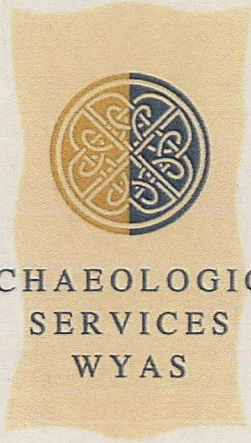


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**Spalding Gas Pipeline  
Lincolnshire**

*Archaeological Desk-based Assessment*

*May 2009*

*Report No. 1952*

CLIENT  
ENVIRON UK Ltd



# Spalding Gas Pipeline, Lincolnshire

## Archaeological Desk-based Assessment

### *Summary*

*An Archaeological Desk-based Assessment was undertaken along the proposed route of a gas pipeline, to the north-east of Spalding, in an area of former marsh. The Lincolnshire marshes were exploited from the early prehistoric period onwards and there is extensive evidence for salt production between the later prehistoric and medieval periods. A sea defence known by various names including 'Sea Bank' and 'Roman Bank', of probable early medieval date, crosses the study area and the land to the south of this feature was reclaimed by the medieval period. The remains of a monastic grange, chapel and retreat house lie within the study area and may be contemporary with cropmarks of possible field systems identified from aerial photographs in the vicinity of the site. All remaining parts of the Lincolnshire marshes were drained during the post-medieval period, and a number of features associated with this period of reclamation are still present within the study area.*



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## Report Information

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Project Management: Mitchell Pollington BA MA  
Report: Alexandra Grassam BA MSc  
Illustrations: Alexandra Grassam  
Photography: Alexandra Grassam  
Research: Alexandra Grassam

Produced by: Archaeological Services WYAS, PO Box 30,  
Nepshaw Lane South, Morley, Leeds LS27 0UG  
Telephone: 0113 383 7500  
Email: admin@aswyas.com

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## **1 Introduction**

Archaeological Services WYAS (ASWYAS) was commissioned by ENVIRON UK Ltd to undertake an archaeological desk-based assessment of land to the north-east of Spalding, Lincolnshire. The assessment was undertaken in advance of the proposed construction of a new gas pipeline.

### **Site location and topography**

The route of the proposed pipeline is 7.9km in length, and is aligned on an approximately north-east to south-west orientation from the proposed Minimum Offtake Facility (MOF) on Wragg Marsh (TF 3077 3008) to the Gas Reception Facility (GRF) situated to the west of West Marsh Road, Spalding (TF 2595 2455).

The study area comprises all the land within 500m of the proposed pipeline and comprises flat, low lying reclaimed marsh, which lies at a height of approximately 4m AOD. The land is now used predominately for arable cultivation and is drained by a number of dykes and channels which run through the area.

### **Geology and soils**

The underlying solid geology within the study area comprises Upper Jurassic Oxford clay, covered by Terrington Beds Drift which is made up of younger marine alluvium (International Generating Company 1996).

## **2 Methodology and Sources**

The following sources of information have been consulted in order to meet the requirements of the desk-based assessment and are in line with guidelines laid down by the Institute for Archaeologists (IfA 2008).

### **Archaeological archives and databases**

Information on previous archaeological finds and investigations within the study area was obtained from the Lincolnshire Historic Environment Record (HER), Lincoln, and from the Archaeology Data Service website (<http://ads.ahds.ac.uk>). The Lincolnshire Archives, Lincoln, and Lincoln Central Library were consulted for historic maps and plans, antiquarian histories and other relevant documentary sources. Aerial photographs of the study area were obtained from the National Monuments Record Office, Swindon.

### **Listed Buildings and Scheduled Monuments**

Details of Listed Buildings were obtained from the Lincolnshire HER and English Heritage's 'Images of England' website ([www.imagesofengland.org.uk](http://www.imagesofengland.org.uk)). Information on Scheduled Monuments was obtained from the Lincolnshire HER and the National Monument Record Office.



### **Published and unpublished sources**

A range of published and unpublished material has been researched and consulted, including an Environmental Statement (International Generating Company 1996), produced in 1996 for the existing pipeline, and the results of fieldwalking surveys and a watching brief, carried out along the route of the existing pipeline in 2003 (Oxford Archaeology 2003a and 2003b). Academic articles, together with general sources on the area and its wider archaeological and historical background, have also been consulted and are listed in the bibliography.

### **Geological and soil surveys**

Information on the underlying geology and soils within the study area was taken from data collected by the British Geological Survey (2001) and the Soil Survey of England and Wales (1980).

### **Walkover survey**

A walkover survey was undertaken on the 20th January 2009, in order to assess the survival of previously recorded and documented features, to identify any further archaeological sites visible on the ground and to determine the potential for any future archaeological investigations.

## **3 The Study Area**

Where sites listed in the catalogue (Section 4) are mentioned in the text, the relevant catalogue number is given in bold-type.

### **Identified archaeological sites, buildings and features**

A total of 21 archaeological sites, features and buildings have been identified within the study area. These are discussed below and have been catalogued in Section 4.

### **Designated sites and areas**

The study area contains one Scheduled Monument (9) and three Listed Buildings (A to C). No Registered Parks and Gardens, Registered Battlefields or Conservation Areas lie within the study area.

### **Previous archaeological investigations**

An Environmental Statement, which includes an archaeological desk-based assessment, was produced in 1996 in advance of the installation of a gas pipeline which runs through the study area, parallel to the proposed route of the new gas pipeline (International Generating Company 1996).

In 2003, Oxford Archaeology undertook a fieldwalking survey along the route of the gas pipeline. All of the finds recovered during the fieldwalking date to the post-medieval period



(18th to 20th century) and included clay-pipe fragments, clay building material and pottery (3, 6 and 13; Oxford Archaeology 2003).

Oxford Archaeology carried out a watching brief during the construction of the existing gas pipeline in 2003, which runs broadly parallel and closely adjacent to the proposed route (Oxford Archaeology 2003b). This monitored the stripping of a 16m wide corridor along the pipeline route, with a 1.10m deep pipe trench. The excavation of a shored pit at the south-western end of the pipeline was also monitored, which covered an area of 10m by 3.5m excavated to a depth of 1m. No archaeological features or deposits were identified during this watching brief, and all deposits encountered beneath the top soil were assessed to be alluvial.

An excavation was undertaken in 2003 by Lindsey Archaeological Services at the site of the Springfield Outlet Shopping and Festival Garden, located at the southern end of the study area, approximately 500m south of the proposed pipeline. The excavations revealed a boundary ditch orientated on an east-west axis within the limits of the study area, which post-dates the evidence for 15th century settlement activity identified elsewhere on the site, beyond the limits of the study area (14; Lindsey Archaeological Services 2003).

In 2006, Allen Archaeological Associates undertook an archaeological evaluation on land off Wardentree Lane in Pinchbeck, approximately 400m north of the gas receipt facility. A residual sherd of Saxon pottery and a fragment of medieval or post-medieval brick was recovered from within the limits of the study area (18; Allen Archaeological Associates 2006).

### **Archaeological background, sites and features**

#### *Prehistoric periods (c. 10,000 – AD 43)*

The earliest human activity within Lincolnshire probably followed the retreat of the ice sheets around 10,000 BC, as small nomadic groups gradually moved north with the improving climate. The position of the coastline in Lincolnshire during the prehistoric probably varied over time in response to climatic changes, and during periods of lower sea levels, the coastline may have been up to 15km further east than it is today (May 1976). Extensive tracts of land to the west of the coastline consisted of marsh or fen, interspersed with small areas of raised ground, providing land suitable for occupation, although the area of these islands probably varied as sea levels fluctuated (May 1976). Evidence for the exploitation of the Lincolnshire during the Mesolithic period has been identified during fieldwalking undertaken by the Fenland Survey group, and it likely that these areas were exploited seasonally by hunter-gatherer groups for a range of commodities, such as fish and fowl (Membrey 1998).

