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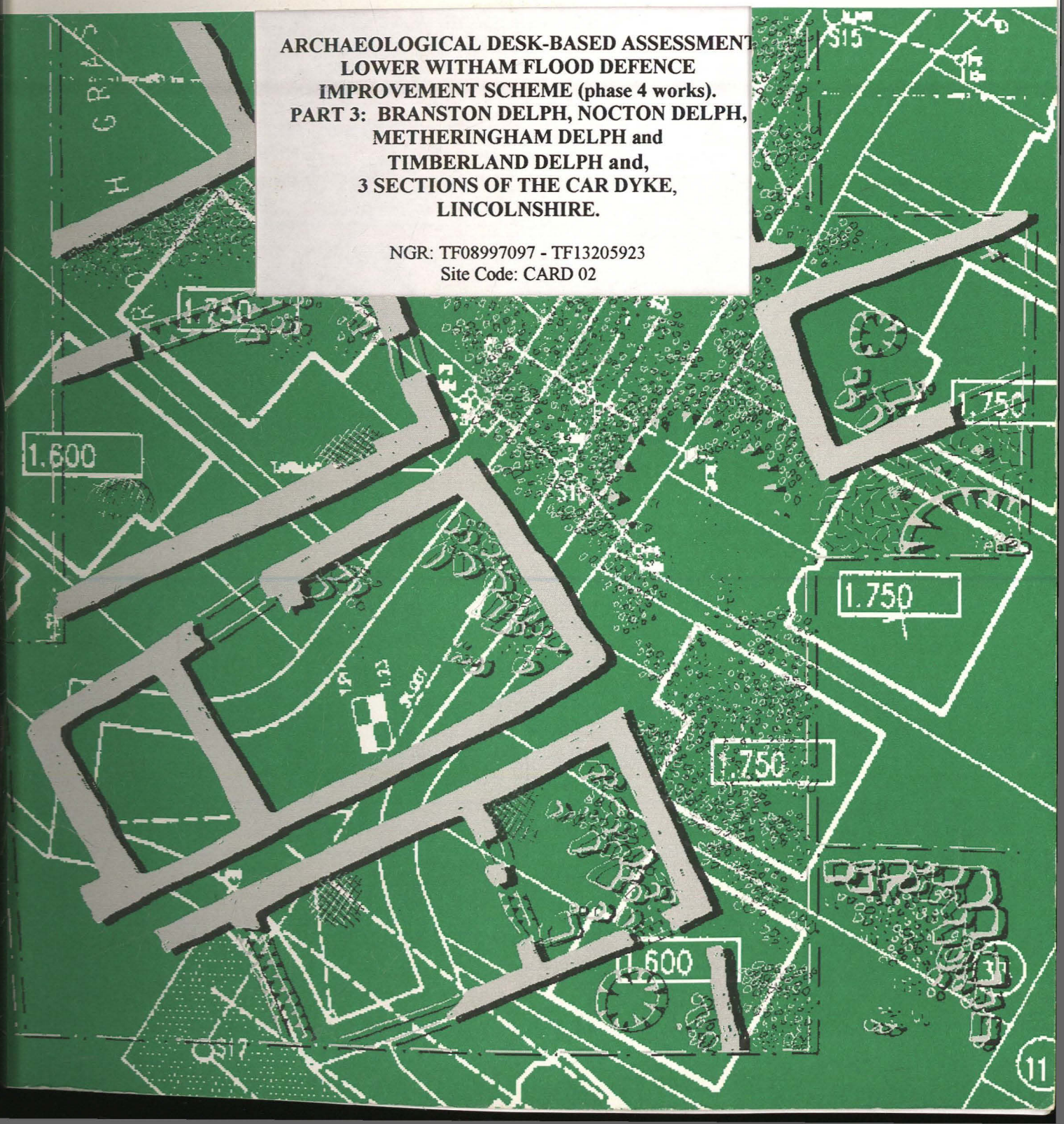
ARCHAEOLOGICAL DESK-BASED ASSESSMENT LOWER WITHAM FLOOD DEFENCE IMPROVEMENT SCHEME (phase 4 works). PART 3: BRANSTON DELPH, NOCTON DELPH, METHERINGHAM DELPH and TIMBERLAND DELPH and, 3 SECTIONS OF THE CAR DYKE, LINCOLNSHIRE.

NGR: TF08997097 - TF13205923
Site Code: CARD 02



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Report Prepared for
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- *An archaeological desk top study has been undertaken prior to the implementation of Phase 4 of the Lower Witham Flood Defence Improvement Scheme. This element of the project will seek to enhance specific sections of the flood defences along Branston Delph, Nocton Delph, Metheringham Delph and Timberland Delph, four man-made tributaries of the River Witham, along with the section of the Car Dyke that runs between the western ends of these channels. The study was divided into seven discrete sections of watercourse that extend to 33, 570m in total.*

- *The results of this study indicate that the different sections of watercourse that were examined exhibit varying archaeological potential. An assessment of existing evidence suggests that groundworks associated with the improvement of the four delphs would be unlikely to expose any archaeological deposits predating the drainage of the Witham fen in the late 18th century.*

- *In contrast works along the three sections of the Car Dyke - **B**, **D**, and **F** - are very likely to expose a range of archaeological material dating from the Romano-British period onwards. However, given the length of this section of the channel (approximately 14.8km) and the incomplete nature of archaeological knowledge relating to its usage, it is not possible to determine at which points the most significant remains may be found. Consequently, all three sections of the Car Dyke have been assessed as having medium-high or high archaeological potential.*

- *It should also be noted that three lengths of the Car Dyke, situated in Sections **D** and **F**, have been classified as Scheduled Ancient Monuments under the Ancient Monuments and Archaeological Areas Act, 1979, and thus have statutory protection to ensure their continued preservation. Additionally, the southern end of Section **B** passes close to the remains of Nocton Park Priory, the precinct of which is also a protected Scheduled Monument.*

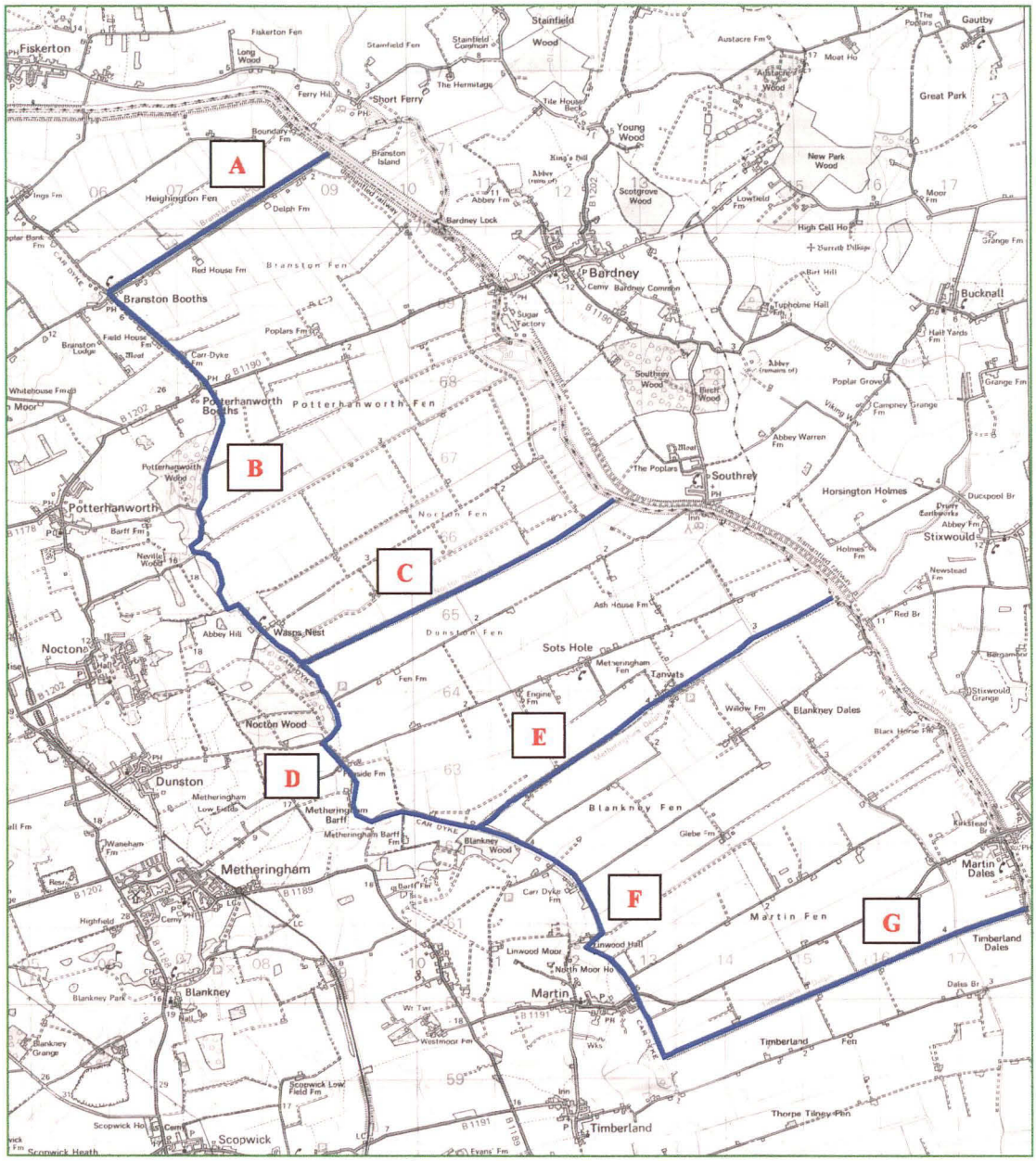


Figure 1: Location of Branston Delph (A), Nocton Delph (C), Metheringham Delph (E), Timberland Delph (G), and the section of the Car Dyke (B/D/F) running between their western ends. Enhancement of the flood defences and the drainage potential of these channels will be the focus of Phase 4 of the Lower Witham Flood Defence Improvement Scheme. Image reproduced at c. 1: 65, 000.

1.0 Introduction

Bullen Consultants, on behalf of the Environment Agency, commissioned Pre-Construct Archaeology (Lincoln) to undertake an archaeological desk-based assessment of the immediate environs of Branston Delph, Nocton Delph, Metheringham Delph and Timberland Delph, along with the section of the Car Dyke that connects the western ends of these man-made channels. This work was conducted in advance of the design and preparation of Phase 4 of the Lower Witham Flood Defence Improvement Scheme, which will seek to enhance the banks of these five major drains.

This report details the results of the desk-based study, which sought to assess the overall archaeological potential of each of the delphs and the adjoining segments of the Car Dyke without the use of intrusive fieldwork. Where relevant, the study has also aimed to determine the nature of any potential impact that the groundworks may have upon the resource.

Research was conducted in accordance with the procedures set out in the Lincolnshire County Council publication *Lincolnshire Archaeological Handbook: A Manual of Archaeological Practice* (LCC, 1998); national guidelines produced by the Institute of Field Archaeologists were also adhered to (IFA, 1994).

2.1 Location and description

The study area represents a section of the Lower Witham valley that extends approximately 15km south-eastwards from the western edge of Heighington Parish to Martin Wood and Timberland Dales (*Table 1*) (fig.1). The foci of the survey are four man-made channels, Branston Delph (3.42km long), Nocton Delph (4.66km), Metheringham Delph (5.57km) and Timberland Delph (5.09km), which cross the river valley and run perpendicular to the Witham. The eastern end of each delph terminates at the river, while the western end joins the Car Dyke, a sinuous channel defining the other edge of the valley. The 14.83km long section of the Car Dyke running between Branston and Timberland Delphs is also considered in this study. As the programme of flood defence enhancement is focussed upon the immediate environs of these channels, the area of investigation only extends 0.5km to either side of the banks of each element being enhanced (i.e. a 1km wide transect).

To the west of the Car Dyke the area of investigation lies on the dip slope of the Lincolnshire Limestone ridge. The other elements of the survey lie within the Lincoln Clay Vale. The river channel constitutes the boundary of a number of administrative districts, components of the study area lying within West Lindsey, North Kesteven and East Lindsey.

For the purposes of this desk-based assessment, the study area has been divided into 7 distinct sections. For the location of each section (specified in bold - e.g. **C**) refer to table 1. Relatively brief descriptions of the most salient characteristics of each component of the study are provided below:

A *Branston Delph* – a north-east to south-west aligned channel with parallel, flanking flood banks. A smaller ditch, Branston Delph Side Drain, runs along the foot of the north-western bank, while a lane, North Causeway, follows the base of the southern bank. North Causeway is lined by, and provides access to, a series of farms and smaller dwellings. The channel defines the boundary between the parishes of Heighington and, Branston and Mere. The tops of the flood banks are situated at c. 5.0m OD, while the surrounding land is relatively level at c. 2.0 - 2.5m OD.

B *Car Dyke: Branston Delph to Nocton Delph* – the channel is relatively straight at the northern end of this section, running from north-west to south-east. However, it becomes increasingly sinuous with progress southwards, while still maintaining a general tendency toward a south-easterly orientation. The B1190 (Bardney Road) follows the western edge of the section between Branston Booths and Potterhanworth Booths. Much of the stretch running between Potterhanworth Booths and Bottom Barff is still bordered by surviving sections of bank, particularly on the western, 'landward', side. The Car Dyke forms the eastern boundary of Potterhanworth Wood and Burnt Wood, its western bank lying within the trees, while a farm track runs along the site of its eastern bank. The banks are poorly preserved to the south of Bottom Barff, and the eastern edge of the Car Dyke is followed by Nocton Fen Lane, which continues to the south of Wasps Nest under a different name.

The land rises relatively quickly to the west of the Car Dyke, the ground surface lying at c. 25m OD, 500m to the west of Potterhanworth Booths, and c. 18m OD, 350m to the west of Wasps Nest. Spot heights along the roads and banks enclosing the channel itself are situated at between 4.0 and 7.0m OD, with land to the east being slightly lower lying.

C *Nocton Delph* - an east-north-east to west-south-west aligned channel with parallel, flanking flood banks. A slightly smaller channel, Nocton Bankside Drain, runs a little to the north of and parallel to the north-western bank. A similar large ditch, Dunston Bankside Drain, shadows the southern flood bank. Nocton Delph defines the boundary between the parishes of Nocton and Dunston. The tops of the flood banks are situated at c. 4.0m OD, while the surrounding land is relatively level at c. 2.0m OD.

D *Car Dyke: Nocton Delph to Metheringham Delph* - the channel is relatively sinuous along all of this section, the northern half having a tendency to run from north to south. In contrast the southern half, while still winding, progresses eastward to its junction with Metheringham Delph. The northern third of this section forms the eastern boundary of Nocton Wood, the western bank of the Car Dyke lying within the trees, while a road runs along the line of its eastern bank between Wasps Nest and Metheringham Fen Lane, c. 2.0km to the south. The banks are poorly preserved to the south of Nocton Wood, and another road follows the northern edge of the channel from the point where it turns toward the east, continuing beyond Delph End, its junction with Metheringham Delph.

The land rises to the west of the Car Dyke, the ground surface lying at c. 16m OD, 250m to the south of the channel near Metheringham Barff Farm. Spot heights along the roads and banks enclosing the channel itself are situated at c. 4.0m OD, with land to the east and north-east being slightly lower lying.

E *Metheringham Delph* - an east-north-east to west-south-west aligned channel with parallel, flanking flood banks. Smaller ditches run along the foot of both flood banks. The small settlement of Tanvats sits astride the delph approximately half way between the Car Dyke and the Witham. Metheringham Delph defines the boundary between the parishes of Metheringham and Blankney. The tops of the flood banks are situated at c. 4.0m OD, while the surrounding land is relatively level at c. 2.0 – 3.0m OD.

F *Car Dyke: Metheringham Delph to Timberland Delph* - the channel is relatively sinuous at the northern end of this section, but has a general tendency toward a north-west to south-east orientation. The southern half is much straighter, and still maintains a south-easterly alignment. A road follows the eastern edge of most of this section, with the exception of a short stretch where the channel twists markedly near Linwood Hall Farm. The banks are relatively well preserved between Blankney Wood and Linwood Hall Farm, with a further stretch of earthwork being visible at the southern end of the section, in Martin Wood.

The land rises to the west of the Car Dyke, the ground surface lying at c. 16m OD, 600m from the channel in Martin. Spot heights along the roads and banks enclosing the channel itself are situated at between 3.0 and 4.0m OD, with the land to the east being slightly lower lying.

G *Timberland Delph* - an east-north-east to west-south-west aligned channel with parallel, flanking flood banks. Smaller ditches run along the foot of both flood banks. Timberland Delph defines the boundary between the parishes of Martin and Timberland. The tops of the flood banks are situated at c. 4.0m OD, while the surrounding land is relatively level at c. 2.0m OD.

Section I.D.	Description	NGR
A	Branston Delph Short Ferry to Branston Booths (Heighington Fen/Branston Fen)	TF08997097 – TF06096914
B	Car Dyke: Branston Delph to Nocton Delph Branston Booths to Wasps Nest	TF06096914 – TF08546432
C	Nocton Delph Southrey to Wasps Nest (Nocton Fen/Dunston Fen)	TF12696643 – TF08546432
D	Car Dyke: Nocton Delph to Metheringham Delph Wasps Nest to Blankney Barff	TF08546432 – TF10826221
E	Metheringham Delph Blankney Dales to Blankney Barff (Metheringham Fen/Blankney Fen)	TF15556516 – TF10826221
F	Car Dyke: Metheringham Delph to Timberland Delph Blankney Barff to Martin Wood	TF10826221 – TF13205923
G	Timberland Delph Timberland Dales to Martin Wood	TF17916112 – TF13205923

Table 1: The location of the sections of drain considered in this desk-based assessment of archaeological potential. The identification letters will be used throughout the following text to refer to each element.

2.2 Geology

The uppermost geological strata encountered along the course of the Lower Witham are exclusively Quaternary drift deposits, which extend across the depression of the river valley and along its margins. The river valley is approximately 5 to 6km wide at this point.

The present river channel runs along the eastern edge of the basin in the section under consideration (I.G.S., 1973). Peat and alluvium are the uppermost deposits within the valley, but these overlie substantial marine or estuarine deposits. Beds of Glacial Till and Upper

River Terrace deposits line the river's eastern edge, with more extensive deposits of Glacial Till being exposed along the western side of the valley (*ibid.*; B.G.S., 1995). The upper strata of the solid geology primarily consist of the Jurassic Oxford Clay Formation, although beds of the overlying West Walton Formation survive toward the southern end of the study area.

	Location	Geology
A	Branston Delph Short Ferry to Branston Booths	*Drift*: alluvium and, estuarine silt and clay, with some peat laminae across valley floor and at north-eastern end, at junction with Witham. There is a spur of Glacial Till along northern bank of river, approximately 200m to the north of the end of the delph. At south-western end the delph terminates at the Car Dyke, which runs along the eastern edge of an extensive deposit of Glacial Till. *Solid*: Oxford Clay.
B	Car Dyke: Branston Delph to Nocton Delph Branston Booths to Wasps Nest	*Drift*: Car Dyke runs along interface between two drift deposits. To east - estuarine silt and clay, with some peat laminae; to west – an extensive deposit of Glacial Till that runs from north-west to south-east along valley side; there are two points at which the Glacial Till is interrupted by westerly extensions of the estuarine deposits, which fill the valleys formed by two streams (running eastward from Potterhanworth and Nocton). *Solid*: Oxford Clay.
C	Nocton Delph Southrey to Wasps Nest	*Drift*: estuarine silt and clay, with some peat laminae across valley floor. Upper River Terrace sands and gravels at north-eastern end, along opposite bank of Witham. At south-western end the delph terminates at the Car Dyke, which runs along the eastern edge of an extensive deposit of Glacial Till. *Solid*: Oxford Clay.
D	Car Dyke: Nocton Delph to Metheringham Delph Wasps Nest to Blankney Barff	*Drift*: Car Dyke runs along interface between two drift deposits. To east – marine or estuarine silt and clay, with some peat laminae; to west – an extensive deposit of Glacial Till that runs from north-west to south-east along valley side; there are two points at which the Glacial Till is interrupted by westerly extensions of the estuarine deposits, which fill the valleys formed by two streams (running eastward from Dunston and Metheringham/Blankney). *Solid*: Oxford Clay.
E	Metheringham Delph Blankney Dales to Blankney Barff	*Drift*: marine or estuarine silt and clay, with some peat laminae across valley floor and at north-eastern end, on the opposite bank of Witham. At south-western end the delph terminates at the Car Dyke, which runs along the eastern edge of an extensive deposit of Glacial Till. *Solid*: Oxford Clay.
F	Car Dyke: Metheringham Delph to Timberland Delph Blankney Barff to Martin Wood	*Drift*: Car Dyke runs along interface between two drift deposits. To east – marine or estuarine silt and clay, with some peat laminae; to west – an extensive deposit of Glacial Till that runs from north-west to south-east along valley side; there is one point at which the Glacial Till is interrupted by a westerly extension of the estuarine deposits, which fill a small valley to the immediate south of Linwood Hall Farm. *Solid*: Oxford Clay and West Walton Formation (clay).
G	Timberland Delph Timberland Dales to Martin Wood	*Drift*: marine or estuarine silt and clay, with some peat laminae across valley floor and at north-eastern end, on the opposite bank of Witham. At south-western end the delph terminates at the Car Dyke, which runs along the eastern edge of an extensive deposit of Glacial Till. *Solid*: Oxford Clay and West Walton Formation (clay).

Table 2: Summary of the solid and drift geology, with relation to each section of the scheme examined in this study (compiled from I.G.S., 1973 and B.G.S., 1995).

3.0 Planning background

The Environment Agency has implemented the Lower Witham Flood Defence Improvement Scheme to enhance the flood defences of the River Witham and its tributaries, the Barlings Eau, Stainfield Beck, Sandhill Beck, Billinghay Skirth and River Slea/Kyme Eau, as well as a section of the old river channel encircling Branston Island. Improvements will also be made to the banks of a number of the larger man-made drains that feed into the river. The latter include Branston Delph, Nocton Delph, Metheringham Delph and Timberland Delph. These works will also affect stretches of the northern end of the Car Dyke, where it runs along and defines the western edge of the river valley.

Work on the initial phases of the scheme commenced in 2000/2001 and several components have already been completed. The latter are situated on the northern (LHB) bank of the Witham, the western bank (RHB) of the Barlings Eau and the southern/western bank (RHB) of Branston Island. Archaeological deposits were encountered during the groundworks associated with these initial elements of the scheme. As a consequence the Built Environment Team, Highways and Planning Directorate, Lincolnshire County Council, have requested that archaeological desk-based studies be undertaken to highlight further potential impacts upon the archaeological resource that may arise during the course of the flood defence improvements. The resulting documents will assist in the formulation of mitigation strategies.

4.0 Objectives and methods

The purpose of this report is to identify and assess the nature of *in-situ* archaeological deposits that may be damaged or destroyed by groundworks associated with the enhancement of the flood defences and, if necessary, to suggest further methods by which any such deposits detected may be evaluated in advance of construction works.

Data for this report was drawn from the following sources:

- Records held by the County Sites and Monuments Record for Lincolnshire (SMR)
- Records held at the Lincolnshire Archives Office (LAO)
- Records held at the Lincolnshire Local Studies Library (LSL)
- Aerial photographs held by the National Monuments Record, Swindon (NMR)
- Published and unpublished sources
- Information supplied by the client

Together the four delphs and the connecting section of the Car Dyke extend over 33,500m, and thus have in excess of 67,200m of associated bank. A detailed inspection of the margins of these banks would have necessitated the investment of a large amount of time. It was not clear that this would be of guaranteed benefit to the study, as crops nearing maturity shrouded most of the land within the river valley itself. As a consequence site visits were not conducted as part of the investigation.

The scheme of works is specifically focussed upon the four delphs and the interconnecting section of the Car Dyke. Consequently, the areas of investigation have been defined as a series of 1km wide corridors, with the watercourses running along the centre of each. As an

interval of more than 1km separates each of the delphs, it should be noted that this study does not represent a full analysis of all the archaeological material to be found in the river valley between Heighington and Timberland.

The areas examined represent parts of the parishes of Fiskerton, Heighington, Branston and Mere, Potterhanworth, Nocton, Bardney (including Southrey), Dunston, Metheringham, Stixwould, Blankney, Martin, Kirkstead and Timberland. Most of these parishes are large, with the river valley running along one edge. As a consequence only a few modern settlements fall wholly or partially within the transects that were studied. These are the village of Martin, and the satellite settlements of Branston Booths, Potterhanworth Booths, Wasps Nest, Tanvats, Metheringham Barff and Martin Dales.

Much of the data held by the SMR or contained within documentary sources relates to specifically to the villages, or to their immediate environs. The spatial separation between most of the primary settlements and the river renders much of this information marginal or irrelevant with respect to this study. This was an important factor in structuring the section on the archaeological and historical background of the area (see 5.0 below). This section is intentionally brief and generalised, and intentionally avoids presenting a comprehensive historical narrative for each of the parishes concerned. It is intended merely to provide an indication of the range and date of materials and sites already discovered in the area of interest. More detailed analysis is provided in section 6.0, where data will be presented in a format that enables it to be directly related to each delph or section of the Car Dyke.

5.0 Archaeological and historical background

The earliest evidence for human activity along the central section of the Witham valley, between Lincoln and Tattershall, is a Mousterian handaxe, which was recovered in the Parish of Fiskerton (TF 0648 7166). This artefact was recovered from ploughsoil and, although plough-damaged, had not been rolled raising the possibility that Middle Palaeolithic (c. 75,000 – 50,000 BP) occupation layers are being exposed by peat shrinkage (author's data).

There are a number of Mesolithic and Earlier Neolithic findspots along the river valley. Washingborough Archaeology Group have undertaken a programme of field walking upstream of the area considered in this report, and have identified a number of lithic scatters that incorporate pieces produced during this period. Additionally, Mesolithic flints were recovered from the surface of an exposed sand bank beside the Witham in Washingborough Fen (60613 – TF 0410 7140) (Coles, *et al*, 1979), while debitage and blades of Later Mesolithic or Early Neolithic date were recently recovered from another sand bank situated close to the Iron Age timber causeway at Fiskerton (TF 0493 7165) (author's data). Further downstream, trial excavations adjacent to Branston Booths pumping station exposed a small pit that contained 22 pieces of worked flint. This material included a microlith, a micro-burin and blades of later Mesolithic date (60484 - TF 0570 6960).

It has been suggested that an oval cropmark situated at the northern edge of the floodplain at Greetwell (52460 - TF 0070 7124) represents the remains of an Early Neolithic long barrow, although this remains to be verified. A number of Neolithic stone axes have been recovered from Cherry Willingham, Fiskerton, Heighington and along the fen edge to the west of Branston, Nocton, and Metheringham, these having a close spatial relationship to the wetland areas of the Witham Fen (Field & Parker-Pearson, in press). In comparison, there is little analogous evidence for Neolithic activity along the eastern side of the river valley between Branston Island and Southrey. However, five Neolithic stone axes and a pebble mace have been discovered to the south, between Stixwould and Woodhall Spa, these items being recovered within 1km of the eastern edge of the River Witham. Similarly, a number of stone axes have been recovered from a slight ridge of sand and gravel that runs between North and South Kyme. Of this latter group, five axes were found in the immediate environs of Halfpenny Hatch, which is situated at the junction between the Carr Dyke and the River Slea.

The relationship between these artefacts and the rivers is unlikely to be entirely fortuitous. For instance, the faunal resource base is likely to have been richer and more diverse along the margins of the river, with animals being drawn toward easily accessible supplies of drinking water. While this may provide one possible reason for this 'concentration' of activity, there may also be non-functional explanations for this distribution. Unstratified finds of stone axes are often considered to be casual losses, yet the means of their acquisition was anything but casual and often involved long-distance exchange (Edmonds, 1995). This would suggest that these items had a great deal of implicit value, which would tend to contradict notions that their owners would abandon them so readily. Research has indicated that wetland environments were foci for the ritual deposition of axes during the Neolithic (*q.v.* Bradley, 1990). Such deliberate social processes may better explain the presence and patterning of these stone axes.

The residues of human activity become more extensive and visible during the Late Neolithic and Early Bronze Age when large numbers of round barrows were constructed along the valley. The largest concentration lies between Lincoln and Stainfield, with the barrows appearing to form a number of discrete cemeteries. These clusters seem to be paired, with groups facing each other across the river. There is another large barrow cemetery in Stainfield Fen, within the valley of the Barlings Eau, c. 2km to the north of its confluence with the River Witham. The 32 barrows in this necropolis form two dense groups that face each other across Sambre Beck.

Within the study area itself, a group of three relatively isolated round barrows have been identified at the centre Branston Fen, c. 2.5km to the east of Branston Booths (61714/5/6 – TF 0877 6926). It is interesting to note that these monuments, and all of the barrows in the cemeteries situated upstream between Lincoln and Stainfield, were constructed on a ground surface lying below 5m OD. This would suggest that there must have been relatively little woodland within this part of the river valley if these mounds were intended to be visible from any appreciable distance (Field & Parker-Pearson, in press).

In contrast, many of the round barrows constructed further downstream appear to have occupied slightly higher locations. Three circular cropmarks have been identified at Metheringham Barff (62002/3/4 - TF 0852 6232). These probably represent the remains of round barrows that occupied the apex of a low mound of c. 1km diameter, which at c. 10m OD provides views over the river valley to the east. Another cemetery was constructed along the western edge of the ridge of sand and gravel running between North and South Kyme. These monuments were situated at or slightly above the 5m contour.

A range of Late Neolithic and Early Bronze Age artefactual material has been recovered from the river valley. This includes three perforated stone axe hammers from Fiskerton, a stone battle axe from Branston Booths (61681 - TF 0689 6842) and another axe hammer found to east of Metheringham (60454 - TF 0904 6196). A number of barbed and tanged arrowheads have also been recovered from the valley, including a single example from Cherry Willingham and two from Branston Booths (61692 - TF 059 691; 61689 - TF 061 691).

There is little evidence for Middle and Late Bronze Age settlement within the river valley or along its margins despite the recovery of a large number of artefacts (Field & Parker-Pearson, in press). It would appear that peat began to develop over much of the Lower Witham valley around 1000BC, these organic deposits rapidly covering the earlier ground surface. The most compelling evidence for occupation at this time was discovered around the pumping station at Washingborough. Finds recovered from three small trenches and the surrounding ground surface included an antler cheek piece, 59 sherds of Late Bronze Age or Early Iron Age pottery, animal and human bone and worked wood (Coles, *et al*, 1979) (60612 – TF 0423 7138). The Washingborough Archaeology group have also recovered over 300 sherds of comparable pottery from the surface of the field immediately to the south-east (60462).

Other finds include a Middle Bronze Age palstave from Southrey and a contemporary dirk from Fiskerton (52882). There are also at least three hoards of socketed axes in the parishes of Washingborough and Fiskerton; the Washingborough Fen hoard included the valves of a two part axe mould (61277). Another Late Bronze Age socketed axe was recovered from peat in Branston Fen (61680 - TF 0702 6843), while a further example was found in the field containing the barrows at Metheringham Barff (60744 - TF 0851 6240). The recovery of a Bronze Age axe (at TF 1647 6418) along the river at Stixwould is also recorded in the SMR parish file, but without any supporting data.

Late Bronze Age swords have come from the Witham at Lincoln and at Washingborough (61295) and two Bronze Age spearheads were found in or near the river at Fiskerton. Another spearhead of the peg-hole type was found adjacent to the river at Stixwould (40083). Significant quantities of Bronze Age metalwork have also been recovered from the parishes of North and South Kyme. A palstave was recovered from a paddock to the south of North Kyme church in 1922 (TF15SE/E). It is also recorded that bronze spearheads were recovered from a barrow lying c. 1km to the south of the village (Trollope, 1872), while two flat bronze axes were found a little to the south, near Halfpenny Hatch (TF15SE/T). A number of items have been found within the area later occupied by Kyme Priory and manor house. At least five bronze palstaves have come from this area, while two bronze rapiers were found beneath a bank separating the western edge of the manor precinct from the Kyme Eau (*ibid.*).

One of the most unusual items discovered in the river valley is a gold torc found near Linwood Hall Farm in the 19th century (62092 - TF 121 608). This item is likely to have been Bronze Age or Iron Age in date, but it is not possible to verify this, as it was subsequently melted down.

In many respects the Early to Middle Iron Age has become the most renowned aspect of the prehistoric landscape of the Witham Valley, following the discovery of a timber causeway at Fiskerton (52904 – TF 0500 7162). This was constructed from two rows of timber posts, which may have supported a raised superstructure. The timbers and been replaced episodically and were dated by dendrochronology to between 456 and 317BC. Associated with the causeway were a range of artefacts that included several iron swords, iron spears, over 50 bone points, iron axes, files, a saw, part of a ribbed bronze bracelet, shield fittings, pottery, human bone and log boats (Field & Parker-Pearson, in press; author's data). The concentration, range of types and quality of these materials provides strong indications that they were deposited into this watery context during ritual activities.

The riverine contexts of these finds are generally anaerobic and consequently organic materials are well preserved. The two log boats found in association with the Iron Age causeway at Fiskerton are the most recent examples of this kind of vessel, many others having been discovered in the Witham Fen over the last 2 or 3 centuries. Most of these have been found downstream from the confluence of the Witham and the Barlings Eau, being particularly concentrated around Branston Island and Bardney (e.g. 52894 - TF 0896 7120). Examples found within the study area include one 8.5m long by 0.9m wide that was exposed in Branston Fen in 1925 (61685) and two smaller vessels found adjacent to Nocton Delph in 1790 (61779 and 61780). Another dug-out boat was recovered from the riverside at Stixwould in 1848. The date and recorded location (TF 159 648) of the find indicate that it was discovered during the construction of Stixwould Station (White, 1978).

There is a lot of evidence for human activity during the Romano-British period. This is unsurprising given the proximity of Lincoln, which was one of the largest settlements in Roman Britain. The Car Dyke runs along the junction between the limestone ridge and the Witham Fen, to the south of Lincoln (60706). This is an artificial channel, which is thought to have been constructed c. AD125 and has been interpreted either as a canal or a catchwater drain. Several sections are still visible as substantial earthworks, the channel having been c. 15 - 20m wide, with wide flanking banks. Among the best preserved lengths are the stretches running to the north and north-west of Washingborough village (60714 – SAMs 276; 311; 275), the length running down the eastern edge of Nocton Wood (60711 – SAM 312), the earthworks to the south-east of Blankney Wood (60736 – SAM 313), the section to the east of Linwood Hall (60737 – SAM 314), and the components to the west and south of Martin Wood (60707 – SAM 315; 60708 – SAM 298).

Unsurprisingly, a range of Romano-British sites and artefacts have been found close to the Car Dyke. A large tile kiln has been identified in an adjacent field situated a little to the west of Branston Booths pumping station (61467 - TF 053 696). Excavated in 1976, it was a rectangular structure, c. 7.1m long by 5.4m wide, which was built from rectangular tiles. It was used to produce roof tiles, flue tiles, box tiles, hypocaust tiles and bonding tiles, and the associated pottery suggested that this activity took place in the 4th century AD. Another tile kiln appears to have been situated c. 800m to the south, beside Moor Lane (61466 - TF 0553 6885). It seems likely that a proportion of the products of both kilns were transported to Lincoln along Car Dyke.

Further to the south, the lower stone of a two-part Roman quern stone was found to the west of Burnt Wood, Potterhanworth (61736 - TF 0702 6610). An item of this kind is likely to originate from a domestic context and probably indicates the presence of a nearby settlement. Another significant find was a hoard of Roman bronze coins contained within a pottery

vessel, which was discovered by a metal detectorist at Carr Dyke Farm, Blankney Barff, in 1992-3 (62097 - TF 120 614).

There have also been a number of Romano-British finds on the other side of the river valley, particularly in and around Fiskerton. A number of bowls, pots and whetstones were found in association with the Iron Age timber causeway, indicating that it was being reused for votive deposition (52905; 52902; possibly 52883). Close by, at Perrins Cottages, a Romano-British 'hard' constructed from limestone and roof tile has been discovered (52887). This had been created along the edge of a former channel of the Witham and was probably used for loading and unloading boats using the river. There may have been another Roman settlement at Short Ferry, where pottery was discovered during the construction of the marina (52907 - TF 0965 7134). However, evidence of Romano-British activity along the eastern side of the river valley between Branston Island and Holland Fen is relatively sparse, a single sherd of greyware and four fragments of Romano-British tile having been recovered from the riverbank at Chapel Hill during fieldwork undertaken for the Fenland Survey (Lane & Hayes, 1993).

The importance of the River Witham as a focus for the deposition of prestige objects is re-emphasised in the Anglo-Saxon and Viking periods. Three ornate Anglo-Saxon silver-gilt disk headed pins were found in the river, just downstream from the Iron Age causeway at Fiskerton (52878 – TF 0498 7152). These were probably manufactured during the first half of the 9th century. A Viking sword, also of the 9th century, was found slightly further downstream on the northern bank of the Witham, opposite Five Mile House (52896 – TF 0564 7155). Another Viking period object, an axe head, was found near Horsley Deeps, Bardney, during dredging, c. 1815 (51163).

Further weaponry, including a sword of Anglo-Saxon/Danish type (probably of the 9th-11th centuries AD), a dagger with a wooden handle and an iron spearhead were found in the river at Kirkstead Wath in 1788 (40084). These items also appear to represent the residues of ritual practices undertaken at watery contexts, possibly in a form analogous to the events surrounding the disposal of Excalibur in Arthurian legend (*q.v.* Bradley, 1990). Interestingly, further weaponry recovered from the site of Stixwould Station, in 1848, appears to indicate that such practices continued into a period of universal and unambiguous Christian belief and practice. These items included a mass of chain mail, probably a hauberk, an iron sword, an iron spearhead and a human skull (40060 - White, 1979). Typologically they appear to have been manufactured during the 13th or early 14th centuries.

In the same way that the river valley appears to have been a focal point for pagan ritual activity, it also became the setting for a large number of monastic houses and estates. The first abbey was a particularly early foundation that was established at Bardney toward the end of the 7th century, (Stocker, 1993). By the medieval period a remarkable density of ecclesiastical establishments lined the valley (Stocker & Everson, 2002). These included Monk's Abbey at Lincoln, Sheepwash Grange at Washingborough, Barleymouth Grange at Short Ferry, Bullington Priory, Barlings Abbey and Stainfield Priory on the Barlings Eau, Bardney Abbey, Tupholme Abbey, Branston Grange, Nocton Priory, Stixwould Priory, possibly Stixwould Grange, Kirkstead Abbey, Linwood Grange, Catley Priory, Haverholme Priory and Kyme Priory. In addition monastic houses held several of the manors lining the river; among these was the Manor of Fiskerton, which was controlled by St Peter's Abbey, Peterborough.

