KING'S LYNN TO WISBECH
PROPOSED NATURAL GAS PIPELINE

Archaeological Desk Based Assessment

Prepared By

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On behalf of

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Network Archaeology delivers a complete consultancy and field service nationwide. The company's particular expertise is linear infrastructure, such as pipelines, roads, rail and cables. Their emphasis is upon good communication and recognition of client's individual needs and priorities. Network is known for delivering professional support, taking care of the archaeology and enabling projects to keep moving forward.

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NON-TECHNICAL SUMMARY

This archaeological desk-based assessment relates to a proposed pipeline route between King's Lynn in Norfolk (NGR 545620 313830) and Wisbech in Cambridgeshire (NGR 572240 316280).

This report presents the results of desk-based study of published archaeological information in the public domain lying within a one kilometre-wide Study Corridor, centred on the proposed pipeline. Searches of national and county databases, the study of maps, aerial photographs and written sources, have identified 483 sites of archaeological importance. All the sites studied have been graded according to their perceived archaeological importance. The scale of impact of the proposed scheme upon each archaeological site has been assessed, and the significance of each impact determined (taking into account the importance of each site).

Four sites benefit from statutory protection, two are nationally important, 25 are regionally important, 425 are locally important and 27 are ungraded. The two nationally important sites, four regionally important sites, 157 locally important sites and fourteen ungraded sites are directly impacted. The impact upon eight regionally important sites, 33 locally important sites and one ungraded site is uncertain.

At this stage, both nationally important sites have been flagged up for specific discussion. These include the original extent of medieval Blackborough Priory (SMR MNF3430) and a Sea Bank, an earthwork of undetermined date (MON 1032408).

A staged approach to the archaeological investigation and mitigation of the proposed route is recommended.

Recommendations are made for reconnaissance survey, targeted fieldwalking survey, targeted geophysical survey, metal detector survey, and the recording of the sides of dykes/ditches along the route. Due to the extent and depth of alluvium along the route, recommendations are made for the consideration of electro-magnetic survey and/or hand-auger/borehole survey.

Specific recommendations are made for twenty-one C and D grade sites which lie on or close to the proposed route.

Alluvial sediments occupy much of the route. Here, the potential exists for the discovery of buried landscapes and valuable palaeo-environmental evidence, as well as preserved timbers and organic remains.

1 INTRODUCTION

1.1 Purpose of the report

This report presents the results of an archaeological desk based assessment of a proposed pipeline route between King's Lynn in Norfolk and Wisbech in Cambridgeshire (Figure 1).

1.2 Commissioning bodies

This archaeological assessment was commissioned by Black and Veatch Ltd on behalf of Murphy Pipelines Ltd for National Grid. The archaeological contractor was Network Archaeology Ltd, a professional organisation which provides consultancy advice and undertakes archaeological field services.

1.3 Proposed development

National Grid proposes to construct a new pipeline for the transportation of natural gas, between the King's Lynn Compressor Station, in Norfolk and the Wisbech Nene West Above Ground Installation (AGI) in Cambridgeshire (Figure 1). The proposed pipeline is intended to reinforce National Grid's National Transmission System and Local Transmission System, primarily in response to increasing demand for gas by domestic and commercial users in Eastern England. The proposed 1220mm (48") diameter pipeline will be 30.3km long and will be designed for pressures up to 75 bar g.

The pipeline is to be built within a 42m wide working width, although it may be widened at railway, road and river crossing points, and narrowed at hedgerows. Construction will involve four main phases of activity. The first phase, Right Of Way Activities, includes hedge removal, cleaning, fluming and temporary bridging of ditches, fencing the working width, topsoil stripping of access areas and the installation of pre-construction drainage. Topsoil stripping across the working width will then take place along the length of the pipeline. Trench Excavation and Pipe Laying will then follow. The pipe-trench will have a usual excavated depth of 2.5m and width of 1.8m, with greater dimensions taken where the pipe is to be bored beneath railways, roads, river crossings and other areas of constraint. All roads, major rivers, major services, railways, etc will be crossed by non-open cut. Finally, Reinstatement, involving the replacement of topsoil and the installation of post-construction drainage, will take place.

1.4 Legislation, regulations and guidance

The pipeline will be constructed under the Gas Act, 1986 (as amended by the Gas Act, 1995), and therefore does not require permission from the Department of Trade and Industry (DTI) under the Pipeline Act, 1962.

The pipeline is subject to the requirements of The Public Gas Transporter Pipe-line Works (Environmental Impact Assessment) Regulations, 1999 (S.I. 1999/1672). As the pipeline will have a design operating pressure above 7 bar g and is in a 'sensitive area' (Area of Outstanding Natural Beauty), as defined by the Regulation, National Grid is required to submit an Environmental Statement for approval by the DTI or seek determination from the DTI over the need for submission of an Environmental Statement. In this instance, National Grid has opted to submit an Environmental Statement for approval by the DTI.

Temporary works areas (e.g. the construction yard, pipe storage areas and mobilisation areas) will not require planning consent as they fall within the definition of Permitted Development under the Town and Country Planning (General Permitted Development) Order, 1995 (S.I. 1995/418).

The Hedgerow Regulations (1997) define a set of archaeological and historical criteria used for determining whether hedges are "important" (see Appendix B).

1.5 Aims

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 route, and to provide a basis for further stages of investigation.

The specific objectives are:

- To identify and define the extent of known archaeological remains within and immediately outside the 1km wide Study Corridor;
- To provide a preliminary assessment of their significance;
- To assess the overall impact of the proposed pipeline route on the known and potential archaeological constraints;
- To assess the need for further evaluation and mitigation prior to and during construction; and
- To make recommendations for further evaluation and mitigation, where necessary.

1.6 Circulation of report

Ursula Bycroft of Black & Veatch, Maurice Payne of Murphy Pipelines Ltd, Barry Robinson of National Grid, and David Robertson of Norfolk Landscape Archaeology will receive a copy of this report.

1.7 Resourcing

This report was undertaken over a seven week period in July, August and October 2006. Data collection by two researchers took place over two weeks, two days for collecting aerial photographs and report writing was undertaken by one individual over a five week period. MapInfo GIS was used to manage and present the data.

1.8 Report structure

This desk based assessment is divided into seven chapters followed by appendices, forming four main sections:

Chapters 1-2 serve to introduce the organisations involved, the proposed development, the context, method and standards of assessment, and the layout of this report. All headings up to and including *circulation of report* deal with aims. The remaining headings in the introduction deal with scope. The *Method of Assessment* is also part of the scope of the report, but is large enough to need its own section. It deals with the archaeological standards and methods used for the data collection, analysis and reporting. Additionally, the chapter defines

nomenclature used in this report, and states where the project archive will be deposited upon project completion.

Chapters 3-4 present the results of the assessment. Specifically, they describe the physical environment through which the pipeline is to be built, and present the known archaeology of the Study Corridor

Chapters 5-7 deal with the impacts of the proposed development on the archaeological sites within the Study Corridor and discuss approaches which can be adopted for dealing with them.

Appendices: Four appendices (A – D) comprise an explanation of the phased approach to mitigation, explanation of statutory and non-statutory protection of archaeological sites, gazetteer of archaeological sites and constraints figures

1.9 Limitations

1.9.1 Reliability of the data

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 the few that do exist must be considered carefully for their veracity.
- Primary map sources, especially older ones often fail to locate sites accurately to modern standards.
- There may be a lack of dating evidence for sites.
- The usefulness of aerial photographs depends upon the geology and land use of the areas being photographed and also the season and weather conditions when the photographs were taken. Many types of archaeological remains do not produce crop, soil or vegetation marks and the aerial photographs themselves involve some subjective interpretation of the nature of sites.

1.9.2 Potential limitations of an impact assessment

Limitations of impact assessment can include:

- inaccuracies of map sources which make it difficult to provide a precise assessment of potential impact
- uncertainty regarding the survival and current condition of some sites. This means that the importance of some sites cannot be finalised until reconnaissance and/or evaluation has taken place on the ground
- uncertainty regarding the precise methodologies of the development proposals
- the possibility that hitherto unknown archaeology will be encountered

2 METHOD OF ASSESSMENT

2.1 Standards

This assessment has been conducted according to the Institute of Field Archaeologists' *Code of Conduct* (2000) and *Standard and Guidance for Archaeological Desk-Based Assessment* (2001), as well as the *Standards for Field Archaeology in the East of England* (Gurney 2003) and English Heritage's *Management of Archaeological Projects* (1991).

2.2 Study Corridor

Data collection focused on a kilometre-wide Study Corridor, centred on the proposed pipeline. Background archaeological and historical information for the localities through which the corridor passed was also studied to provide a broader archaeological context.

2.3 Consultations

Information and views have been sought from statutory bodies during the assessment process, including:

- Cambridgeshire Historic Environment Record
- English Heritage
- Fenland District Council
- King's Lynn and West Norfolk Borough Council
- Norfolk Historic Environment Record

2.4 Data collection

Data and views have been sought from statutory and non-statutory bodies during the assessment process (Table 2.1).

Table 2.1: Summary of data sources and data collected during the assessment process

Source	Data type	Data in Study Corridor
British Museum (BM)	Portable Antiquities Database	Yes
Cambridgeshire Historic Environment Record	Sites and Monuments Record	No
Council for British Archaeology (CBA)	Defence of Britain Database	No
Countryside Agency	Heritage Coasts	No
Fenland District	Conservation Areas	No
King's Lynn and West Norfolk Borough	Conservation Areas	No
Norfolk Record Office	Historic maps (tithe, OS etc)	Yes
	Secondary printed sources	Yes
Norfolk Landscape Archaeology	Historic Environment Record	Yes
	Grey Literature	Yes
English Heritage	List of Buildings of Special Architectural or Historic Interest held by the Department of Culture, Media and Sport	Yes

Source	Data type	Data in Study Corridor
	National Monuments Register (NMR) Events database of archaeological works	Yes
	NMR Monarch database of registered archaeological sites	Yes
	NMR collection of vertical aerial photographs	Yes
	NMR collection of oblique aerial photographs	Yes
	Schedule of Ancient Monuments of England	Yes
	The National Mapping Programme (NMP)	No
	Register of Historic Battlefields	No
	Register of Parks and Gardens of Special Historic Interest in England	No
	World Heritage Sites	No
English Nature (EN)	Ancient Woodland	Yes

2.5 Data management and presentation

2.5.1 Definition of a 'site'

The term 'site' is used throughout this report to refer to ancient monuments, buildings of architectural and historical importance, parks, gardens, designed landscapes, battlefields, public spaces, historic landscapes, historic townscapes, findspots of artefacts and any other heritage asset. Unless otherwise stated the term 'site' refers to the location where a site was situated and not to extant remains (e.g. a windmill means the location of a former windmill, and a pond means the location of a former pond). The only exception is structures, which can be taken to be extant unless otherwise stated.

2.5.2 Reference conventions

The information gathered from the data sources listed in section 2.4 is uniquely referenced throughout this report and on all the figures. Information retrieved from public databases is prefixed by a two, three or four letter code, followed by their original source number. Sites found during the course of this desk based assessment that are not currently listed in a public database are referred to as DBA sites, identified by a two-letter suffix (Table 2.2).

Table 2.2: Summary of site reference codes

Reference code	Terms of reference	Example site reference
DBA	Desk Based Assessment Site	DBA:AA
DOB	Defence of Britain Project	DOB:S0013298
HER	Norfolk Historic Environment Record	HER MNF19696
LS	Listed Structure	LS TA03NE 10/58
MON	English Heritage MONARCH Database and Events Database	MON 1309749
PA	Portable Antiquities Database	PA NMS-560A84
SM	Scheduled Ancient Monument	SM 26502

2.5.3 Archaeological constraint gazetteer

Known archaeological sites lying within the Study Corridor are summarised within a gazetteer in appendix C. The gazetteer is structured in alphanumerical order. The gazetteer provides the source, cross-references, description, period and location of each site. The location is given as a 12 figure national grid reference to the centre of the point, area or linear. The gazetteer also gives a category of importance (see 2.6.1), an assessment of impact (see 2.6.2) and an assessment of the significance of impact (see 2.6.3).

2.5.4 Archaeological constraint figures

The archaeological sites listed in the gazetteer are presented on A3 constraint figures (2 - 12). Each site is represented by a star, shaded area or dashed/dotted line, depending on the type of data held. The symbols and corresponding labels are coloured according to the importance of the site (see 2.6.1).

2.5.5 Accuracy of displayed data

Site data originally may have been captured at a different scale to that which it is now displayed. This should be borne in mind when interpreting the exact location of constraint points and polygonal boundaries. Table 2.3 presents estimated accuracy levels based upon visual comparison with plots.

Table 2.3: Summary of accuracy levels for displayed data

Source	Source type	Source scale	Positional accuracy in relation to current OS mapping	Accuracy in relation to position on the ground
DBA	OS map	1:10,000 1:10,560	1mm	± 10m
DBA	OS map	1:2,500	1mm	± 2.5m
DBA	AP vertical	1:5,000 - 1:10,000	1-5mm	± 5 - 50m
DBA	AP oblique	1:1,000 - 1:2,500	1-5mm	± 5 - 50m
DBA	Tithe/enclosure map	1:5,000 - 1:10,000	1-5mm	± 5 - 50m
DBP	digital points	-	-	?
LS	digital points	-	-	? ± 10m
MON	digital points	-	-	? ± 10m – 1000m
HER	Annotated maps, digital points and text data	(1:10,000)	±1-200mm	? ± 10m – 2000m

2.6 Impact assessment process

Archaeological impact assessment is the process by which the impacts of a proposed development upon the archaeological resource are identified. Each site has been assessed in its wider heritage landscape, taking account of identity, place, and past and present perceptions of value.

A three stage process was adopted:

Stage 1: assessment of importance (see 2.6.1)

Stage 2: assessment of the impact of the proposed development (see 2.6.2)

Stage 3: assessment of significance of impact (see 2.6.3)

2.6.1 Importance

The sites listed in the gazetteer have been rated according to their perceived importance into categories A to D and U (as shown in Table 2.4). Where possible, each site has been assessed on the following characteristics:

- complexity (i.e. diversity of elements and relationships)
- condition (i.e. current stability and management)
- period
- physical form
- rarity
- setting
- survival (i.e. level of completeness)

The grade awarded to each site considered the scale at which the site may be judged significant (i.e. in terms of local, regional and national policies, commitments and objectives); representational value, diversity and potential; and existing local, regional and national designations (e.g. Scheduled Ancient Monuments). Some sites within the Study Corridor benefit from statutory protection and other protection (see appendix B).

The process of importance categorisation has been adopted as a tool in determining appropriate mitigation. The categories should not be taken as a statement of fact regarding the importance or value of a particular site. The use of examples of types of site is simply a guideline. The inclusion of a site in a particular category often involves a degree of subjective judgement and is based upon the current level of information. Categories are not fixed or finite, and there is every possibility that the classification of a site may change as a result of findings made during later stages of investigation.

Table 2.4: Site category definitions

Grade	Site type	Examples	Investigation and mitigation
A	Statutory protected	Conservation Area Listed Building (I, II* and II) Scheduled Ancient Monument World Heritage Site	To be avoided
B	Nationally important	Grade I and II* Registered Park and Garden Registered Battlefield Major settlements (e.g. villas, deserted medieval villages) Burial grounds Standing historic buildings (non-listed)	To be avoided
C	Regionally important	Grade II Registered Park and Garden Some settlements, finds scatters, Roman roads, sites of historic buildings	Avoidance desirable, otherwise investigation recommended
D	Locally important	Field systems, ridge and furrow, trackways, wells	Avoidance /investigation may or may not be envisaged at this stage
U	Ungraded	Non-archaeological site held by data source	n/a

2.6.2 Impact of the proposed development

The potential impact of the proposed scheme upon a site has been assessed at three levels:

- nature of impact (see Table 2.5)
- type of impact (see Table 2.6): a nominal 42m working width has been allowed.
- magnitude of impact (see Table 2.7)

Table 2.5: Nature of impact definitions

Positive	Beneficial contribution to the protection or enhancement of the archaeological and historical heritage
Negative	Detrimental to the protection of the archaeological and historical heritage
Neutral	Where positive and negative impacts are considered to balance out
None	No or negligible impact due to distance from proposed scheme, and/or construction technique which negates the impact

Table 2.6: Impact type definitions

Direct	Physical damage, including compaction and/or partial or total removal. Severance, in particular linear sites
Indirect	Visual intrusion affecting the aesthetic setting of a site. Disturbances caused by vibration, dewatering, or changes in hydrology etc.
Uncertain	Where the physical extent or survival of a site is uncertain, or where the visual impact of the proposed scheme on the setting of sites or the landscape has not been determined

Table 2.7: Magnitude of impact definitions

Severe	Entire or almost entire destruction of the site
Major	A high ratio of damage or destruction to the site
Minor	A low ratio of damage to the site
Indeterminate	Where the data level does not allow any secure calculation (e.g. because the quality and extent of the site is unknown, or because construction techniques have not yet been decided)

Factors affecting the assessed magnitude of impact include:

- the proportion of the site affected
- the integrity of the site; impacts may be reduced if there is pre-existing damage or disturbance of a site
- the nature, potential and heritage value of a site

2.6.3 Significance of impact

The 'significance' of the impact has been assessed as the product of the importance of each site, and the impact of the proposed scheme upon each site. The levels of significance of impact are defined in Table 2.8. Significance of impact definitions are provided only for negative impacts, as these were the only type on this particular scheme. The significance of impact rating takes no account of potential mitigation.

Table 2.8: Significance of impact definitions

Stage 1	**Stage 2**			**Stage 3**
Importance of site	**Nature of impact**	**Type of impact**	**Magnitude of impact**	**Significance of impact**
A	negative	direct	severe	high
			major	high
			minor	high
			indeterminate	high
		indirect	severe	high
			major	high
			minor	medium
			indeterminate	high or medium
		uncertain	n/a	unknown
B	negative	direct	severe	high
			major	high
			minor	medium
			indeterminate	high or medium
		indirect	severe	high
			major	medium
			minor	medium
			indeterminate	high or medium
		uncertain	n/a	unknown

Stage 1	Stage 2			Stage 3
Importance of site	**Nature of impact**	**Type of impact**	**Magnitude of impact**	**Significance of impact**
C	negative	direct	severe	medium
			major	medium
			minor	low
			indeterminate	low or medium
		indirect	severe	medium
			major	low
			minor	low
			indeterminate	low or medium
		uncertain	n/a	unknown
D	negative	direct	severe	medium
			major	low
			minor	low
			indeterminate	low or medium
		indirect	severe	medium
			major	low
			minor	low
			indeterminate	low or medium
		uncertain	n/a	unknown

3 DESCRIPTION OF THE PROPOSED PIPELINE CORRIDOR

3.1 Location and topography

The proposed pipeline is to be built between King's Lynn Compressor Station, in Norfolk (NGR 545620 313830) and the Wisbech Nene West Above Ground Installation (AGI) in Cambridgeshire (NGR 572240 316280) (Figure 1).

The proposed pipeline is on a predominantly east to west alignment, with a slight southwards meander. The route starts approximately 9km south-east of King's Lynn in Norfolk and ends about 2.5km north of Wisbech in Cambridgeshire, passing near the villages of West Bilney, Blackborough, Setchey, Watlington, Wiggenhall St Peter, Wiggenhall St Mary, Tilney St Lawrence, St John Fen End, Walton Highway, West Walton and Newton. All but the last are in Norfolk. About half way along its length, the proposed route crosses the Cambridge to King's Lynn railway (Figure 1).

The route starts 2km west of East Walton going south through West Bilney before turning south-west and passing to the south of Blackborough. From here it travels for a further 3km before crossing the River Nar and passing 1km south of Setchey. Continuing in a westerly direction for 3km, it crosses the River Great Ouse and its associated relief channel, 500m south of Wiggenhall St Peter. It crosses the Middle Level Main Drain and travels north-west, passing north of St John Fen End. It then turns north-west, c. 1km of Walpole Highway, and crosses the A47. It travels for a distance of 2km above Walton Highway and West Walton, before turning south-west and crossing the River Nene to the Wisbech West Nene AGI.

The Study Corridor is flat, low lying, reclaimed Marshland/Fenland, mainly between 0m and 10m above OD. The proposed route crosses three major rivers, their tributaries and a network of minor watercourses, deep artificial drainage channels and ditches. From east to west, the rivers comprise the Nar, the Great Ouse and the Nene. The route also crosses the Middleton Stop Drain, a tributary of the River Nar, and the relief Channel that runs parallel to the east side of the Great Ouse, and the Middle Level Drain, Mill Basin and Smeeth Lode to the west of the Great Ouse.

3.2 Formation History

Much of western Norfolk and the neighbouring county of Cambridgeshire represent an entirely man-made landscape. Drainage systems, which criss-cross the landscape, have allowed land to be reclaimed from the high water table and the sea (Figure 13). The fen clay is a complex deposit, which was laid down over thousands of years in a series of marine transgressions and regressions, affecting different parts of the Fenland Basin at different times (Gallois 1979: 34). Much of the clay was laid down under salt-marsh and inter-tidal conditions, the light-coloured ridges (roddons) representing the creeks that drained these prehistoric marshes (Silvester 1988: 151). Extinct saltmarsh creeks or roddons traverse the clays. These sinuous silt bands were created by overspill from active creeks forming banks or levees. Roddons have subsequently remained slightly higher and have been favoured locations for early and indeed modern settlement. Remains of whales and similar large marine animals are reported from the roddon silts, which suggest an estuarine origin for them (Godwin 1938). The skirtland represents dark-stained soil derived from decomposed peat of former fenland, which have retrenched due to disturbance (usually by agriculture) (Figure 13).

The silt composing the roddons accumulated in a marine or brackish water environment (it yields marine foraminifera), and slowly built up to a level slightly higher than the surrounding marshes to form natural levees overlapping the peat of the Fens. The effect is most clearly seen in autumn or winter when the surface of most of the fields is bare soil, in which dampness may accentuate the contrast in tone, and shadows pick out the slight differences in relief. The natural variations in the soil also give rise in summer to crop patterns, and former water courses in the Fenland are frequently visible in this way, but owing to the agricultural rotation, only parts of the system are at any one time under crops that respond to those soil differences. Therefore, the present day landscape is in marked contrast to the marshland that predominated during prehistory. Figure 13 shows the changing nature of the west Norfolk landscape.

From 2900 to 2500 BP (pre-Bronze Age), the landscape through which the pipeline passes would have comprised marine silt, with patches of peat in the eastern sector. For long periods during the later Neolithic and Bronze Age this littoral environment must have been largely inhabited, but it should not be totally dismissed as unattractive to prehistoric communities. The appearance of several tools and weapons of Bronze Age date point to some prehistoric activity. It would be better to think in terms of the exploitation of coastal resources such as fish and birds and perhaps even the larger maritime animals, than in permanent settlement. Further south, a considerable population is implied by discoveries along the eastern edge of the peat fens and it would be surprising if Bronze Age people did not ply the rivers that drained that part of the Fenland Basin and flowed into the Wash (Silvester 1988: 151). From 2500 to 1800 BP (post-Bronze Age) marine incursions spread further south onto areas that were previously covered by peat. Coastal salt marshes and intertidal mudflats would have predominated in these environmental conditions. Clearly the mudflats would have been subject to regular flooding and the saltmarsh would have been susceptible to flooding. While neither area would have attracted permanent occupation, their rich resources could be seasonally exploited.

In the far west, the Fenland became wetter during the Iron Age. There was a maritime incursion into the central Fenland and the coastline lay south of its current position, running approximately from Wisbech to Downham Market. The southern Fens comprised freshwater wetland, which contained some dry land on islands and promontories. During the first century AD sea level dropped and the northern part of the Fens began to dry out. The drying out of the marshes and silting of creeks, probably resulting from a eustatic fall in sea level, led once again to the slow formation of peat. Marshland dykes reveal a thin layer of peat beneath the Iron Age silts. It is rarely more than 15cm thick and usually between 5-10cm and in some dykes near Walpole St Peter, it is absent altogether. A series of radiocarbon dates from the Wisbech bypass provides a guide to the beginning and end of this freshwater fen phase. Two radiocarbon determinations of 2710±60 (925-825 cal BC) from Railway Crossing, Wisbech St Peter, Cambridgeshire and 2720±70 (930-825 cal BC) from East Meadowgate, Walsoken, indicate the onset of peat growth in the early first millennium BC (Silvester 1988: 151).

Substantial woodland clearance was underway by the Late Bronze Age/Early Iron Age transition. The spread of heath vegetation resulted later in the Iron Age, mainly on the sandy soils of west Norfolk and especially in the Breckland. By the Late Iron Age, intensively farmed landscapes had been established in many parts of the area. The termination of peat growth by marine flooding in the late Iron Age is confirmed by dates of 2010±50 (60 cal BC - 25 cal AD) and 2100±50 (195-55 cal BC) from Newbridge Road and the Railway Crossing respectively. These demonstrate the return of marine conditions around the first or second centuries BC. A metre or more of silt was deposited by this new inundation of Marshland (Silvester 1988: 151).

During the Iron Age, the Fens would have been under water or waterlogged marshland. Throughout this waterlogged and marshy environment there was a series of islands, and rather than being inhospitable, this particular environment would have been an area rich in resources, providing not only fowl for food, but also reed for thatching, salt and good pasture land. The Great Marshland Roddon reveals a major river, which functioned at least as early as the second millennium BC. At the end of the Iron Age it was certainly one of the largest watercourses in the region. For much of its early course the river ran northwards and its line may have been similar to that of the present Great Ouse (Silvester 1988: 154). The loop in the Magdalen parish boundary probably follows a meander of this ancient river, as well as being a bend in the medieval Great Ouse (Silvester 1988:154).

With the drying out of these late prehistoric silts and the gradual silting of the creeks that drained them, the first tangible occupation of Marshland appears. With the continual regression of the sea and the introduction of drainage systems, which began in the Roman period, peat growth began to spread throughout the floodplain that surrounded the rivers Witham, Welland, Nene and Ouse. Peat forms when plant material, usually in marshy areas, is inhibited from decaying fully due to acidic conditions. It may be composed of marshland vegetation, such as trees, grasses and organic remains. Under certain conditions the decomposition of organic remains may be reduced due to the absence of oxygen, and thus particular archaeological materials may be preserved, e.g. wooden artefacts, leather and textiles.

Due to later flood deposits, the full extent of Roman settlement cannot be defined, but there is no reason to suppose that the extent of habitable land in the early first millennium AD was any more restricted than a thousand years later. Indeed, settlement may well have extended on to siltland, which was only subsequently reclaimed in the post-medieval period (Salway 1970: 3). However, due to the barrier effect of the sea bank, the depth of overlying silt outside the bank is considerably greater than inside. In the southern part of Marshland the freshwater fen, which held back the marine incursion of the late Iron Age, created an equally effective break to settlement.

The first settlers moving on to the silts were faced with marshland, in places still crossed by networks of natural drainage channels and small creeks, some of which may have continued to function for a considerable time and become integrated in the systems of Roman enclosures. The Great Marshland River gradually silted up, although its lower reaches were still being flooded with salt water. Further eastwards its course was bisected by the Aylmer Hall canal, a fair indication that in Tilney the river's drainage function had ceased. As this river carried water from both the peat fens and the adjacent uplands, the blockage of the lower reaches would have necessitated a new route to the Wash, almost certainly in a more direct line to the north. Though the Eau Brink loop may not have been established quite so early, the movement of freshwater across this landscape must have created damper conditions, less easily controlled by artificial drainage and certainly inimical to settlement. This waterlogging, besides creating an unattractive zone for occupation, may have created a physical barrier between the siltland settlements and those on the uplands, reinforcing the socio-economic divide to which other writers on the Roman fenland have drawn attention (e.g. Salway 1970: 10).

The waterlogged conditions of eastern Marshland at this time are emphasised by the construction of the Aylmer Hall canal, running from the edge of the settlement zone in Tilney and Terrington at least as far as the present Great Ouse. Its line, if extended, would have reached the upland edge, just south of the Nar valley. Natural watercourses, perhaps not completely defunct, were incorporated in its length, and in crossing this unoccupied zone it resembles other Roman fenland waterways such as the Bourne-Morton canal in Lincolnshire

(Lane 1985). Whilst it must have provided an important artery for transporting the produce of the Marshland farms to the uplands, it also formed a link in the general network of communications.

For the Roman centuries, embankment remains unproven, and there is good evidence, in the form of inland salterns, that some rivers and creeks were open to the sea throughout the period. Yet it is difficult to envisage Roman farmers colonising a marginal landscape of creeks and saltmarshes, without making some attempt to improve the land and limit the effects of the sea. Once regular marine inundations ceased, mixed farming could be practised. Salt production was necessarily important. The amount of briquetage recovered during the survey was small. Yet the prevalence of Roman salterns on the west side of the Nene in Elm (Hall 1978: 26) indicates that, wherever salt water was flushed back along creek systems and there was a convenient source of peat for fuel, salt production could occur. That so little trace of the industry appears in Marshland might be attributed to the covering of later silt.

Several centuries after the Roman abandonment, the foundation of new settlements must have been in a landscape that varied in wetness according to the season and the frequency of marine and freshwater flooding. Lamb (1981: 58) has argued that in the earlier eighth century, climatic change ushered in drier and probably warmer summers and colder winters. Such a change could have encouraged pioneering settlement on the silts.

In areas relatively unaffected by such natural events coarse grass and small trees, mainly thorn, and in damper locations rushes, sedge and even fen carr might be represented. The 'frith' field names in Tilney imply that scrub developed on the higher silts before reclamation commenced. Closer to the Wash would be saltmarshes with seasonal grass growth and inter-tidal mud flats. The position of the Saxon coastline cannot be accurately defined. At the opposite end of Marshland, the freshwater fen must have been spreading gradually from the south. Its extent cannot be determined, but it may have covered some of the abandoned Roman sites, leaving only the Aylmer Hall canal and the Great Marshland Roddon as ridges protruding above the marsh.

Meandering through Marham and Pentney the post-glacial course of the River Nar is visible from the air as a broad band of peat, on the ground as a distinctive peat-filled hollow below the level of the peat-stained skirtland. Just to the east of Wormegay island the band diffuses into a much more extensive tract of peat and the course of the river is lost.

Close to the mouth of the valley near Setchey, peat growth had started by 5440 ±100 (4370-4230 cal. BC), reflecting initial growth in the Mesolithic or early Neolithic. Closer to Wormegay there is a later date for peat growth of 4210±65 (2910-2710 cal. BC). Riparian settlement in the Mesolithic and later periods, whether permanent or temporary, appears to have been sparse. Few flint concentrations have been recorded during the Fenland Survey, but those that have come to light suggest that the flat valley bottom close to the river was largely avoided (Silvester 1988: 169).

In the third millennium BC marine flooding deposited fen clay in the mouth of the valley and these conditions may have lasted into the second millennium. From near Setchey a radiocarbon date of 3215 ±100 (1595-1415 cal. BC) dates the renewed growth of peat. In succeeding centuries peat spread across the fen clay, the organic deposits, in turn, being buried at the end of the prehistoric period when the Iron Age silt choked the mouth of the valley. This spread a little further up than the earlier flooding episode and left a well-defined set of roddons. Further east, peat growth continued, unhindered by the marine transgression.