The Neolithic and early Bronze Age periods are marked by the introduction of farming, as nomadic hunter-gatherer subsistence gave way to agriculture and the domestication of animals, and several settlement sites have been found close to the western edge of the



marshes, including at Deeping St Nicholas, located approximately 11km to the south-west of the study area, and at Billingborough, approximately 17.5km to the north-west (Membrey 1999a). Evidence for human activity from the middle Bronze Age onwards has been identified at the Flag Fen site, approximately 26km to the south-west of the study area near Peterborough (Cambridgeshire) (Brown and Murphy 1997). The archaeological evidence from the marsh edge settlement sites such as Billingborough suggest there was a significant rise in sea levels during the later Bronze Age and Iron Age, coinciding with an increase in occupation on the topographically higher areas of the region, and it may be that a shift in settlement was in part due to marine inundations in the low lying areas (Membrey 1999b).

Despite the rise in sea levels, the marsh edge continued to be exploited throughout the later prehistoric period and numerous salt production sites have been identified throughout Lincolnshire, represented typically by scatters of briquetage and domestic pottery (Membrey 1999b; Morris 2007). The remains of salt working of possible Iron Age date has been identified in Pinchbeck (NMR No. TF 22 NW 12), approximately 3.8km to the west of the study area and the fenland survey has identified three sites within the parish of Cowbit (Membrey 1999b), approximately 7km to the south of the proposed pipeline.

No evidence for human activity between the Palaeolithic and Iron Age has been identified in the study area. Sherds of possible late Iron Age pottery were found during archaeological investigations undertaken between 1998 and 1999 approximately 100m to the south of the study area, close to the junction of the A151 and A16 (Archaeological Project Services 1998; Archaeological Project Services 1999).

#### *Romano-British period (AD 43 - AD 410)*

By the time of the Roman Conquest, Lincolnshire lay within the tribal territory of the Corieltauvi. The nature of the relationship between the Corieltauvi and the Romans during the early stages of the invasion in AD 43 is not known (Bennet 1999), however, by AD 47 the Roman army appears to have gained full control of the Corieltauvian territory (Creighton 1990; May 1993).

Sea levels had again fallen by the end of the 1st century AD which resulted in further areas of raised ground being available for settlement within the marshes (Simmons 1993). Salt production increased during the Romano-British period developing into an important industry in marsh lands, due in part to the increase in the trade of salted meat and fish (Whitwell 1993). The remains of a possible Roman salt production site was identified during the construction of the Spalding Sugarbeet factory in 1926 (16), approximately 250m to the north of the gas receipt facility.

The Roman period also saw some of the first attempts to control water levels in the marshes by cutting ditches and canals and diverting rivers (Whitwell 1992). A possible ditch or creek was identified during an archaeological investigation undertaken approximately 100m to the



south of the study area, along with a feature thought to be a pond (Archaeological Project Services 1998; Archaeological Project Services 1998).

Although evidence for Roman activity is limited in the study area, remains from this period have been found in and around Spalding. A series of pits containing pottery dating to the 1st and 2nd century were recorded during an archaeological evaluation on land at Holbeach Road (Miller 1998), approximately 2km south-west of the gas receipt facility, while remains of a possible 2nd to 4th century site were identified during the cutting of a diversion channel in the River Welland to the east of Spalding, approximately 3km to the south (NMR No. TF 22 SE 3). Further evidence for salt working has also been identified from sites such as Horseshoe Road (Tann 1997), located approximately 4.5km to the south-west, and the salt working remains identified in Pinchbeck may also be Roman date (NMR No. TF 22 NW 12).

*Anglo-Saxon and Medieval periods (AD 410 to c.1500)*

Following the end of Roman rule in AD 410, the former province fragmented into a number of smaller kingdoms and by the 7th century much of Lincolnshire lay in the territory controlled by the kingdom of Mercia (Albone 1999). The Tribal Hidage, a 7th century tribute list, includes a reference to a small tribe called the *Spaldas* and it is thought that their territory was based in Spalding (Sawyer 1998). The fieldwalking surveys undertaken by the Fenland survey have identified a number of scatters of Anglo-Saxon pottery around Spalding, and a single sherd of residual pottery dated to the 5th to 8th century (Sawyer 1998) was recovered during an archaeological evaluation in the south-west of the study area (18), approximately 500m north of the GRF.

Although the Anglo-Saxon period in Lincolnshire is not well understood, the settlements of Pinchbeck, Weston, Moulton and Surfleet were probably established by the later Anglo-Saxon period and all are included in the Domesday Book of 1086 (Williams and Martin 1992). The Domesday Book also reveals that a number of salt pans were in use in Spalding in the 11th century, and both Spalding and Pinchbeck had use of fisheries (Williams and Martin 1992, 914).

The Spalding area remained heavily reliant on the traditional 'fenland economies' throughout the medieval period and early post-medieval periods. Fishing was a very important activity throughout all of the marsh and fenland areas, with fish forming a very important part of the diet in the medieval period, particularly within monastic settings where meat was not allowed to be consumed on many days of the year. Eels were also caught in huge numbers, and were often used as a form of currency (Darby 1973). A port is recorded in Spalding in the medieval period, which accommodated a seasonal fishing fleet owned by the Prior of Spalding (Pawley 1993). Salt production continued to be a particularly important part of the economy around the Lincolnshire coastline (Everson 1999), and it is possible that the remains of the salt production site identified at the Spalding Sugarbeet factory are medieval in date rather than Roman (3). Other activities probably undertaken in and around the study area include fowling, the cutting of reeds and sedge for building material and peat for fuel (Darby 1973).



Attempts to drain and reclaim land in the marshes were again undertaken during the medieval period, probably in order to increase the availability of land for pasture and to control flooding in areas of occupation. The remains of a large bank known variously as Roman Bank, Sea Ditch, Sea Dyke and Sea Bank (16), which ran for approximately 240km around the Wash and its inlets was first recorded in 12th century documents (Hallam 1965, cited in International Generating Company 1996). The 1891 and 1906 Ordnance Survey maps mark its route parallel to the River Welland at the southern end of the study area before turning east to continue on an east-west alignment, where it is crossed by the pipeline route (see Fig. 2). The position of the Sea Bank mirrors closely the position of the coastline in early mapping evidence (Hallam 1965), and the proximity of the study area to the sea during this period is suggested by a number of place names in the area, such as 'Surfleet Seas End', located to the west.

Once reclaimed, the land was usually enclosed and divided into fields. These field systems were usually somewhat irregular in form as the boundaries were often defined by naturally occurring watercourses. The remains of possible field boundaries associated with this period of activity can be identified from cartographic evidence and aerial photographs in the study area, notably to the north of Rood's Lane (7 and 8). Reclaimed marshland provided particularly high quality grazing grounds and the land in the study area was probably used primarily by local farmers, although land was often rented out to farmers from further afield. There is also a reference to a ferry at Cowhime, located approximately 700m to the west of the study area, being used to transport cows from Scotland to the marshes to be fattened up before being taken to market in London (International Generating Company 1996).

The availability of land for grazing was possibly a reason for the establishment of the Wykeham monastic grange, a farm owned and run by Spalding Priory. The priory owned much of the land in Spalding, Weston, Pinchbeck and Moulton and it was possibly responsible for the reclamation and enclosure of land in the southern part of the study area. The grange was established in 1311, along with a retreat house (a place of rest and recuperation for the monks) and chapel (Page 1906), approximately 400m to the north of the proposed pipeline (9). The site is now a Scheduled Monument (Scheduled Monument No. 33131).

*Post-medieval and modern period (c.1500 to present)*

Prior to the Dissolution of the monasteries in the mid-16th century, Spalding Priory had grown to be one of the most affluent monastic centres in Lincolnshire. Following the Dissolution, the Wykeham estate passed to the Harrington family and the chapel became a free chapel (9; A). In the mid-17th century, the estate had passed to the Ravenscroft family and Chapel Farmhouse was built in the late 17th century (B; Scheduled Monument No. 33131).

The change in landownership after the Dissolution, coupled with natural changes to the coastline, had a major impact on the drainage of the marshes and fens. Salt production was



hit particularly hard by the silting up of creeks, which resulted in the increase in size of the marsh and an eastwards shift in the position of the coastline. By the 17th century, much of the salt was being imported into England from Scotland and from the Bay of Biscay (Field 2000).

