignments and enclosure features, probably prehistoric in date.

Category C

- DBA:DT (Sheet 14, TF 0987 8324) Site of former building marked on 1956 OS maps.
- DBA:IH (Sheet 6, SK 9540 9486) Undated probable enclosure cropmarks.
- LSMR 50324 (Sheet 9, SK 9975 9200) An undated curvilinear ditch and enclosure cropmark site.
- LSMR 50817 (Sheet 7, SK 9620 9480) Rectilinear enclosure cropmarks, possibly representing a small Romano-British farmstead.
- LSMR 53248 (Map 14, TF 1020 8290) Significant Roman pottery scatter and iron-working slag.
- LSMR 53385 (Sheet 13, TF 0770 8625) Scatter of Romano-British pottery and building material, which has been suggested as a possible villa site.
- LSMR 53418 (Sheet 12, TF 0519 8723) Shrunken Medieval Village remains and pottery scatter.
- LSMR 53862 (Sheet 2, SE 8914 0224) Cropmark enclosures of unknown date.
- MON 1056782 (Map5, SK 9210 9659) Undated possible enclosure cropmarks.
- MON 327063 (Sheet 9, SK 9940 9185) Probable site of Crossholm Deserted Medieval Village.
- 1.9 The remaining sites should be re-evaluated at the end of the Stage 3 investigations (Appendix A).

2 INTRODUCTION

2.1 General

- 2.1.1 In April 2000, Network Archaeology Limited (NAL) was commissioned to carry out an Archaeological Desk-Based Assessment of the proposed Transco Scunthorpe to Hatton natural gas pipeline. This high pressure route, approximately forty-five kilometres long, will link Scunthorpe Compressor Station in North Lincolnshire (SE 874043) to Hatton Compressor Station in Lincolnshire (TF 172762) (Figure 1).
- 2.1.2 The currently preferred pipeline route is corridor option B/C1/C from the pipeline feasibility study (Mouchel, 1999). For two different portions of the corridor, however, there is an alternative routing option, one 7.5km long, the other 6.5km long. This assessment considers the main, 45km long route, as well as the two alternative sections.
- 2.1.3 This report will form the basis of the Archaeology and Heritage section of a mandatory Environmental Statement undertaken to meet the requirements of *The Public Gas Transporter Pipeline Works (Assessment of Environmental Effects) Regulations 1996*, which have been in effect since July 1999.
- 2.1.4 This study forms one stage of what is expected to be a detailed investigative programme of mitigation.

2.2 Context of Pipeline Assessments

- 2.2.1 Linear developments such as pipelines provide an opportunity to examine a transect across a landscape and the evidence of past human activity preserved within it.
- 2.2.2 Potentially, pipelines can severely impact upon the archaeological resource. Close co-operation between archaeologist and engineer is essential to ensure that the impact on the archaeological resource is minimised.
- 2.2.3 The identification of archaeological sites at an early stage allows for forward planning of appropriate mitigation measures, such as route modifications, and site-specific investigations in advance of construction.

2.3 Project Objectives

- 2.3.1 The purpose of this assessment is to consider the cultural heritage implications of the proposed pipeline, to assist in the selection of an archaeologically least-damaging pipeline route, and to provide a basis for further stages of investigation.
- 2.3.2 The objectives are to:
 - identify and define the extent of known archaeological constraints within and immediately outside the proposed pipeline corridor, and to provide a preliminary assessment of their significance.
 - make an informed assessment of the potential for new sites.

- assess the potential for evaluative field survey.
- recommend initigation measures.

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3 METHOD OF ASSESSMENT

3.1 General

This assessment has been conducted according to the Institute of Field Archaeologists Code of Conduct (1997) and Standard and Guidance for Archaeological Desk-based Assessment (1999).

3.2 Study Corridor

Data collection focused largely on a 45km long, 1km-wide study corridor, centred on the currently preferred route, but also on two shorter 1km-wide study corridors, centred on the alternative route options. One of these runs east of Blyborough village in the central part of the route and is 7.5km long, the other lies east of Wragby village at the south end of the route, and is approximately 6.5km long. This gave a total studied length of c. 59km. As well as data collection within the 1km-wide study corridors, relevant sites just beyond these corridors were recorded. In addition, background information for the localities through which the corridors pass was recorded in order to provide a broader archaeological context for the sites within them.

3.3 Data Sources

- 3.3.1 English Heritage:
 - County list of Scheduled Ancient Monuments for England (SAMs legally protected under the Ancient Monument and Archaeological Areas Act 1979)
 - The National Monuments Record (NMR) MONARCH database of registered archaeological sites and excavations
 - The NMR collection of vertical and oblique photographs
- 3.3.2 Royal Commission on the Historical Monuments of England (RCHME):
 - National Mapping Programme aerial photograph cropmark plots
- 3.3.3 Kew Public Record Office:
 - Tithe maps
- 3.3.4 Lincolnshire County Council Sites and Monuments Records (LSMR):
 - County list of known archaeological sites and finds
 - County list of Listed Buildings
 - County-based aerial photographs
- 3.3.5 Lincolnshire Archives:
 - Enclosure maps

• Tithe maps

- Ordnance Survey maps
- 3.3.6 North Lincolnshire Sites and Monuments Record (NLSMR):
 - Unitary Authority list of known archaeological sites, finds and cropmarks

4 DESCRIPTION OF THE PROPOSED PIPELINE ROUTE

4.1 Location and Topography

- 4.1.1 The majority of the proposed route lies in the north-west and north-central parts of Lincolnshire, with its north-west end situated within the south part of North Lincolnshire Unitary Authority. Taking a diagonal course, it runs from north-west to south-east for approximately 45km, linking Scunthorpe Compressor Station in North Lincolnshire (SE 874043) to Hatton Compressor Station in Lincolnshire (TF 172762) (Figure 1).
- 4.1.2 From north-west to south-east, the pipeline traverses four distinct topographical zones: the Trent Vale (0-12km), the Lincoln Cliff (or Edge) (12-13km), the Lincoln Heath (13-22km), and the Clay Vale (22-45km) (Bennett and Bennett, 1993, 9). Across most of these zones the land is generally low-lying and gently undulating, and lies at heights of between 15m and 40m above Ordnance Datum (AOD), although it does drop to less than 10m AOD in the Trent Vale and the valley of the River Ancholme. The exception to this low lying ground is the Lincoln Cliff, which rises to more than 70m AOD.
- 4.1.3 Within the Trent Vale, the pipeline leaves Scunthorpe Compressor Station south of Scunthorpe and the M180, and west of Messingham village (at about 6m AOD). It heads in a generally south-easterly direction, rising gradually in height and crossing the A159 north-east of Scotter village, at which point it also passes from North Lincolnshire into Lincolnshire. East of Scotton village, the route re-enters North Lincolnshire before crossing the Gainsborough to Brigg railway and the B1205 south-west of Kirton in Lindsay, where it once again passes into Lincolnshire. South-east of Grayingham village, the route reaches the western scarp of the Lincoln Cliff, just west of the B1398, and at around 35m AOD.
- 4.1.4 The pipeline route crosses a 1km-wide section of the Lincoln Cliff, which rises fairly steeply on its west side, reaches a maximum height of around 58m AOD at the B1398, and then falls more gradually eastwards as the route passes onto the Lincoln Heath.
- 4.1.5 At the B1398, the route splits into two alternative options for much of its course across the Heath, which generally lies at 15-40m AOD. The northmost option (7.2km) passes to the north of Blyborough Grange before crossing the A15 and then running by the east side of Atterby and Bishop Norton villages. The southmost option (7.7km) runs to the south of Blyborough Grange, crosses the A15 and then passes below Bishop Norton. The two route options re-join each other north of Glentham village. The route then continues south-eastwards to the A631, where it passes into the valley of the River Ancholme, on the western fringes of the Clay Vale.
- 4.1.6 Passing through the Ancholme Valley at heights of less than 10m AOD, the route crosses the old course of the Ancholme, and then travels across a stretch of ground bounded by the River Rase to the north and the Barlings Eau to the south, winding its way in-between the villages of Toft next Newton and Newton by Toft (to the north of the route), and Newtoft (to the south). The route then crosses the A46 at a height of around 25m AOD, where it can be said to have entered the Clay Vale proper.
- 4.1.7 From the A46, south-west of Market Rasen, the pipeline route passes to the east of Faldingworth and Buslingthorpe villages, crosses the Lincoln to Market Rasen railway,

passes to the south of Lissington village, and then crosses the B1202 north of the village of Holton cum Beckering. At the B1202, the route splits into two alternative options: a 6.7km-long more easterly one, and a 6.6km-long more westerly option. From the B1202, these diverge to their widest distance apart when they reach the A157, with the village of Wragby to the south-west and West and East Barkwith to the north-east. They then gradually converge, re-joining each other east of Langton by Wragby village. The route continues south-eastwards, reaching Hatton Compressor Station, on the north side of the A158, and south-west of Hatton village.

4.2 Geology, Soils and Land Use

- 4.2.1 The pipeline route crosses land underlain by a series of bands of Jurassic rocks, largely consisting of limestones and clays. In the western part of the route, the earlier clays are dominant: Lower Lias clay with limestone (0-9km), Middle Lias sandstone (9-11.5km), and Upper Lias clay (11.5-12.5km). The Lincoln Cliff, and the area to the east, consist of more recent limestones: Inferior Oolite (with Northampton Sand an iron-rich sandstone) (12.5-18km), Great Oolite (18-19.5km), and Cornbrash (19.5-20.5km). The central part of the route (19.5-28.5km) has later Oxford Clay and Kellaway Beds, whilst the south-eastern section (28.5-45km) is underlain by the most recent Ampthill and Kimmeridge Clays.
- 4.2.2 Superficial (drift) deposits are recorded along approximately 65% of the route. These largely consist of glacial boulder clay, which is mostly confined to the Clay Vale, except for a narrow band along the eastern edge of the Trent Vale, south-west of Kirton in Lindsay. Blown sand is recorded along the first 5km of the route, between Scunthorpe Compressor Station and Scotter village. Deposits of alluvium are mapped at two points along the route: west of Kirton in Lindsey (associated with the River Eau and its tributaries), and east of Wragby (associated with a tributary of the Barlings Eau). Narrow bands of river terrace deposits (sand and gravel) are recorded along three sections: south-west of Kirton in Lindsey (associated with the River Eau), north-west of Toft new Newton (in the Ancholme Valley), and north of Wragby (associated with a tributary of the Barlings Eau).
- 4.2.3 The soils along the route are a reflection of the geology, topography and drainage pattern of the region. The pipeline ground risk study identified four major soil types in the area of search (rendzinas, surface water gleys, groundwater gleys, and brown earths), as well as two less prominent classifications (brown sands and podzols) (Mouchel, 1999, 9).
- 4.2.3.1 Chalky rendzinas are found over the oolitic (Lincolnshire) limestone, and are generally shallow, well-drained calcareous, fine loamy soils.
- 4.2.3.2 Surface water gleys (stagnogleys) are virtually confined to the glacial boulder clay areas. These consist of fine, loamy soils, susceptible to long periods of waterlogging.
- 4.2.3.3 Groundwater gleys (cambic, argillic and alluvial) are recorded at a number of isolated points along the route: over an outcropping part of the Lias clay with limestone east of Scotton (cambic), above an exposed band of Oxford Clay and Kellaway Beds north and south of Glentham (argillic), and over the deposits of river alluvium crossed by the route (alluvial). The cambic gleys are fine or coarse loamy soils affected by groundwater, the argillic gleys are usually deep, stone-free, coarse, loamy soils, with groundwater often

- controlled by ditches, whilst the alluvial gleys consist of stone-free, clayey soils, prone to flooding.
- 4.2.3.4 Brown earths and brown sands are also found at various locations along the pipeline route: over an outcrop of Lias clay with limestone north-east of Scotter (brown earth; shallow, well drained, calcareous, fine and loamy), above an area of blown sand north-east of Scotton (brown sand; deep, well drained, coarse, sandy or loamy), over an outcrop of iron-rich sandstone on the western edge of the Lincoln Cliff (brown sand; well drained, fine or coarse, loamy and ferruginious) and above the eastern edge of the oolitic limestone, and the cornbrash, either side of Bishop Norton village (gleyic brown earth; shallow, calcareous, fine and loamy).

- 4.2.3.5 Podzolic soils are found only at the north-west end of the route, between Scunthorpe compressor station and the A159. These are deep, well drained, very acidic humic sandy soils.
- 4.2.4 The majority of the soils along the route are suitable for arable farming; cereals, sugar beet and potatoes. The exceptions are the alluvial gleys, which are commonly used for stock grazing, with some cereals in low flood-risk areas, and the podzols, whose landuse generally consists of woodland, lowland heath, and some cereals.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

- **5.1** Palaeolithic (*c*.500,000 8,300 BC)
- 5.1.1 The Palaeolithic period (or 'Old Stone Age') began around 500,000 years ago, when the earliest humans arrived in Britain. Throughout much of this era, harsh glacial conditions or 'ice-ages' prevailed and the region was periodically covered by ice-sheets. At other times, periglacial conditions, characterised by very cold temperatures, freeze-thaw, and permafrost would have existed for long periods.
- 5.1.2 Human occupation would have been largely limited to interglacial periods, when the climate was slightly warmer. Palaeolithic people lived a predominantly nomadic lifestyle, surviving by hunting and gathering. Even during the glacial periods there is evidence that they made brief summer food-gathering forays from mainland Europe. Britain was still joined to continental Europe at this time.
- 5.1.3 The most recent Old Stone Age period, the Upper Palaeolithic (c.40,000 8,300 BC) saw the emergence across Europe of modern humans, anatomically indistinguishable from present-day populations. They continued to forage and hunt for food like their earlier ancestors, but were now more sophisticated in the way that they worked flint and used stone tools. For the first time they made personal ornaments. As temperatures began to rise Britain started to be re-colonized around 30,000 years ago. This was interrupted between 20,000 and 15,000 years ago, when Britain experienced its most recent ice-age. At this time, the country would have resembled polar desert.
- 5.1.4 Evidence of the Palaeolithic period in Lincolnshire is rare, but flint tools are occasionally found in glacial gravels. The only recorded example close to the proposed route is a handaxe found near Holton (LSMR 51720).
- **5.2 Mesolithic** (*c*.8,300 4,000 BC)
- 5.2.1 The end of the last ice-age saw an increase in temperatures and the melting of glaciers across Britain. This led to rising sea-levels, and the separation of Britain from the continent. The warmer climate encouraged the migration of plants and animals into the region, and the spread of coniferous forests. From about 6500BC, these gave way to deciduous woodlands of oak, hazel, elm and lime as average summer temperatures rose to two degrees centigrade higher than they are today.
- 5.2.2 Throughout the Mesolithic, or 'Middle Stone Age', communities of semi-nomadic people hunted animals such as red deer, roe deer and wild pig, and collected fruit and food plants. The remains of their temporary camps have occasionally been discovered, but normally only their tools and equipment are found. Flint, stone, bone and wood would have been utilised. Flint arrowheads are common artefacts from this period, although spears were also still used. Greater reliance was placed on composite tools, particularly small flint blades or 'microliths' set in wooden shafts. By the end of the period, people had begun to exert a significant degree of control over their landscape. Small areas of forest were cleared by burning to flush out game and encourage the growth of lush pastures. Larger animals would have been controlled, leading to their partial domestication.

- 5.2.3 The limestone scarp in the Scunthorpe area is particularly rich in Mesolithic activity, with known sites at Sheffield's Hill, Risby Warren and Santon Warren (May, 1996, 35).

 Elsewhere in Lincolnshire, sites are scarce and consist only of scatters of worked flints. A flint burin found to the east of Scotton is the only recorded find of this period within the study corridor (LSMR 50759).
- **5.3 Neolithic** (*c*.4,000 2,500 BC)
- 5.3.1 The Neolithic period or 'New Stone Age' is characterised by the shift from hunting and gathering to a more settled farming economy. New artefact types, such as flint sickles, stone querns, pottery and polished stone axes begin to appear in the archaeological record, replacing the microliths, spears and digging sticks used throughout the Mesolithic period. Settlement sites are more common, and excavations at Dragonby, to the north of Scunthorpe, have uncovered remains from this period. New kinds of monument type appear, reflecting more complex ceremonial and funerary arrangements. In particular, burial mounds or 'barrows' appear for the first time. The Wolds area has a concentration of Neolithic long barrows. Within the study area, the remains of a less typical D-shaped barrow survive to the south-east of Bishop Norton, probably dating from the later Neolithic period (SAM 29740).
- 5.3.2 The distribution of stone axe heads suggests that forest clearance was taking place almost everywhere and that great tracts of land were already opened up and settled by c. 2500 BC (May, 1976). Although used for tree-felling and wood-working, the axes were also endowed with an important ritual significance. Many polished stone axes were not functional, and conventional use would have caused them to shatter (Children & Nash, 1994, 19). They would have been more a symbol of power and prestige than a practical tool. Finds of polished axe heads within the county seem to be distributed along river valleys, and there are concentrations near the Eau and Ancholme. Within the study corridor examples have been found to the east of Scotton (LSMR 50758), east of Bishop Norton (LSMR 50841) and east of Caenby (LSMR 51027 and LSMR 52731).
- **5.4 Bronze Age** (*c*.2,500 600 BC)

- 5.4.1 The Bronze Age was heralded by the introduction of metalworking technology, new types of flint-tool and new styles of pottery design from continental Europe. The settled farming society established in the Neolithic period became increasingly sophisticated. People lived in nucleated farming communities, growing crops and raising livestock. Trade links forged in the Neolithic continued to develop.
- 5.4.2 The remains of Bronze Age domestic settlements in general are scarce. The surviving evidence suggests that a typical Bronze Age farming settlement would have consisted of a number of 'roundhouse' dwellings, with associated outbuildings and surrounding arable or pastoral field-systems. Changes in social organisation were reflected in the emergence of new methods of burial, particularly the construction of round barrows as funerary monuments. The remains of a round barrow still stand near Buslingthorpe (SAM 29744) and other possible examples are visible as cropmarks to the north of Scotter (LSMR 53860), near Grayingham Lodge (LSMR 50450) and a group of at least six to the south of Grayingham (LSMR 53746, 50437).