Within these varied natural environments human activity occurred but on a very restricted scale. Finds from the Iron Age are close to, or above, the 7.6m OD contour and it is obvious

that unlike the edge of the peat fen in the Wissey embayment, communities of late prehistoric date preferred locations lying back from the fen. Much the same is true of settlement in the Roman period. All the medieval villages, with the exception of Wormegay, are set back from the valley floor.

3.3 Solid geology

Three solid geologies are crossed by the proposed pipeline route. The solid geology of the region is characterised by rocks of Cretaceous and Jurassic age. The east tip of the Study Corridor is on Upper Greensand. The rest of the route is located on Jurassic Amptill Clay, Kimmeridge Clay and Corallian Chalk. This is overlain by Lower Cretaceous Chalk, which is found at the eastern end of the proposed route (for *c*. 6km). It comes to the surface on the eastern borders of the Fens and can be traced from Downham Market to Hunstanton. The far eastern edge of the pipeline lies on a geological boundary with Lower Cretaceous Chalk to the south and Ampthill Clay to the north.

3.4 Drift geology

Superficial deposits are extensive across the proposed route. A broad expanse of silty and clayey alluvium in the Wash overlies bands of peat. Localised patches of sand and gravel are found in the east around King's Lynn and Head deposits, which cover low ground in the valleys that lead into the Wash. The eastern tip of the Study Corridor also has deposits of glacial sand and gravel. Marine Alluvium (Tidal Flat Deposits) extends across land west of West Bilney, continuing beyond Wisbech. A complex sequence of deposits made up of marine clays and sands and freshwater peat underlies the whole of the western end of the pipeline route. The oldest deposits are laterally extensive gravely sands, up to 1m thick. The gravels are overlain by Lower Peat rarely more than 1m thick (BGS 1995). River Terrace deposits are noted within the eastern 6km of the Study Corridor, in pockets in the vicinity of Setchey and along the River Nar. River Alluvium is less extensive along the pipeline route than Marine Alluvium. Strips are found along the floodplain of the River Nene. These deposits are believed to be less than 1m thick and overlie peat.

A geomorphological and geotechnical study carried out by Black and Veatch (2006) has indicated that superficial deposits will be encountered along approximately 97 per cent of the proposed pipeline route. This will mostly consist of Tidal Flat Deposits (Marine Alluvium), which is likely to be encountered along 79 per cent of the total route length, extending westwards from Blackborough End. Marine alluvium covers approximately 23km of the route and River Alluvium covers 0.4km of the route. Seventy borehole records were obtained for sites within and adjacent to the Study Corridor. Due to the limited coverage of the borehole records and lack of detail provided by some of them, they do not provide a conclusive and comprehensive check of the underlying geology within the Study Corridor. The limited spatial coverage means that it is difficult to determine accurately the underlying depths of each individual geological unit.

Information from the British Geological Survey indicates that the thickness of superficial deposits (alluvium) in the eastern sector of the Study Corridor ranges from 1m to 10m thick. Within the western section, the thickness increases markedly and varies between 10m and 30m. Just to the south of the Study Corridor the superficial deposits range from 30 to 50m thick. These results are confirmed to some extent by the borehole results. Unfortunately, the presence of alluvium which is more than 1m thick, precludes the use of geophysical survey. Boreholes located along the route of the A47 (Walton Highway to Walpole Highway) indicate that the thickness of Marine Alluvium ranges from 3.6m to 11.4m. A borehole located 900m

north-east of Ivy Farm (near Wiggenhall St Peter) and 100m north of the pipeline indicates that Tidal Alluvium is 17m thick.

3.5 Soils

The Study Corridor contains seven soil associations (Table 3.1).

Table 3.1: Soils and landuse

Soil association	SSEW sub-group	Description	Geological location	Land use
Isleham 2	861b	Glaciofluvial drift and peat. Deep permeable sandy and peaty soils affected by groundwater. Very complex soil pattern with hummock and hollow micro relief locally	Lower Cretaceous Chalk, Ampthill Clay, Kimmeridge Clay and Corallian Chalk	Cereals, sugar beet, potatoes and horticultural crops; rough grazing where undrained
Burlingham 1	572n	Chalky till and glaciofluvial drift. Deep coarse and fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging. Some deep well drained coarse loamy and sandy soils	Ampthill Clay, Kimmeridge Clay and Corallian Chalk	Cereals, peas, beans and sugar beet
Newport 2	551e	Glaciofluvial drift over Cretaceous sand or Crag. Deep well drained sandy often ferruginous soils	Ampthill Clay, Kimmeridge Clay and Corallian Chalk	Cereals, sugar beet, peas and beans
Downham	555	Glaciofluvial drift over Cretaceous sandstone. Deep permeable sandy and coarse loamy often ferruginous soils variably affected by groundwater. Some well drained soils on higher ground.	Ampthill Clay, Kimmeridge Clay and Corallian Chalk	Cereals, sugar beet and potatoes; some permanent grassland
Wisbech	812b	Marine alluvium. Deep stoneless calcareous coarse silty soils.	Ampthill Clay, Kimmeridge Clay and Corallian Chalk	Sugar beet, potatoes, field vegetables, horticultural crops and cereals
Wallasea 2	813g	Marine alluvium. Deep stoneless clayey soils, calcareous in places. Some deep calcareous silty soils. Flat land often with low ridges giving a complex soil pattern	Ampthill Clay, Kimmeridge Clay and Corallian Chalk	Winter cereals and some sugar beet, potatoes, cereals and field vegetables
Blacktoft	532a	Marine alluvium. Deep stoneless permeable calcareous coarse and fine silty soils	Ampthill Clay, Kimmeridge Clay and Corallian Chalk	Sugar beet, potatoes and cereals; some field vegetables and horticultural crops

3.6 Land use

The majority of the land within the Study Corridor comprises farmland interspersed with small settlements and the town of King's Lynn. The predominant land use is agricultural and is particularly significant in the Marshland and fen areas. However, the area has experienced significant change and much of the land has been created through the drainage of the wetlands using ditches and coastal sea defence. This extensive network of ditches and field drains has created an agricultural landscape characterised by relatively small fields. Some field boundaries and hedgerows have been removed to make larger, more open fields, particularly in the west of the proposed pipeline route around West Walton and Walton Highway. The extensive network of open water field drains that separates each field has restricted the creation of larger field systems and made it difficult to for fields to be combined.

Norfolk is involved in the production of aggregates and their extraction is largely confined to Sand and Gravel and Carstone sandstone (NCC 2004). An assessment of the historic maps and aerial photographs (see section 4) has shown that there are a number of disused pits within the Study Corridor. Historically, extensive areas of both the Nene and Ouse River valleys have been the subject of sand and gravel extraction. Many of the former workings have been flooded to form extensive areas of wetland. Mineral extraction within the floodplains of the River Nene and Great Ouse is now restricted to protect the remaining undisturbed river valley landscapes.

3.7 Hydrogeology and hydrology

The Groundwater Vulnerability 1:100,000 Map Series for West Norfolk shows two distinct areas within the Study Corridor. To the west of King's Lynn, the Ampthill Clay, Kimmeridge Clay and Gault Clay provide a non-aquifer which is of negligible permeability. Non-aquifers are formations which are generally regarded as containing insignificant quantities of groundwater although some non-aquifers can yield water in sufficient quantities for domestic use. In some instances, they may also be underlain by major or minor aquifers. The Sandringham Sands to the east of King's Lynn provide a major aquifer of high permeability. The subterranean water may be saline and can be continually moving.

The eastern end of the pipeline route passes through the fluvial floodplain of the River Nar (approximately 4km). In addition, a large stretch of the proposed route from Tottenhill to the Wisbech AGI lies within the tidal floodplain (approximately 26km). Small areas along the eastern section of the Study Corridor lie outside either floodplain, such as areas near North Runcton and East Winch (Black and Veatch 2006).

3.8 Areas of former mineral extraction

Areas of former mineral extraction exist to the east and south-west of Blackborough End but neither area is crossed by the proposed pipeline.

4 ARCHAEOLOGY WITHIN THE STUDY CORRIDOR

4.1 Previous archaeological work within the Study Corridor

There are 12 recorded archaeological investigations within the Study Corridor, which are discussed below under the headings 'Field Surveys', 'Evaluations, Excavations and Watching Briefs', and 'Architectural Surveys'.

4.1.1 Field surveys

Five surveys have taken place:

A considerable amount of fieldwalking has been undertaken in the Study Corridor as part of the Fenland Survey. This was carried out between 1981 and 1989 and has identified over 2500 new sites in the Fenland area (Cambridgeshire, Lincolnshire and Norfolk).

The English Rivers Palaeolithic Project, which commenced in 1994, was an English Heritage initiative to review all known Palaeolithic data in Britain. Wessex Archaeology published its results for the Great Ouse area in 1996.

An earthwork survey was undertaken in 1998 on the Scheduled Ancient Monument of Blackborough Priory (SM 30560).

A resistivity survey was completed in 2004 on the site of a medieval moat (HER MNF2207).

Most recently in March 2006, Archaeological Project Services undertook a fieldwalking survey of the proposed King's Lynn to Wisbech pipeline (HER MNF48751) (Archaeological Project Services 2006). Seven blocks of land were surveyed and items of prehistoric, medieval and post-medieval date were identified. Apart from a clustering of post-medieval items adjacent to farms, most of the material is suggestive of casual loss or manuring scatters. Recent items were also retrieved in a generally even distribution along the pipeline corridor. Finds included pottery and ceramic building material (brick and tile) from medieval and later periods. Other finds included flints, glass, clay pipe and a range of metalwork. It should be noted that fieldwalking was carried out on one of the proposed pipelines, which has since been discounted and is not the focus of this desk-based assessment.

4.1.2 Evaluations, Excavations and Watching Briefs

Two evaluations have taken place:

In 2003, Network Archaeology Ltd excavated 104 evaluation trenches along a proposed Transco gas pipeline running from Bacton to King's Lynn (MON 1399895). The eastern end of this pipeline route runs into the Study Corridor and archaeological finds included an early Neolithic and early Bronze Age occupation site at East Walton.

An evaluation was carried out in 2004 on the site of a new farmhouse. It recorded 18th and 19th century ditches only (HER MNF43998).

Two watching briefs have taken place:

Both of these watching briefs were undertaken during improvement works on the River Nar in 2001. They focused on the area around the Soke Dyke and were carried out by Norfolk Archaeological Unit. The first (HER MNF40443) identified a number of linear features

believed to be Iron Age or Roman in date. The second evaluation (MON 1401750) recorded a series of undated natural features.

Two excavations have taken place:

Nineteenth century excavations were undertaken at Blackborough Priory and revealed a number of burials.

In 1992, an excavation was undertaken at Ingleborough (HER MNF18943), as part of the Fenland Management Project. The overall project represented a programme of fieldwork to implement an agreed management action resulting from earlier projects, such as the Fenland Survey and Evaluation. The excavation confirmed that a mound previously believed to be a saltern was in fact the highest point of a roddon. Substantial middle Saxon, late Saxon and medieval ditches were full of domestic rubbish. There was also a hearth, as well as late Saxon and medieval metalwork.

4.1.3 Architectural Surveys

Only one architectural survey is recorded:

In 2000, a survey was carried out by Norfolk Landscape Archaeology on a house at Greenfields (HER MNF38777). The survey revealed a medieval timber-framed house within a 19th century brick house.

4.2 Prehistoric Period (c. 4000 BC – AD 43)

4.2.1 Prehistoric Period: General Background

Unexcavated cropmarks are not easily datable and there are difficulties in differentiating late Mesolithic/early Neolithic and late Neolithic/early Bronze Age flintwork. This section deals with those 'prehistoric' sites that cannot be closely dated.

4.2.2 Prehistoric Period: Known Sites

A number of flints are recorded in a field immediately south of West Bilney (MON 357083). To the south-west of West Bilney, bones from elephants and other fauna were found in the bed of a stream (HER MNF3767). Finds were also recorded during fieldwalking in 2006 (HER MNF48751a). To the south of Blackborough End, two find scatters have been identified during fieldwalking. These include pot boilers (HER MNF23205) and a number of flints (HER MNF22983).

A stone axe-hammer was found in 1979 when work was being carried out on land to the south-east of Setchey Bridge (HER MNF15485). It had an hour-glass perforation and was 18cm in length. Nearby, a number of flints have been identified (HER MNF23065) and a ring ditch has been recorded too (HER MNF2280). Further flints have been identified near Tottenhill Row during fieldwalking (HER MNF 23202-23203).

4.2.3 Prehistoric Period: Additional Information

No additional information about sites of this period within the Study Corridor has been produced by researching secondary sources.

4.3 Palaeolithic (c. 500,000 – 8,300 BC)

4.3.1 The Palaeolithic Period: General Background

Palaeolithic culture flourished during the Pleistocene, a period of glaciation interspersed with long periods of slightly warmer climate. Britain was still joined to continental Europe at this time, so in periods of intense cold – such as the last glaciation (25,000 to 18,000 years ago) – populations retreated to warmer parts of the Continent. Palaeolithic people lived by hunting and gathering. Even during the glacial periods, however, they made seasonal food-gathering forays into the area that is present day Britain.

During this period, the coast of Norfolk would have been 60 to 70 km further to the north than today, with much of the North Sea a wide, open plain. The size of the habitable land would have varied through the different glacial and interglacial periods up until the end of the Anglian glaciation, as would have the climate, flora and fauna and the general landscape of Norfolk. The Anglian glaciation was the third from the last glacial stage and occurred between 400,000 and 500,000 years ago. This stage was the last time the ice sheets reached East Anglia and it resulted in the deposits known as the Corton formations.

There is evidence of pre-Anglian rivers from the Midlands crossing the area which is now the Fens and into Norfolk. Some of the gravels identified as being part of this drainage system contain Palaeolithic artefacts. However, the river systems which are now in this area, e.g. the Ouse and the Cam, were initiated after the Anglia glaciation.

The majority of the evidence for the Lower and Middle Palaeolithic occupation in East Anglia survives as redeposited flakes and tools recovered from river gravel deposits. These river gravels were laid by the ancestral Thames and Bytham River systems. Large quantities of artefacts were identified from gravel quarries during the 19th century and early 20th century due to the increased demands for gravel in the construction industry and the hand sorting of this gravel.

Lower Palaeolithic evidence was found in coastal deposits near Happisburgh. Finds of bones and flint tools were *in situ* in riverine deposits of the Cromer Forest Bed series. Experts previously thought the earliest humans arrived 500,000 years ago. The assemblage consisted of an ovate handaxe, a thinning flake and handaxe flake, scrapper, 29 flakes and hammerstone, retouched flint flake and a flint handaxe. The ovate handaxe is believed to be the earliest tool found so far in Europe. Pollen analysis from Happisburgh suggest an environment of temperate woodland with areas of fen carr and aquatic plants growing in a maritime environment of tidal sediments.

An important Middle Palaeolithic was found at Lynford Quarry at Mundford, to the south of the Study Corridor. The evidence was sealed within a Middle Devensian palaeochannel with a dark organic fill. Finds included 44 pristine Mousterian flint handaxes and the remains of at least 9 mammoths. In total, some 2079 bones, tusks, antlers and teeth of mammoth, woolly rhinoceros, horse, bison, wolf, red or arctic fox, brown bear were found, including faeces from scavengers. Over 150 species of insect were identified and indicated the presence of standing water, marsh, bare sand and grass.

The Upper Palaeolithic covers the end of the last glaciation (Devensian Stage) and the immediate post-glacial period (Flandrian). At the beginning of this period, Britain was a part of the European land mass and settlement in Norfolk was just an extension of the settlement of the North European Plain, while by the end of this period it had become more or less the island that we know now. At the end of the Devensian, the sea level was about 30m below present, with most of the land becoming forested with the ameliorating climate. In the mid 9th

millennium BP, with the breaching of the land bridge, East Anglia became cut off from the rest of north-west Europe. Sea levels rose rapidly and peat formation commenced in low-lying areas.

Recent work at Titchwell, on the north Norfolk coast, has produced evidence of a long blade industry. This suggests that similar long blade sites lay below the water table of Norfolk rivers and the Fens. Further examples of long blade industries include Hockwold-cum-Wilton and Methwold, both to the south of the Study Corridor.

4.3.2 The Palaeolithic Period: Known Sites

In 1971, a large handaxe was found by Mr White whilst trenches were being dug for the gas station at East Walton (MON 868370). During further construction work at the East Walton AGI in 1979, a handaxe was recovered (HER MNF15633). Both were located near a stream, which ran alongside the AGI.

In 1967 a handaxe and a fragment from another were recorded 400m to the south of Park Farm (HER MNF42349). The find is only *c*. 20m north of the proposed pipeline route.

A handaxe was discovered in 1957 to the south of Cranberry Plantation, which is to the east of Blackborough (HER MNF3434). The location of the find lies on the proposed route of the pipeline. To the south-west of this find, near Heater Carr, an Acheulian handaxe was discovered (MON 356390).

4.3.3 The Palaeolithic Period: Additional Information

No additional information about sites of this period within the Study Corridor has been produced by researching secondary sources.

4.4 Mesolithic (c. 8,300 – 4,000 BC)

4.4.1 The Mesolithic Period: General Background

The beginning of the Holocene, around 10,000 years ago, corresponds with the beginning of the Mesolithic period in most of Europe. Temperatures rose, probably to levels similar to those today, and forest expanded further. By 8500 years ago, the rising sea levels caused by the melting glaciers, cut Britain off from continental Europe for the last time. The warmer climate changed the arctic environment to one of pine, birch an alder forest. This less open landscape was less conducive to the large herds of reindeer and horse that had previously sustained humans. Those animals were replaced in people's diet by less social animals such as elk, red deer and aurochs which would have required different hunting techniques in order to be effectively exploited. Tools changed to incorporate barbs which would snag the flesh of a hunted animal, making it harder for it to escape. Tiny microliths were developed for hafting onto harpoons and spears. Woodworking tools such as adzes, appear in the archaeological record, although some flint blade types remained similar to their Palaeolithic predecessors. The wetland environments created by the warmer weather would have been a rich source of fish and game.

Tichwell has a rich site of the late glacial and early Mesolithic period. The site was beside a small stream, with the then coastline still distant, i.e. the sea-level was 60m below its present level. Leman and Ower Banks (40km off the Norfolk coast) produced a barbed antler point that was radiocarbon dated to *c*. 9800 BC. It was dredged off the sea bed in 1931. Due to the coast being much further out than the present coastline and barbed antler point being found in

the North Sea, it is suggested that there are many more early Mesolithic sites under the North Sea off the Norfolk coast.

Inland sites include Kelling Heath, a seasonal site that occupied high ground and provided it with a good vantage point over the North Sea plain. Spong Hill has produced evidence for forest clearance through burning. The Breckland district seems to have been attractive to hunter-gatherers during the late Mesolithic, particularly given its proximity to the fen-edge and salt marshes, which were rich in wild fowl and eels. The lighter soils of Breckland, lighter than on the claylands to the north, would have resulted in the wild woods being less dense and thus enabling hunting of deer species. Microliths have frequently been found in the Brecklands, including along the Little Ouse valley, and around the edges of the meres. The heavier boulder clay of the Norfolk till plain has a site, Banham, which has produced more flint tranchet axes than any other in East Anglia.

Judging by the nature and distribution of evidence elsewhere in the county, Mesolithic activity is most likely to be small-scale or episodic, and focused upon lighter soils and elevated south facing slopes (Margeson et al. 1996). Early prehistoric sites appear to avoid the heavy clay soils of the Boulder Clay plateau. It has generally been assumed that this area was not intensively settled until the later Iron Age, although the discovery of sites such as Banham, prove that forested boulder clay was exploited (Dymond 1990).

4.4.2 The Mesolithic Period: Known Sites

Evidence for this period is limited to a number of flints, which were discovered during fieldwalking 700m to the west of Blackborough (HER MNF23622).

4.4.3 The Mesolithic Period: Additional Information

Close to the mouth of the valley near Setchey, peat growth had started by 5440±100 (4370-4230 cal BC) reflecting initial growth in the Mesolithic or early Neolithic. Closer to Wormegay there is a later date for peat growth of 4210±65 (2910-2710 cal BC) (Silvester 1988). Riparian settlement in the Mesolithic and later periods, whether permanent or temporary, appears to have been sparse. Remarkably few flint concentrations have been during the Fenland Survey and those that have come to light suggest that the flat valley bottom close to the River Nar was largely avoided. However, a single Mesolithic site was found beside the river, suggesting that like the Little Ouse and the Wissey, the Nar did attract some hunter-gatherers.

4.5 Neolithic (c. 4, 000 – 2,500 BC)

4.5.1 The Neolithic Period: General Background

The Neolithic has produced a larger archaeological record than the previous prehistoric periods due to the impact and change on the landscape brought about during this period. In the archaeological record, the shift from hunting and gathering to a settled agrarian society is manifested by the appearance of new artefact types – pottery, querns, sickles and polished stone axes. These began to replace the microliths and spears used throughout the Mesolithic period. During the late Neolithic a new style of ceramic appeared in Britain – Beaker pottery. Commonly associated with the beakers are other artefacts such as stone wrist-guards and barbed and tanged arrowheads.

New types of site emerged in this period, including settlements and large ceremonial monuments. The early Neolithic period saw the introduction of long barrows (burial mounds) and long mortuary enclosures, causewayed camps (large enclosures with interrupted ditches),

cursus monuments (parallel ditches sometimes stretching for several kilometres), ring ditches and round barrows.

Three causewayed enclosures are known for Norfolk and appear to be approximately circular, defined by relatively narrow ditches and pit sections, interspersed with narrow causeways. These enclosures are generally defined by single ditches, however the recent published plot of Roughton, near Cromer, has a second, more ephemeral, inner ditch or feature. The three possible Norfolk examples are relatively small and have a marked circularity in comparison to many other causewayed enclosure sites in England.

The way in which they were used is not fully understood, but they may have been a meeting point for small, dispersed groups of people living in the surrounding area, a place where the exchange of goods, ritual feasting and other ceremonial activities might have taken place. Given their characteristic layout, it has been suggested that they may have more in common with hengiform monuments of the later Neolithic and early Bronze Age than with the 'normal' causewayed enclosures of the fourth millennium BC. Alternatively, they might represent a regional tradition distinct to this part of the country. In addition, the geographical distribution of the sites is confined to north-east Norfolk. While some allowance can be used for the usual factors associated with the distribution of cropmark sites, at present it seems that the clustering of the three sites in the north-east of the county may be of archaeological significance.

A new type of site came into use in the late Neolithic – the henge. Henges range in size from quite small sites to huge enclosures. Consisting of a roughly circular bank with a ditch (usually internal) and one of more entrances, these monuments may have been the successors of causewayed camps (Wainwright 1979). Some henges were also the sites of stone circles or wooden post setting (ibid). A small henge is known from Arminghall and located near the junction of the rivers Yare and Tas, less than 4km south of the centre of Norwich. It enclosed a ring of posts and has a diameter of only 30 metres. There were two circular ring ditches with evidence that a bank once stood between them. In the centre stood eight passive posts, which were almost 1m in diameter. The site has a radiocarbon date of 3650-2659 cal BC and the henge is orientated on the mid-winter sunset.

In East Anglia, there is evidence to suggest that early Neolithic settlement in the Fens, the edge, river valley bottoms and intertidal zones followed a shifting pattern, possibly of seasonal occupation, which often coincided with Mesolithic sites. Settlement on higher ground has been evidenced by numerous pit scatters. Many of the sites have been favoured for repeated settlement or subject to settlement drift, as at Broome Heath, south of Norwich. Later Neolithic/early Bronze Age settlements have proved more elusive than early Neolithic sites, which tend to have deep subsoil features. At Kilverstone, Thetford, 226 earlier Neolithic pits were interpreted as a temporary occupation site.

Most sites in East Anglia have produced little in the way of charred plant assemblages, but plant remains that have been found indicate that wild species were at least as important as cultivated ones during the early Neolithic. Sites such as Broome Heath and Old Buckenham Mere attest to the fact that early farmers cleared even heavy soil lands (Dymond 1990). Elm decline took place in East Anglia between c. 6010-4650 BP. The causes of the decline are disputed, but evidence from Diss Mere suggests human impacts on woodland placed the trees under stress, making them more susceptible to disease.

Neolithic communities seem to have preferred Norfolk's light soils and well-drained river valley tracts, rather than the heavily wooded central clay lands, although these were probably occupied to some extent and also exploited for hunting and foraging. Excavation results indicate that the woodland was dominated by oak and pine (e.g. Broome Heath and Colney).

The fertile rich loam region of north and east Norfolk, with its loess-rich soils, may have been especially congenial, and the number of possible monuments here is striking.

Early Neolithic Grimston pottery is typical in East Anglia. Plain bowl assemblages are also present. Pottery of this type was found at Broome Heath. Decorated Mildenhall pottery is also widespread, although this term encompasses a variety of styles. Late Neolithic and early Bronze Age pottery is also well represented in the region. Beaker pottery in particular has been found in funerary and settlement contexts, notably on the Fen edge.

Widespread use of flint has been found throughout the East Anglian region. Extensive flint extraction took place at Grimes Graves in the south-west of Norfolk. Smaller mines, quarries and grubbing out sites are known at Great Massingham, Great Melton and Ringland. Whitlingham has produced evidence to suggest the presence of a flint axe factory. Evidence included unfinished axes and waste flakes. In the 1700s a human skeleton was found in one of the chalk tunnels along with picks made from deer's antlers. Scatters of Neolithic flint have been found near Horningtoft, East Bilney and Stanfield. These surface finds, although indicative of localised activity, do not necessarily represent areas of settlement. In contrast, settlement is indicated by an excavated crop mark site, approximately 500m to the south of Little Bittering, and a site to the south of Sparrow Green, where Neolithic Grimston pottery and flint flakes were found. A handful of isolated background finds, probably representing casual discard or stray loss, are known near Gressenhall and Little Bittering.

Just to the east of the Study Corridor, Network Archaeology Ltd carried out evaluation work at East Walton as part of the Bacton to King's Lynn pipeline. Excavation revealed evidence for Neolithic and Bronze Age occupation (Network Archaeology forthcoming). During the Neolithic period, the site appears to have been open ground which was used as a domestic space and associated refuse was discarded here. The soil layers built up during the early Neolithic may relate to domestic discard. After a hiatus, a similar, but more intensive pattern of occupation took place in the later Neolithic/early Bronze Age. This was concentrated around the western part of the site, which was enclosed by a ditch with several phases of construction. The first phase of the ditch ran only half way across the site, but later phases saw the creation of a second section, with a space between them, possibly an entrance to an enclosed area. A line of posts to the east ran parallel with these ditches, possibly marking the 'back' of one phase of this enclosed area. The majority of pits are located outside and in front of this area, although a large amount of these were undated.

4.5.2 The Neolithic Period: Known Sites

Neolithic finds are largely confined to the western half of the proposed pipeline, although there is no distinct clustering even within this half of the route.

An isolated find of a Neolithic polished flint axehead was recorded *c.* 200m to the east of West Bilney Hall (HER MNF42350). Between 1936 and 1956, a number of Neolithic flint implements, including scrapers, were found along a stream 200m south of East Winch Common (HER MNF3408).

A leaf-shaped arrowhead was discovered in 1994 to the north-west of West Bilney Hall (HER MNF30811). It is located just 10m south of the proposed pipeline route. A chipped, polished axehead, found in 1967, is located 200m east of Lower Farm, to the north-east of Middleton Common (HER MNF12279). It is reported to have been found on a 'headland'.

A chipped flint adze was identified in 1966 *c.* 300m south of the proposed pipeline route to the north-east of Heater Carr (HER MNF17283). Some flints were also recorded during fieldwalking in a field 300m south of Blackborough End (HER MNF23205).

During the 1950s a pale grey polished stone axe and a fine sandstone polisher were recorded *c.* 450m north of Priory Farm (HER MNF2265). They were found on the south bank of the River Nar and *c.*200m to the south of the proposed pipeline.

A broken flint blade was found *c.* 1km north-west of Tottenhill Row (HER MNF14320).

4.5.3 The Neolithic Period: Additional Information

No additional information about sites of this period within the Study Corridor has been produced by researching secondary sources.

4.6 Bronze Age (c. 2,500 – 800 BC)

4.6.1 The Bronze Age: General Background

Metalworking technology, along with new types of flint tool and pottery design, was introduced from continental Europe at the start of this period. Food vessels, Deverel-Rimbury urns and Collared urns were all forms current in the early Bronze Age, although Deverel-Rimbury urns became the characteristic middle Bronze Age pottery (Liddle 1982). The evolution of bronze types provides the most reliable division of the Bronze Age in early, middle and late phases. In the middle Bronze Age new types of metal objects, including axes of the 'palstave' type, spearheads and longer-bladed rapiers were introduced. With the transition to the late Bronze Age in approximately *c.* 1100 BC, a period of relatively rapid change began. Certain bronze artefacts, such as swords and socketed axes, can be assigned to the late Bronze Age on typological grounds. These implements are often found in hoards, perhaps reflecting a change in the bronze industry, with itinerant smiths collecting scrap and turning it into new objects (Liddle 1982).

Changes in society were reflected in the emergence of new methods of burial, particularly the construction of round barrows as funerary monuments in the early Bronze Age. Burial evidence in the middle Bronze Age is dominated by cremations, either in urns or unaccompanied, often, focused on earlier or contemporary round barrows. There is a marked absence of large ceremonial monuments during the late Bronze Age, although barrows were still occasionally constructed (Brown 1996). Nationally, burials are rare but human remains are occasionally found on settlement sites (Needham 1993). The most striking known settlements are the circular enclosed sites of eastern England (ibid).

In Norfolk, settlement evidence is largely lacking (Lawson 1984; Ashwin 1993, 1996). The obvious exceptions are the large quantities of domestic debris, and useful range of environmental data, from the upper fills of the Grimes Graves mine shafts (e.g. Mercer 1981; Longworth et al. 1988). This lack of evidence continues into the later Bronze Age (Lawson 1984; Ashwin 1993).

Woodland continued to be cleared, a process which may be indicative of extensive and industrious farming. Palynological evidence indicates that there was a decline in lime trees in the south-east Fens and at Holme Fen during the Bronze Age. This decline may have been due to human impacts, but in low lying areas, it may have been more closely related to rising ground water levels than to human activity.

Compared with the southern parts of southern East Anglia, Bronze Age metalwork is quite common in Norfolk, and is regionally distinctive, particularly with regard to middle Bronze Age ornaments. A large scatter of metal objects found by detectorists to the north-west of Brisley Block Valve may be indicative of settlement.

Round barrows proliferate during the early Bronze Age (Lawson et al. 1981), continuing into the later Bronze Age. Many examples have been excavated throughout the region particularly in Norfolk (e.g. Lawson 1986; Wymer 1996) and whole barrowfields have been recorded merging from the eroding peat of the Fens (Hall and Coles 1994). Burials are also identified as apparently isolated finds in the Fens (Healy and Housley 1992), and human remains have also been recovered from settlement sites (Martin and Murphy 1988).