A further programme of drainage of the marshes began in the 17th century, and an act for the 'drainage, preserving and improving certain lands in several parishes .... in South Holland' was passed in 1793, which included land in Spalding, Weston and Moulton. The act included details about the improvement of the Lords Drain (2), which runs through the study area. Other improvements undertaken between the 17th and 18th centuries was the canalisation of the River Welland and the creation of Vernatt's Drain (17) which was extended in 1774 to join the River Welland at Surfleet (Robinson 1993).

Funding for drainage programmes throughout the marshes and fens was provided by a group of landowners called 'The Adventurers', in exchange for the newly acquired lands, along with areas previously held in common (Darby 1973). In contrast to the lands reclaimed in the medieval period, the pattern of enclosed fields in the post-medieval period was much more uniform. The Tithe plan for the Parish of Weston (Fig. 4) and plan of Spalding (Fig. 5) shows the layout of the field systems in the study area in the 19th century, with those to the north - particularly beyond the line of Sea Bank - having a more uniform appearance compared to those at the southern end of the proposed pipeline route, and this may indicate that the former were established after the later phases of reclamation.

The post-medieval period saw an increase in arable agriculture throughout the former marsh areas (Wright 2000), and the Weston Tithe Award demonstrates that much of the land in the parish was in arable cultivation by the mid 19th century (Lincolnshire Archive Ref. F31). An increase in arable activity in the study area at this time is also supported by pottery, clay pipes and building material dating from the 18th to the 20th century, found during a fieldwalking survey undertaken along the route of the existing gas pipeline, which were probably deposited during manuring (3, 6 and 13).

The 1891 and 1906 Ordnance Survey maps show few alterations to the layout of the fields along the pipeline route (Figs 6 and 7), although a few field boundaries have been removed in order to create larger parcels of land, including to the north of Stumps Lane and Stone Gate. Ordnance Survey maps from 1956 and 1977 show a tramway running through Wragg Marsh (1, see Fig. 2).

A horseshoe shaped earthwork bank was identified in the study area during the earlier desk-based assessment undertaken prior to the installation of the existing gas pipeline (International Generating Company 1996), although the position of this feature was not identified during the site walkover. The earthwork is not recorded in the Historic Environment Record nor does it appear on any of the cartographic sources so it is assumed to be modern in date (International Generating Company 1996).



## 4 Catalogue of Archaeological Sites and Buildings

### Archaeological features

Catalogue entries have been listed in order of their position along the proposed route of the pipeline, from the MOF at its north-eastern end to the GRF at its south-western end. These have been given a numerical identifier and include their National Grid Reference (NGG). Where an archaeological feature has an associated 'HER' number the information has been obtained from the Lincolnshire HER. All further information is referenced in the bibliography. The locations of these sites are marked on Figure 2.

#### 1. Tramway at Wragg Marsh HER 22401      TF 3065 3044

The route of the now disused tramway is shown on Ordnance Survey maps from 1956 and 1977 running through Wragg Marsh (Ordnance Survey 1956; 1977).

#### 2. Lord's Drain TF 3011 2919

Lord's Drain runs through Spalding Marsh, Weston Marsh and Wragg Marsh, discharging into the River Welland near Wragg Marsh House (Plate 5). It was probably cut in the 17th or 18th century as part of a programme of drainage and reclamation. A Drainage Act from 1793 includes a description of how Lord's Drain was to be improved in places. It runs through the study area and its course varies frequently in order allow water from smaller drains to discharge into it.

#### 3. Fieldwalking survey HER 23864      TF 2913 2781

A fieldwalking survey was undertaken by Oxford Archaeology in 2003 along the route of the proposed Spalding Energy Gas Pipeline. The fieldwalking recovered mostly post-medieval artefacts from the plough soil, including fragments of clay pipe and building material, along with a small amount of pottery. The date of the finds corresponds with the reclamation and subsequent use of the land for agricultural activity (Oxford Archaeology 2003).

#### 4. Sea Bank TF 2895 2709

Ordnance Survey maps from 1891 and 1906 show Sea Bank, also known as Roman Bank, Sea Ditch and Sea Dyke running from the River Welland at Cowhirme eastwards past Weston Marsh Farm. Sea Bank, which ran for approximately 240km around the Wash and its inlets, was established in order to manage flooding from the sea. It is mentioned in documents from the late 12th century, although it has probably been regularly repaired and altered over time (Hallam 1965). It is visible in places as an earthwork bank, measuring up to 2m in height (Rackham 1987), although no trace of it was observed during the walkover survey. It also crosses through the southern end of the study area (15).

#### 5. Wykeham Drain TF 2863 2684

Wykeham Drain runs south to north, to the east of the river Welland, before turning eastwards across Spalding Marsh and connecting with Lord's Drain to the south-west of Weston Marsh



Farm. Its alignment is first marked as a field boundary on the Weston Tithe Plan of 1848 (Fig. 5), but is shown as a drainage channel on the First Edition Ordnance Survey map of 1891 (Fig. 8). However, it is likely to date to the major post-medieval drainage schemes undertaken from the 17<sup>th</sup> century onwards, and may be contemporary with Lord's Drain.

**6. Fieldwalking survey** **HER 23863** **TF 2846 2673**

A fieldwalking survey undertaken by Oxford Archaeology along the route of the proposed Spalding Energy Gas Pipeline in 2003 recovered predominately post-medieval artefacts from the plough soil. The assemblage is dominated by fragments of clay pipe and building material, along with a small amount of pottery sherds. The date of the finds corresponds with the reclamation and the subsequent use of the land for agricultural activity (Oxford Archaeology 2003).

**7. Possible medieval field boundaries** **TF 2795 2567**

A series of narrow, parallel strip fields are shown on a probable late 19th century plan of Spalding (Lincolnshire Archives Ref. Misc Dep 23) to the north of Rood's Lane. The boundaries of some of these fields are defined by streams and were therefore possibly established as part of medieval reclamation activity. These do not appear on the 1891 or 1906 Ordnance Survey maps.

**8. Cropmarks** **TF 277 258**

Aerial photographs taken in 1947 (RAF 1947), 1952 (RAF 1952) and 1995 (Ordnance Survey 1995) show a number of linear and sub-circular anomalies to the east of Wykeham Lane. Some of the linear features appear to run parallel from Wykeham Lane in a north-east direction, forming a series of narrow strips.

**9. Site of chapel, grange and retreat house** **HER 20011** **TF 2763 2643**

The remains of Wykeham Chapel, a moated monastic grange and a retreat house are located in Spalding Marsh in the parish of Weston, approximately 700m to the east of the River Welland. The Wykeham site belonged to Spalding Priory, located approximately 5km to the south-west, who owned much of the land in the parish of Weston by the mid 13th century. The monastic grange, house and chapel were established in the early 14th century and the buildings lay within a rectangular moated island, measuring 270m by 140m. The chapel became a free chapel after Dissolution, and continued to be used until the later 18th century. Several skeletons were unearthed and a substantial lead coffin was seen when the chapel floor was relaid. The site is now a Scheduled Monument (Scheduled Monument No. 33131).

**10. Field boundaries** **TF 274 260**

A number of small fields are shown on a probable late 19th century plan of Spalding (Lincolnshire Archives Ref. Misc Dep 23) to the south of the site of Wykeham Chapel. One field boundary is shown to run diagonally, creating a small enclosure in the north-east corner,



which is subsequently subdivided again and appears to contain three structures (Fig. 6). The 1891 and 1906 Ordnance Survey maps suggest that many of the field boundaries had been removed by this time, although the diagonal one is still present (Figs 8 and 10).

**11. Cropmark trackway** **HER 23994** **TF 2719 2513**

Cropmarks representing a probable trackway lie to the north-west of Wool Hall Farm, in the parish of Weston (Archaeological Project Services 2004).

**12. Cropmarks** **TF 269 256**

Aerial photographs taken in 1995 (Ordnance Survey 1995) show faint cropmarks of linear anomalies in the field to the south of Home Farm.

**13. Fieldwalking survey** **HER 23862** **TF 2668 2523**

A fieldwalking survey was undertaken by Oxford Archaeology in 2003 along the route of the Spalding Energy Gas Pipeline. All of the finds recovered during the fieldwalking date to the post-medieval period (18th to 20th century) and include clay-pipe, ceramic building material and pottery. The date of the finds correspond with the reclamation and the subsequent use of the land for agricultural activity (Oxford Archaeology 2003).