- 5.4.3 Bronze Age activity is also represented by stray finds such as pottery, jewellery, weapons such as axes and spears, and flint scatters. Within the study corridor, finds scatters, which may indicate the presence of more extensive sites, have been recorded east of Scotton (LSMR 51260, LSMR 50760) and east of Wragby (LSMR 40341). Bronze artefacts recovered from the study corridor include a spearhead and two socketed axes found near Messingham (NLSMR 2206, NLSMR 2209 and NLSMR 2208) and a spearhead from west of Snitterby (LSMR 50747). Flints are harder to date, but a barbed and tanged arrowhead and a scraper found near Glentham (LSMR 51041, LSMR 51040), a stone axe from east of Holton (LSMR 53232) and a tool found to the east of Bishop Norton (LSMR 50824) may be of Bronze Age or late Neolithic date.
- 5.4.4 High sea-levels in this period led to the inundation large areas of land in Lincolnshire.

 Low-lying sites became slowly overwhelmed by alluvial and marine deposits. These could be masking archaeological deposits, particularly towards the north end of the route.
- 5.5 Iron Age (c.600 BC 43 AD)
- 5.5.1 Iron-working was among the new technologies introduced to Britain from the Continent in this period. Pottery began to be made using a potter's wheel, and Britain's first inscribed coins were minted. Population growth led to competition for land and the development of a more organised and territorial society.
- 5.5.2 During the Iron Age, the population of Britain is thought to have increased considerably. Large numbers of farming settlements would have been established and pressure on existing resources would have forced the settlers onto more marginal areas. Large areas would have been cleared for agriculture, the working of heavier and less well drained soils facilitated by the availability of metal tools.
- 5.5.3 By the later Iron Age social organisation had become highly stratified, with a relatively stable aristocracy controlling large areas of influence. In the north part of Lincolnshire there seem to have been tribal centres at Dragonby, Owmby, Kirmington and Ludford. The site at Dragonby, threatened by ironstone quarrying, has been the subject of extensive archaeological investigation.
- 5.5.4 By contrast with much of the rest of the country, there were few defended sites in Lincolnshire, and the characteristic hill-forts appear to be absent from the north of the county. The crossing of the Humber at Winteringham was an important communication route at this time, and it is likely that trackways along the Jurassic limestone ridge would have become well established.
- 5.5.5 Farming settlements were similar to those of the preceding Bronze Age, with people constructing and living in roundhouses, and cultivating land or keeping animals within deliberately laid-out field-systems. Many of them sat within ditched enclosures which more probably acted as territorial markers rather than defensive features. Pit alignments, characteristic features visible as cropmarks on aerial photographs, may date from this period. There are examples of the latter within the study corridor to the north of Scotter (LSMR 53736), south-west of Blyborough Grange (LSMR 50595) and south-west and south-east of Bishop Norton (LSMR 50592, 50593). Among other cropmarks, enclosures that could date from the Iron Age are visible to the east of Scotter and Scotten (LSMR 53872, NMP 2, MON 1056795) and west of Bishop Norton (LSMR 50832). Linear

- features in the area of Blyborough Grange (LSMR 50756, 50327, 50326) may also be of a similar date.
- 5.5.6 The material culture of is largely represented by new types of pottery, often with stamped decoration, iron and bronze domestic utensils, coins, jewellery, weapons such as swords and knives, and farming implements such as plough-shares. No artefacts specifically identified as Iron Age have been recorded within the study corridor, although some of the finds of worked flint could date from this period.
- 5.6 Romano-British (43 410 AD)
- 5.6.1 Over most of England, the Roman invasion was followed by a rapid implementation of centralised administration based on towns and supported by a network of roads.
- 5.6.2 Road networks had previously been little more than tracks formed by the passage of people and livestock. Roman army engineers built more substantial roads with metalled and cambered surfaces, to expedite the movement of soldiers, food and equipment. Naturally these roads were also exploited as trade and communication routes. Evidence for the Romano-British occupation of Lincolnshire is reflected not only in the settlement sites which exist in different parts of the county, but also in the network of Roman roads which cross it.
- 5.6.3 The most important road was Ermine Street, which connected London with the North via Lincoln (LSMR 50574). A minor road branching from this has been identified near Atterby (MON 1062841) Another possible Roman road crosses the study area to the east of Wragby (LSMR 42944).
- 5.6.4 The form of the majority of Romano-British rural settlements in Lincolnshire probably changed little from the earlier Iron Age farmsteads. Indeed, the typical Iron Age roundhouse continued to be the dominant building form across much of early Roman rural Britain. The paucity of excavated examples of such sites within Lincolnshire, though, makes it difficult to provide evidence for this continuity.
- 5.6.5 Higher status buildings were built of brick and had tiled roofs. The durability of these materials, together with the rich material culture of the period, means that these sites are relatively easy to identify. Several are known within the study corridor. A scatter of building debris to the north and north-east of Glentham may be the site of a villa (LSMR 51043). Pottery and other artefacts have been found in the same area (LSMR 51030). Nearby, a small square feature showing as a cropmark has a shape typical of a Roman temple (LSMR 50862). Artefacts found close by may be associated with it (LSMR 50823). To the north of Buslingthorpe, the is another possible villa site (LSMR 53385) together with pottery scatters (LSMR 53381, LSMR 53386). Scatters of pottery have also been noted near Toft Newton reservoir (LSMR 53415), west of Grayingham (MON 1033402) and east of Wragby (LSMR 40350).
- 5.6.6 Two areas of industrial activity from the period have been identified within the study corridor: A pottery kiln south of Buslingthorpe village (LSMR 53393), and an iron-working site near Lissington (LSMR 53248).

- 5.6.7 Coins were in widespread circulation throughout the Roman period. Finds have been recorded from Messingham (NLSMR 2205), north-east of Bishop Norton (LSMR 50843) and near Glentham (LSMR 51875).
- **5.7 Anglo-Saxon** (*c*.410 1066 AD)
- 5.7.1 After the end of Roman rule in Britain, the economy stagnated, coins stopped circulating and much of the Roman infrastructure ceased to be used. Extensive settlement from continental Europe occurred in the fifth and sixth centuries, largely displacing the native population from eastern England. 'Anglo-Saxon' is a convenient label for the whole period, but the first settlers included Saxons, Jutes, Frisians, and Franks as well as the Angles from southern Denmark who settled in East Anglia and northern England. By the end of the sixth century, the northern part of modern Lincolnshire had emerged as the semi-independent political unit of Lindsey, subservient first to Northumbria and later to Mercia.
- 5.7.2 Towards the end of the period, there was a strong Danish influence throughout eastern England, although place-name evidence suggests that this was less marked in the immediate area of the proposed pipeline than in other parts of Lincolnshire. Of thirty-three parishes crossed by the study corridor, only nine have names derived from Danish or other Scandinavian languages (Cameron, 1998). The rich ethnic mix of the area is reflected in place-names alluding to the origin of their inhabitants: Frisians in Friesthorpe, 'Northmen' in Normanby, Scots in Scotter and Scotton and possibly also Vikings in Wickenby.
- 5.7.3 Isolated Anglo-Saxon sites are rare. Many of their settlements continued into the medieval period and beyond, with later ground disturbance erasing much of the evidence for their earlier occupation. Most present-day villages have their origins in this period and modern patterns of land division largely date from this time.
- 5.7.4 The outlines of many modern parishes were established in this period. In some cases these follow pre-Christian land division boundaries and have heightened archaeological significance. Burials, for instance, often took place near the boundaries of land holdings. The sites of many parish churches also date from this period. Within the study area, the church of St Peter and St Paul at Toft next Newton incorporates the remains of an Anglo-Saxon cross (LSMR 53417).
- 5.7.5 The general paucity of archaeological sites is reflected in the small number of stray finds from the period. However, the area to the east and south-east of Bishop Norton has yielded loom-weights (LSMR 50822) and pottery (LSMR 50837).

Medieval (1066 - 1540)

- 5.8.1 Lincolnshire, as with the rest of England, experienced a period of expansion and relative prosperity during the 12th and 13th centuries. With a growth in population there was increased demand for land. Rural trade and industry was increasingly successful and this in turn encouraged the growth of villages and towns.
- 5.8.2 The end of the 13th century, however, was to see a reversal of this process, brought about by a combination of factors. Overcrowding, land shortage and climatic deterioration all

contributed to a weakening of rural industry which in turn undermined the success of the townships. Foreign wars added to the pressures during the 14th century and the arrival of the Black Death by 1349 significantly reduced the population. Further recurrences of bubonic plague continued sporadically throughout the 15th century, becoming less virulent but continuing to restrict population growth.

- 5.8.3 The 15th century saw a decline in the arable sector of the agrarian economy as a whole. A smaller population meant a lower demand and farmers no longer needed to cultivate marginal lands. Many villages shrank and some became depopulated. A large-scale conversion to sheep farming led to extensive enclosure of previously open field systems.
- 5.8.4 Over 235 Deserted Medieval Villages (DMVs) are known to exist in Lincolnshire, and this is thought to considerably underestimate the total number (Start, 1995, 52). The majority were deserted from the fourteenth to eighteenth centuries. There is documentary evidence of four villages within the study corridor which no longer exist: Beckering (LSMR 53237) near Holton, Crossholm (MON 327063) south-east of Bishop Norton, Shankeston (LSMR 40304) near Hatton and Hardwick (MON 1049145) east of Wragby. To the south of Buslingthorpe, earthworks show where this settlement has contracted (SAM 22746) Other Shrunken Medieval Villages (SMVs) include Grayingham (LSMR 50750), Blyborough (LSMR 50507), Atterby (LSMR 50847), Newton by Toft (LSMR 53418), Toft next Newton (LSMR 50541), Lissington (LSMR 53244), Holton (LSMR 53233) and Strubby (LSMR 40348).
- 5.8.5 Ridge and furrow ploughing was characteristic of medieval arable farming, and often survives as a major feature in the landscape, or can be identified from early aerial photographs where it has been destroyed by modern ploughing. Especially where the furrows assisted in land drainage, land often continued to be farmed in this way until the eighteenth or early nineteenth centuries,. The ridge and furrow recorded during the assessment could, therefore, belong either to the Medieval or the Post-Medieval periods. Within the study area, approximately 85 fields of ridge and furrow have been identified. In many cases, these areas can be associated with specific villages or DMVs such as Atterby (LSMR 53912, DBA.BS, DBA.BT, LSMR 53747), Lissington (DBA.DW, DBA.DV, DBA.DW, DBA.DX) and Strubby (MON 1049138, DBA.FT, NMP10).
- 5.8.6 The Medieval period saw the establishment of many religious houses in the county. Near the proposed pipeline route, there was a Benedictine Priory and a Templar Temple at Willoughton, and a hospital for the poor at Spital, near Bishop Norton. There were monastic granges, outlying farms attached to religious houses, at Newton by Toft (LSMR 53425) and at Holton (LSMR 53235).
- 5.7.7 A moated site at West Torrington (LSMR 40338) was probably also a monastic grange. Moats around larger houses, ostensibly for defence, were fashionable during the later medieval period, and there is another example within the study corridor in Messingham (NLSMR 2173).
- 5.7.8 Many of the older buildings in villages along the proposed pipeline route date to this period. St Michaels church in Newton by Toft is just within the study area and includes some twelfth century stonework (MON 349719). The earliest parts of Messingham Old Hall (NLSMR 8678) are also medieval.

- 5.7.9 Watermills for grinding corn were developed in this period, and the remains of two mill dams are recorded in the study area, These are near Blyborough Grange (LSMR 50731) and Atterby (LSMR 50845).
- 5.7.10 Recorded stray finds from the period include pottery from close to Bishop Norton (LSMR 50729) and a silver coin possibly associated with Strubby DMV (LSMR 40351).
- 5.9 Post-Medieval (late 15th middle 19th century)
- 5.9.1 The medieval patterns of land-use probably survived until relatively late, with considerable variation from parish to parish. There was a general trend away from open field cultivation as land holdings were consolidated into separate farms, either by private agreement or by the passage of an enclosure act through parliament. This generally occurred in the second half of the eighteenth century. Where they are available, the tithe maps for each parish, drawn up in the 1830s and 40s, show most of the existing field boundaries, together with many that have been lost as a result of modern agricultural practices. In some cases, such as Scotton parish, the earlier patterns of land holding can be discerned, with long, narrow fields having replaced the ploughed strips of the open fields.
- 5.9.2 A large variety of buildings survive from this period, in villages, and as isolated halls and farmhouses. For the most part their sites are still occupied and they are unlikely to be directly affected by pipeline construction. Examples include John the Baptist church at Lissington (LSMR 53252), Atterby Corn Mill (LSMR 50835), a gatehouse and keeper's cottage at Lissingley (LSMR 53722) and Blyborough Grange which was formerly a mill (LSMR 50737). The remains of a brickyard to the north of Buslingthorpe (LSMR 53391) reflects the increasing demand for building materials at the time.
- 5.9.3 Water power was supplemented with wind power during this period. There is a site of a former windmill near Blyborough (LSMR 50736), and Holton Mill (LSMR 53240) is known to have burnt down in the mid-19th century. A mound near Wragby has also been interpreted as the site of a former windmill (MON 351490).
- 5.9.4 The growing fashion for country pursuits left its mark on the landscape in a number of ways. An example is provided by a cropmark feature near Bishop Norton which has been interpreted as a duck decoy (MON 1062843).
- 5.10 Modern (mid 19th century to present)
- 5.10.1 Despite the close presence of the major steel manufacturing complex at Scunthorpe, the immediate area of the study corridor is still today largely agricultural and rural in character. However, the increasing need for communication between urban centres led to the growth of road and rail links in the 19th century. The route crosses the Gainsborough to Grimsby and Lincoln to Grimsby railway lines, both originally part of the Manchester, Sheffield and Lincs Railway, and opened in 1849 and 1848 respectively. A branch of the Great Northern Railway connecting Bardney with Donnington on Bain opened in 1875. Its trackbed has been lost at the point where the proposed pipeline crosses it, to the north east of Wragby (DBA.FP). Works associated with these railways include a bridge at Buslinthorpe (LSMR 54139).

- 5.10.2 The archaeological potential of Second World War sites has recently been recognised. Understandably, military installations from the period are often poorly documented and archaeological evidence can make a considerable contribution to the interpretation of these sites. A cropmark near Buslingthorpe marks the probable site of an anti-aircraft gun emplacement and searchlight installation (MON 1050894).
- 5.10.3 A number of buildings shown on old Ordnance Survey maps are no longer present; these are all small and mostly shown without any name or description, suggesting that they are agricultural buildings such as barns or sheds. Some may have been survivors from earlier times, but it is likely that they were relatively short-lived structures. There are examples near Kirton in Lindsey (DBA.AV), near Lissington (DBA.DQ, DBA.DR, DBA.DT,) and north of Wragby (DBA.EH).
- 5.10.4 The decline in importance of livestock farming, and the provision of piped water has rendered a large number of farm ponds redundant, and many have been backfilled. Some of these features may have been dug originally as quarry pits, but the majority were probably intended to provide water for animals after the land had been enclosed. At least 64 examples have been noted, most of them having disappeared since the 1956 Ordnance Survey maps were surveyed. The same maps show at least 18 wells near the north end of the route. It is likely that these are relatively modern features, installed for drainage of the low-lying land in the Trent Valley.

6 EXPLANATION OF GAZETTEER

- 6.1 The information gathered during the assessment is summarised for each constraint sheet (Appendix D) as a Gazetteer of Archaeological Sites (Appendix C). This lists all sites of archaeological interest located within, and immediately outside, the study corridors.
- Information retrieved from public data sources is listed by SAM, LSMR, NLSMR, NMP, and MON number in the gazetteer. Previously unrecorded sites found from aerial photographs or from cartographic sources during the course of this desk-based assessment are referred to as DBA sites, identified by a double letter suffix.

7 CRITERIA FOR GRADING SITES

Sites identified during this study were graded on two criteria:

- Importance
- Impact

7.1 Importance

The sites have been placed into one of five categories, A to E, as shown in Table 1 below. Although based on all the collated information, the inclusion of a site in a particular category often involves a degree of subjective judgement. Categories are not fixed and there is every possibility that the classification of a site may change as a result of findings made during later stages of investigation.