Secular activity was concentrated around the villages fringing the river valley, most of which have names of Anglo-Saxon origin. Many of these settlements have churches containing surviving medieval fabric, and remnants of associated open field systems are often visible either as earthworks or cropmarks. Some communities have proved more successful than others; Branston and Metheringham have expanded significantly over the last two centuries while the hamlet of Cotes, which was recorded in the *Domesday Book* (Morgan & Thorn,

1986), no longer exists, its site being occupied by Linwood Hall Farm (62089 - TF 122 608). Of especial interest is the village of Southrey, a satellite of Bardney, which has a particularly regular form suggesting that it was a deliberately planned medieval settlement (51182 – TF 1370 6665).

The Witham was navigable during the medieval period and was utilised as an arterial route linking Lincoln with the port of Boston. There are some indications that several of the river's tributaries, such as the Barlings Eau and Bardney Beck, were canalised to enable monastic houses to access this trade route. Furthermore, it seems possible that sections of the Car Dyke were similarly used, given the close spatial relationship between this channel and Branston Grange, Nocton Priory and Linwood Grange.

The river was also lined by a large number of fisheries. Many of these appear to have been established during the Anglo-Saxon period, as they are listed in the *Domesday Book*. Among the latter were 5 fisheries at Bardney and 1 at Southrey that were held by Gilbert of Ghent (Morgan & Thorn, 1986). Another fishery at Southrey belonged to Roger of Poitou, while Waldin the Breton held 2 at Stixwould and Walter d'Aincourt had a further 3 within the Parish of Branston. The sites of three fisheries have been identified on the banks of the Witham, near the northern end of Metheringham Delph. At least two of these appear to have been constructed upon artificial mounds, which raised the associated structures above the surrounding waters (40037 - TF 1590 6501; 40062 - TF 1588 6498).

Work to straighten, widen and scour the river in order to create a viable commercial waterway began in earnest after the passing of the Witham Drainage Act in 1762 (White, 1979). The section between Lincoln and Chapel Hill was embanked and improved between 1787 and 1788, the stretch downstream to Boston having already been completed (Thompson, 1856). Further improvements to the navigation, including the canalisation of some sections of the river, occurred between 1816 and 1826. These works were complemented by schemes to improve and reclaim the adjacent Witham Fen, with the four delphs being created during the last 15 years of the 18th century to serve as the primary arterial drains. Initially wind pumps fed the delphs (e.g. Nocton Windmill: 61804 - TF 0470 6364), but steam engines replaced the windmills after the passing of an 1831 Act of Parliament that sought to improve the drainage in Branston, Potterhanworth and Nocton Fens.

6.0 Archaeological potential

The information presented below has been collated from a variety of sources. Data from published and unpublished sources has been synthesised with information obtained from map regression studies and aerial photographs. To assist in the rapid assessment of this data, it has been compiled in relation to each of the seven sections that the study area has been divided into. The sub-sections describe the information obtained from each source and are followed by a brief summary. Finally, an estimate of the archaeological potential of each section is provided.

6.1.1 Section A

a: *SMR data and documentary sources*

NORTH-EASTERN END (river margins) - a significant amount of archaeological material has been recovered from Short Ferry, which lies opposite the north-eastern end of Branston Delph (fig.2). However, many of the artefacts were recovered from the area to the east of the Barlings Eau, more than 800m to the north-east of Section (A), and thus lie beyond the scope of this study. The remaining find spots are concentrated upon the spur of glacial till that projects southwards for c. 1km, thereby separating the Witham and the Barlings Eau. A number of items have been found at Short Ferry Marina, c. 600m from (A), including a broken leaf shaped 'point', possibly a Neolithic arrowhead, uncovered while digging a drain (52898 – TF 0940 7140), and some Romano-British pottery found during the initial construction of the marina (52907 – TF 0965 7134). A large quantity of medieval and post-medieval pottery was also found at this time (52908 – TF 0965 7134). Most of the sherds were produced in the East Midlands, but there were also fragments of French Polychrome and, German and Flemish stonewares. This relatively high status material was associated with a monastic grange and fishery, likely to be the site known as 'Barling Mouth' or 'Barleymouth', which belonged to Stainfield Priory (52906 – TF 0960 7130). The grange buildings were located in the angle of the confluence of the River Witham and the Barlings Eau and were constructed upon a raised mound. An excavation revealed remains of a stone structure, which was associated with fishing and fish processing equipment, including pieces of a stamped curfew, fish smokers and net sinkers (White, 1977).

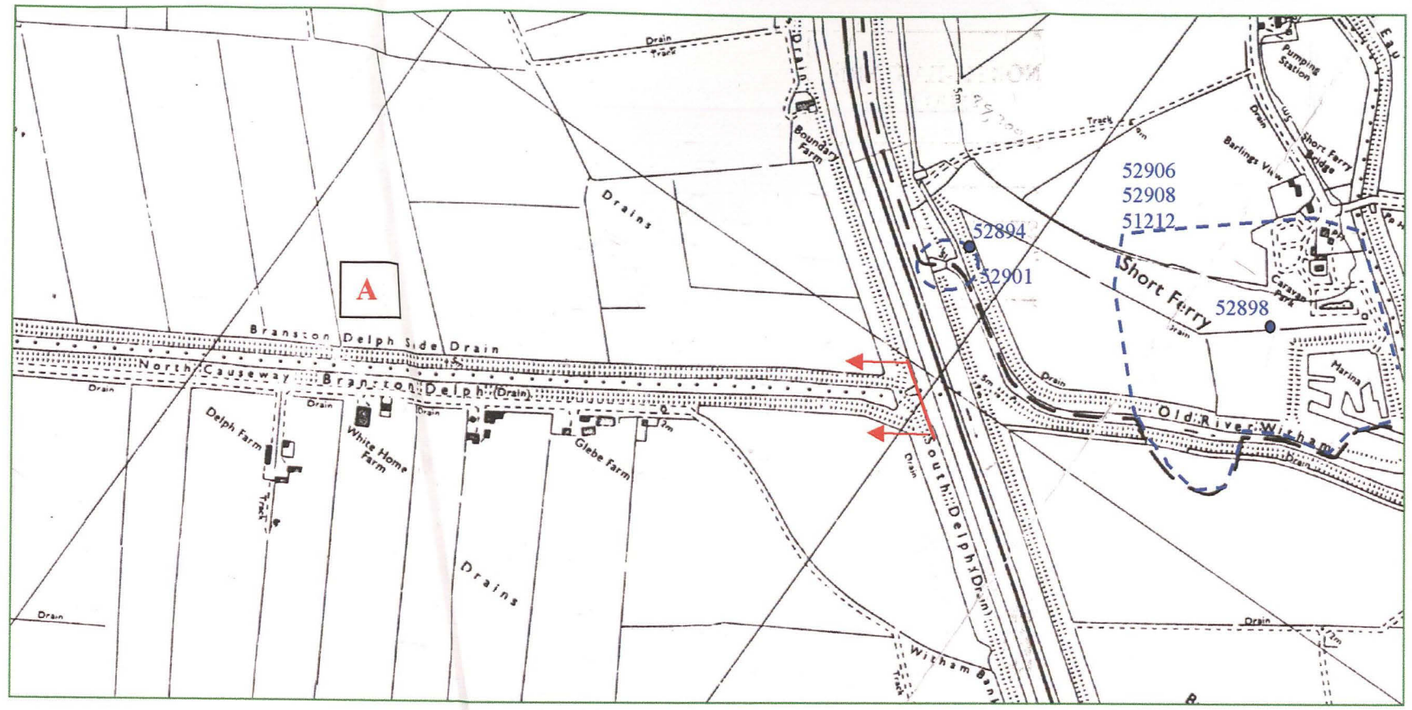
Further to the west, a log boat, 7.3m long by 0.6m wide, was found sealed beneath peat c. 200m north of the north-eastern end of (A) (52894 – TF 0896 7120). This vessel was subsequently excavated and deposited with Lincoln City and County Museum. It was found adjacent to Fiskerton Sluice, which was constructed as part of the scheme to raise and embank the river undertaken between 1812 and 1830 (52901 – TF 0890 7120). A new canalised channel was excavated between the sluice and Bardney Lock, thereby creating Branston Island, the sluice then functioning to divert excess water into the old river channel.

CENTRAL SECTOR (Witham Fen) – a small number of items have been found in Branston Fen, along the central section of the delph (fig. 2). A part-polished Neolithic stone axe was found in a field c. 200m to the south-east of Poplar Farm, which lies immediately to the south of the delph (61693 – TF 069 693). The same field also contained two barbed and tanged arrowheads, of later Neolithic to Bronze Age date, as well as a number of undated bog oaks, which were ploughed up at its north-east corner during the 1970s (61694 – TF 0685 6950).

The anaerobic conditions that preserved the bog oaks also conserved a dug-out boat that was discovered in 1925. It is probable that it was found c. 450m to the east of Red House Farm,

NORTH-EASTERN HALF

SOUTH-WESTERN HALF



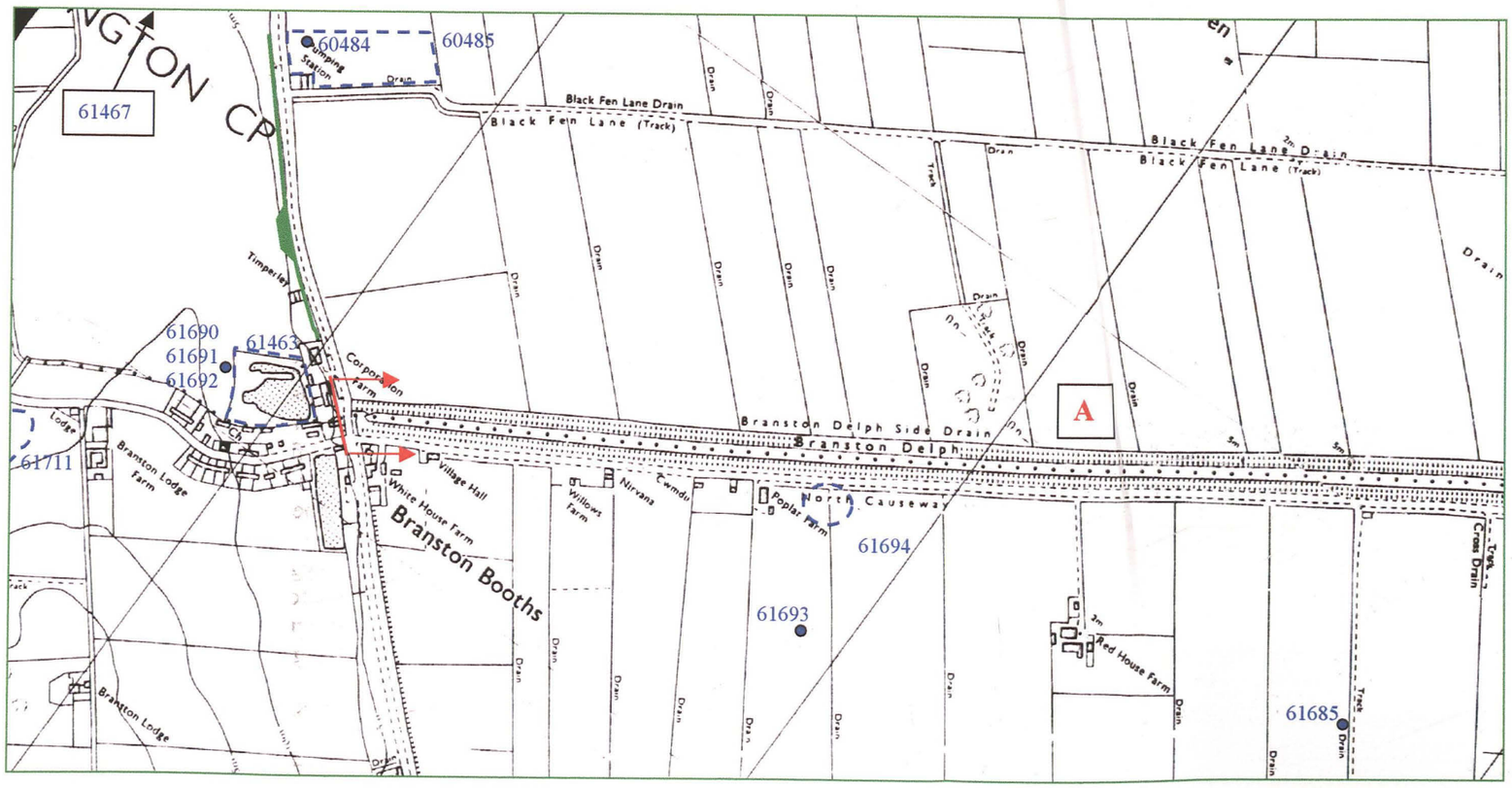


Figure 2: SECTION A
Branston Delph and its environs, showing the locations of archaeological features and find spots recorded in the Lincolnshire Sites and Monuments Record (see Appendix 12.1 for details); find spots = blue discs, features = dashed blue polygons. Features identified from aerial photographs during the National Mapping Programme are shown in dark green.
Image reproduced at 1: 10,000.

approximately 400m south-east of Branston Delph (61685 – TF 078 697)[1]. The vessel, which is presumed to be prehistoric in date, was 8.5m long by 0.9m wide, and had a number of internal dividers or braces.

SOUTH-WESTERN END (Junction with Carr Dyke) - trial trenching adjacent to Branston Booths pumping station, c. 550m to the north-west of (A), exposed a range of archaeological remains, including a pit that contained a small quantity of worked flint (60484 – TF 0570 6960) (Fig. 2). This lithic assemblage included a microlith, a micro-burin and a number of blades indicating that the pit was likely to have been created during the later Mesolithic period. Other prehistoric material from this area includes an unpolished Neolithic stone axe (61690), possibly derived from the Group VI quarries in Cumbria, and a barbed and tanged flint arrowhead (61692), both of which were found on the western edge of Branston Booths, c. 250m from the end of the delph (TF 059 691). Another barbed and tanged flint arrowhead was found at the centre of the settlement less than 80m from the end of the delph (61689 - TF 061 691).

The Car Dyke is the largest and most obvious element of the Romano-British landscape in the immediate vicinity of the southern end of (A) (60706). However, it is relatively poorly preserved at this point, as the hamlet of Branston Booths surrounds and encroaches upon its intersection with Branston Delph. Only one Roman artefact has been discovered within the settlement, a mid 4th century coin commemorating the empress Theodora (61691 – TF 059 691). However, surface scatters of tile and a firebar suggest that a Roman tile kiln was situated c. 650m to the west of (A), immediately to the north of Moor Lane (61466 - TF 0553 6885). The location of another tile kiln, c. 800m to the north, has already been confirmed by an excavation undertaken in 1976 (61467 – TF 053 696). Situated c.200m to the west of the Car Dyke, it was a rectangular structure, 7.1m long by 5.4m wide, which was built with rectangular tiles. It had been used to manufacture roof tiles, flue tiles, box tiles, hypocaust tiles and bonding tiles, with associated pottery indicating that production had taken place during the 4th century. There were indications that the same field also contained the remains of another kiln and one or two associated clay pits. Although there have been debates regarding the purpose and navigability of the Car Dyke (e.g. Simmons, 1979), it seems likely that the construction of the kilns in such close proximity is not entirely coincidental, and that the bulk products of this industry could have been transported along the channel.

Evidence of medieval activity in the vicinity of Branston Booths is relatively restricted. A geophysical survey and archaeological evaluation at the pumping station, c. 500m to the north-west of the hamlet, revealed the poorly preserved remains of a block of ridge and furrow, presumably a component of a small medieval field system (60485 – TF 0570 6960). Another feature, an earthwork and cropmark linear boundary situated to the south-west of Branston Lodge Farm, c. 550m from (A), is also thought to be of medieval origin (61711 – TF 0566 6868).

The north-west corner of Branston Booths is occupied by a large irregularly shaped body of water. This is an abandoned post-medieval quarry pit that was marked on 19th century Ordnance Survey maps (61463 - TF 0598 6909).

[1] However, one record suggests that it was unearthed at TF 061 691, which lies at the centre of the small settlement of Branston Booths. This seems unlikely, as it is on the edge of the wetlands, and probably merely represents a generic grid reference for the nearest settlement.

b: *Cartographic evidence*

The following maps were found to contain data relating specifically to the site:

- Ordnance Survey, 1906 – Sheet LXXI.NE, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1885 (First Edition) and was revised in 1904.

- Ordnance Survey, 1906 – Sheet LXXI.SE, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1885 (First Edition) and was revised in 1904.

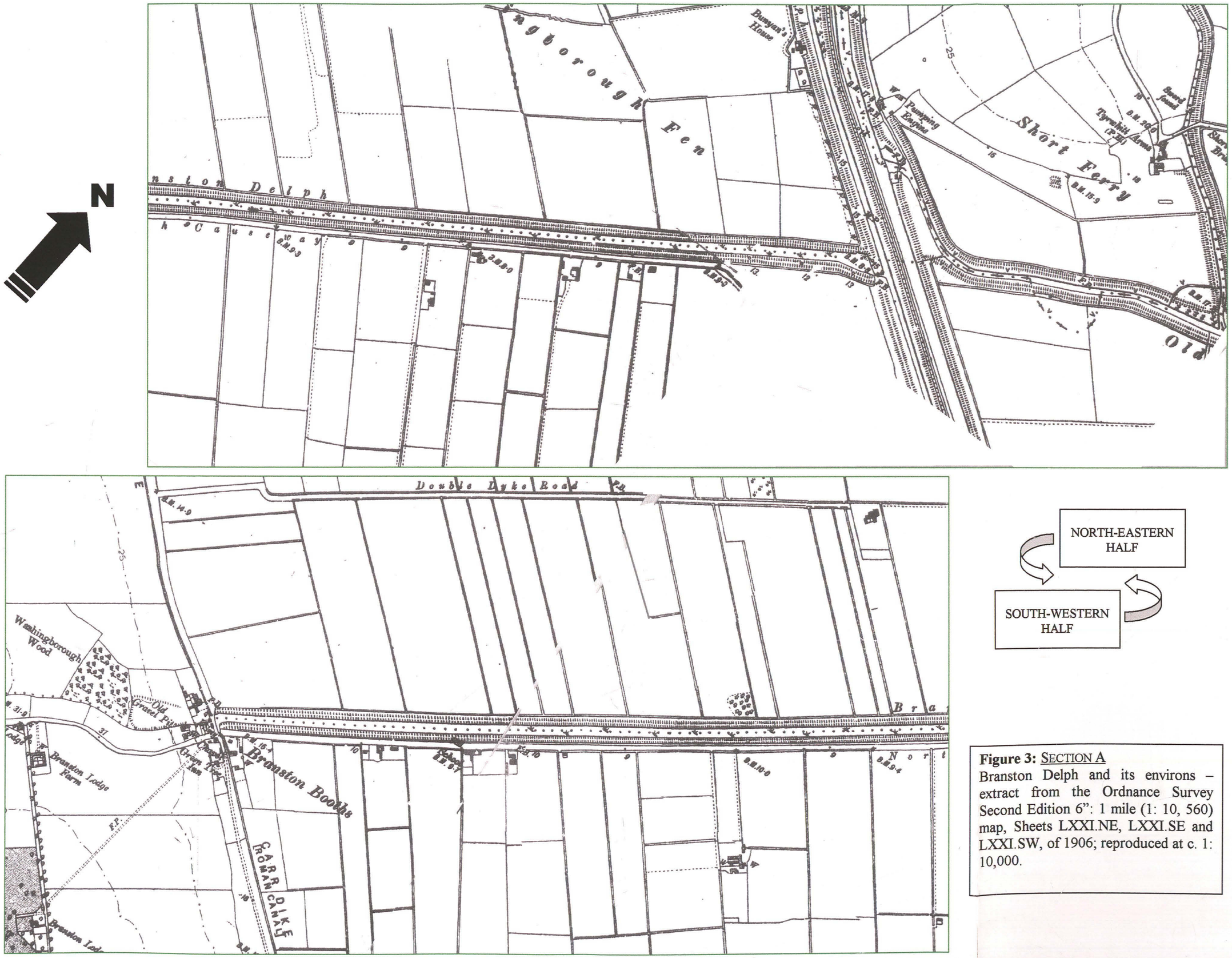
- Ordnance Survey, 1906 – Sheet LXXI.SW, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1885 (First Edition) and was revised in 1904.

The relevant First Edition sheet could not be located at either the LAO or the LSL. A number of maps and plans of the River Witham that are held by the LAO were also consulted, but these either depicted the course of the river channel between 1743 and 1768 at a very small scale (e.g. the Grundy surveys approximating to 1: 50,000) or provided very detailed cross sections across the river and its flood defences (e.g. LAO *3 LRA 8*). None of this material was found to provide any detail relevant to the study.

71.NE – this map depicts Short Ferry, the northern part of Heighington Fen and the northern half of Branston Island (fig. 3). It demonstrates that this section of the river valley has changed very little during the last 98 years. The flood defences along the river look identical, except that the sluice providing an outfall from Branston Delph into South Delph has been moved c. 25m to the north, the waters originally discharging from the south-eastern corner of the channel. The only other evident alterations relate to the amalgamation of a number of the smaller fields in Heighington Fen and on Branston Island.

71.SE – the north-eastern part of this map depicts the Witham Bank Side Drain, a sinuous channel that runs for c. 650m between Branston Delph and the South Delph, the latter following the new cut of the Witham created between 1812 and 1830. The Bank Side Drain is orientated at approximately 45° to the surrounding field boundaries and had evidently been truncated by the creation of the new river channel, as two parallel curving drains still ran up to the opposite bank of the river on Branston Island in 1904. These curving drains mimic the course of the Old River Witham, which runs c. 550m to the north and east, forming the apex of a bend; the 'new' canalised river channel also cut across the southern ends of these drains at the base of this loop. This evidence, preserved in the old Ordnance Survey maps, suggests that the sinuous line of Witham Bank Side Drain represents the northern end of a former channel of the River Witham, probably of medieval to post-medieval date, which can be traced as far south as Southrey. The location of a northerly continuation of this putative channel, beyond Branston Delph, is not explicit. However, the relationship between the field boundaries in this area suggests that it may have continued beyond the delph to run along the edge of the eastern end of Middle Fen Lane, through Heighington Fen.

The Second Edition map indicates that area of Branston Fen immediately to the west of Witham Bank Side Drain was divided into a series of long, narrow fields that were further sub-divided by short lateral boundaries to form a brickwork field system. Most of the lateral boundaries, along with a few of the north-west to south-east aligned longitudinal ditches, have now been removed to create much larger sub-rectangular blocks. Four small clusters of buildings are shown on the map of 1906, each group being situated at the northern end of these fields, against North Causeway, which followed the southern flood bank of Branston



NORTH-EASTERN HALF

SOUTH-WESTERN HALF

Figure 3: SECTION A
Branston Delph and its environs – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheets LXXI.NE, LXXI.SE and LXXI.SW, of 1906; reproduced at c. 1: 10,000.

Delph. These groups of buildings correspond to four modern farmsteads, which, progressing from east to west, are now referred to as Glebe Farm, an unnamed holding, White Home Farm and Delph Farm on modern maps. However, it should be noted that most of the buildings that were standing in 1904 appear to have been replaced by more modern, adjacent structures.

The early 20th century map depicts further buildings c. 1km to the west of this cluster of farmsteads. A group of structures, now known as Red House Farm, are shown at the centre of the fields, c. 200m to the south of the delph. Another small, isolated building is shown at the corner of a field, c. 450m to the east of Red House Farm. This building no longer exists, although its former location approximates to the place where the log boat (61685) was found in 1925.

Further buildings are also depicted at the western edge of the map, along the southern side of North Causeway. The most westerly of these structures formed the property now known as Poplar Farm. Again, a number of the smaller fields along the western side of Witham Fen have been combined since 1904 to form larger units more suited to modern mechanised agricultural practices.

71.SW – Two groups of buildings line North Causeway between the eastern edge of the map and Branston Booths. The most easterly of these is marked as a school on the Second Edition map. Part of this building possibly forms the dwelling known as Cwmdu, which occupies the same site. The other cluster formed a modest farmstead, part of which may survive as the single building referred to as Willows Farm on modern Ordnance Survey editions.

The Second Edition map depicts Branston Booths as a small settlement with approximately 14 properties. Only three of these were annotated, all occurring in the south-west quadrant of the hamlet, along the western edge of Bardney Road. The most southerly of these structures was the Green Tree Inn, a sub-rectangular building that now appears to be utilised as a private residence. To the north of the inn was a chapel, which no longer exists. The third building was the smithy, which was situated on the southern corner of the crossroads formed by Bardney Road/B1190 and Moor Lane/North Causeway.

At the beginning of the 20th century most of the north-west corner of Branston Booths was occupied by a large sub-oval depression described as an 'old gravel pit'. The description implies that the workings were already redundant at this time. However, comparison with modern maps suggests that the quarry must have been reactivated after 1904, as the small lake that now occupies this area is a completely different shape to the earlier disused gravel pit; most of the lake occupies the northern half of the field containing the gravel workings, an area that had not been utilised prior to 1904, while the western end of the earlier workings appear to have been backfilled. The Second Edition map also shows that the broadleaf trees forming Washingborough Wood occupied the area immediately to the east of the gravel pit. The name of the wood is likely to reflect the fact that Heighington, in which this corner of Branston Booths lies, only became an independent parish in the 19th century, having previously been merely a satellite settlement of Washingborough.

The modern maps show that there have been a number of other changes in Branston Booths during the course of the 20th century. Further gravel workings have been opened and abandoned in the south-west quadrant of the village. The resultant sub-rectangular lake is c. 160m long and runs parallel to Bardney Road, to the rear of the former Green Tree Inn. The settlement has also been extended toward the west, along Moor Lane, with most of the new properties lining the southern side of the road.

There have been additions to the northern edge of the settlement, with extensions to Corporation Farm and the construction of a outlying dwelling known as Timperley. Branston Booths pumping station has also been constructed since 1904. It occupies the corner of a field

in the angle between the B1190 and Black Fen Lane; the latter was known as Double Dyke Road at the beginning of the 20th century. Although excavations have demonstrated that there was medieval ridge and furrow in this area, the Second Edition Ordnance Survey map does not provide any indication of the existence of earlier settlement or any previous form of utilisation.

c: *Air photographic evidence*

The Lincolnshire component of the National Mapping Programme identified two groups of cropmarks at the south-western end of Section (**A**). A substantial linear cropmark was identified immediately to the north of Branston Booths, and evidently represents a section of the Car Dyke. It follows the western edge of the B1190, and can be traced for c. 520m, from the northern boundary of Corporation Farm to a point to the north-west of the pumping station. The cropmark widens c. 150m to the north of Corporation Farm, appearing to form a sub-rectangular embayment c. 20m wide and 70m long. It is by no means certain that this represents an original feature of the Car Dyke. However, it is interesting to speculate whether this could be a quay and passing point associated with vessels using the channel, especially given the close proximity of the two Roman tile kilns (61467 and 61466).

The second element identified during the National Mapping Programme was the cropmark and earthwork linear feature to the south-west of Branston Lodge Farm (61711). This has been interpreted as a medieval boundary, although the SMR does not record the presence of any other medieval features or artefacts in the immediate vicinity.

Although they lie outside of the study area, it is necessary to note that the National Mapping Programme also identified a group of three round barrows in Branston Fen (61714 - 61716). These monuments lie c. 1.3km to the south of Branston Delph, between Branston Sewer Drain and Middle Causeway. The location of these barrows is comparable to that of examples found upstream between Lincoln and Fiskerton, raising the possibility that there may be further undiscovered barrow cemeteries situated within the wider section of the river valley to the south of Short Ferry. Such barrows will only be detected when the overlying peat deposits have shrunken sufficiently that the tops of the mounds are exposed to ploughing and other associated forms of disturbance.

d: *Summary and discussion of the evidence*

NORTH-EASTERN END and CENTRAL SECTOR - previous archaeological discoveries from this section of the Witham Valley are associated with the old river channel, being focussed around its confluence with the Barlings Eau, c 400 – 850m from (**A**). This material indicates that there has been human activity at Short Ferry since the Neolithic. Prehistoric finds include the remains of five different log boats, suggesting that further boats or other wooden structures may survive along the margins of this section of the Witham. Romano-British pottery recovered from the marina suggests that there may have been a small farmstead in the angle between the Witham and the Barlings Eau. A monastic grange certainly occupied this position during the medieval period. Excavations have identified structures and deposits relating to 11th - late 13th century activity, including limestone net sinkers, pottery and kiln props (White, 1977).

The new river channel, the adjacent South Delph and the associated flood banks, were created when this section of the river was raised and embanked between 1812 and 1830. While a large quantity of archaeological material was retrieved from some sections of the river at this time, it is significant that there are no records of anything being found along the northern half of the new cut. This suggests that, with the exception of isolated finds such as log boats, there

is relatively little likelihood that artefacts would be found during works associated with the enhancement of the flood banks at the north-eastern end of Branston Delph.

Witham Bank Side Drain may have the greatest archaeological potential, if, as hypothesised, it represents a relict channel of the river (with Benton's Drain/Mill Drain). It is known that a number of wind pumps were constructed alongside this watercourse to facilitate its drainage, probably following an act of 1762[2], which made provision for dewatering the surrounding fen. The regular pattern of the surrounding elongated, sub-rectangular fields suggests that they are a product of the reclamation of Heighington and Branston Fens, a process that was largely initiated by the act of 1762 and accelerated after a second act of 1789[3]. It also seems likely that the farmsteads lining North Causeway, along the southern edge of Branston Delph, would have been founded after these works had created areas of relatively dry land suitable for farming.

Other features that may be encountered along the course of the delph could include facilities for loading and unloading the barges that plied the channel during the 19th and 20th centuries. These could include staithes and 'pull-overs', the latter being tracks running diagonally up the outer side of the bank that enabled farm carts to get close to the water (Anon, 1977).

SOUTH-WESTERN END – The discovery of one, or possibly two Roman kilns within 800m of Branston Booths indicates that this part of the western edge of the river valley was utilised for tile manufacturing during 4th century AD. At present there is too little data to be able to quantify the size of this industry, but it seems likely that further kilns and associated structures have yet to be discovered. To some degree, the siting of the kilns will have been determined by the presence of a readily available source of clay, and one or more clay pits have been identified in the field containing the kiln excavated in 1976. However, clay deposits occur along most of the river valley, indicating that other factors must have affected the positioning of kilns. It therefore seems likely that they would have been sited in relation to the intended destination of much of their output.

The early to mid 4th century was characterised by the Romano-British elite gradually abandoning towns and the associated construction of large, rural villas. This provides strong indications that there may be a villa somewhere on the higher ground to the west of Branston Booths[4]. Such a relationship was observed at Heckington, Lincolnshire, where two tile kilns lay approximately 350m to the east of an extensive complex of Roman buildings (Simmons, 1977). These kilns formed part of a group that were in operation around 300AD. Simmons proposed that all or most of their output was used locally, although it appeared possible that some products could have found their way overland to nearby Sleaford. However, it is also necessary to note that the Heckington kilns were situated less than 100m from the Car Dyke, a position comparable to the examples at Branston Booths. It seems unlikely that the parallels between the locations of two groups of kilns are entirely fortuitous. It is possible that their positions directly relate to the location of the area's woodland, the source of fuel, much of which may have been concentrated along the fen edge. However, the proximity of the Car Dyke is unlikely to reflect the need for water during the tile manufacturing process, as the clay pits would have rapidly become reservoirs. Consequently, it is possible that there is a repetitive, close relationship between tile kilns and the Car Dyke because the latter provided a

[2] 'An Act for Draining and Preserving certain low lands called the Fens, lying on both sides of the River Witham, in the County of Lincoln; and for restoring and maintaining the Navigation of the said river, from High Bridge in the City of Lincoln, through the Borough of Boston, to the Sea' George III, 1762 (held by LSL).

[3] 'An Act for Embanking and Draining certain Fens and low lands in the Parishes of Nocton and Potterhanworth, in the County of Lincoln, and in the Parish of Branston, in the County of the City of Lincoln' George III 1789 (held by LSL).

[4] A Roman tombstone was found at Folly Lane, Branston, suggesting that there was a villa in the vicinity of the village church, c. 4km to the south-west of the kilns (Pevsner & Harris,1989).

convenient means of transporting tiles to a wider market. Alternatively, it may be that it was the villas, and not the kilns, that were positioned in relation to the Car Dyke. This would facilitate the movement of saleable goods from such rural estates. Therefore:

> "the obvious savings to be had from water transport could well have acted as a secondary influence on the pattern of settlement" (Percival, 1976: 159).

Arguments that the Car Dyke was either a catchwater drain or a canal are likely to be too simplistic, and it seems more likely that it would have served both functions, even if the catchment area of each kiln or villa was relatively restricted, and transportation reflected purely local relationships and networks of exchange.

The prospect that tiles and other bulk ceramics were moved along the Car Dyke raises the possibility that there may have been bank-side facilities close to the kilns that would have enabled the transhipment of materials. Such facilities could be relatively *ad hoc*, such as the rubble and tile hard exposed next to a former channel of the Witham at Fiskerton (Palmer-Brown, 1994), or a more deliberately designed and engineered structure, such as a quay. Aerial photographs have indicated that there is a 70m long widening, or bulge, in the Car Dyke a little to the north of Branston Booths. It is possible that this may indicate the position of an embayment or quay. Further comparable features may be situated at or near the south-western end of Section (**A**), the environs of which are obscured by modern development.

There are some indications that the settlement of Branston Booths has medieval origins. Trial trenching at the pumping station, c. 500m to the north of the hamlet, exposed the remains of a block of ridge and furrow (60485). The furrow bases did not contain any artefactual material that could confirm the date of their creation and use, but ridge and furrow is generally a product of medieval activity. The isolated position of this block of land, c. 3.5km from the medieval core of Washingborough and c. 2.3km from the older part of Heighington, indicates that these fields are unlikely to be part of an open field system surrounding either of these communities. Consequently, if medieval, it would appear that this might have been an isolated secular or ecclesiastical estate, such as a grange.

The suffix '*Booth*' also has archaeological implications. It is derived from an Old Danish word, *bōth*, meaning temporary shed, which was introduced to the region during the 9th to 10th centuries (Cameron, 1998). It is thought to refer to transitory camps or seasonally occupied sites, and often has a close spatial relationship to riverside locations. It seems that it was used particularly in reference to fisheries (Lane & Hayes, 1993). This therefore appears to suggest that there was a medieval fishery somewhere along this section of the Car Dyke. The *Domesday Book* mentions three fisheries in Branston hundred that belonged to Walter d'Aincourt[5] (Morgan & Thorn, 1986). It is easy to assume that these fisheries must have been situated upon the western bank of the River Witham, at the eastern extremity of the parish, but the place-name evidence provides a potential alternative location for one or more of these sites. The possibility that there were fisheries on the Car Dyke also suggests that this section of the channel would still have been relatively deep and open, and possibly linked to the river, in order that fish stocks were viable and constantly replenished.

Assessment of archaeological potential:

Section A	**North-eastern end**	**LOW**
	Central Sector	**LOW**
	South-western end	**LOW-MEDIUM**

[5] Washingborough was a royal estate belonging to King William, and as such was left out of the *Domesday Book*. Consequently, the components of the estate are not known, but almost certainly would have included a number of fisheries.

6.1.2 Section B

a: *SMR data and documentary sources*

THE CAR DYKE – this is the most obvious, extensive and important feature in Section (**F**). There has been a considerable amount of debate regarding the date of manufacture and purpose of this channel. It was in the early 18th century that an individual named John Morton made the initial proposal that the Car Dyke was a Roman structure. Since that time insufficient fieldwork has been conducted to corroborate his proposition, but a variety of circumstantial evidence has been elicited to provide support. A number of medieval documents refer to the channel by name, particularly a 'pseudo Chronicle of Ingulphus', Abbot of Croyland from AD 1076, all indicating that it was of pre-Norman construction (Trollope, 1872; Whitwell, 1992). It is therefore difficult to conceive of any polity other than the Romans having the resources and engineering abilities to create such a construction.

It is also notable that the distribution of Romano-British sites and artefacts along the eastern margins of the limestone escarpment in Lincolnshire suggests that the Car Dyke was a focus of activity in much the same way that the Roman roads were. Furthermore, excavations at Mill Drove, Bourne suggested that the channel, which otherwise follows the 7.5m contour at this point, had been diverted for c. 2km to avoid a pre-existing Late Iron Age and Romano-British settlement (Tipper & Field, 1995).

A large hoard of c. 1,500 Roman bronze coins was discovered at Timberland in 1808. These items have subsequently disappeared, but contemporary descriptions suggested that they were all Claudian and pre-Claudian issues of the late 1st century BC and early 1st century AD. Consequently, and despite the absence of a precise findspot, the close proximity of Timberland to the Car Dyke has been used as the basis of a proposal that these coins directly relate to, and date, the construction of the channel (Todd, 1966). It was therefore suggested that the work commenced in the 50 or 60s AD. However, re-evaluation of the 19th century description indicates a sufficient degree of ambiguity that could equally well date the hoard to the 3rd century AD (Whitwell, 1992). While still far from proven, it seems most likely that the Car Dyke was constructed shortly after AD 120, at the instigation of the emperor Hadrian.

The debates regarding the purpose and function of the Car Dyke have been even more divisive. The antiquarian William Stukeley, in 1757, was the first to suggest that the channel had been created primarily as a canal (Simmons, 1975). He embellished this proposal with ideas that it was principally intended to transport grain being produced in the fenland to the military in, and to the north of, York. This idea was favourably received and reiterated well into the 20th century (Simmons & Cope-Faulkner, 1997). However, while it is likely that the construction would have necessitated the involvement of Roman soldiers and military engineers, the interpretation that it was a canal used to support the army has been questioned. Sir John Rennie, during the course of his works to improve the drainage of the Witham Fen, observed that:

> "a more judicious and well-laid out work I have never seen…to the bad condition of this drain much of the injury done by floods…is to be attributed" (cited in Hill, 1965: 13).

He therefore made proposals, in both 1815 and 1845, to scour the Car Dyke so that it could function as a catchwater drain. This never happened, but the idea continued to circulate and by the later 19th and earlier 20th centuries a number of people were suggesting that this had been the original function of the Car Dyke, including Skertchley (1877) and Colonel King-Fane (1931). The most recent proponent of this idea is Brian Simmons (1979), who has suggested that the channel was an integral part of an extensive fenland drainage network. He argued against a dual function for the channel, pointing out that navigation and drainage are essentially incompatible, because:

> "…the navigator requires a good depth of water, which is anathema to the drainer who wants to keep water out of the channel" (Simmons, 1975: 16).

However, regardless of these contradicting attributes compromises have often had to be made and, although not ideal for either purpose, it is evident that the Witham was utilised as both a drain and a waterway throughout the medieval period and into the later 18th century.