**14. Archaeological excavation** **HER 23968** **TF 2633 2402**

An excavation was undertaken by Lindsey Archaeological Services at the site of the Springfield Outlet Shopping and Festival Garden in 2003. The excavation revealed a boundary ditch orientated on an east-west axis, which post-dates the evidence for 15th century settlement activity identified elsewhere on the site. The environmental evidence indicates that by the time the boundary ditch was in use, the area was probably used for pasture (Lindsey Archaeological Services 2003).

**15. Sea Bank** **TF 2629 2477**

Ordnance Survey maps from 1891 and 1906 show Sea Bank, also known as Roman Bank, Sea Ditch and Sea Dyke running from Cowhirme southwards, broadly parallel to the east side of the River Welland, crossing through the southern end of the study area. The route of it has also been traced running east-west through the study area, past Weston Marsh Farm (3).

**16. Salt making site** **HER 23591** **TF 2592 2481**

The remains of a salt making site was identified during the construction of the Spalding Sugarbeet factory in 1926. The site may date to the Romano-British or medieval periods (Lane 1996).

**17. Vernatt's Drain** **TF 2578 2477**

Vernatt's Drain runs parallel to the River Welland to the north-east of Spalding. It was created by Sir Philbert Vernattii in 1631 to allow water from Deeping and Croyland Fens to discharge



into the Welland. It was extended in 1774 and now joins the Welland at Surfleet (Robinson 1993).

### **18. Archaeological evaluation**

**HER 23979****TF 2576 2490**

An archaeological evaluation was undertaken by Allen Archaeological Associates on land off Wardentree Lane, Pinchbeck in 2006. A single fragment of handmade brick dated to between the 13th and 17th century was recovered from a layer of buried soil. The evaluation also recovered a residual sherd of Saxon pottery dating to the 5th to 8th century (Allen Archaeological Associates 2006).

### **Listed Buildings**

The Listed Buildings catalogue entries have been ordered geographically from east to west, and given an alphabetical identifier, with their locations shown on Figure 2. The catalogue entry includes a National Grid Reference (NGR), and the Lincolnshire HER Number and Listed Building Reference (e.g. Ref. 6/96) where applicable. The Images of England reference number has also been included (e.g IoE No. 5329646).

#### **A. Wykeham Chapel of St. Nicholas      IoE No. 198083    HER 20011    TF 2763 2343**

Wykeham Chapel of St. Nicholas was built in 1311 for the Prior Hatfield of Spalding. It was altered in the late 18th and late 19th century. It lies within a Scheduled Monument (Scheduled Monument No. 33131). It is Grade I listed (Ref. 4/121).

#### **B. Chapel Farmhouse                              IoE No. 198084                              TF 2760 2340**

Chapel Farmhouse is located on the north side of The Chase. It was built in the late 17th century and altered in the mid 18th and 20th centuries. It is Grade II listed (Ref. 4/122).

#### **C. Gate piers to Chapel Farmhouse              IoE No. 198085                              TF 2747 2625**

The gate piers at Chapel Farmhouse were built in about 1700 from limestone ashlar. They are Grade II listed (Ref. 4/123).

## **5 Conclusions**

Evidence for human activity throughout prehistory has been identified in the Lincolnshire marshes, including a number of settlement sites located along the edge of the marsh. Salt production was a particularly important part of the economy in this area from the middle Iron Age through to the medieval period, and the remains of a possible salt production site has been identified near the gas receipt facility of the proposed pipeline. The marshes were also likely to have been exploited for a range of commodities in the prehistoric, Roman and medieval periods, such as fish, fowl and peat, although such activities tend to have a limited impact on the archaeological record.



Attempts to control flooding in the marshes appear to have begun in the Roman period, and evidence of the reclamation of the landscape from this time has been found approximately 600m to the south of the proposed pipeline. The next main phase of reclamation dates to the 12th century when Sea Bank (also known as the Roman Bank) was constructed. This feature was probably rebuilt and remodelled extensively over time and is now mostly destroyed. The modern Ordnance Survey mapping shows a small section of Sea Bank which is cut by the south-western end of the proposed pipeline to the west of Weston Marsh Farm (Fig 2).

The land to the south of Sea Bank was probably reclaimed and enclosed earlier than that to the north. Wykeham Chapel, retreat house and monastic grange were established to the south of Sea Bank in the early 14th century, and aerial photographs show the outlines of a number of possible contemporary field boundaries around the site, including the field to the east of Wykeham Lane through which the pipeline runs.

The marshes were finally drained and enclosed from the 17th century onwards. The land within the study area has been in arable cultivation since this time and finds recovered from along the route of the existing pipeline date predominately to the 18th, 19th and 20th centuries.

Although there is little recorded evidence for prehistoric or Roman period activity within the study area, there is extensive evidence for these periods from other parts of the Lincolnshire marsh. It is likely that any sub-surface remains dating to these periods along the proposed route will be covered in thick alluvial deposits, and therefore would not have been identified through investigations such as fieldwalking or aerial photographic analysis. The watching brief carried out for the existing pipeline did not identify any archaeological features or deposits up to a depth of 1.10m (Oxford Archaeology 2003b), but it is possible that prehistoric or Roman period archaeological remains may survive beneath this level.

There is potential for archaeological remains associated with the use of the landscape during the medieval and post-medieval period, associated with the reclamation and subsequent division of the land, and some elements of this activity are still extant within the landscape (e.g. Lords Drain, Sea Bank).

Due to the potential for archaeological remains and features associated with the reclamation of the marsh along the proposed route, further archaeological assessment may be required to determine the nature and extent of any remains along the proposed route. This should form part of an overall archaeological strategy to be agreed with the Lincolnshire County Archaeologist.