1801.2	A	B	C	D	E
Description	Legally protected site	Nationally or regionally important site, currently not legally protected	Locally important site and/or site of uncertain character and/or date	Other site	Single find spot, most modern features
Examples	Scheduled Ancient Monuments (SAMs) and Listed Buildings	Burial sites, historic buildings, settlements e.g. villas, deserted medieval villages (DMVs), dense finds scatters	Possible settlements, former buildings, Roman roads, other ancient trackways, moderately dense finds scatters	Ridge and furrow, unidentified features from aerial photographs, small finds scatters	Single find spots of various dates, modern field boundaries, drains & ponds
Mitigation	To be avoided	To be avoided	Avoidance recommended	Avoidance not usually recommended at this stage	Avoidance unlikely to be recommended

Table 1: Site Category Definitions

7.2 Impact

- 7.2.1 Much of the impact will occur during the construction phase of the proposed pipeline; topsoil stripping, soil storage, movement of heavy machinery, excavation of the pipe trench and easement reinstatement can all have a permanent, damaging effect on the archaeological resource.
- 7.2.2 The level of impact will vary:
 - Severe (sev): entire or almost entire destruction of deposits
 - Major (maj): a high ratio of damage or destruction to deposits
 - Minor (min): a low ratio of damage to surviving archaeological deposits
 - None (-): no impact due to distance from the proposed pipeline easement,
 - and/or construction technique
 - Uncertain (Unc): e.g. because the quality and extent of deposits are unknown, or because construction techniques have not yet been decided.
- 7.2.3 Factors affecting the significance of impact include:
 - the proportion of the site or feature affected.
 - the integrity of the site or feature; impacts may be reduced if there is pre-existing damage or disturbance of a site.
 - the nature, potential and heritage value of a site or feature.

8 RELIABILITY AND POTENTIAL LIMITATIONS OF DATA

- 8.1 The limitations of an impact assessment of the proposed pipeline include:
 - the lack of clarity surrounding the extent of some sites. This makes it difficult to provide a precise assessment of potential impact.
 - the possibility that *unknown* sites will be encountered along the route.

The development of mitigation strategies should take these points into consideration.

- 8.2 Information held by public data sources can normally be assumed to be reliable, but uncertainty can arise in a number of ways:
 - The SMR can be limited because it depends on random opportunities for research, fieldwork and discovery.
 - Documentary sources are rare before the medieval period, and as documents were not usually compiled for archaeological purposes, they are inherently biased.
 - Primary sources, especially older records, often fail to accurately locate sites and are obviously subjective in any interpretation.
 - There may be a lack of dating evidence for sites.
 - The usefulness of aerial photographs depends upon geology, land use and weather conditions when the photographs were taken. Some types of remains do not produce crop, soil or vegetation marks. Aerial photographs necessarily involve some subjective interpretation of the nature of sites.
- 8.3 The gazetteer (Appendix C) provides an indication of the reliability of each source of information as regards their location (L) and interpretation (I). These are graded:
 - High (H)

- Medium (M)
- Low (L)

9 ASSESSMENT OF IMPACT & RECOMMENDATIONS

9.1 General Impacts and Recommendations

- 9.1.1 This desk-based assessment is a summary of the current level of archaeological knowledge where the recorded archaeology happens to coincide with the proposed pipeline corridor(s). Generally, areas which are apparently blank have never been archaeologically investigated, and therefore have an undetermined archaeological potential.
- 9.1.2 The land through which the study corridors pass has, in general terms, a moderate density of recorded archaeological remains, although some areas have a fairly high concentration, whilst others are largely devoid of known sites.
- 9.1.3 Despite the significant numbers of sites recorded within the study corridor(s), the vast majority are avoided by the preferred pipeline route(s).
- 9.1.4 The most cost-effective means of managing the archaeological risks associated with the construction of the pipeline is to implement a staged series of investigations, beginning with field survey along the entire length of the proposed pipeline route (*Appendix A*, Stage 3). This ought to consist of:
 - · field reconnaissance survey
 - fieldwalking survey (arable areas)
 - geophysical survey
- 9.1.5 The Stage 3 field survey may identify previously unknown sites, which if not possible or desirable to avoid, may require investigation by trench evaluation (Appendix A Stage 4).
- 9.1.6 If significant positive results are obtained by a Stage 4 evaluation, and it is not possible or desirable to avoid the site, it may be appropriate to excavate the site in advance of construction (Appendix A Stage 5).
- 9.1.7 In addition to the proposed pipeline easement, investigation should also cover the proposed sites to be used for associated engineering works, such as pipe storage areas, site compounds, road crossing easements and block valve sites, as these areas become known.
- 9.1.8 A permanent-presence watching brief will be required during all ground disturbing activities of the construction phase of the project, to record unexpected discoveries, and known sites which did not merit investigation in advance of construction. The main phases of monitoring will be topsoil stripping, trench excavation and the possible opportunistic observation of the pre-construction drainage.

9.2 Site-specific Impacts & Recommendations (see Appendices C and D)

9.2.1 In an ideal situation, all known archaeological constraints would be avoided. However, this is impracticable, and in the case of linear landscape features such as roads and trackways, impossible. For this reason, the known sites have been graded A-E, and the level of impact assessed for each site in order to provide an indication as to the significance of the sites within the study corridors (see Section 7). This information is summarised below in Table 2:

Description	Category	Total No. sites within study corridors	Total No. sites crossed by proposed easements
Legally protected site	A	4	0
Nationally or regionally important site; currently not legally protected	В	27	1
Locally important site and/or site of uncertain character and/or date	С	69	14
Other site	D	178	71
Single find spot, modern feature (excludes field boundaries)	Е	118	10
TOTALS	N N N N N N N N N N N N N N N N N N N	396	96

Table 2: Total number of sites within the study corridor and those crossed by proposed pipeline easements

9.2.2 The following sections (9.3-9.7) deal in category order with sites that are directly or potentially affected by the proposed pipeline.

9.3 Category A Sites

1

There are four legally protected sites within the study corridor. One Scheduled Ancient Monument and three listed buildings. The proposed pipeline is very unlikely to have any impact on these sites.

9.4 Category B Sites

Twenty seven nationally or regionally important sites, excluding those that are legally protected, are located within the study corridor. One is directly in the path of the proposed pipeline. The exact extents of two further sites are not known and they may also be affected

Directly Affected Sites

Reference	Description	Category	National Grid Reference	Impact
Sheet 9				
LSMR 50593	CM: Pit alignment and enclosures	В	SK 9903 9179	Major

Table 3: Summary of impact rating for directly affected category B Sites

LSMR 50593 (Sheet 9, SK 9903 9179) Cropmarks showing a pit alignment of possible Iron Age date, and other features.

Impact: Major/uncertain; there are two alternative proposed routes at this point. The more southerly route crosses the pit alignment and would have a major impact upon it. Recommendations: The more northerly route, A1, would be preferred. If the southern route is selected on non-archaeological grounds, specific mitigation measures in advance of construction work would be necessary. These would be determined following the field survey stages of investigation, but are likely to include evaluation trenches and area excavation.

Potentially Affected Sites

Reference	Description	Category	National Grid Reference	Impact
Sheet 5				
LSMR 53746	CM: Barrow	В	SK 9324 9578	Unc
Sheet 8				
LSMR 50592	CM: Pit alignment	В	SK 9771 9154	Unc

Table 4: Summary of impact rating for potentially affected category B Sites

LSMR:53746 (Sheet 5, SK 9324 9578) Cropmark feature, possible Bronze Age barrow. *Impact: Uncertain;* the proposed route passes within 60m of the known extent of this site. There is a possibility that associated remains may exist in close proximity to the easement.

Recommendations: The area should be treated with caution. Minor route adjustments may be appropriate. The impact should be reassessed following subsequent stages of investigation.

LSMR:50592 (Sheet 8, SK 9771 9154) Cropmark of pit alignment of possible Iron Age date.

Impact: Uncertain; this linear feature can be seen at a distance of 180m from the proposed route. Visibility of cropmarks is very dependent on ground conditions, and it is likely that the feature extends closer to the route.

Recommendations: The area where the line of this feature intersects the proposed easement should be treated with caution. The impact should be reassessed following subsequent stages of investigation.

9.5 Category C Sites

Sixty-nine category C sites are located within the study corridor. Ten or thirteen sites will be directly affected, depending on which of the alternative routes is selected.

The impact on several others in close proximity to the proposed easement is uncertain. Thorough investigation during Stage 3 (Appendix A) will be required to assess the potential impact on these sites.

Directly Affected Sites

Reference	Description	Category	National Grid Reference	Impact
Sheet 2				
LSMR 53862	CM: Undated ?enclosures	С	SE 8914 0224	Unc
Sheet 5				
MON 1056782	CM: Undated ? linears/enclosures	С	SK 9210 9659	Unc
Sheet 6				
DBA:IH	CM: Undated ? enclosure	С	SK 9540 9486	Unc/Maj
LSMR 54102	CM: Linear & sub-circular marks	С	SK 9436 9471	Unc/Min
LSMR 50327	CM: ? Prehistoric/RB linear feature	С	SK 9568 9350	Unc
Sheet 7				
LSMR 50817	CM: Undated ?enclosures	С	SK 9620 9480	Unc
LSMR 50574 Northern route	Ermine Street Roman Road	С	SK 9638 9461	Min
Sheet 8				
LSMR 50574 Southern route	Ermine Street Roman Road	e.	SIC 9648 9284	Min
MON 1062841	CM: Roman Road	, C	SK 9686 9239	Unc
Sheet 9				
LSMR 50324 Northern route	CM: Ditch and enclosures	С	SK 9982 9216	Maj
LSMR 50324 Southern route	CM: Ditch and enclosures	С	SK 9976 9168	Maj
MON 327063	Crossholm DMV	C	SK 9940 9185	Unc/Maj
Sheet 12				
LSMR 53418	SMV and RB/AS pottery scatters	С	TF 0519 8723	Unc
Sheet 13		"		
LSMR 53385	?Roman villa site	С	TF 0770 8625	Maj
Sheet 14				
DBA:DT	Former building (OS 1956)	С	TF 0987 8324	Unc
LSMR 53248	Roman pottery and iron working slag scatter	С	TF 1020 8290	Maj/Unc

Table 5: Summary of impact rating for category C Sites

LSMR 53862 (Sheet 2, SE 8914 0224) Cropmark enclosures of unknown date covering several fields on the east side of Messingham Road, Scotter.

Impact: Uncertain; the nature of these feature is unknown and the significance of the impact of the proposed pipeline is difficult to assess. The line passes through the east side of the area of visible cropmarks.

Recommendations: A small route modification, taking the pipeline further to the east would avoid the area of visible cropmarks.

MON 1056782 (Sheet 5, SK 9210 9659) An area of possible linear/enclosure cropmarks. *Impact: Uncertain;* the nature of these features is again unclear and the significance of the impact of the proposed pipeline difficult to assess. The line passes along the south-western edge of the area of visible cropmarks.

Recommendations: A small route modification, taking the pipeline further to the south-west would avoid the known cropmarks.

DBA: IH (Sheet 6, SK 9540 9486) Possible enclosure cropmark of unknown date. *Impact: Uncertain/Major;* the line passes along the southern arc of the possible enclosure, potentially affecting a significant proportion of the remains. *Recommendations:* A minor route adjustment to the south would take the pipeline beyond the visible limits of the cropmarks.

LSMR 54102 (Sheet 6, SK 9436 9471) Linear and sub-circular cropmarks of unknown date.

Impact: Uncertain/Minor; the proposed route passes through a linear feature which extends east from the main body of cropmarks.

Recommendations: As the pipeline bypasses the main concentration of cropmarks, no re-route is recommended at this stage. The impact should be reassessed following subsequent stages of investigation.

LSMR 50327 (Sheet 6, SK 9568 9350) Cropmark of possible prehistoric or Roman ditched boundary.

Impact: Uncertain; the proposed route appears to clip the northernmost limit of this cropmark. As visibility of cropmarks is very dependent on ground conditions, however, it is quite likely that the feature extends further to the north, effectively being bisected by the pipeline.

Recommendations: A slight re-route to the north would take the pipeline beyond the known limits of the feature. However, given the likelihood that this feature extends beyond the known limits, this may not remove the problem. The impact should be reassessed following subsequent stages of investigation, with particular attention being paid to geophysical results.

LSMR 50817 (Sheet 7, SK 9620 9480) Rectilinear enclosure cropmarks of possible Roman date.

Impact: Uncertain; the easement of the proposed route would encroach onto the southern edge of the area of visible cropmarks.

Recommendations: A minor route adjustment to the south would be advisable, although the route is quite tightly constrained at this point by the proximity of buildings.

LSMR 50574 (Sheet 7, SK 9638 9461 & SK 9648 9284) Ermine Street Roman Road. *Impact: Minor;* only a small section of the road will be affected. The pipe will be bored beneath the road at a depth that is unlikely to impinge on any Roman remains. However, there is a possibility of roadside features such as ditches, burial sites or the foundations of various kinds of buildings.

Recommendations: As a linear feature, it would not be possible to avoid crossing the road. Close attention should be paid during Stage 3 to the areas either side of the road.

MON 1062841 (Sheet 8, SK 9686 9239) Cropmark linear feature interpreted as a Roman road, leading from Ermine Street towards Atterby.

Impact: Minor; only a small part of the feature will be directly affected by pipeline construction.

Recommendations: As the feature is highly likely to continue beyond the limits of the cropmark there would be little benefit in recommending a re-route at this stage. The impact of the pipeline should be reassessed following subsequent stages of investigation and appropriate mitigation measures implemented. These will probably involving trial trenching across the line of the feature.

LSMR 50324 (Sheet 9, SK 9982 9216 & SK 9976 9168) An undated cropmark site with two small ditches enclosures associated with a curvilinear ditch.

Impact: Major; both of the proposed alternative routes at this point pass through the curvilinear feature. The more northerly route probably passes through one of the enclosures.

Recommendations: If avoidance is not feasible, the area surveyed by field reconnaissance, fieldwalking and geophysical survey could be extended to form a much wider corridor, and an archaeologically least-damaging route established.

MON 327063 (Sheet 9, SK 9940 9185) Probable site of Crossholm village. There is documentary evidence from the 12th and 13th centuries for this village. Earthworks were said to be visible in Crossholm Field in 1924, but have since been flattened by ploughing. Confused cropmarks can be seen on aerial photographs, and there are scatters of stone rubble in a number of places.

Impact: Uncertain/Major; the more southerly of two alternative pipeline routes at this point crosses directly through the area.

Recommendations: the more northerly route option would avoid this feature, and would be preferred on archaeological grounds. If the southern route is followed, the possibility of minor modifications should be considered following the field survey stages of investigation in order to establish an archaeologically least-damaging route.

LSMR 53418 (Sheet 12, TF 0519 8723) Medieval and/or post-medieval settlement remains consisting of crofts, ponds and ridge and furrow, seen as earthworks and cropmarks.

Impact: Uncertain; the proposed pipeline clips the south-western limits of the SMV. A number of earthworks were ploughed and bulldozed in 1964, producing Roman, pre-conquest and later medieval pottery. It seems unlikely that the easement will affect any surviving earthworks although sub-surface deposits may survive.

Recommendations: Stage 3 survey should establish the condition and extent of any surviving earthworks, as well as the likelihood of encountering occupation remains. No re-route is recommended at this stage.

LSMR 53385 (Sheet 13, TF 0770 8625) Scatter of Roman pottery and building material, which has been suggested as a possible villa site.

Impact: Major; the line proposed pipeline passes close to the centre of the scatter. *Recommendations:* a re-route away from this site is recommended. If this is not possible, a re-evaluation of the potential archaeological risks should take place following subsequent stages of investigation.

DBA:DT (Sheet 14, TF 0987 8324) OS maps from 1956 show a single building in the corner of this field.

Impact: Uncertain; it is highly likely that remains relating to this structure will fall within the proposed easement. As the nature of the site is uncertain, one cannot say how significant the damage would be.

Recommendations: a slight re-route of the pipeline to the south-west would reduce the risk of encountering these remains.

LSMR 53248 (Sheet 14, TF 1020 8290) A scatter of Romano-British pottery comprising rims and bases of various vessels was recovered following ploughing. Iron-working slag was also noted. These remains could indicate direct occupation of the site.

Impact: Major/Uncertain; although the exact nature of the archaeology is unknown, the proposed pipeline route would pass straight through it. As such there is a high damage potential.

Recommendations: a re-route to the south-west is advised.