One of the main reasons presented to refute the idea that the Car Dyke could have served as a navigation is based upon archaeological observations of sections cut across the channel. These have demonstrated that its base was not level, with the further complication that the channel was divided into a number of sections by causeways of clay and bedrock that had been left in place during its initial construction. Such bulwarks would have impeded passage along the channel, leading to the conclusion that it must have been constructed purely with the intention of serving as a catchwater drain (*ibid.*). However, this interpretation also has flaws, particularly when it is noted that the fixed causeways left across the Car Dyke would have obstructed the flow of water and therefore limited discharge from the channel, which, as pointed out above, would not have been desirable for a drain. Furthermore, the provision of substantial banks along both sides of the channel was not the most effective means of constructing a drain along this part of the fen edge. If merely a catchwater drain, the design would have been better, and more efficiently achieved, if only a single bank was provided along the eastern edge of the channel. The latter would have prevented surface water from flowing out into the fen, whereas the provision of a bank along the western edge of the channel actually compromises the ability of the channel to function as a drain by preventing the water running off the higher ground from entering it directly. Consequently, while the western bank prevents a small strip of ground along the western margin of the channel from occasionally becoming inundated by flood waters, it presence would also have necessitated the construction of a system of associated drains and leets to the west of the channel in order to direct run-off into the Car Dyke through a small number of sluices.

The provision of a western bank therefore seems to suggest that control and maintenance of the water level in the channel was of particular importance. This brings the argument back to the idea that the channel served an important function as a means of communication and transportation. Furthermore, this interpretation is not diminished by the presence of the fixed causeways across the channel, as:

> "a channel this length will never be exactly horizontal and causeways such as those recorded could have acted as fixed locks, maintaining independent water levels in each section of the channel" (Rippon, 1999: 118).

Consequently, rather than envisaging the Car Dyke as a single continuous channel that would be directly comparable to post-medieval and early modern canals, it may be more realistic to envisage it as discontinuous structure composed of a series of shorter sections that met each other end on.

Rather than seeing the Car Dyke as a structure with a single purpose, it might be better to consider that it had two important functions. The first would have been to act as a means of communication at a local and regional level, with the second as an arterial drain. This would be in line with Trollope's description, as 'a wide and deep catch-water canal'

> "it has been a matter of surprise to some how it could have retained a supply of water sufficient to enable it to act as a navigation in summer, and yet afford a means of exit to the upland waters during the winter months. It must, however, be remembered that as the Car-Dike was intersected by various natural streams, it would thus be kept full of water even in the driest seasons, and yet that through the same medium...it would be able to pass off its redundant waters; in addition to which, it must be borne in mind, that if flood gates were formerly required for the occasional protection of the Car-Dike from the overflowing of the said rivers, the Romans were fully acquainted with the use of such artificial hydraulic aids" (Trollope, 1872: 72).

The name '*Car Dyke*' is undoubtedly a post-Roman appellation and probably signifies that this was an important drain running through carr or fenland. However, there are also records of the channel being called the *Bell Dike*. The latter was given in reference to an oral tradition

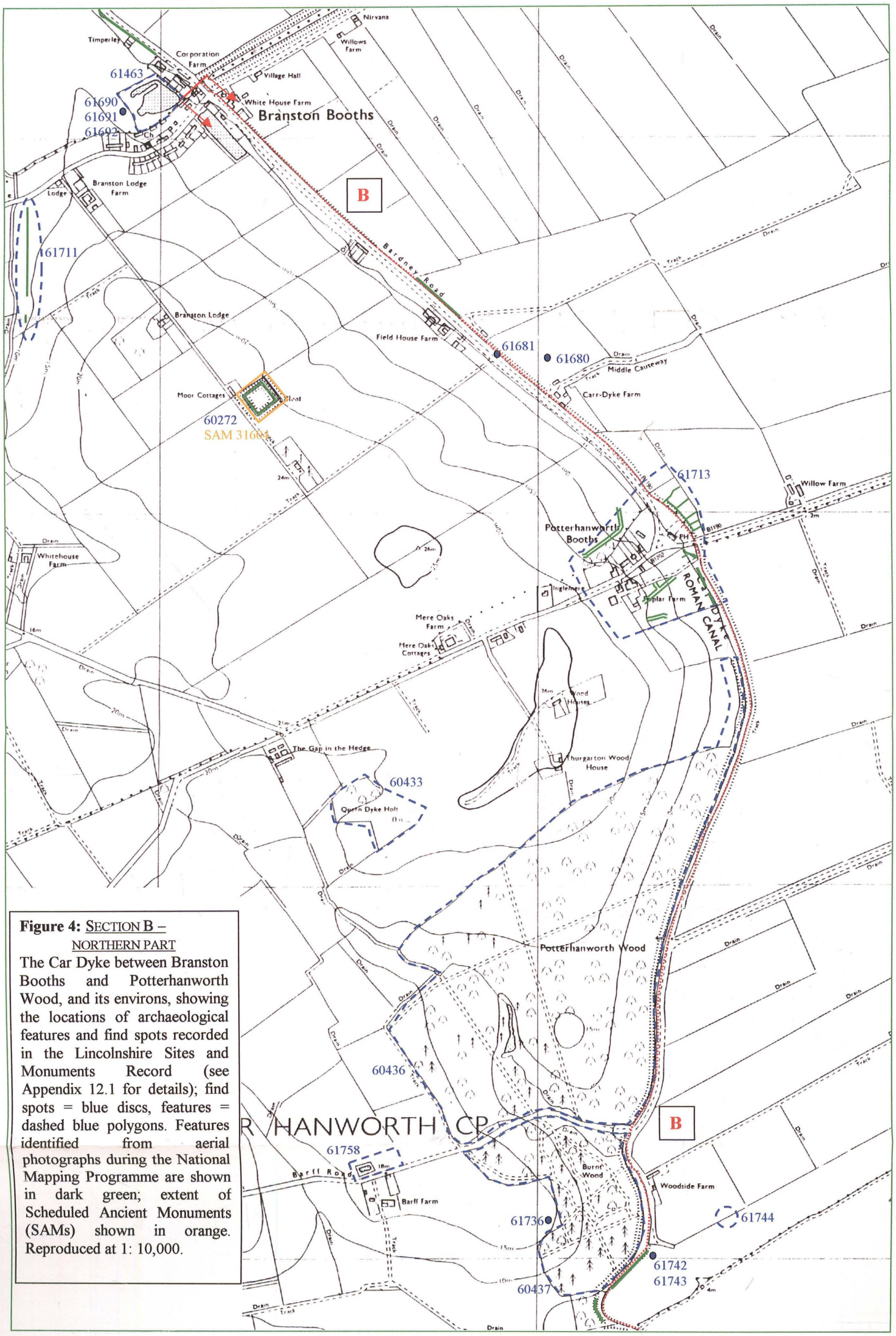


Figure 4: SECTION B – NORTHERN PART

The Car Dyke between Branston Booths and Potterhanworth Wood, and its environs, showing the locations of archaeological features and find spots recorded in the Lincolnshire Sites and Monuments Record (see Appendix 12.1 for details); find spots = blue discs, features = dashed blue polygons. Features identified from aerial photographs during the National Mapping Programme are shown in dark green; extent of Scheduled Ancient Monuments (SAMs) shown in orange. Reproduced at 1: 10,000.

that the original large bell in Lincoln Cathedral, '*Great Tom*', was transported along the channel from Peterborough, as either a present or exaction from the Abbot of St Peter's Abbey. While such a story can never be verified, the fact that it was readily accepted and perpetuated by oral tradition suggests that the transportation of goods along the channel was a relatively common and believable event into the historic period. This therefore provides circumstantial support for the proposal that the Car Dyke was a functioning navigation.

Discoveries along this section of the Car Dyke correspond to a range of past human activity spanning the last 6000 years from the Neolithic to the 20th century. These findspots and sites are relatively evenly distributed along Section (**B**).

NORTHERN SECTION (Branston Booths to Potterhanworth Booths) - the oldest artefact to have been discovered along this sub-section is an unpolished Neolithic stone axe, possibly derived from the Group VI quarries in Cumbria (61690 - TF 059 691) (fig. 4). This was found on the western edge of Branston Booths, c. 200m from the Car Dyke, along with a barbed and tanged flint arrowhead (61692). Another barbed and tanged arrowhead was found at the centre of the settlement less than 80m from the end of Branston Delph (61689 - TF 061 691). These two arrowheads are likely to be of Early Bronze Age date, as is a perforated stone battle-axe discovered in the garden of Field House Farm, approximately 1km further to the south-east (61681 - TF 0689 6842). A Late Bronze Age socketed axe was found only 130m from the battle-axe, within a layer of peat in Branston Fen (61680 - TF 0702 6843). The anaerobic conditions had preserved part of the wooden shaft, which was identified as crab apple.

Only one Roman artefact has been discovered along this section, this being a mid 4th century coin commemorating the empress Theodora, which was found on the western edge of Branston Booths (61691 – TF 059 691).

There is a well-preserved medieval moated site located c. 275m to south-east of Branston Lodge, and approximately 475m to the west of the Car Dyke (SAM 31604: 60272 - TF 0625 6829). The moat is 12 – 18m wide and still contains water. It encloses and defines a square platform approximately 55m across (c. 3000m^2). There is no surviving evidence to indicate how the platform was accessed, but a raised area on one part of the central platform might indicate the former site of a building. Earthworks forming external banks survive in varying condition along the north-eastern, south-western and south-eastern sides, with the remains of an inlet channel at the southern corner and an outlet at the eastern corner. It also appears that there was once a series of fishponds along the south-western side of the moat. It is thought that this site was associated with the medieval improvement of Branston Moor and may have been the site of a grange belonging to Kirkstead Abbey. The abbey is known to have constructed such an establishment in the parish during the 12th century, and the morphology of the monument is consistent with such an interpretation. Trial excavations during the 1960s recovered a quantity of medieval tile providing a confirmation of the date of occupation (Simmons & Cope-Faulkner, 1997).

Other medieval remains have been identified in and around Potterhanworth Booths (61713 - TF 0732 6790). These features are visible on aerial photographs and include crofts, a number of associated boundaries, a hollow way and one or two trackways; all of these features are orientated approximately north-east to south-west in reference to the Car Dyke and the fen edge.

The north-west corner of Branston booths is occupied by a large irregularly shaped body of water. This is an abandoned post-medieval quarry pit that was marked on 19th century Ordnance Survey maps (61463 - TF 0598 6909).

CENTRAL SECTION (Potterhanworth Booths to Nocton Fen Lane) – no prehistoric remains have been found along this stretch of the Car Dyke, and apart from the channel itself (60706), evidence of Romano-British activity is restricted to a single artefact (fig. 4). The lower stone of a quern, still complete with its central iron fitting, was found to the west of Burnt Wood in 1961 (61736 - TF 0702 6610).

Two scatters of medieval pottery have been found in a field to the south-east of Burnt Wood and south of Woodside Farm. The first scatter was situated on the eastern bank of the Car Dyke (61743 - TF 073 660), while the other was found c. 220m further to the east (61744 - TF 075 661). The assemblage was comprised of fragments of a 13th century shell gritted fabric, probably from the local Potterhanworth kilns. The close relationship between some of this material and the Car Dyke may be largely fortuitous. However, it is also possible that the channel represented one of the primary means of distributing the products of the local kilns throughout the region. If this were the case, then pots would have been transported along Barff Road to quays or 'hards' along the edge of the Car Dyke.

Woodland covers much of the western bank of the Car Dyke along this part of the Fen Edge. Almost all of these woods have been included in Nature Conservancy Council's inventory of Ancient Woodland. The largest is Potterhanworth Wood, 39ha of which is classified as semi-natural with the other 16ha being softwood plantation (60436 - TF 0700 6680). To its north-east is the much smaller Quern Dyke Wood, which only extends to 2ha (60433 - TF 066 672). Burnt Wood is situated on the southern side of Barff Road, and effectively represents a continuation of Potterhanworth Wood, although its 11ha is now all plantation (60437 - TF 0720 6610). Neville Wood, a 7ha plot running along the northern edge of Nocton Fen Lane, is also classified as plantation (60435 - TF 0690 6570).

A fragment of a tombstone, thought to be part of a 17th century memorial, was dredged from the Car Dyke to the south of Woodside Farm in 1973 (61742 - TF 073 660). The nearest church lies 1.8km to the west, but a letter in the SMR parish file records that a Mr Len Woodward thought that the tombstone had come from the old St Peter at Arches Church in Lincoln (now St Giles' Church). The reasons underlying this proposal were not stated.

The remains of a small post-medieval gravel pit are situated opposite Barff Farm, Barff Road, Potterhanworth (61758 - TF 0665 6630). The site appeared to be active in 1904 when the surveying for the Second Edition Ordnance Survey map was conducted, but was abandoned and wooded by 1954.

The place-name Barff occurs frequently along the western edge of the Witham Fen between Potterhanworth Booths and Martin. It is derived from *bargh* or *barf* meaning 'a low ridge or hill', and refers to the noticeable change in topography at the junction between the limestone dip slope and the fen.

SOUTHERN SECTION (Nocton Fen Lane to Nocton Delph) – the single prehistoric artefact recovered from the environs of this section of the Car Dyke is an unpolished Neolithic flint axe, which was found at Stockdove Holt, Abbey Hill, in 1968 (61777 - TF 073 648) (fig. 5).

Most of the archaeological remains in this area are concentrated around Nocton Park Priory, Abbey Hill, which lies immediately to the west of the hamlet of Wasps Nest. None of this small Augustinian house survives above ground, but its site is included in the schedule of ancient monuments maintained by English Heritage (SAM 22750: 60712 - TF 0771 6478). The priory was founded in the second quarter of the 12th century by Robert d'Arcy, who held the manors of Nocton and Dunston. The establishment expanded throughout the 12th and 13th centuries, but was never particularly big, having a maximum of nine canons in the mid to late 14th century. By the time that it was dissolved in 1536 there were only four canons and a prior in residence. Two years later the property passed to Charles Brandon, Duke of Suffolk. In

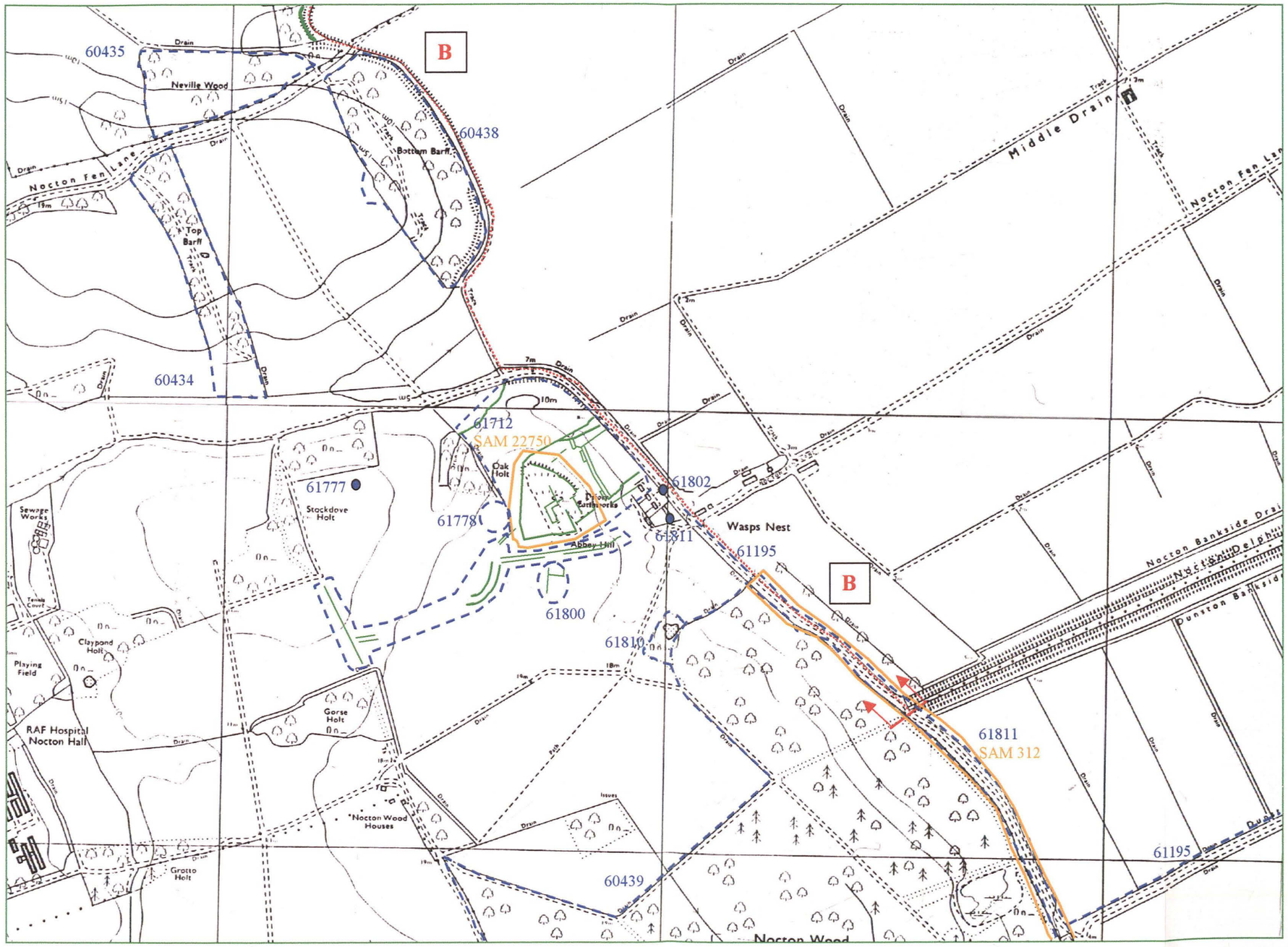


Figure 5: SECTION B – SOUTHERN PART

The Car Dyke between Potterhanworth Wood and Nocton Delph, and its environs, showing the locations of archaeological features and find spots recorded in the Lincolnshire Sites and Monuments Record (see Appendix 12.1 for details); find spots = blue discs, features = dashed blue polygons. Features identified from aerial photographs during the National Mapping Programme are shown in dark green; extent of Scheduled Ancient Monuments (SAMs) shown in orange. Image reproduced at 1: 10,000.

1569-70 it became the property of Sir Henry Stanley, who constructed a residence on the site. This building probably incorporated elements of the monastic buildings. It was utilised for only a century, before being totally demolished. Some of the stone and other materials are likely to have been used in the construction of the first Nocton Hall, which was built on the edge of the village, c. 1.5km away, in about 1690 (Ambrose, 1979). A stone piscina or holy water stoop that was found in Wasps Nest, adjacent to the Car Dyke, is also likely to have come from the priory church (61802 - TF 080 648). In 1727 William Stukeley visited the site and depicted the earthwork remains of the priory and the subsequent secular dwelling, which appears to have been situated at the western edge of the priory precinct.

There are a large number of cropmarks situated immediately to the south of the priory (61799, 61800 - TF 0777 6457). They are likely to be of medieval date and probably represent a field system associated with the monastic house and a trackway constituting the main means of approaching the priory from the west. A scatter of post-medieval pottery has been found immediately to the east of the priory (61778 - TF 076 648). These fabrics were produced between the 16th and the 19th centuries, the earlier material probably representing waste from the house Sir Henry Stanley had constructed on the site of the monastic precinct.

The Nature Conservancy Council has classified the woods immediately to the north and south of Abbey Hill as Ancient Woodland. The smallest is Top Barff, which lies c. 500m to the west of the Car Dyke (60434 - TF 0690 6530). Its 5ha are classified as semi-natural. Bottom Barff lies to the east, immediately adjacent to the Roman channel, and is comprised of 5ha of semi-natural woodland and 3ha of plantation (60438 - TF 0740 6560). Nocton Wood is situated to the south of the priory, and belonged to the Augustinian canons before becoming part of the Nocton Hall Estate (60439 - TF 0820 6380). Most of its 98ha are semi-natural.

The residues of post-medieval activity include a small, abandoned sand pit on the northern edge of Nocton Wood. This feature was in operation c. 1904 when its position was marked on the Second Edition Ordnance Survey map (61810 - TF 0798 6445). The same map also indicates that there was a sheepwash at the southern edge of Wasps Nest (61811 - TF 0802 6475). The remains of a potato railway running between Wasps Nest and Garden Farm, in Dunston Fen, represents even more recent activity (61195 - TF 0810 6472 to TF 1204 6547).

b: *Cartographic evidence*

The following maps were found to contain data relating specifically to the site:

- Ordnance Survey, 1906 – Sheet LXXI.SW, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1885 (First Edition) and was revised in 1904.

- Ordnance Survey, 1906 – Sheet LXXI.SE, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1885 (First Edition) and was revised in 1905.

- Ordnance Survey, 1906 – Sheet LXXIX.NE, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1886 (First Edition) and was revised in 1905.

71.SW – there are relatively few significant differences between the Second Edition Ordnance Survey map and modern editions within the area surrounding the northern part of Section (B). The 1906 map shows Branston Booths as a small settlement with approximately 14 properties (fig.6). Only three of these were annotated, all occurring in the south-west quadrant of the

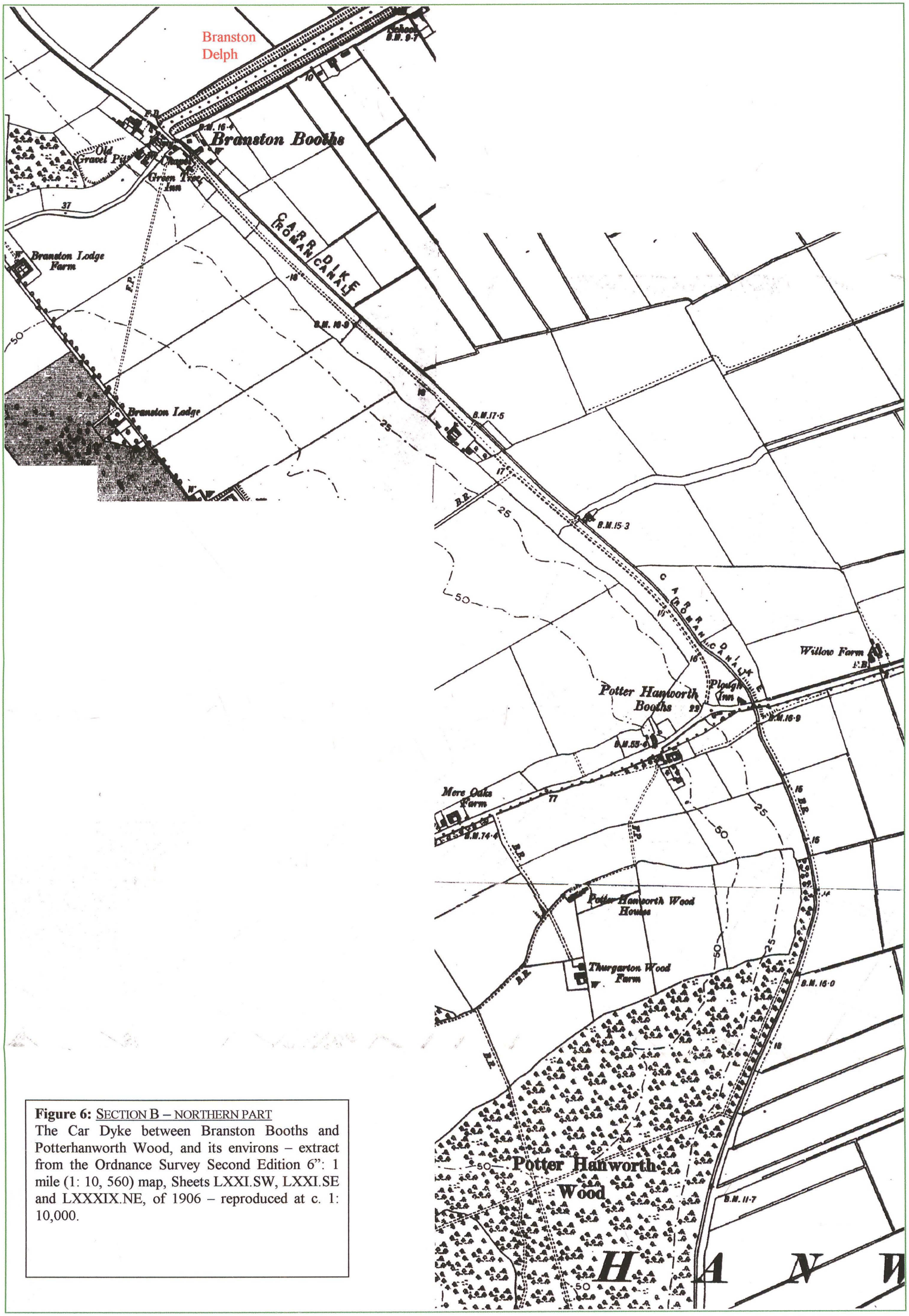


Figure 6: SECTION B – NORTHERN PART
The Car Dyke between Branston Booths and Potterhanworth Wood, and its environs – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheets LXXI.SW, LXXI.SE and LXXXIX.NE, of 1906 – reproduced at c. 1: 10,000.

hamlet, along the western edge of Bardney Road. The most southerly of these structures was the Green Tree Inn, a sub-rectangular building that now appears to be utilised as a private residence. To the north of the inn was a chapel, which no longer exists. The third building was the smithy, which was situated on the southern corner of the crossroads formed by Bardney Road/B1190 and Moor Lane/North Causeway.

The modern maps show that there have been a number of other changes in Branston Booths during the course of the 20th century. Gravel workings have been opened and abandoned in the south-west quadrant of the village. The resultant sub-rectangular lake is c. 160m long and runs parallel to Bardney Road, to the rear of the former Green Tree Inn. The settlement has also been extended toward the west, along Moor Lane, with most of the new properties lining the southern side of the road.

71.SE – the course of the Car Dyke to the south of Branston Booths was well defined on the map of 1906 (fig. 6). A track linking Branston Booths and Potterhanworth Booths ran along the western edge of the channel, and had the same alignment as it does today. Two small groups of buildings had been constructed adjacent to this track. On its western edge were the structures forming Field House Farm, while to the east was Carr-Dyke Farm, which was accessed via a bridge across the channel. These two farmsteads still exist, but additional buildings have augmented both complexes.

Potterhanworth Booths, although still only amounting to around sixteen dwellings, was much smaller at the beginning of the 20th century. There was the Plough Inn adjacent to the Car Dyke, with a property on the opposite side of the road. Poplar Farm lay a little further to the west and had one or two houses opposite. Otherwise there were only outlying properties such as Willow Farm and Mere Oaks Farm, each between 300 and 400m from the 'core' of the settlement. More recent development has taken place along the northern edge of the road between the pub and Poplar Farm, creating a better defined centre to the hamlet. While the field system to the north of the houses has remained virtually unchanged since 1904, the fields to the south have become fewer and much larger.

79.NE – the Second Edition map indicates that a track ran along the eastern bank of the Car Dyke from Potterhanworth Booths, along the edge of Potterhanworth Wood and down to Woodside Farm (fig. 6). The most northerly 1100m of this lane no longer exists, access to Wood Side Farm now being solely restricted to Barff Road. The layout of Woodside Farm does not appear to have changed significantly during the course of the 20th century. However, Burnt Wood, which lies immediately to its west, has altered during the same period. It has grown, expanding northwards up to the edge of Barff Road, but the differing conventions used on the maps indicates that most of the broadleaf woodland extant in 1904 has been felled and replaced by softwood species. At the same time a series of tracks have been created that divide the wood into a number of small compartments. Another wood a little to its west has been clear felled and its site now forms part of the large field to the south-east of Barff Farm.

Neville Wood immediately to the north of Nocton Fen Lane, and the wood known as Bottom Barff situated to its south, have not been significantly affected by the passage of time (fig.7). Both are still laid out to broad leaf woodland. The Second Edition map indicates that there was a quarry, which projected from the western edge of Bottom Barff, c. 150m to the south of Nocton Fen Lane (TF 0727 6560). These workings were already described as '*Old Sand Pit*' on the map of 1906, suggesting that they were already abandoned. A smaller area of workings labelled '*Sand Pit*' were situated c. 200m due west, immediately adjacent to the section of Nocton Fen Lane running south from Neville Wood (TF 0707 6549). It seems likely that this pit was still active at the beginning of the 20th century and represented a direct replacement of its neighbour to the east.

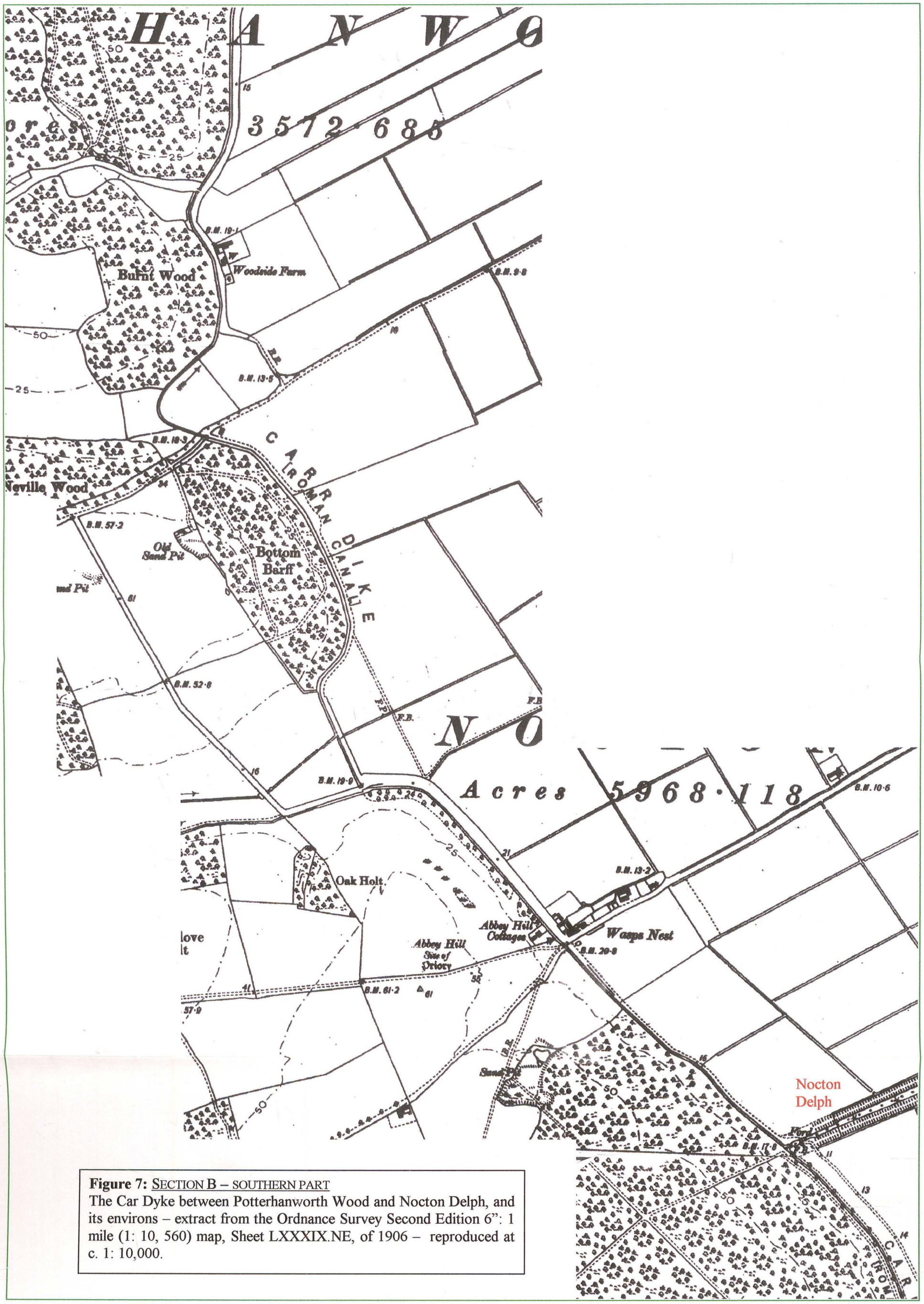


Figure 7: SECTION B – SOUTHERN PART
The Car Dyke between Potterhanworth Wood and Nocton Delph, and its environs – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheet LXXXIX.NE, of 1906 – reproduced at c. 1: 10,000.

The form of Abbey Hill appears to have varied slightly since the Second Edition map was created. The small woods of Stockdove Holt and Oak Holt do not appear to have altered their size or form. However, a narrow strip of woodland running along the western bank of the Car Dyke has been felled. The area between the 'holts', and to their south, was divided into a number of small fields, but all of these boundaries have now been removed, creating one large open space. In addition, several tracks have also ceased to exist. One of these ran from west to east, linking the southern edge of Stockdove Holt with Wasps Nest, and skirting the southern edge of the remains of the priory in the process. Another track ran from north to south linking Stockdove Holt and Gorse Holt. It seems likely that these tracks either created the cropmarks visible to the south and west of the abbey (61799), or represented a later evolution of the medieval to post-medieval features that did.

Wasps Nest seems to have remained more or less the same size during the course of the 20th century, but it layout has varied over that period. Most of the buildings running along the easterly projection of Nocton Fen Lane were already in existence in 1904, only the most easterly structure lying to the south of the road appearing to be 'new'. The farm on the eastern bank of the Car Dyke, opposite Abbey Cottages has contracted since the early 1900s, the five structures to the north having been demolished, with only the buildings fronting onto the north-easterly aligned section of the fen lane surviving. In contrast a number of houses have been erected on the western bank of the channel, immediately to the north of the Abbey Cottages.

The Second Edition map depicts a sand pit on the northern edge of Nocton Wood. The site is still visible, but the workings have now been abandoned. Unlike the workings adjacent to Bottom Barff, this sand pit has been listed in the catalogue of sites held by the SMR (61810). The form of Nocton Wood does not appear to have changed over the intervening period.

c: *Air photographic evidence*

The National Mapping Programme identified a number of cropmark and earthwork features along this component of the Car Dyke. Sections of the channel itself were observed to the north-east of Field House Farm, Branston Booths, immediately to the south of Potterhanworth Booths, and along the southern edge of Burnt Wood, Potterhanworth.

Significant concentrations of medieval to post-medieval features were also identified in two locations. The largest group formed the remains of Nocton Park Priory and, a series of associated trackways and field boundaries, which were dispersed over c. 40ha (60712, 61799, 61800). The second group was more ephemeral and represented tracks and fields surrounding the small hamlet of Potterhanworth Booths (61713). The nature of these features suggested that the hamlet was once somewhat larger and almost certainly predates any of the buildings and boundaries forming the modern landscape. Staff at Heritage Trust of Lincolnshire have identified one or two additional cropmarks in this complex (Simmons & Cope-Faulkner, 1997: map 4).

The moated enclosure to the south-east of Branston Lodge was also recorded during the National Mapping Programme, but the transcription was limited to the main earthworks visible on the ground (60272). The schedule entry for the listing of the site as a Scheduled Ancient Monument records that:

> "Rectangular features on the south western side of the island and visible on aerial photographs in 1946 are thought to represent the remains of ponds." (English Heritage, 1999: file ref AA 32883/1)

This suggests that additional features could be added to the existing transcription.

d: *Summary and discussion of the evidence*

With the exception of a small collection of lithic material found in and around Branston Booths, and a single flint axe found to the west of the site of Nocton Park Priory, there is very little evidence of prehistoric activity along this section of the Witham Fen edge.

The first major event for which we have evidence is the creation of the Car Dyke itself. The earliest relatively detailed description of this section of the channel was provided by Archdeacon Trollope, who stated that:

> "Here [in Nocton Wood] its banks, although covered with trees and bushes, are very visible until they reach Nocton delph, where the eastern one emerges from the wood, but the other still continues just within its limits as far as its northern boundary marked by some rising ground called Abbey hills, near Nocton Hall. Hence a road runs along its eastern bank, here for the most part much worn down, so as to be detected at times only by the lighter colour of its soil, and a long wood known by the names of Low-barf, Norman-hay, and Hanworth-spiney[6] covers the western bank. After passing the road leading to Bardney…the Car-Dike turns more towards the east, and is bordered by Branston wood, until reaching Branston delph, where a modern road runs along the western bank, which is still conspicuous from its size as it passes opposite Washingborough wood on its way to the turn to Heighington" (Trollope, 1872: 80-1).

As indicated by Trollope's account, preservation along this stretch of the channel has been variable, with areas of bank having been totally denuded by later agricultural activity. However, much of the section running southwards from Potterhanworth Booths and forming the eastern perimeter of Potterhanworth Wood, Burnt Wood and Bottom Barff is reasonably well preserved, with the western bank being protected within the woods. Despite this none of Section **(B)** has received statutory protection under the Ancient Monuments and Archaeological Areas Act, 1979

There are some indications that the settlement of Branston Booths has medieval origins, with features exposed c. 500m to the north of the hamlet representing the remains of a block of ridge and furrow (see 6.1.1.d). Aerial photographs have provided evidence that Potterhanworth Booths also has similar origins, a series of the linear boundaries, forming crofts, tracks and hollow ways that are morphologically consistent with elements of medieval settlement.

Branston Booths lies c. 4km from the medieval core of Branston and c. 2.3km from the older part of Heighington, while Potterhanworth Booths lies c. 2.5km from its parent village. Maps indicate that each of the medieval parishes along the western edge of the Lower Witham valley was laid out as an elongated south-west to north-east orientated strip between 12 and 15km long and as little as 1.5km wide. This meant that each parish contained a comparable range of land and soil types encouraging diversity of use and exploitation. At the western edge of each parish, by the modern A15 running from Lincoln to Sleaford, the land was relatively open and dry heath. The villages were sited along the spring line at the eastern edge of the heath, with their field systems surrounding them. To their east was an area that was referred to as 'moor', beyond which there are likely to have been tracts of woodland, fringing the fen edge much as today. To the east of this, each parish had a swathe of fen extending across the river basin to the Witham.

The similarity in the location of Branston Booths and Potterhanworth Booths suggests that both settlements were founded to perform the same function. Their isolated positions, away from the main settlements suggest that this was a specific and specialised function, and indicates that they did not represent outlying elements of open field systems surrounding

[6] Presumably, *Low-barf* equates to Bottom Barff, *Norman-hay* to Burnt Wood and *Hanworth-spiney* to Potterhanworth Wood.

either of the main communities. It is therefore possible that both of these satellite settlements may have originated as isolated secular or ecclesiastical estates, such as a grange. However, the presence of the medieval moated site to the south of Branston Lodge, and roughly equidistant from the two 'Booths', complicates this argument. It is known that Kirkstead Abbey founded a grange in the parish of Branston during the 12th century[7]. This moated site is thought to be the most likely location of this establishment, although this is still an unsubstantiated proposal. If it was the Kirkstead grange, which is likely if there really were fishponds immediately to its south-west, then it is highly unlikely that there would have been other granges or 'grange-like' communities only 700 and 1000m away. Alternatively, it is also possible that the moat defined a particularly elaborate sheepfold and shearing shed, one or more of which the Abbey is also known to have had in the parish. In the latter case, the grange would have been sited elsewhere, quite possibly to the north at Branston Booths.