Around 2000 excavations of Bronze Age sites have taken place in Norfolk, with three-quarters being funerary in nature. Over 1200 barrows and ring ditches are known throughout Norfolk (Dymond 1990). Most barrows are to be found on the high ground in Breckland, whilst there are an increasing number of ring ditches showing over gravels across the county (Dymond 1990). Many round barrows have been exposed by the eroding peat of the Fens. For the most part these funerary sites appear to avoid heavy clay soils, although this apparent absence may be the result of sub soils which are not conducive for cropmarks, and/or lack of previous work (Margeson et al. 1996).

A round barrow and cropmarks of a ring ditch and trackway are located to the south of Little Bittering. The cropmarks of other possible ring ditches lie on the east edge of Longham and 500m south of East Bilney. By the middle Bronze Age, burial evidence was dominated by cremations. There were either in urns or were unaccompanied, and often, but not in all cases, were located near to earlier or contemporary round barrows. Late Bronze Age burial evidence is rare.

The tradition of constructing large, ritual monuments such as henges and cursuses does not appear to have continued into the late Bronze Age. However, monuments more closely associated with domestic sites do seem to have been constructed.

4.6.2 The Bronze Age: Known Sites

To the north of the East Walton AGI, sherds belonging to Beaker Type A were recorded (HER MNF3763). This form is a high-rimmed globular type, light brown in colour and ornamented with fingernail pattern between horizontal lines and in two bands of lozenges. It would have been 20cm high, with a diameter of 13.9cm across the mouth of the pot.

Around 850m to the south-east of this find was a copper alloy axehead (HER MNF40367). It was found by a metal detectorist in grassland and consisted of a cutting edge of an axehead. A further axehead has been recorded to the north-west of West Bilney Hall (HER MNF33417). However, its true provenance is uncertain for this axehead was reported to have been found in a brown glass bottle, along with some galvanised nails in a shed.

4.6.3 The Bronze Age: Additional Information

In the third millennium BC marine flooding deposited fen clay in the mouth of the Nar valley and these conditions may have lasted into the second millennium. From near Setchey a radiocarbon date of 3215±100 (1595-1415 cal BC), dates the renewed growth of peat (Silvester 1988). In succeeding centuries peat spread across the fen clay, the organic deposits, in turn, being buried at the end of the prehistoric period when the Iron Age silt choked the mouth of the valley. This spread a little further up than the earlier flooding episode and left a well-defined set of roddons. Further east, peat growth continued, unhindered by the marine transgression (Silvester 1988).

4.7 Iron Age (c. 800 BC – AD 43)

4.7.1 The Iron Age: General Background

Iron-working, coinage and the potter's wheel were among the new technologies that developed during this period in Britain. In Norfolk, early Iron Age fine wares are represented by plain angular bowls of the Darmsden style and the distinctive West Harling style carinated bowls. As the population grew, improved farming technology and the increasing scarcity of land led to the cultivation of heavier and poorer soils. Pollen analysis has shown that most of the suitable land in Lowland Britain had been brought under the plough before the Roman conquest (Liddle 1982). It is during this period that society becomes more urbanised and coinage is developed.

Population growth also led to competition for land and the development of a more territorial society. Norfolk falls within the traditional 'tribal' territory of the Iceni. The tribal centre for the Iceni in the first century BC is believed to lie within the arc of five massive earthwork forts, in the north-west of Norfolk (Wade-Martins 1993). Hillforts and defensive enclosures are manifestations of this social shift. Most enclosures are thought to have been built as a defence against stoke-raiders. In addition to hillforts there are smaller earthworks with defences of comparable scale. By the late Iron Age the settlement pattern in the area had evolved from scattered circular houses in a more or less open landscape to a more formal layout defined by ditches. Rectilinear enclosures lead odd inter-connected trackways, suggesting increased population, changes in land-tenure and more intensive land use.

Early Iron Age settlement was distributed sporadically, with distinct clusters along the lighter soils of river valleys and the Fen edge, and some colonisation on the edge of extensive Boulder Clay area. Rogerson's (1995) study of West Norfolk has revealed a marked contrast in terms of the density of Iron Age sites, between the clay areas – which have few sites – and areas off the clay – which have a much higher settlement density. Few settlements are so far known from Norfolk although the Breckland area to the east of Thetford, at the southern edge of the county, appears to have favoured settlement of this period (Davies 1996: 67). Most settlements in East Anglia appear to have been unenclosed. These open settlements typically comprised post-built roundhouses, two- and four-post structures and pits. There are examples of enclosed settlements in the region, including West Harling in south Norfolk, where there was an oval enclosure.

During the later Iron Age in Norfolk, there is a general conservatism in pottery manufacture and use, with handmade sand and shell-tempered forms continuing in some areas into the first century AD and the Roman period. This means that pottery is of limited use as a dating tool, and other datable artefacts are also rare on sites in this part of the region until the first century AD.

A large number of Iron Age metalwork finds are known from the region, mostly dating from the first century BC. Ornamental horse harness and decorative chariot fittings known as 'terrets', are widely distributed within Norfolk, as well as numbers of gold and silver torcs. There are a number of metal vessels from the Fen edge and the marshes on the Norfolk/Suffolk border. A small number of late Iron Age swords and fragments of swords and scabbards have been found, including a La Tène II sword from Stoke Ferry, west Norfolk (Davies 1996: 73).

There is evidence of expansion and intensification of settlement in most parts of the region including the boulder clays of Norfolk (Davies 1996: 68) during the later Iron Age. The number of settlements which became enclosed appears to have increased during the late Iron Age, although unenclosed or open settlements were still common. Square and rectangular

enclosures appear to have been the most prevalent. The functions of these enclosures varied. Some were domestic, some defensive, some ritual and others were multi-functional. An enclosure at Wighton, near the north Norfolk coast, may have been defensive.

There is evidence for a move towards larger, nucleated settlements in some parts of the region from the fourth to second centuries BC. An extensive industrial site has been discovered on the boulder clay at Wymondham (Davies 1996). The site produced evidence for iron smelting, as well as antler and horn working (Davies 1996: 68). The absence of domestic occupation indicates that the activity was probably undertaken on a part-time or seasonal basis here too. The density of later Iron Age settlement complexes is low in this region, although several have been identified at Thetford (Gregory 1991), Ashill (Gregory 1977; Davies 1996) and Caistor St Edmund (Davies 1996). Large tracts of relict late Iron Age landscape are being identified in some parts of the region. Extensive field systems which may date to the late Iron Age are known from the Scole/Dickleburgh area of Norfolk.

Hillforts in Norfolk are geographically restricted to the west of the county and where excavations has taken place, have indicated a date range from the fifth to the first century BC and little in the way of internal occupation (Davies 1996: 75). There may also be a relationship between the Norfolk hillforts and the large late Iron Age rectangular enclosures such as Warham Burrows and Thornham, with the latter possibly replacing hillforts (Davies 1996).

Settlement during the late Iron Age is believed to have expanded and intensified in most parts of Norfolk, including the heavy Boulder Clays (Margeson et al. 1996). Woodland clearance, which intensified during the Bronze Age, continued in the Iron Age. A renewed phase of major woodland clearance is known to have taken place at Scole in the Iron Age/Early Roman period. Substantial woodland clearance also took place in the Brecklands in the late Iron Age, leading to the spread of heathland vegetation from about 2250 BP. There is also macrofossil and palynological evidence for the settlement of open grassland and fen vegetation on the Fen Edge, and on river terrace gravels.

Activities of a ritual and ceremonial nature were carried out in special areas during the late Iron Age. A number of gold torcs deposited within a large enclosed area at Snettisham suggest a ritual use for the site.

4.7.2 The Iron Age: Known Sites

Material dating to this period is limited within the Study Corridor. Only two finds are recorded for the Iron Age. During improvement works at the River Nar, a watching brief recorded silt filled linear ditches of a possible Iron Age and Roman date (HER MNF40443). To the north of these improvement works, some Iron Age pottery sherds were recorded during fieldwalking to the south of Blackborough End (HER MNF23205).

Aerial photography has identified two possible enclosures in the Study Corridor. The first is located to the south of the East Walton AGI (DBA:JT). The second is situated to the south-east of Ivy Farm, which is north-west of Watlington (DBA:JK).

4.7.3 The Iron Age: Additional Information

No additional information about sites of this period within the Study Corridor has been produced by researching secondary sources.

4.8 Roman (AD 43 – 410)

4.8.1 The Roman Period: General Background

The Roman invasion was followed by a rapid implementation of centralised administration based on towns and supported by a network of roads. In AD 49, after the Roman invasion, the Iceni were given the status of client kingdom, and were allowed their own ruler (probably Prasutagus). This ruler died in AD 60. His widow, Boudica, led a revolt that failed after which the Icenian ceased to exist. Britain became absorbed into the Roman Empire, and three centuries of new order, peace and prosperity followed. This changed the way of life for most indigenous Iron Age people; communities were less isolated, due to new networks of communication, exchange and trade.

A major town established at Caistor St Edmund, just to the south of present day Norwich, was a civitas capital with a formal street grid, amphitheatre and rather small defences. Brampton was a small town enclosed by a defensive ditch. Metalworking took place within the town and just outside there was an extensive pottery with at least 141 kilns, which mainly produced kitchen wares for local markets. Temporary military establishments such as marching camps and scatters of metalwork have been recovered by metal detector users at Saham Toney.

During the period of Roman rule most of the population lived in continuity with their Iron Age past: in the countryside in small villages or native style farmsteads. This dispersed settlement pattern raises the potential for abandoned Romano-British sites in apparently blank areas. Little is known about rural settlements, such as villages, farmsteads and hamlets, where the majority of the population probably lived. In general, settlement appears to have focused upon the Fen edge and coastal and estuarine regions, with only limited activity in areas of boulder clay, although dense occupation is present over the heavy soils of southern Norfolk (Dymond 1990). Some Roman style villas were built as the residences of Roman officials or prosperous landowners or farmers. Of only twenty or so known sites, most were built on spring lines along the Icknield ridge, in the west of the county (Margeson et al. 1996). Just outside of the eastern edge of the Study Corridor, a Roman villa is noted at Gayton Thorpe. The villa produced evidence from iron slag, furnace refuse and ironstone and thus it was suggested it was the residence of an ironmaster.

Analysis of palynological data has indicated that East Anglia was agriculturally productive in the Roman period. Charred crop remains from the Fens, the Fen edge, the Boulder Clay plateau, areas of light sand soils and coastal areas in Norfolk indicate that spelt wheat was the predominant crop. Barley and emmer were also quite common, with a lesser amount of horse bean, pea, oats, rye and flax/linseed.

Evidence for industrial activity within the areas has been found just outside of the Study Corridor. To the north of Blackborough End, a Roman iron workings is recorded at Leziate. Just north of the River Nar in Setchey, a Roman kiln site is recorded. This evidence suggests that this area was being supplied by locally based industrial sites, perhaps in a similar nature to Brampton, as mentioned above.

Located to the south-east of Walpole Highway is a concentration of Romano-British sites. They appear to follow the route of a roddon (Silvester 1988: 71). Most of the material recovered during the Fenland Survey would suggest that settlement with salt-production typified sites further south (Silvester 1988).

To the north-east of West Walton is a concentration of Romano-British settlement sites, dating to the 3rd and 4th centuries AD. These were identified during the Fenland Survey (Silvester 1988: 91).

Road networks had previously been little more than tracks. Roman army engineers built more substantial roads to expedite the movement of soldiers, food and equipment. Naturally these roads were also exploited as trade and communication routes. Several roads purported to be of Roman origin are located across the region: Icknield Way and Peddars Way. Both of these are orientated north-north-west to south-south-east, passing to the east of King's Lynn. These were two major routes connecting with London. The Icknield Way originated in prehistoric times and was reused in the Roman period due to its strategic location. A third, roughly east to west running road passed south of Castle Acre, connecting the Fen Causeway with Smallburgh (Margary 1957: 212-214). Together the Fen Causeway, the Icknield Way and Peddars Way formed the infrastructure for a more comprehensive road system with inroads into the boulder clay region of Norfolk (Wade-Martins 1993).

A north-south orientated stretch of road linked Toftrees with the north coast, just to the west of Holkham. Pye Road linked Caistor St Edmund (the proposed Iceni capital, near present day Norwich) with London, and another short piece of road linked Caistor St Edmund with the River Yare. Another road, from Horningtoft to Oxwick, extended northwards. A nearby finds scatter including pottery and wall plaster probably signifies Roman settlement associated with the road. The western edge of Stanfield is skirted by a road which runs west-north-west to east-south-east, towards an area of substantial Roman finds south of the village.

Parts of these Roman roads have become fossilised in later roads and field boundaries, and have thereby influenced settlement patterns. Compared with other parts of the country, road construction in Norfolk has been shown to be quite poor. Only Peddars Way and occasional sections of other roads have yielded evidence of an agger. Upon dereliction some roads have disappeared completely, indicating that metalling and embankments were insubstantial (Margary 1957: 212-214).

The Roman Empire was in decline in the fourth century AD, and in AD 407, the Roman army left Britain. The Roman Emperor, Honorius, wrote to the cities of Britain in AD 410 telling them to defend themselves. The monetary system introduced by the Romans ceased to function when the last consignment of bronze coins was sent to Britain in AD 402 and by 411 all supply of coinage had ceased. Britain was no longer part of the Roman Empire.

4.8.2 The Roman Period: Known Sites

A number of Roman find scatters have been recorded along the Study Corridor. A large number of the finds have been found along with scatters of medieval and post-medieval pottery and metalwork. This suggests a degree of continuity over time, although the exact nature of occupation remains uncertain until excavation can confirm this.

Just to the north of the East Walton AGI, Roman sherds were reported to have been found in 'Priory Hall field, East Walton' (HER MNF11984). There has been some confusion over the grid references for no Priory Hall Field is known within the East Walton parish. The West Bilney area has a number of Roman finds. As part of the Fenland Survey a moderate amount of pottery sherds was found (*c*. 24 sherds). These included one sherd of Much Hadham colour-coated ware and one sherd of white painted ware (HER MNF20180). Metal detectorists also discovered a copper alloy brooch on the site 10 years later. Roman pottery is recorded within West Bilney itself when, in 1956, several sherds were found by the church (MON 357101).

Three isolated finds have been recorded as part of the Portable Antiquities Scheme. They have all been found within the vicinity of East Walton and the AGI. These include a fragment of a Romano-British/Early Saxon buckle frame (PA-NMS 5A2005). It was in the form of a dolphin's crest and body and was decorated with lines of punched dots and believed to date to

the late 4th and early 5th century. There was also a copper-alloy covered-loop terret (PA-NMS231) as well as a silver dolphin brooch (PA-NMS230).

The area around Blackborough End and Blackborough Priory has yielded a number of Roman finds. These include pottery (HER MNF23205) and a coin (HER MNF3427). Just to the south of Blackborough Priory, a bronze cauldron was ploughed up from the marshes. It was 1 foot deep in peat in a field below the level of the River Nar. It had a hole in its base and is believed to be of native type (HER MNF3445). To the north of Blackborough Priory, top stones from two puddingstone querns were recovered from a gravel pit in 1963 (HER MNF3432). One of the querns had part of an iron handle resting on it. Puddingstone is indigenous to Hertfordshire and would imply that trade was occurring between these two areas during this period.

Evidence for possible occupation was identified during a watching brief in 2001. Silt filled linear ditches of possible Iron Age or Roman date were recorded during improvement works on the River Nar (HER MNF40443), south of Blackborough End. Third century pottery was recorded 800m south-west of Setchey (HER MNF22011). It came from a Nar valley combed jar and thought to have been produced at Brancaster, on the north Norfolk coast.

A set of cropmarks dating to this period is located to the north-west of St John's Fen End (DBA:KZ). A roddon was recorded during the Fenland Survey to the north-east of Tilney Fen End (DBA:LD).

An area to the east of Little West New Field near Walpole Highway produced a sparse scatter of Roman pottery with a very small amount of bone (HER MNF20850). It was found on the side and beyond a small roddon. Nearby, soilmarks and pottery have been recorded (HER MNF19625). The area produced a widespread concentration of Roman pottery in an apparently roddonless field. However, several grey stains were noticeable in the field. This was not continuous across the whole site because there were breaks where a buff-coloured silt showed through. A roddon dating the Roman period is located to the south-east of Walpole Highway (DBA:LA).

The Romans are believed to be responsible in part for the construction of drainage canals in the region, particularly the Fenland. A Roman canal known as Aylmer Hall Canal (DBA:KX) is located south-west of Wiggenhall St Peter (Silvester 1988:10). Excavations undertaken at the western end of this canal identified that it had direct communications with the sea, perhaps to a forerunner of the River Great Ouse (Wallis 2002). Like a roddon, it stands above the surrounding landscape, reaching a height of one metre in places. With a width of between 60-65m, flood silt must have overflowed the canal (Silvester 1988: 54). The Spice Hills canal runs on a south-west/north-east line (DBA:KW) and appears to approach and almost certainly join the Aylmer Hall canal. It is a less obvious surface feature, generally no more than 0.5m high and about 25m wide (Silvester 1988: 54).

The area around West Walton has a high number of find scatters, identified by fieldwalking carried out as part of the Fenland Survey during the 1980s. Finds are usually moderate to large concentrations of Roman pottery sherds (HER MNF18600, HER MNF18975, HER MNF18977, HER MNF18978). The two former scatters are crossed by the proposed pipeline route. In addition to Roman pottery sherds, these scatters have also produced briquetage dating to this period. This form of pottery is usually indicative of salt production – an unsurprising activity in this area given the environmental conditions. A Roman saltern was recently excavated at Middleton, outside of the Study Corridor, but its proximity would indicate the importance of this commodity and its local distribution and use.

Within the Walpole area there are a number of scatters (HER MNF19696, HER MNF19776, HER MNF19792, HER MNF20849). Two scatters also fall across the proposed pipeline route (HER MNF 19778 and HER MNF19793).

4.8.3 The Roman Period: Additional Information

The town of Walpole means 'pool by the wall' and is believed to be a reference to a possible Roman sea bank (Ekwall 1959).

4.9 Anglo-Saxon (c. 410 – 1066)

4.9.1 Anglo-Saxon Period: General Background

The collapse of Roman rule in Britain resulted in economic and social change throughout Britain. The economy stagnated, coins stopped circulating and much of the Roman infrastructure fell into disrepair. Potteries went out of production, resulting in an aceramic phase. Without the dating evidence provided by coinage and ceramics, it is difficult to identify areas where settlement continued into the Saxon period. A political economic vacuum appears to have existed between the withdrawal of Roman power in the early fifth century, and the establishment of Anglo-Saxon polities in the sixth century.

The customs and language of the Anglo-Saxon peoples swiftly replaced Romano-British culture after the withdrawal of the last Roman troops. The Saxons were a complex and sophisticated society with a royal dynasty and a hierarchy ranging from nobles to slaves. The period can be divided into three main phases: early, middle and late.

Evidence suggests that a decline in population size, which began in the fourth century, continued during the early Anglo-Saxon period. Artefacts, found by systematic fieldwalking and metal detecting, have indicated that settlement was mainly restricted to lighter soils and river valleys in East Anglia. Indeed, evidence of early Saxon settlement over the boulder clay area of Norfolk is thin. Only one existing village, Longham, is thought to have such early origins (Wade-Martins 1980). Two multi-period find scatters to the north and south of East Bilney, include a small number of early Saxon sherds found alongside Romano-British settlements and Roman roads (Dymond 1990), possibly indicating continuity of settlement. Many early Saxon pottery scatters have been found in Norfolk, although there is often a problem distinguishing between sand tempered pottery of the Iron Age and the early Anglo-Saxon period, especially when the sherds are heavily abraded.

Settlements at Spong Hill, Thetford and Brettenham in south Norfolk, and Billingford have been partially excavated. The main findings of these excavations have been sunken featured buildings and it has been difficult to establish the extent of these settlements. Only a few sunken featured buildings are known from many of the settlement sites in the region, and it is likely that they represent isolated farmsteads or small hamlets, which were probably quite short-lived. Most seem to have been abandoned within a space of one hundred years. Systematic fieldwalking has revealed that settlement of the period was probably characterised by a series of small, relatively short-term occupation sites.

Woodland regeneration may have taken place over areas where settlements were deserted. Environmental evidence suggests that woodland regeneration took place in some areas and not others. It is possible that many field systems established in the Iron and Roman periods remained in use into the Saxon period. However, early Anglo-Saxon agricultural exploitation may have been less intensive than in the Roman period, with there being a greater emphasis on pasture rather than arable. The types of crops, particularly spelt grown during the early Saxon period, seem to be consistent with those grown in the Roman period.

The earliest Saxons were pagans, some of whom buried their dead with grave goods. Around 200 pagan cemeteries have been found in the county, many of which have been excavated, such as Spong Hill (near North Elmham), where nearly 2500 cremations and nearly 60 inhumations, dating from the late fifth and sixth centuries, were recorded. Spong Hill cemetery may have served a large territory, rather than a single settlement. Artefacts and burial practices suggest that the people who buried their dead at Spong Hill had strong contacts with Schleswig Holstein, indicating the possibility that they were Germanic immigrants. However, there are also many similarities with a site at Issendorf in Lower Saxony, to the south of Hamburg. Most pagan Saxon cemeteries were located away from contemporary areas of early Anglo-Saxon occupation (Margeson et al. 1996) and are often found on elevated land overlooking rivers, or in low-lying positions close to rivers.

The East Angles had emerged in Norfolk during the sixth century. By AD 750, they had been incorporated into the Kingdom of Mercia, although the East Angles probably maintained some form of independent rule. This view appears to be supported by the distribution of Ipswich ware, which changes markedly beyond the East Anglian border. Ipswich ware was a distinctive type of pottery which was introduced during the middle Saxon period (*c.* AD 650). About thirty years later, the period also saw the introduction of silver coins (*sceattas*).

By the middle Saxon period, there appears to have been population growth, rapid economic expansion, a shift in the location of settlements, and settlement nucleation which led, in some cases to the creation of towns. Although there are no known middle Saxon town sites in Norfolk, there were settlements of importance at Norwich and Thetford.

Middle Saxon sites have been recorded in all but the most inhospitable parishes of Norfolk, providing important evidence regarding the deliberate resettlement of the Norfolk Fen edge (Silvester 1988: 156-60). The sites have mostly shown up as surface artefact scatters, although excavations have also taken place at Middle Harling, Billingford and at three Fenland sites: Terrington St Clement, West Walton and Walpole St Andrew. Iron smelting, using a process which was rare in East Anglia, has been found in association with post-Roman posthole structures at Billingford. A coin hoard was excavated at Middle Harling, but there was no evidence of contemporary structures, nor was there evidence of structures at the three Fenland sites. The lack of structural evidence at the Fenland sites could have been due to the fact that only a 5% sample was excavated, or may have reflected seasonal occupation of the sites.

Changes in agricultural practices appear to have taken place in the seventh century. Charred crop assemblages from the Norfolk roddons did not include spelt which was grown in the early Saxon and Roman periods. The main crops were bread wheat, rye, six row barley, oats, peas, horsebean, hemp and flax/linseed. There is evidence of specialised production and the adaptation of farming systems to local conditions. For example, three sites evaluated (out of seven forming an arc across the Norfolk Fens) were found to have been engaged in summer stock rearing. Butchery and salting may also have taken place on the sites. As a whole, the sites possibly represent planned resettlement, which could have been linked with an estate centre in upland Norfolk.

There is evidence, including wooden fish weirs, that fisheries were also important along East Anglia's coastline. In terms of crafts, many local workshops produced pottery and metalwork with a widespread distribution.

The middle Saxon phase saw the introduction of Christianity in the form of churches and 'churched' cemeteries, and the eventual disappearance of accompanied burials, although special, pseudo-ship burial took place in the seventh to eleventh centuries. There were

probably many monasteries, but only the names of two are known, including one in Dereham where there is a large middle Saxon cemetery.

Monastic settlements probably acted as central places, perhaps operating as mini *wics* with direct access to exchange networks. In addition to their religious role, monasteries at this time probably had advantageous legal status.

Middle and late Anglo-Saxon burials have a much better survival rate than early Saxon burials, and important groups, with monastic connections, were found at Burgh Castle and Caister-on-Sea, on the east coast of Norfolk, and at North Elmham.

The Danish invasion of the late ninth century had no effect on the continuity of settlement (Wade-Martins 1993), although the Danes may have had a formative influence on the early growth of Norwich. For instance, fortifications may have been built in response to the Danish threat, and the fortifications could have been re-used for the burgh in the tenth century. Late Saxon fortification, or re-fortification of a camp at Tasburgh, is also believed to have taken place during the Danish period.

Norwich had its own mint by the 10th century. Rapid expansion of the town took place in the eleventh century, and it is believed that this was part of a deliberate policy. Norwich eventually dominated much of the north East Anglian economy. There was also rapid growth of coastal ports, such as King's Lynn. Some settlements which apparently had burghal status, such as Tasburgh, later shrunk to little more than villages.

By the late Saxon period, a complex system of tenurial organisation was in place. Settlements were called vills and consisted of a number of estates. They often demonstrate a surprising degree of continuity with, and expansion alongside areas of mid-Saxon settlement, notably in the late ninth and tenth centuries. The social hierarchy now included freemen, sokemen and villiens.

Away from present-day villages, late Saxon evidence has been found at multi-period find scatters in two main areas: near the village of Gressenhall, where finds of late Saxon and Romano-British pottery suggests possible continuity of settlement; and in a small area immediately south of East Bilney moat where finds of early to late Saxon date have been found. Early (and mid) Saxon pottery is normally highly vulnerable to attrition, and so the discovery of even small quantities, for the size of the area and the time span involved, may be indicative of settlement. Late Saxon Thetford and Ipswich ware tends to be more robust.

Late Saxon pottery has been collected from an area to the north of West Walton where a low mound was also recorded, possibly representing remnants of a roddon or a Saxon saltern (Silvester 1988: 92, 96). Most remains of this period have been located close to the centre of West Walton.

Monastic sites in the region appear to have suffered a hiatus in their occupation from the period of the Danish Conquest on the late ninth century until the early tenth century, when the region was recaptured by the 'English'. Otherwise, there is a dearth of Scandinavian settlement evidence, except for place-name evidence and increasing numbers of Viking-type disc brooches found by metal detecting (Margeson et al. 1996).

4.9.2 Anglo-Saxon Period: Known Sites

There are three distinct clusters of Saxon material within the Study Corridor: West Bilney, Ingleborough and West Walton. These areas have been subject to fieldwalking under the Fenland Survey project. West Bilney has produced pottery finds: a sherd of middle Saxon,

grey Ipswich ware (MON 357088) and late Saxon pottery (HER MNF20180). To the north of West Bilney, a fragment from an early Saxon cruciform brooch has been recorded (PA-NMS 571F77). It dates to the mid to late 5th century.

The Ingleborough area is rich in Saxon material and contains evidence for occupation (HER MNF18943). A mound was excavated and confirmed not to be a saltern, but instead the highest point of a roddon. On the crest were a number of linear features ranging from slight gullies to substantial ditches up to 2 metres across and more than 1.2 metres deep. Finds and stratigraphic relationships indicated that some of these features were late Saxon/early Medieval in date, while others were middle Saxon. There was also a hearth of middle Saxon date and a large pit containing middle Saxon (Ipswich ware), late Saxon and early post-medieval pottery.

The area around West Walton has produced the odd sherd of early and middle Saxon pottery (HER MNF18958).

The Fenland Survey identified a site dating to the Saxon and medieval period to the south-east of Blackborough (DBA:KY. No further details are available.

4.9.3 Anglo-Saxon Period: Additional Information

No additional information about sites of this period within the Study Corridor has been produced by researching secondary sources.

4.10 Medieval (c. 1066 – 1540)

4.10.1 The Medieval Period: General Background

Norfolk, like most other parts of England, was divided into tax paying districts, which the Domesday survey of 1086 refers to as 'hundreds'. Within each hundred there were a number of parishes. The limits of many of these hundreds and parishes would have been based on the physical boundaries of earlier estates. Six hundreds and nineteen parishes are crossed by the proposed pipeline.

The hundred of Freebridge-Lynn includes the parishes of East Walton, East Winch, Middleton, North Runcton and Setch. The Clackclose hundred contains the parishes of Wormegay, Watlington and Tottenhill. The hundred of Depwade contains the parish of Hardwick. The hundred of Freebridge-Marshland includes the parishes of Wiggenhall St Peters, Wiggenhall St Germans, Tilney All Saints, Tilney St Lawrence, Islington, Terington St Clements, Terrington St Johns, Walpole St Peter and West Walton. Finally, the Borough of King's Lynn contains the parish of South Lynn.

Prior to the 12th century AD, the population of each parish usually lived in large nucleated villages. During the 12th to early 14th centuries improved drainage, probably combined with drier conditions, enabled gradual but significant movement from higher level sites to greens and commons. These areas were typically marginal land in the damper parts of a parish. They tended to be boulder clay areas which were difficult to cultivate and were therefore probably set aside for communal grazing.

By the 14th century, Norfolk was one of the most arable productive counties in Britain. Two centuries of demographic expansion and economic growth had caused areas of cultivation to expand, but the amount of privately owned grassland was below average for Britain. This probably made greens and commons necessary for the grazing of livestock (Wade-Martins

1993). Although there was an increasing trend towards 'green and common-edge settlement' (Margeson et al. 1996), occupation around greens was transient.

The Domesday Book lists many towns, villages and small settlements in Norfolk and an unusual number of 'free men' who were independent land owners and small freeholders. The Normans built themselves substantial fortified homes and castles in the area, the most famous and important being Norwich Castle, built by Ralph de Gauder, the Earl of the East, on the site of an original built by Canute. It was built at such speed that by 1074 he defended it in a rebellion against the King. He, not surprisingly, lost albeit honourably and the castle passed into the hands of Robert Bigod. Another large castle was built by William de Warren at Castle Acre near Swaffham and its ruins can still be seen today.

From AD1066 to the 1300s, the rich and pious in Norfolk helped build and finance many local monasteries. Nearly every great family founded at least one. By the 13th century there were around 80 monastic establishments in Norfolk alone. The monastery at Walsingham can trace its origins to 1061 and St Benets abbey near Ludham is believed to have been founded by Canute c. AD 645. In its time the monks were powerful in the area and ran amongst other things, all the peat diggings in Broadland and they oversaw and profited from the farming and other industry for a large area around the abbey.

Norfolk also has more than its fair share of churches dating back to the Middles Ages. In fact there are over 700 churches and parishes and this equates to one every 2.7 sq miles compared with the national average of 1 to every 5.1 sq miles. The church at Worstead, built between 1379 and 1450, owes its size to the wool trade and wealth of their benefactors.

After the rebellion in Norwich in 1074, Norfolk, apart from building and towns expanding, remained fairly quiet until the mid 13th century and the persecution of the Jews, and in 1272 a riot by the monks and citizens of the area. After the Black Death, Wat Tyler led the rebellion of 1381 (The Peasant's Revolt) which was caused by the taxes levied at the time and in particular the Poll Tax. The rebellion caused widespread unrest in Norfolk, although short lived. The rebels gathered at Thetford collecting together men from Brandon and Diss before moving across Breckland towards Norwich where they assembled on Mousehold Heath and then onward into the city where they killed Sir Reginald Eccles, a JP, and Sir Robert de Salle. They then moved on to Great Yarmouth plundering and burning as they went. Within two weeks the uprising was fragmented and largely confined to the north-east of the county. The rebellion was finally quashed in Norfolk a few days later near North Walsham and the leader Geoffrey Lister was tried and executed.