9.6 Category D Sites

One hundred and seventy-eight category D sites are located within the study corridor, of which seventy-one are directly affected by the proposed pipeline (Table 5):

Reference	Description	Category	National Grid Reference	Impact
Sheet 1				
DBA.AC	Site of well	D	SE 8776 0444	Unc
DBA.BY	Messingham & Scotter parish boundary	D	SE 8903 0273	Min
DBA.GV	CM: former track	D	SE 8872 0337	Min
Sheet 3				
DBA.BZ	Scotter & Scotton parish boundary	D	SE 9094 0025	Min
DBA.CA	Scotton & Kirton in Lindsey parish boundary	D	SK 9082 9963	Min
DBA.ID	Ridge and furrow	D	SE 9051 0020	Unc
Sheet 4				
DBA.IB	EW: ridge and furrow	D	SK 9138 9765	Unc
Sheet 5				
DBA.IG	Ridge and furrow	D	SK 9170 9687	Unc
MON	Domeso Dritich nottons gootton	D	SK 9230 9630	Unc
1033402	Romano-British pottery scatter	D	SK 9230 9030	Unc
DBA.BG	CM:ridge and furrow	D	SK 9280 9626	Unc
DBA.CB	Kirton in Lindsey & Grayingham parish boundary	D	SK 9216 9646	Min
Sheet 6				
DBA.CC	Grayingham & Blyborough parish boundary	D	SK 9456 9513	Min
Sheet 7				
DBA.CG	Blyborough & Snitterby parish boundary	D	SK 9638 9462	Min
DBA.CE	Blyborough & Willoughton parish boundary	D	SK 9590 9326	Min
DBA.CF	Snitterby & Bishop Norton parish boundary	Ď	SK 9800 9368	Min
LSMR 50806	Cropmark site.	D-	SK 9660 9450	Unc
DBA.CH	Willoughton & Bishop Norton parish boundary	D	SK 9648 9279	Min

Reference	Description	Category	National Grid Reference	Impact
Sheet 8				
DBA.IM	? Field system	D	SK 9739 9194	Unc
Sheet 9				
DBA.BS	Ridge and furrow	D.	SK 9882 9300	Unc
DBA.BT	CM:ridge and furrow field system	D	SK 9909 9276	Unc
LSMR 50837	Anglo-Saxon and medieval pottery	D	SK 9930 3917	Unc
DBA.CL	Bishop Norton & Glentham parish boundary	D	SK 9984 9188	Min
DBA.IO	CM: former ridge and furrow	D	SK 9902 9288	Unc
DBA.IQ	Ridge and furrow	D	TF 0051 9152	Unc
Sheet 10				
DBA.CR	Glentham & Caenby parish boundary	D	TF 0176 8993	Min
DBA.IR	CM: ridge and furrow	D	TF 0089 9103	Unc
Sheet 11	Civi. Hage and furrow		11 0007 7103	One
Sheet 11	Coophy & Normanhy hy Cnital nariah			-
DBA.CS	Caenby & Normanby by Spital parish boundary	D	TF 0232 8922	Min
DBA.IS	CM: ridge and furrow	D	TF 0332 8832	Unc
LSMR 53975	CM: Enclosures or geological marks	D	TF 0300 8870	Unc
DBA.JN	Normanby by Spital & Owmby parish boundary	D	TF 0345 8819	Min
MON 1055194	EW: ridge and furrow	D	TF 0226 8907	Unc
Sheet 12				
DBA.CZ	Former Newton next Toft & Faldingworth parish boundary	D	TF 0624 8644	Min
DBA.GG	Former Toft next Newton & Newton next Toft parish boundary	D	TF 0440 8717	Min
DBA.IT	CM: ridge and furrow	D	TF 0418 8732	Unc
DBA.IV	0) (:1 10	D	TF 0494 8680	Unc
DBA.IW	CM: ridge and furrow CM: ridge and furrow	D	TF 0636 8643	Unc
Sheet 13	Civi. Hage and furtow	D	11 0030 8043	One
DBA.DE	Faldingworth & Buslingthorpe parish boundary	D	TF 0761 8628	Min
DBF.DF	CM:ridge and furrow	D	TF 0803 8592	Unc
DBA.IX			TF 0840 8555	-
	CM: ridge and furrow	D	17 0840 8333	Unc
Sheet 14 DBA.DG	Buslingthorpe & Wickenby parish	D	TF 0918 8390	Min
DBA.DJ	boundary Wickenby & Lissington parish boundary	D	TF 0945 8359	Min
DBA.DV DBA.GH	CM:ridge and furrow Former Buslingthorpe & Middle Rasen	D D	TF 1011 8285 TF 0876 8457	Unc
DD 4 By	parish boundary	B	TE 0071 04/0	TI
DBA.IY	CM: ridge and furrow	D	TF 0871 8469	Unc
DBA.IZ	Ridge and furrow	D	TF 0942 8361	Unc
Sheet 15	1000			
DBA.DW	CM:ridge and furrow	D	TF 1059 8291	Unc
DBA:DZ	Lissington & Holton cum Beckering parish boundary	D	TF 1124 8236	Min
DBA.EI	CM:ridge and furrow	D	TF 1186 8168	Unc
DBA.EE	CM:ridge and furrow	D	TF 1266 8124	Unc
Sheet 16				1
	Holton cum Beckering & West			
DBA.EA	Torrington parish boundary	D	TF 1310 8204	Min
DBA.EL	CM:ridge and furrow	D	TF 1400 8055	Unc
DOALEL		<u> </u>	11. 1400 9033	Olic
DBA.EM	West Torrington & West Barkwith parish boundary	D`	TF 1424-8031	Min

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Reference	Description	Category	National Grid Reference	Impact
DBA.EO	West Torrington & Wragby parish boundary	D	TF 1420 7990	Min
DBA.ER	West Barkwith & Panton parish boundary	D	TF 1534 7940	Min
DBA.GL	Ridge and furrow	D	TF 1332 8127	Unc
DBA.JA	Ridge and furrow	D	TF 1348 8082	Unc
DBA.JC	Ridge and furrow	D	TF 1383 8021	Unc
DBA.JD	Ridge and furrow	a D	TF 1472 7994	Unc
Sheet 17				
DBA.FP	Track of old railway	D	TF 1500 7896	Min
DBA.EQ	Wragby & Panton parish boundary	D	TF 1477 7860	Min
DBA.ES	Panton & Langton by Wragby parish boundary	D	TF 1550 7836	Min
DBA.FT	CM: Ridge and furrow	D	TF 1588 7796	Unc
DBA.GI	Former road	D	TF 1581 7837	Min
DBA.GN	Ridge and furrow	D	TF 1639 7759	Unc
DBA.JE	CM: ridge and furrow	D	TF 1496 7838	Unc
DBA.JP	Field name: 'Cottages Close'	D	TF 1615 7780	Unc
DBA.JQ	Field name: 'East Dove Cote Piece'	D	TF 1580 7760	Unc
NMP 10	Ridge and furrow near Strubby DMV	D	TF 1620 7730	Unc
Sheet 18			7	
DBA.FR	Langton by Wragby & Hatton parish boundary	D	TF 1534-7940	Min
DBA.JG	CM: ridge and furrow	D	TF 1665 7679	Unc
DBA.JH	CM: ridge and furrow	D-	TF 1715 7620	Unc

Table 6: Summary of impact rating for affected category D Sites

DBA:AC (Sheet 1, SE 8776 0444) Site of well. One of a number of wells shown on the 1956 edition 1:10 000 Ordnance Survey sheet, and presumed to be a component of the modern land drainage system.

Impact: Uncertain; this feature is probably just beyond the area of the pipeline easement. The field reconnaissance survey may clarify its nature.

Recommendations: No specific recommendations at this stage.

DBA:GV (Sheet 1, SE 8872 0337) A former trackway is visible on aerial photographs dating from 1969. There is no other record of this feature.

Impact: Uncertain; the exact nature of this trackway is unclear although it is likely to be post medieval/modern in date. The proposed pipeline easement will cause minimal damage to any surviving remains. The field reconnaissance and geophysical survey may clarify its nature.

Recommendations: No specific recommendations at this stage.

MON 1033402 (Sheet 5, SK 9230 9630) Romano-British pottery scatter

Impact: Uncertain; Geophysical survey may reveal whether there are any features associated with this pottery scatter.

Recommendations: Re-evaluation of potential archaeological risks following subsequent stages of investigation.

LSMR 50806 (Sheet 7, SK 9660 9450) Traces of cropmarks of unknown date.

Impact: Uncertain; the extent and nature of these cropmarks is not known. The field survey stages may clarify its nature.

Recommendations: Re-evaluation of potential archaeological risks following subsequent stages of investigation.

LSMR 50837 (Sheet 9, SK 9930 3917) A few sherds of medieval pottery were found during a soil survey. A Saxo-Norman rim was also found at a depth of 0.60m. All were found within the area of Crossholm DMV (MON 327063, Category C).

Impact: Uncertain; the depth at which the Saxo-Norman pottery was found suggests the possibility of sub-surface archaeological deposits. The medieval pottery could easily be a by-product of medieval field manuring.

Recommendations: Re-evaluation of potential archaeological risks following subsequent stages of investigation.

DBA.FP (Sheet 17, TF 1500 7896) Track of the former Bardney to Donnington railway. *Impact: Minor*; only a small part of the former railway track will be affected by pipeline construction

Recommendations: No specific recommendations at this stage

DBA.GI (Sheet 17, TF 1581 7837) The tithe map of 1839 shows a short stretch of 'road' to the south of Stainfield Beck. It does not appear on later OS maps.

Impact: Minor/Uncertain; the proposed route crosses the line of the road at right angles, thus causing the minimal amount of damage to any surviving remains. Although earlier origins cannot be ruled out, it is more likely that this road is post medieval/modern in date and fairly insubstantial.

Recommendations: Re-evaluation of potential archaeological risks following subsequent stages of investigation.

DBA.JP & DBA.JQ (Sheet 17, TF 1615 7780, TF 1580 7760) Fields with significant names: 'Cottages Close' and 'East Dove Cote Piece'. These fields are close to Strubby DMV and their names are likely to record the former sites of buildings associated with that village.

Impact: Uncertain; the extent of any building foundations or other remains should become clearer as a result of subsequent stages of investigation..

Recommendations: Re-evaluation of potential archaeological risks following subsequent stages of investigation.

Ridge and Furrow Field Systems

The majority of the category D sites consist of ridge and furrow remains. Most of these have been identified from aerial photographs.

Impact: Uncertain; the current state of the ridge and furrow's preservation is unknown, but in areas of intensive cultivation, it is likely that the earthworks have been reduced since the photographs were taken.

Recommendations: field reconnaissance survey should establish the condition and extent of any surviving ridge and furrow earthworks. It is not usually necessary to avoid extant ridge and furrow, but where it is crossed, it should be recorded by topographic survey in advance of construction. Careful reinstatement should follow.

Parish Boundaries

Twenty-seven category D parish boundaries (*i.e.* those not defined by river courses) are crossed by the proposed pipeline. These are historic boundaries which may date from the medieval period or earlier.

Impact: Minor; only a short cross section of each boundary will be affected.

Recommendations: field reconnaissance survey should establish whether these boundaries are represented by extant banks and ditches. If the boundaries also include

hedges, they should be assessed according to the five criteria for archaeological and historical importance (The Hedgerow Regulations 1997), which could establish antiquity. It would be appropriate to record a section through any extant, ancient bank and ditch remains. This could be undertaken during a construction watching brief.

9.7 Category E Sites

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One hundred and eighteen category E sites are located within the study corridor, of which only ten are crossed by the current easement (see Table 6).

Reference	Description	Category	National Grid Reference	Impact
Sheet 2				
DBA.AM	Former pond	E	SE 8938 0221	Min
Sheet 3				
DBA:GU	Cropmarks - area of drains	Е	SE 9026 0063	-
Sheet 9				
DBA.BX	Former pond	E	SK 9916 9279	Min
Sheet 10				
DBA.CO	Former pond	E	TF 0094 9098	Sev
Sheet 11				
DBA:AW	West Rasen & Normanby by Spital parish boundary	Е	TF 0291 8869	-
DBA:GF	Owmby & Toft Next Newton parish boundary	Е	TF 0347 8819	-
Sheet 14	3 . 7			
DBA.DO	Former pond	E	TF 0874 8459	Maj
Sheet 15				
DBA:GD	Former Holton cum Beckering & Holton parish boundary	E	TF 1272 8118	-
Sheet 16				
DBA.FE	Former pond	E	TF 1521 7959	Maj
Sheet 17				
DBA.FL	Former pond	Е	TF 1505 7831	Sev

Table 7: Summary impact rating for affected category E Sites (excluding field boundaries)

Former Ponds

Six of the affected sites are former ponds shown on early Ordnance Survey maps, but no longer present.

Recommendations: These are probably not of great archaeological significance. It would be worth making brief records where the features are exposed during the watching brief.

Field Boundaries

Former field boundaries have been plotted from enclosure, tithe and early edition Ordnance Survey maps, as well as from aerial photographs. Just over one hundred known boundaries are crossed by the proposed pipeline.

Impact: Minor; the former boundaries are unavoidable, but construction work will generally cause only minor damage to the potential archaeological remains.

Recommendations: field reconnaissance survey should establish whether these boundaries are represented by extant banks and ditches. It would be appropriate to record a section through any extant, ancient bank and ditch remains. This could be undertaken during a construction watching brief.

STATEMENT OF INDEMNITY

Every effort has been taken in the preparation and submission of this report in order to provide as complete an assessment as possible within the terms of the brief, and all statements and opinions are offered in good faith. Network Archaeology Ltd cannot accept responsibility for errors of fact or opinion resulting from data supplied by any third party, or for any loss or other consequences arising from decisions or actions made upon the basis of facts or opinions expressed in this report and any supplementary papers, howsoever such facts and opinions may have been derived, or as a result of unforeseen and undiscovered sites or artefacts.

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Lissington 1840, 1839

Middle Rasen 1849, 1849

Northorpe 1839, 1848

Panton 1839, 1838

Scotton 1839, 1838

Toft Newton 1847, 1848

West Barkwith

West Torrington 1849, 1839

Wickenby 1842, 1842

Wragby

Enclosure Plans (with dates of sheet and award)

Bishop Norton

Kirton in Lindsey 1801, 1793

Lissington Field

Scotter 1820, 1808

Scotton

Willoughton 1769, 1768

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APPENDICES

Appendix A - Explanation of Phased Approach to Mitigation Measures

Appendix B - List of Abbreviations

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Appendix C - Gazetteer of Archaeological Sites

Appendix D - Archaeological Constraint Maps

Appendix A

Explanation of Phased Approach to Mitigation Measures

Explanation of Phased Approach to Mitigation

Network Archaeology Ltd recognise seven main phases of work in the archaeological investigation of pipelines.

Stage 1 Feasibility Study

An appraisal of archaeological potential

Stage 2 Desk-based Assessment

A thorough synthesis of available information, as in this report.

Stage 3 Non-intrusive Field Survey

3a Field Reconnaissance Survey (rapid walkover)

This involves a visual inspection of the entire length of the proposed pipeline route in order to record the following:

- location and character of unrecorded earthworks
- the level of preservation of known earthworks (e.g. ridge-and-furrow)
- the occurrence of soil and vegetation changes which could indicate the presence of archaeological deposits
- land-use
- topographic variations
- visible geology
- · health and safety implications
- the nature and condition of existing field boundaries to be correlated with the results of the hedgerow survey, to determine the antiquity of the boundaries
- project specific requirements

3b Field walking

Field walking involves the systematic recovery of artefacts (pottery, tile, glass, slag, coins etc.) from the surface of ploughed fields. This exercise is intended to:

- determine the date and spatial extent of *known* sites on the proposed route which could not be avoided by route modifications.
- determine if any known sites lying close to the proposed route extend into it.
- locate, delimit and date previously *unknown* sites, lying in the course of the proposed route.

Field walking needs bare earth, ideally ploughed, harrowed and weathered. Late autumn and winter is the optimum time for this work.

3c Metal Detector Survey

Metal detecting can be carried out on all types of land. Ideally, detectorists with local experience are used. This exercise:

complements field walking in arable areas.

- provides the only means of obtaining dating evidence in pasture, fen, moss and woodland areas.
- identifies and date sites that may not be archaeologically visible by field walking (e.g. metal hoards, fair/trading sites, accompanied burials)

3d Earthwork survey

This work is undertaken to produce a topographic record of extant earthworks. These sites might include *known* earthworks identified by the Desk based Assessment, or previously *unknown* earthworks found during the Field Reconnaissance Survey. The sites may include settlement earthworks or agricultural earthworks (such as, ridge and furrow and lynchets).

Two methods are commonly employed; plane table survey which obtains a hachure survey, or total-station theodolite survey which produces a close contour plot.

3e Auger Survey

The retrieval of sub-surface soil samples can be used to determine the presence or absence, nature, extent and state of preservation of known or potential archaeological deposits. This may be appropriate in areas sealed by peat or alluvium, or on sensitive sites such as earthworks. Areas requiring auger survey can be identified during or shortly after the field reconnaissance and field walking surveys. This information can be crucial for determining areas suitable for geophysical-survey.

3f Geophysical Survey Geophysical survey can be used to:

- determine the character and spatial extent of *known* sites on the proposed route which can not be avoided by route modifications.
- determine if any known sites lying close to the proposed route extend into it.
- locate, delimit and determine the character of previously *unknown* sites lying in the course of the proposed route.

There are a number of available techniques, the most appropriate of which are magnetometry, magnetic susceptibility and resistivity.