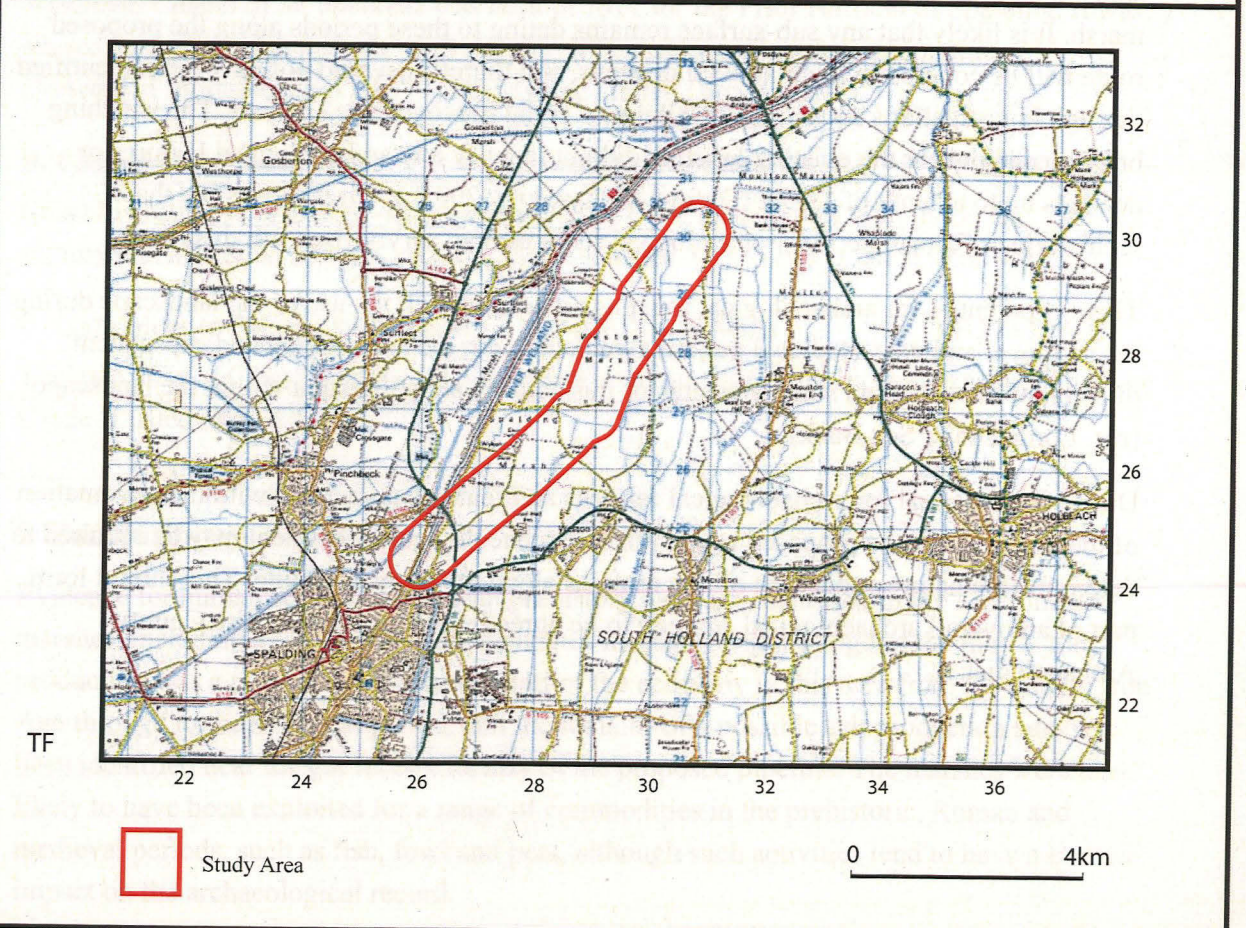
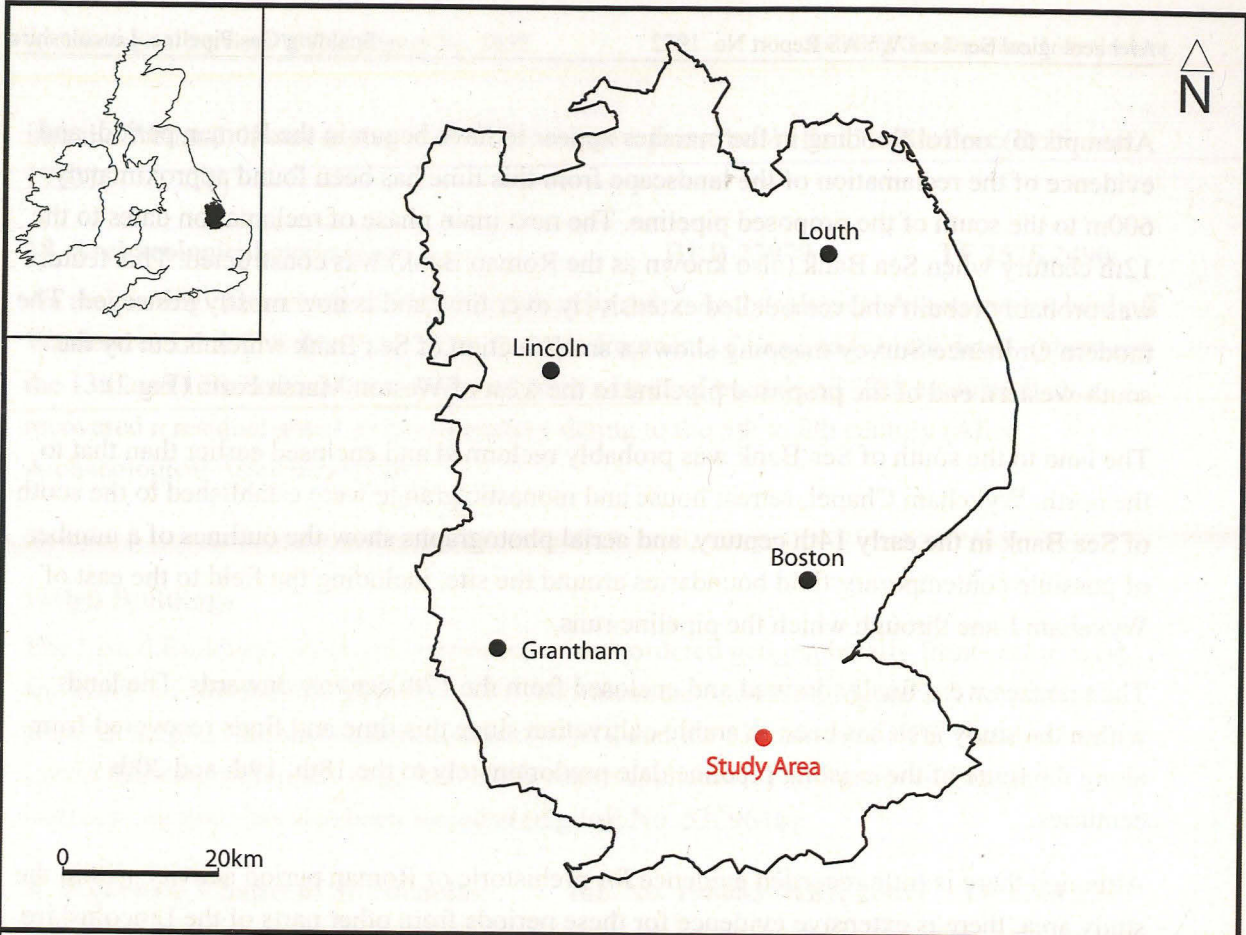


Fig. 1. Site location

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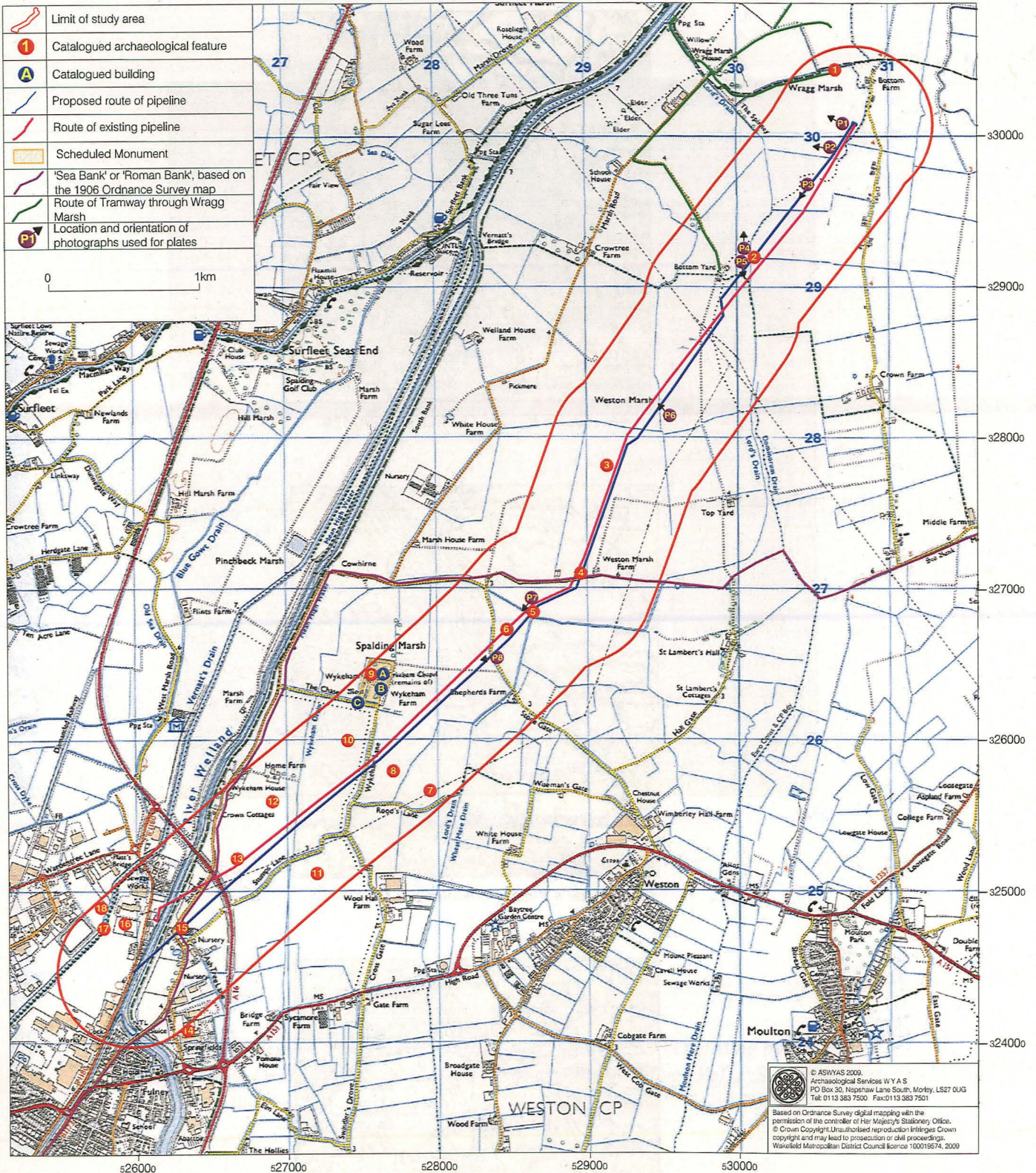