By the 16th century Norwich was second only to London in size and wealth. In 1520 it had a population of around 8500 and the 1570s it had swelled to 15,000. The plague however took its toll in 1579-1580 killing around 5500 people and the cities population then remained constant at around 11,000 for the next century. At around the same time Great Yarmouth had a population of over 4000, as did King's Lynn.

In 1549 Robert Kett, landowner and of some wealth, led an uprising against enclosures and the unreasonable demands made by lords of manors who were enforcing fees out of their tenants and retaining bondmen rather than allowing them freedom. This is known as Kett's Rebellion. The rebellion, made up of 10,000 men, camped on Mousehold Heath just outside Norwich and blockaded the city. During July and August, Kett and his men took the city and successfully defended it against the Marquis of Northampton and the King's army. However, the Earl of Warwick with more of the King's army and several thousand mercenaries arrived outside Norwich. Fighting continued for many days and after a battle at Dussindale (Thorpe St Andrew), Kett was finally captured. He was executed in December at Norwich Castle.

By the 1500s Norfolk was separated into five regions as far as population and industry were concerned. The area to the west (later to become the Fens) was still mainly marshland and was less populated. Some of the area was grassland and supporting the grazing of bullocks and sheep. To the north, the area was mainly heathland and today there are still large areas of heath at Kelling and elsewhere. However, the land varied in the region and crops were grown and were rotated between corn and grass, which supported sheep. Much of the area was enclosed. To the south was Breckland, a poor sandy area that supported sheep and some crops. The north-east area was more highly populated and the land was fertile, producing high quality grain and good beef cattle. The long established and wealthy weaving towns of Worsted, Aylsham and Cawston were in the area together with the City of Norwich and the port of Great Yarmouth. The south-east from Great Yarmouth and inland to Diss was known for its rural textile industry and dairy farming. Many foreign immigrants settled in Norfolk during the period most of whom were Dutch and some French all driven out of their homeland, the Low Counties, by the Duke of Alva. The fortifications along the Norfolk coast were strengthened with a fortress near King's Lyn and additional fortifications at Weybourne, Sheringham, Mundesley, Winterton and Yarmouth. Most of this strengthening was in preparation of the Spanish Armada fleet, which was defeated long before it reached the Norfolk coast.

East Winch is first mentioned in the Domesday Survey of c. 1086. Referred to as *Eastuuinic*, *Estwinic* and *Estuuinc*, the name is derived from the Old English *wynn-wic*, meaning a dwelling with a meadow (Ekwall 1959). At the time of Domesday the land was held by the King, Roger Bigot and Ralph of Tosney and contained over 37 acres of meadow and a fishery (Brown 1984).

East Walton is in the Domesday Book as *Waltuna*, and may stem from Old English *W(e)alatun* 'the tun of the Britons or of the British serfs', or *Wælletun* 'the tun by a stream' (Ekwall 1959).

West Bilney was a separate settlement at this time. It is referenced by the Domesday Book as *Bilenei*. The name is probably Old English and translates as 'Billa's stream or island' (Ekwall 1959). In 1086, the land was held by Hugh de Montfort and contained 28 acres of meadow, 3 mills and a half share in a salthouse (Brown 1984). To the south of the village lies the moated site of Crancourt or Grandcourt Manor, which still retains a single storey structure.

Wiggenhall is first mentioned in the Domesday Survey of c. 1086. Referred to as *Wigrehala*, the name is derived from Old English and means 'the corner or nook (halh) belonging to Wicga' (Ekwall 1959). The suffix St. Germans is first recorded in 1254. At the time of Domesday, the land was held by Ralph Baynard and contained a half share in a mill, a fishery and 20 acres of meadow (Brown 1984).

Tilney St Lawrence is first mentioned in the late 12th century and is derived from the Old English meaning 'the island belonging to Tila' (Ekwall 1959). At the time of Domesday, Tilney would appear to be a secondary settlement and is included in the entry for Islington (Silvester 1988: 60). The Domesday Survey records that Islington was made up of several manors and was held by Count Alan, Hermer, St Edmund's Abbey, Ely Abbey, William of Ecouis and Hugh of Montfort and contained 143 acres of meadow, 8 and a half salthouses and a church (Brown 1984).

Walpole is first mentioned in the mid-11th century. It is referred to as *Walepol*, meaning the 'pool by the wall'. This could be a reference to a possible Roman sea bank (Ekwall 1989). The first mention is in relation to a grant of land by King Edward to Ely Abbey (Sawyer 1968, S1051). The Domesday Survey records that Walpole was held by John, nephew of Waleran (Brown 1984). However, this is thought not to represent the entire manor and it is

likely that the remaining lands were recorded under West Walton where the centre of Ely Abbey's holdings was located (Silvester 1988: 77).

West Walton is first mentioned in the Domesday Survey of c. 1086. It is referred to as *Waltuna*, the name probably means the 'village (*tun*) by the wall (*weall*)', another reference to a sea bank (Ekwall 1959). The Fenland Survey identified a string of small settlements bordering Mill Road between West Walton and the hamlet of Ingleborough, each representing a smallholding (Silvester 1988: 96).

The old field patterns of villages can be preserved as ridge and furrow earthworks. Ridge and furrow is largely a Midland farming system and consequently there are only a handful of extant sites in Norfolk. Most of these are in the west of the county near the Fens (Silvester 1989).

Excavations have taken place on castles in Norfolk at Castle Acre and Castle Rising (Coad and Streeten 1982; Coad et al. 1987). Greens are a major element of the medieval settlement patterns on the clay lands of the region. They have been quantified as a resource in Norfolk (Barringer 1993; Martin 1988), but no assessment of their importance has been made.

4.10.2 The Medieval Period: Known Sites

Listed Buildings

Two listed structures are known within the Study Corridor, one of which is a Scheduled Ancient Monument (SM 30560). The first building is the 14th century church of St Celilia, although it is now redundant. It is Grade II* listed and was restored in 1881. This church has a Norman nave and a later 14th century tower (Pevsner 1990: 373).

However, the most interesting structure for this period is the scheduled remains of Blackborough Priory (SM 30560). The site consists of the standing and buried remains of a Benedictine priory dedicated to the Blessed Virgin and St Catherine. It was founded in about 1150 by Roger de Scales and his wife Muriel. Originally it was a monastery for men, but when the grant was confirmed and extended by Robert de Scales, the son of the founders, the house was finally assigned in *c.* 1200 for the sole use of Benedictine Nuns. The convent consisted of a Prioress and 10 nuns and continued as a nunnery until the Dissolution in 1537. The standing ruins include the south wall of the nave of the church measuring 30 metres in length and up to 5 metres in height and built of carstone. Evidence for the foundations of the church and its internal structure will survive elsewhere below the ground surface. The conventual buildings, including the chapter house, the dorter and the refectory are believed to have adjoined the church on the south side and were probably arranged round a cloister. To the south of the probable area of the cloister is the south gable end wall of a substantial medieval building built of carstone with limestone dressings. Situated between 25 to 53 metres further to the south of the cloister area, a spread of building materials, including brick and tile, marks the sites of what were probably agricultural, industrial or domestic service buildings attached to the priory. Earthworks also comprise of a series of five fishponds with interconnecting ditches; they average 26m long by 7m wide and 0.5m deep. These fishponds lie within the Scheduled area too.

Parts of the building may still be seen adjoining Priory Farm in the form of some carstone walling at TF 67311410 probably part of the church and a gable end of a building at TF 67331405.In digging among the foundations in 1834, 3 stone and 2 wooden coffins were discovered in a vault. These contained skeletons, one of which was said to be of a man 7ft tall. A number of tessellated pavements, a gold seal and other antiquities were found at the same time. Later *c.* 1870, a stone coffin containing a skeleton was dug up and is now in

King's Lynn Museum. Some fragmentary remains of the priory survive in pasture to the east of Priory Farm. They comprise a length of carstone walling up to a floor joist height (adjoining contemporary farm buildings) and a gable end with a single lancet window and supporting buttresses (*c*. late 12th/early 13th century), built of carstone with stone dressings. Ground disturbance centred TF 67321401 may indicate the site of other buildings. Bones, glazed tile, brick and roofing tile are visible in tree hollows and a general debris scatter is visible over the area. Excavations in the 19th century revealed tiled floors and burials (Midmer 1979: 69).

Perhaps contemporary with the foundation of the nunnery was the establishment of a pottery industry at Blackborough End which continued into the later 13th century (Rogerson and Ashley 1985: 188).

Non-listed structures

To the north-east a possible windmill mound is recorded (HER MNF16338). It is located on Mill Lane, but Faden's 1797 map and an OS edition of 1836 do not show a structure, but both give the name, suggesting that it may the site of an older mill.

Parts of a medieval timber-framed house were identified at Greenfields during an architectural survey (HER MNF38777). The medieval building was within a brick house dating to 1821, which has been altered considerably during the 20th century.

In the western section of the Study Corridor a section of the Sea Bank is recorded (MON 1032408). It runs north to south, just to the west of West Walton and was constructed to prevent flooding. This system of sea banks extends for some 150 miles around The Wash coast from the neighbourhood of Chapel St Leonards on the north to King's Lynn on the south. From the early 13th century to early 17th century it is referred to as Sea Ditch, Sea Dyke and Sea Bank. Early authorities suggested a Roman origin, but there are no records of associated finds or sites. The main work was probably medieval, possibly even pre-1086, and no doubt there were additions, modifications and repairs at many times. The Sea Bank has been used in many places as a causeway for modern roads.

Communications

The River Nene bisects the western sector of the proposed pipeline route near Wisbech (HER MNF42344). The canalisation of the Nene was begun in 1830 in order to make Wisbech a port. It is known as Pauper's cut and Harrington's cut, with the eastern half in Norfolk. However, drainage works were originally undertaken between 1479 and 1490 by Bishop Morton of Ely.

Deserted Medieval Settlements

Field survey carried out between 1982 and 1986 discovered a medieval settlement at Wiggenhall St Germans (MON868199). Its location may suggest that settlement has shifted across the landscape over time.

Possible Settlements

The probable Saxon settlement identified at Ingleborough continued into the medieval period (HER MNF18943). Just to the south of this area there is evidence of a possible settlement (HER MNF18942). This includes concentrations of pottery, bone and building rubble and is located along a roddon for almost the complete width of a field.

Moated Sites

Around 1.5km to the south-east of East Winch is the site of a medieval moat (HER MNF39604). It is visible as a soilmark on aerial photographs.

Along the west bank of the River Great Ouse, just to the south of Wiggenhall St Germans, is the site of a possible moat (HER MNF2285). It has previously been considered to be the site of a drainage mill.

Just to the north of Faulkner House, a moat is noted on a 6" OS map as a complete four-sided, rectangular earthwork (HER MNF2207). It was suggested to represent the site of Rochford Mansion which dates to *c*. 1450. On the ground, the south arm of the moat is seen as a wide area of darker grass.

In a field to the south of Faulkner House material was recorded which was concentrated on an area of raised ground (HER MNF19718). Material included pottery, brick, animal bone, oysters and metalworking debris, all of which was on a raised mound up to three feet higher than the surrounding area. It is believed to be an artificial creation around a roddon system.

To the east of the latter site is further evidence for a moat (HER MNF19728). A wide ditch on the south side is marked on a 6" OS map as a pond, but it now believed to part of a moat. A small part has been filled in at the west end, with possible traces of the west and north sides. The presumed island of the moat has undulations, with possible indistinct platforms defined by scarping and slight banks, but none are particularly regular. On the south side the island is about 1.22m above the base of the ditch. The south arm is about 8m wide.

To the south of Ingleborough is a bank (HER MNF18953), on which a large amount of pottery, brick, shell and bone were recorded.

Just to the west of Grange Farm, to the north of West Walton, is a possible moat (HER MNF18948). An aerial photography revealed a small enclosure, with the whole of one side and parts of two others visible. It is suggested that enclosure would have been rectangular or at least rectilinear.

Ridge and Furrow

Aerial photography has identified the remains of ridge and furrow within the Study Corridor. To the south of the East Walton, there is evidence of medieval farming (DBA:JQ) and in a field just to the south of Blackborough End, ridge and furrow has been recorded (DBA:IR). A section has also been recorded in West Field, to the north of Tilney Fen End (DBA:IC)

Find Scatters

A large amount of medieval pottery is concentrated in the western sector of the Study Corridor. This apparent concentration may in part be due to the degree of fieldwalking carried out by the Fenland Survey.

Medieval material clusters around nine areas in the Corridor. In the immediate area around Blackborough End, there are five records where only a few sherds have been identified (HER MNF22983, HER MNF23006, HER MNF23206, HER MNF23623, HER MNF23624) and two more substantial pottery scatters (HER MNF23069, HER MNF23622).

To the west, around Setchey, only one pottery scatter is known (HER MNF23064), with the other finds only producing a few pottery sherds (HER MNF23009, HER MNF23066, HER MNF23602, HER MNF23603).

Tottenhill Row has produced material consisting of a few sherds (HER MNF23039, HER MNF23055, HER MNF23201-23202) and a pottery scatter (HER MNF23599).

The area around Watlington has produced three pottery scatters (HER MNF23604-23606) and a few isolated sherds (HER MNF23054).

In the vicinity of Wiggenhall St Peter a number of pottery scatters have been identified (HER MNF22109, HER MNF23614, HER MNF48751d) and as well as finds consisting of a few sherds of pottery (HER MNF19128, HER MNF19130-19131, HER MNF22104-22107, HER MNF22488, HER MNF23575-23576). These scatters of material could be associated with the Deserted Medieval Village (MON868199) because they appear to surround the site.

Only isolated finds of pottery sherds have been recorded to the north of Tilney Fen End (HER MNF19591, HER MNF19603, HER MNF21409-21410, HER MNF22004, HER MNF22420).

Nine pottery scatters have been recorded to the south of Walpole Highway (HER MNF18553, HER MNF19806-19809, HER MNF19858, HER MNF19870, HER MNF20849, HER MNF20884) as well as finds of single sherds (HER MNF19584, HER MNF19684, HER MNF19686, HER MNF19695, HER MNF19778, HER MNF19790, HER MNF22142).

Walton Highway has produced three pottery scatters, which are believed to be a result of manuring (HER MNF18601-18603), as well as a number of pottery sherds (HER MNF19067 and HER MNF19624).

The area surrounding West Walton has produced eight pottery scatters of which four are believed to represent manuring (HER MNF18596-18597, HER MNF18651, HER MNF18944-18946, HER MNF18975, HER MNF18982). One of these scatters may represent a possible settlement (HER MNF18944). A number of finds of isolated pottery sherds have also been recorded in the area (HER MNF18961-18967, HER MNF18974, HER MNF19066, HER MNF48751f).

A small number of isolated finds have been recorded within the Study Corridor. Within the East Walton area, a sherd from a cast cooking vessel has been recorded and is believed to date from the 14th to 17th century (PA-NMS 33C095). To the south of West Bilney, a strap fitting has been identified (HER MNF20180). To the east at Blackborough End, a brooch has been identified (HER MNF42055). Along the west bank of the River Great Ouse, to the south of Wiggenhall St Peter, a bronze spout has been recorded (HER MNF19127). It is in the form of a dog's head and possibly came from a 14th century leather pitcher. In the western sector of the Study Corridor, just to the south of Ingleborough, an ampulla has been identified (HER MNF28758). It is thought to be a Walsingham type and has a shell on one face with a star on the other.

4.10.3 The Medieval Period: Additional Information

No additional information about sites of this period within the Study Corridor has been produced by researching secondary sources.

4.11 Post-Medieval (1540 – 1939)

4.11.1 Post-Medieval Period: General Background

Many of Norfolk's great houses were built or extended during this period, financed by new found wealth due to increasing trade and industry and the redistribution of monastic lands. Many were built of brick such as the halls at Great Witchingham, Great Melton and Barnham Broom.

By 1750 onwards, Norfolk was well established as a farming county. Most of the land was owned and farmed by the aristocracy and their tenants. Indeed the Holkham estate alone covered in excess of 43,000 acres. Holkham together with other large estates began a policy of rebuilding and refurbishing. Whole new farms complete with outbuildings were built in a more substantial manner than before. Even new villages with churches and schools sprang up to house the farm staff. By now virtually all the land in Norfolk had been enclosed and was farmed for arable crops or was fenced for grazing.

During the early 1800s the textile industry in Norfolk began to dwindle and with the dawning of the industrial revolution, major industrial towns appeared elsewhere in the country. These new populated areas needed feeding and Norfolk with its fertile soils, was ideal for growing the ever increasing amounts of wheat and barley. It was not until the 1850s that the majority of Norfolk saw the age of the train and due to the fact that Norfolk was one of the last counties to benefit from this new mode of transport, the network was not completed until 1906.

The rail network enabled market towns to become the centres for maltings, iron foundries and feed mills. Norfolk's agricultural products were distributed throughout the country and machinery needed to tend the land was brought into the county. During the first half of the 19th century, Norfolk's farmers became more and more prosperous, however this was not to last. In the second half of the century cheaper grain began to be imported from America and Norfolk's farmers began to suffer. People began to leave the country in favour of the towns and industrial areas. Except for the best-run estates, farming went into decline and became less intensive and the fields and hedgerows became overgrown and neglected.

The coastal towns of Great Yarmouth and King's Lynn flourished as fishing ports. All the coastal towns had their own fleets of inshore vessels fishing for crabs, cockles, mussels, lobsters and shrimps. The boats were built locally and the shipbuilding yards in the towns and coastal villages expanded.

Communications and many industries were developed to serve the farming economy and its associated industries. Turnpike roads were introduced along with their attendant toll houses, mile posts, mile stones and coaching inns during the 17th century.

Improvements, brought about by a number of parliamentary acts, were also made to inland navigations before the end of the 17th century. The aim was to create efficient transport for goods between Norfolk and London, primarily. Ironworks and foundries produced farm tools. An agricultural foundry in Saxthorpe near Corpusty, founded in 1800, employed about 20 men as blacksmiths, carpenters, wheelwrights and moulders. There was an increase in the number of maltings, breweries and corn mills to deal with rural produce. The region was a major centre for wool production during the 16th century.

Encroachment onto common land and abandonment of open field agriculture continued, culminating in the Parliamentary Enclosure Act of the late 18th and 19th centuries. The act also led to the improvement of heath and fenlands. Major land reclamation schemes, instigated in

the mid-17th century, involved the use of windmills (smock and tower mills) in conjunction with drainage channels. In some areas these systems remained in use into the 20th century, although in general, steam powered pumps gradually replaced the windmills from the 1820s.

Generally, the rural population continued to decline in Norfolk, although this ceased temporarily in the 18th and 19th centuries during the Agricultural Revolution, a phase of prosperity and rebuilding prompted by improvements in agricultural technology (Wade-Martins 1993; Williamson 1993).

East Anglia was at the forefront of the Agricultural Revolution (1750-1820), a period which saw the transformation of traditional agrarian concepts. In Norfolk, this was a time of rebuilding where, for instance, timber framed barns were replaced by brick built buildings. Many isolated farmsteads rebuilt in this period overlie sites continuously occupied since the early Middle Ages (Dymond 1990). The enclosure movement led to the development of large landed estates which concentrated on arable production, whilst pastoral enterprises allowed the smaller land owner to survive. Model farms were created, using the best available scientific advice. New crop rotations (the Norfolk Four Crop Rotation System), manure and artificial fertiliser use became widespread. The use of lime as fertiliser and for building purposes became common throughout the 18th and 19th centuries. Lime kilns tended to be located on the floors of chalk pits or beside ports and creeks. Brick manufacture was also important.

A second agricultural boom, primarily based on the rearing of stock, took place between 1840 and 1880. Many of the model farms were reorganised with an emphasis on the arrangement of buildings, in order to house more animals, particularly cattle.

East Anglia was an important barley growing region, and each town probably had at least one brewery, predominantly serving its locality. The numbers of breweries declined, as the industry became more centralised in the 20th century. Norwich, for example, had several large breweries until the 1970s. Few of these survive.

Coastal military remains in East Anglia are prolific due to the region's vulnerable location, facing the Continent. Most major types of defensive structure, adopted since the time of Henry VIII, are present in the region. Henry VIII developed the first comprehensive scheme for national defence, which included East Anglia in 1539. Few of the substantial blockhouses and small forts from this time have survived. With the threat of the Spanish Armada in 1588, many of the existing fortifications were refurbished, and few new ones were built. Further refurbishment of the region's defences took place during the Civil War in the 17th century. King's Lynn was subject to a notable refurbishment, and the town was held under siege in 1648. Again, few new defences were built. In contrast to other parts of East Anglia, Norfolk's coastal defences do not appear to have been subject to great improvements during the Napoleonic wars.

The fashion for designed landscapes constructed by rich landowners emerged during the post-medieval period. Houghton Hall (north-east of King's Lynn) is a good example of an intact, 18th century formal garden, which was designed by Bridgeman in the 1720s for Sir Robert Walpole, the Prime Minister.

Agriculture in Norfolk had a temporary reprieve at the onset of war in 1914, but this was short lived and immediately after the Great War many of the estates and other land changed hands. When war was declared, Norfolk found itself very vulnerable to attack and bombardment from the sea and from invasion. Most of the coastal defences built in the preceding centuries has been demolished and after the German navy attacked Great Yarmouth there was a sudden flurry of gun battery building and trench digging along the coastline.

Concrete pillboxes were built both on the coast and inland to defend the county against invasion.

4.11.2 Post-Medieval Period: Known Sites

Listed Structures

Two listed buildings are recorded in the area. The first is the Grade II listed Faulkner House, which dates to the 18th century. This is located in Walpole St Peter. The second is a Grade II 18th century house called The Grange. This is located in Wormegay.

Non-Listed structures

Three former buildings are recorded to the north of the East Walton AGI. They are marked on the Tithe map of 1838.

In West Bilney, reused stonework is recorded at Manor Farm (HER MNF21105). This stonework has been reset into the north wall of an 18th/19th century outbuilding associated with the farm. To the south-west of West Bilney, a mound is recorded on the 1st Edition OS map of 1886 (DBA:GV). West Bilney Park (DBA:GT) appears on an OS map dating to 1886 and is located to the north of West Bilney Hall and is situated just to the south of the pipeline route. Two further buildings are marked on the 1906 OS map. They are located to the west of West Bilney Hall (DBA:KU and DBA:KV).

Located to the south of Blackborough End, a former building is marked on the OS map of 1886 (DBA:GK). Highbridge Farm (DBA:GM) is also marked on the OS map of 1886 and is located to the south of Blackborough. Two buildings are marked on the tithe map of 1838 to the south of Blackborough End (DBA:JX and DBA:JY). A further building, also dating to the same period, is located to the east of High Bridge and south of Blackborough (DBA:KC).

To the south of Setchey is the site of a 19th century spa house (HER MNF17313). However, Bryant's map of 1828 marks this, or an adjacent building, as a Ladies' Seminary. Just to the north of this building is the site of a brick kiln, which was marked on Bryant's map of 1826.

Located on the east bank of the River Great Ouse, to the south of Wiggenhall St Peter, is the site of a Gwynnes Pump (HER MNF45661). It connects the Polder Drain to the Great Ouse and was originally installed in 1914.

The Tithe map of 1840 records the presence of a building approximately 100m from the centre of Lordsbridge (DBA:BU) and a further building is marked on the OS map of 1886 (DBA:FX). It is located 500m south-east of Lordsbridge and sits beside the Middle Level Main Drain

To the north-west of Tilney Fen End is the site of a drainage windmill (HER MNF16343). It is marked on both Bryant's map of 1826 and an OS map of 1836. Three buildings are recorded to the north of St John's Fen End (DBA:BH, DBA:BI and DBA:BJ). The two former sites are marked on the Tithe map of 1839, whereas the latter appears on the Tithe map dating to 1840. Three further buildings are also marked on the OS map of 1886 (DBA:FR, DBA:FS, DBA:FT). These are located just over one kilometre to the north-west of St John's Fen End.

Two buildings are marked on the 1st Edition OS map of 1886 and are located north of Great New West Field (DBA:FM, DBA:FN). They are both situated south of the proposed pipeline route. Just over one kilometre to the west, another building was also recorded (DBA:FK)

Post-medieval debris is recorded to the north of Faulkner House (HER MNF19860). The area is marked on a 6" OS map as building, which has since been demolished and sits on a low mound.

Priory Farm, located to the north of West Walton, takes its name from the ownership of the Priory of Lewes (HER MNF19103). The present building has a carved beam with foliate pattern and single roll-moulding in the style of Henry VIII and a slab with a ring in the kitchen is reputed to lead to an underground passage.

An evaluation carried out at the site of a new farmhouse to the south of Ingleborugh recorded the presence of 18th/19th century ditches (MON 1405504).

Two buildings have been recorded near to the Walton Dam (DBA: AC and DBA:AD) and appear on the Tithe map of 1839. A further building is located on the west bank of the River Nene and is marked on an OS map of 1906 (DBA:KF).

Communications

To the south of the East Walton AGI is the dismantled King's Lynn and Dereham railway (MON 357784). It was opened by East Anglia Railway in 1848 and closed in 1968.

The River Nar flows along the southern section of the Study Corridor (MON 1343039). The Nar enters the Great Ouse above King's Lynn and was improved under an Act of 1751, which sanctioned work to West Acre, 15 miles from King's Lynn.

Running along the western edge of Watlington is the Lynn and Ely railway (MON 1366840). The railway was incorporated in 1845 with branches to Lynn harbour and Wisbech and in 1845 was amalgamated with the Lynn and Dereham railway, and the Ely and Huntingdon railway to form East Anglian railways. In 1862 the company was absorbed into the Great Eastern Railways Company.

To the west of the Lynn and Ely railway is the River Great Ouse navigation (MON 1341706). During the Middle Ages, the River Great Ouse ran via Upware and Wisbech, but changed course before the end of the 13th century to come out at King's Lynn. From 1817-21 the Ouse outfall was modified with a 2.5 mile cut-off channel constructed from Eau Bank to King's Lynn harbour, designed to increase scour and reduce siltation.

Running along the western bank of the River Nene is the dismantled Peterborough and Sutton Bridge railway (MON 354845). The former Midland and Great Northern Joint railway between Peterborough and Sutton Bridge opened in 1866 and was closed to passengers in 1959 and closed entirely in 1964.

Just to the north of the Wisbech AGI is the site of a railway station (MON499804). It used to be part of the Peterborough and Sutton Bridge branch of the Midland and Great Northern Joint Railway, which was opened in 1866 and closed in 1959.

To the north of Tilney Fen End, the Tithe map of 1840 records a trackway, which could be Poyce Chase (DBA: BL). A trackway has also been identified from aerial photographs to the north-west of Holme Farm, which is to the north of St John's Fen End (DBA:IA).

Field Boundaries

A large number of both former and extant field boundaries have been recorded from Tithe and OS maps. Tithe maps dating to between 1838 and 1840 indicate the presence of 69 field

boundaries across the entire Study Corridor. The 1st Edition OS map of 1886 records a further 27 field boundaries, OS maps dating to 1906-7 records five and an OS map of 1927 records two. Many of the field boundaries recorded on Tithe maps represented field systems prior to Enclosure, when large numbers were incorporated in order to create larger systems.

Aerial photography has also been able to identify a number of former field boundaries. One boundary is crossed by the pipeline route, to the south of West Winch (DBA:IL) and an extensive field system has been recorded to the south of Lordsbridge (DBA:JJ). A further boundary was recorded to south-east of Wiggenhall St Peter (DBA:IK). Another former boundary runs up against the Sea Bank, to the north-east of Walton Dam (DBA:HA).

Evidence for early field systems in the form of strip farming has been recorded from aerial photography. This evidence is located to the north-east of Tottenhill Rows and the northern section is crossed by the pipeline route (DBA:IM).

Water Features

There are two distinct concentrations of ponds which have been recorded from Tithe maps (dating from 1838-40) and 1st Edition OS maps. The larger concentration is in the Walton area (9 recorded between 1838 and 1840 and 18 recorded in 1886). Very few are recorded in the eastern section of the pipeline, in fact only ten are recorded. Three were noted on the Tithe maps (DBA:CR, DBA:DB, DBA:KE) and seven from OS maps dating between 1906 and 1927 (DBA:KH, DBA:KI, DBA:KJ, DBA:KK, DBA:KN, DBA:KO, DBA:KT). In addition to the 19 ponds recorded from the OS map in the West Walton area, only 10 further ponds are recorded in an area stretching from the east of Walton Highway to the north-west of Wiggenhall St Mary Magdalen (DBA:FB, DBA:FC, DBA:FE, DBA:FF, DBA:FL, DBA:FU, DBA:FV, DBA:FW, DBA:FY, DBA:FZ).

A further fourteen ponds have also been identified from aerial photography. The majority is concentrated in the eastern section of the Study Corridor: six in the West Walton/Walton Highway area (DBA:HF, DBA:HH, DBA:HM, DBA:HP, DBA:HQ, DBA:HS, DBA:JG); one from Walpole Highway (DBA:HV); one at St John's Fen End (DBA:HZ); one near Lordsbridge (DBA:IE); two at Blackborough End (DBA:IP, DBA:IT); one in East Winch area (DBA:IW) and a pond at the East Walton AGI (DBA:IY).

Unsurprisingly, given the nature of the landscape in the western sector of the Study Corridor, aerial photography was able to record two drains. The first is just south-east of Ingleborough (DBA:HL) and the second is near Walton Highway (DBA:HT).

A stream is recorded on the Tithe map of 1838 and is located on the southern bank of the present River Nor, to the south of Blackborough End (DBA:CZ). The Tithe map of 1838 also highlights a lake to the south-east of Blackborough (DBA:DA), near to what are now sand and gravel pits.

Find Scatters

A number of find scatters were recorded during fieldwalking along the proposed pipeline route (APS 2006). Finds of pot and tile were identified at West Bilney (HER MNF 48751b) and similar material was also recorded to the north of the pipeline route at West Bilney Hall (HER MNF48751c).

A small find scatter consisting of pottery was recorded just less than one kilometre south of Faulkner House (HER MNF48751e). Further finds of pot, tile and claypipe were noted near Ferry Farm, just to the north of Walton Dam (HER MNF48751g).

Isolated Finds

The eastern sector of the Study Corridor has produced two finds: a fragment from a crotal bell (PA-NMS-560A84) and to the south of West Bilney, a Boy Bishop token, which dates to the 15th and early 16th century. At the opposite end of the Study Corridor, odd pottery sherds have been recorded to the south of Ingleborough (HER MNF19960).

Brick ground is recorded on the tithe map of 1838, to the north-west of West Bilney Hall (DBA:KD).

4.11.3 Post-Medieval Period: Additional Information

No additional information about sites of this period within the Study Corridor has been produced by researching secondary sources.

4.12 Modern (1939 to present)

4.12.1 The Modern Period: General Background

The period between the two wars saw major changes to Norfolk's agriculture. Sugar beet became a major crop and was grown under contract to the new sugar beet factory built at Cantley. Sheep farming declined and was replaced by dairy farming; by 1939 the county was a major milk producing area. The military defences of the First World War had been comprehensibly dismantled and only the pillboxes remained when war was declared in 1939.