Magnetometry

This technique detects local variations in the earth's magnetic field, resulting from anthropogenic changes to soil. These variations are often caused by the presence of buried archaeological deposits (e.g. ditches, pits, buildings, *etc.*). This survey technique uses hand-held equipment, usually a Geoscan FM 35 Fluxgate Gradiometer.

The instrument can be used to scan large areas before focusing on smaller areas for detailed gridded survey, usually at 1m transect separation. Scanning is often used in tandem with magnetic susceptibility (see below) to identify areas of potential for detailed survey.

Magnetometry is most suited to shallow archaeology up to c.1-1.5m below ground level. It can operate in all weathers and is not prone to seasonal effects. In general, boulder clay and alluvium tend to be poorly responsive, whilst other solid geologies and riverine

gravels are relatively conducive to magnetometry, although local iron concentrations can sometimes give spurious results. It can also be affected by magnetic fields (e.g. pylons). This technique is quick and cost-effective.

Magnetic susceptibility

This technique records variations of magnetic susceptibility within topsoil and subsoil. Enhanced susceptibility is often a sign of past human activity. It differs from magnetic scanning in that it locates areas of *archaeological activity* rather than discrete *features*. Magnetic susceptibility is often used in tandem with magnetic scanning to identify areas of potential for detailed survey.

Resistivity

In this method, an electric current is passed through the ground between a pair of mobile electrodes. The current passes more easily through soil which has a lower resistance (e.g. ditch fills), but is impeded by buried walls and road surfaces, which have a higher resistance. Survey involves pushing a pair of electrodes into the ground along transects 1m apart. A Geoscan RM15 resistivity meter with twin electrode configuration is commonly applied. A new attachment called a 'multi-plexer', and a technique called 'resistivity profiling' allows readings to be taken from multiple levels at the same time.

Resistivity is most suited to shallow archaeology up to c.1m below ground level. The technique is slower than magnetometry and can be hampered by hard ground; ideally the probes need soft damp soil for good conductivity. Resistivity is affected by seasonal variability of groundwater. Saturated soils or soils with a high saline content are likely to produce poor results. Natural geological variations can also make interpretation difficult. This type of survey can show greater detail than magnetometry.

Pipeline Application

Geophysics should preferably investigate the entire length, sampling an appropriate percentage of the width of the proposed easement.

Geophysical survey methods, magnetometer surveys in particular, have been applied routinely to pipeline evaluations since the mid 1970s. Geophysical survey methods are non-intrusive and can detect and precisely locate buried features for avoidance or subsequent investigation. There are two main options for coverage of the entire pipeline length:

- Two stage approach, using unrecorded magnetometer scanning and magnetic susceptibility survey followed by targeted detailed magnetometer survey. This method is only effective when the ground is responsive enough to produce positive results. This survey strategy requires spontaneous, subjective interpretation as the unrecorded scanning survey progresses. As a consequence, this strategy does not provide a secure basis for eliminating areas that produce negative results from further consideration.
- Continuous, detailed, recorded magnetometer survey (15m wide) along the centreline is recommended in preference to the two-stage method. The reason for this is that only a recorded magnetometer survey can provide direct and objective evidence of the presence and character of individual archaeological features.

Stage 4 Field Evaluation

In some cases, where the results of field walking and/or geophysical survey are positive, and it is not possible or desirable to avoid a site, it may be necessary to undertake an evaluation in advance of construction. This might involve:

- 4a machine-excavated trenches
- 4b hand-dug test-pits

By using these techniques, it should be possible to confirm the presence or absence of archaeological deposits and to determine their character, extent, date and state of preservation. The choice of technique(s) will depend upon site-specific factors.

It may be desirable to undertake evaluation of certain category B or category C sites with high archaeological potential, even if the geophysical survey has failed to locate significant anomalies. Evaluation work is usually completed well in advance of pipeline construction.

Stage 5 Area Excavation

In occasional cases where the results of evaluation are positive, and it is not possible or desirable to avoid a site, area excavation may be the most appropriate course of action, in order to record a site prior to the construction of the pipeline. Precise excavation strategies for dealing with such archaeological remains will depend on site-specific factors. It is usually preferable to preserve significant archaeological deposits (such as settlements and burials) *in-situ*, by modifying the course of the pipeline.

Stage 6 Watching Brief (during construction)

A permanent-presence watching brief should take place during the construction of the pipeline. As a minimum, this consists of archaeological monitoring of all topsoil stripping and pipeline trench excavations. Archaeological deposits identified are ideally preserved in situ, or can be recorded by excavation.

Stage 7 Post-Excavation (Archive, Report and Publication)

A post-excavation programme for dealing with all records of investigated archaeological remains and recovered artefacts usually follows each of the stages outlined above. This includes the collation and cataloguing of all site records, the processing, conservation and cataloguing of artefacts, the production of an archive report, and, where appropriate, the drafting of articles for publication.

Appendix B

List of Abbreviations

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LIST OF ABBREVIATIONS

AGI Above-ground Installation
AOD Above Ordnance datum
AP Aerial Photograph

CM Cropmark

DBA Site identified during the Desk-Based Assessment by Network Archaeology Ltd (largely from aerial photographs, and old sheet

sources)

NLSMR North Lincolnshire Sites and Monuments Record LSMR Lincolnshire Sites and Monuments Record

EH English Heritage

IFA Institute of Field Archaeologists

LB Listed Building

MON MONARCH data base (National Monuments Records from English

Heritage) structures

NGR National Grid Reference

NMR National Monuments Record

OS Ordnance Survey

SAM Scheduled Ancient Monument

SM Soil mark

SMR Sites and Monuments Record

VM Vegetation mark

Appendix C

Gazetteer of Archaeological Sites

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact		bility ource I
SAM 22746	EH	LSMR 50282/3,53384,50497		Medieval	A	350	TF 08NE	0802 8504	-	Н	H
ARTORPHICAL SECTION OF SOME	EH	<u> </u>	CM: D-shaped barrow and enclosure	?Neolithic	A	160	SK 99SE	9932 9155	-	Н	M
		LSMR 50446	EW: possible round barrow	LN/LBA	A	950	TF 08NE	0755 8510	-	H	M
LSMR 40304	LSMR	NMR-TF17NE:10	site of extinct hamlet of Shankeston	Undetermined	C	30	TF 17NE	1677 7645	-	L	M
LSMR 40305	LSMR		slight pottery scatter and worked flints	Med/Prehist	D	100	TF 17NE	1660 7670	-	M	H
LSMR 40338	LSMR	NMR-TF18SW:7	moated site (? levelled), site of religious house	Medieval	. C	400	TF 18SW	1445 8063	-	Н	M
LSMR 40341A	LSMR		slight worked flint scatter	EN - LBA	D	550	TF 17NW	1410 7870	-	М	H
LSMR 40341B	LSMR		slight worked flint scatter	EN - LBA	D	180	TF 17NW	1450 7863	-	M	H
LSMR 40341C	LSMR		slight worked flint scatter	EN - LBA	D	10	TF 17NW	1490 7840	-	М	H
LSMR 40348	LSMR	NMR-TF17NE:4	Strubby DMV	Medieval	В	100	TF 17NE	1600 7730	-	Н	Н
LSMR 40350	LSMR		large pottery scatter	Roman	C	100	TF 17NE	1591 7773		Н	H
LSMR 40351	LSMR		silver half-groat	Medieval	Е	140	TF 17NE	1583 7782	-	Н	M
LSMR 40352	LSMR		former building & Med. toy cauldron findspot	Undetermined	C	330	TF 17NE	1636 7663	- 1	Н	H
LSMR 42944	LSMR		road .	Roman	С	800	TF 17NE	1700 7840	- 1	M	Н
LSMR 50324	LSMR	AP, RCHM, 1979, 2971/25	CM: curvilinear ditch and associated enclosures	Undetermined	С	0	SK 99SE	9979 9190	Unc	Н	M
LSMR 50326	LSMR	MON 1062836, NMR-SK99	CM: multiple ditched boundary or dyke	?Prehistoric/RB	С	250	SK 99SE	9603 9410	-	Н	M
LSMR 50327	LSMR	MON 1062835, NMR-SK99	CM: single linear boundary ditch?	?Prehistoric/RB	С	0	SK 99SE	9568 9350	Unc	Н	M
LSMR 50437	LSMR	MON 1056776-9, 1061848.	CM: at least 6 ring ditches, ? barrow cemeter;	LN-EIA	В	250	SK 99NW	9325 9508	- İ	Н	M
LSMR 50450	LSMR	NMP SK9196:LI.6	EW/CM: largely levelled barrow cemetery	Bronze Age	В	540	SK 99NW	9106 9646	- İ	Н	Н
LSMR 50473	LSMR	NMR-SK99SE:5	EW:plough damaged round barrow ? 0.20m high	Undetermined	В	540	SK 99SE	9668 9392	- İ	Н	M
LSMR 50507	LSMR		field system associated with settlement	Med/Pm	С	280	SK 99SW	9349 9451	- İ	Н	Н
LSMR 50524	LSMR	SAM 22746, LSMR 50398	remains of DMV	Medieval	В	170	TF 08NE	0815 8533	- 1	Н	Н
LSMR 50524	LSMR	SAM 22746, LSMR 50398	EW: remains of DMV	Medieval	С	10	TF 08NE	0815 8533	- i	Н	Н
LSMR 50541	LSMR	LSMR 53416, MON 892376,	village remains	Med/PM	В	120	TF 08NW	0438 8813	- i	M	Н
LSMR 50541	LSMR	A	field system associated with village	Med/PM	С	60	TF 08NW	0438 8813	- i	M	Н
LSMR 50547	LSMR	MON 1062844, NMR-SK99	CM: rectilinear enclosures, hut circles, masonry	?Prehistoric/RB	В	400	SK 99SE	9775 9254	- i	Н	M
LSMR 50574	LSMR	NMR-SK99NE:61. LINEAR	Course of road - Ermine Street	Roman	С	0	SK 99SE	9641 9393	Unc	Н	Н

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact	Relia of So L	bility ource I
LSMR 50592	LSMR	NMP-RCHM, SK9791:LI.59	CM: pit alignment, 33+ single pits	?Prehistoric	В	140	SK 99SE	9769 9149	-	Н	M
LSMR 50593	LSMR	MON 1062826/7, NMR-SK9	CM: pit alignment, 30+ single pits, & enclosure	?Prehistoric	В	0	SK 99SE	9893 9174	Maj	Н	M
LSMR 50595	LSMR	MON 1062834, NMR-SK99	CM: pit alignment, 33+ single pits	Prehistoric/RB	В	460	SK 99SE	9503 9339	-	Н	M
LSMR 50674	LSMR	1	former ancient woodland (felled after 1956)	Undetermined	D	150	TF O8NW	0231 8983	-	Н	H
LSMR 50724-5	LSMR	MON 898076, NMR-SK99S	flints and pottery scatter	EN-LBA/RB	D	40	SK 99SE	9530 9499	-	Н	Н
LSMR 50727	LSMR	NMR-SK99SE:14, LSMR 50	Pottery scatter and single flint	EN/LBA & Rom	D	190	SK 99 SE	9609 9432	-	M	H
LSMR 50729	LSMR	9	2 pottery sherds	Medieval	Е	580	SK 99SE	9620 9390	- 1	M	Н
LSMR 50730	LSMR	AP:RCHM, CRAWFORD 19	CM: 2 rectilinear encl. networks, ?field system	Undetermined	С	400	SK 99SE	9611 9390	-	Н	M
LSMR 50731	LSMR	MON 898074, SK99SE:18	EW: well-preserved remains of mill dam	Med/PM	В	100	SK 99SE	9602 9482	-	Н	M
LSMR 50736	LSMR	OS 1824	site of windmill	Post Medieval	С	90	SK 99NE	9557 9476	-	Н	Н
LSMR 50737	LSMR	OS 1824, 1956	Blyborough Grange, formerly Blyborough Mill	Post Medieval	С	60	SK 99SE	9552 9421	-	Н	Н
LSMR 50747	LSMR	NMR-SK99SE:8, LSMR 507	spearhead	LBA-EIA	Е	310	SK 99SE	9621 9498	-	M	Н
LSMR 50750	LSMR	MON 327037. LSMR 50751,	shrunken settlement	Med/PM	В	140	SK 99NW	9341 9617	- 1	Н	Н
LSMR 50750	LSMR		ridge and furrow associated with settlement	Med/PM	С	85	SK 99NW	9341 9617	-	Н	H
LSMR 50756	LSMR	NMP-RCHM, SK9595:LI.60	CM: single-ditched linear feature	? Prehistoric	С	240	SK 99NE	9582 9520	-	Н	M
LSMR 50758	LSMR	NMR-SK99NW:2	polished stone axe	Neolithic	Е	460	SK 99NW	9070 9859	- 1	Н	Н
LSMR 50759	LSMR	NMR-SK99NW:1	angle-burin	Mesolithic	Е	230	SK 99NW	9074 9923	- 1	Н	H
LSMR 50760-4	LSMR	,	finds scatter	EN-LBA/RB/ME	С	330	SK 99NW	9026 9953	- 1	M	H
LSMR 50765	LSMR	AP, RCHM, 2968/8-9, 1979	CM: possible enclosure	Undetermined	С	480	SK 99NW	9030 9960	- 1	M	M
LSMR 50806	LSMR	AP, 1978	CM: no details	Undetermined	D	0	SK 99SE	9660 9450	Unc	M	L
LSMR 50817	LSMR	MON 897943, NMR-SK99S	CM: rectilinear enclosures, ? small farmstead	RB	С	0	SK 99SE	9623 9471	Unc	M	H
LSMR 50822	LSMR	NMR-TF09SW:16	loomweights	Anglo-Saxon	Е	1000	TF 09SW	0020 9320	-	M	M
LSMR 50823	LSMR	NMR-TF09SW:4, LSMR 50	artefact scatter	Roman	D	220	TF 09SW	0020 9250	-	М	H
LSMR 50824	LSMR	LSMR 50825	flint scraper	EN - LBA	Е	640	TF 09SW	0017 9270	- i	Н	Н
LSMR 50832	LSMR	NMR-SK99SE:7. NMP-RCH	CM: sub-rectangular enclosures	? Prehistoric	С	270	SK 99SE	9688 9285	- 1	Н	M
LSMR 50835	LSMR	LB(II), OS 1824	Atterby corn mill, dated 1802	Post Medieval	A	510	SK 99SE	9753 9246	-	Н	Н
LSMR 50837	LSMR	LSMR 50838	few pottery sherds and ? late Anglo-Saxon rim	AS/Med	D	0	SK 99SE	9930 9170	Unc	М	Н

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact	Relia of So L	bility ource I
LSMR 50840	LSMR	GAS PIPELINE 1971	slight pottery scatter	Medieval	D	500	SK 99SE	9968 9295	-	Н	H
LSMR 50841	LSMR		stone axe	NEO	E	650	SK 99SE	9990 9290	- 1	L	Н
LSMR 50843	LSMR		coin, 307 AD	RB	E	530	SK 99SE	9916 9348	-	M	Н
LSMR 50845	LSMR	MON 897915, SK99SE:17	EW: remains of earthen mill dam	Medieval	В	440	SK 99SE	9755 9245	-	Н	Н
LSMR 50847	LSMR	MON 897848. AP'S-RAF, 19	Levelled earthworks and artefact scatter of SMV	Medieval	В	350	SK 99SE	9811 9313	-	М	Н
LSMR 50847	LSMR		field system associated with SMV	Medieval	C	140	SK 99SE	9811 9313	- 1	M	Н
LSMR 50853	LSMR	MON 1062842, NMR-SK99	CM: probable settlement enclosures	Prehistoric/RB?	В	500	SK 99SE	9939 9346	-	Н	M
LSMR 50855	LSMR	NMP-RCHM, SK9891:LI.49	CM: small rectilinear enclosures, ? droveways	Prehistoric	C	320	SK 99SE	9842 9124	-	Н	M
LSMR 50857	LSMR	AP'S, RCHM, 1959,77,79	CM: confused mass of enclosures, pits & linears	Undetermined	C	70	SK 99SE	9738 9164	-	M	M
LSMR 50858	LSMR	MON 1062828, NMR-SK99	CM: small settlement or villa-like enclosures	?Prehistoric/RB	В	320	SK 99SE	9886 9218	-	Н	M
LSMR 50862	LSMR	MON 1054968, NMR-TF09S	CM: small rectangular enclosure, ?temple-like	?RB	C	420	TF 09SW	0040 9228	-	Н	M
LSMR 51020	LSMR	NMR-SK99SE:11	Building debris - squared stone blocks	Undetermined	D	120	SK 99SE	9980 9180	-	M	H
LSMR 51027	LSMR	MON 349779, NMR-TF08N	polished stone axe	Neolithic	Е	400	TF 08NW	0265 8945	-	L	Н
LSMR 51030	LSMR	MON 350024, NMR-TF09S	settlement site - artefact scatter	Roman	C	390	TF 09SW	0130 9115	- 1	M	M
LSMR 51040	LSMR	NMR-TF09SW:14	flint scraper	LN-EIA	Е	320	TF 09SW	0047 9103	-	Н	Н
LSMR 51041	LSMR	NMR-TF09SW:14	barbed and tanged arrowhead	LN-EIA	Е	220	TF 09SW	0053 9112	-	Н	Н
LSMR 51043	LSMR	MON 350043, NMR-TF09S	pottery and building stone - ?? villa site	Roman	С	60	TF 09SW	0080 9130	- i	M	M
LSMR 51260	LSMR	NMR-SE90SW:4	flint artefact scatter and polished axehead	EN - LBA	D.	250	SE 90SW	9015 0007	- i	M	M
LSMR 51720	LSMR	MON 351743, NMR-TF18S	hand axe from glacial gravels	Paleolithic	Е	600	TF 18SW	1216 8235	- İ	M	Н
LSMR 51875	LSMR		coins	Roman	Е	300	TF 09SW	0049 9100	- i	Н	Н
LSMR 52011	LSMR	AP, GORDON LUCK COLL	CM: enclosures and linear boundaries	Undetermined	С	600	SK 99SW	9360 9470	- i	M	Н
LSMR 52731	LSMR	MON 349790, NMR-TF08N	polished stone axe	Neolithic	Е	350	TF 08NW	0339 8874	- İ	M	Н
LSMR 52918	LSMR	BLYBOROUGH TO BRIGG	linear features and domestic-type artefacts	LIA/RB	С	80	SK 99NW	9437 9541	-	Н	Н
LSMR 53232		MON 892971, NMR-TF18S		LN - EBA	Е	520	TF 18SW	1270 8190	- 1	М	Н
LSMR 53233	LSMR	MON 1056524, NMR-TF18S	remains of settlement	?Med/PM	В	260	TF 18SW	1162 8129	-	Н	Н
LSMR 53233	LSMR	MON 1056524, NMR-TF18S	EW/SM: remains of settlement	?Med/PM	С	220	TF 18SW	1162 8129	- j	Н	Н
LSMR 53235	LSMR		possible location of monastic Grange	Medieval	С	440	TF 18SW	1180 8130	- j	L	Н