Fig. 2. Site location showing the study area and proposed pipeline route with recorded archaeological features and orientation of photographic plates (1:25 000 scale)





Mercator's Plan of The Wash from 1620



Badeslade's Plan of Lincolnshire from 1742



Archer's Plan of Lincolnshire from 1840

Fig. 3. Extracts from Mercator's Plan of 1620, Badeslade's from 1742 and Archer's from 1840, showing the changing coastline around the Wash



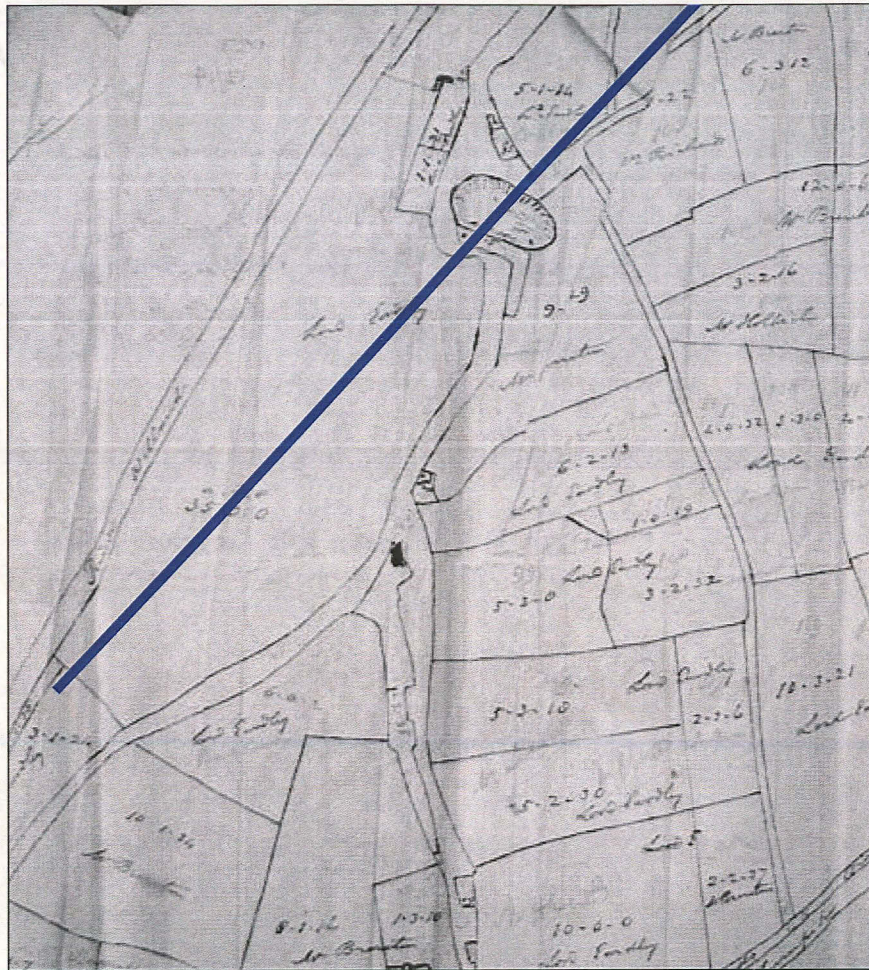


Fig. 4. Extract from a plan of 'Spalding and Weston benefitting by the Lord's Drain from 1800 to 1801 (Lincolnshire Archives Ref. P.S.J 13/4), with the route of the proposed pipeline highlighted





Fig. 5. Extract from the Weston Tithe plan of 1848 (Lincolnshire Archive Ref. F31), with the route of the proposed pipeline and study area highlighted







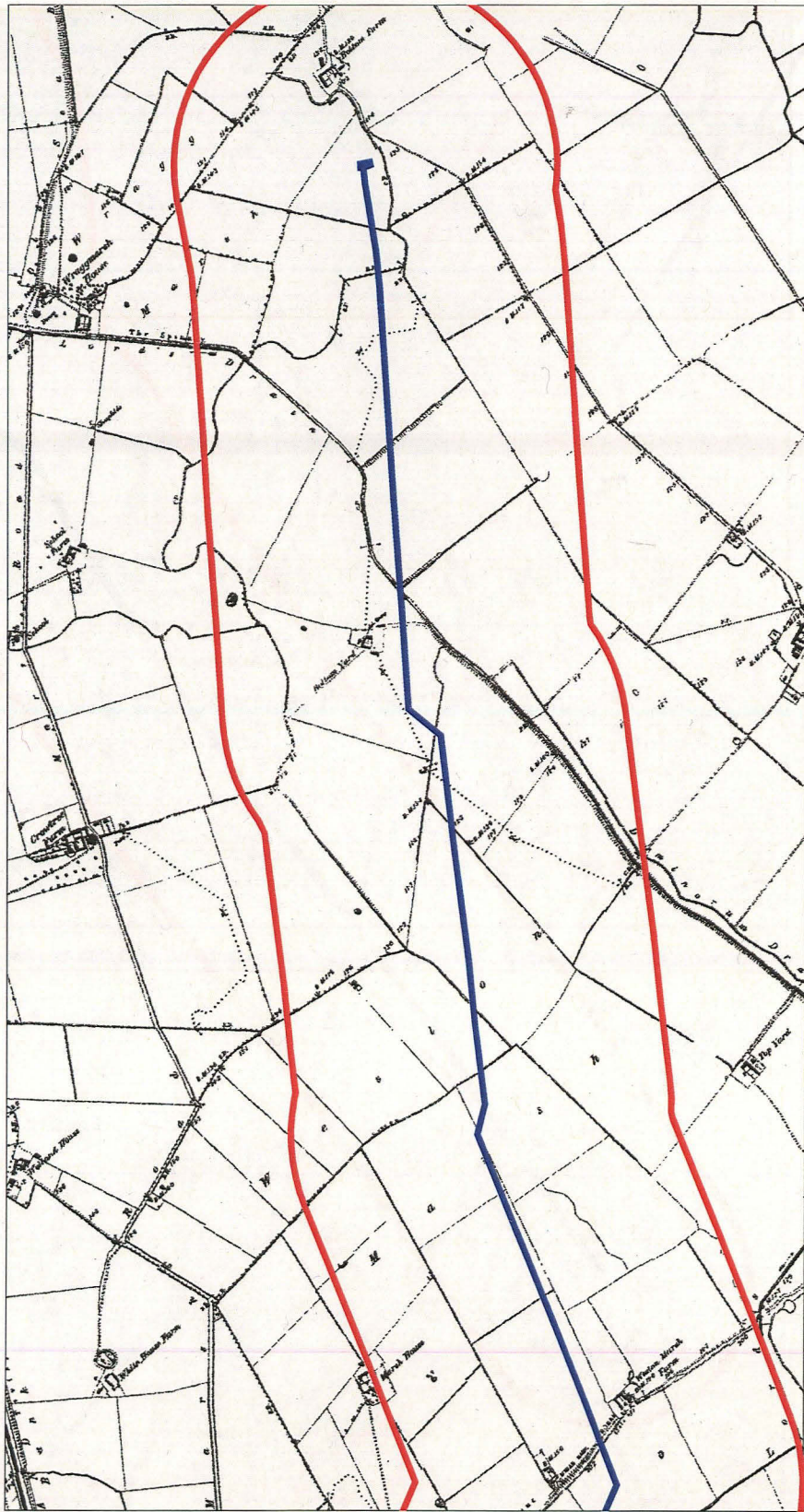


Fig. 7. Combined extracts from the 1890 and 1891 First Edition Ordnance Survey 6 inch maps, with the north-east end of the proposed pipeline and study area highlighted