War again made enormous changes to the face of Norfolk. The county was to become known as the 'flight deck of Britain'. RAF stations and concrete runways appeared throughout the county. By the end of the war there were some 37 active airfields in the county. Many remain in some form to this day, others have been returned to farmland. Some, such as RAF Coltishall, are still very active and the airfield of Horsham St Faiths is now Norwich International Airport.

Extensive defences were constructed all along the coast and inland. Not only was it necessary to protect against invasion, but also attack from the air. Some 14 coastal batteries were installed. Arable land was increased, with every bit of land not used for other war purposes being put under the plough and Norfolk was farmed more intensively than ever before.

The First World War was significant to the county of Norfolk in a number of ways. Large numbers of men of fighting age were called up to join local regiments that were sent to fight in France. Virtually every Norfolk village has a war memorial that records the names of those who lost their lives.

The war was the first time that significant aviation activity spread throughout the county with a large number of aerodromes and landing grounds being built. Significantly Pulham Market, in the south of the county, was one of the few locations where airships were stationed. Boulton and Paul in Norwich and Savages of King's Lynn were both involved in aircraft production, each company producing many hundreds of aircraft for the war effort. Boulton and Paul exist today as a joinery company and remained in aviation as late as the 1960s.

The interwar period saw the first sustained mechanisation of forms with horse drawn equipment gradually falling from use to be replaced with steam and petrol driven machinery. Many farms grew in size as smaller farms were swallowed up.

Investment and grants meant that with peace came prosperity to Norfolk's farming community and with modern tools and artificial fertilisers farming by the early 1950s was again a very profitable way of life. However, modern methods meant that less manual workers were required. In little more than 10 years the numbers were halved. In 1953 on 31st January, flooding extensively damaged the Norfolk Coast. The county had been subjected to flooding many times before over the centuries but never on such a scale. Force 10 winds and exceptionally high spring tides resulted in the sea defences all along the coast being breached and villages such as Salthouse and Cley were under several feet of water and apart from property damage, large areas of grazing were flooded. In the Heacham area 65 people were drowned. At King's Lynn, much of the town was flooded and 15 people died and this picture was repeated along the coast.

4.12.2 The Modern Period: Known Sites

The East Walton gas compressor, which marks the eastern end of this proposed pipeline route, is recorded (MON 1366573).

Evidence of the county's military past is recorded to the south of the River Nar at High Bridge (south of Blackborough End). There are the remains of a tank trap on the south approach to the bridge, which include two concrete sockets in the roadway to support the ends of a barrier. Other fragments were thrown onto the bank (HER MNF25457).

On the south bank of Mill Basin, near Rosary Farm, a pillbox dating to 1940 still survives (HER MNF20738).

A structure associated with the activities of the Royal Observer Corps is located to the north of West Walton. The majority of the site was destroyed at the farmer's request, but Orlit B remains (HER MNF39561). These were small prefabricated, reinforced concrete structures that were manufactured by Messrs Orlit Ltd for the Royal Observer Corps. The first were ordered in 1951, with most being redundant by 1955, although a few remained in use in eastern England until 1965.

4.12.3 The Modern Period: Additional Information

No additional information about sites of this period within the Study Corridor has been produced by researching secondary sources.

4.13 Sites of Undetermined Date

4.13.1 Undetermined Date: Known Sites

Earthworks and Mounds

A possible gully has been recorded to the north of the East Walton AGI (DBA:JD). It is situated on the northern edge of the Study Corridor.

Aerial photographs have recorded the presence of a building, just to the west of West Bilney (DBA:JP) and the proposed pipeline route.

A mound is located to the south of Blackborough End (DBA:IS) and is surrounded by a number of pottery scatters (HER MNF23205, HER MNF23623).

At Blackborough, a number of ditches have been identified from aerial photographs (DBA:JO) and lie within the parameters of the medieval priory (SM 30560) suggesting that

they may be associated with the priory. Just to the west, running along New Road at Blackborough, there is evidence to suggest the presence of a deserted settlement (DBA:JN). This could represent a shifting settlement or buildings, which may have fallen out of use with the dissolution of the priory.

A possible moat or square pond is marked on the tithe map of 1838 (DBA:KB). It is located to the east of the sewage works on Middleton Common (east of Blackborough).

A mound, to the east of Setchey is noted and is 30ft in diameter (HER MNF17314). The mound is believed to be part of a roddon system, but it should be noted that the area was a bombing range in World War II. An undated earthwork is located to the south-east of Setchey (HER MNF19180).

A possible mound is recorded to the north-east of Green Lane Farm (DBA:HY). It is located near to a pottery scatter (HER MNF19870) and it could be that the two are related, with the latter representing occupation debris.

A number of sites are recorded within the vicinity of Walpole Highway. A mound is believed to run under Ivy House (HER MNF19791). The top of the mound to the north is covered with post-medieval debris, particularly animal bone, brick, fired clay, shell, glass and pottery. Nearby, 100m to the east, a large ditch was identified in the pasture (HER MNF19789). At first sight it appears to be a fragment of a moat, about 7.5m wide and over 1m deep and partly filled with water. It is almost straight and may continue to a northeastern roadside ditch. At the south-west end it broadens out to form a possible pond, but this is in the middle of a medieval drove line and it an unlikely location for a moat. Aerial photography has identified a possible mound 300m south-west of Ivy House (DBA:HU).

A further mound is recorded to the north, which appears as an area of raised ground set back from the road (HER MNF19685). It does not appear to be a roddon in colour, but does have a roddon-like tail. It does not appear to link up with any other features and may be a deliberate construction. There is a scatter of modern baked clay on the surface.

To the south-east of Magdalen Bridge, an isolated mound has been identified from aerial photography (DBA:II).

A mound is also recorded to the north of Faulkner House (HER MNF19805). It lies to the south of a moated site (HER MNF2207) and its surface is covered with brick/fired clay fragments, some bone and shell.

An undated mound lies 200 yards south of Grange Farm (HER MNF2201), just to the north-west of West Walton. It is marked on Bryant's map of 1826 as moot hill. It is circular with a slight ditch and 90ft in diameter. A cutting in the north-west section shows that it is made of a local clayey soil and that there was no stone or masonry. A dyke adjoins the mound on the east side. There is a roddon, which heads towards it, but it appears to fade before reaching it.

Cropmarks

In a field west of Ivy Lodge, at West Bilney, a sub-rectangular cropmark has been noted along with other field boundaries (HER MNF11760). In 1996, aerial photography identified a potential ring ditch or small enclosure in a field to the south the East Walton AGI. There was also an ephemeral and interrupted linear feature (HER MNF40574).

To the east of West Bilney Hall, odd circular cropmarks were recorded in 1972 by aerial photography. It is uncertain as to whether or not these could be caused by crop irrigation (HER MNF3892).

To the south-west of Blackborough End, a cropmark of a large oval enclosure is recorded (HER MNF3475).

To the east of Walpole Highway, cropmarks were recorded of a rectangular enclosure along with linear marks, which were askew to the present field system. The Fenland Survey noted the presence of a couple of medieval sherds (HER MNF21730).

Enclosures

Two enclosures have been recorded within the vicinity of the East Walton AGI (DBA:JS and DBA:HG). To the east of Cranberry Plantation and south of the pipeline, a square enclosure was identified from aerial photography (DBA:IV) and another has been recorded to the south of Setchey (DBA:IN). To the south-west of Setchey, a further rectangular enclosure has been identified (DBA:JH). An enclosure has also been recorded in the Watlington area and is located approximately 500m north-west of the town of Watlington. One kilometre east of Magdalen Bridge, there is a rectangular enclosure that is bisected by the proposed pipeline route (DBA:IG).

A number of enclosures have been recorded in the western section of the Study Corridor. An enclosure is present in a field to the north of Priory Farm (DBA:HN) and is surrounded by a number of pottery scatters (e.g. HER MNF18978, HER MNF18958). A square enclosure has been recorded to the south of Ingleborough (DBA:HK).

Another enclosure is located on the far western edge in Cambridgeshire (DBA:HB) and a further site is situated 400m south-east of the Walton Dam (DBA:HJ)

Ring Ditches

Six possible ring ditches have been identified in the Study Corridor. Five of these are located in the eastern section of the pipeline corridor: 2 are located near to the East Walton AGI (DBA:JE, DBA:JF); 2 in the area in and around West Bilney (DBA:IX, DBA:IZ) and one to the south of Blackborough End (DBA:IQ). The sixth site is located to the east of Tilney Fen End, approximately 100m east of Gravel Bank Farm (DBA:ID).

Trackways

Seven trackways have been identified in the Study Corridor. Three of these are located in the vicinity of the East Walton AGI (DBA:JB, DBA:JC and DBA:JR). The latter may represent a former road. Further trackways have been recorded to the south-east of Blackborough (DBA:IU) and another is located to the south-east of Setchey Bridge (DBA:IO). The seventh site is the only example, which is situated within the western section of the Study Corridor and is located south-west of Ingleborough (DBA:HI).

Palaeochannels

Twenty-five palaeochannels are recorded within the Study Corridor and these are sites, which represent the best opportunity to identify occupation activity, as well as preserving important palaeoenvironmental data.

One of these former river channels have been recorded to the south-west of the East Walton AGI (DBA:JA) and two further examples have been identified to the east of Setchey (DBA:JM, DBA:LI). Another palaeochannel is recorded to the south-west of Setchey (DBA:LH).

Moving westwards along the Study Corridor, two palaeochannels have been identified to the east of Wiggnehall St Peter (DBA:IJ, DBA:LG) and another example is located to the south-west of Ivy Farm (DBA:IH). The latter is also crossed by the proposed pipeline route. A further palaeochannel is recorded to the south-west of Wiggenhall St Peter (DBA:LF).

Three channels have been identified to the south and south-west of Lordsbridge (DBA:LE, DBA:IF, DBA:JI), two of which are located within close proximity to each other (DBA:IF, DBA:JI). Two further palaeochannels are noted to the north of St John's Fen End.

A palaeochannel is recorded to the south-east of Faulkner House (DBA:HR) and two are noted to the south of Little West New Field (DBA:HW and DBA:HX).

Two palaeochannels have been identified from the Fenland Survey and are recorded to the south of Walpole Highway (DBA:LB and DBA:LC).

Six palaeochannels are located in the area around the Wisbech Nene West AGI (DBA:GX, DBA:GY, DBA:GZ, DBA:HC, DBA:HD and DBA:HE). One of these channels (DBA:HC) runs across the pipeline route and another appears to be an extensive palaeochannel system (DBA:HE).

Documentary Evidence

A map from King's Lynn Museum records evidence for metalworking to the north-west of Blackborough End (HER MNF17282). The map had 'slag' written in this area, which is a by-product of metal production and suggests that activities of an industrial nature were occurring in the vicinity.

Find Scatters

A couple of undated sherds were found during fieldwalking as part of the Fenland Survey (HER MNF23007). The sherds were found on silt close to the northern edge of the River Nar, east of Setchey.

To the south of Lordsbridge, a stone coffin lid was recorded in Magdalen churchyard (HER MNF13297). It was discovered when cutting the new sluice at Magdalen Fall, half a mile west of Magdalen Bridge. A cartwheel was found alongside the coffin lid.

Medieval and post-medieval debris have been found to the north-west of West Walton (HER MNF18950). It appears to be situated on an area of raised ground or roddon and is interpreted as a possible location of a house.

5 ARCHAEOLOGICAL POTENTIAL OF THE LANDSCAPE WITHIN THE STUDY CORRIDOR

5.1 Archaeological Remains

The Fenland Survey did not extensively cover the eastern sector of the Study Corridor. As a result, the eastern section has not been subject to the intensive and continuous survey, excavation and management witnessed as part of the Fenland Survey in the western section of the Study Corridor.

In the eastern upland areas of the Study Corridor the identified archaeological activity is typical of chalk downland areas ranging from Mesolithic flint scatter, prehistoric barrows and cropmark ring ditches, Roman settlement activity including kiln sites, Anglo-Saxon cemeteries, medieval moated sites and kilns.

The presence of roddons in the region suggest that streams or small rivers would have run across the landscape, but when these water channels silted up and the water levels lowered, the surrounding peat shrunk and as a result these silty areas became raised and represented suitable locations for occupation. Therefore, where these roddons can be identified it is likely that occupation will be present too.

The use of geophysical survey is restricted to areas where alluvium is less than 1m thick and due to the limited coverage of boreholes, it is difficult to accurately predict the nature of the underlying geology. Therefore, the potential for archaeology is limited to highlighting areas where one would expect occupation to be, i.e. identifying areas of previously dry land. Boreholes indicate that in the eastern section of the Study Corridor, peat will be encountered at less than 1m below the land surface. Thus, these areas of high-lying peat will present the best opportunities for palaeoenvironmental data, the preservation of organic remains and evidence for prehistoric (and historic) occupation.

5.1.1 Palaeolithic (c. 500,000 – 8,300 BC)

Shallow excavations are unlikely to produce *in-situ* remains of Palaeolithic camps or activity areas, but unstratified flint or stone artefacts may occasionally be discovered. During glacial episodes, older bone or stone tools become incorporated in later gravels and boulder clays, and material of this date sometimes travelled some considerable distance from its original point of deposition and is occasionally picked up from the surface. Deep excavations are more likely to encounter material of this period.

The Study Corridor passes along the northern fen edge and to the north of the 'island' of Wormegay in the area of the Nar valley. The island is enclosed by peat deposits and demonstrates evidence for early human occupation from the Palaeolithic onwards. Finds for this period are restricted to the eastern sector of the proposed pipeline route and a number of them were recorded close to or on the proposed pipeline route. There is a moderate potential for encountering Palaeolithic finds, particularly in areas where palaeochannels exist or where glaciofluvial drift occurs. Glacial drift is particularly prominent in the fringes of the Fens between King's Lynn and Downham Market as well as around Middleton, East Winch and East Walton. Where gravels and glacial drift is identified in trenches, it is recommended that care is taken for these are areas where there is the best opportunity for identify artefacts and occupational debris dating to the Palaeolithic.

5.1.2 Mesolithic (c. 8,300 – 4,000 BC)

Mesolithic hunter-gatherers, like all prehistoric peoples, normally favoured riverside locations. The potential for encountering settlement remains is very low because Mesolithic communities were largely nomadic. Concentrations of material are much more important than single finds, since they suggest focused activity and sometimes indicate where tool production was taking place.

Only one find has been dated to this period in the Study Corridor (SMR MNF23622), however given the difficulty of distinguishing between Mesolithic and Neolithic flint assemblages, it may be possible that assemblages assigned to the prehistoric period, are in fact Mesolithic in date. There is a low to moderate potential of encountering further Mesolithic material along the proposed pipeline route. Areas of potential include riverine locations and palaeochannels.

5.1.3 Neolithic (c. 4000 BC to 2350 BC)

Riverside locations continued to attract settlement in the Neolithic period. Areas flanking watercourses or locations where dried up water channels may have existed represent the greatest potential for identifying material dating to this period. Neolithic pottery is nationally rare (Brown and Murphy 1997), but flintwork of this period is not uncommon. Neolithic occupation sites are far more numerous than those of earlier eras, but nonetheless, late Neolithic settlements are rare in Britain and frequently lack the deep subsoil features that occur in earlier Neolithic sites (Healy 1988).

Prehistoric material, comprising flint tools and waste, was only retrieved from the eastern end of the pipeline route when fieldwalked in March 2006 (APS 2006). This material was sporadic and was not thought to represent settlement, although work by Network Archaeology at East Walton may contradict this (Network Archaeology 2003). Network Archaeology highlighted the complexity of archaeological potential within this area. Prehistoric material recovered from East Walton (the eastern end of the Study Corridor) survived within the complex, undulating glacial topography, which on a geophysical survey could have easily been mistaken for ridge and furrow. However, this pattern is a natural feature and has the potential to contain very significant archaeology, particularly in broader hollows or at the base of slopes, where subsequent colluvial deposition has taken place.

As noted in Section 3.6, the landscape of The Wash fluctuated between marine silt and peat growth. During the early prehistoric period the eastern sector of the proposed pipeline route is located on the boundary between two environments: the salt marshes to the west and the peaty marshlands to the east. These areas could have been exploited on a seasonal basis and were environments rich in resources, but were not necessarily suitable for permanent occupation.

There is a moderate to high potential of identifying Neolithic material particularly in the eastern sector of the Study Corridor.

5.1.4 Bronze Age (c. 2350 – 800 BC)

Finds dating to this period are limited to the eastern sector of the proposed pipeline route and consist of a fragment of Beaker pottery and two axe heads, although the true provenance of one of these is uncertain. It is possible that cropmarks of ring ditches also date to this period, indicating that the landscape was utilised for both everyday purposes as well as funerary activities. Work by Network Archaeology at East Walton recorded Bronze Age occupation.

There is moderate potential of encountering Bronze Age material in the eastern section of the Study Corridor.

5.1.5 Iron Age (c. 800 BC – 43 AD)

The majority of the Study Corridor has been subject to extensive archaeological survey and investigation as part of the Fenland Survey. This determined that much of the marine silts covering the area had been deposited in the late Iron Age, and the area was then cultivated in the Romano-British period. Little evidence for the Iron Age has been identified in the Study Corridor. However, finds that have been recorded, particularly in the area around Blackborough, indicate occupation and settlement (SMR MNF23205). It is unsurprising that few Iron Age sites have been recorded in the region because it is believed that occupation took the form of open settlement. The limits of settlement are extremely difficult to identify with aerial photography if no enclosures were constructed to demarcate the extent of occupation. As a result, settlement would take the form of wandering occupation across the landscape. Some of the undated features within the Study Corridor may belong to this period. Enclosed settlements and field systems often appear as cropmarks, but without excavation their date remains uncertain. Clearly the area would have provided opportunities for the exploitation of the rich resources, but settlement may be concealed by marine alluvium. The apparent absence of prehistoric material in the western sector of the Study Corridor could be explained by the changes in the coastline, which is proposed to have run roughly from Wisbech to Downham Market. If this is correct, this section of the Study Corridor would have been underwater or consisting of salt marshes, lagoons or marshes. Two prehistoric 'potboiler' sites have been identified on the northern edge of the fenlands. Iron Age and Romano-British activity is also restricted to the 'island' of Wormegay, although there is evidence that the River Nar was exploited for fishing.

Much like the Bronze Age, there is moderate potential for identifying Iron Age material culture, particularly in the eastern section of the Study Corridor and in riverside locations.

5.1.6 Roman (AD 43 – 410)

Buried Roman sites to the north indicate a subsequent period of marine flooding. Intermittent Roman settlement activity has been identified around West Walton, along with middle Saxon settlement at Walton and much evidence of nearby medieval settlement. It is believed that the first major acts of land reclamation were carried out during this period and this coincided with the natural drying out of the Fens. Roman finds have been located in both the eastern and western section of the Study Corridor, indicating an expansion of settlement into previously marginal areas. Finds from the surrounding area indicate that the region was productive in terms of producing pottery, metalwork and salt. Around Walpole St Peters numerous Roman sites are known including salt-making sites to the south with Saxon occupation being more prevalent to the north along with several medieval occupation mounds in the vicinity of the route. In the Terrington St John and Tilney St Lawrence area, two Roman canals are known – Aylmer Hall and Spice Hill Canal.

During fieldwalking in March 2006, no Romano-British items were identified despite the proximity of canals and settlement of this period to the Study Corridor. However, the Fenland Survey identified settlement sites as being concentrated on roddons and therefore there is a moderate potential of encountering Roman material where these areas of high ground exist.

5.1.7 Anglo-Saxon (AD 410 – 1066)

The archaeology of this era is often less easily detected than that of the Roman and Medieval periods for a variety of reasons. Early Anglo-Saxon settlements are generally difficult to

locate by fieldwalking because the pottery was low-fired and so disintegrates in the ploughsoil. Furthermore, 5th century pottery types are sometimes indistinguishable from those of the mid 4th century. Later Anglo-Saxon settlements were often subsumed by medieval villages, so evidence of early occupation may have been destroyed, particularly since vernacular buildings were normally built of wood, so their below-ground remains can be easily overlooked. Within the Study Corridor there are three distinct clusters of Saxon material: West Bilney, Ingleborough and West Walton. However, these finds consisted of a few sherds, which is not surprising given the fragility of Anglo-Saxon pottery. During the 2006 fieldwalking no finds of Saxon date were retrieved, although modern villages probably had their origin during this period.

There is moderate potential for recording Anglo-Saxon material, particularly within the areas mentioned above, as well as on the higher ground of the roddons.

5.1.8 Medieval (AD 1066 – 1540)

The Study Corridor has produced a large amount of medieval material, particularly in areas which have been subject to regular fieldwalking, e.g. Fenland Survey. Some of these more distinct clusters of material have been interpreted as evidence for settlements and occupation (SMR MNF18942). In fact this data could represent the remains of shifting settlements or deserted villages, which changed location in response to flooding, drainage or just falling out of use. Water clearly was a significant feature of the medieval landscape and place names refer to it in the naming of towns and villages, e.g. West Bilney, East Walton and Tilney St Lawrence. Within the western section of the Study Corridor reference is also made to the presence of the Sea Bank. Walpole means 'pool by the wall' and West Walton is thought to derive from 'village by the wall.' To the east of the Aylmer Canal and also between Tottenhill and Watlington evidence for pre-medieval archaeological activity is limited. The River Ouse provided a focus for settlement in the medieval period. A medieval site has been identified close to the pipeline route where the A10 trunk traverses to the Plover Drain.

There is a high potential for encountering further medieval finds within the Study Corridor.

5.1.9 Post medieval (AD 1540 to 1839)

Results from fieldwalking in 2006 indicate that objects of post-medieval date were the most numerous, providing more than half of the entire collection from the fields. Although they were evenly distributed across the surveyed area, these post-medieval items were slightly more abundant in proximity to farms where they probably indicate refuse disposal. However, much of this material also represents manuring scatters. Post-medieval remains are evenly distributed across the site and are also probable manuring scatters, though some localised concentrations may be associated with refuse disposal from nearby farms.

The Study Corridor inevitably contains a number of extant and former field boundaries, some of which may be of considerable antiquity. Most enclosure within the Study Corridor took place during the 19th century. Later enclosures such as these are often recognisable by the regular rectangular shapes of the fields. Early records of post-enclosure field systems often rely on verbal descriptions or are not drawn to scale, making it difficult to locate the positions of field boundaries. Nineteenth century enclosure maps can be more useful in this respect, although enclosure maps show proposed boundaries, whereas tithe and Ordnance Survey maps depict the actual situation.

5.1.10 Modern (1939 to present)

The Study Corridor has undergone little urban development, apart from the construction of major roads linking towns to King's Lynn. The area has remained primarily agricultural in nature. Of course, the landscape is still prone to flooding and therefore landscape management schemes have required the continual updating and monitoring of land drains, relief channels and improvement works on the region's rivers.

5.2 Built Environment

There is a very low potential for encountering and recording the built environment as the pipeline has been routed to avoid buildings and, where possible, built-up areas, and there is low density of structures within the rural landscape through which the pipeline passes.

5.3 Historic landscapes and boundaries

The Study Corridor includes lands in thirteen parishes: East Walton; East Winch; Wormegay; Middleton; North Runcton with Hardwick and Setchey; Watlington; South Lynn; Wiggenhall St Peters; Wiggenhall St Germans; Tilney All Saints, Tilney St Lawrence and Islington; Terrington St Clements and Terrington St Johns; Walpole St Peter and West Walton. The parishes are referred to in the Domesday Book and these were essentially tax districts. Parish boundaries often dated back many centuries. Although undated, these parish boundaries appear on Tithe maps dating from 1838 to 1844 (DBA:DM to DBA:DZ and DBA:EA to DBA:EH).

From the medieval period onwards, the area was under agricultural production. Some of the operational field drains in the area may be post-medieval or earlier. Other historic landscape features likely to be encountered are earthworks relating to parish boundaries and various existing and former field boundaries. Backfilled or silted drains and ditches may retain ancient palaeoenvironmental and organic remains. Many of these boundary/drainage features may seal archaeologically significant ancient land surfaces.

Two areas of woodland are recorded in the Study Corridor. Both of these are located to the east of the East Walton AGI (DBA:AA and DBA:AB). The former is classed as ancient replanted woodland and the latter is considered ancient and semi-natural woodland.

5.4 Palaeo-environmental and organic remains

Waterlogged soils that collect in hollows, pits, and water channels may contain preserved organic material and palaeoenvironmental remains. Organic material, such as seeds, wood, leather, fabrics and animal tissue can shed light on past human activities not usually represented in the archaeological record. This type of evidence is nationally rare, and therefore of great significance. Palaeoenvironmental remains, such as wood, leaves, beetles and pollen may be archaeologically important in their own right, or may have a raised value following the discovery of associated archaeological remains.

Riverside areas are often rich in prehistoric archaeology. In areas where the watercourses have shifted since the prehistoric period, ancient settlements and other signs of activity should be anticipated close to the former riverbeds (palaeochannels). There may be numerous palaeochannels running through the Study Corridor; some are discernible from aerial photographs, whilst others may come to light only during excavations. There is a high potential for the survival of both palaeoenvironmental and organic remains in areas such as

palaeochannels, where alluvial deposits would have helped to preserve such material by preventing exposure to the air.

The watercourses running across the Study Corridor may be embanked in places. Early embankments could seal ancient land surfaces, whilst others could be protecting parts of archaeological sites that have been largely destroyed by modern farming in the adjacent fields.

Since the last ice age, the gravel deposits of floodplains of most rivers have been constantly shifted by the meandering, braiding and sudden changes in the course of the river. Tree trunks are one variety of movable organic remains dislodged and transported by these fluvial actions and are then deposited and preserved in airless, waterlogged conditions. There is consequently a high potential for the preservation of ancient organic remains in the parts of the Study Corridor that lie close to river courses.

There is a high potential for encountering preserved organic remains in areas where peat deposits lie close to the land surface. These anaerobic environments will yield information concerning the ancient environmental conditions, landscapes, climate change and have the potential of preserving organic remains, such as wood, leather and textiles, which that would otherwise not survive in an oxygen-rich environment

6 ASSESSMENT OF IMPACT

6.1 Impacts of the proposed scheme

The following construction activities will have direct and indirect impacts on known and potential archaeological remains:

- Fencing
- Topsoil stripping
- Subsoil benching
- Soil storage
- Movement of heavy machinery
- Excavation of the pipe trench
- Working width reinstatement (e.g. subsoil ripping)
- These activities could have direct and/or indirect impacts on known and potential archaeological remains within the working width.

6.2 Beneficial impacts

The proposed pipeline is unlikely to result in short or long term beneficial impacts on the archaeological resource.

6.3 Adverse impacts

Four hundred and eighty-three sites have been identified within the Study Corridor. The grade of each site and level of impact are summarised below in Table 6.1. The total count of 'significance of impacts' is higher than the total number of sites within the Study Corridor because some sites are impacted more than once.

Table 6.1: Summary of impacts of the scheme by grade

Grade	Description	No. sites within Study Corridor	No. sites within nominal 42m wide working width		
			Uncertain impacts	Indirect impacts	Direct impacts
A	Statutory protected	4	0	0	0
B	Nationally important	2	0	0	2
C	Regionally important	25	8	0	4
D	Locally important	425	33	0	157
U	Ungraded	27	1	0	14
	Totals	**483**	**42**	**0**	**177**

Table 6.2: Summary of significance of impacts

Significance of impact	Count
N/A	286
Unknown	41
Low	137
Low or Medium	8
Medium	18
Medium or high	0
High	0
Total	**490**

The following sections deal in category order with sites that are directly, or indirectly or possibly affected by the proposed pipeline.

6.4 Category A Sites

Four sites benefiting from statutory protection are located within the Study Corridor. None is impacted by the proposed pipeline.

6.5 Category B Sites

Two nationally important sites are located within the Study Corridor and both are directly affected by the proposed pipeline (Table 6.1). The first is Sea Bank (MON 1032408), which is part of a system of banks. They extend for some 150 miles around the coast of The Wash. Early authorities suggested a Roman origin, but there are no records of associated finds or sites. The main work was probably medieval, possibly even pre-1086. It is now used in parts as a causeway. Only a short length will be impacted by the proposed pipeline route.

The second site is the area which marks the original extent of the 12th century Blackborough Priory (HER MNF3430). The probable south wall of the church and the gable end of a substantial medieval building are still standing, and dense spreads of building materials mark the sites of other buildings attached to the Priory. This area encloses most of a smaller designated area, which is a Scheduled Ancient Monument (SM 30560). The earthworks of five medieval fishponds have been recorded within the SM. The proposed pipeline crosses the south side of the site along a distance of c.350m, and passes within 30-80m of the scheduled site

6.6 Category C Sites

Twenty-five regionally important sites are located within the Study Corridor, of which four are directly impacted, and a further eight are possibly impacted by the proposed pipeline (Table 6.1). Soil marks of a medieval moat (HER MNF39604) have been recorded from aerial photographs and approximately one half of the site lies within the working width of the proposed route. Therefore, the site will be directly affected by the proposed pipeline route. Fieldwalking carried out as part of the Fenland Survey produced assemblages of Roman pottery and briquetage (HER MNF18600). Only a small proportion of the areas that were fieldwalked will be affected by the proposed pipeline route. The third site that is directly impacted is the findspot of a Palaeolithic handaxe and a fragment of another (HER MNF42349). The location of this site lies entirely within the working width of the proposed pipeline. There is the potential for further archaeology, where pockets of glacial drift and gravel are present. The fourth site, a Roman canal (DBA:KX), crosses the proposed pipeline route in a north-west to south-east direction. Only a small proportion will be affected by the pipeline.

Eight sites have an uncertain impact because either the full extent of site is not currently understood or the exact location of the site has not been established (MON 868199, MON 868370, MON 1341706, MON 1343039, HER MNF3434, HER MNF15633, HER MNF18977, HER MNF42344). In the cases of the River Great Ouse (MON 1341706), River Nar (MON 1343039) and River Nene (HER MNF42344) the rivers have undergone modifications over time and therefore the original extent of the river channels are not known. Although construction works will underpass the rivers, the exact engineering techniques and construction methods are not known at this stage, so the impact is uncertain.

6.7 Category D Sites

Four hundred and twenty-five locally important sites are located within the Study Corridor, of which 157 are directly impacted by the proposed pipeline and the impact on a further 33 is uncertain. Sites that are directly impacted included 102 field boundaries, 32 pottery and find scatters and 8 parish boundaries. Other sites that are impacted included those recorded from the Fenland Survey, tithe or OS maps.

Thirty-three sites have an uncertain impact because either the full extent of the site is not currently understood or the exact location of the site has not been established. One such site is the projected route of the Roman Spice Hills canal (DBA:KW). Also a number of sites are given an uncertain impact because the exact split of the working width is not known at this stage and as a result it is not possible to ascertain the exact nature of the impact on the site.

6.8 Ungraded Sites

Twenty-seven ungraded sites are recorded within the Study Corridor. Fourteen sites are directly impacted and one site has an uncertain impact. All of these sites are palaeochannels or former watercourses.

7 RECOMMENDATIONS

7.1 Liaison with statutory consultees

Liaison should be maintained with David Robertson of Norfolk Landscape Archaeology, in order to agree future archaeological investigation, approve and monitor the implementation of any archaeological WSIs, review reports, monitor fieldwork in progress, and also to visit the construction site.