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	sheet	National Grid Reference	Impact		bility ource I
LSMR 53236	LSMR	*	Holton Hall: early 18th C house	Post Medieval	В	420	TF 18SW	1174 8136	-	Н	Н
LSMR 53237	LSMR	NMR-TF18SW:5, NMP-TF1	Beckering DMV (probably all levelled)	Medieval	C	420	TF 18SW	1216 8071	-	Н	Н
LSMR 53240	LSMR		site of Holton Mill - windmill burnt down	Post Medieval	C	90	TF 18SW	1210 8150	-	Н	H
LSMR 53244	LSMR	MON 892972, NMR-TF18S	EW: SMV and artefact scatters	EMed/PM	В	420	TF 18SW	1079 8340	-	Н	H
LSMR 53244	LSMR	MON 892972, NMR-TF18S	EW: SMV and artefact scatters	EMed/PM	C	40	TF 18SW	1079 8340	-	Н	H
LSMR 53248	LSMR	MON 892974, NMR-TF18S	significant pot & slag scatter	Roman	C	0	TF 18SW	1020 8290	Unc	Н	M
LSMR 53252	LSMR		St John the Baptist church, 1796	Post Medieval	В	900	TF 18SW	1092 8356	-	Н	Н
LSMR 53319	LSMR	MAP-NMP, RCHM, SK9494	EW: ridge and furrow	Medieval	D	600	SK 99SW	9408 9449	- 1	Н	H
LSMR 53381	LSMR	MON 349754, NMR-TF08N	pottery scatter & single tile fragment	Roman	D	480	TF 08NE	0798 8675	-	Н	H
LSMR 53385	LSMR	MON 349755, NMR-TF08N	pottery, tile and building debris - ?villa	RB	C	0	TF 08NE	0770 8625	Unc	M	M
LSMR 53386	LSMR		pottery scatter	Roman	D	460	TF 08NE	0808 8670	- 1	Н	H
LSMR 53389	LSMR	LSMR 53390 (single med pot	glassware scatter	Post Medieval	D	180	TF 08NE	0820 8545	-	Н	Н
LSMR 53391	LSMR	A	site of brickyard with attendant buildings	Post Medieval	C	130	TF 08NE	0780 8640	-	M	H
LSMR 53393	LSMR	MON 349815, NMR-TF08S	kiln site .	RB	C	450	TF 08SE	0810 8460	-	М	H
LSMR 53415	LSMR	MON 892378, NMR-TF08N	pottery scatter	Roman	D	200	TF 08NW	0370 8780	-	М	Н
LSMR 53417	LSMR	LB NMR-TF08NW:3/41	church (re-built) SS Peter & Paul & cross frag	A.Sax/Med/PM	A	370	TF 08NW	0422 8814	- i	Н	H
LSMR 53418	LSMR	MON 349745, NMR-TF08N	SMV remains (levelled) & A.Sax/RB pot scatters	Medieval	В	380	TF 08NE	0519 8723	-	M	Н
LSMR 53418	LSMR		SMV remains (levelled) & A.Sax/RB pot scatters	Medieval	С	0	TF 08NE	0519 8723	Unc	M	Н
LSMR 53425	LSMR	MON 892386, NMR-TF08N	possible site of monastic Grange	Medieval	D	280	TF 08NE	0530 8700	-	L	M
LSMR 53722	LSMR		Lissingley Gatehouse: crossing/keepers cottage	Post Medieval	С	500	TF 08SE	0917 8490	- i	Н	Н
LSMR 53736	LSMR	MON 1057083. NMP AP'S	CM: pit alignments	Prehistoric/RB	В	460	SE 80SE	8848 0239	- 1	Н	M
LSMR 53738	LSMR	MON 1057082. NMP, RCH	CM: enclosure cropmarks	Undetermined	С	730	SE 80SE	8826 0260	-	Н	Н
LSMR 53739	LSMR	MON 1057084. NMP, RCH	CM: extractive pits	Undetermined	C	750	SE 80SE	8827 0246	-	Н	Н
LSMR 53740	LSMR	MON 1057084. NMP, RCH	CM: extractive pits	Undetermined	С	800	SE 80SE	8840 0221	-	Н	Н
LSMR 53746	LSMR	NMP SK9395:LI.490.4.1, 94	CM: round barrow	LN-EIA	В	60	SK 99NW	9324 9578	- 1	Н	M
LSMR 53747	LSMR	MON 1062845, NMR-SK99	EW: ridge and furrow field system	Medieval	D	150	SK 99SE	9928 9303	-	Н	Н
LSMR 53749	LSMR	MON 1062824, NMR-SK99	EW: ridge and furrow	Medieval	D	140	SK 99SE	9945 9127	-	Н	Н

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	sheet	National Grid Reference	Impact	Relia of So L	
LSMR 53750	LSMR	MON 1054967, NMR-TF09S	CM: enclosure	Undetermined	С	280	TF 09SW	0035 9209	- 1	Н	M
LSMR 53751	LSMR	MON 1054964, NMR-TF09S	CM: enclosure	Undetermined	C	300	TF 09SW	0012 9132	-	Н	M
LSMR 53753	LSMR	NMR-TF09SW:54, NMP-TF	EW: ridge and furrow	Medieval	D	680	TF 09SW	0083 9236	-	Н	Н
LSMR 53754	LSMR	NMR-TF09SW:55, NMP-LI.	EW: ridge and furrow	Medieval	D	600	TF 09SW	0008 9293	-	Н	H
LSMR 53859	OS 1956		former quarry	Undetermined	E	280	SE 80SE	8900 0224	-	Н	H
LSMR 53860	LSMR	AP-CAMB UNIV COLLECT		?BA	В	500	SE 80SE	8865 0240	-	Н	M
LSMR 53861	LSMR	AP: CAMB UNIV COLLEC	CM: ridge and furrow	Medieval	D .	420	SE 80SE	8879 0218	-	Н	H
LSMR 53862	LSMR	MAP-NMP, RCHM, SE8902	CM: enclosures	Undetermined	C	0	SE 80SE	8927 0217	Unc	Н	H
LSMR 53863		NLSMR AP 448. AP'S-RCH	CM: possible enclosure	Undetermined	C	180	SE 80SE	8855 0280	-	Н	M
LSMR 53867		I consider the second control of the second	CM: cropmark enclosures	Undetermined	C	900	SE 80SE	8839 0203	-	Н	H
LSMR 53868	The second second second second second		CM: trackway ? 2 ditches, 120m long	?Med/PM	D	220	SE 80SE	8956 0143	-	Н	M
LSMR 53869	LSMR	MAP-NMP, RCHM, SE8902	CM: trackway	Undetermined	D	40	SE 80SE	8926 0268	-	Н	H
LSMR 53872	LSMR	LSMR 53873. MAP-NMP, R		?Prehistoric	C	240	SE 90SW	9030 0135	- [Н	H
LSMR 53874	LSMR	MON 1058211. 0NMP, RCH	CM: possible enclosures	Undetermined	C	40	SE 90SW	9005 0141	-	Н	M
LSMR 53875	LSMR	MAP-NMP, RCHM, SE9100	•	Undetermined	C	450	SE 90SW	9099 0035	-	Н	H
LSMR 53876	LSMR	MAP-NMP, RCHM, SE9100		Undetermined	C	700	SE 90SW	9115 0053	-	Н	H
LSMR 53900	LSMR	MON 1061877, NMR-SK99	EW: shrunken settlement remains	Med/PM	В	280	SK 99SW	9350 9452	-	М	Н
LSMR 53912	LSMR	NMP-RCHM, SK9893:LI.59	EW: field system, ridge & furrow & trackway	Medieval	D	100	SK 99SE	9843 9299	-	Н	Н
LSMR 53913	LSMR	NMP-RCHM, TF0092:LI.49	EW: ridge and furrow	Medieval	D	600	TF 09SW	0060 9234	-	Н	H
LSMR 53973	LSMR	MON 1055195-6, NMR-TF0	EW: ridge and furrow	?Med/PM	D	50	TF 08NW	0257 8836	-	Н	H
LSMR 53975	LSMR	RCHM, 1977	CM: possible enclosures/linears/geological	Undetermined	D	0	TF 08NW	0297 8874	Unc	Н	L
LSMR 54102	LSMR	REPORT: COTTAM PIPELI	CM:linear and subcircular cropmarks	Undetermined	C	0	SK 99SW	9436 9471	Unc	L	M
LSMR 54139	LSMR		culvert and railway bridge	Post Medieval	C	220	TF 08SE	0880 8400	-	Н	Н
LSMR 54155	LSMR	OS 1956	former pond	Undetermined	Е	650	SK 99SW	9420 9438	-	Н	Н
NLSMR 18375	NLSMR	MON 1056794. NMP-RCH	CM: ? enclosures/boundary	Undetermined	C	300	SK 99NW	9134 9915	-	Н	Н
NLSMR 2173	NLSMR		Remains of moat, ? now infilled	?Medieval	C	650	SE 80SE	8888 0452	-	Н	M
NLSMR 2197	NLSMR	MON 60907	retouched flint flakes	Prehistoric	Е	200	SE 80SE	8830 0410	-	M	Н

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact	Relia of So L	bility ource I
NLSMR 2205	NLSMR		coins	Roman	Е	400	SE 80SE	8887 0465	-	Н	Н
NLSMR 2206	NLSMR		bronze spearhead	BA	E	500	SE 80SE	8709 0443	- 1	Н	Н
NLSMR 2208	NLSMR	MON 60910	bronze socketed axes	BA	Е	170	SE 80SE	8918 0282	- 1	Н	Н
NLSMR 2209	NLSMR		bronze socketed axe	BA	Е	200	SE 80SE	8830 0420	-	M	H
NLSMR 6927	NLSMR	MON 60878	EW: mound of unknown function, ? maypole	?Modern	D	430	SE 80SE	8990 0452	-	Н	L
NLSMR 8678	NLSMR	LB	'Old Hall', earlier rear wing	Med/PM	A	500	SE 80SE	8898 0438	-	Н	Н
MON 1033402	EH	NMR-SK99NW:27	slight pottery scatter	Roman	D	0	SK 99NW	9230 9630	Unc	M	H
MON 1049138	ЕН	NMR-TF17NE:23, NMP-LI.	EW: ridge and furrow	?Medieval	D	280	TF 17NE	1533 7751	- 1	Н	M
MON 1049145	EH	NMR-TF17NE:29, NMP-LI.	DMV remains - Hardwick	Medieval	В	380	TF 17NE	1601 7938	- i	Н	Н
MON 1049145	EH	NMR-TF17NE:29, NMP-LI.	DMV remains - Hardwick	Medieval	C	60	TF 17NE	1601 7938	- i	Н	Н
MON 1050894	EH	NMR-TF08NE:39	CM/EW: ?searchlight & gun emplacement	wwii	C	360	TF 08NE	0812 8521	-	Н	Н
MON 1055194	EH	NMR-TF08NW:37, LSMR 5	EW: ridge and furrow	Medieval	D	0	TF 08NW	0226 8907	Unc	Н	Н
MON 1056782	LSMR	NMP-RCHM, SK9296:LI.60	CM: potential linear/enclosure features	Undetermined	С	0	SK 99NW	9210 9659	Unc	Н	M
MON 1056790	LSMR	NMP-RCHM, SK9198:LI.60	EW: probable ridge and furrow	?late Med	D	90	SK 99NW	9144 9831	- 1	Н	M
MON 1056795	LSMR	NMR-SK99NW:48. NMP:LI.	CM: potential enclosures	?Prehistoric/RB	С	560	SK 99NW	9164 9929	- i	Н	M
MON 1057079	LSMR	NMP-RCHM, SE8902:LI.66	CM:enclosure	Undetermined	С	200	SE 80SE	8923 0285	- i	Н	M
MON 1062841	EH	LSMR 50571, NMR-SK99SE	probable road visible as four ditches	Roman	С	0	SK 99SE	9671 9233	Unc	Н	Н
MON 1062843	ЕН	NMR-SK99SE:43, NMP-LI.5	CM: duck decoy pond, oval enclosure & ditches	?Med/PM	С	600	SK 99SE	9771 9247	-	Н	Н
MON 327063	EH	LSMR 50036, NMR-SK99SE	possible DMV of Crossholm	Medieval	C	0	SK 99SE	9938 9184	Unc	Н	M
MON 349719	EH	TF08NE:4, LSMR 53420	St Michael's church (mostly re-built)	Norman/PM	В	550	TF 08NE	0507 8738	-	Н	Н
MON 351490	EH	NMR-TF17NW:6, OS 1824	EW: probable windmill mound	?Med/PM	С	500	TF 17NW	1421 7849	- i	Н	Н
NMP 10	LSMR	The state of the s	EW: ridge and furrow	Undetermined	D	0	TF 17NE	1613 7720	Unc	Н	Н
VMP 11	LSMR	NMP-RCHM, ????????	EW: ridge and furrow	Undetermined	D	70	TF 17NE	1701 7608	- i	Н	L
VMP 12	LSMR	LSMR 42953-5. NMR-TF17	EW: ridge and furrow	Undetermined	D	620	TF 17NE	1759 7691		Н	Н
NMP 13	LSMR	LSMR 42952. NMR-TF17N	EW: ridge and furrow	Undetermined	D	700	TF 17NE	1794 7676	†	Н	Н
NMP 2	LSMR	NMP-RCHM, SE9100:LI.59	CM: enclosures	?Prehistoric	С	500	SE 90SW	9120 0008		Н	M
NMP 6	LSMR	MON 1049143, NMR-TF17	EW: ridge and furrow	?Medieval	D	120	TF 17NE	1507 7859	†	Н	M