It should also be noted that the suffix '*Booth*' has specific archaeological implications. It is derived from an Old Danish word, *bōth*, meaning temporary shed, which was introduced to the region during the 9th to 10th centuries (Cameron, 1998). It is thought to refer to transitory camps or seasonally occupied sites, and often has a close spatial relationship to riverside locations. It seems that it was used particularly in reference to fisheries (Lane & Hayes, 1993). This therefore appears to suggest that there were medieval fisheries somewhere at these two points along the Car Dyke. The *Domesday Book* mentions three fisheries in Branston hundred that belonged to Walter d'Aincourt (Morgan & Thorn, 1986). It is easy to assume that these fisheries must have been situated upon the western bank of the River Witham, at the eastern extremity of the parish, but the place-name evidence provides a potential alternative location for one or more of these sites. The possibility that there were fisheries on the Car Dyke also suggests that this section of the channel would still have been relatively deep and open, and possibly linked to the river, in order that fish stocks were viable and constantly replenished[8]. Secondary functions for these settlements could have included acting as drovers camps for the management of livestock using summer pasture on the fen, and for peat cutting from associated turbaries.

The recovery of small quantities of Potterhanworth type pottery from the edge of the Car Dyke near Woodside Farm might provide some evidence that the channel was utilised for the transportation of the products of the local industry. Certainly, if the Car Dyke was in any way navigable, even if only with punts or small barges, it would have provided the most cost effective means of moving bulk goods such as pots. Barff Road, the link between the village and the fen edge, appears to be of some antiquity, and is effectively a hollow way at the centre of the village. It seems likely that timber from the woods along the fen edge would have been used as fuel for the kilns, and would have arrived in the village along Barff Road. It is therefore not unfeasible that the carts engaged in this traffic would carry loads of pottery in one direction before returning with piles of timber.

The remains of Nocton Park Priory dominate the southern end of this section. The abbey precinct is relatively well defined on the eastern edge of Abbey Hill. However, cropmark evidence indicates that a number of linear boundaries extend north-eastward from the priory to the edge of the Car Dyke (fig.5). It is therefore possible that there were outlying structures or facilities in this area, immediately to the north of the hamlet of Wasps Nest. Groundworks along the edge of this section of the channel may expose such features. It is also necessary to

[7] A valuation of the abbey's property in 1537 records the lease of 'Branston Grange, with all lands and tenements'; this included 20 oxgangs of arable, with an additional 30 acres of arable at *Cringledike* (Owen, 1989: 42). Also included was Branston Wood, listed as '4 acres aged 5 years, no timber', suggesting that it had only recently been coppiced.

[8] Similarly, the apparent lack of other '*booths*' in the parishes further to the south might indicate that the channel of the Car Dyke was less open beyond Potterhanworth, and thus unsuited to intensive fishing.

emphasise that the immediate area of the priory precinct is a Scheduled Ancient Monument – SAM 22750. The eastern edge of the scheduled area comes to within 80m of the Car Dyke. Consequently, although works along the channel are unlikely to directly impinge upon the area of the SAM, such works may be considered to have an impact upon any accompanying features, or the landscape setting of the monument. It would therefore be highly advisable to enter into consultation with English Heritage prior to the detailed design and onset of this component of the scheme of works. Additionally, it should be noted that it will be an absolute priority to ensure that plant, contractors, earth or anything else associated with the project does not encroach onto the area of the scheduled monument in any way, without first obtaining scheduled monument class-consent from English Heritage.

Assessment of archaeological potential:

Section B	**Northern end**	**HIGH**
	Central Sector	**MEDIUM-HIGH**
	Southern end	**HIGH**

6.1.3 Section C

a: *SMR data and documentary sources*

NORTH-EASTERN END (river margins) – the majority of the recorded archaeological deposits at this end of Nocton Delph surround the village of Southrey on the north-eastern side of the river (fig.8). A cropmark complex has been identified in a field located c. 550m from the north-eastern end of Section (C) (53851 – TF 1255 6704). A curvilinear ditch defines an irregular enclosure of c. 1ha, within which lies a smaller, circular enclosure. The morphological traits of these features suggest that they represent elements of a later prehistoric or Romano-British settlement (*c.f.* Winton, 1998).

The village of Southrey lies c. 900m to the east of (C), and has a regular arrangement, with most of the properties fronting onto two east-west aligned streets that run parallel to the river. The individual plots are long and narrow, epitomising the form of medieval crofts and tofts, and their regularity suggests that the village was a planned settlement (51182 – TF 1370 6665). However, it is referred to in the *Domesday Book* suggesting that there was a Late Saxon or Saxo-Norman settlement here. It was called *Sutrei(e)* in 1086, a name derived from Old English elements *sūther*, meaning southern, and *ēg*, meaning an island or dry ground surrounded by marsh (Cameron, 1998). Hence it was the 'southern island', its name reflecting the fact that it was a dependent satellite of Bardney.

Fields to the west of the settlement contain the remains of a ridge and furrow field system (53852 – TF 1340 6692). The eastern edge of this has been encroached upon by 19th and 20th century residential development, but the surviving *selions* preserve the reversed 'S'-shaped form characteristic of medieval ploughing.

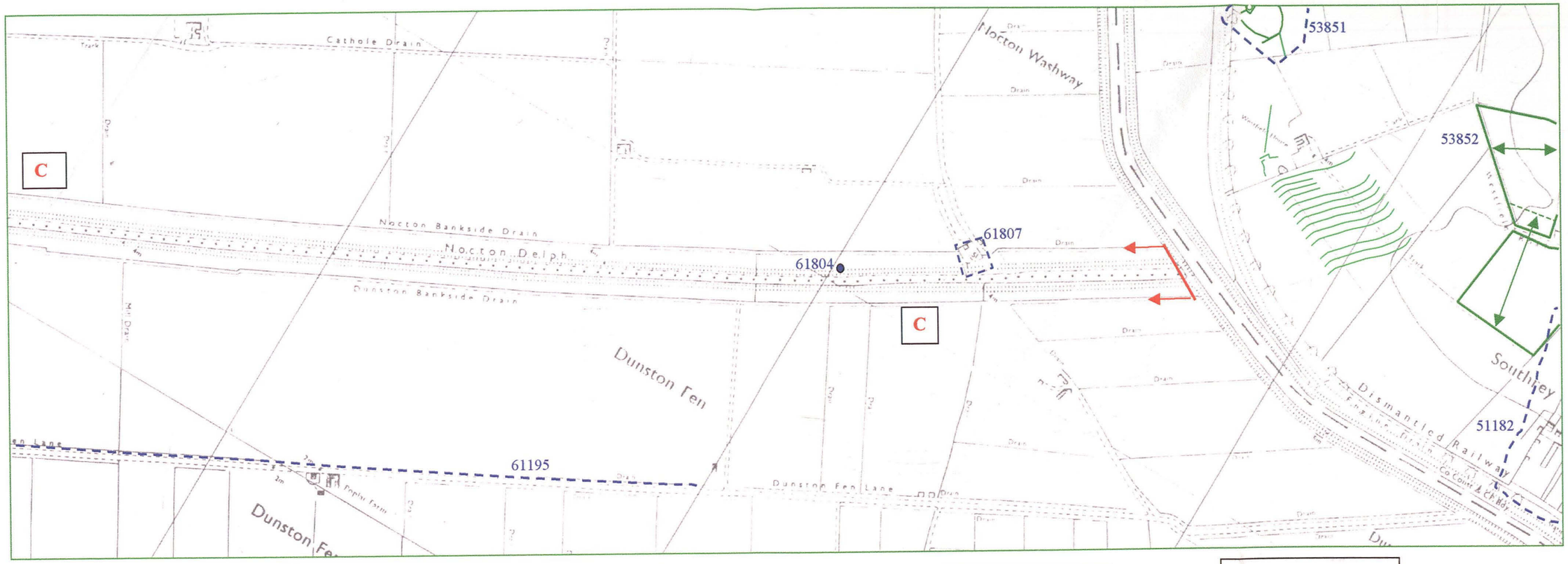
The SMR database only records the presence of two features on the south-western side of the river. Both are situated on the northern bank of Nocton Delph, the earlier being the site of Nocton Windmill, which was located c. 800m from the junction with the Witham (61804 – TF 1201 6604). This structure was probably erected in the second half of the 18th century and had been demolished by 1905, almost certainly having been made redundant by a steam powered drainage pump that was constructed 300m closer to the river (61807 – TF 1223 6622). The steam engines replaced the windmills following the passing of another drainage act in 1831 (White, 1856: 365).

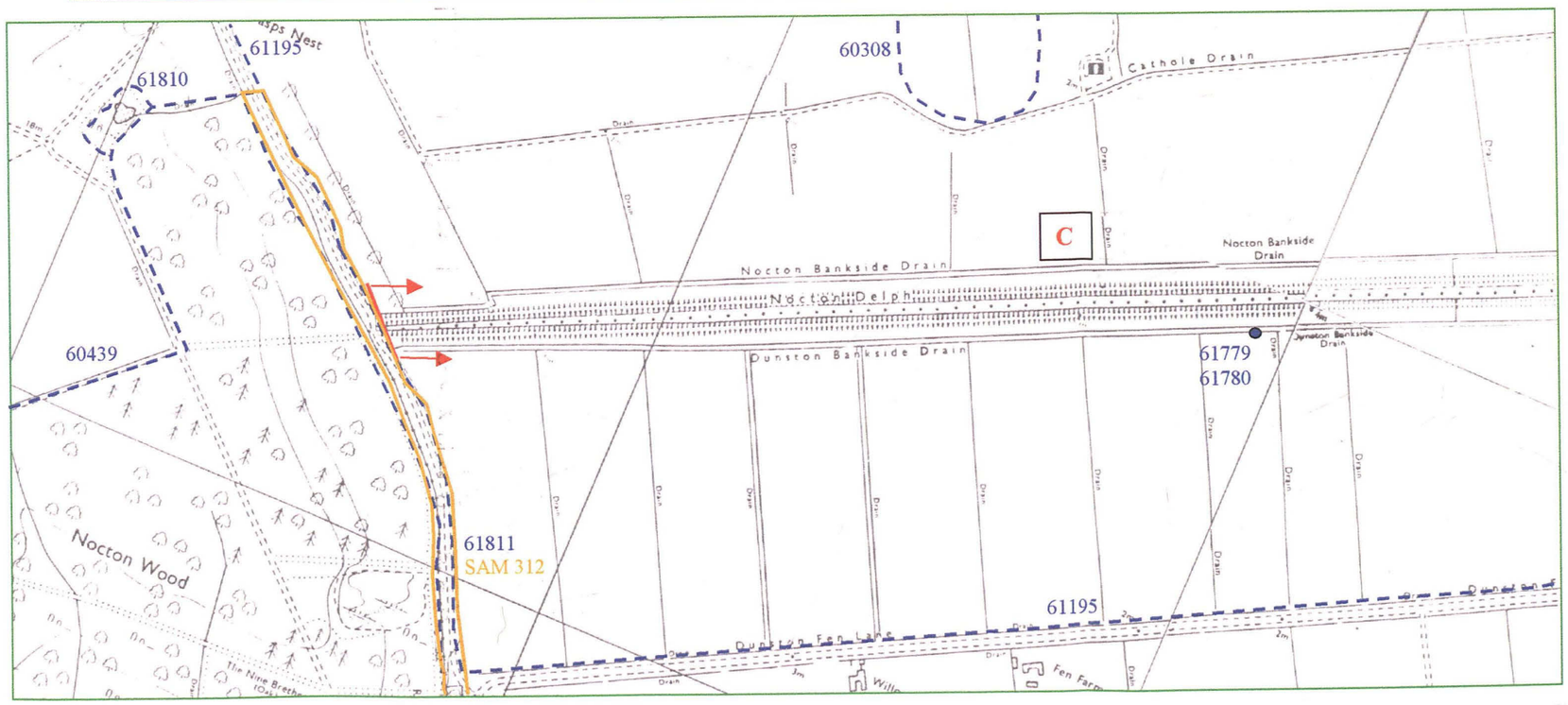
CENTRAL SECTOR (Witham Fen) – archaeological finds along the central component of Nocton Delph are restricted to two log boats that were discovered in 1790 (fig. 8). They were discovered during the actual creation of the delph, which followed the passing of an Act of Parliament of 1789[9]. The first boat, Nocton 1, was 7.6m long, and a contemporary drawing demonstrates that it had four internal braces and a separate sternboard (61779 – TF 099 649). The caption to the drawing states that it was:

> "a British canoe 25 feet in length made of a single tree, it was found in digging Nocton Delph almost opposite the decoy in August 1790, laying 5 feet [1.5m] below the present surface of the soil"

The other vessel, Nocton 2, was 4.3m long, and was also made from a single log, with the bow and stern being indistinguishable (61780 – TF 099 649). It was discovered approximately 75m from Nocton 1, at a depth of 0.9m. Sir Joseph Banks obtained both boats and presented them to the British Museum. It should also be noted that these are the same vessels that Trollope (1872: 81 *note*) incorrectly states were found in the Car Dyke.

[9] 'An Act for Embanking and Draining certain Fens and low lands in the Parishes of Nocton and Potterhanworth, in the County of Lincoln, and in the Parish of Branston, in the County of the City of Lincoln' George III 1789 (held by LSL).





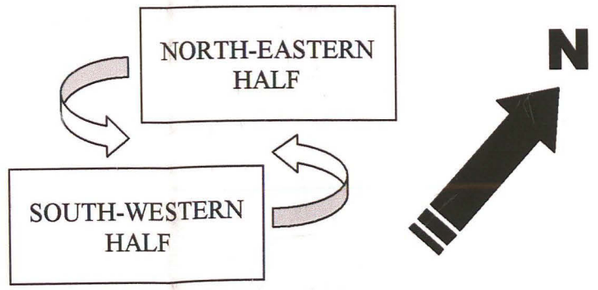


Figure 8: SECTION C
Nocton Delph and its environs, showing the locations of archaeological features and find spots recorded in the Lincolnshire Sites and Monuments Record (see Appendix 12.1 for details); find spots = blue discs, features = dashed blue polygons. Features identified from aerial photographs during the National Mapping Programme are shown in dark green, additional cropmarks appear in light green; extent of Scheduled Ancient Monuments (SAMs) shown in orange. Image reproduced at 1: 10,000.

The 'decoy' mentioned in caption was the Nocton Hall duck decoy, a post-medieval structure used to capture wildfowl (60308 – TF 0930 6510).

The SMR also records the former existence of a narrow gauge railway that ran south from Wasps Nest to Dunston Fen Lane, crossing the western end of the delph (61195 – TF 0810 6472 - TF 1204 6547). The rails then followed Dunston Fen Lane, which runs parallel to and 500m to the south of (C), until they reached Garden Farm. The railway was one of several created during the 20th century in order to transport potatoes. Initially the wagons were horse drawn, but subsequently steam and then diesel engines were used.

b: *Cartographic evidence*

The following maps were found to contain data relating specifically to the site:

- Ordnance Survey, 1891 – Sheet LXXX.NW, First Edition, 6": 1 mile (1: 10,560). The surveying for this map was conducted in 1887.
- Ordnance Survey, 1907 – Sheet LXXX.NW, Second Edition, 6": 1 mile (1: 10,560). The map was revised in 1904.
- Ordnance Survey, 1906 – Sheet LXXIX.NE, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1886, and was revised in 1904.

80.NW - The First and Second Edition maps are essentially the same. The form of the riverbank, and the railway running along its north-eastern edge, were virtually as they are today. Most of the fields flanking Nocton Delph are now larger than they were in 1904, but it is easy to relate the surviving boundaries to the earlier landscape, and determine how smaller units were amalgamated (fig.9). Nocton pumping engine, the steam powered pump (61807), is depicted on the late 19th and early 20th century maps. It is situated on the northern bank of the delph, at the point where it cuts across the earlier Cross Bank/Mill Drain, and evidently removed water from the latter. Elements of Mill Drain and Cross Bank still survive, but are much less well defined.

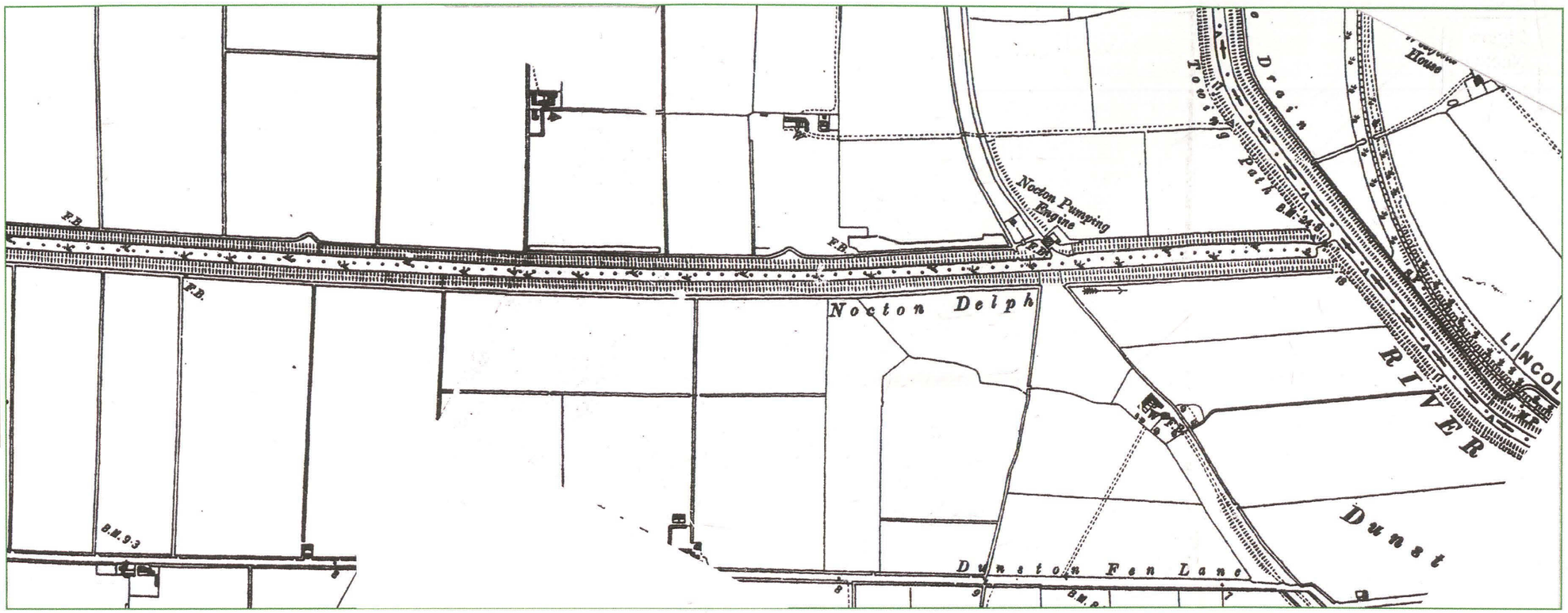
The Second Edition map depicts a farm on the western edge of Cross Bank, c. 250m to the south-east of the Nocton pumping engine. The complex is still there, although the layout of the buildings is somewhat different. Another isolated farmstead, Model Farm, was depicted on the map of 1907, approximately 350m further along Cross Bank, just to the south of the point where it is intercepted by Dunston Fen Lane. Nothing survives of this isolated property. The field boundaries have been extended across its former site, and associated footpaths have been removed. Another group of buildings shown on the southern side of the delph was Garden Farm, situated on the northern edge of Dunston Fen Lane, c. 800m to the south-west of the pumping station. In 1904 this was a relatively large group of buildings surrounding two yards, and would subsequently become the final destination of the Nocton potato railway. Garden Farm no longer exists, its location being evinced by a single, isolated farm building.

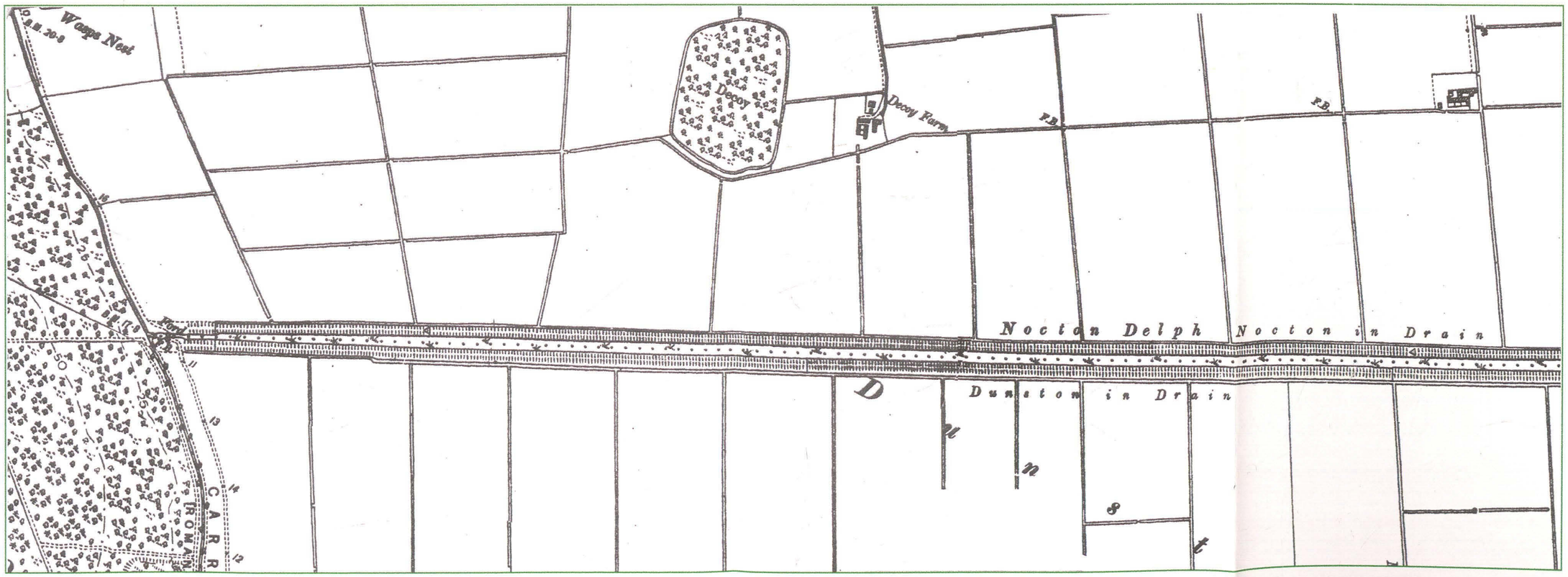
The early 20th century map shows only one farm on the northern side of the delph. This lay c. 650m to the west of the pumping station. One building survives from this complex, and the track that originally ran northwards to Bridge Farm has now been ploughed up and replaced by another heading to the west. A smaller ditch, known as 'Nocton in Drain', followed the tail of the northern bank of Nocton Delph. The early Ordnance Survey map indicates that there was a small, acute kink in this drain immediately to the south of the farm on the northern side of the delph, and c. 380m from the steam pumping engine. It is evident that the 'in Drain' must have been diverted around an existing feature or structure. It is possible that this was the

Figure 9: SECTION C
Nocton Delph and its environs – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheets LXXX.NW and LXXXIX.NE, of 1906 - reproduced at c. 1: 10,000.

NORTH-EASTERN HALF

SOUTH-WESTERN HALF





18th century wind powered water pump (61804) made redundant by the steam engine in the 1830s; if so, it was located c. 80m further to the south-west than indicated by the SMR records (i.e. at TF 1195 6600)

79.NE – A farm is depicted at the eastern edge of the map, c. 250m to the north of the delph. Some of these buildings still survive, but the complex now appears to be somewhat smaller. Approximately 400m to the south-west of this farm is another pronounced kink in 'Nocton in Drain' (at TF 1122 6563), which again suggests that there was another obstacle here when the ditch was created. There is no indication as to what this could be, although it is possible that it represents the site of yet another drainage engine.

A comparison of the Second Edition map and modern editions indicates that changes have been made along the margins of Nocton Delph. In 1904 the 'Nocton in Drain' ran along the foot of the northern flood bank, while 'Dunston in Drain' occupied a comparable position on the southern side. It would appear that both of these 'in drains' have been filled, as there is no longer a ditch along base of either bank. Instead there is a berm, or strip of land, c. 30m wide to the north or south of the respective banks. Nocton Bankside Drain defines the edge of the northern strip, while Dunston Bankside Drain performs a comparable function to the south.

Both the early and modern editions of the Ordnance Survey map depict a ditch labelled as Mill Drain, which runs through Dunston Fen, crosses Fen Lane and intercepts the Nocton Delph at TF 1060 6523. The name suggests that there was another water pump located somewhere along this drain, and the possibility that it would have lain against the southern bank of the delph must be considered.

The Second Edition map depicts the surviving components of Nocton Hall duck decoy toward the western end of Nocton Delph. It appears as a sub-oval area of woodland, c. 250m long (from north-south) by c. 170m wide, which is completely encircled by a ditch. There are no indications of any internal features, such as pipes or a pond, which suggests that it had been redundant for a significant period prior to 1904. Approximately, 100m to the east of the decoy were a group of buildings labelled as Decoy Farm. This farm still exists, albeit in a slightly smaller form, and seemingly no longer bearing the name. The decoy itself has been completely removed and its site is now situated within two fields. However, it is possible to determine where it once lay, as there is a sinuous curve in Cathole Drain, where it formerly skirted the southern edge of the decoy.

The early 20th century map also shows the western end of Nocton Delph, at its junction with the Car Dyke. A track crossed the delph, via a ford, c. 30m to the east of this confluence. The provision of a ford rather than a bridge probably reflects the fact that the delphs were navigable and were used for the transportation of both farm produce and imported goods, such as coal, throughout the 19th and into the 20th centuries (Anon, 1977).

c: *Air photographic evidence*

The Lincolnshire component of the National Mapping Programme identified an irregular cropmark enclosure, probably a later prehistoric or Romano-British settlement, which is situated to the north of (C) and west of Southrey, (53831). Examination of oblique aerial photographs held by the NMR (*TF1267/2*) indicated that there was an associated linear boundary branching off the eastern side of the large curvilinear enclosure ditch. This ditch headed south-eastwards and could be traced for c. 60m to the edge of the field.

Two other oblique photographs (NMR *TF1267/4 & -/5*) depicted the soilmarks of a block of ploughed out ridge and furrow located in the fields to the east of Westfield House, Southrey (TF 1295 6670). The photographs showed 13 *selions*, each a little over 10m wide, that ran

parallel to the track leading to Westfield House. The southern end of these *selions* terminated at a ditch that ran parallel to the modern river channel, being separated from the riverbank/railway embankment by c. 160m. Two linear features were also visible to the south-west of Westfield House. This aerial photographic evidence suggests that the latter is named in reference to the west field of the medieval open field system.

Aerial photographs did not provide evidence of any archaeological features situated on the western side of the river, in the immediate vicinity of Section (C). However, SMR records indicate that an oblique photograph exists that shows a large polygonal cropmark corresponding to the location and dimensions of the Nocton Hall duck decoy, at TF 0930 6510. This photograph was not available for inspection.

d: *Summary and discussion of the evidence*

Relatively little archaeological material has been recorded in the environs of Nocton Delph. Furthermore, much of that which has been identified is situated opposite the north-eastern end of Section (C), on the slightly higher ground to the east of the river. This area lies immediately to the west of the village of Southrey. It is therefore unsurprising that the majority of the archaeological features represent the remains of ridge and furrow forming the medieval settlement's west field.

The discovery of two log boats (61779 & 61780), during the creation of Nocton Delph, indicates that isolated finds are always possible. However, their position c. 3.2km from the present river channel also demonstrates that their locations are impossible to predict.

The only archaeological deposits that might be anticipated along the delph are the remains of two or more pumping stations. The location of the main steam pumping engine (61807) can be readily determined, with the structure housing the engine appearing to lie c. 25m to the north of the delph. The position of the earlier windmills is more difficult to establish, but the older editions of the Ordnance Survey map provide indications that they might be found at TF 1195 6600 (61804) and, possibly at TF 1122 6563 and TF 1060 6523. The remains of any such structures are probably situated in very close proximity to the flood banks, and thus within the area affected by groundworks attendant upon the flood defence improvements. However, the nature of such remains is not at all clear, and it is possible that the wind pumps were post-mills, which would have had a negligible sub-surface component.

Other features that may be encountered along the course of the delph could include facilities for loading and unloading the barges that plied the channel during the 19th and 20th centuries. These could include staithes and 'pull-overs', the latter being tracks running diagonally up the outer side of the bank, which enabled farm carts to get closer to the water (Anon, 1977).

The site of Nocton Hall duck decoy is noted in the SMR and on the Second Edition Ordnance Survey map, c. 1.3km from the western end of the delph (TF 0930 6518) (fig.9). It is thought that this form of wildfowl trap originated in Holland and was introduced to Eastern England in the 17th century, 'decoy' possibly being derived from '*eendenkoi*', Dutch for 'duck cage' (Heaton, 1990). Lincolnshire quickly gained the nickname 'home of decoys', because many were constructed in the county's extensive wetlands. However, although only introduced two centuries earlier, most decoys had ceased operation by the early to mid-19th century, largely due to the success of the various programmes to drain and enclose the fens.

When originally constructed the Nocton Decoy would have had a pond at its centre. Information on the First Edition Ordnance Survey map of 1824[10] suggests that the pond was

[10] This map was not available for inspection, and dimensions are based upon records in the SMR.

60-80m across and covered c. 0.8ha. Five tapering channels, known as pipes, branched off this pool, which was set in an ash wood of 5.7ha that would have provided cover for the decoyman and his traps. Wild ducks would have been enticed onto the pond by tame birds kept for that purpose and would then have been lured into the pipes, where they would be panicked and netted (*ibid.*). The decoyman would have lived at the nearby Decoy Farm, but a hedge and ditch would still have surrounded the decoy to prevent poachers and predators from gaining access. The encircling ditch meant that these sites were largely self-contained. As the southern edge of the decoy lay c. 300m to the north of Nocton Delph it seems unlikely that any works along the channel would impinge upon the sub-surface remains of this post-medieval feature. However, it should be noted that decoys were often engineered so that were constantly flushed by running water, a channel entering at one end and exiting at the other. It is therefore possible that the remains of such an outfall could be exposed during groundworks.

Assessment of archaeological potential:

Section C	**North-eastern end**	**LOW**
	Central Sector	**LOW**

6.1.4 Section D

a: *SMR data and documentary sources*

THE CAR DYKE – this is the most obvious, extensive and important feature in Section (**F**). There has been a considerable amount of debate regarding the date of manufacture and purpose of this channel. It was in the early 18th century that an individual named John Morton made the initial proposal that the Car Dyke was a Roman structure. Since that time insufficient fieldwork has been conducted to corroborate his proposition, but a variety of circumstantial evidence has been elicited to provide support. A number of medieval documents refer to the channel by name, particularly a 'pseudo Chronicle of Ingulphus', Abbot of Croyland from AD 1076, all indicating that it was of pre-Norman construction (Trollope, 1872; Whitwell, 1992). It is therefore difficult to conceive of any polity other than the Romans having the resources and engineering abilities to create such a construction.

It is also notable that the distribution of Romano-British sites and artefacts along the eastern margins of the limestone escarpment in Lincolnshire suggests that the Car Dyke was a focus of activity in much the same way that the Roman roads were. Furthermore, excavations at Mill Drove, Bourne suggested that the channel, which otherwise follows the 7.5m contour at this point, had been diverted for c. 2km to avoid a pre-existing Late Iron Age and Romano-British settlement (Tipper & Field, 1995).

A large hoard of c. 1,500 Roman bronze coins was discovered at Timberland in 1808. These items have subsequently disappeared, but contemporary descriptions suggested that they were all Claudian and pre-Claudian issues of the late 1st century BC and early 1st century AD. Consequently, and despite the absence of a precise findspot, the close proximity of Timberland to the Car Dyke has been used as the basis of a proposal that these coins directly relate to, and date, the construction of the channel (Todd, 1966). It was therefore suggested that the work commenced in the 50 or 60s AD. However, re-evaluation of the 19th century description indicates a sufficient degree of ambiguity that could equally well date the hoard to the 3rd century AD (Whitwell, 1992). While still far from proven, it seems most likely that the Car Dyke was constructed shortly after AD 120, at the instigation of the emperor Hadrian.

The debates regarding the purpose and function of the Car Dyke have been even more divisive. The antiquarian William Stukeley, in 1757, was the first to suggest that the channel had been created primarily as a canal (Simmons, 1975). He embellished this proposal with ideas that it was principally intended to transport grain being produced in the fenland to the military in, and to the north of, York. This idea was favourably received and reiterated well into the 20th century (Simmons & Cope-Faulkner, 1997). However, while it is likely that the construction would have necessitated the involvement of Roman soldiers and military engineers, the interpretation that it was a canal used to support the army has been questioned. Sir John Rennie, during the course of his works to improve the drainage of the Witham Fen, observed that:

> "a more judicious and well-laid out work I have never seen...to the bad condition of this drain much of the injury done by floods...is to be attributed" (cited in Hill, 1965: 13).

He therefore made proposals, in both 1815 and 1845, to scour the Car Dyke so that it could function as a catchwater drain. This never happened, but the idea continued to circulate and by the later 19th and earlier 20th centuries a number of people were suggesting that this had been the original function of the Car Dyke, including Skertchley (1877) and Colonel King-Fane (1931). The most recent proponent of this idea is Brian Simmons (1979), who has suggested that the channel was an integral part of an extensive fenland drainage network. He argued against a dual function for the channel, pointing out that navigation and drainage are essentially incompatible, because:

> "...the navigator requires a good depth of water, which is anathema to the drainer who wants to keep water out of the channel" (Simmons, 1975: 16).

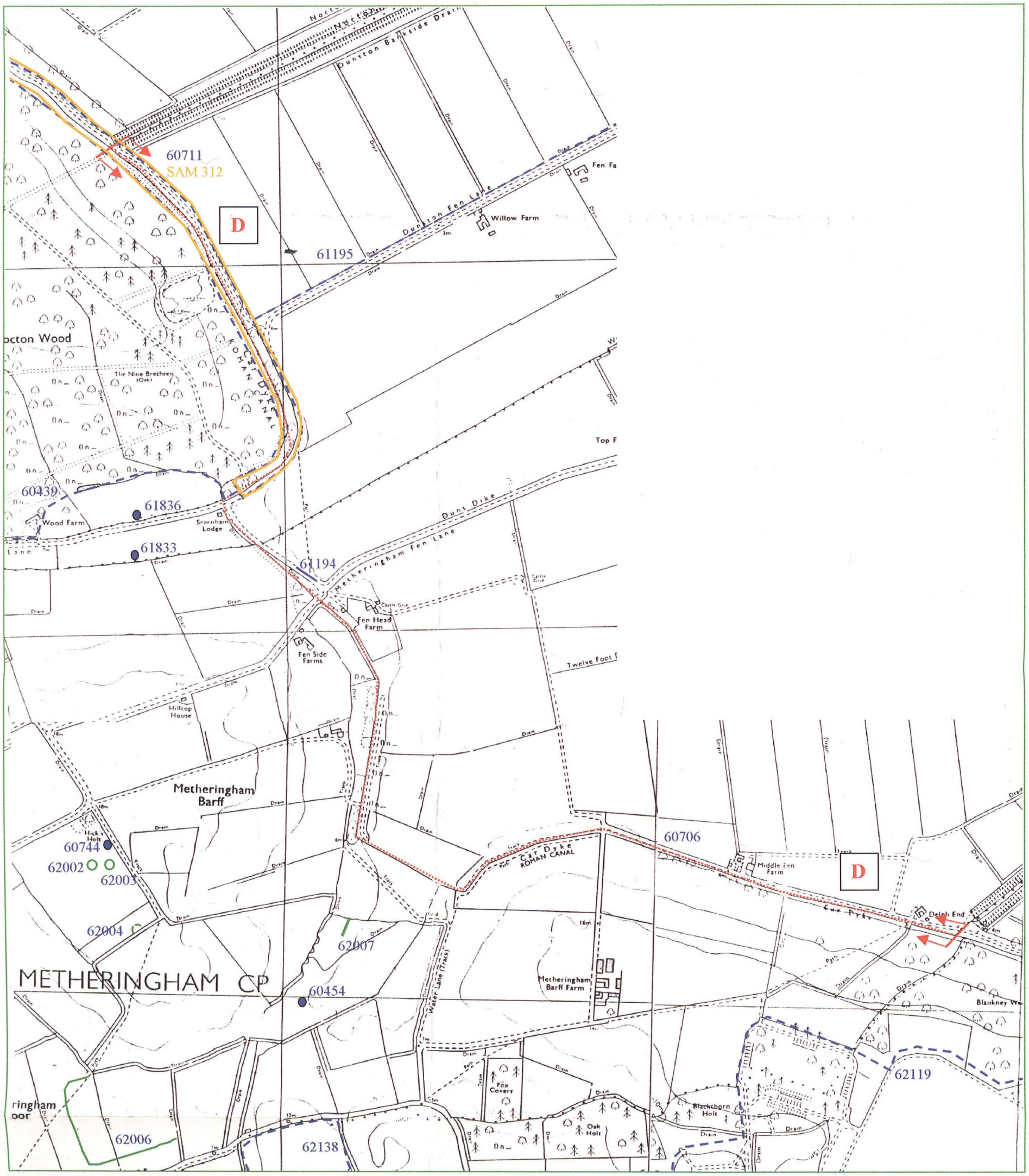


Figure 10: SECTION D

The Car Dyke between Nocton Delph and Metheringham Delph, and its environs, showing the locations of archaeological features and find spots recorded in the Lincolnshire Sites and Monuments Record (see Appendix 12.1 for details); find spots = blue discs, features = dashed blue polygons. Features identified from aerial photographs during the National Mapping Programme are shown in dark green; extent of Scheduled Ancient Monuments (SAMs) shown in orange. Image reproduced at c. 1: 11,100.

However, regardless of these contradicting attributes compromises have often had to be made and, although not ideal for either purpose, it is evident that the Witham was utilised as both a drain and a waterway throughout the medieval period and into the later 18th century.

One of the main reasons presented to refute the idea that the Car Dyke could have served as a navigation is based upon archaeological observations of sections cut across the channel. These have demonstrated that its base was not level, with the further complication that the channel was divided into a number of sections by causeways of clay and bedrock that had been left in place during its initial construction. Such bulwarks would have impeded passage along the channel, leading to the conclusion that it must have been constructed purely with the intention of serving as a catchwater drain (*ibid.*). However, this interpretation also has flaws, particularly when it is noted that the fixed causeways left across the Car Dyke would have obstructed the flow of water and therefore limited discharge from the channel, which, as pointed out above, would not have been desirable for a drain. Furthermore, the provision of substantial banks along both sides of the channel was not the most effective means of constructing a drain along this part of the fen edge. If merely a catchwater drain, the design would have been better, and more efficiently achieved, if only a single bank was provided along the eastern edge of the channel. The latter would have prevented surface water from flowing out into the fen, whereas the provision of a bank along the western edge of the channel actually compromises the ability of the channel to function as a drain by preventing the water running off the higher ground from entering it directly. Consequently, while the western bank prevents a small strip of ground along the western margin of the channel from occasionally becoming inundated by flood waters, it presence would also have necessitated the construction of a system of associated drains and leets to the west of the channel in order to direct run-off into the Car Dyke through a small number of sluices.
The provision of a western bank therefore seems to suggest that control and maintenance of the water level in the channel was of particular importance. This brings the argument back to the idea that the channel served an important function as a means of communication and transportation. Furthermore, this interpretation is not diminished by the presence of the fixed causeways across the channel, as:

> "a channel this length will never be exactly horizontal and causeways such as those recorded could have acted as fixed locks, maintaining independent water levels in each section of the channel" (Rippon, 1999: 118).