7.2 Regional Research Frameworks

All future archaeological work on this project should be conceived within the context of the Regional Research Frameworks (Glazebrook 1997, Brown and Glazebrook 2000) and carried out with reference to standards and guidance documents mentioned in Section 2.1.

7.3 Written Schemes of Investigation

An archaeological Written Scheme of Investigation (WSI) should be produced for each stage of any future archaeological work (see 5.3).

7.4 Staged approach to mitigation

The most cost-effective means of managing archaeological risk is to implement a staged approach to investigation and mitigation, as laid out and explained in greater detail in Appendix A. It is important, however, to avoid an overly mechanistic approach and to ensure a focus on gaining understanding and information relevant to key issues.

Table 7.1: Staged approach to investigation and mitigation

Archaeological Stages of Investigation		**Phase of works**
Stage 1	**Route Corridor Investigation Study** an appraisal of archaeological potential	feasibility assessment
Stage 2	**desk-based assessment of route corridor** a thorough synthesis of available archaeological information	conceptual design
Stage 3	field surveys of preferred pipeline route, including: field reconnaissance survey, field walking survey, geophysical survey as appropriate	detailed design
Stage 4	**field evaluation** of targeted areas along preferred pipeline route, including: machine-excavated trenches, hand-dug test-pits, auger survey, as appropriate	
Stage 5	**excavation** e.g. Detailed investigation of those sites which it is not possible to avoid or desirable to preserve (eg. Excavation, topographic survey)	
Stage 6	**watching brief** permanent presence monitoring of all ground disturbing activities	construction
Stage 7	**archive and publication** synthesis and dissemination of results, leading on from each of the stages outlined above	post-construction

7.5 General Recommendations

The next recommended stage of work is field surveys, as shown in table 7.2. The selection and application of these surveys should take account of:

- the nature of the known and potential archaeology and its distribution along the pipeline (see chapter 5)
- the nature of the local geology and soils (see chapter 3)
- the proposed construction methodology (see 1.3).

In addition to the proposed pipeline's working width, investigation should also cover the sites proposed for associated engineering works, such as pipe storage areas, site compounds and road crossing areas as these become known.

Agreement over the precise survey strategy should be reached with *National Grid*.

Table 7.2: Proposed field surveys

Proposed survey type	**Proposed survey area**
Field reconnaissance survey	entire route
Field walking survey	arable areas only – excluding those areas previously covered by the Fenland Survey (good recovery conditions only) and excluding those areas covered by APS (2006), unless the route has moved
Metal detector survey	entire route
Geophysical survey: caesium vapour magnetometer survey and magnetic susceptibility survey	a proportion of the working width of the proposed route (min 30m wide grid) targeted upon areas of shallow alluvium and also upon areas of high archaeological potential identified by this assessment)
Recording of dykes (including use of auger survey data)	all accessible dykes/ditches along the route are to be considered for cleaning and recording so as to obtain a record of the visible stratigraphy. As a partial alternative, obtaining the same data could be achieved via evaluation trenches, or possibly during any excavations. This work can be undertaken during late spring/summer when water-levels are at their lowest, during a programme of trench evaluation, excavation, and/or construction watching brief.
Topographical survey	extant earthworks, identified by the field reconnaissance survey, should be revisited and a full survey undertaken in advance of any trench evaluation

7.5.1 Eliminating areas of no archaeological potential

Areas of former mineral extraction exist to the east and south-west of Blackborough End but neither area is crossed by the proposed pipeline route. Any further such areas which are determined by subsequent surveys should be excluded from further archaeological examination.

7.6 Site and area specific recommendations

7.6.1 Archaeological sites

Archaeological investigation and mitigation, beyond that outlined above, may be appropriate at specific sites as summarised in table 7.3. Agreement over any site-specific archaeological work should be reached with NG, MPL and B&V in liaison with Norfolk Landscape Archaeology and English Heritage.

Table 7.3 Summary of recommendations

DBA:BH Building marked on tithe map of 1839 Importance D NGR 553758 312115 Figure 9 ***Recommendations*** Particular attention should be paid by the field surveys to establishing the precise location of the site within the working width of the pipeline. This site is likely to require recording at some stage.
DBA:FM Building marked on OS map 0f 1886 Importance D NGR 551528 312119 Figure 9 ***Recommendations*** Particular attention should be paid by the field surveys to the stretch of pipeline which passes close to this building in order to establish whether or not it extends into the course of the proposed working width. Any extant earthworks or structures identified on or close to the route in this area should be flagged up.
DBA:GV Mound marked on OS map 0f 1886 Importance D NGR 571215 314889 Figure 3 ***Recommendations*** Particular attention should be paid by the field surveys to the stretch of pipeline which passes close to this mound in order to establish whether or not it extends into the course of the proposed working width. Any extant earthworks or structures identified on or close to the route in this area should be flagged up.
DBA:IG Two curvilinear features visible on aerial photograph on 1946 Importance D NGR 558800 312154 Figure 7 ***Recommendations*** Particular attention should be paid by the field surveys to establishing the precise location of the site's components within the working width of the pipeline. This site is likely to require recording at some stage.
DBA:JP Building visible on an aerial photograph of 1975 Importance D NGR 571370 315346 Figures 2, 3 ***Recommendations*** Particular attention should be paid by the field surveys to the stretch of pipeline which passes close to this building in order to establish whether or not it extends into the course of the proposed working width. Any extant earthworks or structures identified on or close to the route in this area should be flagged up.
DBA:KW **DBA:KX** Projected route of Roman Spice Hills canal; and route of Aylmer Roman Canal Importance D, C NGR 553844 312250, 558756 312353 Figures 8, 9, 7 ***Recommendations***

Field reconnaissance and survey should pay particular attention to DBA:KX in order to confirm the existence and precise location of the site and to provide sufficient information to enable its possible targeting for future archaeological works. Specifically, field reconnaissance should look for evidence of earthworks and geophysical survey should assess data for substantial linear anomalies. With regards to the projected route of Spice Hills canal (DBA:KW), the survey should focus on its projected alignment in order to establish its existence and precise location.
HER MNF2207 **HER MNF 19728** Medieval moat possibly Rochford mansion; medieval moat Importance C NGR 549750 314000 to 50000 313800 Figure 11 ***Recommendations*** Although these sites are not directly impacted by the proposed pipeline route, particular attention should be paid by the field surveys to the stretch of pipeline which passes close to these two moated sites in order to establish whether or not any associated archaeological remains extend into the course of the proposed working width.
HER MNF2285 Possible medieval moat or drainage mill Importance C NGR 560308 312389 Figure 6 ***Recommendations*** Particular attention should be paid by the field surveys to the stretch of pipeline which passes close to this possible moated site in order to establish whether or not any associated archaeological remains extend into the course of the proposed working width.
HER MNF11760 Cropmark of rectangular enclosure Importance D NGR 571539 315446 Figures 2, 3 ***Recommendations*** Particular attention should be paid by the field surveys to establishing the precise location of the site's components within the working width of the pipeline. This site is likely to require recording at some stage.
HER MNF13297 Stone coffin lid and cartwheel found during excavation of the Middle Level Main Drain Importance D NGR 556889 311900 Figures 7, 8 ***Recommendations*** Particular attention should be paid by the field surveys to the stretch of pipeline on either side of the Middle Level Main Drain in order to establish whether or not any associated remains exist along the course of the proposed working width.
HER MNF16343 Post-medieval drainage windmill Importance D NGR 553802 312143 Figure 9 ***Recommendations*** Particular attention should be paid by the field surveys to the stretch of pipeline which passes close to this windmill in order to establish whether or not it extends into the course of the proposed working width. Any extant earthworks or structures identified on or close to the route in this area should be flagged up.

HER MNF18600
Roman pottery and briquetage scatter found during the Fenland Survey
Importance C
NGR 549899 313253
Figures 10, 11
Recommendations
Particular attention should be paid by the field surveys to the stretch of pipeline which passes close to this pottery and briquetage scatter in order to establish whether or not any associated archaeological remains extend into the course of the proposed working width.

In the event that significant remains are established along the route, consideration should be given to modification of the route either to avoid the site altogether or to reduce the extent of impact upon the site. If a re-route is not feasible or desirable at this stage, it may be prudent to widen the survey width so as to assist with the identification of a 'path of least resistence' along which the pipeline could be routed. If mitigation is necessary, consideration should be given to advance excavation and/or a watching brief during construction and/or reduction of the working width.

HER MNF18942
HER MNF18944
Possible medieval settlement
Importance C, D
NGR 547268 314394
Figure 12
Recommendations
Particular attention should be paid by the field surveys to establishing the precise location of the site's components within the working width of the pipeline. This site is likely to require recording at some stage.

HER MNF18977
Large Roman pottery scatter found during the Fenland Survey; possibly settlement
Importance C
NGR 548701 314260
Figure 11
Particular attention should be paid by the field surveys to the stretch of pipeline which passes close to this pottery scatter in order to establish whether or not any associated archaeological remains extend into the course of the proposed working width.

In the event that significant remains are established along the route, consideration should be given to modification of the route either to avoid the site altogether or to reduce the extent of impact upon the site. If a re-route is not feasible or desirable at this stage, it may be prudent to widen the survey width so as to assist with the identification of a 'path of least resistence' along which the pipeline could be routed. If mitigation is necessary, consideration should be given to advance excavation and/or a watching brief during construction and/or reduction of the working width.

HER MNF39604
Soilmarks of medieval moat
Importance C
NGR 569768 314965
Figure 3
Recommendations
Particular attention should be paid by the field surveys to establishing the precise location of the site's components within the working width of the pipeline.

In the event that significant remains are established along the route, consideration should be given to modification of the route either to avoid the site altogether or to reduce the extent of impact upon the site. If a re-route is not feasible or desirable at this stage, it may be prudent to widen the survey width so as to assist with the identification of a 'path of least resistence' along which the pipeline could be routed. If mitigation is necessary, consideration should be given to advance excavation and/or a watching brief during construction and/or reduction of the working width.

MON 1032408
Sea Bank
Importance B
NGR 532642 334247
Figures 11, 12
Recommendations
Consideration should be given to modification of the route either to avoid this site by an underpass, or to reduce the extent of impact.

MON 868199 Wiggenhall St Germans Deserted Medieval Village Importance C 559500 312500 Figure 7 ***Recommendations*** Particular attention should be paid by the field surveys to the stretch of pipeline which passes close to this DMV in order to establish whether or not any associated archaeological remains extend into the course of the proposed working width.
SM 30560 **HER MNF3430** **DBA:JN** **DBA:KB** **DBA:KE** Blackborough Priory; former extent of priory; DMV; possible moat or square pond marked on tithe map of 1838; pond marked on tithe map of 1838 Importance A, B, C, D NGR 567000 313900 to 568000 314000 Figure 4 ***Recommendations*** Liaison should be maintained with English Heritage regarding the passage of the pipeline past Blackborough Priory (SM 30560), as this site benefits from statutory protection. The status of the site and any agreed mitigation should be flagged to all parties and in particular to the construction team. Consideration should be given to modification of the route either to avoid by reroute or underpass, or to reduce the extent of impact upon the former extent of Blackborough Priory (HER MNF3430). Regardless of the above, particular attention should be paid by the field surveys to the stretch of pipeline which passes close to these sites in order to establish whether or not any associated activity extends into the course of the proposed working width.

7.6.2 Detection and assessment of archaeological, palaeo-environmental and organic remains within areas of alluvium

The Fenland presents unique issues in terms of the detection and assessment of archaeological, palaeo-environmental and organic remains. The entire pipeline route crosses alluvium, none of which is recorded as being less than 1m deep. Alluvium can protect buried archaeological remains from plough damage and development, but can also mask them from the standard techniques of detection such as geophysical survey, field-walking and aerial reconnaissance. Thus, whilst sites are perhaps more likely to survive in these areas, they are harder to detect.

Geophysical survey is the most reliable and cost-effective non-intrusive means of locating buried archaeological remains. However, the geophysical survey techniques that would normally be recommended (magnetometry and magnetic susceptibility; or, in this case, Caesium Vapour), can be unreliable for provenancing sites in areas of deep alluvium (over 1m deep).

A more reliable approach may be deposit modelling; the detection of areas which are likely to have been available for human settlement/activity (e.g. raised gravel islands and areas alongside former river channels). This might be achieved through the application of a combination of dyke survey and/or hand-auger/borehole survey, although this approach has not been routinely tested. An auger survey of the route is recommended for geological/pedological purposes. In order for this aspect of the work to be efficient and effective for archaeological purposes, a geoarchaeologist should be involved in the field recording of any auger/borehole survey in order to ensure adequate recording and that data gathered will be sufficient to provide a firm basis for deposit modelling.

Due to the difficulties in detecting archaeological remains in areas of deep alluvium in advance of construction, and the potential cost of recovering and analysing organic and palaeo-environmental remains, adequate resources should be put in place for dealing with unexpected remains of this kind during construction.

7.6.3 Historic Landscapes and Boundaries

Ridge and furrow

One area of ridge and furrow earthworks exist within the Study Corridor but it is not crossed by the proposed pipeline route. The loss of these fragments of relict medieval landscape is of current concern. Strategies for the recording of ridge and furrow have been devised to assist in the determination of issues such as importance, management and preservation. The level of recording of ridge and furrow, should any come to light during subsequent stages of work, should be considered with reference to existing systems and in consultation with Norfolk Landscape Archaeology.

Existing 'historic' boundaries

The construction programme should aim to minimise the disturbance of existing 'historic' boundaries (township, parish, shire and estate or park), especially those which are later shown to incorporate an Important Hedge and/or early drystone wall. This might be achieved through minimisation of the working width. Cross sections of significant boundaries which are unavoidable should be recorded during the course of a watching brief, as this might lead to an understanding of land use, environment and construction methods.

Archaeologically significant layers, such as old land surfaces, sealed beneath banks may require sampling. Earthworks, such as banks and ditches, should be sensitively reinstated.

Particular attention should be paid to township, parish and shire boundaries, some of which may have Saxon or medieval origins.

Former field boundaries

Former field boundaries identified as potentially 'historic' could also be targeted for detailed recording during the course of a watching brief.

7.7 Route selection

The final pipeline route should be determined in relation to archaeological sites of national and regional significance (i.e. sites of category A, B and C) and to sites where the significance of impact is deemed to be medium or high.

7.8 Minimisation of impact

Minor alterations to the proposed route or the engineering design should be considered to avoid impacts upon nationally important sites and also regionally important sites that have a high significance of impact, should any come to light during subsequent archaeological investigations.

Where such sites are unavoidable considerations should be given to minimisation of impact by reduction of the working width to the minimum practical level, and/or the laying of geotextile matting or bog mats, and/or careful reinstatement procedures (e.g. avoidance of subsoil 'ripping' at archaeological sites).

7.9 Avoidance

At this stage, no sites have been recommended for avoidance, however two sites (MON 1032408 and MR MNF3430) have been flagged up for special consideration (see table 7.3).

7.10 Written Schemes of Investigation

An archaeological Written Scheme of Investigation (WSI) should be produced for each stage of any future archaeological work (see 7.1).

8 ACKNOWLEDGMENTS

Network Archaeology Ltd would like to thank the following for their contribution to the project:

Organisation	Name	Position
Black & Veatch Ltd	Ursula Bycroft	Senior Environmental Consultant
Murphy Pipelines Ltd	Maurice Payne	Project Manager
	Rob Holland	Assistant Project Manager
National Grid	Barry Robinson	Project Manager
Norfolk Landscape Archaeology	David Robertson	Landscape Archaeologist
Network Archaeology Ltd	Christopher Taylor	Project Manager
	David Bonner	Assistant Project Manager
	Sarah Ralph	Project/Research Supervisor
	Adam Holman	IT Manager
	Susan Freebrey	GIS Officer
	Catherine Holgate	QA/Reports Editor

9 BIBLIOGRAPHY

9.1 Primary sources

Table 9.1: Pre-OS maps

Parish	Date	Kew reference	Scale
East Walton Tithe Map	1840	608	6 chains
East Winch Tithe Map	1838	640	6 chains
Middleton Tithe Map	1838	375	6 chains
North Runcton with Hardwick and Setch or Setchley Tithe Map	1839	460	6 chains
Pentney Tithe Map	c. 1851	421	6 chains
South Lynn or All Saints Tithe Map	1844	357	6 chains
Terrington St Clement Tithe Map	?1840	552	9 chains
Tilney All Saints Tithe Map	1839	579	6 chains
Walpole St Peter Tithe Map	1839	604	6 chains
Watlington Tithe Map	1839	613	4 chains
West Walton Tithe Map	1839	609	6 chains
Wiggenhall St Germans Tithe Map	?1839	633	6 chains
Wiggenhall St Mary the Virgin Tithe Map	1839	635	6 chains
Wiggenhall St Peters Tithe Map	1839	636	6 chains
Wormegay Tithe Map	1838	659	6 chains

Table 9.2: OS maps

County	Sheet	Scale	First Edition	Second Edition
Norfolk	43 NE	6"	1879-86	
Norfolk	43 SE	6"	1879-86	1927
Norfolk	43 SW	6"	1879-86	
Norfolk	44 SE	6"	1879-86	1927
Norfolk	44 SW	6"	1879-86	1906
Norfolk	45 NE	6"	1879-86	1906
Norfolk	45 SE	6"	1879-86	1907
Norfolk	45 SW	6"	1879-86	1907
Norfolk	46 NE	6"	1879-86	1906
Norfolk	46 SW	6"	1879-86	1906
Norfolk	46 NW	6"	1879-86	1906
Norfolk	56 NE	6"	1879-86	1907
Norfolk	56 NW	6"	1879-86	

Table 9.3: Oblique aerial photographs

Gazetteer Number	NGR Index Number	Accession Number	Frame	Original Number	Copyright	Repository	Film Details	Film Type	Date Flown	DF	6 Fig NGR
	TF4714/1	NLA 10086	TF4714A	TF4714	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF474149
	TF4714/2	NLA 10086	TF4714B	TF4714	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF474149
	TF4714/3	NLA 10086	TF4714C	TF4714	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF473149
	TF4714/4	NLA 10086	TF4714D	TF4714	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF474149
	TF4813/2	NLA 10086	TF4813A	TF4813	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF482135
	TF4813/3	NLA 10086	TF4813B	TF4813	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF482135
	TF4813/4	NLA 10086	TF4813C	TF4813	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF482135
	TF4813/5	NLA 10086	TF4813D	TF4813	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF482135
	TF4813/6	NLA 10086	TF4813E	TF4813	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF482135
	TF4813/7	NLA 5366	13	AUD	NLA	NLA	B 70mm,120,220	Black& white	09-Feb-84	1	TF482135
	TF4813/8	NLA 5366	18	AUD	NLA	NLA	B 70mm,120,220	Black& white	09-Feb-84	1	TF482135
	TF4813/9	NLA 5366	19	AUD	NLA	NLA	B 70mm,120,220	Black& white	09-Feb-84	1	TF482135
28	TF4913/1	NLA 14703	7	GMK	NLA	NLA	B 70mm,120,220	Black& white	23-Jul-92	1	TF497139
	TF4914/1	NLA 14703	6	GMK	NLA	NLA	B 70mm,120,220	Black& white	23-Jul-92	1	TF497140
	TF5013/1	NLA 5366	10	AUD	NLA	NLA	B 70mm,120,220	Black& white	09-Feb-84	1	TF500139
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29	TF5611/1	CCC 5201	E2483	APR768	CRW	NMR	V SF or I Neg	Black& white	10-May-34	1	TF564117
	TF5811/1	CCC 5201	E2481	APR768	CRW	NMR	V SF or I Neg	Black& white	10-May-34	1	TF580119
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31	TF6414/1	NLA 10086	TF6414A	TF6414	NLA	NLA	B 70mm,120,220	Black& white	15-Apr-83	1	TF643141
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32	TF6714/3	CAP 8167	22	OD	CAP	CAP	B Unknown	Black& white	20-Jun-54	1	TF671141
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	TF7215/21	NLA 1490	4		NLA	NMR	B 35 mm	B&W copy clr	21-Jun-74	1	TF723157
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	TF7215/25	NLA 1490	8		NLA	NMR	B 35 mm	B&W copy clr	25-Jun-74	1	TF723157

Gazetteer Number	NGR Index Number	Accession Number	Frame	Original Number	Copyright	Repository	Film Details	Film Type	Date Flown	DF	6 Fig NGR
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36	TF7215/4	NLA 9871	TF 7215C	TF7215	NLA	NLA	B Unknown	Black& white	14-Jun-74	1	TF723156
	TF7215/5	NLA 9871	TF 7215F	TF7215	NLA	NLA	B Unknown	Black& white	14-Jun-74	1	TF723156
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	TF7215/9	NLA 9890	TF7215L	TF7215	NLA	NLA	B Unknown	Black& white	16-Jul-75	1	TF723156

Table 9.4: Vertical aerial photographs

Gazetteer Number	Number Sortie	Number Library	Position Camera	Frame Start	Frame End	Date	Flag Date	Quality	Scale	Length Focal	Format	Repository	Copyright
11	MAL/65071	4284	V	41	46	09-Aug-65	1	A	3000	6	BW99	NMR	RES
	MAL/65071	4284	V	47	49	09-Aug-65	1	A	3000	6	BW99	NMR	RES
	MAL/65071	4284	V	74	80	09-Aug-65	1	A	3000	6	BW99	NMR	RES
	MAL/76032	8145	V	48	52	03-Jun-76	1	A	3000	6	BW99	NMR	RES
	MAL/76035	8149	V	93	97	05-Jun-76	1	A	3000	6	BW99	NMR	RES
	MAL/76035	8149	V	112	117	05-Jun-76	1	A	3000	6	BW99	NMR	RES
	MAL/76035	8149	V	163	167	05-Jun-76	1	A	3000	6	BW99	NMR	RES
9	MAL/76042	8174	V	173	177	11-Jun-76	1	A	10000	6	BW99	NMR	BG
10	MAL/76042	8174	V	180	183	11-Jun-76	1	A	10000	6	BW99	NMR	BG
27	MAL/76043	7389	V	32	36	20-Jun-76	1	A	3000	6	BW99	NMR	CRW
26	MAL/76043	7389	V	50	53	20-Jun-76	1	A	3000	6	BW99	NMR	CRW
25	MAL/76043	7389	V	95	99	20-Jun-76	1	A	3000	6	BW99	NMR	CRW
	MAL/76044	7390	V	16	18	13-Jun-76	1	A	10000	6	BW99	???	CRW
24	MAL/76044	7390	V	25	26	13-Jun-76	1	A	10000	6	BW99	???	CRW
23	MAL/76044	7390	V	106	111	13-Jun-76	1	A	3000	6	BW99	???	CRW
	MAL/76052	14067	V	146	146	29-Jun-76	1	A	10000	6	BW99	NMR	BG
22	MAL/76052	14067	V	148	148	29-Jun-76	1	A	10000	6	BW99	NMR	BG
4	MAL/76053	8176	V	171	171	30-Jun-76	1	A	10000	6	BW99	NMR	BG
	MAL/76053	8176	V	173	173	30-Jun-76	1	A	10000	6	BW99	NMR	BG
21	OS/66117	11739	V	5	7	01-Jun-66	1	A	7500	12	BW99	NMR	CRW
	OS/66117	11739	V	28	29	01-Jun-66	1	A	7500	12	BW99	NMR	CRW
	OS/66117	11739	V	52	52	01-Jun-66	1	A	7500	12	BW99	NMR	CRW
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	OS/66117	11739	V	110	110	01-Jun-66	1	A	7500	12	BW99	NMR	CRW
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12	OS/66134	11712	V	78	80	04-Jun-66	1	A	7500	12	BW99	NMR	CRW
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	OS/68139	11740	V	30	33	30-May-68	1	A	7500	12	BW99	NMR	CRW

Gazetteer Number	Number Sortie	Number Library	Position Camera	Frame Start	Frame End	Date	Flag Date	Quality	Scale	Length Focal	Format	Repository	Copyright
	OS/68139	11740	V	104	107	30-May-68	1	A	7500	12	BW99	NMR	CRW
7	OS/72352	10296	V	263	269	23-Aug-72	1	A	7500	12	BW99	NMR	CRW
	OS/75193	9860	V	221	222	08-Jun-75	1	A	7500	12	BW99	NMR	CRW
14	OS/85177	10728	V	15	17	07-Jul-85	1	A	7500	12	BW99	OS	CRW
	OS/88235	13344	V	1	3	15-Aug-88	1	A	7600	12	BW99	OS	CRW
19	OS/88235	13344	V	51	52	15-Aug-88	1	A	7600	12	BW99	OS	CRW
17	OS/88235	13344	V	53	54	15-Aug-88	1	A	7600	12	BW99	OS	CRW
20	OS/88235	13344	V	101	102	15-Aug-88	1	A	7600	12	BW99	OS	CRW
	OS/88235	13344	V	103	105	15-Aug-88	1	A	7600	12	BW99	OS	CRW
	OS/89052	13421	V	437	440	27-Mar-89	1	A	8000	12	BW99	OS	CRW
3	RAF/106G/UK/1606	401	FS	2382	2392	27-Jun-46	1	AC	9800	36	BW87	MOD	RAF
16	RAF/106G/UK/1606	401	RP	3369	3381	27-Jun-46	1	AC	9800	36	BW87	MOD	RAF
18	RAF/106G/UK/1606	401	RS	4309	4338	27-Jun-46	1	AC	9800	36	BW87	MOD	RAF
2	RAF/106G/UK/1606	401	RS	4381	4389	27-Jun-46	1	AC	9800	36	BW87	MOD	RAF
15	RAF/106G/UK/1606	401	RV	6375	6385	27-Jun-46	1	AC	9800	36	BW87	MOD	RAF
	RAF/106G/UK/360	3672	FP	1024	1027	01-Jun-45	1	AC	10000	14	BW87	MOD	RAF
5	RAF/58/1337	1505	F21	280	282	11-Jan-54	1	A	10000	20	BW87	NMR	RAF
6	RAF/58/1337	1505	F22	281	283	11-Jan-54	1	A	10000	20	BW87	NMR	RAF

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Table 9.5: Published and unpublished sources

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Author	Year	Title	Journal/Publishers	Page Numbe
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APPENDIX A

EXPLANATION OF PHASED APPROACH TO ARCHAEOLOGICAL INVESTIGATION AND MITIGATION

Explanation of Phased Approach to Archaeological Investigation and Mitigation

Stage 1: Route Corridor Investigation Study

An appraisal of archaeological potential

Stage 2: Desk-based Assessment

A thorough desk based synthesis of available information

Aerial photographic study:

Identification and mapping of palaeochannels from aerial photographs should be undertaken as part of the desk-based assessment.

Stage 3: Field Surveys

Field reconnaissance survey

This is a visual inspection of the proposed pipeline route, in order to:

- locate and characterise archaeology represented by above ground remains (e.g. earthworks and structures); and
- record the nature and condition of existing field boundaries crossed by the route, to establish their potential antiquity.
- A walkover of the entire pipeline route should normally take place.

Fieldwalking survey

The distribution of finds found by fieldwalking can indicate areas of archaeological activity, which are not represented by above ground remains.

A programme of structured fieldwalking should normally take place across all available arable land to recover archaeological artefacts. A minimum of five transects at 10m separation based upon the centreline of the proposed pipeline should normally be walked.

Geophysical survey

Geophysical survey methods are non-intrusive and can detect and precisely locate buried archaeological features.

Magnetometry is the most cost-effective technique for large scale surveys. *Recorded* magnetometer survey, supplemented by background magnetic susceptibility survey is normally recommended.

Unrecorded magnetometer scanning is not recommended because it requires spontaneous, subjective interpretation as the unrecorded scanning survey progresses. This method does not therefore provide a secure basis for eliminating areas that produce negative results from further consideration.

Auger survey

Geotechnical borehole survey supplemented by hand auger survey could:

- generate stratigraphic profiles and establish the depth of alluvium;
- look for 'islands' of solid geology which are elevated in comparison with their contemporary landscape;
- look for former river channels;
- look for evidence of buried land surfaces;
- assess the viability of using targeted magnetometer survey on the floodplain.

Ideally, an environmental archaeologist would consult with the geotechnical team in order to develop a strategy which would enable the opportunistic and immediate examination of the geotechnical team's soil cores, in conjunction with a *hand auger survey* tailored to meet archaeological objectives listed above.

Radiocarbon dating and palaeo-environmental assessment

Soil samples recovered may require radiocarbon dating and assessment of potential for preservation of palaeo-environmental important remains.

Stage 4: Evaluation

Field evaluation should normally take place at the sites of positive findings made during earlier stages of archaeological assessment and field survey, which it may not be possible or desirable to avoid. Evaluation might involve machine-excavated trenches, hand-dug test-pits and/or hand auguring. The objectives are to confirm the presence or absence of archaeological remains, to determine their character, extent, date and state of preservation, and to produce a report on the findings. The choice of technique(s) will depend upon site-specific factors.

Stage 5: Mitigation

Excavation

It may not be possible or desirable to avoid significant archaeological sites identified by previous survey work and/or evaluation. Ideally, *excavation* of such sites should take place in advance of construction. Excavation would involve machine-stripping of limited, open areas, followed by archaeological investigation. The objectives would be to obtain a full record of the archaeological remains prior to construction, and to produce a report on the findings.

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.

Stage 6: Watching Brief

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 for the pipeline will be topsoil stripping, trench excavation and the opportunistic observation of the pre-construction drainage. The objectives are to obtain a thorough record of any archaeological remains found during construction, and to produce a report on the findings. Contingencies should allow for salvage excavation of significant, unexpected archaeological sites found during construction.

Stage 7: Archive, Report and Publication

On completion of all archaeological fieldwork associated with the pipeline scheme, a comprehensive programme of post-excavation assessment, analysis, reporting and publication will be implemented. The post-excavation programme will be subject to a written scheme of investigation to be agreed in advance with the Senior Planning Archaeologists and will be in line with 'The Management of Archaeological Projects', English Heritage 1991.

APPENDIX B

STATUTORY AND NON-STATUTORY PROTECTION OF ARCHAEOLOGICAL SITES

Statutory and Non-Statutory Protection of Archaeological Sites

LEGISLATION

Ancient Monuments and Archaeological Areas Act 1979 (as amended by the National Heritage Act of 1983)

Under this Act, the Secretary of State, in consultation with English Heritage, maintains a schedule of monuments deemed to be of national importance. In practice, most Scheduled Monuments fall into the category of Scheduled Ancient Monuments (SAMs), defined as 'any Scheduled Monument and any other monument which in the opinion of the Secretary of State is of public interest by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it' (Section 61 [12]). Scheduled Monuments also includes Areas of Archaeological Importance (AAIs). Only portable items are beyond the protection of scheduling.

The present schedule of just over 13,000 sites has been compiled since the first statutory protection of monuments began in 1882. The criteria for scheduling have been published but there are many sites of schedulable quality, which have not yet received this status.

Any action which affects the physical nature of a monument requires Scheduled Monument Consent, which must be sought from the Secretary of State. Consent may be granted after a detailed application to the Secretary of State. Failure to obtain Scheduled Monument Consent for any works is an offence, the penalty for which may be a fine, which may be unlimited.