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact	Relia of So L	bility ource I
NMP 7	LSMR	MON 1049143, NMR-TF17	EW: ridge and furrow	?Medieval	D	50	TF 17NE	1543 7879		Н	M
DBA:AA	OS 1956		site of well	Undetermined	D	140	SE 80SE	8776 0444	-	Н	H
DBA:AB	OS 1956		house name: 'Priesthows'	Undetermined	D	120	SE 80SE	8839 0429	-	Н	-
DBA:AC	OS 1956		site of well	Undetermined	D	0	SE 80SE	8856 0411	Unc	Н	H
DBA:AD	OS 1956		former sand pit	Undetermined	E	270	SE 80SE	8883 0407	-	Н	H
DBA:AE	OS 1956		former sand pit	Undetermined	E	300	SE 80SE	8890 0377	-	Н	H
DBA:AF	OS 1956		site of well	Undetermined	D	370	SE 80SE	8827 0356	-	Н	H
DBA:AG	OS 1956		site of well	Undetermined	D	440	SE 80SE	8823 0337	-	Н	H
DBA:AH	OS 1956		former pond	Undetermined	Е	30	SE 80SE	8883 0323	-	Н	H
DBA:AI	OS 1956		former sand pit	Undetermined	E	220	SE 80SE	8902 0328	-	Н	H
DBA:AJ	OS 1956		site of well	Undetermined	D	230	SE 80SE	8888 0254	-	Н	H
DBA:AK	OS 1956		site of well	Undetermined	D	690	SE 80SE	8875 0198	-	Н	H
DBA:AL	AP 1971	LCC	former pond	Undetermined	Е	30	SE 80SE	8936 0236	-	Н	H
DBA:AM	AP 1971	LCC	former pond	Undetermined	Е	0	SE 80SE	8938 0221	Min	Н	H
DBA:AN	AP 1971	LCC	former pond	Undetermined	E	250	SE 80SE	8914 0215	-	Н	H
DBA:AO	OS 1956		former pond	Undetermined	Е	140	SE 80SE	8937 0200		Н	H
DBA:AP	OS 1956		site of well	Undetermined	D	240	SE 80SE	8979 0204	-	Н	H
DBA:AQ	OS 1956		former pond	Undetermined	E	250	SE 80SE	8994 0184	-	Н	H
DBA:AR	OS 1956		site of well	Undetermined	D	200	SE 80SE	8995 0089	-	Н	Н
DBA:AS	OS 1956		site of well	Undetermined	D	130	SE 90SW	9043 0063	-	Н	Н
DBA:AT	OS 1956		former pond	Undetermined	Е	50	SE 90SW	9044 0045	-	Н	Н
DBA:AU	OS 1956		boundary post	Undetermined	D	570	SE 90SW	9100 0031	-	Н	Н
DBA:AV	OS 1956		former building	Undetermined	С	80	SK 99NW	9113 9845	- 1	Н	H
DBA:AW	T.1843		West Rasen & Normanby by Spital parish bound.	Undetermined	Е	0	TF 08NW	0291 8869	- i	Н	Н
DBA:AX	OS 1956		site of well	Undetermined	D	300	SK 99NW	9184 9728	- i	Н	Н
DBA:AY	T.1839	OS 1956	former pond	Undetermined	Е	360	SK 99NW	9125 9696	- 1	Н	H
DBA:AZ	OS 1956		former pond	Undetermined	Е	320	SK 99NW	9204 9701	- İ	Н	Н

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	sheet	National Grid Reference	Impact	Relial of So L	
DBA:BA	OS 1956	2:	site of well	Undetermined	D	600	SK 99NW	9102 9688	-	Н	Н
DBA:BB	OS 1956		site of well	Undetermined	D	330	SK 99NW	9160 9652	-	Н	Н
DBA:BC	OS 1956		former pond	Undetermined	E	220	SK 99NW	9247 9596	-	Н	Н
DBA:BD	OS 1956		former pond	Undetermined	Е	150	SK 99NW	9274 9585	-	Н	Н
DBA:BE	OS 1956		former pond	Undetermined	E	480	SK 99NW	9279 9540	-	Н	Н
DBA:BF	OS 1956		former pond	Undetermined	E	50	SK 99NW	9295 9582	-	Н	Н
DBA:BG	AP 1971	LCC/1764	CM: ridge and furrow	?Med/PM	D	0	SK 99NW	9280 9620	Unc	Н	M
DBA:BH	AP 1971	LCC	CM: ridge and furrow	?Med/PM	D	550	SK 99NW	9384 9602	-	Н	M
DBA:BI	OS 1956		former pond	Undetermined	E	420	SK 99NW	9420 9566	-	Н	Н
DBA:BJ	OS 1956		site of well	Undetermined	D	400	SK 99SW	9451 9435	-	Н	Н
DBA:BK	OS 1956		site of well	Undetermined	D	280	SK 99NE	9563 9514	-	Н	Н
DBA:BL	OS 1956		site of well	Undetermined	D	570	SK 99SE	9638 9405	-	Н	Н
DBA:BM	CURRE	<i>X</i>	parish boundary marker stone ?	Undetermined	D	490	SK 99SE	9688 9495	-	Н	M
DBA:BN	OS 1956		site of well	Undetermined	D	250	SK 99SE	9771 9418	-	Н	Н
DBA:BO	OS 1956		site of well	Undetermined	D	60	SK 99SE	9716 9191	-	Н	Н
DBA:BP	OS 1956		former woodland	Undetermined	E	150	SK 99SE	9743 9171	-	Н	H
DBA:BQ	OS 1956		former pond	Undetermined	Е	110	SK 99SE	9912 9264	-	Н	Н
DBA:BR	OS 1956		former pond	Undetermined	Е	1040	TF 09SW	0068 9280	-	Н	Н
DBA:BS	NMP - R	MON 1062845, NMR-SK99	EW: ridge and furrow	Medieval	D	0	SK 99SE	9879 9301	Unc	Н	Н
DBA:BT	AP 1976	CAMB UNI 9.7.1976.	CM: ridge and furrow	Medieval	D	0	SK 99SE	9909 9277	Unc	Н	Н
DBA:BU	OS 1956		former pond	Undetermined	Е	900	TF 09SW	0118 9214	-	Н.	Н
DBA:BV	NMP - R	MON 1062845, NMR-SK99	EW: ridge and furrow	Medieval	D	320	SK 99SE	9912 9336	- 1	Н	Н
DBA:BW	NMP - R	MON 1062845, NMR-SK99	EW: ridge and furrow	Medieval	D	480	SK 99SE	9947 9326	- j	Н	Н
DBA:BX	OS 1956		former pond	Undetermined	Е	0	SK 99SE	9916 9279	Min	Н	Н
DBA:BY	os	Nth Lincs & Lincs County Bo	Messingham & Scotter parish boundary	Undetermined	D	0	SE 80SE	8903 0273	Min	Н	Н
DBA:BZ	T.1839	,	Scotton and Scotter parish boundary	Undetermined	D	0	SE 90SW	9049 0025	Min	Н	Н
DBA:CA	T.1839	North Lincs & Lincs county b	Scotton and Kirton in Lindsey parish boundary	?Modern	D	0	SK 99NW	9082 9963	Min	Н	Н

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact		ability ource I
DBA:CB	T.1848	North Lincs & Lincs county b	Grayingham and Kirton in Lindsey parish bounda	Undetermined	D	0	SK 99NW	9216 9646	Min	Н	H
DBA:CC	T.1848		Grayingham & Blyborough parish boundary	Undetermined	D	0	SK 99NW	9486 9521	Min	Н	H
DBA:CD	os		Snitterby & Waddingham parish boundary	Undetermined	D	300	SK 99SE	9724 9492	-	Н	H
DBA:CE	os		Blyborough and Willoughton parish boundary	Undetermined	D	0	SK 99SE	9578 9337	Min	Н	Н
DBA:CF	os	4	Snitterby and Bishop Norton parish boundary	Undetermined	D	0	SK 99SE	9800 9368	Min	Н	H
DBA:CG	OS		Blyborough and Snitterby parish boundary	Undetermined	D	0	SK 99SE	9638 9462	Min	Н	H
DBA:CH	os		Willoughton and Bishop Norton parish boundary	Undetermined	D	0	SK 99SE	9648 9277	Min	Н	Н
DBA:CI	OS		Willoughton and Hemswell parish boundary	Undetermined	D	450	SK 99SE	9552 9187	- 1	Н	H
DBA:CJ	OS		Hemswell and Bishop Norton parish boundary	Undetermined	D	450	SK 99SE	9661 9053	-	Н	Н
DBA:CK	OS 1956		site of well	Undetermined	D	550	SK 99SE	9507 9345	-	Н	H
DBA:CL	os		Bishop Norton and Glentham parish boundary	Undetermined	D	0	SK 99SE	9959 9174	Min	Н	H
DBA:CM	OS 1956		former pond	Undetermined	E	700	TF 09SW	0088 9211	-	Н	H
DBA:CN	OS 1956		former pond	Undetermined	E	40	TF 09SW	0072 9131	-	Н	Н
DBA:CO	OS 1956		former pond	Undetermined	E	0	TF 09SW	0094 9098	Sev	Н	Н
DBA:CP	AP 1971	LCC	CM: ridge and furrow	Undetermined	D	640	TF 09SW	0160 9133	-	Н	H
DBA:CQ	AP 1971	LCC	CM: ridge and furrow	Undetermined	D	240	TF 08NW	0206 8900	-	Н	Н
DBA:CR	T.1843		Glentham and Caenby parish boundary	Undetermined	D	0	TF 08NW	0176 8993	Min	Н	H
DBA:CS	T.1843		Caenby and Normanby by Spital parish boundary	Undetermined	D	0	TF 08NW	0232 8922	Min	Н	Н
DBA:CT	T. 1845		Manton and Kirton in Lindsey parish boundary	Undetermined	D	420	SE 90SW	9109 0014	-	Н	H
DBA:CU	os	North Lincs & Lincs county b	Northorpe & Kirton in Lindsey parish boundary	Undetermined	D	320	SK 99NW	9094 9759	-	Н	H
DBA:CV	AP 1971	LCC	CM: ridge and furrow	Undetermined	D	350	TF 09SW	0028 9110	- 1	Н	M
DBA:CW	os		West Rasen and Toft Newton parish boundary	Undetermined	D	390	TF 08NW	0379 8873	- 1	Н	H
DBA:CX	OS 1956		former pond	Undetermined	Е	100	TF 08NE	0654 8631	- 1	Н	H
DBA:CY	OS 1956		former pond	Undetermined	Е	20	TF 08NE	0770 8623	-	Н	H
DBA:CZ	T. 1843	Torrest and the second	Newton next Toft & Faldingworth p. b.	Undetermined	D	0	TF 08NE	0624 8644	Min	Н	H
DBA:DA	os		West Rasen and Toft Newton parish boundary	Undetermined	D	150	TF 08NE	0672 8678	- j	Η.	H
DBA:DB	os		West Rasen and Faldingworth parish boundary	Undetermined	D .	150	TF 08NE	0714 8658	-	Н	H

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact		ibility ource I
DBA:DC	OS		West Rasen and Middle Rasen parish boundary	Undetermined	D	370	TF 08NE	0744 8678	-	Н	H
DBA:DD	os		Middle Rasen & Buslingthorpe parish boundary	Undetermined	D	390	TF 08NE	0778 8673	-	Н	H
DBA:DE	os		Faldingworth and Buslingthorpe parish boundary	Undetermined	D	0	TF 08NE	0761 8628	Min	Н	H
DBA:DF	AP 1948	541/185 3170	CM: ridge and furrow	Undetermined	D	0	TF 08NE	0803 8592	Unc	Н	M
DBA:DG	os		Buslingthorpe and Wickenby parish boundary	Undetermined	D	0	TF 08SE	0919 8389	Min	Н	H
DBA:DH	OS		Buslingthorpe and Friesthorpe parish boundary	Undetermined	D	230	TF 08SE	0887 8387	-	Н	H
DBA:DI	os		Middle Rasen and Lissington parish boundary	Undetermined	D	120	TF 08SE	0940 8409	-	Н	H
DBA:DJ	os		Wickenby and Lissington parish boundary	Undetermined	D	0	TF 08SE	0945 8359	Min	Н	H
DBA:DK	os		Linwood and Lissington parish boundary	Undetermined	D	760	TF 08SE	0980 8436	-	Н	H
DBA:DL	OS 1956		former pond	Undetermined	Е	210	TF 08NE	0845 8599	-	Н	H
DBA:DM	OS 1956		?former quarry	Undetermined	Е	90	TF 08NE	0842 8575	-	Н	H
DBA:DN	OS 1956		former pond	Undetermined	E	150	TF 08NE	0827 8543	-	Н	H
DBA:DO	T.1838	OS 1956	former pond	Undetermined	Е	0	TF 08SE	0874 8459	Maj	Н	H
DBA:DP	OS 1956	14/	former pond	Undetermined	E	70	TF 08SE	0869 8456	-	Н	Н
DBA:DQ	OS 1956		former buildings	Undetermined	C	200	TF 08SE	0897 8467	-	Н	Н
DBA:DR	OS 1956		former buildings	Undetermined	C	270	TF 08SE	0898 8483	-	Н	H
DBA:DS	OS 1956		former pond	Undetermined	E	70	TF 08SE	0939 8355	-	Н	H
DBA:DT	OS 1956		former building	Undetermined	C	0	TF 08SE	0987 8324	Unc	Н	H
DBA:DU	OS 1956		former pond	Undetermined	Е	630	TF 18SW	1044 8354	-	Н	H
DBA:DV	AP 1971	LCC	CM: ridge and furrow	Undetermined	D	0	TF 18SW	1011 8285	Unc	Н	M
DBA:DW	AP 1971	MAL/77005 175	CM: ridge and furrow	Undetermined	D	0	TF 18SW	1059 8291	Unc	Н	M
DBA:DX	AP 1971	LCC OS/75246 112	CM: ridge and furrow	Undetermined	D	150	TF 18 SW	1107 8300	-	Н	M
DBA:DY	OS 1956		former pond	Undetermined	E	260	TF 18SW	1105 8285	-	Н	H
DBA:DZ	os		Lissington and Holton parish boundary	Undetermined	D	0	TF 18SW	1124 8236	Min	Н	H
DBA:EA	os		Holton cum Beckering & West Torrington p. b.	Undetermined	D	0	TF 18SW	1310 8104	Min	Н	H
DBA:EB	AP 1971	LCC	CM: ridge and furrow	Undetermined	D	500		1199 8253	-	Н	H
DBA:EC	OS 1956		former pond	Undetermined	Е	270	TF 18SW	1214 8195	-	Н	H

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact		bility ource I
DBA:ED	OS 1956		former pond	Undetermined	Е	40	TF 18SW	1250 8124	- ,	Н	H
BA:EE	AP 1947	CPE/UK/2012 2170 LCC	CM: ridge and furrow	Undetermined	D	0	TF 18SW	1266 8124	Unc	Н	Н
BA:EF	AP 1971	LCC	CM: ridge and furrow	Undetermined	D	150	TF 18SW	1305 8173	-	Н	Н
DBA:EG	OS 1956		former pond	Undetermined	- E	340	TF 18SW	1357 8114	-	Н	H
DBA:EH	OS 1956		former buildings	Undetermined	C	350	TF 18SW	1300 8046	-	Н	Н
DBA:EI	AP 1948	541/185 4131 LCC	CM: ridge and furrow	Undetermined	D	0	TF 18SW	1186 8168	Unc	Н	Н
DBA:EJ	OS 1956		former pond	Undetermined	Е	140	TF 18SW	1017 8275	-	Н	Н
DBA:EK	OS 1956		former pond	Undetermined	E	500	TF 18SW	1419 8097	-	Н	Н
DBA:EL	AP 1971	LCC	CM: ridge and furrow	Undetermined	D	0	TF 18SW	1400 8055	Unc	Н	M
DBA:EM	os		West Torrington and West Barkwith parish bound	Undetermined	D	0	TF 18SW	1424 8031	Min	Н	H
DBA:EN	os		Holton cum Beckering & Wragby p. b.	Undetermined	D	420	TF 17NW	1306 7968	-	Н	H
DBA:EO	os		West Torrington and Wragby parish boundary	Undetermined	D	0	TF 17NW	1420 7990	Min	Н	Н
DBA:EP	os		Wragby and West Barkwith parish boundary	Undetermined	D	50	TF 17NW	1457 7927	-	Н	H
BA:EQ	os		Wragby and Panton parish boundary	Undetermined	D	0	TF 17NW	1477 7858	Min	Н	Н
BA:ER	os		West Barkwith and Panton parish boundary	Undetermined	D	0	TF 17NE	1534 7940	Min	Н	Н
DBA:ES	T.18		Panton and Langton by Wragby parish boundary	Undetermined	D	0	TF 17NE	1550 7833	Min	Н	Н
DBA:ET	OS 1956	, W	former pond	Undetermined	Е	680	TF 17NW	1351 7960	-	Н	Н
DBA:EU	OS 1956		former pond	Undetermined	Е	170	TF 17NW	1450 7990	-	Н	H
DBA:EV	AP 1971	MON 1050951, NMR-TF18S	EW: ridge and furrow	Undetermined	D	450	TF 18SE	1516 8027	-	Н	M
DBA:EW	OS 1956		former pond	Undetermined	Е	10	TF 17NW	1423 7954	- 1	Н	Н
DBA:EX	OS 1956		former pond	Undetermined	Е	270	TF 17NW	1452 7963	- 1	Н	Н
DBA:EY	OS 1956		former pond	Undetermined	Е	300	TF 17NW	1456 7960	-	Н	H
BA:EZ	OS 1956		former pond	Undetermined	E	690	TF 17NW	1363 7922	- i	Н	Н
BA:FA	OS 1956		former pond	Undetermined	Е	300	TF 17NW	1473 7957	- i	Н	Н
BA:FB	OS 1956		former pond	Undetermined	E	410	TF 17NE	1556 7982	- İ	Н	Н
DBA:FC	OS 1956		former pond	Undetermined	E	360	TF 17NW	1465 7945	- İ	Н	Н
DBA:FD	OS 1956		former pond	Undetermined	Е	390	TF 17NW	1474 7946	- 1	Н	Н