Consequently, rather than envisaging the Car Dyke as a single continuous channel that would be directly comparable to post-medieval and early modern canals, it may be more realistic to envisage it as discontinuous structure composed of a series of shorter sections that met each other end on.

Rather than seeing the Car Dyke as a structure with a single purpose, it might be better to consider that it had two important functions. The first would have been to act as a means of communication at a local and regional level, with the second as an arterial drain. This would be in line with Trollope's description, as 'a wide and deep catch-water canal'

> "it has been a matter of surprise to some how it could have retained a supply of water sufficient to enable it to act as a navigation in summer, and yet afford a means of exit to the upland waters during the winter months. It must, however, be remembered that as the Car-Dike was intersected by various natural streams, it would thus be kept full of water even in the driest seasons, and yet that through the same medium...it would be able to pass off its redundant waters; in addition to which, it must be borne in mind, that if flood gates were formerly required for the occasional protection of the Car-Dike from the overflowing of the said rivers, the Romans were fully acquainted with the use of such artificial hydraulic aids" (Trollope, 1872: 72).

The name '*Car Dyke*' is undoubtedly a post-Roman appellation and probably signifies that this was an important drain running through carr or fenland. However, there are also records of the channel being called the *Bell Dike*. The latter was given in reference to an oral tradition that the original large bell in Lincoln Cathedral, '*Great Tom*', was transported along the

channel from Peterborough, as either a present or exaction from the Abbot of St Peter's Abbey. While such a story can never be verified, the fact that it was readily accepted and perpetuated by oral tradition suggests that the transportation of goods along the channel was a relatively common and believable event into the historic period. This therefore provides circumstantial support for the proposal that the Car Dyke was a functioning navigation.

A range of archaeological features have been identified along this section of the Car Dyke, a number of isolated artefacts having also been recovered along the margins of the fen edge. The majority of these were discovered in the northern two-thirds of Section **(D)**.

NORTHERN SECTION (Nocton Delph to Metheringham Fen Lane) - the oldest artefact to have been discovered along this sub-section is a Neolithic polished stone axe found in the side of a drain, to the south of Dunston Fen Lane, during 1959-60 (61833 - TF 086 632) (fig.10).

Evidence of Romano-British activity is also relatively restricted, being limited to the presence of the Car Dyke itself. This part of the Car Dyke is well preserved, the entire 1500m length that skirts the eastern edge of Nocton Wood having been listed as a Scheduled Ancient Monument under The Ancient Monuments and Archaeological Areas Act, 1979 (SAM 312; 60711 - TF 0820 6460 to TF 0890 6340). The most northerly 450m of the SAM falls within Section **(B)**, being separated from **(D)** by the junction with the western end of Nocton Delph. The eastern bank was partially truncated to create the track bed for a potato railway (see below). The railway has since been removed and the bank/track bed has subsequently been reused as a private road. The railway only continued southwards as far as Dunston Fen Lane, the eastern bank being well preserved to the south of this point; lying as it does within a narrow strip of trees representing a south-easterly extension to Nocton Wood. Overall, the western bank is much better preserved, and stands approximately 1.0m high. It is situated within the wood along its entire length. The channel itself has been partially dredged out, but remains relatively shallow.

At 98ha, Nocton Wood is the largest of the areas of woodland that flank the Car Dyke as it runs between Washingborough and Timberland (60439 - TF 0820 6380). The wood is likely to be of considerable antiquity, and medieval documentation records its existence in the medieval period when it was a possession of Nocton Priory. Subsequently, it passed to the Nocton Hall Estate. The Nocton parish boundary runs along three sides of the wood, providing further indications of both its age and the constancy of its proportions. The Nature Conservancy Council have included it in their inventory of Ancient Woodland, classifying 14ha as plantation and the other 84ha as semi-natural. Some of the trees in the latter component are more than 600 years old.

A 7m long section of wall foundation was identified in an access pit, during the replacement of a section of water main running alongside the road linking Dunston Fen Lane and Metheringham Fen Lane. This lane runs along the eastern bank of the Car Dyke, the footings having been found c. 30m to north of Metheringham Fen Lane. Associated artefacts suggested that the wall was part of a post-medieval structure (61194 - TF 09065 63143). Ordnance Survey records indicate that further possible wall foundations were being damaged during ploughing of the field sandwiched between the southern edge of Nocton Wood and Dunston Fen Lane (61836 - TF 086 633). These putative footings were not properly exposed and thus remain undated, but their indicated location, at the southern edge of the field, suggests that they may have formed an estate boundary preventing public access to Nocton Wood from the lane.

The former potato railway was a narrow gauge line that ran southwards from the hamlet of Wasps Nest along the eastern bank of the Car Dyke (61195 – TF 0810 6472 - TF 1204 6547) It then turned eastwards along the northern edge of Dunston Fen Lane until it reached Garden

Farm, situated toward the eastern edge of the Witham Fen. The railway was created during the 1920s and horses initially drew the wagons along the 3.6km long line. Subsequently, steam engines were used, these being replaced post-war by diesel engines, which continued to operate until its closure in 1962.

SOUTHERN SECTION (Metheringham Fen Lane to Metheringham Delph) – there is significantly more evidence of prehistoric activity along this section of the Car Dyke than has been discovered in the areas immediately to the north and south. This activity is focussed around a small barrow cemetery, three cropmarks having been identified from aerial photographs (62002, 62003, 62004 - TF 085 623) (fig. 10). These round barrows were constructed on the crest of a small promontory, at c. 17m OD; a stream from Dunston runs into the fen along its northern edge, forming a narrow valley, while similar small channels from Metheringham and Blankney define its southern side. The raised location selected for the Metheringham Barff barrow cemetery contrasts with the position chosen for the other barrows that have been identified in the Lower Witham Valley, all of which are situated at or below 5m OD.

Associated prehistoric artefacts include a Bronze Age looped and socketed axe that was found on the surface of the field containing two of the round barrows (60744 - TF 0851 6240). Additionally a Bronze Age pebble axe hammer was found c.500m to the south-east of the barrows, on the northern edge of the small stream from Metheringham (60454 - TF 0904 6196).

None of this section of the Car Dyke has received statutory protection under the Ancient Monuments and Archaeological Areas Act, 1979. The course of the channel is easy to determine, and some sections have been reused as a catchwater drain or field boundaries (60706). There are no records of Romano-British artefacts having been discovered along this section. However, it should be noted that an undated cropmark enclosure situated c. 600m to the south-west of the Car Dyke has a sub-rectangular plan and rounded corners, features that are characteristic of Roman forts (62006 - TF 0849 6166).

Evidence of medieval activity is equally elusive, being restricted to the remains of a pillow mound located 200m to the south of the Car Dyke (62007 - TF 0915 6218). The mound still survives as an earthwork c. 40m long, and is most likely to have provided rabbits for one of the large monastic estates lining the Lower Witham Valley.

Two large ponds mark the former location of a post-medieval gravel pit that was depicted on the Ordnance Survey map of 1906 (62138 - TF 0911 6150).

b: *Cartographic evidence*

The following map was found to contain data relating specifically to the site:

- Ordnance Survey, 1907 – Sheet LXXIX.SE, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1886, and was revised in 1904.

The Second Edition map demonstrates that the northern end of this section has changed very little, Nocton Wood still dominating the western side of the channel, with the rectilinear field system of the reclaimed fen extending over the land to the east (fig.11). The area of Nocton Wood has not changed during the 20th century, but the modern map shows an area of marshy ground near the centre of its eastern edge. Comparison with the 1907 edition shows that this was a smaller, oval depression at that time and was probably comparable to a similar feature shown a little further to the south, which was identified as a gravel pit. The lack of a similar label, combined with the depiction of a few trees within the base of the depression, suggests

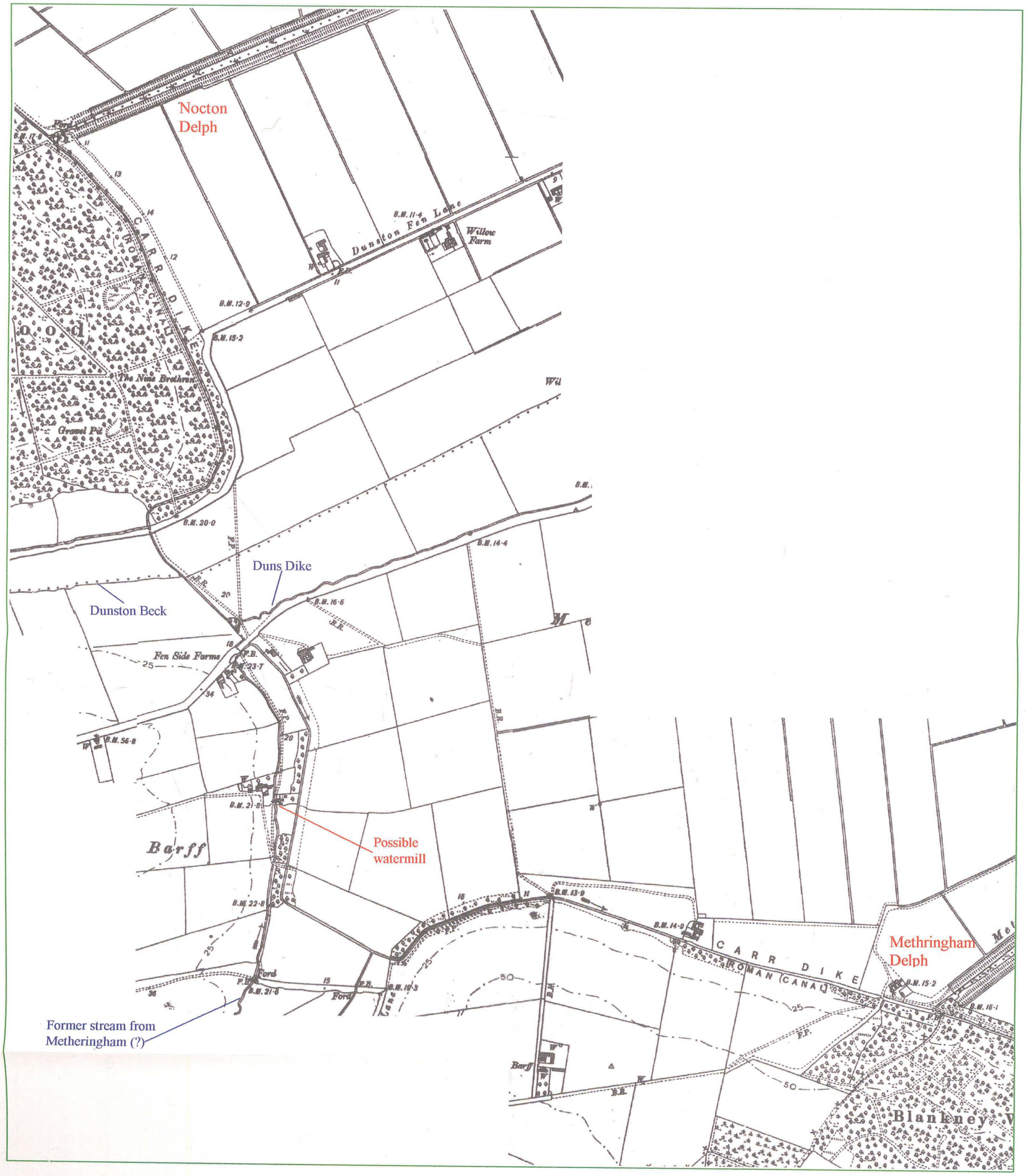


Figure 11: SECTION D
The Car Dyke between Nocton Delph and Metheringham Delph, and its environs – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheet LXXIX.SE, of 1906 – reproduced at c. 1: 12,000.

that the more northerly pit had been abandoned prior to 1904. However, its increased size on modern maps implies that it was reused later in the 20th century.

In 1904 a track ran between the end of Nocton Delph and Dunston Fen Lane, but unlike its modern successor this road did not proceed along the eastern bank of the Car Dyke, but ran parallel to it, c. 30m to the east. The field system to the south of Dunston Fen Lane has changed somewhat, many of the field boundaries having been removed to create much larger sub-rectangular blocks.

A building known as Scarnham Lodge has been constructed since 1904 on the western side of the junction between Dunston Fen Lane and the north-south aligned track that links it to Metheringham Fen Lane. At the southern end of this track the Duns Dike branches off the Car Dyke to head westward along the northern edge of Metheringham Fen Lane. The Second Edition map indicates that the western edge of the Duns Dike was still very sinuous in 1904; it has since been straightened. This morphological trait raises the possibility that it originated as a natural channel, a possibility receiving additional support from further examination of the earlier map. There are two farms to the south of Metheringham Fem Lane, Fen Side Farms and Fen Head Farm, both of which were in existence in the Edwardian period. Although they are only separated by a distance c. 120m, there are two channels running from north to south between them. The more easterly is the Car Dyke, which is comprised of a series of straight lengths, while the western channel winds gently northwards before terminating roughly 90m away from Duns Dike. This spatial relationship makes it likely that the two meandering channels joined prior to the creation of the Car Dyke. Southwards, the western channel continues to wind along the base of the promontory on which the barrow cemetery is sited. Its southern end terminates c. 300m to the north of Moor Lane, but it is likely that it originally continued south to the road to join the stream from Metheringham. The latter now runs along a canalised channel that diverts it eastward. Consequently, it is proposed that the stream from Metheringham originally issued into the Witham Fen via the Duns Dike. Furthermore, it is also possible that the more northerly stream from Dunston, along with tributaries exiting Nocton Wood, also joined Duns Dike to the north of Fen Side Farms.

The Second Edition map depicts a group of buildings situated c. 200m to the south of Fen Side Farms. They appear to have formed another farm. Most of the structures still survive, with the exception of a group of buildings at the south-east corner of the complex. This latter collection consisted of two small square buildings lying to the north and south of the eastern end of a long rectangular structure. The western end of this larger building had been constructed over the stream that had probably once formed part of the Duns Dike (see above). The relationship of this building to the stream suggests that it was, or had once housed, a water mill (fig.11).

There are no other appreciable differences along the north-south aligned component of this section of the Car Dyke. The channel changes its orientation at the point where Water Lane approaches it. On the higher ground to the south-west of this deviation are the buildings of Metheringham Barff Farm. The early 20th century structures still survive and have been supplemented by two large sheds to the north. A similar pattern of expansion, albeit on a lesser scale, is visible at Middle Fen Farm, which occupies the eastern bank of the Car dyke c. 600m from its junction with Metheringham Delph. Delph End, a little to the west of the delph, was also in existence prior to 1904.

c: *Air photographic evidence*

The Lincolnshire component of the National Mapping Programme identified the three round barrows situated c. 600m to the west of the Car Dyke. The two examples situated at the centre of the field had previously been identified (e.g. Simmons & Cope-Faulkner, 1997 - 62002,

62003), but the third example, which is truncated by the southern boundary of the field, was a new discovery (62004). Examination of an oblique aerial photograph held by the SMR (*BUX 047*) also clearly demonstrated the existence of the more northerly pair of barrows. Additionally, this image showed that the same field also contained a series of cropmarks representing the remains of an earlier field system. These ditches had formed a rectilinear system of small fields, each plot being approximately 80m square. One of the main boundaries ran between the two barrows, placing them in different fields. Although it is not possible to date this system, it is evident that it predates all elements of the present post-medieval to early modern layout.

The National Mapping Programme also identified the earthwork remains of the medieval pillow mound situated c. 200m to the south of the Car Dyke and to the west of Water Lane (62007), and the cropmarks defining the large rectangular enclosure adjacent to Moor Lane (62006).

d: *Summary and discussion of the evidence*

With the exception of a few isolated finds, the small round barrow cemetery occupying the promontory at the centre of Section **(D)** represents the earliest identified site along this section of the western fen edge. While the barrows are likely to be Late Neolithic and Early Bronze Age in date, the recovery of a Middle to Late Bronze Age looped and socketed axe provides an indication that this complex was a focus for ritual activity for a considerable period of time. At present, only three barrows have been identified, and all of these are on the small spur of high ground, at least 500m from the Car Dyke. However, it is probable that there are other barrows that were not evident in the aerial photographs examined. Furthermore, not all of these monuments need have been situated upon the raised ground, as the other barrows within the Witham Fen were constructed on a ground surface at or below 5m OD. This observation is supported by the discovery of a pebble axe hammer on the low ground adjacent to a stream, which raises the possibility that other funerary or ritual deposits are located in close proximity to the Roman channel.

Archdeacon Trollope provides the first relatively detailed description of this section of the Car Dyke.

> "About a mile further to the north, Metheringham delph is passed, and here for a short space the Dike banks have been removed, but again are seen rising on either side of a wide channel, ...until they reach the road leading to the village of Metheringham, where the former become less apparent, and the latter shrinks into a ditch; but upon approaching Nocton wood, the channel is 12 feet wide, owing to the waters of Dunston beck which here flow into it; and the flat treeless plain through which the Car-Dike has so far passed, is exchanged or a woodland scene on either side. Here its banks, although covered with trees and bushes, are very visible until they reach Nocton delph, where the eastern one emerges from the wood, but the other still continues just within its limits as far as its northern boundary..." (Trollope, 1872: 80).

Preservation has remained good along the northern part of this stretch of the channel and this is reflected in the fact that section bounding the eastern edge of Nocton Wood has been classified as a Scheduled Ancient Monuments under the Ancient Monuments and Archaeological Areas Act, 1979 – SAM 312. This equates to c. 1600m of Section **(D)** having statutory protection (39% of the 4.1km). Any improvements to the banks or the channel along this section could impinge upon the areas of the scheduled monuments, particularly if the intention is to create a single continuous channel to contain and direct surface water and excess discharge generated by flood events. Such works would have a direct impact upon the Car Dyke itself and could affect any accompanying features. It is therefore crucial to stress that consultation with English Heritage prior to the detailed design and onset of this component of the scheme of works is both advisable and necessary. Additionally, it should be

noted that it will be an absolute priority to ensure that plant, contractors, earth or anything else associated with the project does not encroach onto the area of the scheduled monument without first obtaining scheduled monument class-consent from English Heritage.

An undated cropmark enclosure situated c. 600m to the south-west of the Car Dyke has a 'playing card' shape often characteristic of a Roman military establishment (62006). The single ditch encloses an area of approximately 5ha, and if Roman, would mark this out as a relatively large fort. However, its position on low ground overlooked by the area of the barrow cemetery to the north, is not consistent with the siting of a conquest period military base. This could indicate that the feature is not Roman. Alternatively, it may mean that the enclosure post-dates the 1st century AD, being constructed at a point when the Roman military felt reasonably secure. If so, this raises the question of why the Roman army would construct a new base at a time when there seemed to be little likelihood of a challenge to their authority. The Car Dyke itself may provide the answer. The channel was almost certainly designed by military engineers and would in large part have been constructed by soldiers. This would have necessitated the creation of a series of temporary bases along the course of the channel in order to house and provision the forces engaged in this work. While this remains a highly speculative argument, it is possible that the cropmark enclosure on Metheringham Moor represents one such camp.

Assessment of archaeological potential:

Section D	**Northern end**	**HIGH**
	Southern end	**MEDIUM-HIGH**

6.1.5 Section E

a: *SMR data and documentary sources*

NORTH-EASTERN END (river margins) – as with the other delphs, the majority of the recorded archaeological deposits at this end of Metheringham Delph are situated on the eastern side of the river, along the margin of the Witham Fen (fig. 12). The oldest recorded artefact in the vicinity is a Neolithic flint axe, found c. 850m to the east of (E). It had been flaked to create a tool of a similar shape to early bronze flat axes (40095 - TF 1640 6500).

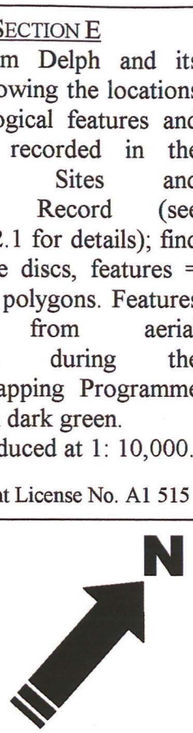
A log boat was recovered from land adjacent to the river at Stixwould in 1848 (40034 - TF 1590 6480). The date and recorded location of the find, c. 450m from (E), provide strong indications that it was discovered during the construction of the railway station at Stixwould Ferry (White, 1978). Two bone skates were found at the same time, and it has been suggested that they may have been runners used to remove the vessel from the water.

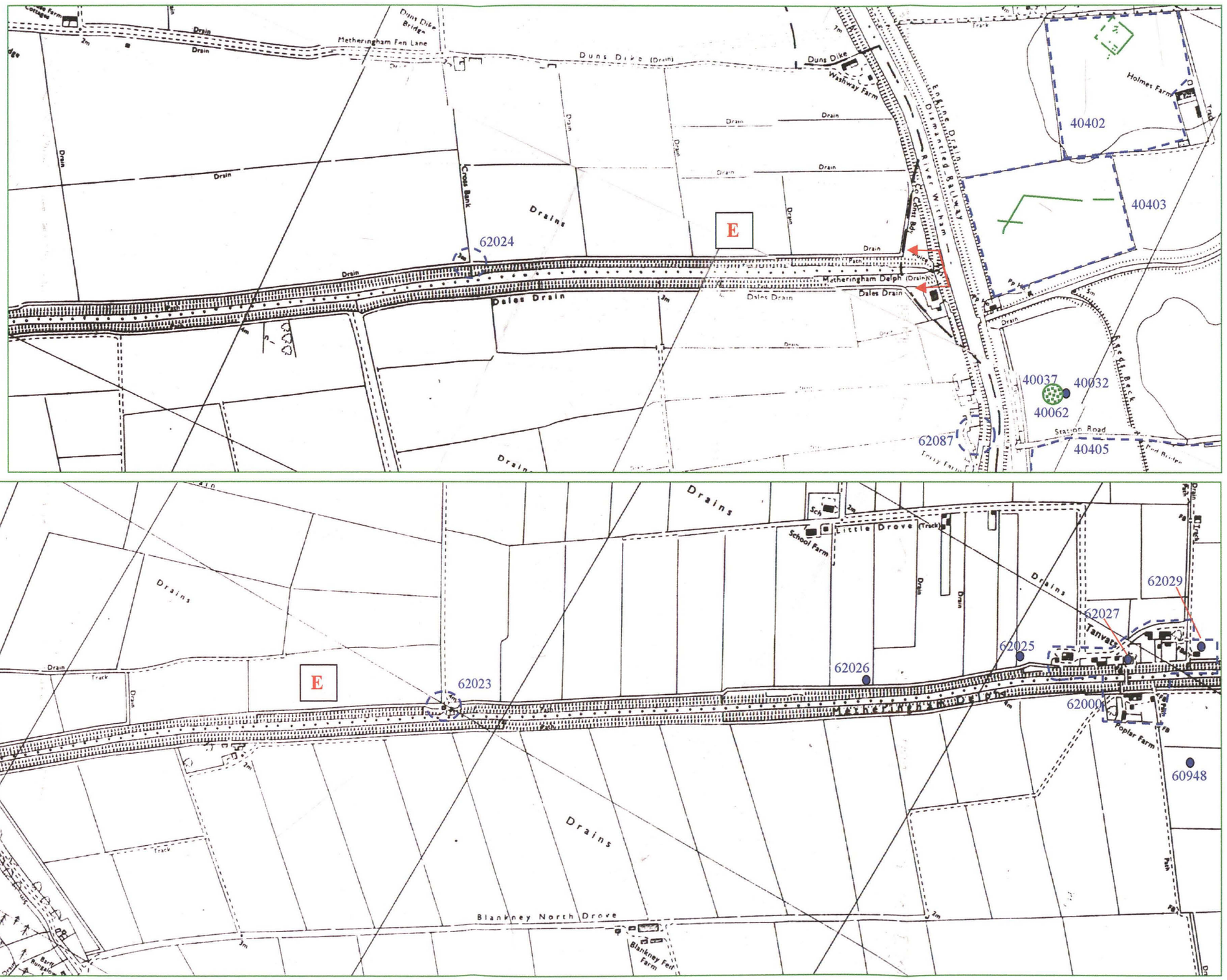
Most of the other archaeological remains relate to medieval activity along the river's edge. In 1958 deep ploughing exposed a quantity of coarse pottery to the north-west of Stixwould Station, and c. 150m to the east of the river (40032 - TF 1590 6501). Initially it was thought that this shelly fabric came from middle Saxon vessels. However, a subsequent site visit demonstrated that the pottery was associated with a medieval fishery and, consequently, that these sherds were likely to have formed part of a curfew, a type of pot specifically associated with such sites. The fishery was located upon a large artificial mound, c. 50m in diameter and approximately 1.5m high, which had been constructed to raise the buildings above water level (40062). Associated structural remains included limestone rubble, roof tiles and a louver, indicating that these were permanent and substantial buildings (40037 - TF 1590 6501). Associated medieval pottery was manufactured in Bourne, Kirkstead, Lincoln, Old Bolingbroke, Potterhanworth, and Toynton and dated from the 13th century onwards. Sherds of later fabrics indicated that activity continued at the site into the 18th century. Animal bone and a limestone net sinker were also recovered. It is possible that this site represents one of the two fisheries at Stixwould that were held by Waldin the Breton at the time of the *Domesday* survey (Morgan & Thorn, 1986). A 14th century Compotus Roll also mentions two fisheries in the parish, both of which belonged to Stixwould Priory; one of these was known as *Chakesgard* and was rented for 12d a year from Tupholme Abbey (information held in SMR parish file).

Another probable fishery has been discovered on the western bank of the river in the parish of Blankney (62087 - TF 158 648), situated c. 350m to the south of Metheringham Delph, and only 150m from the Stixwould fishery. A scatter of medieval to post-medieval pottery was found beside the riverbank, to the north of Ferry Farm, this material also being associated with possible structural remains, including tiles, burnt limestone, burnt clay and soot. The large quantity of scorched material amongst this debris also raised the possibility that a post-medieval pottery kiln had also been constructed on the site.

In addition to the log boat, some weaponry was also recovered from the site of Stixwould Station during 1848 (40060 - TF 1590 6480). These items included a human skull, along with a mass of chainmail - probably a hauberk, an iron sword, and an iron spearhead, all of which appear to have been manufactured during the 13th or early 14th centuries (White, 1979). The material was recovered from a trench approximately 2m deep that lay very close to the Witham. The proximity of the findspot to the 19th century river channel raises the possibility that this assemblage was originally thrown directly into the water, which would suggest that the practice of votive deposition in watery contexts continued into a period of universal and unambiguous Christian belief and practice.

Figure 12: SECTION E
Metheringham Delph and its environs, showing the locations of archaeological features and find spots recorded in the Lincolnshire Sites and Monuments Record (see Appendix 12.1 for details); find spots = blue discs, features = dashed blue polygons. Features identified from aerial photographs during the National Mapping Programme are shown in dark green.
Image reproduced at 1: 10,000.





A series of undated cropmark features have also been identified on the eastern bank of the river opposite Metheringham Delph. The closest is a curvilinear boundary associated with a number of other faint features, that lies c. 200m to the north-east of (E) (40403 - TF 1574 6535). A further 350m to the north is a small sub-square enclosure of c. 0.5ha, within which are a number of short linear and discrete features (40402 - TF 1574 6582).

The largest cropmark complex is located c. 650m to the south-east of the delph, in fields to the south of Newstead Farm (40405 - TF 1660 6505). Central to this group is a large sub-rectangular enclosure, with rounded corners, which in some respects is reminiscent of a Roman fort and in others resembles a duck decoy. Superimposed upon this enclosure, and extending into the surrounding area are a range of linear features and smaller sub-rectangular enclosures, which collectively appear to constitute a relict field system.

CENTRAL SECTOR (Witham Fen) – the locations of four pumping stations that lined Metheringham Delph are recorded in the SMR. Two of these were wind pumps, one being situated on the western edge of the small settlement of Tanvats (62025 - TF 1305 6380), the other lying approximately 400m further to the south-west (62026 - TF 1275 6358). It is probable that both were constructed around 1790 to dewater the surrounding land, and that they were still in use in 1824, when the first Ordnance Survey map of the area was created. A Parliamentary Act of 1831, to improve the drainage of Branston, Potterhanworth and Nocton Fens, led to the introduction of steam pumps. This would have made the windmills redundant and they appear to have been demolished prior to the creation of the Second Edition Ordnance Survey map at the beginning of the 20th century. The steam pumps were more widely spaced than their predecessors, one being situated c. 1.2km to the east of Tanvats (62024 - TF 1445 6467), while the other lay c. 1.5km to the south-west (62023 - TF 1186 6299). Modern maps indicate the presence of a small building at the site of the more westerly pump. However, the relationship of this structure to the 19th century pumping engine is not clear.

The settlement of Tanvats is situated approximately at the mid point of Metheringham Delph, c. 8km to the east of Metheringham village (62000 - TF 1330 6395). It is a small linear development, most of which runs along the north-western bank of the delph, with a few outlying buildings to the south. This relationship suggests that its foundation post-dates the construction of the channel, either being created during the last decade of the 18th century or at the beginning of the 19th century. However, a single sherd Nottinghamshire ware pottery has been recovered from a field c. 200m to the south-east of the hamlet (60948 - TF 13553 63818). This fabric is late medieval to post-medieval in date and raises the possibility that the present settlement overlies the site of earlier activity, the latter possibly occupying a low sand bank that protruded from the fen even prior to the commencement of the systematic drainage works in the later 18th century. The place-name suggests that there was industrial activity taking place here from the earliest stages of occupation. As tanning is a particularly unpleasant activity, the isolated position of the settlement would be ideal, and a constant supply of water would also be assured!

Two buildings in Tanvats were of particular interest. The school was constructed in 1857 and was designed to provide places for up to 70 children (62029 - TF 1343 6407). Given the relatively isolated position of the community, the structure was also licensed for Anglican church services. The building was situated on the north-eastern edge of the settlement and appears to have survived into the 1970s. Despite its small size, Tanvats also contained two chapels. The Wesleyan Methodist Chapel was constructed in 1887, the building now forming part of a residential property (62027 - TF 1327 6395).

As well as being the only settlement to be situated along the central section of any of the four Witham Valley delphs, Tanvats is also unusual in that the delph was spanned by a bridge. The original bridge was a narrow structure on wooden stilts. This was replaced by a suspension bridge, locally referred to as 'Tanvats Pier'. The footway of both of these structures was high

enough to allow barges to pass beneath. The 'Pier' was demolished and has been replaced by a low brick, stone and concrete structure that prevents navigation along the channel.

b: *Cartographic evidence*

The following maps were found to contain data relating specifically to the site:

- Ordnance Survey, 1907 – Sheet LXXX.NW, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1887, and was revised in 1904.

- Ordnance Survey, 1906 – Sheet LXXX.SW, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1887, and was revised in 1904.

- Ordnance Survey, 1907 – Sheet LXXIX.SE, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1886, and was revised in 1904.

80.NW - The Second Edition map indicates that the form of the riverbank along the Witham was virtually as it is today. The constituency and parish boundary deviated westward from the centre of the river channel, forming a gentle arc that had its apex at the point where it crossed Metheringham Delph, c. 110m to the west of its junction with the Witham (fig.13). This deflection of the boundary is still shown on modern maps, but the early 20th century edition demonstrated that it followed a narrow, curvilinear strip of marshy ground, which evidently represented a former bend in the pre-canalised river channel.

The Second Edition map also indicates that the line of the south-western flood bank of the river was continued across the end of Metheringham Delph by a structure referred to as *Carlton Bridge*. The top of the flood bank on this side of the river was used as a towpath, and the bridge was evidently intended to allow foot traffic to progress along it. The site of the bridge is now marked as a 'sluice'. A large building now occupies the area immediately to the south of the junction between the Witham and the delph, but there were no structures here in 1904.

Comparison of the Second Edition map and modern versions indicates that in comparison to the margins of the other delphs, there have been relatively few changes to the form of the field system in this part of the Witham Fen. A few of the fields flanking the delph are now larger than they were in 1904, but most of these are situated immediately to the north-east of Tanvats. The location of the more easterly steam pumping engine on Metheringham Delph is also depicted in 1907 (62024). This appears to have been housed within a small sub-rectangular structure, with a square building immediately adjacent, which was recessed into the northern flood bank of the delph, at the southern end of 'Cross Bank'/'Mill Drain'. The pump house was approached by an unmetalled track that ran along Cross Bank from the eastern end of Metheringham Fen Lane. Modern maps show that the buildings and track have been removed, but one of the lane's two flanking ditches survives, this still being labelled as Cross Bank. The southerly continuation of Cross Bank did not lie immediately opposite the pumping station, but staggered, diverging from the delph c. 300m to the south-west. This feature was, and still is, referred to as Dales Head Bank, its western flanking ditch being the 'Dales Head Dike' and the eastern 'Dales Drain'.

80.SW - The Second Edition map depicts an unnamed farm complex on the southern side of the delph, c. 150m to the south-west of its junction with the Dales Head Bank. The modern map indicates that none of these buildings survive, but the former location of the farm is revealed by two short sections of ditch and a line of trees that probably originally lined the

Figure 13: SECTION E
Metheringham Delph, and its environs – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheets LXXX.NW, LXXX.SW, and LXXIX.SE, of 1906 – reproduced at c. 1: 10,000.

driveway to the farm house. The track along the base of the southern bank of the delph that linked the farm to Tanvats and Blankney Drove has also been removed.

The layout of the component of Tanvats to the south of the delph, which largely appears to have consisted of the elements of Poplar Farm, appears to have changed very little during the 20th century. In contrast, the larger part of the settlement that lines the northern bank has contracted over the same period of time. The bridge crossing the delph provides a good point from which to divide the settlement, in order to undertake a comparison; however, it should be noted that the maps demonstrate that the suspension bridge was situated c. 15 – 20m to the west of the present low-level structure. There are currently only six buildings to the east of the bridge, but there were approximately twenty, including the Methodist Chapel and the school, in 1904. The decline to the west of the bridge is less severe, six buildings being shown in 1904 and four now; still it should be noted that at least two of the existing structures have been erected since 1904.

Close examination of the Second Edition map shows that each property on the northern side of the delph had a footbridge that crossed the drain following the base of the flood bank, thereby giving access to the channel. The most westerly building occupied the eastern end of a trapezoidal platform, c. 70m long by up to 20m wide, which was recessed into the northern edge of the flood bank. This 'platform' is likely to have been a small wharf serving the settlement. It is still shown on modern maps, a slight kink in the drain that defines its northern perimeter making it easy to locate.

The early 20th century map depicts small groups of buildings at four locations along the 700m stretch of the northern bank of Metheringham Delph situated immediately to the south-west of Tanvats. Each of these households was accessed by a track branching off Little Drove. None of the buildings, or any of the tracks survive in the modern landscape. However, it is notable that the third group, lying c. 600m from Tanvats, was constructed on another platform let into the flood bank. Furthermore, it appears likely that a footbridge spanned the delph at this point, although the map is slightly ambiguous. There is certainly no modern footbridge at this location, but the platform along the northern bank survives.

The buildings housing the steam pump situated toward the western end of Metheringham Delph are shown on the Second Edition map, and are captioned as *Metheringham Pumping Engine* (62023). There were three structures, one of which survives. The central building was probably the pump house, as it was situated at the end of a substantial ditch crossing Dunston Fen and Metheringham Fen. The northern end of this ditch, near its junction with Metheringham Fen Lane, is still labelled as Mill Drain. It is conceivable that the 'mill' refers to the steam pumping engine, but it should also be noted the buildings lying immediately to the south of the lane and to the east of the drain are known as Engine Farm. It is therefore likely that the 'engine' and the 'mill' signify the same feature, probably a wind driven pump constructed at the end of the 18th century (at TF 1130 6395). The early Ordnance Survey map also appears to show another footbridge crossing the delph immediately to the east of the outfall of the pumping station.

79.SE – The south-western end of Metheringham Delph has changed very little during the course of the 20th century. The flood banks, surrounding field system and associated tracks are virtually identical. The Second Edition map shows a group of buildings nestling in the lea of the southern flood bank, c. 600m from the end of the channel. The three structures at the eastern edge of this group still exist, but a fourth, lying c. 70m further to the west, has since been demolished.

There is another group of buildings in the immediate environs of the delph. They lie immediately to the west of its junction with the Car Dyke, and are now known as Delph End. The form of these structures has changed little since 1904.

c: *Air photographic evidence*

The National Mapping Programme identified elements of three cropmark complexes situated on the eastern bank of the river opposite the end of Metheringham Delph. These included a curvilinear boundary (40403), a small, sub-square enclosure, with associated features (40402) and the large sub-rectangular enclosure to the south of Newstead Farm (40405).

There were no archaeological features visible in aerial photographs depicting the central section of the delph as it crossed the Witham Fen. However, the National Mapping Programme also identified a block of ridge and furrow c. 600m to the south-east of its western end. These features were contained within three fields lying between Blankney Wood and Hill Top Farm. The boundaries of the most northerly field preserved the reversed 'S'-shaped plan that is indicative of medieval ploughing.

d: *Summary and discussion of the evidence*

NORTH-EASTERN END - most of the archaeological features and activity that have been identified at this end of Metheringham Delph are either situated on the slightly higher ground to the east of the Witham, or along the edge of the river channel itself. The most extensive of these deposits are a series of cropmark complexes that extend along the eastern side of the river valley (40402, 40403, 40405). These appear to represent a variety of features, but primarily consist of superimposed field systems and associated enclosures. Aerial photographs that also show the western margins of the Witham do depict cropmarks generated by relict creeks and meanders, but do not provide any indications that archaeological features associated with the relict field systems ever extended onto this side of the present river channel.

A number of medieval fisheries were located along this section of the river, two sites having been identified close to the end of the delph. One was situated on the eastern bank, in Stixwould parish, and comprised a series of buildings constructed upon an artificial mound (40037). The other example lies in Blankney, and is the only medieval feature in this area that has been identified on that side of the river (62087). It lies c. 350m to the south of the delph, but much closer to the other fishery on the opposite bank. This indicates that these establishments could be situated in close proximity to each other, and it is therefore possible that further examples await discovery along this section of the river. Examination of the Blankney fishery has also suggested that it was reused as the site of a post-medieval pottery. Presumably its location adjacent to the river allowed the products of its kilns to be cheaply and rapidly transported to local and regional markets.

Other archaeological materials that have been identified along this stretch of the river include yet another log boat (40034), which was found at Stixwould Station, c. 450m to the south of the delph.

CENTRAL SECTOR - with the exception of features that post-date and/or relate to the use of Metheringham Delph, there is little evidence of past human activity in the immediate environs of this large drain. The county SMR records the existence of a number of drainage engines along the channel, the most easterly of which was situated at the southern end of Cross Bank/Mill Drain. Mill Drain can be traced northwards across Metheringham and Dunston Fens to a point to the south of Southrey. From there it mimics the sinuous course of the present river channel, which lies c. 400m to the east, up to Bardney Lock, where it is called Benton's Drain. Early maps indicate that originally Benton's Drain continued north-eastwards into the area that became Branston Island, before then continuing westward as Witham Bank Side Drain (see 6.1.1.b & d).