The National Heritage Act 2002

This enables English Heritage to assume responsibilities for maritime achaeology in English coastal waters, modifying the agency's functions to include securing the preservation of ancient monuments in, on, or under the seabed, and promoting the public's enjoyment of, and advancing their knowledge of ancient monuments, in, on, or under seabed. Initial duties will include those formerly undertaken by the Government's Department of Culture, Media and Sport (DCMS), in respect to the administration of The Protection of Wrecks Act 1973.

http://accessibility.english-heritage.org.uk/default.asp?WCI=Node&WCE=8197

Planning (Listed Buildings and Conservation Areas) Act, 1990

Listed Buildings and Conservation areas benefit from statutory protection under this Act.

Listed buildings

Under this Act, the Secretary of State, in consultation with English Heritage, is responsible for the compilation of the List of Buildings (and other structures) of Special Architectural or Historic Interest. Listing gives buildings important statutory protection.

Buildings are classified in grades to show their relative importance as follows:

- Grade I Buildings of exceptional interest
- Grade II* Particularly important buildings of more than special interest
- Grade II Buildings of special interest, which warrant every effort being made to preserve them

The grading of listed buildings is non-statutory; the awarding of grades is simply a tool to assist in the administration of grants and consents. The list is used by local planning authorities in conjunction with PPG 15 Planning and the Historic Environment as the basis upon which decisions on the impact of development are made on historically and architecturally significant buildings and their settings.

Any work that involves the demolition, alteration or extension of a listed building (or its curtilage) requires listed building consent, which must be sought from the Secretary of State, usually via the local planning authority. Consent may be granted after a detailed application to local planning authority or the Secretary of State. Carrying out work on a listed building (or its curtilage) without consent is an offence and can be punishable by an unlimited fine.

Conservation Areas

There are activities that may be considered inappropriate within or adjacent to Conservation Areas; for example by disrupting important views, or generating excess traffic. Development within a Conservation Area is likely to be resisted if considered inappropriate in terms of scale, setting, massing, siting, and detailed appearance in relation to surrounding buildings and the Conservation Area as a whole. High standards of design are expected in all Conservation Areas, whether for new or replacement buildings, extensions, alterations or small scale development. Planning permission is normally resisted for small scale development which could lead to a number of similar applications, the cumulative effect of which would be detrimental to the character and appearance of the area. Demolition of unlisted structures within Conservation Areas is usually only permitted where removal or replacement would preserve or enhance the character and appearance of the area, or where the structure is beyond economic repair. Development which would adversely affect the character or appearance of buildings of local interest is likely to be resisted. Demolition would almost certainly only be permitted in exceptional circumstances.

The Protection of Military Remains Act 1986

This Act makes it an offence to interfere with the wreckage of any crashed, sunken or stranded military aircraft or designated vessel without a licence. This is irrespective of loss of life or whether the loss occurred during peacetime or wartime. All crashed military aircraft receive automatic protection, but vessels must be individually designated. Currently, there are 21 vessels protected under this Act, both in UK waters and abroad, and it is likely that the Ministry of Defence will designate more vessels in the future.

There are two levels of protection offered by this Act, designation as a Protected Place or as a Controlled Site.

Protected Places include the remains of any aircraft which crashed while in military service or any vessel designated (by name, not location) which sank or stranded in military service after 4th August 1914. Although crashed military aircraft receive automatic status as a Protected Place, vessels need to be specifically designated by name. The location of the vessel does not need to be known for it to be designated as a Protected Place.

Diving is not prohibited on an aircraft or vessel designated as a Protected Place. However, it is an offence to conduct unlicensed diving or salvage operations to tamper with, damage, remove or unearth any remains or enter any hatch or other opening. Essentially, diving is permitted on a 'look but don't touch' basis only.

Controlled Sites are specifically designated areas which encompass the remains of a military aircraft or a vessel sunk or stranded in military service within the last two hundred years. Within the controlled site it is an offence to tamper with, damage, move or unearth any remains, enter any hatch or opening or conduct diving, salvage or excavation operations for the purposes of investigating or recording the remains, unless authorised by licence. The effectively makes diving operations prohibited on these sites without a specific licence.

The Protection of Wrecks Act 1973

The Protection of Wrecks Act is in two sections. Section 1 provides protection for designated wrecks which are deemed to be important by virtue of their historical, archaeological or artistic value. Approximately 56 wrecks around the coast of the UK have been designated under this section of the

Act. Each wreck has an exclusion zone around it and it is an offence to tamper with, damage or remove any objects or part of the vessel or to carry out any diving or salvage operation within this exclusion zone. Any activities within this exclusion zone can only be carried out under a licence granted by the Secretary of State, who receives advice from the Advisory Committee on Historic Wreck Sites (ACHWS). There are four levels of licences: a visitor licence, a survey licence, a surface recovery licence and an excavation licence.

Administration of this Act and associated licenses is the responsibility of English Heritage in England, Historic Scotland in Scotland, Cadw: Welsh Historic Monuments in Wales and the Environment and Heritage Service in Northern Ireland. Any of these organisations will be able to provide more in depth information (see useful addresses).

Section 2 of the Protection of Wrecks Act provides protection for wrecks that are designated as dangerous by virtue of their contents. Diving on these wrecks is strictly prohibited. This section of the Act is administered by the Maritime and Coastguard Agency through the Receiver of Wreck.

The Town and Country Planning Act 1990

Section 54a of the Act requires planning decisions to be taken in accordance with policies contained in the appropriate Local Development Plan. Material considerations, including national guidelines, should also be taken into account as they provide an overall context for the consideration of planning applications and set out Government policy.

REGULATIONS

Hedgerow Regulations 1997 (Section 97 of the Environment Act 1995)

Under these Regulations, prior to work, which may damage or remove hedgerows, it is required to categorise the hedgerows according to a number of historical and ecological criteria which are laid out in the Regulations. District Councils are required to administer the Regulations and to maintain a map of hedgerows deemed to be 'important' under the criteria of the Regulations.

Under the regulations, a hedgerow is regarded as 'important' on archaeological or historical grounds if it:

- marks a pre-1850 parish or township boundary;
- incorporates an archaeological feature;
- is part of, or associated with, an archaeological site
- marks the boundary of, or is associated with, a pre-1600 estate or manor; or
- forms an integral part of a pre-Parliamentary enclosure field system (DOE, 1997).

An archaeological site is defined as a Scheduled Ancient Monument (SAM) or a site recorded in a County Sites and Monuments Record (SMR);

The Hedgerow Regulations define a pre-Parliamentary enclosure field system as any field boundary predating the *General Enclosure Act of 1845*.

The implication of this legislation is that virtually all hedgerows can be classified as being 'important' for historical purposes under the Hedgerows Regulations 1997.

The historical criteria, however, are presently under review.

GUIDANCE NOTES

Central government guidance on archaeological remains and the built historic environment include:

Planning Policy Guidance Note 15 (PPG 15): Planning and the Historic Environment (1994)

Planning Policy Guidance Note 16 (PPG 16): Archaeology and Planning (1990).

The key policy statements in PPG16 are that "where nationally important archaeological remains, whether Scheduled or not, and their settings, are affected by proposed development there should be a presumption in favour of their physical preservation".

For less important sites, PPG16 states that, "the desirability of preserving a scheduled monument and its setting is a material consideration in determining planning applications whether that monument is scheduled or unscheduled".

The County Sites and Monuments Record is used in conjunction with PPG 15 and PPG 16, as the basis upon which decisions on the archaeological impact of development are made. The basic premise of the Guidance is that archaeological deposits are a finite non-renewable resource that must be protected. It also points out the unknown nature of archaeological deposits and allows Planning Authorities to include within planning conditions, archaeological evaluation, to determine the full impact on the archaeological resource. The evaluation can be required prior to determination of the planning decision. This evaluation may detail any measures that can be implemented to mitigate the damage and help to decide whether excavation is required of the threatened archaeological remains.

STRUCTURE PLAN AND LOCAL PLAN PROTECTION

Scheduled and non-scheduled sites of archaeological importance, listed buildings, and historic parks and gardens and their settings are also protected under policies contained within the relevant Structure Plan and Local Plans for the area:

- Norfolk Structure Plan, 1999
- Cambridgeshire and Peterborough Structure Plan, 2003

Guidance for sites having no statutory protection

The Register of Parks and Gardens of Special Historic Interest in England

This register was compiled by English Heritage between 1984 and 1988 and is maintained by them. Parks and gardens of special historic interest have no statutory protection.

Listed parks and gardens are classified in grades to show their relative importance as follows:

- Grade I –international historic interest
- Grade II* - exceptional historic interest
- Grade II –national historic interest

The listing and grading process is designed to draw attention to important historic parks and gardens as an essential part of the nation's heritage for use by planners, developers, statutory bodies and all those concerned with protecting the heritage. However, no new controls apply to parks and gardens in the register, nor are existing planning controls to listed building affected in any way. It follows that structures such as fountains, gates, grottos and follies within gardens can also be listed as 'Listed Buildings' and whole parks and gardens can also be scheduled as Ancient Monuments.

Any work that affects the physical nature of registered parks and gardens requires consultation with the Garden History Society. English Heritage should be consulted in the case of those designated as Grade I or Grade II*.

The Register of Historic Battlefields

This register is maintained by English Heritage and currently includes forty sites. Registered battlefields have no statutory protection. Planning Policy Guidance note 15, however, offers a degree of protection to many of the known battle sites within England.

APPENDIX C

ARCHAEOLOGICAL CONSTRAINTS GAZETTEER

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:AA	EN		Ancient replanted woodland	Undetermined	D	none	n/a	572638 316175	2
DBA:AB	EN		Ancient and semi-natural woodland	Undetermined	D	none	n/a	572652 316171	2
DBA:AC	T. 1839		Building	Post-medieval	D	none	n/a	545858 313601	12
DBA:AD	T. 1839		Building	Post-medieval	D	none	n/a	545860 313614	12
DBA:AE	T. 1839		Field boundary	Post-medieval	D	-D min	low	545845 313655	12
DBA:AF	T. 1839		Field boundary	Post-medieval	D	-D min	low	545889 313643	12
DBA:AG	T. 1839		Field boundary	Post-medieval	D	-D maj	low	545924 313700	12
DBA:AH	T. 1839		Field boundary	Post-medieval	D	-D min	low	545964 313636	12
DBA:AI	T. 1839		Field boundary	Post-medieval	D	-D min	low	546028 313617	12
DBA:AJ	T. 1839		Field boundary	Post-medieval	D	-D min	low	546294 313769	12
DBA:AK	T. 1839		Field boundary	Post-medieval	D	-D maj	low	547172 314215	12
DBA:AL	T. 1839		Field boundary	Post-medieval	D	-D min	low	547742 314310	11
DBA:AM	T. 1839		Field boundary	Post-medieval	D	-D min	low	547663 314327	11
DBA:AN	T. 1839		Field boundary	Post-medieval	D	-D maj	low	548439 314164	11
DBA:AO	T. 1839		Field boundary	Post-medieval	D	-D maj	low	548931 314090	11
DBA:AP	T. 1839		Field boundary	Post-medieval	D	-D min	low	549475 313921	11
DBA:AQ	T. 1839		Field boundary	Post-medieval	D	-D maj	low	549878 313209	10 & 11

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:AR	T. 1839		Pond	Post-medieval	D	none	n/a	549188 313389	10 & 11
DBA:AS	T. 1839		Pond	Post-medieval	D	none	n/a	549280 313475	10 & 11
DBA:AT	T. 1839		Pond	Post-medieval	D	none	n/a	549418 313577	10 & 11
DBA:AU	T. 1839		Pond	Post-medieval	D	none	n/a	549650 312881	10
DBA:AV	T. 1839		Pond	Post-medieval	D	none	n/a	549663 312898	10
DBA:AW	T. 1839		Pond	Post-medieval	D	none	n/a	550465 312034	10
DBA:AX	T. 1839		Pond	Post-medieval	D	none	n/a	550541 312046	10
DBA:AY	T. 1839		Pond	Post-medieval	D	none	n/a	550561 312065	10
DBA:AZ	T. 1839		Field boundary	Post-medieval	D	-D min	low	550575 312567	10
DBA:BA	T. 1839		Field boundary	Post-medieval	D	-D min	low	550619 312474	10
DBA:BB	T. 1839		Field boundary	Post-medieval	D	-D min	low	550646 312383	10
DBA:BC	T. 1839		Field boundary	Post-medieval	D	-D indet	low or medium	550908 312294	9 & 10
DBA:BD	T. 1839		Pond	Post-medieval	D	none	n/a	550584 311982	10
DBA:BE	T. 1839		Field boundary	Post-medieval	D	-D min	low	551856 312141	9
DBA:BF	T. 1839		Field boundary	Post-medieval	D	-D min	low	553228 312021	9
DBA:BG	T. 1839		Field boundary	Post-medieval	D	-D indet	low or medium	552937 312065	9
DBA:BH	T. 1839		Building	Post-medieval	D	-D sev	medium	553758 312115	9
DBA:BI	T. 1839		Building	Post-medieval	D	none	n/a	553894 311907	9

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:BJ	T. ?1840		Building	Post-medieval	D	none	n/a	553944 311910	8 & 9
DBA:BK	T. 1839		Field boundary	Post-medieval	D	-D maj	low	553520 312020	9
DBA:BM	T. 1840		Field boundary	Post-medieval	D	-D maj	low	554006 312129	8 & 9
DBA:BN	T. 1840		Field boundary	Post-medieval	D	-D min	low	554204 312087	8
DBA:BO	T. 1840		Field boundary	Post-medieval	D	-D sev	medium	554453 312211	8
DBA:BP	T. 1840		Field boundary	Post-medieval	D	-D sev	medium	554540 312197	8
DBA:BQ	T. 1840		Field boundary	Post-medieval	D	-D sev	medium	555276 312025	8
DBA:BR	T. 1840		Field boundary	Post-medieval	D	-D sev	medium	555697 311821	8
DBA:BS	T. 1840		Field boundary	Post-medieval	D	-D indet	low or medium	555858 311804	8
DBA:BT	T. 1840		Field boundary	Post-medieval	D	-D min	low	555913 311730	8
DBA:BU	T. 1840		Building	Post-medieval	D	none	n/a	557017 312376	7 & 8
DBA:BV	T. 1840		Field boundary	Post-medieval	D	-D min	low	556024 311810	8
DBA:BW	T. 1840		Field boundary	Post-medieval	D	-D maj	low	556263 311859	8
DBA:BX	T. 1840		Field boundary	Post-medieval	D	-D maj	low	556270 311871	8
DBA:BY	T. 1840		Field boundary	Post-medieval	D	-D min	low	556410 311937	8
DBA:BZ	T. 1840		Field boundary	Post-medieval	D	-D min	low	556508 311900	8
DBA:CA	T. 1840		Field boundary	Post-medieval	D	-D min	low	556604 311951	8
DBA:CB	T.1839		Field boundary	Post-medieval	D	-D min	low	559688 312389	7

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:CC	T. 1839		Field boundary	Post-medieval	D	-D min	low	559852 312565	7
DBA:CD	T. 1839		Field boundary	Post-medieval	D	-D indet	low or medium	560059 312479	6 & 7
DBA:CE	T. 1839		Field boundary	Post-medieval	D	-D min	low	560847 312445	6
DBA:CF	T. 1839		Field boundary	Post-medieval	D	-D min	low	560990 312509	6
DBA:CG	T. 1839		Field boundary	Post-medieval	D	-D min	low	561075 312606	6
DBA:CH	T. 1839		Field boundary	Post-medieval	D	-D min	low	561542 312645	6
DBA:CI	T. 1839		Field boundary	Post-medieval	D	-D maj	low	561779 312673	6
DBA:CJ	T. 1839		Field boundary	Post-medieval	D	-D min	low	561986 312641	6
DBA:CK	T. 1839		Field boundary	Post-medieval	D	-D min	low	562246 312668	6
DBA:CL	T. 1839		Field boundary	Post-medieval	D	-D min	low	562346 312626	6
DBA:CM	T. 1839		Field boundary	Post-medieval	D	-D min	low	562407 312663	6
DBA:CN	T. 1839		Field boundary	Post-medieval	D	none	n/a	564813 313584	5
DBA:CO	T. 1839		Field boundary	Post-medieval	D	-D maj	low	565080 313676	5
DBA:CP	T. 1839		Field boundary	Post-medieval	D	none	n/a	565186 313681	5
DBA:CQ	T. 1839		Field boundary	Post-medieval	D	-D min	low	565464 313718	5
DBA:CR	T. 1839		Pond	Post-medieval	D	none	n/a	566376 314410	4
DBA:CS	T. 1838		Field boundary	Post-medieval	D	-D min	low	566230 313997	4
DBA:CT	T. 1838		Field boundary	Post-medieval	D	-D min	low	566427 313979	4

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:CV	T. 1838		Field boundary	Post-medieval	D	-D min	low	566471 313983	4
DBA:CW	T. 1838		Field boundary	Post-medieval	D	-D min	low	566626 313970	4
DBA:CX	T. 1838		Field boundary	Post-medieval	D	-D min	low	566732 313937	4
DBA:CY	T. 1838		Field boundary	Post-medieval	D	-D min	low	566866 313934	4
DBA:CZ	T. 1838		Stream	Post-medieval	D	none	n/a	566072 313569	4 & 5
DBA:DA	T. 1838		Lake	Post-medieval	D	none	n/a	567848 313445	4
DBA:DB	T. 1838		Pond	Post-medieval	D	none	n/a	569056 315061	3 & 4
DBA:DC	T. 1838		Field boundary	Post-medieval	D	-D maj	low	568116 314111	4
DBA:DD	T. 1838		Field boundary	Post-medieval	D	-D maj	low	568249 314188	4
DBA:DE	T. 1838		Field boundary	Post-medieval	D	-D sev	medium	568327 314233	4
DBA:DF	T. 1838		Field boundary	Post-medieval	D	-D maj	low	568466 314356	4
DBA:DG	T. 1838		Field boundary	Post-medieval	D	-D min	low	568584 314466	4
DBA:DH	T. 1838		Field boundary	Post-medieval	D	-D min	low	568822 314540	4
DBA:DI	T. 1838		Field boundary	Post-medieval	D	-D min	low	569037 314557	3 & 4
DBA:DJ	T. 1838		Building	Post-medieval	D	none	n/a	571970 316685	2
DBA:DK	T. 1838		Building	Post-medieval	D	none	n/a	571982 316651	2
DBA:DL	T. 1838		Building	Post-medieval	D	none	n/a	572044 316635	2

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:DM	T. 1839	T. 1839	Walpole St Peter and West Walton parish boundary	Undetermined	D	-unc	unknown	549484 314333	9, 10 & 11
DBA:DN	T. 1839	T. ?1840	Terrington St Clement and Walpole St Peter parish boundary	Undetermined	D	-D min	low	552738 312281	9
DBA:DO	T. 1840	T. ?1840	Terrington St Clement and Tilney All Saints parish boundary	Undetermined	D	-D min	low	553772 311562	8 & 9
DBA:DP	T. 1839	T. 1840	Tilney All Saints and Wiggenhall St Mary parish boundary	Undetermined	D	none	n/a	557226 312611	7
DBA:DQ	T. ?1839	T. 1840	Tilney All Saints & Wiggenhall St Germans parish boundary	Undetermined	D	-D min	low	557088 312125	7 & 8
DBA:DR	T. ?1839	T. 1839	Wiggenhall St Germans and Wiggenhall St Mary parish boundary	Undetermined	D	none	n/a	557702 312220	7
DBA:DS	T. ?1839	T. 1839	Wiggenhall St Germans and Wiggenhall St Mary parish boundary	Undetermined	D	none	n/a	557077 311786	7 & 8

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:DT	T. 1839	T. 1839	Wiggenhall St Mary and Wiggenhall St Peter parish boundary	Undetermined	D	none	n/a	558173 311086	7
DBA:DU	T. 1839	T. 1840	Tilney All Saints and Wiggenhall St Mary parish boundary	Undetermined	D	none	n/a	556893 311703	7 & 8
DBA:DV	T. 1839	T. 1839	Watlington and Wiggenhall St Peters parish boundary	Undetermined	D	-unc	unknown	560389 312319	6 & 7
DBA:DW	T. 1839	T. 1844	South Lynn and Wiggenhall St Peters parish boundary	Undetermined	D	none	n/a	561352 313069	6
DBA:DX	T. 1839	T. 1844	North Runcton with Hardwick and Setch and South Lynn parish boundary	Undetermined	D	none	n/a	562256 313280	6
DBA:DY	T. 1839	T. 1844	South Lynn and Watlington parish boundary	Undetermined	D	none	n/a	562343 312754	6
DBA:DZ	T. 1839		North Runcton with Hardwick and Setch and Pentney parish boundary	Undetermined	D	-unc	unknown	563131 312840	5 & 6

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:EA	T. 1838	T. 1839	North Runcton with Hardwick and Setch and Wormegay parish boundary	Undetermined	D	-D min, -unc, -unc	low, unknown, unknown	564495 313421	5
DBA:EB	T. 1838		Tottenhill and Wormegay parish boundary	Undetermined	D	-D min	low	564627 312630	5
DBA:EC	T. 1839		Tottenhill and Watlington parish boundary	Undetermined	D	-D min	low	562512 312131	6
DBA:ED	T. 1838	T. 1839	Middleton and North Runcton with Hardwick and Setch parish boundary	Undetermined	D	none	n/a	565289 314119	5
DBA:EE	T. 1838	T. 1838	Middleton and Wormegay parish boundary	Undetermined	D	-D min, -D min	low, low	566429 313872	4 & 5
DBA:EF	T. 1838	T. 1838	Middleton and East Winch parish boundary	Undetermined	D	none	n/a	567909 314322	4
DBA:EG	T. 1838	T. 1838	East Winch and Wormegay parish boundary	Undetermined	D	-D min	low	568578 313655	4
DBA:EH	T. 1838		East Winch and Pentney parish boundary	Undetermined	D	-unc, -D min	unknown, low	572521 316788	2, 3 & 4
DBA:EI	OS. 1886		Pond	Post-medieval	D	none	n/a	546630 314054	12

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:EJ	OS. 1886		Pond	Post-medieval	D	none	n/a	546796 313980	12
DBA:EK	OS. 1886		Pond	Post-medieval	D	none	n/a	546705 313867	12
DBA:EL	OS. 1886		Pond	Post-medieval	D	none	n/a	546839 313714	12
DBA:EM	OS. 1886		Pond	Post-medieval	D	none	n/a	546261 313496	12
DBA:EN	OS. 1886		Pond	Post-medieval	D	none	n/a	546611 313643	12
DBA:EO	OS. 1886		Pond	Post-medieval	D	none	n/a	546511 313663	12
DBA:EP	OS. 1886		Pond	Post-medieval	D	none	n/a	547905 314048	11
DBA:EQ	OS. 1886		Pond	Post-medieval	D	none	n/a	547672 314034	11
DBA:ER	OS. 1886		Pond	Post-medieval	D	none	n/a	547498 313948	11 & 12
DBA:ES	OS. 1886		Pond	Post-medieval	D	none	n/a	547201 314071	12
DBA:ET	OS. 1886		Pond	Post-medieval	D	-unc	unknown	547375 314218	12
DBA:EU	OS. 1886		Pond	Post-medieval	D	none	n/a	547643 314850	11
DBA:EV	OS. 1886		Pond	Post-medieval	D	none	n/a	547456 314552	11 & 12
DBA:EW	OS. 1886		Pond	Post-medieval	D	none	n/a	547211 314409	12
DBA:EX	OS. 1886		Pond	Post-medieval	D	-unc	unknown	557458 311733	7
DBA:EY	OS. 1886		Field boundary	Post-medieval	D	-D sev	medium	548814 314189	11
DBA:EZ	OS. 1886		Pond	Post-medieval	D	none	n/a	548231 313959	11
DBA:FA	OS. 1886		Pond	Post-medieval	D	none	n/a	548572 313715	10 & 11

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:FB	OS. 1886		Pond	Post-medieval	D	none	n/a	550014 313346	10 & 11
DBA:FC	OS. 1886		Pond	Post-medieval	D	none	n/a	550241 313356	10 & 11
DBA:FD	OS. 1886		Field boundary	Post-medieval	D	-D min	low	549752 313182	10 & 11
DBA:FE	OS. 1886		Pond	Post-medieval	D	none	n/a	550088 312614	10
DBA:FF	OS. 1886		Pond	Post-medieval	D	none	n/a	550162 312621	10
DBA:FG	OS. 1886		Field boundary	Post-medieval	D	-D indet	low or medium	550537 312640	10
DBA:FH	OS. 1886		Field boundary	Post-medieval	D	-D maj	low	550640 312488	10
DBA:FI	OS. 1886		Field boundary	Post-medieval	D	-D maj	low	550788 312352	10
DBA:FJ	OS. 1886		Field boundary	Post-medieval	D	-D min	low	550914 312366	9 & 10
DBA:FK	OS. 1886		Building	Post-medieval	D	none	n/a	550635 312297	10
DBA:FL	OS. 1886		Pond	Post-medieval	D	none	n/a	551587 312465	9
DBA:FM	OS. 1886		Building	Post-medieval	D	-D min	low	551528 312119	9
DBA:FN	OS. 1886		Building	Post-medieval	D	none	n/a	551441 311965	9
DBA:FO	OS. 1886		Field boundary	Post-medieval	D	-D min	low	552097 312180	9
DBA:FP	OS. 1886		Field boundary	Post-medieval	D	-D min	low	552526 312086	9
DBA:FQ	OS. 1886		Field boundary	Post-medieval	D	-D maj	low	552618 312112	9
DBA:FR	OS. 1886		Building	Post-medieval	D	none	n/a	552418 311815	9
DBA:FS	OS. 1886		Building	Post-medieval	D	none	n/a	552390 311718	9

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:FT	OS. 1886		Building	Post-medieval	D	none	n/a	552374 311836	9
DBA:FU	OS. 1886		Pond	Post-medieval	D	none	n/a	553544 312546	9
DBA:FV	OS. 1886		Pond	Post-medieval	D	none	n/a	553215 311771	9
DBA:FW	OS. 1886		Pond	Post-medieval	D	none	n/a	554478 312327	8
DBA:FX	OS. 1886		Building	Post-medieval	D	none	n/a	557561 312096	7
DBA:FY	OS. 1886		Pond	Post-medieval	D	-unc	unknown	557315 311782	7
DBA:FZ	OS. 1886		Pond	Post-medieval	D	none	n/a	558762 312064	7
DBA:GA	OS. 1886		Field boundary	Post-medieval	D	-D sev	medium	558003 311715	7
DBA:GB	OS. 1886		Field boundary	Post-medieval	D	-D min	low	557777 311693	7
DBA:GC	OS. 1886		Field boundary	Post-medieval	D	-D maj	low	557678 311652	7
DBA:GD	OS. 1886		Field boundary	Post-medieval	D	-D sev	medium	557128 311873	7 & 8
DBA:GE	OS. 1886		Field boundary	Post-medieval	D	-D sev	medium	557172 311838	7
DBA:GF	OS. 1886		Field boundary	Post-medieval	D	-D min	low	564379 312918	5
DBA:GG	OS. 1886		Pond	Post-medieval	D	none	n/a	547041 314415	12
DBA:GH	OS. 1886		Field boundary	Post-medieval	D	-D indet	low or medium	564451 312960	5
DBA:GI	OS. 1886		Field boundary	Post-medieval	D	none	n/a	564558 313231	5
DBA:GJ	OS. 1886		Field boundary	Post-medieval	D	-D min	low	548052 314241	11
DBA:GK	OS. 1886		Building	Post-medieval	D	none	n/a	565929 313956	4 & 5

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:GL	OS. 1886		Field boundary	Post-medieval	D	-D min	low	565859 313764	5
DBA:GM	OS. 1886		Highbridge Farm	Post-medieval	D	none	n/a	566934 313495	4
DBA:GN	OS. 1886		Field boundary	Post-medieval	D	-D min	low	566637 314058	4
DBA:GO	OS. 1886		Field boundary	Post-medieval	D	-D maj	low	567112 313901	4
DBA:GP	OS. 1886		Field boundary	Post-medieval	D	-D maj	low	567215 313926	4
DBA:GQ	OS. 1886		Field boundary	Post-medieval	D	-D maj	low	567277 313966	4
DBA:GR	OS. 1886		Field boundary	Post-medieval	D	-D maj	low	567625 313993	4
DBA:GS	OS. 1886		Field boundary	Post-medieval	D	-D min	low	569363 314767	3
DBA:GT	OS. 1886		West Bilney Park	Post-medieval	D	-D min, -unc	low, unknown	569989 314702	3
DBA:GU	OS. 1886		Field boundary	Post-medieval	D	none	n/a	569710 314691	3
DBA:GV	OS. 1886		Mound	Post-medieval	D	none	n/a	571215 314889	3
DBA:GW	OS. 1886		Field boundary	Post-medieval	D	-D maj	low	571378 315281	2 & 3
DBA:GX	AP. 1		Palaeochannels	Undetermined	U	none	n/a	545442 314208	12
DBA:GY	AP. 2		Palaeochannels	Undetermined	U	none	n/a	545545 313969	12
DBA:GZ	AP. 2		Palaeochannels	Undetermined	U	none	n/a	545199 313704	12
DBA:HA	AP. 9		Field boundary	Post-medieval	D	-D min	low	546453 314024	12
DBA:HB	AP. 3		Enclosure	Undetermined	D	none	n/a	545291 313309	12
DBA:HC	AP. 4		Palaeochannels	Undetermined	U	-D maj	n/a	545591 313696	12

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:HD	AP. 5		Palaeochannels	Undetermined	U	none	n/a	545454 313254	12
DBA:HE	AP. 4		Palaeochannels	Undetermined	U	none	n/a	545999 313106	12
DBA:HF	AP. 10		Pond	Post-medieval	D	none	n/a	546281 314116	12
DBA:HG	AP. 2		Enclosure, possible ditches	Undetermined	D	none	n/a	546277 314399	12
DBA:HH	AP. 2		Pond	Post-medieval	D	none	n/a	546150 313375	12
DBA:HI	AP. 7		Track	Undetermined	D	none	n/a	546882 314753	12
DBA:HJ	AP. 3		Enclosure	Undetermined	D	none	n/a	546131 313210	12
DBA:HK	AP. 2		Enclosure	Undetermined	D	none	n/a	547466 314422	11 & 12
DBA:HL	AP. 6		Drains	Post-medieval	D	-D min	low	547818 314343	11
DBA:HM	AP. 6		Pond	Post-medieval	D	none	n/a	547924 314202	11
DBA:HN	AP. 12		Pond	Post-medieval	D	none	n/a	548505 314305	11
DBA:HO	AP. 11		Enclosure	Undetermined	D	none	n/a	548415 313967	11
DBA:HP	AP. 13		Pond	Post-medieval	D	none	n/a	549327 314370	11
DBA:HQ	AP. 2		Pond	Post-medieval	D	none	n/a	549407 313737	10 & 11
DBA:HR	AP. 14		Palaeochannels	Undetermined	U	none	n/a	550291 313539	10 & 11
DBA:HS	AP. 14		Pond	Post-medieval	D	none	n/a	550445 313086	10
DBA:HT	AP. 14		Drains	Post-medieval	D	-D min	low	550372 312956	10
DBA:HU	AP. 15		Mound	Undetermined	D	none	n/a	550745 312229	10