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	sheet	National Grid Reference	Impact	Relia of So L	
BA:FE	OS 1956		former pond	Undetermined	Е	0	TF 17NE	1521 7959	Maj	Н	H
BA:FF	AP 1971	LCC	EW: ridge and furrow	Undetermined	D	240	TF 17NW	1462 7939	-	Н	M
BA:FG	OS 1956		former pond	Undetermined	E	100	TF 17NW	1440 7934	-	Н	H
BA:FH	AP 1971	LCC.	EW: ridge and furrow	Undetermined	D	50	TF 17NW	1423 7891	-	Н	M
BA:FI	OS 1956		former pond	Undetermined	Е	620	TF 17NW	1424 7827	-	Н	H
BA:FJ	OS 1956	9	former pond	Undetermined	Е	390	TF 17NW	1446 7834	-	Н	H
BA:FK	OS 1956		former pond	Undetermined	Е	560	TF 17NW	1465 7793	-	Н	Н
BA:FL	OS 1956		former pond	Undetermined	Е	0	TF 17NE	1505 7831	Sev	Н	Н
BA:FM	AP 1947	CPE/UK/2012 4170 LCC	ridge and furrow	Undetermined	D	200	TF 17NW	1445 7806	-	Н	M
BA:FN	AP 1971	LCC	EW: ridge and furrow	Undetermined	D	60	TF 17NE	1529 7829	-	Н	Н
BA:FO	AP 1971	LCC	EW: ridge and furrow	Undetermined	D	250	TF 18SW	1448 8053	-	Н	M
BA:FP	OS 1956		former railway	Modern	D	0	TF 17NW	1468 7869	Min	Н	Н
BA:FQ	AP 1971	LCC	former pond	Undetermined	Е	260	TF 08NE	0536 8685	-	M	M
BA:FR	T.1848		Langton by Wragby and Hatton parish boundary	Undetermined	D	0	TF 17NE	1649 7699	Min	Н	Н
BA:FS	OS 1956	3.	former pond	Undetermined	E.	30	TF 17NE	1571 7870	-	Н	Н
BA:FT	AP 1971	OS/73029 185 LCC	CM: ridge and furrow	Undetermined	D	0	TF 17NE	1583 7794	Unc	Н	M
BA:FU	AP 1971	LCC	CM: ridge and furrow	Undetermined	D	500	TF 17NE	1661 7826	- 1	Н	M
BA:FV	OS 1956		former pond	Undetermined	E	370	TF 17NE	1650 7775	- 1	Н	Н
BA:FW	OS 1956		former pond	Undetermined	E	150	TF 17NE	1668 7700	- 1	Н	Н
BA:FX	AP 1971	NMR-TF17NE:22, NMP-LI.	CM: ridge and furrow	Undetermined	D	300	TF 17NE	1708 7757	- İ	Н	Н
BA:FY	OS 1956		former pond	Undetermined	Е	400	TF 17NE	1724 7672	- 1	Н	Н
BA:FZ	OS 1956		former pond	Undetermined	Е	500	TF 17NE	1724 7685	- i	Н	Н
BA:GA	OS 1956	**************************************	former pond	Undetermined	E	650	TF 17NE	1730 7702	- i	Н	Н
BA:GB	AP 1971	LCC	CM: ridge and furrow	Undetermined	D	250	TF 17NE	1733 7668	-	Н	M
BA:GC	T.1848		field divided into thin ?allotments	Undetermined	Е	60	SK 99NW	9200 9617	- İ	Н	Н
BA:GD	T.1843	***************************************	Holton cum Beckering & Holton parish boundary	Undetermined	Е	0	TF 18SW	1272 8118	-	Н	Н
BA:GE	T. 1845		former woods	Undetermined	Е	680	SE 90SW	9127 0036	-	Н	Н

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	sheet	National Grid Reference	Impact		bility ource I
BA:GF	T. 1847		Owmby and Toft Next Newton parish boundary	Undetermined	Е	0	TF 08NW	0347 8819		Н	H
BA:GG	T. 1847		Toft Next Newton & Newton next Toft p. b.	Undetermined	D	0	TF 08NW	0440 8717	Min	Н	H
BA:GH	T. 1838		Buslingthorpe & Middle Rasen parish boundary	Undetermined	D	0	TF 08SE	0876 8457	Min	Н	H
BA:GI	T.1839		former road	Undetermined	D	0	TF 17NE	1581 7837	Min	Н	H
BA:GJ	T. 1840		former building	Undetermined	C	150	TF 08SE	0995 8332	-	Н	Н
BA:GK	AP 1974	MAL/74002 76	SM: former ridge and furrow	Undetermined	D	90	SK 99NW	9131 9713	- i	Н	H
BA:GL	AP 1947	CPE/UK/2012 2170	ridge and furrow	Undetermined	D	0	TF 18SW	1332 8127	Unc	Н	H
BA:GM	AP 1947	CPE/UK/2012 4171	EW: ridge and furrow	?Medieval	D	180	TF 17NW	1378 7943	-	Н	Н
DBA:GN	AP 1948	CPE/UK/2541 3417	ridge and furrow	Undetermined	D	0	TF 17NE	1639.7759	Unc	Н	Н
DBA:GO	AP 1948	541/110 4019	CM: former ridge and furrow	Undetermined	D	100	SK 99NW	9042 9941	- j	Н	Н
DBA:GP	AP 1968	541/110 4021	? ridge and furrow	Undetermined	D	80	SK 99NW	9123 9926	- i	Н	M
DBA:GQ	AP 1973	OS/73237	former pond	Undetermined	Е	50	SK 99NW	9405 9529	- i	Н	Н
BA:GR	AP 1976	MAL/76047 80	?geological mark	Undetermined	E	765	SK 99SE	9680 9355	- i	Н	L
DBA:GS	OS 1891		pond	Undetermined	Е	280	TF08NE	0845 8620	- i	Н	Н
BA:GT	OS 1891		pond	Undetermined	E	365	TF 18SW	1458 8049	- i	Н	H
DBA:GU	AP 1948	541/110 4019	CM: area of drains	Undetermined	Е	0	SE 90SW	9026 0063	Unc	Н	M
DBA:GV	AP 1969	OS/69214 311	CM: former track	Undetermined	D	0	SE 80SE	8872 0337	Min	Н	H
DBA:GW	AP 1969	OS/69214 313	CM: former pond/pit	Undetermined	Е	245	SE 80SE	8782 0482	- i	Н	H
DBA:GX	AP 1948	CPE/UK/2563 3126	?pond	Undetermined	Е	70	SE 80SE	8902 0291	- i	Н	M
DBA:GY	AP 1963	58/5853 15	SM: ?former ridge and furrow	Undetermined	D	140	SE 80SE	8925 0280	- j	Н	M
DBA:GZ	AP 1963	58/5853 15	VM: ?former pond	Undetermined ·	E	240	SE 80SE	8943 0262	- i	H	M
BA:HA	AP 1963	58/5853 14	?former copse	Undetermined	Е	345	SE 80SE	8980 0221	- i	Н	M
BA:HB	AP 1963	58/5853 14	?former ridge and furrow	Undetemrined	D	270	SE 90SW	9044 0096	- †	Н	Н
BA:HC	AP 1948	541/170 3417	former pond	Undetermined	Е	85	SK 99NW	9117 9891	-	Н	Н
BA:HD	AP 1969	OS/69214 379	former pond	Undetermined	Е	440	SK 99NW	9301 9529	- †	Н	Н
BA:HE	AP 1976	MAL/76047 82	former pond	Undetermined	Е	165	SK 99SE	9862 9196	- †	Н	M
BA:HF	AP 1976	MAL/76047 83	former pond/pit	Undetermined	Е	<u> </u>		9949 9238	-	Н	M

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact		ability ource I
DBA:HG		MAL/7604789	former pond/pit	Undetermined	Е	65	TF 08NW	0264 8900	-	Н	H
DBA:HH	AP 1969	OS 69216 625	pond	Undetermined	Е	110	TF 08NW	0434 8734	-	Н	H
DBA:HI	AP 1969	OS/69216 625	pond	Undetermined	Е	125	TF 08NW	0444 8729	-	Н	H
БВА:НЈ	AP 1969	OS/69216 625	pond	Undetermined	Е	250	TF 08NW	0464 8731	-	Н	H
DBA:HK	AP 1969	OS/69216 577	pond	Undetermined	E	120	TF 08NE	0674 8650	-	Н	H
DBA:HL	AP 1975	OS/75246 189	former pond	Undetermined	E	145	TF 08SE	0913 8422	-	Н	M
DBA:HM	AP 1947	CPE/UK/2012 1165	pond	Undetermined	Е	100	TF 18SW	1002 8293	-	Н	H
DBA:HN	AP 1976	MAL/76047 116	CM: former pond	Undetermined	E	290	TF 18SW	1293 8149	-	Н	H
ЭВА:НО	AP 1947	CPE/UK/2012 2170	?former pond	Undetermined	Е	90	TF 18SW	1343 8066	-	Н	M
DBA:HP	AP 1947	541/185 3187	former animal shelters	Undetermined	Е	145	TF 18SW	1389 8037	-	Н	H
DBA:HQ	AP 1947	CPE/UK/2012 4171	former pond	Undetemrined	E	640	TF 17NW	1416 7830	-	Н	H
DBA:HR	AP 1947	CPE/UK/2012 4171	CM: former pond	Undetermined	E	160	TF 17NW	1484 7877	-	Н	Н
DBA:HS	AP 1947	CPE/UK/2012 4171	CM: former pond	Undetermined	E	165	TF 17NW	1530 7908	-	Н	H
DBA:HT	AP 1947	CPE/UK/2012 4171	?geological marks, former clay pits	Undetermined	E	180	TF 17NE	1534 7858	- 1	Н	M
DBA:HU	OS 1891		pond	Undetermined	Е	15	SE 80SE	8948 0201	- 1	Н	Н
DBA:HV	OS 1891		former pond	Undetermined	Е	100	SK 99NW	9132 9847		Н	Н
DBA:HW	OS 1891		pond	Undetermined	Е	175	TF 09SW	0055 9117	- 1	Н	Н
DBA:HX	OS 1891		pond	Undetermined	E	535	TF 09SW	0067 9210	- 1	Н	H
DBA:HY	OS 1891		pond	Undetermined	E	160	TF 18SW	1069 8286	- 1	Н	Н
DBA:HZ	OS 1891		pond	Undetermined	E	245	TF 18SW	1459 8036	-	Н	Н
DBA:IA	AP 1969	OS/69214 314	CM: former pond	Undetermined	E	155	SK 80SE	8762 0443	-	Н	Н
DBA:IB	AP 1948	CPE/UK/2563 3207	EW: ridge and furrow	Undetermined	D	0	SK 99NW	9138 9765	Unc	Н	Н
DBA:IC	AP 1969	OS/69214 327	CM: former ridge and furrow	Undetermined	D	70	SE 90SW	9022 0030	-	Н	Н
DBA:ID	AP 1948	541/110 4019	ridge and furrow	Undetermined	D	0	SE 90SW	9051 0020	Unc	Н	Н
DBA:IE	AP 1948	CPE/UK/2563 3207	ridge and furrow	Undetermined	D	50	SK 99NW	9145 9799	- 1	Н	H
DBA:IF	AP 1948	CPE/UK/2563 3207	ridge and furrow	Undetermined	D	450	SK 99NW	9192 9757	- 1	Н	Н
DBA:IG	AP 1948	CPE/UK/2563 3207	ridge and furrow	Undetermined	D	0	SK 99NW	9170 9687	Unc	Н	H

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment m	Quarter sheet	National Grid Reference	Impact		ability ource I
BA:IH	AP 1976	MAL/76047	CM: ?enclosure	Undetermined	С	0	SK 99SE	9540 9486	Unc/Maj	Н	L
BA:II	AP 1976	MAL/76047 78	CM: ?former track	Undetermined	D	125	SK 99SE	9576 9522	-	Н	M
BA:IJ	AP 1948	CPE/UK/2563 3292	SM: ?ditches	Undetermined	D	125	SK 99SE	9641 9381	-	Н	M
BA:IK	AP 1976	MAL/76047 83	CM: former ridge and furrow	Undetermined	D	580	SK 99SE	9934 9346	-	Н	H
BA:IL	AP 1973	OS/73331 58	CM: former ridge and furrow	Undetermined	D	5	SK 99SE	9703 9196	-	Н	Н
BA:IM	AP 1977	MAL/77005 33	?field system	Undetermined	D	0	SK 99SE	9739 9194	Unc	Н	M
BA:IN	AP 1976	MAL/76047 81	CM: former ridge and furrow	?Medieval	D	150	SK 99SE	9799 9292	-	Н	Н
BA:IO	AP 1973	OS/73331 61	CM: former ridge and furrow	Undetermined	D	0	SK 99SE	9902 9288	Unc	Н	H
DBA:IP	AP 1973	OS/73331 61	ridge and furrow	Undetermined	D	210	SK 99SE	9925 9222	-	Н	H
BA:IQ	AP 1947	CPE/UK/2012 4076	ridge and furrow	Undetermined	D	0	TF 09SW	0051 9152	Unc	Н	H
DBA:IR	AP 1976	MAL/76047 85	CM: ridge and furrow	Undetermined	D	0	TF 09SW	0089 9103	Unc	Н	H
DBA:IS	AP 1947	CPE/UK/2012 2073	CM: former ridge and furrow	Undetermined	D	0	TF 08NW	0332 8832	Unc	Н	H
BA:IT	AP 1964	543/2843 100	CM: former ridge and furrow	?Medieval	D	0	TF 08NW	0418 8732	Unc	Н	H
BA:IU	AP 1972	OS/72220 466	VM: former ridge and furrow	?Medieval	D	100	TF 08NW	0521 8686	- 1	Н	H
BA:IV	AP 1972	OS/72220 466	CM: former ridge and furrow	?Medieval	D	0	TF 08NW	0494 8680	Unc	Н	H
BA:IW	AP 1969	OS/69216 576	CM: former ridge and furrow	Undetermined	D	0	TF 08NE	0636 8643	Unc	Н	H
DBA:IX	AP 1948	541/185 3170	CM: former ridge and furrow	?Medieval	D	0	TF 08NE	0840 8555	Unc	Н	H
DBA:IY	AP 1975	OS/75246 189	CM: former ridge and furrow	?Medieval	D	0	TF 08SE	0871 8469	Unc	Н	Н
DBA:IZ	AP 1947	CPE/UK/2012 1165	ridge and furrow	Undetermined	D	0	TF 08SE	0942 8361	Unc	Н	Н
DBA:JA	AP 1947	CPE/UK/2012 2170	ridge and furrow	Undetermined	D	0	TF 18SW	1348 8082	Unc	Н	Н
DBA:JB	AP 1947	CPE/UK/2012 2170	ridge and furrow	Undetermined	D	300	TF 18SW	1425 8087	- 1	Н	M
BA:JC	AP 47	CPE/UK/2012 4170	ridge and furrow	Undetermined	D	0	TF 18SW	1383 8021	Unc	Н	Н
BA:JD	AP 1947	CPE/UK/2012 4170	ridge and furrow	?Medieval	D	0	TF 17NW	1472 7994	Unc	Н	Н
BA:JE	AP 1947	CPE/UK/2012 4171	CM: former ridge and furrow	Undetermined	D	0	TF 17NW	1496 7838	Unc	Н	Н
BA:JF	AP 1947	CPE/UK/2012 4172	ridge and furrow	Undetermined	D	50	TF 17NE	1601 7884	- i	Н	Н
BA:JG	AP 1948	CPE/UK/2541 3357	CM: former ridge and furrow	?Medieval	D	0	TF 17NE	1665 7679	Unc	Н	Н
BA:JH	AP 1976	MAL/76047 124	CM: former ridge and furrow	Undetermined	D	0	TF 17NE	1715 7620	Unc	Н	H

Reference	Source	Cross refs	Description	Period	Category	Distance from Easment	sheet	National Grid Reference	Impact	Relia of So	
						m		Actor chec			•
BA:JI	OS 1891	1	?former house plot	Undetermined	D	80	TF 09SW	0006 9181	- 1	Н	M
BA:JK	AP 1963	58/5853	CM: former ridge and furrow	Undetermined	D	70	SE 80SE	8892 0324	-	Н	M
BA:JL	AP 1948	CPE/UK/2563 3208	barrow and pits	Undetermined	В	565	SK 99NW	9129 9648	-	Н	Н
BA:JM	AP 1948	541/185 3168	former building	Undetermined	С	160	TF 08NE	0660 8623	-	Н	Н
BA:JN	os		Normanby by Spital & Owmby parish boundary	Undetermined	D	0	TF 08NW	0345 8818	Min	Н	Н
BA:JO	os		Normanby by Spital & Toft Next Newton parish b	Undetermined	Е	40	TF 08NW	0356 883	-	Н	Н
BA:JP	T. 1839		field name: Cottages Close	Undetermined	D	0	TF 17 NE	1615 7780	Unc	Н	M
BA:JQ	T. 1839		field name: East Dovecote Piece	Undetermined	D	0	TF 17NE	1580 776	Unc	Н	M

Appendix D Archaeological Constraint Maps

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Key to Map Symbols

	Study Corridor
	Proposed pipeline route, including possible alternative routes
*	Category A Site
*	Category B Site
*	Category C Site
*	Category D Site
*	Category E Site
	Known extent of archaeological site or find (coloured according to category)
	Extent of Archaeological site discovered by aerial photography (coloured according to category)
	Area of potential surrounding archaeological site
	Linear feature (e.g. railway, road, parish boundary (coloured according to category)
	Former field boundaries from cartographic sources