It is evident that a different system of land division operated on either side of Mill Drain. To the west there are larger rectangular fields, while to the east in the strip running alongside the Witham, the fields are much smaller and generally quite narrow. This implies that the land here is more prone to water logging, which necessitated the creation of a denser network of drains, and could also indicate that the two systems were created at different times. Furthermore, this strip of land is also differentiated by its place-names, each section being referred to as a *washway* (e.g. Metheringham Washway, Dunston Washway), while the larger block to the west is merely *Fen*. These factors, together with its winding course, raises the possibility that Mill Drain/Benton's Drain/Witham Bank Side Drain follows and defines a former channel of the river. Then again, it is also possible that this section of the Witham had a very wide and, in places, imprecisely defined channel prior to the drainage and embankment works of the later 18th century. If this were the case, the present river channel and Mill Drain would have defined its edges.

Second Edition Ordnance Survey maps show that a low embankment called Cross Bank ran along the western edge of Mill Drain. Further ditches followed the base of the western edge of this bank, implying that there was a desire to ensure that the structure did not become waterlogged and collapse. This suggests that Cross Bank was primarily intended to ensure that water from the river was retained to the east; the bank would have had a second function acting as a raised causeway providing a route along the western side of the Witham. It is necessary to note that the bank did not stop at Metheringham Delph, but continued southwards, from a point a little further to the west, as Dales Head Bank. The presence of this bank suggests two possibilities. Firstly, it could corroborate the suggestion the Witham had a 400m wide channel prior to the 18th – 19th centuries. Certainly, Stocker and Everson (2002) note that until the 19th century Martin Drove did not run right up to Kirkstead Abbey, c. 3.75km to the south-east of Metheringham Delph, but appeared to terminate at the Dales Head Bank. Consequently, in the medieval and post-medieval periods it would seem that travelling beyond this point necessitated a ferry journey of c. 800m to reach the eastern bank of the river. This would imply that the intervening space was predominantly open water.

Alternatively, it is possible that Cross Bank/Dales Head Bank was constructed as a result of the Act of Parliament obtained in 1762 for the improvement of the Witham navigation and drainage of the adjacent fen. The act stated that the works should "cleanse out, widen, deepen, and *embank* the river from Chapel Hill to Stamp End near Lincoln"[11] (my italics). The problem is that the maintenance of a deep, navigable channel and the rapid removal of floodwaters are not necessarily compatible functions for a single channel (Thompson, 1856: 362). It is therefore possible that Cross Bank/Dales Head Bank was the western flood bank created during these works of the later 18th century, being set back from the river by 400m to create washlands that could accommodate any floodwaters that exceeded the normal discharge capacity of the river.

Either way, the erection of a new bank along the western edge of the river channel during the 1812 – 1830 scheme of works will have rendered Cross Bank/Dales Head Bank largely redundant. The Second Edition Ordnance Survey map indicates that by 1906 much of this earthwork between Southrey and Bardney, and to the north of Branston Causeway, had already been demolished or ploughed flat. The likelihood that the area between the Witham and the 'Banks' was wetland until the later 18th or 19th centuries also receives support from the observation that most, if not all, of the standing structures built against the present western bank of the Witham appear to have been erected in, or after the 19th century.

[11] 'An Act for Draining and Preserving certain low lands called the Fens, lying on both sides of the River Witham, in the County of Lincoln; and for restoring and maintaining the Navigation of the said river, from High Bridge in the City of Lincoln, through the Borough of Boston, to the Sea' George III, 1762 (held by LSL).

It is possible that the sub-surface remains of other late 18th or 19th century structures may be encountered during works to improve the flood banks flanking Metheringham Delph. In addition to the pump house at the southern end of Cross Bank (TF 1445 6467) there were other examples at TF 1305 6380, TF 1275 6358 and TF 1186 6299. The sites of two possible wharfs alongside the delph are also shown on maps, at TF 1308 6382 and TF 1257 6345. Additionally, there were further isolated buildings to the south-west of Tanvats, along the northern edge of the delph - at TF 1298 6374 and TF 1242 6337.

Tanvats itself appears to have been founded after the creation of the delph, in the last decade of the 18th century. However, one sherd of pottery has been found that provides a tantalising suggestion that the site was first settled in the late medieval to early post-medieval period. It is therefore possible, given that Tanvats is relatively small and compact, that any features or deposits relating to such early activity could be encountered during groundworks associated with the flood defence improvements.

Assessment of archaeological potential:

Section E	**North-eastern end**	**LOW**
	Central Sector	**LOW-MEDIUM**
	South-western end	**LOW**

6.1.6 Section F

a: *SMR data and documentary sources*

THE CAR DYKE – this is the most obvious, extensive and important feature in Section (F). There has been a considerable amount of debate regarding the date of manufacture and purpose of this channel. It was in the early 18th century that an individual named John Morton made the initial proposal that the Car Dyke was a Roman structure. Since that time insufficient fieldwork has been conducted to corroborate his proposition, but a variety of circumstantial evidence has been elicited to provide support. A number of medieval documents refer to the channel by name, particularly a 'pseudo Chronicle of Ingulphus', Abbot of Croyland from AD 1076, all indicating that it was of pre-Norman construction (Trollope, 1872; Whitwell, 1992). It is therefore difficult to conceive of any polity other than the Romans having the resources and engineering abilities to create such a construction.

It is also notable that the distribution of Romano-British sites and artefacts along the eastern margins of the limestone escarpment in Lincolnshire suggests that the Car Dyke was a focus of activity in much the same way that the Roman roads were. Furthermore, excavations at Mill Drove, Bourne suggested that the channel, which otherwise follows the 7.5m contour at this point, had been diverted for c. 2km to avoid a pre-existing Late Iron Age and Romano-British settlement (Tipper & Field, 1995).

A large hoard of c. 1,500 Roman bronze coins was discovered at Timberland in 1808. These items have subsequently disappeared, but contemporary descriptions suggested that they were all Claudian and pre-Claudian issues of the late 1st century BC and early 1st century AD. Consequently, and despite the absence of a precise findspot, the close proximity of Timberland to the Car Dyke has been used as the basis of a proposal that these coins directly relate to, and date, the construction of the channel (Todd, 1966). It was therefore suggested that the work commenced in the 50 or 60s AD. However, re-evaluation of the 19th century description indicates a sufficient degree of ambiguity that could equally well date the hoard to the 3rd century AD (Whitwell, 1992). While still far from proven, it seems most likely that the Car Dyke was constructed shortly after AD 120, at the instigation of the emperor Hadrian.

The debates regarding the purpose and function of the Car Dyke have been even more divisive. The antiquarian William Stukeley, in 1757, was the first to suggest that the channel had been created primarily as a canal (Simmons, 1975). He embellished this proposal with ideas that it was principally intended to transport grain being produced in the fenland to the military in, and to the north of, York. This idea was favourably received and reiterated well into the 20th century (Simmons & Cope-Faulkner, 1997). However, while it is likely that the construction would have necessitated the involvement of Roman soldiers and military engineers, the interpretation that it was a canal used to support the army has been questioned. Sir John Rennie, during the course of his works to improve the drainage of the Witham Fen, observed that:

> "a more judicious and well-laid out work I have never seen...to the bad condition of this drain much of the injury done by floods...is to be attributed" (cited in Hill, 1965: 13).

He therefore made proposals, in both 1815 and 1845, to scour the Car Dyke so that it could function as a catchwater drain. This never happened, but the idea continued to circulate and by the later 19th and earlier 20th centuries a number of people were suggesting that this had been the original function of the Car Dyke, including Skertchley (1877) and Colonel King-Fane (1931). The most recent proponent of this idea is Brian Simmons (1979), who has suggested that the channel was an integral part of an extensive fenland drainage network. He argued against a dual function for the channel, pointing out that navigation and drainage are essentially incompatible, because:

> "...the navigator requires a good depth of water, which is anathema to the drainer who wants to keep water out of the channel" (Simmons, 1975: 16).

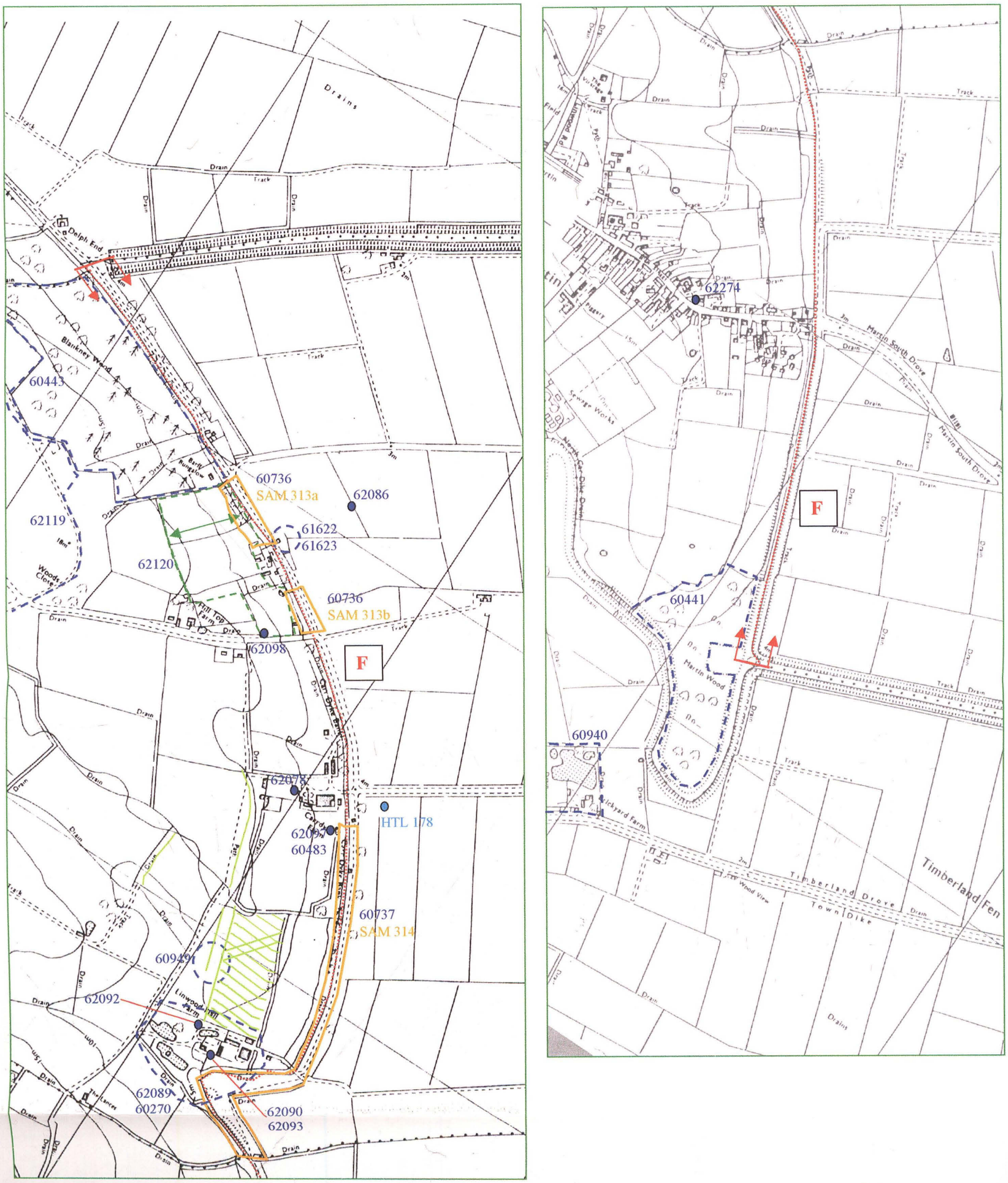
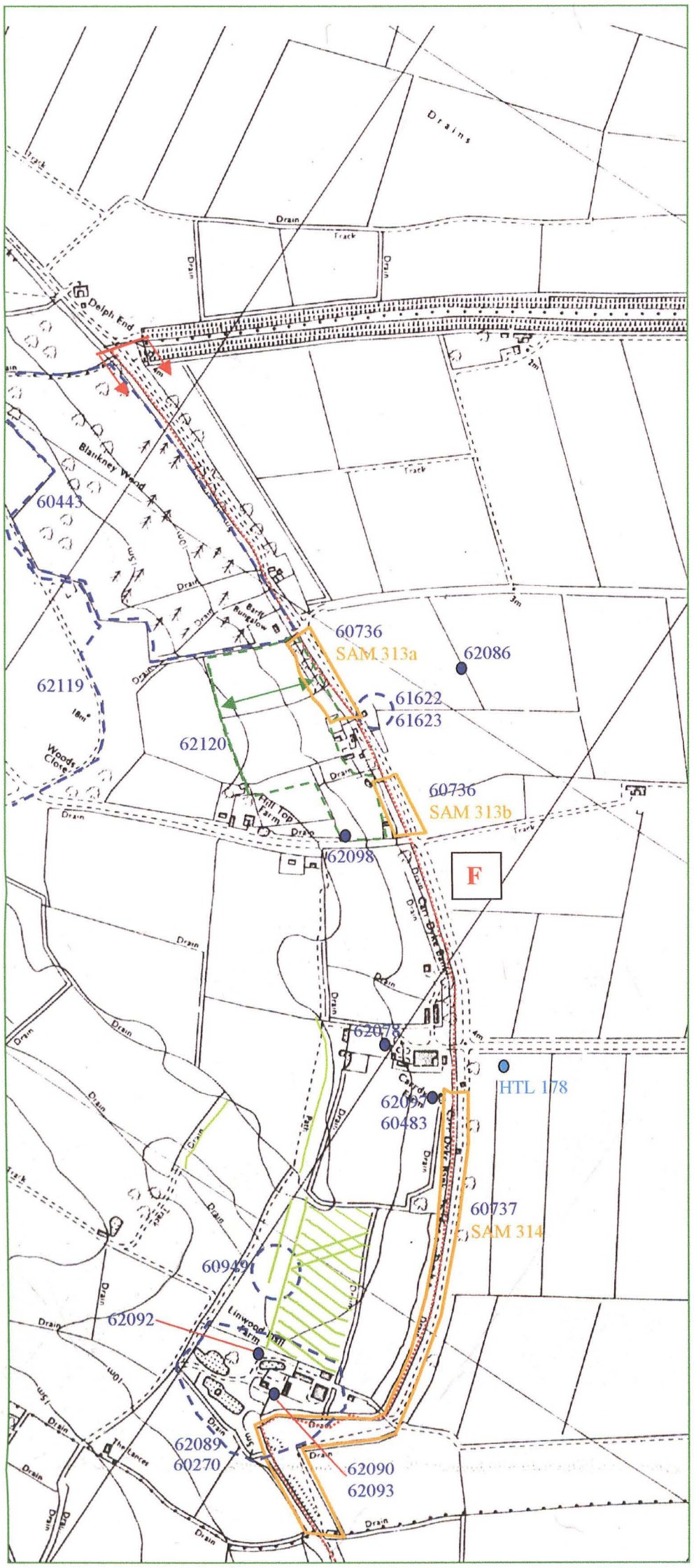
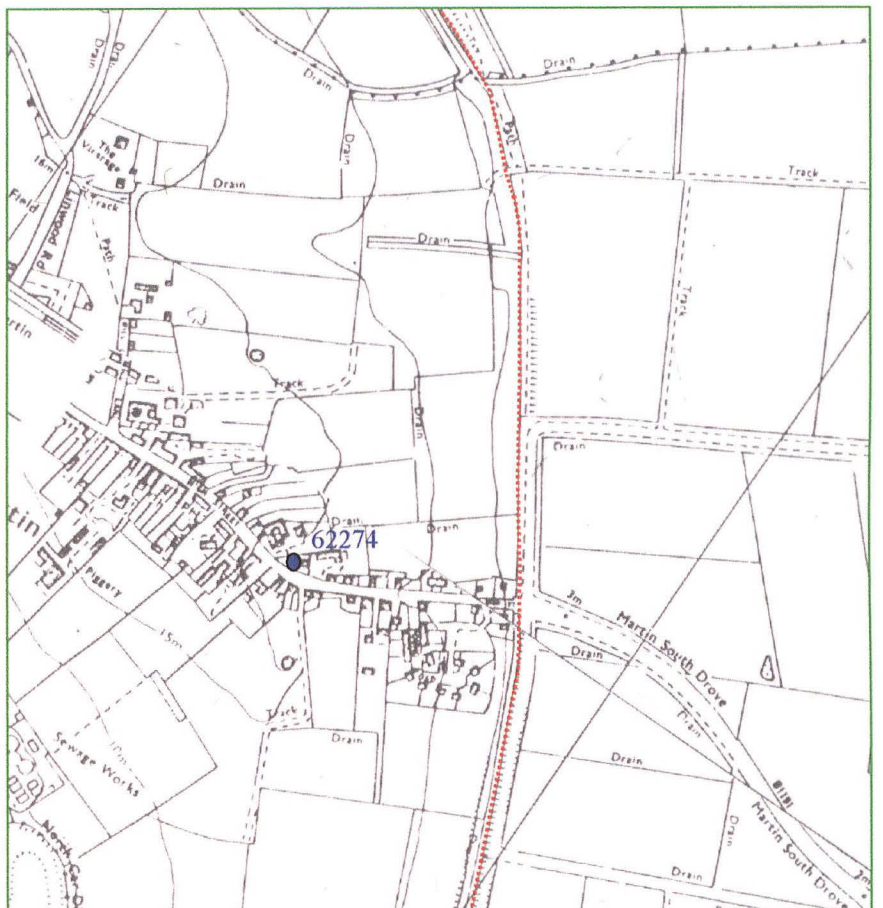


Figure 14: SECTION F

The Car Dyke between Metheringham Delph and Timberland Delph, and its environs, showing the locations of archaeological features and find spots recorded in the Lincolnshire Sites and Monuments Record (see Appendix 12.1 for details); find spots = blue discs, features = dashed blue polygons. Find spot recorded by Heritage Trust of Lincolnshire shown as pale blue disc. Features identified from aerial photographs during the National Mapping Programme are shown in dark green; additional cropmarks visible in Plate 6, which represent a field system and trackways to the immediate north of Linwood Grange/Linwood Hall, appear in light green; extent of Scheduled Ancient Monuments (SAMs) shown in orange. Image reproduced at 1: 10,000.





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However, regardless of these contradicting attributes compromises have often had to be made and, although not ideal for either purpose, it is evident that the Witham was utilised as both a drain and a waterway throughout the medieval period and into the later 18th century.

One of the main reasons presented to refute the idea that the Car Dyke could have served as a navigation is based upon archaeological observations of sections cut across the channel. These have demonstrated that its base was not level, with the further complication that the channel was divided into a number of sections by causeways of clay and bedrock that had been left in place during its initial construction. Such bulwarks would have impeded passage along the channel, leading to the conclusion that it must have been constructed purely with the intention of serving as a catchwater drain (*ibid.*). However, this interpretation also has flaws, particularly when it is noted that the fixed causeways left across the Car Dyke would have obstructed the flow of water and therefore limited discharge from the channel, which, as pointed out above, would not have been desirable for a drain. Furthermore, the provision of substantial banks along both sides of the channel was not the most effective means of constructing a drain along this part of the fen edge. If merely a catchwater drain, the design would have been better, and more efficiently achieved, if only a single bank was provided along the eastern edge of the channel. The latter would have prevented surface water from flowing out into the fen, whereas the provision of a bank along the western edge of the channel actually compromises the ability of the channel to function as a drain by preventing the water running off the higher ground from entering it directly. Consequently, while the western bank prevents a small strip of ground along the western margin of the channel from occasionally becoming inundated by flood waters, it presence would also have necessitated the construction of a system of associated drains and leets to the west of the channel in order to direct run-off into the Car Dyke through a small number of sluices.
The provision of a western bank therefore seems to suggest that control and maintenance of the water level in the channel was of particular importance. This brings the argument back to the idea that the channel served an important function as a means of communication and transportation. Furthermore, this interpretation is not diminished by the presence of the fixed causeways across the channel, as:

> "a channel this length will never be exactly horizontal and causeways such as those recorded could have acted as fixed locks, maintaining independent water levels in each section of the channel" (Rippon, 1999: 118).

Consequently, rather than envisaging the Car Dyke as a single continuous channel that would be directly comparable to post-medieval and early modern canals, it may be more realistic to envisage it as discontinuous structure composed of a series of shorter sections that met each other end on.

Rather than seeing the Car Dyke as a structure with a single purpose, it might be better to consider that it had two important functions. The first would have been to act as a means of communication at a local and regional level, with the second as an arterial drain. This would be in line with Trollope's description, as 'a wide and deep catch-water canal'

> "it has been a matter of surprise to some how it could have retained a supply of water sufficient to enable it to act as a navigation in summer, and yet afford a means of exit to the upland waters during the winter months. It must, however, be remembered that as the Car-Dike was intersected by various natural streams, it would thus be kept full of water even in the driest seasons, and yet that through the same medium...it would be able to pass off its redundant waters; in addition to which, it must be borne in mind, that if flood gates were formerly required for the occasional protection of the Car-Dike from the overflowing of the said rivers, the Romans were fully acquainted with the use of such artificial hydraulic aids" (Trollope, 1872: 72).

The name '*Car Dyke*' is undoubtedly a post-Roman appellation and probably signifies that this was an important drain running through carr or fenland. However, there are also records of the channel being called the *Bell Dike*. The latter was given in reference to an oral tradition that the original large bell in Lincoln Cathedral, '*Great Tom*', was transported along the

channel from Peterborough, as either a present or exaction from the Abbot of St Peter's Abbey. While such a story can never be verified, the fact that it was readily accepted and perpetuated by oral tradition suggests that the transportation of goods along the channel was a relatively common and believable event into the historic period. This therefore provides circumstantial support for the proposal that the Car Dyke was a functioning navigation.

A large number of archaeological features and artefacts have been discovered along this section of the Car Dyke. The majority of these are situated in the parish of Blankney in the northern two-thirds of Section (F).

NORTHERN SECTION (Metheringham Delph to Blankney Drove)- evidence of prehistoric activity along the northern third of Section (F) is provide by a Neolithic or Bronze Age perforated stone axe hammer that was recovered from Blankney Fen, c. 220m to the north-east of the Car Dyke, in 1972 (62086 - TF 117 621) (fig.14). Anecdotal evidence in the SMR parish file records that another perforated stone axe or hammer was found in the same locality in 1968. A metal detectorist has also reported that a 'quantity of long, dark, flint spearheads' were found at Blankney Barff, approximately 120m west of the Car Dyke (62098 - TF 117 617). These items were discovered in the late 1970s or early 1980s and passed into unknown ownership without their form or date of manufacture being ascertained.

The Car Dyke itself provides the only evidence of Romano-British activity in the immediate vicinity, the lack of contemporary finds from the surrounding area being notable and relatively unusual. This sector of the Car Dyke is fairly well preserved, with two sections situated immediately to the south-east of Blankney Wood having been scheduled as ancient monuments under The Ancient Monuments and Archaeological Areas Act, 1979 (SAM 313; 60736 - TF 1150 6190 to TF 1175 6180). Approximately 140m separate the two sections, the more westerly being 190m long and the other being 110m in length; the intervening area contains a number of 19th and 20th century buildings. The eastern bank of the two sections has been significantly truncated and lies beneath a road connecting Linwood and Metheringham Barff. In contrast, the western bank stands up to 1.5m high, but has an irregular profile due to the effects of later activity.

Three fields lying to the south-east of Blankney Wood and to the north of Hill Top Farm contain the earthwork remains of ridge and furrow (62120 - TF 1149 6181). The boundaries of the field immediately adjacent to the wood preserve the reversed 'S'-shaped plan that is indicative of medieval ploughing. It therefore seems likely that this represents part of a small medieval field system. The isolated position of this block of land, a little over 1.5km from Martin, c. 4km from the medieval core of Metheringham, and nearly 5km from Blankney itself, indicates that these fields are unlikely to have been part of an open field system surrounding any of these communities. Consequently, it is likely that these fields were part of an isolated settlement, probably a component of a secular or ecclesiastical estate comparable to a grange. Additionally, its location on the edge of the Car Dyke raises the possibility that this community may also have operated an associated fishery (see the discussion of *Booths* in 6.1.1.d). An implication of this site's isolated location is that there must have been buildings to house a steward, labourers and equipment; the existence of such structures is conjectural and consequently their position, if any, is unknown.

Situated to the south and east of the junction between Metheringham Delph and the Car Dyke, the core of Blankney Wood possibly has medieval origins (60443 - TF 1100 6200). It is therefore possible that the 7ha that is classified as semi-natural may have existed contemporaneously with the adjacent medieval field system. It is equally possible that the wood may either have been established, or significantly expanded, once these fields had become redundant, with further blocks of ridge and furrow lying beneath the 10ha of predominantly softwood species, which constitute the eastern half of the wood.

A scatter of post-medieval pottery found adjacent to, and to the east of Mill Cottage, Blankney Barff, included a butter-pot and several pancheons (61623 - TF 1160 6191). This suggests that the site, situated on the bank of the Car Dyke, was used as a dairy. A possible path or wall foundation, c. 0.5m wide by 2.1m long, was also observed at the site (61622). This 'structure' was formed by a spread of unmortared limestone rubble, and was not associated with any datable artefacts.

The remains of Blankney Hall airfield lie to the south-west of this section of the Car Dyke, the runways coming to within 400m of the channel (62119 - TF 108 600). RAF Blankney was opened in 1940 and remained in continuous operation until 1945, when it was briefly closed. It then reopened again until April 1946, when it was finally decommissioned. The runways and many of the associated facilities have subsequently been demolished

CENTRAL SECTION (Blankney Drove to Martin parish boundary) - the central element of this section of the Car Dyke runs between Blankney Drove and Martin North Drove. The only prehistoric artefact to have been discovered along this stretch was a gold torc of Bronze Age or Iron Age date, which was found near Linwood Hall Farm in the 19th century (62092 - TF 121 608). Archdeacon Trollope, in a less than evenhanded manner, reports that:

> "...it was immediately disposed of to a Jew, and melted up" (Trollope, 1872: 80, notes).

Virtually the entire length of the Car Dyke along this section is relatively well preserved and has been classified as a Scheduled Ancient Monument (SAM 314; 60737 - TF 122 615 to TF 124 605) (fig. 14). The scheduled section is approximately 1100m long, with most of the channel surviving as a reedy stream. The banks are best preserved toward the northern end, standing at least 1.0m in height. The monument also incorporates a pronounced 'V'-shaped bend in the channel, situated immediately to the south of Linwood Hall Farm. This represents one of the most extreme changes in orientation along the whole length of this structure.

Other evidence of Romano-British activity is provided by the discovery of a coin hoard just to the south of Carrdyke Farm (62097 - TF 120 614). The find, an urn filled with bronze coins, was made in 1992-3 and was subsequently reported by a metal detectorist.

Material relating to the Anglo-Saxon period is limited to a fragment of carved stone from a cross, which was reputedly incorporated into structure of Linwood Hall (62093 - TF 1214 6073). Little is known about this piece of stone, as it was lost during the demolition of the 17th century Hall in 1935. Heritage Trust of Lincolnshire records document the discovery of a fragment of carved stone from a late Saxon cross at the edge of the fen, less than 100m from the junction between the Car Dyke and Blankney Drove (Simmons & Cope-Faulkner, 1997; No. 178 - TF 1220 6150). The context of this discovery is not reported, and it is therefore unclear whether this could be the same fragment previously built into Linwood Hall, another part of the same cross, or a totally unrelated find.

It is possible that the fragment of carved stone originated from a cross that had been erected in the immediate vicinity of Linwood Hall. The hall and its grounds occupied the site of a deserted medieval village called *Cotes*, a settlement recorded in the *Domesday Book*, suggesting that it had been founded during the Anglo-Saxon period (62089 - TF 122 608). Walter d'Aincourt granted the settlement of *Cotes* and surrounding lands to Kirkstead Abbey in the early 12th century (Healey & Roffe, undated). By 1140 the abbey had founded a grange here (60270 - TF 1210 6077), and it seems likely that this establishment became the centre from which the Kirkstead estates in Martin and Timberland were managed. These lands on the western side of the river valley were used for intensive wool production, and surviving contemporary documentation refers to sheep pens, pounds and wool houses distributed across the area. The grange was called Linwood, and the name largely superseded *Cotes*, possibly as a means of negating any secular claims to access or ownership of its environs. A variety of

earthworks surround the present farm, some of which are likely to represent elements of the grange or the earlier village. A possible fragment of a moat is situated to the north of the farmhouse, with a number of fishponds to the south-west. Water levels in these features are likely to have been maintained via channels linking them to the Car Dyke.

It appears that the Abbot of Kirkstead Abbey had transferred the management of the grange into secular hands prior to the Reformation. A valuation of the abbey's property in 1537 records that Sir Robert Hussey had taken a 99-year lease on the granges of '*Lynwood and Cotes*', Kirkstead, and Little Cotes (or North Cotes) in 1513 (Owen, 1989). Following the Dissolution, and Hussey's execution for failing to suppress the Lincolnshire Rising in 1536, the property passed, via the crown, to Charles Brandon, Duke of Suffolk. A structure later referred to by Trollope (1872) as 'an old Jacobean house' subsequently occupied the site (62090 - TF 1214 6073). Whether this building had a mid 16th century predecessor is unknown, but it is possible that it incorporated parts of the original monastic house, and it certainly retained the original name of *Linwood Grange*. This name was probably changed to Linwood Hall in the 18th century. As mentioned above, the house was finally demolished in 1935.

A road constructed from limestone rubble and gravel was found approximately 150m to the north of Linwood Hall Farm during trial trenching (60949 - TF 1204 6095). Its metalled surface was associated with a small quantity of animal bone and medieval to early post-medieval pottery. Other medieval remains from the area include ridge and furrow earthworks located c. 800m to the south-west of Linwood Hall Farm (62050 - TF 113 604). These features are situated in the Parish of Martin, approximately 700m from the core of the village. It is therefore likely that they represent outlying components of that settlement's medieval field system.

The buildings at the northern end of this section form Carrdyke Farm. Among them are what Pevsner and Harris (1989) describe as 'one decent mid [18th century] farmhouse', which is constructed in brick, with a pantile roof (62078 - TF 11983 61409). Additionally, some of the associated outbuildings are of early 19th century date and represent good examples of the local vernacular style.

SOUTHERN SECTION (Martin parish boundary to Timberland Delph) - very little archaeological material has been identified in the southern third of Section (F). A small, hammered silver coin of Henry VIII, which was minted at Canterbury between 1526 and 1544, was found in the garden of a house on High Street, Martin (62274 - TF 125 599). 60441

Martin Wood is situated at the southern end of the section, immediately to the west of the junction between the delph and the Car Dyke (60441 - TF 1310 5910). This is an 11ha block of woodland that is thought to have medieval or post-medieval origins, and is classified as semi-natural in the Nature Conservancy Council's inventory of Ancient Woodland.

b: *Cartographic evidence*

The following maps were found to contain data relating specifically to the site:

- Ordnance Survey, 1907 – Sheet LXXIX.SE, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1886, and was revised in 1904.

- Ordnance Survey, 1906 – Sheet LXXX.SW, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1887, and was revised in 1904.

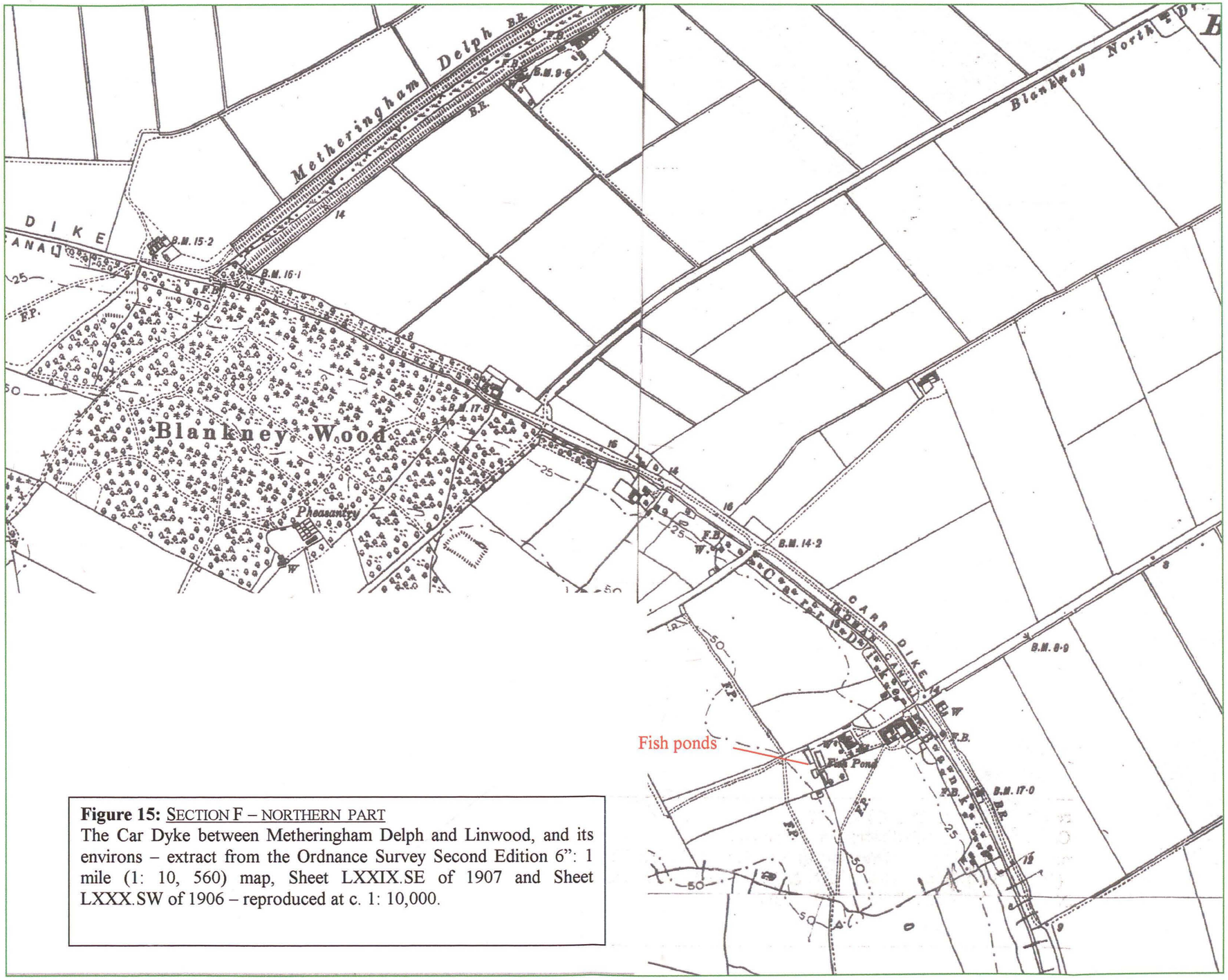


Figure 15: SECTION F – NORTHERN PART
The Car Dyke between Metheringham Delph and Linwood, and its environs – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheet LXXIX.SE of 1907 and Sheet LXXX.SW of 1906 – reproduced at c. 1: 10,000.

- Ordnance Survey, 1906 – Sheet LXXXVIII.NW, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1887 (First Edition) and was revised in 1904.

79.SE - The Second Edition map depicts the northern end of this section of the Car dyke as a fully functioning drain, with the water flowing toward the south-east. A footbridge, no longer extant, crossed the Car Dyke just to the east of its junction with Metheringham Delph, a track then continuing south-westward through Blankney Wood to Blackthorn Holt (fig. 15). The conventions used on the modern map indicate that the eastern two thirds of Blankney Wood largely consists of softwood plantation. However, the earlier map indicates that while the wood had virtually the same area, it consisted entirely of broad leaf species at the beginning of the 20th century[12] (60443). Furthermore, a large number of tracks crossed the wood at this time, and may possibly have divided it into a series of compartments. Such compartments are characteristic of medieval and post-medieval woodland management, and are generally associated with coppicing; each year one compartment would be clear felled, this being repeated on a ten to eighteen year cycle, depending on the number of compartments and the intended purpose of the timber (Rackham, 1989). The former presence of these tracks might therefore provide further indications that this wood has medieval origins.

The buildings constructed on the northern bank of the Car Dyke at the north-eastern corner of Blankney Wood, and to the west of the end of Blankney North Drove, were already in existence at the beginning of the 20th century. However, Barff Bungalow, as the name would suggest, is a relatively modern structure, which has been built on land that formerly constituted the eastern corner of Blankney Wood. The area immediately to the east of the wood has changed very little over the course of the 20th century. The strip of woodland running along the southern bank of the Car Dyke, in the fields containing ridge and furrow (62120), was already in place in 1904. The same applies to the group of four buildings overlying the southern bank between the two sections of channel that have been designated as Scheduled Ancient Monuments (SAM 313). Only Mill Cottage appears to have changed substantially. The present small square structure represents the single surviving wing of a 'W'-shaped building. The components that have been demolished may have included the dairy that has been inferred from the discovery of the remains of pancheons and butter-pots in the grounds of the cottage (61623). It is also possible that this structure incorporated elements of a mill, as intimated by the property's name. Such a mill may have been wind powered, but it is equally possible that it was a water mill that utilised water drawn from the Car Dyke.

80.SW – The short section of the Car Dyke running between Mill Cottage and the road linking Hill Top Farm with the fen has changed very little; the small building immediately adjacent to the southern bank of the Car Dyke and the road having been erected prior to 1904 (fig. 15). In contrast, the area surrounding Carrdyke Farm, at the south-western end of Blankney Drove, has changed appreciably. The modern map depicts two relatively large sub-rectangular structures to the north-west of the end of the drove. The structures overlie, and have replaced, three smaller square buildings shown on the Second Edition map. Another building that now stands c. 70m to the north-west of the large sheds had no 19th century antecedent.

A very large rectangular building now dominates the centre of the farmyard and overlies the site of two adjoining crew-yards. A small building located immediately to the north-east of the large shed might equate to a rectangular building depicted in the early 20th century. The farmhouse still stands at the south-western edge of the farmyard, but appears to be slightly smaller than it was in 1904 (62078). It seems that part of the northern end of the building has

[12] A block of woodland between Blankney Wood and Blackthorn Holt is shown to have been a softwood plantation in 1906, thus providing confirmation that the convention used in Blankney Wood was intended to be indicative of the species present.

Figure 16: SECTION F – SOUTHERN PART
The Car Dyke between Linwood and Timberland Delph, and its environs – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheets LXXX.SW and LXXXVIII.NW of 1906 – reproduced at c. 1: 10,000.

been demolished since that time. The Second Edition map also shows five rectangular to sub-square fishponds to the south-west of the farmhouse. Three of these are still evident on modern editions. The presence of so many fishponds is interesting and raises the possibility that they represent surviving elements of a small, but prosperous medieval farmstead. Alternatively, they may have formed part of a formal garden associated with a post-medieval house formerly occupying the site.