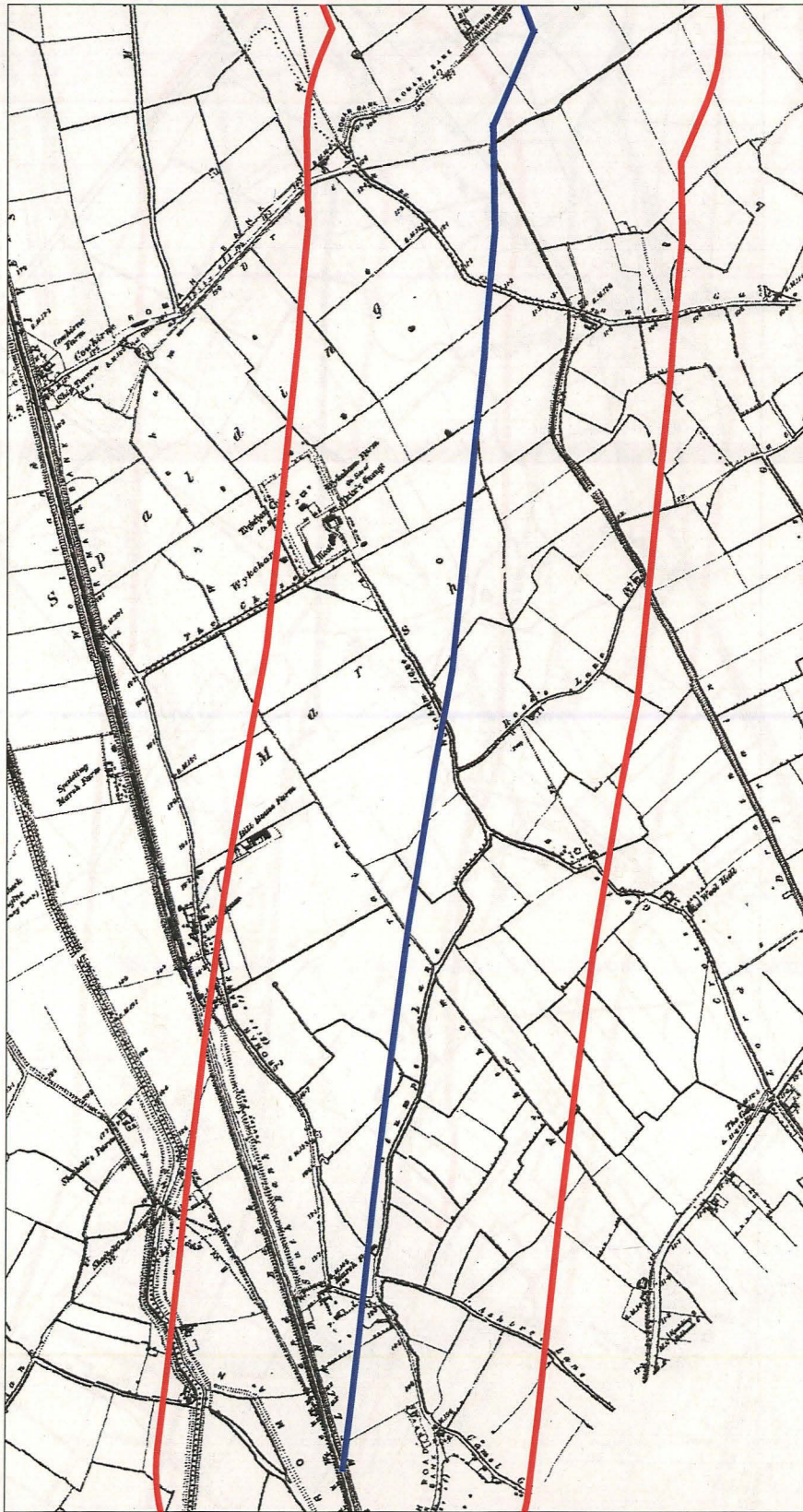


Fig. 8. Combined extracts from the 1890 and 1891 First Edition Ordnance Survey 6 inch maps, with the south-west end of the proposed pipeline and study area highlighted



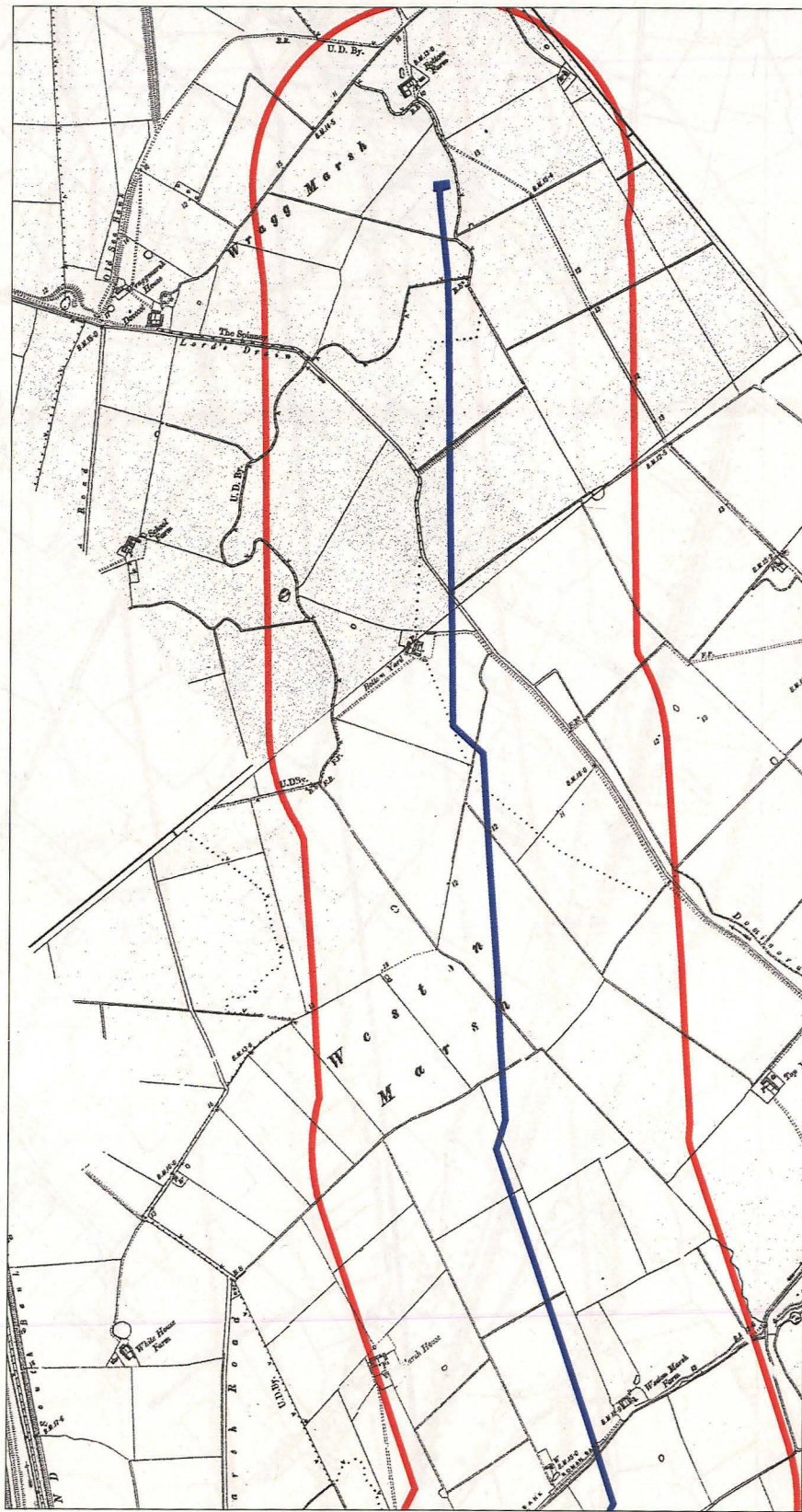


Fig. 9. Combined extracts from the 1906 Ordnance Survey 6 inch maps, with the north-east end of the proposed pipeline and study area highlighted