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:HV	AP. 15		Pond	Post-medieval	D	none	n/a	550734 312110	10
DBA:HW	AP. 15		Palaeochannels	Undetermined	U	none	n/a	550655 311775	10
DBA:HX	AP. 15		Palaeochannels	Undetermined	U	-D min	n/a	551789 311977	9
DBA:HY	AP. 15		?Mound	Undetermined	D	none	n/a	552240 312566	9
DBA:HZ	AP. 15		Pond	Post-medieval	D	none	n/a	553722 312353	9
DBA:IA	AP. 15		Trackway	Post-medieval	D	none	n/a	553582 311938	9
DBA:IB	AP. 15		Palaeochannels	Undetermined	U	-unc	n/a	553982 312035	8 & 9
DBA:IC	AP. 15		Ridge and furrow	Medieval	D	none	n/a	554166 312428	8 & 9
DBA:ID	AP. 16		Ring ditch	Undetermined	D	none	n/a	555739 311389	8
DBA:IE	AP. 16		Ponds	Post-medieval	D	none	n/a	556894 311771	7 & 8
DBA:IF	AP. 16		Palaeochannels	Undetermined	U	none	n/a	556640 311515	8
DBA:IG	AP. 16		Enclosures	Undetermined	D	-D sev	medium	558800 312154	7
DBA:IH	AP. 16		Palaeochannels	Undetermined	U	-D maj	n/a	558965 312207	7
DBA:II	AP. 16		Mound	Undetermined	D	none	n/a	558489 311696	7
DBA:IJ	AP. 17		Palaeochannels	Undetermined	U	none	n/a	561283 312943	6
DBA:IK	AP. 18		Field boundary	Post-medieval	D	-D maj	low	561358 312577	6
DBA:IL	AP. 19		Field boundary	Post-medieval	D	-D min	low	562726 312682	6
DBA:IM	AP. 18		Strip farming	Post-medieval	D	-D min	low	563521 312673	5

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:IN	AP. 18		Enclosure	Undetermined	D	none	n/a	563295 313128	5
DBA:IO	AP. 20		Trackway	Undetermined	D	-D indet	low or medium	564089 312891	5
DBA:IP	AP. 21		Pond	Post-medieval	D	none	n/a	565534 313273	5
DBA:IQ	AP. 18		Ring ditch	Undetermined	D	none	n/a	566047 313989	4 & 5
DBA:IR	AP. 18		Ridge and furrow	Medieval	D	none	n/a	566263 314401	4
DBA:IS	AP. 21		Mound	Undetermined	D	none	n/a	566297 314081	4
DBA:IT	AP. 18		Pond	Post-medieval	D	none	n/a	566486 313482	4
DBA:IU	AP. 18		Trackway	Undetermined	D	none	n/a	568029 313718	4
DBA:IV	AP. 18		Possible enclosure	Undetermined	D	none	n/a	568906 314458	3 & 4
DBA:IW	AP. 18		Pond	Post-medieval	D	none	n/a	569149 314979	3
DBA:IX	AP. 22		Ring ditch, possible ditches possible barrow	Undetermined	D	none	n/a	571526 315899	2
DBA:IY	AP. 22		Pond	Post-medieval	D	none	n/a	572268 316511	2
DBA:IZ	AP. 23		?Ring ditch	Undetermined	D	none	n/a	571550 316306	2
DBA:JA	AP. 24		Palaeochannels	Undetermined	U	none	n/a	571139 315859	2 & 3
DBA:JB	AP. 25		Trackway	Undetermined	D	none	n/a	571439 315882	2
DBA:JC	AP. 26		Trackway	Undetermined	D	-D maj	low	571860 316093	2
DBA:JD	AP. 27		Gully	Undetermined	D	none	n/a	572039 316785	2

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:JE	AP. 18	AP. 34	Ring ditch or barrow, ?ditches	Undetermined	D	none	n/a	572365 315751	2
DBA:JF	AP. 18		Ring ditch	Undetermined	D	none	n/a	571710 316341	2
DBA:JG	AP. 22		Pond	Post-medieval	D	none	n/a	547041 313725	12
DBA:JH	AP. 30		Possible double ditched enclosure	Undetermined	D	none	n/a	562200 312954	6
DBA:JI	AP. 29		Palaeochannels	Undetermined	U	none	n/a	556606 311658	8
DBA:JJ	AP. 29		Field boundaries	Post-medieval	D	-D min	low	557172 311588	7 & 8
DBA:JK	AP. 30		Possible enclosure	?Iron Age	D	none	n/a	561080 312126	6
DBA:JL	AP. 30		Possible enclosure	Undetermined	D	none	n/a	561152 312013	6
DBA:JM	AP. 31		Palaeochannels	Undetermined	U	none	n/a	564357 314128	5
DBA:JN	AP. 32		Possible deserted medieval village	Undetermined	C	none	n/a	567022 314205	4
DBA:JO	AP. 33		Possible ditches	Undetermined	D	none	n/a	567375 314148	4
DBA:JP	AP. 34		Building	Undetermined	D	-unc	unknown	571370 315346	2 & 3
DBA:JQ	AP. 34		Ridge and furrow	Medieval	D	none	n/a	572257 315841	2 & 3
DBA:JR	AP. 35		Possible road	Undetermined	D	none	n/a	572305 315899	2 & 3
DBA:JS	AP. 35		Possible enclosure	Undetermined	D	none	n/a	572509 316059	2
DBA:JT	AP. 36		Possible round houses	?Iron Age	D	none	n/a	572071 315676	2 & 3

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:JU	T. ?1839		Field boundaries	Post-medieval	D	-D min	low	558438 311991	7
DBA:JV	T. ?1839		Field boundaries	Post-medieval	D	-D min	low	558832 312102	7
DBA:JW	T. ?1839		Field boundaries	Post-medieval	D	-D maj	low	558948 312231	7
DBA:JX	T. 1838		Building	Post-medieval	D	none	n/a	565909 313671	4 & 5
DBA:JY	T. 1838		Building	Post-medieval	D	none	n/a	567185 313516	4
DBA:JZ	T. ?1839		Field boundary	Post-medieval	D	-D min	low	564634 313068	5
DBA:KA	T. ?1839		Field boundary	Post-medieval	D	-D min	low	564162 312850	5
DBA:KB	T. 1838		Possible moat or squarepond	Undetermined	D	none	n/a	567831 314234	4
DBA:KC	T. 1838		Building	Post-medieval	D	none	n/a	566993 313543	4
DBA:KD	T. 1838		Brick ground	Post-medieval	D	none	n/a	568995 315059	3
DBA:KE	T. 1838		Pond	Post-medieval	D	none	n/a	568006 314203	4
DBA:KF	OS 1906		Building	Post-medieval	D	none	n/a	545653 313359	12
DBA:KG	OS. 1927		Field boundary	Post-medieval	D	-D min	low	547383 314255	12
DBA:KH	OS. 1907		Pond	Post-medieval	D	none	n/a	568463 313774	4
DBA:KI	OS. 1907		Pond	Post-medieval	D	none	n/a	568237 313719	4
DBA:KJ	OS. 1907		Pond	Post-medieval	D	none	n/a	567920 313698	4
DBA:KK	OS. 1907		Pond	Post-medieval	D	none	n/a	567822 313853	4
DBA:KL	OS. 1907		Field boundary	Post-medieval	D	-D min	low	563066 312698	5 & 6

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:KM	OS. 1927		Field boundary	Post-medieval	D	-D min	low	558221 311837	7
DBA:KN	OS. 1927		Pond	Post-medieval	D	none	n/a	558547 312443	7
DBA:KO	OS. 1927		Pond	Post-medieval	D	none	n/a	554487 312649	8
DBA:KP	OS. 1906		Field boundary	Post-medieval	D	-D sev	medium	550482 312723	10
DBA:KQ	OS. 1906		Field boundary	Post-medieval	D	-D maj	low	552945 312042	9
DBA:KR	OS. 1906		Pond	Post-medieval	D	none	n/a	549512 313354	10 & 11
DBA:KS	OS. 1906		Field boundary	Post-medieval	D	-D min	low	571864 316005	2
DBA:KT	OS. 1906		Pond	Post-medieval	D	-D maj	low	572107 315963	2
DBA:KU	OS. 1906		Building	Post-medieval	D	none	n/a	569476 314438	3
DBA:KV	OS. 1906		Building	Post-medieval	D	none	n/a	569016 314370	3 & 4
DBA:KW	FS		Projected route of Spice Hills canal	Roman	D	-unc	unknown	553844 312250	8 & 9
DBA:KX	FS		Canal	Roman	C	-D min	low	558756 312353	7
DBA:KY	FS		Miscellaneous site	Saxon, Medieval	D	none	n/a	567800 313576	4
DBA:KZ	FS		Cropmark	Roman	D	-unc	unknown	552928 312205	9
DBA:LA	FS		Roddon	Roman	U	-D min	n/a	550907 312564	9 & 10
DBA:LB	FS		Palaeochannels	Undetermined	U	-D min	n/a	549858 313469	10 & 11
DBA:LC	FS		Palaeochannels	Undetermined	U	-D min	n/a	551948 311977	9
DBA:LD	FS		Roddon	Roman	U	-D min	n/a	554354 312147	8

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
DBA:LE	FS		Palaeochannels	Undetermined	U	-D min	n/a	555938 311952	7 & 8
DBA:LF	FS		Palaeochannels	Undetermined	U	-D min	n/a	559046 312068	6 & 7
DBA:LG	FS		Palaeochannel	Undetermined	U	-D min	n/a	561020 312632	6
DBA:LH	FS		Palaeochannels	Undetermined	U	-D min	n/a	562488 312698	5
DBA:LI	FS		Palaeochannel	Undetermined	U	-D min	n/a	564103 313583	5
DBA:LJ	FS		Palaeochannel	Undetermined	U	-D min	n/a	562873 312753	5 & 6
DBA:LK	FS		The Nar roddon	Undetermined	U	-D min	n/a	565006 313606	5
HER MNF11760	NCC		Cropmark of rectangular enclosure	Undetermined	D	-D min	low	571539 315446	2 & 3
HER MNF11984	EH	MON 357102	Pottery	Roman	D	none	n/a	572400 316720	2
HER MNF12279	NCC		Axehead	Neolithic	D	none	n/a	568662 314902	4
HER MNF13297	NCC		Stone coffin lid and cartwheel	Undetermined	D	-unc	unknown	556889 311900	7 & 8
HER MNF14320	NCC		Broken flint blade	Neolithic	D	-unc	unknown	562047 312835	6
HER MNF15485	NCC	MON 867934	Stone axe hammer	Prehistoric	D	none	n/a	564500 312600	5
HER MNF15633	NCC		Handaxe	Palaeolithic	C	-unc	unknown	572270 316280	2
HER MNF16338	NCC		Possible windmill mound	Medieval	C	none	n/a	548658 313757	10 & 11
HER MNF16343	NCC		Drainage windmill	Post-medieval	D	-unc	unknown	553802 312143	9
HER MNF17282	NCC		Metal working debris	Undetermined	D	none	n/a	567041 314250	4

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF17283	NCC		Chipped flint adze	Neolithic	D	none	n/a	567980 313760	4
HER MNF17313	NCC		Possible spa or school	Post-medieval	D	none	n/a	563663 312269	5
HER MNF17314	NCC		Mound	Undetermined	D	none	n/a	564600 314050	5
HER MNF18553	NCC		Pottery scatter	Medieval	D	none	n/a	550307 312293	10
HER MNF18596	NCC		Pottery	Medieval	D	none	n/a	546500 314470	12
HER MNF18597	NCC		Pottery scatter probably from manuring	Medieval	D	none	n/a	546627 314402	12
HER MNF18600	EH	MON 872008	Pottery and briquetage scatter	Roman	C	-D min	low	549899 313253	10 & 11
HER MNF18601	NCC		Pottery scatter probably from manuring	Medieval	D	-D min	low	549782 313213	10 & 11
HER MNF18602	NCC		Pottery scatter probably from manuring	Medieval	D	none	n/a	549586 313169	10 & 11
HER MNF18603	NCC		Pottery scatter possibly from manuring	Medieval	D	none	n/a	549818 312838	10
HER MNF18651	NCC		Pottery scatter possibly from manuring	Medieval	D	none	n/a	549111 314434	11
HER MNF18942	NCC		Possible settlement	Medieval	C	none	n/a	547268 314394	12
HER MNF18943	NCC		Ingleborough, probable settlement	Saxon, Medieval	C	none	n/a	547424 314775	11 & 12
HER MNF18944	NCC		Pottery scatter probably from manuring	Medieval, Post-medieval	D	-D min	low	547410 314168	11 & 12

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF18945	NCC		Pottery scatter probably from manuring	Medieval	D	none	n/a	546848 313805	12
HER MNF18946	NCC		Pottery scatter probably from manuring	Medieval	D	none	n/a	546809 313742	12
HER MNF18948	NCC		Enclosures with possible moat	Medieval	D	none	n/a	546945 313924	12
HER MNF18950	NCC		Possible house	Undetermined	D	none	n/a	547223 313892	11 & 12
HER MNF18953	NCC		Pottery brick and possible bank	Medieval	D	none	n/a	547192 314705	12
HER MNF18958	NCC		Few pot sherds	Saxon	D	none	n/a	548239 314584	11
HER MNF18961	NCC		Few pot sherds	Medieval	D	-D min	low	546497 314064	12
HER MNF18962	NCC		Few pot sherds	Medieval	D	none	n/a	546731 314005	12
HER MNF18963	NCC		Few pot sherds	Medieval	D	none	n/a	546950 314051	12
HER MNF18964	NCC		Few pot sherds	Medieval	D	-D maj	low	546962 314171	12
HER MNF18965	NCC		Few pot sherds	Medieval	D	-D maj	low	546702 314133	12
HER MNF18966	NCC		Pot sherd	Medieval	D	none	n/a	547520 314410	11 & 12
HER MNF18967	NCC		Few pot sherds	Medieval	D	-D min	low	548114 314300	11
HER MNF18974	NCC		Medieval pot sherd	Medieval	D	none	n/a	548800 314459	11
HER MNF18975	NCC		Pottery scatter	Roman to Medieval	D	-D min	low	548459 314308	11

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF18977	NCC		Large pottery scatter, possibly settlement	Roman	C	-unc	unknown	548701 314260	11
HER MNF18978	NCC		Pottery scatter	Roman	D	none	n/a	548559 314361	11
HER MNF18982	NCC		Pottery scatter probably associated with West Walton	Medieval	D	none	n/a	546758 313630	12
HER MNF19066	NCC		Few pot sherds	Medieval	D	none	n/a	548809 314016	11
HER MNF19067	NCC		Few pot sherds	Medieval	D	-D min	low	549602 313620	10 & 11
HER MNF19103	NCC		Priory Farm	Post-medieval	D	none	n/a	548360 313671	10 & 11
HER MNF19127	NCC		Bronze spout	Medieval	D	none	n/a	560050 312040	6 & 7
HER MNF19128	NCC		Pottery and modern building rubble	Medieval, Modern	D	none	n/a	560125 311907	6 & 7
HER MNF19130	NCC		Few pot sherds	Medieval	D	none	n/a	559411 312002	7
HER MNF19131	NCC		Few pot sherds	Medieval	D	none	n/a	559393 312107	7
HER MNF19180	NCC		Earthwork	Undetermined	D	none	n/a	564092 313061	5
HER MNF19584	NCC		Pot sherds	Medieval	D	none	n/a	551872 311870	9
HER MNF19591	NCC		Pot sherd	Medieval	D	none	n/a	553570 311602	9
HER MNF19603	NCC		Pot sherds	Medieval	D	none	n/a	553684 312283	9
HER MNF19624	NCC		Pot sherds	Medieval	D	none	n/a	550069 312965	10

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF19625	NCC		Soilmarks and pottery	Undetermined, Roman	D	none	n/a	551521 312626	9
HER MNF19684	NCC		Few pot sherds	Medieval	D	-D min	low	550344 312994	10
HER MNF19685	NCC		Mound	Undetermined	D	none	n/a	550623 312910	10
HER MNF19686	NCC		Few pot sherds	Medieval	D	-D min	low	552530 311932	9
HER MNF19695	NCC		Few pot sherds	Medieval, Post-medieval	D	none	n/a	550887 312791	9 & 10
HER MNF19696	NCC		Few pottery sherds and possible feature	Roman	D	none	n/a	550108 313351	10 & 11
HER MNF19718	NCC		Mound and pottery	Medieval	D	none	n/a	549967 313612	10 & 11
HER MNF19728	NCC		Moat	Medieval	C	none	n/a	549975 313814	10 & 11
HER MNF19776	NCC		Pottery scatter	Roman to Post Medieval	D	none	n/a	551332 312587	9
HER MNF19778	NCC		Pot	Roman, Medieval	D	-D min	low	550925 312343	9 & 10
HER MNF19789	NCC		Ditch	Undetermined	D	none	n/a	550905 312509	9 & 10
HER MNF19790	NCC		Few pot sherds	Medieval	D	none	n/a	550710 312520	10
HER MNF19791	NCC		Mound	Undetermined	D	none	n/a	550789 312492	10
HER MNF19792	NCC		Pottery scatter	Roman	D	none	n/a	550615 312201	10
HER MNF19793	NCC		Pottery scatter	Roman	D	-D min	low	550526 312464	10
HER MNF19805	NCC		Mound	Undetermined	D	none	n/a	549699 313913	10 & 11
HER MNF19806	NCC		Pottery scatter	Medieval	D	-D min	low	552288 312162	9

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF19807	NCC		Pottery scatter	Medieval	D	-D min	low	552559 312262	9
HER MNF19808	NCC		Pottery scatter	Medieval	D	none	n/a	552586 312574	9
HER MNF19809	NCC		Pottery scatter	Medieval, Post-medieval	D	none	n/a	550619 313121	10
HER MNF19858	NCC		Pottery scatter	Medieval	D	none	n/a	550770 312108	9 & 10
HER MNF19860	NCC		Building	Post-medieval	D	none	n/a	549662 314094	11
HER MNF19870	NCC		Pottery and building debris scatter	Medieval	D	none	n/a	552209 312519	9
HER MNF19960	NCC		Few pot sherds	Post-medieval	D	none	n/a	547079 314489	12
HER MNF20180	NCC		Brooch, pottery, strap fitting and token	Roman, Saxon, Medieval, Post-medieval	D	-unc	unknown	571681 315203	2 & 3
HER MNF20738	NCC	MON 1417440, MON 1418255,DBP S0001335, DBP S0002194	Pillbox, Type 22	Modern	C	none	n/a	556560 311760	8
HER MNF20849	NCC		Pottery scatter	Roman, Medieval	D	none	n/a	551124 312450	9 & 10
HER MNF20850	NCC		Pottery scatter	Roman	D	none	n/a	551301 312386	9
HER MNF20884	NCC		Pottery scatter	Medieval, Post-medieval	D	none	n/a	550510 313270	10 & 11
HER MNF21105	NCC		Farm building with reused medieval stonework	Post-medieval	D	none	n/a	571800 315310	2 & 3

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF21409	NCC		Few pot sherds	Medieval	D	none	n/a	554148 312519	8 & 9
HER MNF21410	NCC		Few pot sherds	Medieval	D	none	n/a	554391 312546	8
HER MNF21730	NCC		Cropmarks of rectangular enclosure and linear feature	Undetermined	D	-unc	unknown	552964 311810	9
HER MNF22004	NCC		Few pot sherds	Medieval	D	none	n/a	553345 311812	9
HER MNF2201	NCC		Mound and ditch, possibly sea mark	Undetermined	D	none	n/a	546994 313900	12
HER MNF22011	NCC		Pot sherd	Roman	D	none	n/a	563000 313000	5 & 6
HER MNF2207	EH	MON 355066	Moat possibly Rochford mansion	Medieval	C	none	n/a	549716 313992	11
HER MNF22104	NCC		Few pottery sherds	Medieval	D	none	n/a	558754 312473	7
HER MNF22105	NCC		Few pottery sherds	Medieval	D	none	n/a	559086 312392	7
HER MNF22106	NCC		Few pottery sherds	Medieval	D	none	n/a	559732 312719	6 & 7
HER MNF22107	NCC		Few pottery sherds	Medieval	D	none	n/a	559777 312897	6 & 7
HER MNF22109	NCC		Pottery scatter	Medieval	D	none	n/a	560157 312828	6 & 7
HER MNF22142	NCC		Few pottery sherds	Medieval	D	none	n/a	550511 313552	10 & 11
HER MNF22420	NCC		Few pottery sherds	Medieval	D	none	n/a	554441 312677	8
HER MNF22488	NCC		Few pottery sherds	Medieval	D	none	n/a	558482 312235	7

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF2265	NCC		Polished stone axe and sandstone rubber	Neolithic	D	-D min	low	564919 313375	5
HER MNF2280	NCC		Cropmark of ring ditch	Prehistoric	C	none	n/a	563938 312505	5
HER MNF2285	NCC		Possible moat or drainage mill	Medieval	D	none	n/a	560308 312389	6
HER MNF22983	NCC		Flint flake and pottery sherds	Prehistoric, Medieval	D	none	n/a	566031 314300	4 & 5
HER MNF23006	NCC		Few pottery sherds	Medieval	D	none	n/a	566110 313470	4
HER MNF23007	NCC		Few pottery sherds	Undetermined	D	none	n/a	565140 313520	5
HER MNF23009	NCC		Few pottery sherds	Medieval	D	none	n/a	564495 314017	5
HER MNF23039	NCC		Few pottery sherds	Medieval	D	-D min	low	562363 312487	6
HER MNF23054	NCC		Few pottery sherds	Medieval	D	-D min	low	561568 312248	6
HER MNF23055	NCC		Few pottery sherds	Medieval	D	-D min	low	561994 312464	6
HER MNF23064	NCC		Pottery and tile scatter	Medieval	D	-D min	low	563984 312743	5
HER MNF23065	NCC		Two flints	Prehistoric	D	none	n/a	564380 312350	5
HER MNF23066	NCC		Few sherds of pot	?Medieval	D	-D sev	medium	564920 313470	5
HER MNF23069	NCC		Pottery, brick and tile scatter	Medieval	D	none	n/a	565507 313483	5
HER MNF23201	NCC		Few pottery sherds	Medieval	D	none	n/a	563045 312338	5 & 6
HER MNF23202	NCC		Flint flake and pottery sherds	Prehistoric, Medieval	D	none	n/a	563354 312321	5
HER MNF23203	NCC		One retouched flint	Prehistoric	D	none	n/a	562860 312280	6

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF23205	NCC		Pot boilers, flints, pottery sherds, slag	Prehistoric, Neolithic, Iron Age, Roman	D	none	n/a	566179 314305	4 & 5
HER MNF23206	NCC		Few pottery sherds maybe from dyke refilling	Medieval	D	none	n/a	566570 314220	4
HER MNF23575	NCC		Few pottery sherds	Medieval	D	none	n/a	559742 312200	7
HER MNF23576	NCC		Few pottery sherds	Medieval	D	-D min	low	559854 312584	6 & 7
HER MNF23599	NCC		Pottery scatter	Medieval	D	none	n/a	561903 312228	6
HER MNF23602	NCC		One sherd of pottery	?Medieval	D	-D min	low	563642 312743	5
HER MNF23603	NCC		Few pot sherds	Medieval	D	none	n/a	563417 313188	5
HER MNF23604	NCC		Pottery scatter and cropmarks of field drains	Medieval	D	none	n/a	561166 311835	6
HER MNF23605	NCC		Pottery scatter	Medieval	D	-D min	low	561016 312431	6
HER MNF23606	NCC		Pottery scatter	Medieval	D	-D min	low	561358 312375	6
HER MNF23614	NCC		Pottery scatter	Medieval	D	-D min	low	560191 312484	6 & 7
HER MNF23622	NCC		Flints, pottery scatter and brooch	Mesolithic, Medieval, Post-medieval	D	-D min	low	566489 314253	4
HER MNF23623	NCC		Few pottery sherds	Medieval	D	-D min	low	566407 314248	4
HER MNF23624	NCC		Pottery sherd	Medieval	D	none	n/a	566130 313960	4
HER MNF25457	NCC	MON 1417553, DBP S0001452	Anti-tank hairpin	Modern	C	none	n/a	566972 313529	4

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF28758	NCC		Ampulla	Medieval	D	none	n/a	547200 314650	12
HER MNF30811	NCC		Flint arrowhead	Neolithic	D	none	n/a	569490 314680	3
HER MNF33417	NCC		Socketed axehead	Bronze Age	D	none	n/a	570070 314280	3
HER MNF3408	NCC		Flint tools	Neolithic	D	none	n/a	569956 315170	2 & 3
HER MNF3427	NCC		Coin	Roman	D	none	n/a	567216 314329	4
HER MNF3430	EH	MON 356387	Original extent of Blackborough Priory	Medieval	B	-D min	medium	567374 314032	4
HER MNF3432	NCC		Two puddingstone querns	Roman	C	none	n/a	567476 314409	4
HER MNF3434	NCC		Flint axehead	Palaeolithic	C	-unc	unknown	568290 314210	4
HER MNF3445	NCC	MON 356372	Bronze cauldron	Roman	D	none	n/a	567580 313900	4
HER MNF3475	NCC		Cropmark of large oval enclosure	Undetermined	D	none	n/a	565598 314122	5
HER MNF3763	NCC		Beaker pottery	Bronze Age	D	none	n/a	572011 316658	2
HER MNF3767	EH	MON 616438	Animal bones	Prehistoric	D	none	n/a	570030 315140	3
HER MNF38777	EH	MON 1324406, MON 1365482	Greenfields timber framed house	Medieval	D	none	n/a	547165 314552	12
HER MNF3892	NCC		Cropmarks	Undetermined	D	-unc	unknown	570804 314396	3
HER MNF39561	EH	MON 1412299, DBP 1624	ROC monitoring post	Modern	C	none	n/a	547990 314150	11

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
HER MNF39604	NCC		Soilmarks of moat	Medieval	C	-D maj	medium	569768 314965	3
HER MNF40367	NCC		Part of axehead	Bronze Age	D	-unc	unknown	572270 315790	2
HER MNF40443	NCC	MON 1356367, MON 1401750	Silt filled ditches and pits, some maybe natural	Iron Age, Roman	D	none	n/a	565815 313409	4 & 5
HER MNF40574	NCC		Cropmark of ring ditch	Undetermined	C	none	n/a	572010 315675	2 & 3
HER MNF40626	NCC		Brick kiln	Post-medieval	D	none	n/a	563820 312600	5
HER MNF42055	NCC		Metal buckles and object	Medieval, Post Medieval	D	none	n/a	566647 314342	4
HER MNF42344	EH	MON 1341696	River Nene navigation	Medieval	C	-unc	unknown	545775 313818	12
HER MNF42349	NCC		Handaxe and handaxe fragment	Palaeolithic	C	-D sev	medium	570100 314800	3
HER MNF42350	NCC		Polished flint axehead	Neolithic	D	none	n/a	570350 314260	3
HER MNF45661	NCC		Pumping station	Post-medieval, Modern	D	none	n/a	560555 312618	6
HER MNF48751a	NCC	APS 2006	Flints	Prehistoric	D	-D min, -unc	low, unknown	570195 314732	3
HER MNF48751b	NCC	APS 2006	Pot and tile	Post-medieval	D	-D indet	low or medium	571493 315422	2 & 3
HER MNF48751c	APS	APS 2006	Pot, tile and glass	Post-medieval	D	-D min, -unc	low, unknown	569419 314781	3
HER MNF48751d	NCC	APS 2006	Brick, tile and slate	Medieval, Post-medieval	D	-D min	low	559717 312412	6 & 7
HER MNF48751e	NCC	APS 2006	Pot	Post-medieval	D	none	n/a	550086 313156	10 & 11
HER MNF48751f	NCC	APS 2006	Pot and brick	Medieval, Post-medieval	D	-D sev	medium	547647 314323	11 & 12
HER MNF48751g	NCC	APS 2006	Pot, tile and claypipe	Post-medieval	D	-D maj	low	546098 313678	12

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
LS 221526	EH	SMR MNF24937	The Grange house, C18, grade II	Post-medieval	A	none	n/a	563693 313247	5
LS 221947	EH	SMR MNF3774, MON 868375	St Cecelia's Church, C14, grade II*	Medieval	A	none	n/a	571665 315281	2 & 3
LS 428562	EH	SMR MNF18480	Faulkner House, C18, grade II	Post-medieval	A	none	n/a	549919 313788	10 & 11
MON 1032408	EH		Sea banks now also used in parts as a causeway	Medieval	B	-D min	medium	532642 334247	11 & 12
MON 1341706	EH		River Great Ouse navigation	Post-medieval	C	-unc	unknown	531622 270023	6 & 7
MON 1343039	EH		River Nar navigation	Post-medieval	C	-unc	unknown	564333 313471	4, 5 & 6
MON 1366573	EH		Gas compressor station	Modern	D	-D min	low	572125 316089	2
MON 1366840	EH		Lynn and Ely Railway	Post-medieval	D	-unc	unknown	559608 300283	6
MON 1405504	EH		Ditches, C18 and C19	Post-medieval	D	none	n/a	547210 314640	12
MON 354845	EH		Peterborough and Sutton Bridge Railway	Post-medieval	D	-unc	unknown	537794 306770	12
MON 356390	EH		Acheulian flint handaxe	Palaeolithic	C	none	n/a	567700 313800	4
MON 357083	EH		Flints	Prehistoric	D	none	n/a	571660 315280	2 & 3
MON 357088	EH		One sherd of grey Ipswich ware	Saxon	D	-unc	unknown	571500 315500	2 & 3
MON 357101	EH		Pottery	Roman	D	-unc	unknown	571600 315400	2 & 3

Reference	Source	Cross references	Description	Period	Importance	Impact	Significance of impact	National grid reference	Figures
MON 357784	EH		Kings Lynn and Dereham railway	Post-medieval	D	-unc	unknown	582089 309522	2 & 3
MON 499804	EH		Ferry Railway Station	Post-medieval	D	none	n/a	545705 314008	12
MON 868199	EH		Wiggenhall St Germans Deserted Medieval Village	Medieval	C	-unc	unknown	559500 312500	7
MON 868370	EH		Handaxe	Palaeolithic	C	-unc	unknown	572303 316297	2
PA NMS230	PA		Brooch	Roman	D	-unc	unknown	571999 315997	2
PA NMS231	PA		Harness fitting	Roman	D	-unc	unknown	572000 315997	2
PA NMS-33C095	PA		Pot sherd	Medieval, Post Medieval	D	-unc	unknown	571999 315999	2
PA NMS-560A84	PA		Fragment of crotal bell	Post-medieval	D	-unc	unknown	572000 315997	2
PA NMS-571F77	PA		Brooch	Saxon	D	-unc	unknown	571999 315997	2
PA NMS-5A2005	PA		Buckle	Roman	D	-unc	unknown	572000 315998	2
SM 30560	EH	LS 221977, MON 356364	Blackborough Priory, c.1135, grade II	Medieval	A	none	n/a	567381 314001	4

APPENDIX D: FIGURES

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