In the early 20th century there was also a small block of buildings located against the foot of the eastern bank of the Car Dyke, immediately to the south of Blankney Drove. These no longer exist, but two smaller structures situated between the road running along its eastern bank (Carr Dyke Bank) and the channel itself are still standing. The more northerly example lies at the end of the section of the monument defined as a Scheduled Ancient Monument (SAM 314).

88.NW – There have been virtually no changes along the section running between Carrdyke Farm and Linwood Hall Farm, apart from a slight realignment of the road following the eastern bank of the Car Dyke (fig. 16). However, there have been some alterations to the layout of Linwood Hall Farm and its immediate environs. The isolated building standing at the eastern edge of the farm complex also existed at the beginning of the last century, but is no longer contained within its own small paddock. The two buildings presently occupying the eastern edge of the farmyard - one rectangular, the other larger and square - have been constructed since 1904. In contrast, the two buildings to their west represent the surviving components of a much larger complex of structures erected prior to the 20th century. The present farmhouse represents the western end of a much larger rectangular structure depicted on the Second Edition map. A large ovate pond to its north is marked as a *moat* on the earlier map.

There are two relatively large features that were described as *fish ponds*, to the immediate west of the farm. The more northerly of these has maintained the same shape throughout the 20th century, but the southern example has more than doubled in size, having been extended c. 50m toward the east, since 1904. The Second Edition map also indicates that a driveway originally headed north-westward from the farmhouse, past the western end of the surviving section of moat. After c. 80m this track turned toward the west to join the road crossing Linwood Moor. The early map also indicates that there was a linear depression at the point where the driveway changed direction. This feature may have represented the remains of a hollow way that continued the line of the track toward the north-west. If so this feature may have joined and formed part of the 'medieval' roadway exposed to the north-west during trial trenching (60949).

The section of the Car Dyke running between Linwood Hall Farm and Martin has remained relatively unchanged over the course of the 20th century. The only appreciable difference is that a few of the small fields to the west of the Car Dyke have been amalgamated during that time. In 1904 the eastern end of High Street, Martin terminated at a 'T' junction where it met a road running along the eastern bank of the Car Dyke. Since that time a short, curving section of road has been constructed to connect High Street directly to Martin South Drove.

The stretch of the Car Dyke situated between Martin and the end of Timberland Delph has changed little since the Second edition map was created.

c: *Air photographic evidence*

The National Mapping Programme identified the block of ridge and furrow located immediately to the east of Blankney Wood (62120). These features were contained within three fields lying between Blankney Wood and Hill Top Farm. The boundaries of the most

northerly field preserved the reversed 'S'-shaped plan that is indicative of medieval ploughing.

d: *Summary and discussion of the evidence*

In contrast to Section **(D)** to the north, or the stretch from Billinghay to South Kyme to the south, there is surprisingly little evidence of prehistoric activity along the whole 4.3km length of this section of the Car Dyke. However, the torc found at or near Linwood Hall in the 19th century represents one of the only gold artefacts to have been found along the whole Lower Witham Valley. Such items are unlikely to be casual losses, suggesting that there may have been an important funerary or ritual site in the Linwood area.

The Car Dyke dominates Section **(F)**. Trollope provides the first relatively detailed description of this section of the channel.

> "At the end of Martin wood Timberland delph is passed, and here a modern road runs along the top of the eastern bank past the village of Martin, an old Jacobean house called Linwood, surrounded by trees, a farm house, and some cottages, built upon its edge. From this point its western bank is covered with trees, forming the edge of Blankney wood, and the eastern one is also prettily dotted with thorns. About a mile further to the north, Metheringham delph is passed, and here for a short space the Dike banks have been removed" (Trollope, 1872: 80).

Preservation has remained good along much of this stretch of the channel and this is reflected in the fact that three sections are classified as Scheduled Ancient Monuments under the Ancient Monuments and Archaeological Areas Act, 1979 – SAM 313 (2 sections) and SAM 314. This equates to c. 1400m of Section **(F)** having statutory protection (32% of the 4.3km). Any improvements to the banks or the channel along this section could impinge upon the areas of the scheduled monuments, particularly if the intention is to create a single continuous channel to contain and direct surface water and excess discharge generated by flood events. Such works would have a direct impact upon the Car Dyke itself and could affect any accompanying features. It is therefore crucial to stress that consultation with English Heritage prior to the detailed design and onset of this component of the scheme of works is both advisable and necessary. Additionally, it should be noted that it will be an absolute priority to ensure that plant, contractors, earth or anything else associated with the project does not encroach onto the area of the scheduled monuments in any way, without first obtaining scheduled monument class-consent from English Heritage.

The winding course of the Car Dyke, and especially the distinct kink as it passes Linwood Hall Farm, provides support for the proposal that much of the section running between Washingborough and South Kyme could represent an adaptation and redefinition of a pre-existing natural channel (*q.v.* Simmons, 1979). The form of the 'V'-shaped notch at Linwood Hall suggests that it was created by a small stream flowing from west to east, which has eroded the scarp edge at the interface of the higher ground to the west and the fen to the east. This is supported by an examination of the geological map of the western edge of the Witham Valley, which shows a series of ribbons of alluvium protruding westward along former streambeds; one of these coincides with the location of Linwood Hall (I.G.S., 1973). Furthermore, the parish boundary between Blankney and Martin c. 500m to the west is particularly sinuous and may in part preserve the course of such a small natural brook. Certainly, the water provided by such a natural feature would not only have marked this site out as suitable for settlement (both for the settlement of *Cotes* and for the grange), but may also have acted as a suitable focus for depositional acts such as that which led to the burial of the gold torc (*q.v.* Bradley, 1990).

There are a series of earthworks adjacent to the western bank at the apex of this sharp bend. Local tradition promotes the idea that these features represent the remains of a Roman dock, but there is no evidence to substantiate such claims (Healey & Roffe, undated). It seems more

likely that they are medieval features associated with Linwood Grange, c. 100m to the north-west. As such, they may have supplied and/or drained the moat and system of fishponds surrounding the grange. Alternatively, they may indeed have formed a small quay, but one of medieval origin, where fleeces and other produce of the grange were loaded prior to shipment along the Car Dyke. Such movement could have progressed southwards, and thence via the Kyme Eau to the abbey at Kirkstead, or northwards and then onto the Witham.

Examination of the Second Edition Ordnance survey map indicated that there was a group of fishponds to the south-west of Carrdyke Farm (fig. 15). While there could be many reasons for the presence of these features, the possibility that they result from, and represent the vestiges of medieval activity cannot be discounted. If this was the case, then Carrdyke Farm could, like its neighbour, have originated as another medieval grange or farmstead. Following this circumstantial argument, it is possible that the reference to '*Lynwood and Cotes*' grange in the Kirkstead Abbey valuation of 1537 (Owen, 1989) provides an abstract acknowledgement of this dual focus.

Assessment of archaeological potential:

Section F	**Northern end**	**MEDIUM-HIGH**
	Central Sector	**HIGH**
	Southern end	**MEDIUM**

6.1.7 Section G

a: *SMR data and documentary sources*

EASTERN END (river margins) - few archaeological features and deposits have been identified near this end of Timberland Delph (fig.17). Those that have represent a series of cropmark complexes situated on the eastern side of the river. Of these, a linear feature, probably a ditch, can be traced for c. 550m and comes to within 500m of the delph (40412 - TF 1854 6116). The eastern end of this ditch runs up to, and appears to respect, a series of broad ditches, channels and ponds that surround the small church of St Leonard, Kirkstead. This church was constructed c. 1230-40, almost certainly being the chapel *ante portas* of Kirkstead Abbey, which is lies less than 200m to the north (Pevsner & Harris, 1989). The relationship between the outlying elements of the abbey complex and the linear cropmark (40412) suggests that the latter is of medieval or later date.

Hugh Brito, Lord of Tattershall, founded this Cistercian abbey in 1139. However, this establishment was initially sited elsewhere in the parish, probably c. 4.7km to the south-east, at the site later occupied by Tattershall Castle and collegiate church (Stocker & Everson, 2002). The *kirk* element of Kirkstead suggests that the abbey was a refounded Anglo-Saxon monastic house that had probably occupied the same site. However, its 12th century occupants were less than satisfied, describing it as a

> 'place of horror like a vast solitude. A level plain surrounded by brushwood and marsh' (*ibid.*).

Consequently, the abbey moved to a new site at the north-west corner of the parish at some point between 1155 and 1187.

The south-western corner of the boundary ditch surrounding and defining the cloistral part of the abbey lies c. 700m to the east of the end of (G) (40410 - TF 1860 6170). Although this defines the formal part of the abbey complex, there will have been a variety of facilities, and associated activities, located outside of these boundaries. For example Abbey Lodge Inn, probably a medieval gatehouse or lodge, is situated c. 400m to the east, on the B1192 and, there is the Church of St Leonard and Old Abbey Farm to the south. A complex of cropmarks to the west and south-west of this farm may represent elements of an associated field system (40413 - TF 1880 6070). Comparable surviving structures, installations or cropmarks have not been identified along the riverside to the west of the abbey. However, the abbey will have had facilities in this area, the Witham constituting the primary arterial route by which the house will have interacted with the outside world[13]. In the 13th century Kirkstead Abbey was one of the county's major wool producers, each year sending approximately 5000 fleeces down the river for sale in Boston (Owen, 1971). Furthermore, a 19th century text noted earlier records stating that the Abbot would frequently

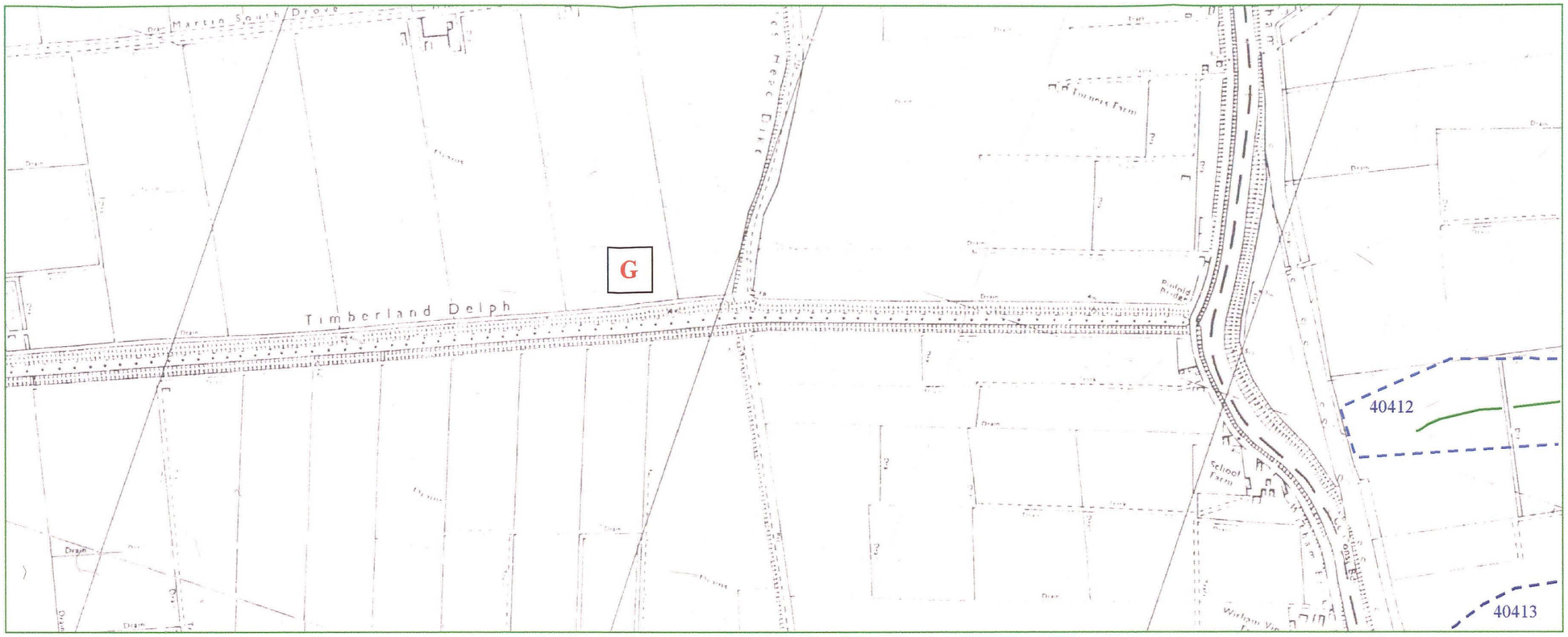
> 'prevent the navigation of the Witham by any vessels except his own' (Oliver, 1846).

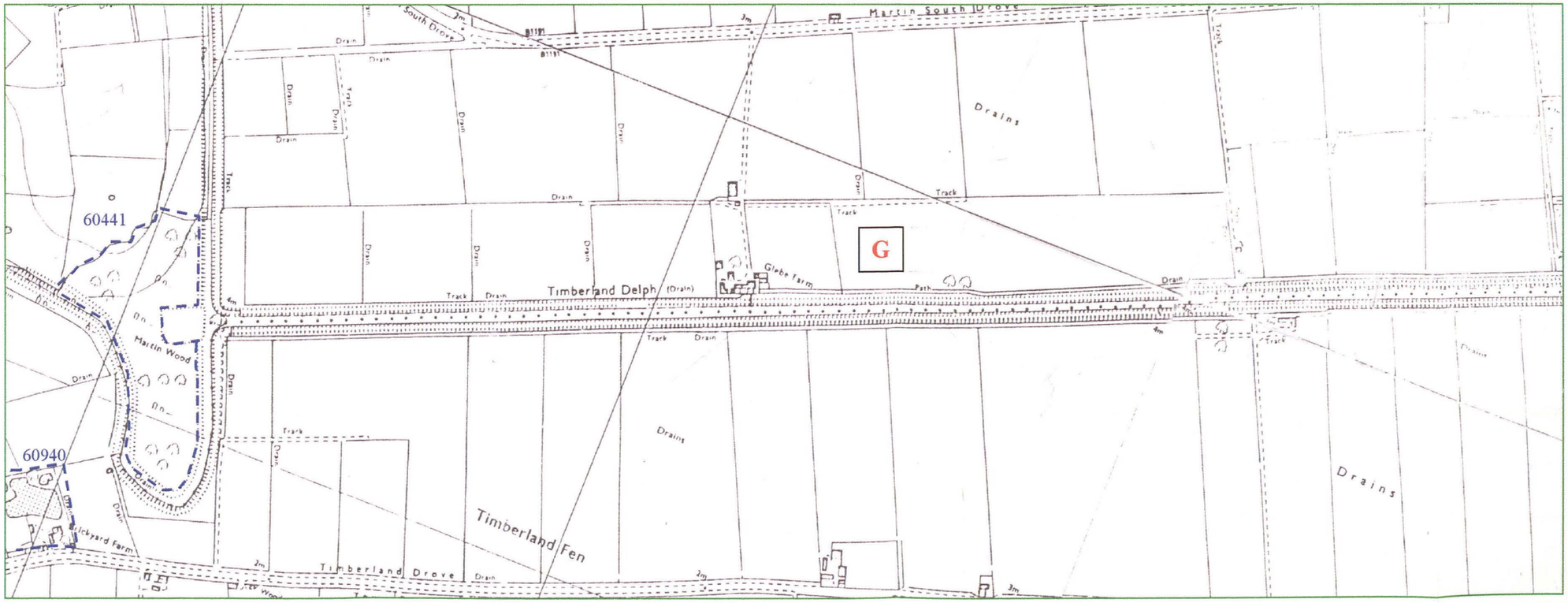
This not only indicates that the clergy were ruthless businessmen, but the mention of the Abbots 'vessels' provides circumstantial evidence for the existence of a quay or wharf along this stretch of the river.

WESTERN END (Junction with Carr Dyke) - the Car Dyke is the largest and most obvious archaeological feature situated at this end of Timberland Delph (60706). The preservation of the section crossing the western end of the delph is reasonable, but not outstanding. In contrast, two segments lying to the south-west having been designated as Scheduled Ancient Monuments. One section lies immediately to the north of Fen Road, Timberland (SAM 315; 60707 - TF 126 588); it is approximately 380m long, with the bank standing up to 4m above

[13] A valuation of the abbey's property in 1537 records the presence of a '*Fisher Bothe*' with the fishing of the Witham', '2 fish-garths' near *Newlond*, 'fishing in *Old Synker*' and three other houses/messsuages/booths on the Witham – all situated in the vicinity of the abbey (Owen, 1989).

Figure 17: SECTION G
Timberland Delph and its environs, showing the locations of archaeological features and find spots recorded in the Lincolnshire Sites and Monuments Record (see Appendix 12.1 for details); find spots = blue discs, features = dashed blue polygons. Features identified from aerial photographs during the National Mapping Programme are shown in dark green.
Image reproduced at 1: 10,000.





EASTERN HALF

WESTERN HALF

N

the base of the channel. The second length lies to the south of Fen Road/Timberland Drove (SAM 298; 60708 - TF 1275 5845). It is a sinuous section of channel, c 450m long, that describes a reversed 'S'-shape as it follows the fen edge.

Brickyard Farm, Timberland, is located 500m to the south-west of the end of the delph, on the valley floor adjacent to the Car Dyke. As the name suggests, this site originated as a post-medieval brickyard. A series of clay extraction pits, extending to c.0.7ha, are situated immediately to the north of the farm buildings (60940 - TF 1295 5874). It is likely that much of its production was intended for local use in Timberland and Martin. However, its location also suggests that it was sited to enable a proportion of its output to be transported by barge along Timberland Delph, thus reaching a wider market.

Immediately to the west of the junction between the delph and the Car Dyke is Martin Wood (60441 - TF 1310 5910). This is an 11ha block of woodland that is thought to have medieval or post-medieval origins, and is classified as semi-natural in the Nature Conservancy Council's inventory of Ancient Woodland.

b: *Cartographic evidence*

The following maps were found to contain data relating specifically to the site:

- Ordnance Survey, 1906 – Sheet LXXXVIII.NE, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1887 (First Edition) and was revised in 1904.

- Ordnance Survey, 1906 – Sheet LXXXVIII.NW, Second Edition, 6": 1 mile (1: 10,560). The initial surveying for this map was conducted in 1887 (First Edition) and was revised in 1904.

88.NE - The eastern end of the delph is depicted at the northern edge of the Second Edition map (fig. 18). The western bank of the River Witham is defined as a 'towing path' and a bridge continued its line across the end of the delph. This bridge still exists, being labelled as Pinfold Bridge on both old and modern maps. The early 20th century map depicts a building immediately to the north of the bridge, in the angle formed by the junction of the flood banks along the river and the delph. This structure was known as the *Bottle & Glass*, and was a 'beer house', a form of public house. It is likely to have been reliant upon people working the river, the decline in that trade resulting in its closure and subsequent demolition. Another building, which also no longer exists, was depicted c.150m to the west of the *Bottle & Glass*, again at the base of the flood bank.

The Dales Head Bank, with its eastern and western flanking ditches, 'Dales Drain' and 'Dales Head Dike' respectively, is situated c. 900m to the west of the river. The early 20th century map depicts a group of buildings at the junction between the bank and the northern edge of Timberland Delph. The most southerly of these was an 'L'-shaped structure built at an angle to, and recessed into, the flood bank, and having an inlet from the delph to its south. These spatial relationships confirm that this structure housed the '*Pumping Engine*' marked on the map (at TF 1704 6088). The fact that the structure was still defined as a pump in 1906 indicates that it would have housed a steam engine. It should be noted that unlike the other drainage pumps situated across the Witham Fen to the north of Timberland, this pump has not yet been catalogued by the county SMR.

Approximately 50m to the north of the pumping station were a group of four buildings, two constructed on the site of the bank and two immediately to its east. These structures probably formed a small farm, possibly owned or run by the manager of the pumping station. None of

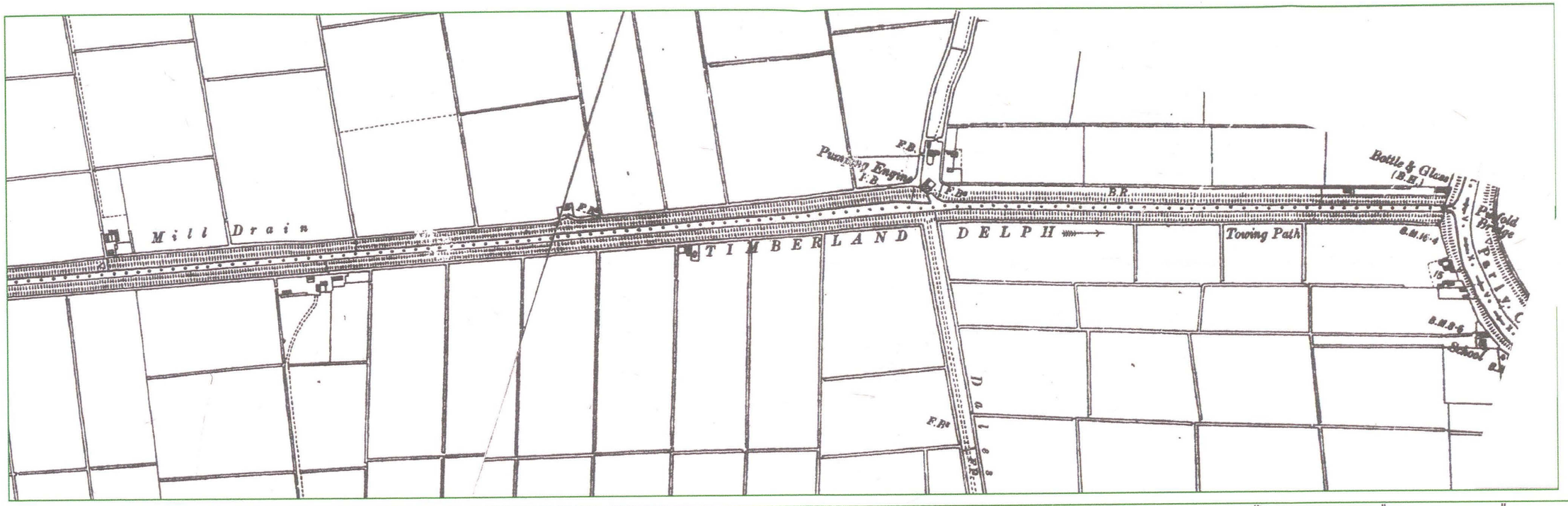


Figure 18: SECTION G
Timberland Delph, and its environs – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheets LXXXVIII.NE and LXXXVIII.NW, of 1906 – reproduced at c. 1: 10,000.

the buildings at this site, whether farm or pump house, survive. The associated gardens and paddocks have been incorporated into the adjacent fields and the inlet to the south of the pump has been filled to allow the flood bank to run over it.

Comparison of the Second Edition map and modern versions indicates that a number of the smaller fields to the east of Dales Head Bank have been amalgamated to create larger units. The fields to the west of the bank were already bigger at the beginning of the 20th century than those running along the edge of the river, and consequently, there have been far fewer changes in this area.

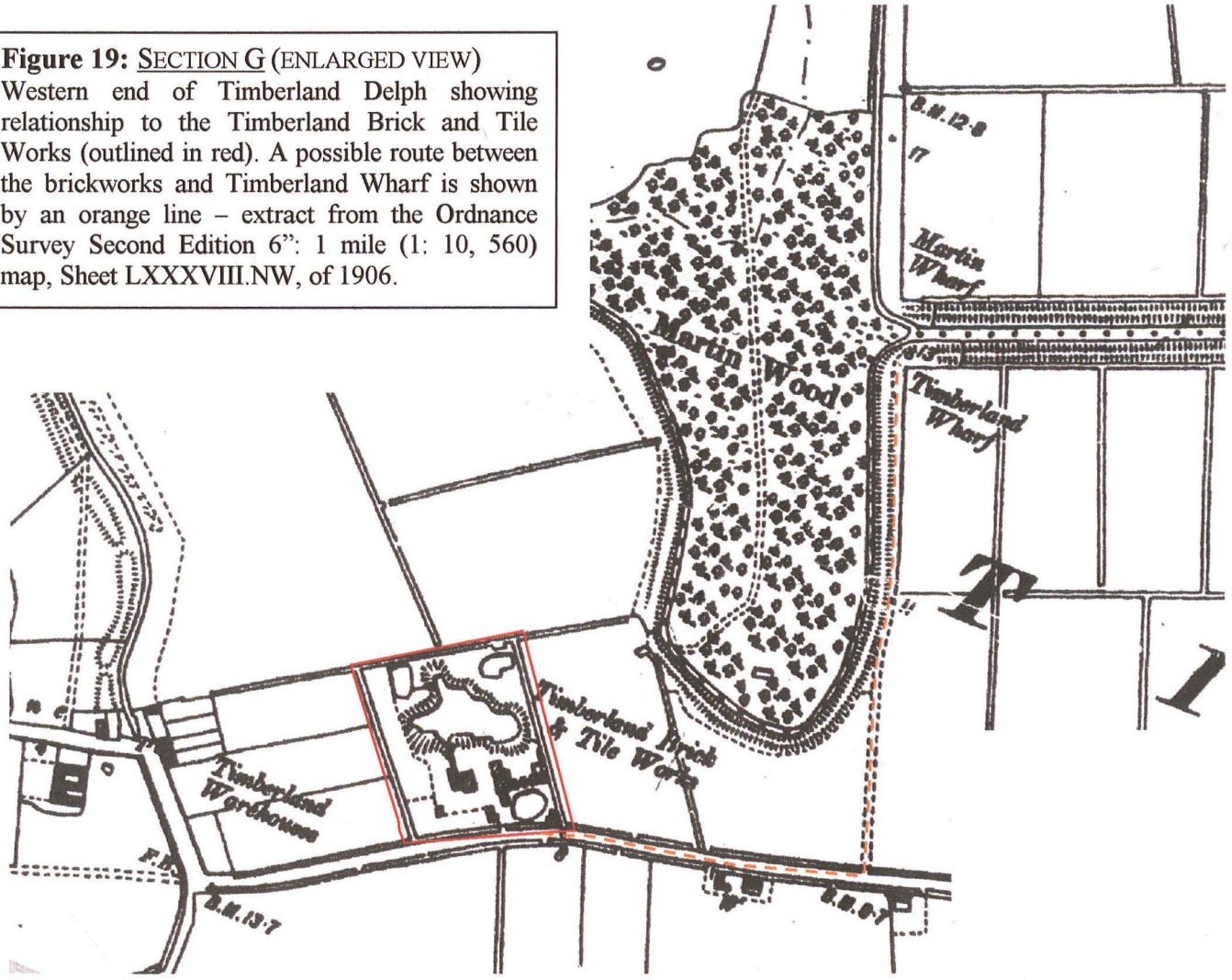
An isolated building is shown at the western edge of the Second Edition map. This structure sat at the northern edge of a small rectangular yard or garden, which lay at the southern edge of a field running up to the northern bank of the delph (at TF 1646 6065). The map indicates that the drain running along the foot of the flood bank deviated northwards very slightly immediately opposite the building. A footbridge crossed the drain at this point, giving access to the flood bank and delph. The latter must have been particularly important, as there are no other means of access, such as tracks, indicated on the map. There was a similar secluded property in a comparable position on the southern side of the delph. This structure lay c. 210m due east of its 'neighbour' on the northern side (at TF 1667 6064).

88.NW – in 1906 a cluster of five farm buildings were shown immediately to the south of the delph, near the eastern edge of the map (TF 1603 6036). These structures appeared to form an adjunct to Delph Farm situated c. 500m to the south, alongside Timberland Drove. The most westerly building still survives, lying at the northern end of the realigned access track. Another farm lay c. 300m to the west, in the lea of the northern bank of the delph (TF 1570 6034). Again only one building now survives from what was originally a much larger complex

The Second Edition map indicates that the next two groups of building lay opposite each other, c. 650m to the west. Both of the buildings on the southern side of the delph still survive. However, the two structures to the north of the channel are potentially the most interesting. They were separated by c. 70m, and part of the more northerly building still survives, being approached by a track branching off Martin South Drove. This track ran along the eastern edge of '*Mill Drain*', the end of which terminated at the more southerly of the two structures. The early 20th century map depicts this as a small, square structure that was recessed into the north flood bank of the delph. The building has now gone, but the platform and indentation in the bank still exist to indicate its former location (TF 1510 6005). The relationships between this building, the flood bank, the delph and Mill Drain provide compelling evidence the structure once housed a pumping engine. The fact that the 1906 map was not annotated to indicate that this was the site of a pump indicates that it was already redundant. This factor, combined with the associated label '*Mill*', suggests that the structure was a wind pump that had been constructed either at the very end of the 18th century or early in the 19th century and which would have become redundant by 1840, following the introduction of steam engines. As with the site of the steam pump further east along Timberland Delph (see above), this site has not been catalogued by the SMR.

Following the delph c. 550m to the west, the Second Edition map depicts a slight northerly deviation, or bump, in the drain that runs along the base of the northern bank. There are no any indications that this feature was associated with any kind of structure or installation, but its very presence suggests that there must have been some object that necessitated this variation in orientation. Examination of the other delphs suggests that such a deflection in the side drain is likely to have avoided a pre-existing feature, or to have reflected the presence of an associated facility, such as a pumping engine or wharf. The close proximity of the probable site of a wind pump, combined with the absence of a suitable perpendicular feeder drain, decreases the likelihood that this would have been the location of a pump. The site's isolation

Figure 19: SECTION G (ENLARGED VIEW)
Western end of Timberland Delph showing relationship to the Timberland Brick and Tile Works (outlined in red). A possible route between the brickworks and Timberland Wharf is shown by an orange line – extract from the Ordnance Survey Second Edition 6": 1 mile (1: 10, 560) map, Sheet LXXXVIII.NW, of 1906.



also reduces the probability that there would have been a wharf here. Consequently, the reason for the presence of this feature cannot be suggested with any degree of confidence. The modern map shows a few trees and a less pronounced, but still discernable deflection at this point (TF 1459 5985).

The only other structures depicted along the course of Timberland Delph are the buildings forming Glebe Farm, which is situated immediately adjacent to the northern edge of the channel, c. 1.1km to the west of the Car Dyke. The modern farm complex is bigger than it was in 1906, but still incorporates three of the four buildings shown on the early map. A footbridge crossed the side drain at the farm, providing access to the channel. Other communication with the outside world was via a track that led northwards to Martin South Drove.

The junction between Timberland Delph and the Car Dyke was marked by a distinct easterly projection of the latter waterway, which created a small promontory of Martin Wood. The early 20th century map indicates that the northern side of the intersection between the two channels was known as *Martin Wharf*, while the southern side was *Timberland Wharf*. The nature of these 'wharves' is impossible to determine, as the map does not indicate that there was any variation to the flood banks, or that there were any physical features that could be considered to be quays, yards or allied facilities (fig. 19). Indeed, it is not readily apparent how Martin Wharf could be approached, as it appears to have been surrounded by unbridged drains. In contrast, Timberland Wharf lay at the northern end of a track that ran along the outer edge of a surviving section of the eastern bank of the Car Dyke. The southern end of this track joined Timberland Drove, c. 350m to the east of Brickyard Farm. It is therefore tempting to the wharf as a convenient outlet for the brickyard's products, as it only lay c. 850m away by road, whereas the next nearest market, the village of Martin was c. 1.1km away.

The brick works was still active when the surveying for the Second Edition map was conducted in 1904. At that time it was known as *Timberland Brick and Tile Works*. Eight buildings were shown at the beginning of the 20th century, parts of five of these still surviving and forming the farm complex. The early map shows two small ponds at the north-west and north-east corners of the site, these being identical to their modern form. In contrast, the large, irregular quarry pit between and to the south of them continued to expand after 1904, providing an indication of on-going production. There was another small quarry pit at the south-eastern corner of the site, but this has since been filled in.

c: *Air photographic evidence*

The Lincolnshire component of the National Mapping Programme identified elements of three cropmark complexes situated on the eastern bank of the river opposite the end of Timberland Delph. These included linear boundary (40412), cropmarks and earthworks representing the remains of Kirkstead Abbey (40410) and the remains of a field system to the south-west of Old Abbey Farm (40413).

d: *Summary and discussion of the evidence*

EASTERN END - the archaeological features that have been identified at this end of the delph are situated on the other side of the river, along the higher ground forming the eastern valley side. They consist of a concentration of cropmarks and earthworks, many, if not all of which are associated with Kirkstead Abbey (40410, 40412, 40413). Some of these features actually represent elements of the abbey itself, including the precinct boundary ditch and adjacent ponds and channels, while the remainder appear to constitute associated field systems.

Other monastic houses along the Witham Valley relied heavily upon the river for trade and communication. As one of the largest of these establishments, it would be surprising if Kirkstead Abbey was not similarly dependent. If so, it should be expected that the house would have had wharfs and staithes along the adjacent section of the river. Alternatively, or in addition, it is possible that there was originally a short section of canal running c. 850m between the river and the abbey precinct. Such artificial channels appear to have been provided at Bardney Abbey, Barlings Abbey and Stainfield Priory[14], connecting them directly to the Witham to facilitate trade, whilst also acting as sources of water for ponds and channels (Rylatt, 2001; 2002).

The existence of any monastic riverside facilities or canals at Kirkstead is almost entirely conjectural and merely extrapolated from information pertaining to neighbouring establishments. However, the possibility that such features may be encountered along the riverbanks on either side of the Witham cannot be discounted. This proposal is supported by the reference to the Abbot blocking the river (see 6.1.7.a, above), an act that is likely to have required anchor points on both banks.

CENTRAL SECTOR and WESTERN END – examination of old editions of the Ordnance Survey map has indicated the former locations of two pumping engines sited along the northern edge of Timberland Delph. The more easterly example was sited at the junction between the delph and Dales Head Bank, at TF 1704 6088, the latter representing either a former river channel or an 18th century flood defence barrier (see 6.1.5.d). The map indicates that the pumping engine was still functioning in 1904 and thus must have been steam powered. It is therefore likely to have replaced one or more windmills in this part of the Witham Fen.

Another steam pumping engine still survives at the southern edge of Timberland Parish, c. 3km to the south-east, and provides a possible model for the chronology and form of the demolished pumping engine on the delph. Known as Timberland Pumping Station, the building was erected, and the initial steam engine installed, in 1839. It was designed to drain approximately 1012ha of the surrounding fen, the steam engine driving a beam, which in turn powered a large diameter scoop wheel that moved the water. A more powerful steam engine was installed in 1881.

The other identified site of a pumping station is situated toward the western end of the delph, and is most likely to have been the location of a Windmill driven pump (TF 1510 6005). This will have created as part of the initial integrated programme of drainage, probably between 1790 and 1810. Although probably redundant, part of the structure was still extant in 1906, but has since been demolished. However, there is an indentation in the bank where the pump house/windmill was situated, and is likely that any improvements along this section of the northern flood bank would expose the sub-surface remains of this structure.

It is possible that the sub-surface remains of other late 18th or 19th century structures may also be encountered during works to improve the flood banks along Timberland Delph. The site of a beer house called the *Bottle & Glass* has been identified on the northern side of the junction between the delph and the Witham (TF 1788 6114). Other buildings lining the northern bank were situated c.150m to the west at TF 1773 6110, and at TF 1646 6065 and TF 1570 6034. There was less development along the southern bank of the channel, structures formerly being located at TF 1667 6064 and TF 1603 6036.

It is also necessary to note the presence of two wharves flanking the extreme western end of the delph. The presence of these features is indicated on the Second Edition map, but this same document does not depict the presence of any associated structures or features.

[14] It is also possible that canals linked Tupholme Abbey and Stixwould Priory to the river.

Consequently, the nature of each 'wharf' cannot be determined, and it is not possible to anticipate whether there are any associated sub-surface features.

Assessment of archaeological potential:

Section G	**North-eastern end**	**LOW**
	Central Sector	**LOW**
	South-western end	**LOW**

6.2 Archaeo-environmental potential

Previous archaeological finds made within the Lower Witham Valley indicate that the archaeo-environmental potential is very high. The uppermost deposits within the valley itself are generally dark grey to black humic soils, a large component of which is degraded peat. In the conditions under which peat forms, organic macro- and micro-fossils, wood, leather and pollen are all likely to survive. Additionally, such environments are so deoxygenated that the ferrous components of composite artefacts can also be extremely well preserved.

The proximity of the flood banks to the delphs, which are the main arterial drains crossing the Witham Basin, suggests that there has always been a constant adjacent source of groundwater. Furthermore, the underlying alluvium and clay rich glacial till will have acted as an impermeable membrane, helping to ensure that the soils remained waterlogged. In such anaerobic conditions buried organic remains are unlikely to have degraded, and some of this material may have been constantly saturated since the later 2nd or early 1st millennium BC. These observations have been borne out by a recent excavation undertaken adjacent to the bank of the Witham and the North Delph at Fiskerton. The archaeological deposits lay between two watercourses, slight seepage from which ensured that they were generally in a better state of preservation than comparable material located beneath the field to the north (*q.v.* Field & Parker-Pearson, in press). Organic material exposed included a log boat and the partial remains of another, wooden posts, stakes and pegs, the hafts and handles of composite tools and, worked and unworked bone. In addition there were a range of macroscopic plant fragments, including seeds and twigs, and microscopic remains including pollen.

7.0 Impacts to the archaeological resource

In many areas of Lincolnshire plough damage represents the most significant threat to the integrity of the archaeological resource. This is not the case with respect to the immediate environs of most of the sections of channel considered in this document. The delphs run between parallel flood banks, each bank being flanked by a narrow strip of pasture and a drain. This arrangement is likely to have been created at the time that each channel was created, while the surrounding landscape was effectively unmodified fen. Therefore, it is relatively unlikely that the base of each flood bank will have been degraded and homogenised as a result of ploughing or other forms of agricultural activity.

The most significant impact upon *in-situ* deposits will have resulted from the effects of the systematic and sustained drainage of the surrounding landscape. The creation of the delphs along with the straightening of the river between 1787 and 1790 will have initiated this process, but the most significant effects undoubtedly relate to the raising of the river channel between 1812 and 1830, and the installation of steam powered pumps during the first half of the 19th century. Prolonged dewatering will have exposed buried organic materials to aerobic

bacteria, thereby reinitiating the decay process. Desiccated organics will have completely decomposed, while those that periodically dry out will have become fragmentary.

It is also likely that the actual process of constructing the present flood embankments will have had some physical effects upon archaeological deposits. Much of the bank material is likely to have been generated as a by-product of excavating the delphs and the creation of the adjacent drains. However, the recent excavation at Fiskerton suggested that this material had been supplemented by scraping up surface sediments from the surrounding area. Removal of the topsoil revealed a mixed deposit containing 19th century brick and tile, which was deposited directly upon stratified Roman deposits. The latter had a significant organic component, but the larger pieces of wood were fragmentary, suggesting temporary or periodic desiccation. If this process was applied along the edge of the present river channel, it is also possible that it was used in the creation of the delphs. Consequently, this could have either truncated or removed associated medieval and post-medieval deposits, resulting in the degradation of underlying stratified organic material.