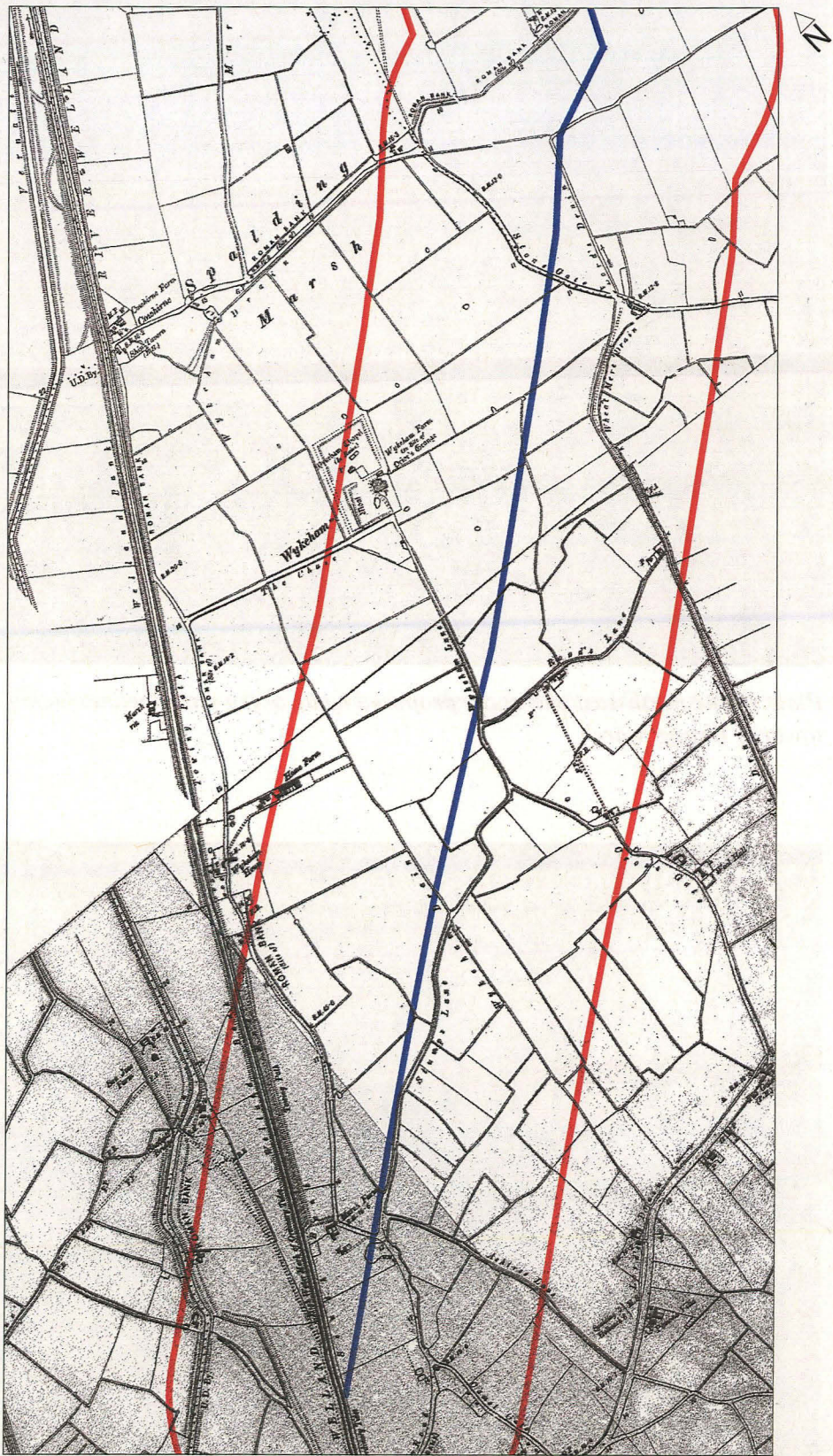


Fig. 10. Combined extracts from the 1906 Ordnance Survey 6 inch maps, with the south-west end of the proposed pipeline and study area highlighted





*Plate 1. The north-east end of the proposed route of the gas pipeline, facing north-west towards Wragg Marsh*



*Plate 2. Drain cutting east-west through Wragg Marsh, facing west*





*Plate 3. The proposed route of the gas pipeline through Wragg Marsh, facing south-west*



*Plate 4. 'Lord's Drain', which runs through the study area, facing north*





*Plate 5. The proposed route of the gas pipeline, facing south-west towards Bottom Yard*



*Plate 6. The proposed route of the gas pipeline, facing north-west towards Weston Marsh*





*Plate 7. The proposed route of the gas pipeline, facing south-west over Spalding Marsh*



*Plate 8. The proposed route of the gas pipeline, facing west towards Wykeham Farm and the site of Wykeham Priory*



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## Appendix 1: Tables of aerial photographs consulted, from the English Heritage NMR

### Vertical photographs

Sortie number	Frame	NGR	Date
RAF/106G/UK/1489	3043	TF 266 253	9 May 1946
RAF/106G/UK/1489	4040	TF 288 274	9 Ma 1946
RAF/106G/UK/1431	7288	TF 282 268	16 April 1946
RAF/106G/UK/1431	5186	TF 292 284	16 April 1946
RAF/106G/UK/1431	5187	TF 285 283	16 April 1946
RAF/106G/UK/1431	5289	TF 293 286	16 April 1946
RAF/106G/UK/1717	3077	TF 272 248	6 September 1946
RAF/106G/UK/1717	3078	TF 266 248	6 September 1946
RAF/106G/UK/1717	3079	TF 261 249	6 September 1946
RAF/106G/UK/1717	4075	TF 283 265	6 September 1946
RAF/106G/UK/1717	4076	TF 277 264	6 September 1946
RAF/106G/UK/1717	4077	TF 270 264	6 September 1946
RAF/CPE/UK/2005	3015	TF 265 258	15 April 1947
RAF/CPE/UK/2005	3016	TF 273 259	15 April 1947
RAF/58/873	3313	TF 257 246	19 May 1952
RAF/58/873	3314	TF 258 249	19 May 1952
RAF/58/873	4313	TF 266 246	19 May 1952
RAF/58/873	4314	TF 267 248	19 May 1952
RAF/58/873	4315	TF 268 251	19 May 1952
RAF/58/873	4316	TF 268 254	19 May 1952
RAF/58/873	4317	TF 269 257	19 May 1952
RAF/58/873	4318	TF 270 260	19 May 1952
RAF/58/873	4319	TF 271 263	19 May 1952
MAL/76036	91	TF 307 300	5 June 1976
MAL/76036	92	TF 301 306	5 June 1976
OS/71186	205	TF 292 291	13 May 1971
OS/71186	206	TF 292 284	13 May 1971



Sortie number	Frame	NGR	Date
OS/71186	215	TF 304 293	13 May 1971
OS/71186	216	TF 303 299	13 May 1971
OS/85198	64	TF 262 248	21 August 1985
OS/85198	65	TF 262 253	21 August 1985
OS/85198	66	TF 262 259	21 August 1985
OS/85198	67	TF 262 264	21 August 1985
OS/85231	4679	TF 298 286	24 October 1985
OS/85231	4680	TF 298 294	24 October 1985
OS/88231	5	TF 305 307	13 August 1988
OS/88231	6	TF 306 301	13 August 1988
OS/88231	7	TF 305 295	13 August 1988
OS/88231	8	TF 304 290	13 August 1988
OS/95669	25	TF 268 248	3 August 1995
OS/95669	26	TF 270 254	3 August 1995
OS/95669	27	TF 272 261	3 August 1995

### Oblique photographs

Photo reference	Film	Frame	Date	NGR
TF 2524 / 2	BBS 448	5	TF 259248	1969
TF 2624 / 1	BBS 448	6	TF 261247	1969
TF 2625 / 2	NMR 1737	178-179	TF 266256	26 MAR 1980
TF 2626 / 2	NMR 1733	423-425	TF 265260	03 MAR 1980
TF 2726 / 3	NMR 4267	22	TF 276265	31 OCT 1988