Surveys of the Car Dyke have indicated that certain sections have been dredged or partially cleaned out at various times over the last two millennia. This will have removed stratified deposits from these sections, and as a result the present fills may not provide a complete sequence reflecting all of the activities that have taken place in the immediate environs of any one area. It is also apparent that the substantial banks of the Car Dyke have formed ridges of raised ground that have remained dry and thus have been reused as tracks at various times. This restricted and directed movement may have resulted in the partial truncation of the bank, either through erosion, or the creation of a bed for a metalled surface. Elsewhere structures have been erected on the banks, again degrading the integrity and form of stratified deposits. In the worst cases early modern and modern agricultural activity has resulted in the complete destruction of the banks, reducing them to the level of the surrounding ground surface.

8.0 Conclusions

Analysis and synthesis of existing sources has indicated that there is varying archaeological potential along the four delphs and the three sections of the Car Dyke that were examined in this study. This potential has been ranked as high, medium or low according to its perceived significance and the degree to which it is considered that archaeological deposits could be disturbed by works associated with the flood defence improvements (see, Table 3).

The most archaeologically sensitive areas are those where the anticipated deposits are either atypical of routine activity, are situated close to the present ground surface, or contain fragile organic materials. Of these the most important are expected to be the three sections of the Car Dyke **(B)**, **(D)** and **(F)**. While this is thought to be a Roman channel, relatively little else is known about it, and even its function is a matter of debate. None of the 14.8km section under consideration has been the subject of any formal intrusive archaeological investigation. However, considering that it represents more than one seventh of the total length of the monument, it is likely that this segment will contain a range of vital information concerning its date of construction, function and reuse. It is also evident that the channel did not exist in isolation, but acted as a focus of activity from the time of its creation and throughout the medieval and post-medieval periods.

Essentially, the problem with assessing the archaeological significance of any particular part of the Car dyke is knowing what is there. While the non-intrusive methods utilised in the compilation of this report can demonstrate its course and relationship to other known archaeological features, they cannot determine the density or distribution of sites, features and artefacts within the channel, on its banks, or immediately adjacent to it. Consequently, while certain archaeological 'hotspots' have been identified, and are listed in Table 3, it is not

possible to determine how these areas relate to, or represent, the total archaeological assemblage associated with the channel. As a result, all the sub-sections of the channel have been categorised as of Medium or High potential.

In contrast the areas surrounding the delphs appear to have relatively low archaeological potential. Unsurprisingly, past human activity seems to have been concentrated along the valley sides, either adjacent to the Witham along its eastern edge, or near the Car Dyke to the west. It is therefore concluded that archaeological deposits are most likely to be encountered at the ends of these four major drains. Of the finds and features that have been identified in the centre of the Witham Basin, the majority are of post-medieval to modern date and relate to the drainage, or subsequent settlement of the fen.

9.0 Mitigation

It has been deduced from the sources assessed that some elements of the study area appear to have little archaeological potential. The current state of knowledge suggests that significant deposits will not be encountered along Nocton Delph, Metheringham Delph and Timberland Delph, which together extend 15,320m (45.6% of the total length of channel considered in this document). However, it should be noted that there will always be an element of the archaeological assemblage that will be randomly distributed, as was demonstrated by the exposure and recovery of two logboats during the initial construction of Nocton Delph in the late 18th century. This factor limits the value of predictive analysis for determining the location of further buried objects in this class. However, it is also likely that such objects will be buried sufficiently deeply to minimise any effects relating to groundworks specifically associated with the enhancement of flood banks. Such groundworks will be largely restricted to the removal of the topsoil, followed by the deposition and compaction of clay. Consequently, it is anticipated that they will only have a direct impact on two types of deposit; those that lie directly beneath the topsoil and those that contain waterlogged timbers.

There may be further impacts upon the archaeological resource where it is necessary to construct access roads to the sections of flood bank that will be improved. The effects of such works are likely to be limited except where these access tracks either run along sections of the banks of the Car Dyke, or spur off roads likely to be of considerable antiquity. The latter equate to a series of causeways that cross the Witham Fen, all of which are known to have existed during the medieval period, but which may be considerable older. Only two of these are thought to lie within the study area, Branston Causeway and Martin Drove (see Stocker & Everson, 2002).

While the potential presence of significant archaeological deposits has been identified, their exact position and their form remains unresolved, as these aspects could not be fully addressed by the non-intrusive techniques employed in this study. It is therefore likely that a phase of selective and limited intrusive intervention would be necessary to fully establish the nature of the extant resource. This may be a necessary precursor to the formulation of a mitigation strategy for each of the sections considered to have medium to high archaeological potential.

Section		Archaeological potential	Archaeological deposits anticipated
A	N-E end	LOW	-
	Centre	LOW	-
	S-W end	LOW-MEDIUM	• Romano-British material associated with Car Dyke and/or tile manufacture. • Elements of a possible medieval farmstead/grange and/or fishery.
B		HIGH	• Car Dyke - Roman channel and possible associated facilities. • Elements of possible medieval farmstead/grange and/or fishery at Branston Booths. • Elements of possible medieval farmstead/grange and/or fishery at Potterhanworth Booths.
	Centre	MEDIUM-HIGH	• Car Dyke - Roman channel and possible associated facilities. • Possible remains of medieval 'hards' or wharf associated with movement of medieval pottery.
	S end	HIGH	• Car Dyke - Roman channel and possible associated facilities. • Possible remains of outlying components of Nocton Park Priory, and the post-medieval secular building that succeeded it. • Possible remains of early modern potato railway.
C	N-E end	LOW	• Remains of 18th and 19th century pumping stations.
	Centre	LOW	• Possible remains of 18th and 19th century pumping stations.
D	N end	HIGH	• Car Dyke - Roman channel and possible associated facilities. PART OF THIS IS A SCHEDULED ANCIENT MONUMENT • Possible remains of medieval or post-medieval boundaries along and to the south of Nocton Wood. • Possible remains of early modern potato railway.
	S end	MEDIUM-HIGH	• Car Dyke - Roman channel and possible associated facilities. • Possible round barrows or associated funerary/ritual deposits. • Possible remains of watermill on adjacent stream to south of Fen Side Farms, - likely to be 18th and 19th century structure, but medieval presence cannot be discounted.
E	N-E end	LOW	-

Section		Archaeological potential	Archaeological deposits anticipated
	Centre	LOW-MEDIUM	• Remains of 18th and 19th century pumping stations, and associated flood defences. • Possible late medieval to early post-medieval features underlying modern settlement of Tanvats. • Remains of 19th century wharves and 19th century buildings dispersed along the northern edge of the delph.
	S-W end	LOW	-
F	N end	MEDIUM-HIGH	• Car Dyke - Roman channel and possible associated facilities. PART OF THIS IS A SCHEDULED ANCIENT MONUMENT • Possible remains of medieval settlement associated with ridge and furrow field system. • Possible remains of mill and dairy built on eastern bank of Car Dyke.
	Centre	HIGH	• Car Dyke - Roman channel and possible associated facilities. PART OF THIS IS A SCHEDULED ANCIENT MONUMENT. • Features, some surviving as earthworks adjacent to Car Dyke, that probably represent components of Linwood Grange, a monastic farm, and Linwood Hall its post-medieval successor. • Possible remains of structures surrounding Carrdyke Farm, - likely to be 18th and 19th century buildings, but medieval presence cannot be discounted.
	S end	MEDIUM	• Car Dyke - Roman channel and possible associated facilities. • Possible remains of 19th century wharf at southern end.
G	N-E end	LOW	• Possible riverside facilities belonging to Kirkstead Abbey. • Remains of 18th/19th century beer house.
	Centre	LOW	• Remains of two 18th and 19th century pumping stations, and associated flood defences. • Remains 19th century buildings situated at three points along the northern edge of the delph, and two places on southern side.
	S-W end	LOW	• Possible remains of 19th century wharves.

Table 3: Summary of the archaeological potential of each section of the Phase 4 works considered in this study (compiled from Section 6.1).

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Appendix 12.I: Catalogue of sites and finds derived from the Lincolnshire County Sites and Monuments Record

SMR Code	NGR	Description
		SECTION A - BRANSTON DELPH
		Fiskerton C.P.
52898	TF 0940 7140	Broken leaf shaped 'point' (arrowhead?) found while digging a drain at Short Ferry Marina by Mr and Mrs Shooter. Probably Neolithic.
52894	TF 0896 7120	Log boat (Fox type IIB) found sealed beneath peat in March 1952. Excavated and deposited with Lincoln City and County Museum; 7.3m long by 0.6m wide.
52907	TF 0965 7134	Romano-British pottery found during the construction of Short Ferry Marina.
52906	TF 0960 7130	Medieval monastic grange and fishery belonging to Stainfield Priory and known as 'Barling Mouth', in the angle of the confluence of the River Witham and the Barlings Eau. Constructed on a raised mound, excavation revealed remains of a stone building, fishing and fish processing equipment. Artefacts included the remains of a stamped curfew, fish smokers and net sinkers. Pottery continued into the post-medieval period.
51212	-	Unlocated sites of medieval fisheries belonging to Stainfield Priory, which had a number of such stations on the Witham and Barlings Eau.
52908	TF 0965 7134	Medieval and post-medieval material recovered during the construction of Short Ferry Marina, among which was a considerable quantity of pottery. Latter included Nottingham, Toynton, Bourne, shelly, Tudor-Green, Cistercian, Midlands Yellow, French Polychrome, Lincoln wares and German and Flemish stonewares.
52901	TF 0890 7120	Fiskerton Sluice. Situated one mile upstream of Bardney Lock, this sluice was constructed as part of the scheme to improve the navigation and drainage of the river; the river was raised and embanked between 1812 and 1830 under the supervision of John Rennie. The sluice allowed excess water to be diverted into the old river channel surrounding Branston Island.
		Heighington C.P.
60484	TF 0570 6960	Small Late Mesolithic pit – contained 22 pieces of worked flint, including microlith, micro-burin and blades. Identified during evaluation adjacent to Branston Booths water pumping station.
61690	TF 059 691	Neolithic stone axe – unpolished example, possibly from Group VI quarries. Casual find at Branston Booths.
61692	TF 059 691	Barbed and tanged arrowhead - bifacially worked in honey coloured flint. Probable Bronze Age date. Casual find at Branston Booths.

SMR Code	NGR	Description
60706	TF 024 707 TF 1432 0983	Car Dyke – an artificial channel thought to have been constructed c. AD125. Originally c. 15m wide at top and 2 to 4m deep, with sloping sides and flat base. Variously interpreted as a canal or a catch-water drain protecting, and thereby allowing reclamation of, the Witham Fen to the east.
61467	TF 053 696	Roman tile kiln – situated in field to west of Car Dyke, identified in 1941 following ploughing, and excavated in 1976. Rectangular structure, 5.4 x 7.1m, built of rectangular tiles. Associated with 4th century pottery. Used to produce roof tiles, flue tiles, box tiles, hypocaust tiles and bonding tiles – some of products probably transported to Lincoln along Car Dyke. Probable clay pit also identified in field.
61466	TF 0553 6885	Roman tile kiln – probable site of kiln, identified by tiles and a firebar, along with greyware pottery. Situated north of Moor Lane on Parish Boundary.
61691	TF 059 691	Roman coin – Theodora, bronze posthumous commemorative edition, minted 337-340. Obv. '( )ORAE AVG'; diadem & dr. bust right. Rev: '( )MANA'; Pietas standing right. holding babe in arms.
60485	TF 0570 6960	Medieval ridge and furrow – remains of poorly preserved medieval field system detected in 1993, by geophysical survey and evaluation adjacent to Branston Booths water pumping station.
61463	TF 0598 6909	Post-medieval quarry pit marked on old Ordnance Survey maps.
		Branston and Mere C.P.
61693	TF 069 693	Neolithic stone axe – part-polished axe found in field to the south-east of Poplar Farm. Two barbed and tanged arrowheads, of later Neolithic to Bronze Age date, also found in same field.
61689	TF 061 691	Barbed and tanged flint arrowhead - probable Bronze Age date. Casual find at Branston Booths.
61685	TF 078 697	Log boat – dug-out boat 8.5m long by 0.9m wide, with a number of internal dividers or braces. Presumed to be prehistoric in date. Found in 1925 in Branston Fen (also possible that it was found at TF 061 691).
61694	TF 0685 6950	Bog oaks (undated) – ploughed up in field to the south of North Causeway. Sampled on 10 May 1979.
61711	TF 0566 6868	Medieval boundary – cropmark and earthwork boundary to west of Branston Lodge Farm.
		SECTION B – CAR DYKE: BRANSTON DELPH TO NOCTON DELPH
		Heighington C.P.
61690	TF 059 691	Neolithic stone axe – unpolished example, possibly from Group VI quarries. Casual find at Branston Booths.
61692	TF 059 691	Barbed and tanged arrowhead - bifacially worked in honey coloured flint. Probable Bronze Age date. Casual find at Branston Booths.

SMR Code	NGR	Description
61691	TF 059 691	Roman coin – Theodora, bronze posthumous commemorative edition, minted 337-340. Obv. '( )ORAE AVG'; diadem & dr. bust right. Rev: '( )MANA'; Pietas standing right. holding babe in arms.
61463	TF 0598 6909	Post-medieval quarry pit marked on old Ordnance Survey maps.
		Branston and Mere C.P.
61681	TF 0689 6842	Bronze Age stone battle axe - found in garden of Field House Farm, Branston Booths, in 1972/3.
61689	TF 061 691	Barbed and tanged flint arrowhead - probable Bronze Age date. Casual find at Branston Booths.
61680	TF 0702 6843	Late Bronze Age socketed axe – found in peat in Branston Fen in 1962 by W.T. Bailey. Some of wooden shaft still attached and identified as crab-apple.
60272	TF 0625 6829	Medieval moated site – situated 325m to south-east of Branston Lodge, close to the Car Dyke. Sub-square enclosure of c. 55m^2, with encircling moat, c. 12–18m wide, that still contains water, and external bank. May have been the site of a grange belonging to Kirkstead Abbey, which is known to have constructed such an establishment in the parish during the 12th century, as well as a number of sheepfolds.
61711	TF 0566 6868	Medieval boundary – cropmark and earthwork boundary to west of Branston Lodge Farm.
61713	TF 0732 6790	Medieval settlement remains – features noted on aerial photographs, including crofts, boundaries, a hollow way and a trackway.
		Potterhanworth C.P.
60706	TF 024 707 TF 1432 0983	Car Dyke – an artificial channel thought to have been constructed c. AD125. Originally c. 15m wide at top and 2 to 4m deep, with sloping sides and flat base. Variously interpreted as a canal or a catch-water drain protecting, and thereby allowing reclamation of, the Witham Fen to the east.
61736	TF 0702 6610	Roman quern – lower stone of a two-part quern, with central iron fitting. Found to the west of Burnt Wood in 1961, and donated to City and County Museum, LM 17.61.
61743	TF 073 660	Medieval pottery scatter – fragments of 13th century shell gritted fabric, probably local Potterhanworth type wares, found in a field adjacent to, and to the east of the Car Dyke, in 1970.
61744	TF 075 661	Medieval pottery scatter – fragments of 13th century shell gritted fabric, probably local Potterhanworth type wares, found in a field adjacent to, and to the east of the Car Dyke, in 1970.
60436	TF 0700 6680	Potterhanworth Wood - medieval to post-medieval woodland: 39ha classified as semi-natural and 16ha as plantation, included in Nature Conservancy Council's inventory of Ancient Woodland.
60433	TF 066 672	Querndike Wood – medieval to post-medieval woodland: 2ha

SMR Code	NGR	Description
		classified as semi-natural, included in Nature Conservancy Council's inventory of Ancient Woodland.
60437	TF 0720 6610	Burnt Wood - medieval to post-medieval woodland: 11ha classified as plantation, included in Nature Conservancy Council's inventory of Ancient Woodland.
60435	TF 0690 6570	Neville Wood – medieval to post-medieval woodland: 7ha classified as plantation, included in Nature Conservancy Council's inventory of Ancient Woodland.
61742	TF 073 660	Fragment of a tombstone - probably a 17th century memorial that was dredged from the Car Dyke in 1973. Now in City and County Museum, LM 30.73. Letter in parish file records that Len Woodward thought tombstone came from the old St Peter at Arches Church, Lincoln (now St Giles' Church).
61758	TF 0665 6630	Post-medieval gravel pit – indicated on 1905 Ordnance Survey map, but abandoned and wooded by 1954.
		Nocton C.P.
61777	TF 073 648	Neolithic flint axe – unpolished example, in honey coloured flint. Found by Mr D. Walker at Stockdove Holt, Abbey Hill, in 1968; now in City and County Museum, LM 4.68.
60706	TF 024 707 TF 1432 0983	Car Dyke – an artificial channel thought to have been constructed c. AD125. Originally c. 15m wide at top and 2 to 4m deep, with sloping sides and flat base. Variously interpreted as a canal or a catch-water drain protecting, and thereby allowing reclamation of, the Witham Fen to the east.
60712	TF 0771 6478	Nocton Priory: SAM 22750 – small Augustinian house founded in mid 12th century by Robert D'Arcy, son of major landowner in parish. Expanded during 12th and 13th centuries. Dissolved in 1536 and given to Charles, Duke of Suffolk. In reign of Elizabeth I it passed to Sir Henry Stanley, who converted it into a residence, possibly a small farmhouse. It had been totally demolished by 1726. Part of site survives as earthworks.
61802	TF 080 648	Stone piscina – medieval piscina or holy water stoop found in Wasps Nest by the Car Dyke. Thought to have come from Nocton Priory church. Now in garden of finder, Mrs Gash.
61800	TF 0777 6457	Medieval boundary – linear cropmark noted to the south of Nocton Priory.
60434	TF 0690 6530	Top Barff – medieval to post-medieval woodland: 5ha classified as semi-natural, included in Nature Conservancy Council's inventory of Ancient Woodland.
60438	TF 0740 6560	Bottom Barff – medieval to post-medieval woodland: 5ha classified as semi-natural and 3ha as plantation, included in Nature Conservancy Council's inventory of Ancient Woodland.
60439	TF 0820 6380	Nocton Wood – medieval to post-medieval woodland: 84ha classified as semi-natural and 14ha as plantation, included in Nature Conservancy Council's inventory of Ancient Woodland. Recorded

SMR Code	NGR	Description
		as belonging to Nocton Priory before becoming part of Nocton Hall Estate. Some of trees more than 600 years old, with parish boundary respecting edge of wood.
61778	TF 076 648	Post-medieval pottery scatter – range of 16th to 19th century pottery found by R. Chapman near Nocton Priory, in 1972.
61810	TF 0798 6445	Post-medieval sand pit – indicated on 1905 Ordnance Survey map, to west of Nocton Wood.
61811	TF 0802 6475	Post-medieval sheepwash - indicated on 1905 Ordnance Survey map, to south of Abbey Hills Cottages.
61195	TF 0810 6472 TF 1204 6547	Potato railway – narrow gauge railway running between Wasps Nest and Garden Farm, for 3.6km. Initially horse drawn, later used steam and diesel engines to take potatoes to Smiths crisp factory between 1920s and 1962.
		SECTION C - NOCTON DELPH
		Bardney C.P.
53851	TF 1255 6704	Cropmark complex including enclosures that may mark the location of a later prehistoric settlement.
53852	TF 1340 6692	Ridge and furrow field system.
		Nocton C.P.
61804	TF 1201 6604	Site of Nocton Windmill. Marked on the Ordnance Survey map of 1824, it had been demolished by 1905.
61807	TF 1223 6622	Steam engine sited next to Nocton Delph and probably used to drain surrounding land is marked on the Ordnance Survey map of 1905. Steam engines appear to have replaced the windmills following an act of 1831 to improve drainage in Branston, Potterhanworth and Nocton Fens.
60308	TF 0930 6510	Nocton Hall Decoy - post-medieval decoy pond with 5 pipes surrounding a pond of 0.8ha, set in an ash wood of 5.7ha. A decoy is marked at this location on the 1824 First Edition Ordnance Survey map. Corresponds to a polygonal cropmark. Decoy Farm situated at TF 095 652.
		Dunston C.P.
61779	TF 099 649	Log boat – Nocton 1 was 7.6m long, with a number of internal dividers or braces, and a separate sternboard, which was recovered from Nocton Delph, almost opposite the decoy, in 1790. Trollope states that the boats were found in 1811 in the Car Dyke, and were donated to the British Museum by Sir Joseph Banks.
61780	TF 099 649	Log boat – Nocton 2 was 4.3m long, and double-ended. It was recovered from Nocton Delph in 1790, c. 75m from Nocton 1, at a depth of 0.9m. Trollope states that the boats were found in 1811 in the Car Dyke, and were donated to the British Museum by Sir Joseph Banks.

SMR Code	NGR	Description
61195	TF 0810 6472 TF 1204 6547	Potato railway – narrow gauge railway running between Wasps Nest and Garden Farm, for 36.7km. Initially horse drawn, later used steam and diesel engines to take potatoes to Smiths crisp factory between 1920s and 1962.
		SECTION D - CAR DYKE: NOCTON DELPH TO METHERINGHAM DELPH
		Nocton C.P.
60711	TF 0820 6460 TF 0890 6340	Car Dyke: SAM 312 – earthwork remains in Nocton Wood. Length of c. 1500m, with bank circa 5m wide by 4m high; total of 7.5ha.
60439	TF 0820 6380	Nocton Wood – medieval to post-medieval woodland: 84ha classified as semi-natural and 14ha as plantation, included in Nature Conservancy Council's inventory of Ancient Woodland. Recorded as belonging to Nocton Priory before becoming part of Nocton Hall Estate. Some of trees more than 600 years old, with parish boundary respecting edge of wood.
		Dunston C.P.
61836	TF 086 633	Possible wall foundations – Ordnance Survey records report that possible walls were being clipped by plough adjacent to Dunston Fen Lane.
		Metheringham C.P.
61833	TF 086 632	Polished stone axe – Neolithic axe found to the south of Dunston Fen Lane in 1959-60.
62002	TF 0846 6233	Round barrow – circular cropmark of possible barrow at Metheringham Barff.
62003	TF 0852 6232	Round barrow – circular cropmark of possible barrow at Metheringham Barff.
62004	TF 0860 6217	Round barrow – circular cropmark of possible barrow at Metheringham Barff.
60744	TF 0851 6240	Bronze Age looped and socketed axe – found in field containing round barrows.
60454	TF 0904 6196	Bronze Age axe hammer – found to east of Metheringham and recorded during 1993.
60706	TF 024 707 TF 1432 0983	Car Dyke – an artificial channel thought to have been constructed c. AD125. Originally c. 15m wide at top and 2 to 4m deep, with sloping sides and flat base. Variously interpreted as a canal or a catch-water drain protecting, and thereby allowing reclamation of, the Witham Fen to the east.
62007	TF 0915 6218	Medieval pillow mound – earthwork mound at Metheringham Barff identified on aerial photographs.
61194	TF 09065 63143	Post-medieval wall foundation – 7m length identified in access pit during water mains replacement. Situated alongside lane linking

SMR Code	NGR	Description
		Dunston Fen Lane and Metheringham Fen Lane, c. 30m to north of latter.
62006	TF 0849 6166	Cropmark enclosure – undated feature on Metheringham Moor.
		Blankney C.P.
62138	TF 0911 6150	Post-medieval gravel pit – indicated on 1905 Ordnance Survey map, to south of B1189.
		SECTION E - METHERINGHAM DELPH
		Metheringham C.P.
60948	TF 13553 63818	Sherd of medieval to post-medieval pottery – sherd of Nottinghamshire ware pottery recovered during fieldwalking along Hatton – Silk Willoughby gas pipeline.
62025	TF 1305 6380	Water pumping engine - wind-powered pumping engine erected on Metheringham Delph to south-west of Tanvats. Site indicated on 1824 Ordnance Survey map, but no longer present on 1905 map. Probably replaced by steam engine following an act of 1831 to improve the drainage of Branston, Potterhanworth and Nocton.
62026	TF 1275 6358	Water pumping engine - wind-powered pumping engine erected on Metheringham Delph to south-west of Tanvats. Site indicated on 1824 Ordnance Survey map, but no longer present on 1905 map. Probably replaced by steam engine following an act of 1831 to improve the drainage of Branston, Potterhanworth and Nocton.
62024	TF 1445 6467	Water pumping engine – steam-pumping engine erected on Metheringham Delph, following an act of 1831 to improve the drainage of Branston, Potterhanworth and Nocton. Site indicated on 1905 Ordnance Survey map.
62023	TF 1186 6299	Metheringham water pumping engine – steam-pumping engine erected on Metheringham Delph, following an act of 1831 to improve the drainage of Branston, Potterhanworth and Nocton. Site indicated on 1905 Ordnance Survey map; buildings still extant in this location, but relationship to pumping engine unclear.
62000	TF 1330 6395	Tanvats - post-medieval settlement situated c. 8km to east of Metheringham; possibly founded around the beginning of the 19th century. Originally a bridge here over Metheringham Delph – initially a narrow bridge on wooden stilts, which was replaced by a suspension bridge, both being high enough to allow passage of boats beneath. Present bridge blocks delph.
62029	TF 1343 6407	Tanvats School – constructed in 1857 to provide places for 70 children. Also licensed for church services. Building appears to have survived into the 1970s
62027	TF 1327 6395	Wesleyan Methodist Chapel – constructed in 1887, one of two chapels in the settlement. Appears to have survived into the 1970s.
		Stixwould C.P.
40095	TF 1640 6500	Neolithic flint axe, flaked and retouched to create tapering butt and

SMR Code	NGR	Description
		splayed blade, shape similar to early bronze axes. Found on land off Station road by Mr N. Hogg.
40034	TF 1590 6480	Log boat – found in 1848 during construction of railway at Stixwould Ferry. Two bone skates were found near this vessel, and it is thought possible that they were runners used to remove vessel from the water. One of these skates survives in the Museum of Antiquities, Edinburgh.
40037	TF 1590 6501	Medieval fishery – large artificial mound, c. 1.5m high, constructed to house buildings of fishery. Associated remains include building stone, tile, and remains of a louver, as well as limestone net sinkers. Recovered pottery dates to 13th century and later, and includes Toynton, Lincoln, Bourne, Bolingbroke, and Kirkstead types.
40032	TF 1590 6501	Medieval pottery – recovered in 1958 following deep ploughing by farmer, Gavin Simpson. Initially thought to be mid-Saxon sherds, now interpreted as fragments of medieval curfews associated with fishery 40037.
40062	TF 1588 6498	Possible fishery mound – location indicated on early SMR map, and still visible as cropmark.
40060	TF 1590 6480	Undated burial – a mass of chain-mail, probably a hauberk, found in association with a human skull, iron sword and spearhead. Recovered from trench, c. 2m deep, opened during construction of Stixwould Station adjacent to River Witham.
40402	TF 1574 6582	Undated enclosure - rectangular enclosure with associated faint amorphous features, all visible as cropmarks.
40403	TF 1574 6535	Undated cropmark – curvilinear feature associated with other faint cropmarks.
40405	TF 1660 6505	Undated enclosure - large rectangular enclosure with rounded corners, showing as a soilmark. Surrounding area contains a range of linear features and sub-rectangular enclosures.
		Blankney C.P.
62087	TF 158 648	Medieval to post-medieval artefact scatter – spread of pottery, tile, burnt limestone, burnt clay and soot seen adjacent to the Witham. Almost certainly the site of a medieval fishery, it is possible that a post-medieval pottery kiln was subsequently constructed on the site.
SECTION F - CAR DYKE: METHERINGHAM DELPH TO TIMBERLAND DELPH		
		Blankney C.P.
62086	TF 117 621	Stone axe-hammer – Neolithic to Bronze Age perforated stone axe hammer found in Blankney Fen in 1972. Another axe or hammer was found in the same locality in 1968.
62092	TF 121 608	Gold torc – Bronze Age or Iron Age torc dug up near Linwood Hall Farm in 19th century. Subsequently melted down.
62098	TF 117 617	Prehistoric spearheads – record of a 'quantity' of 'long, dark, flint spearheads' being found at Blankney Barff, near the Car Dyke in

SMR Code	NGR	Description
		the late 1970s or early 1980s.
60736	TF 1150 6190 TF 1175 6180	Car Dyke: SAM 313 – earthwork remains southeast of Blankney Wood. Two sections with combined length of c. 350m, width c. 15m, height c. 2m.
60737	TF 1235 6100	Car Dyke: SAM 314 – earthwork remains to east of Linwood Hall. Length of c. 1100m, width c. 15m, height c. 4m.
62097	TF 120 614	Roman coin hoard – an urn full of bronze coins found at Carr Dyke Farm by a metal detectorist, in 1992-3.
62093	TF 1214 6073	Anglo-Saxon cross fragment – Piece of early medieval carved stone reputedly incorporated into structure of Linwood Hall. Not retained following demolition of that building in 1935.
62089	TF 122 608	Deserted medieval settlement – settlement of Cotes was recorded in the *Domesday Book*, but no longer exists. Evidence includes documentary references to manor and, earthworks representing a moat and fishponds.
60270	TF 1210 6077	Medieval grange – moated grange site later occupied by Linwood Hall. Village of Cotes given to Kirkstead Abbey during the reign of King Stephen (11??). Abbey constructed a grange called Linwood, the name largely superseding 'Cotes'. Possible that this was the centre of the Kirkstead estates in Martin and Timberland, which focussed on wool production. Slight earthworks may represent remains of a moat and fishponds belonging to grange.
62120	TF 1149 6181	Ridge and furrow – earthworks along eastern edge of Blankney Wood; presumably part of a medieval field system. Evident on aerial photographs.
60949	TF 1204 6095	Medieval road – metalled surface of limestone rubble and gravel found during trial trenching and watching brief. Surface was associated with small quantity of later medieval to early post-medieval pottery.
60443	TF 1100 6200	Blankney Wood – medieval to post-medieval woodland: 7ha classified as semi-natural and 10ha as plantation, included in Nature Conservancy Council's inventory of Ancient Woodland.
62090	TF 1214 6073	Linwood Hall – post-medieval structure erected on the site of the medieval grange of Linwood and the village of Cotes. Referred to by Trollope as a Jacobean house, it was originally known as Linwood Grange; the name was probably changed in the 18th century. The building was demolished in 1935.
61623	TF 1160 6191	Post-medieval artefact scatter – pottery found around Mill Cottage, Blankney Barff, included a butterpot and several pancheons. This suggests that the site was used as a dairy.
62078	TF 11983 61409	Carr Dyke Farm – farmhouse and outbuildings of mid 18th and early 19th century date. Constructed in brick, with pantile roofs.
62119	TF 108 600	Blankney Hall airfield – RAF Blankney opened in 1940. Operational until 1945, when it briefly closed, reopening again until April 1946.

SMR Code	NGR	Description
61622	TF 1160 6190	Undated path or wall foundation – spread of limestone rubble, c. 2.1m x 0.5m, observed during watching brief at Mill Cottage, Blankney Barff.
60483	TF 1205 6147	Natural feature – palaeo-channel observed during watching brief at Carr Dyke Farm.
		Martin C.P.
62050	TF 113 604	Ridge and furrow – earthworks, presumably part of a medieval field system, recorded during field walking. Further ridge and furrow observed during a watching brief at TF 110 598.
60441	TF 1310 5910	Martin Wood – medieval to post-medieval woodland: 11ha classified as semi-natural, included in Nature Conservancy Council's inventory of Ancient Woodland.
62274	TF 125 599	Early post-medieval coin - small hammered silver coin of Henry VIII. Obv. HENRIC VIII DI 'G'R'AGL'Z HB. Canterbury mint of Archbishop Warham. 2nd coinage 1526-44.

SECTION G - TIMBERLAND DELPH

Kirkstead C.P.

40410	TF 1860 6170	Medieval boundary ditch – encloses and defines precinct of Kirkstead Abbey.
40412	TF 1854 6116	Undated linear ditch - linear feature visible as cropmark to west of Kirkstead Abbey.
40413	TF 1880 6070	Undated linear features – linear features, both single and double-ditched visible as cropmarks to west of Kirkstead Abbey.
		Timberland C.P.
60707	TF 126 588	Car Dyke: SAM 315 – earthwork remains west of Martin Wood. Length of c. 380m, width c. 15m, height c. 4m.
60708	TF 1275 5845	Car Dyke: SAM 298 – earthwork south of Martin Wood. Length of c. 450m, width c. 15m, height c. 4m.
60940	TF 1295 5874	Brickyard Farm – post-medieval complex, including remains of brickyard, surrounded by clay extraction pits.

Appendix 12.2: Colour aerial photographs

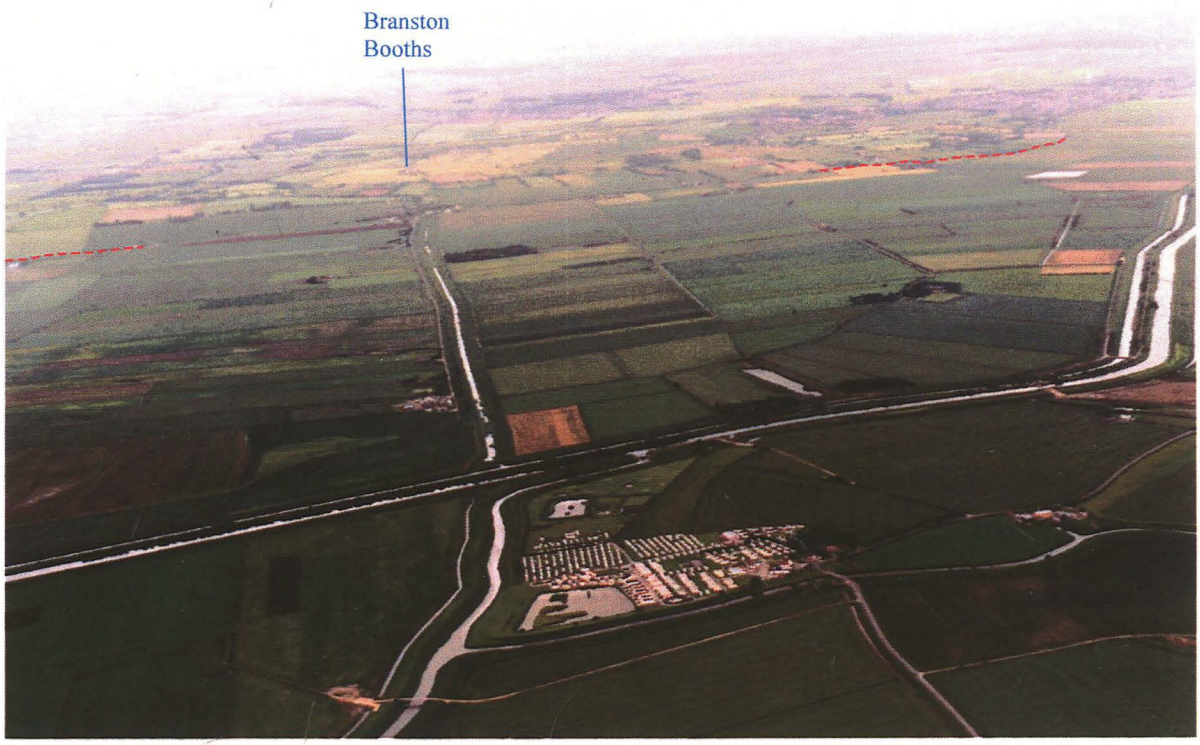

Plate 1: Section A – Branston Delph seen from Short Ferry, looking south-west. Short Ferry marina is foreground centre, with Branston Island bottom left. The broken red line indicates the course of the Car Dyke.

Plate 2: Section A – Branston Delph seen from Branston Booths, looking north-east. The disused gravel pit at the north-west corner of the hamlet is readily apparent, centre foreground.

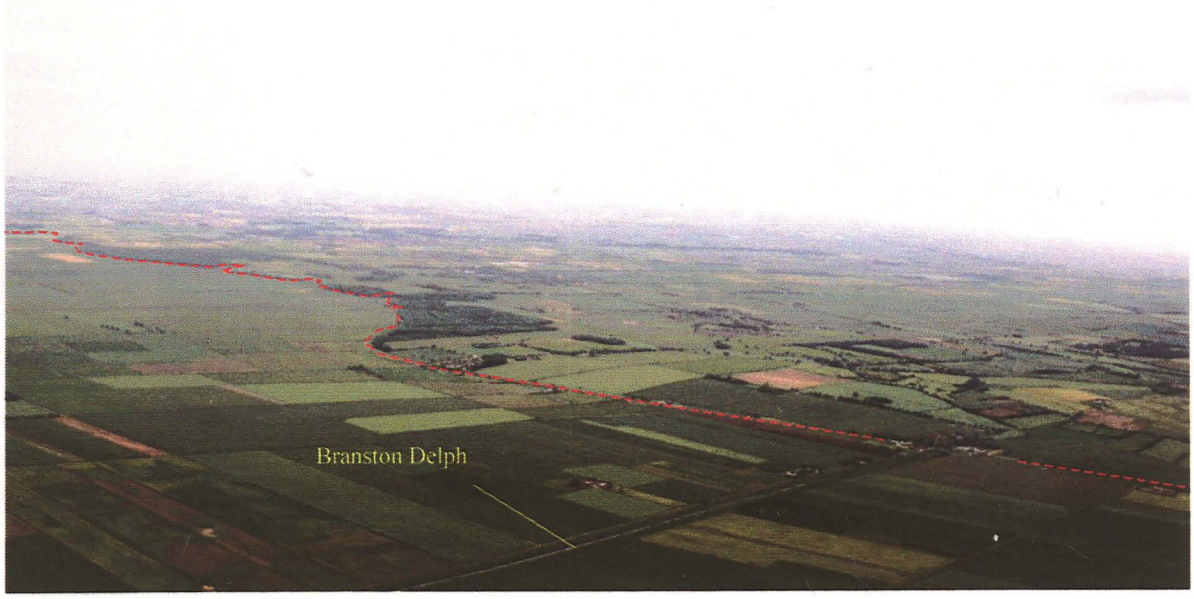

Plate 3: Section B – the Car Dyke - course indicated by the broken red line - with Branston Booths bottom right, Potterhanworth Wood Centre, and Nocton Wood at left hand side, looking south-west.

Plate 4: Section B – the Car Dyke - course follows edges of woods, also indicated by the broken red line, looking north-east. A: Potterhanworth Wood, B: Burnt Wood, C: Bottom Barff. The village of Bardney is visible top centre.

Plate 5: Section C – Nocton Delph seen from above Nocton Wood, looking north-east.

Plate 6: Sections F and D – the Car Dyke - course follows edges of woods, also indicated by the broken red line, looking north. A: Potterhanworth Wood Centre, B: Nocton Wood, C: Blankney Wood. Broken orange line defines northern end of Blankney airfield. Field highlighted in yellow is situated immediately to the north of Linwood Hall Farm and appears to contain the cropmark remains of an east-west aligned block of ridge and furrow.

Plate 7: Section E – Metheringham Delph seen from above Stixwould, looking south-west. Tanvats is situated in the middle distance, flanking the channel at the point where it kinks.

Plate 8: Section G – Timberland Delph, looking west. The Witham is situated bottom west, with Martin Wood at the far end of the channel.