

ARCHAEOLOGICAL DESK-BASED  
ASSESSMENT OF FLOOD  
DEFENCES AT LONGNEY,  
GLOUCESTERSHIRE

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Illustrated by Carolyn Hunt

1<sup>st</sup> May 2003

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Project 2379  
Report 1158



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# Archaeological desk-based assessment of flood defences at Longney, Gloucestershire

**Darren Miller**

## **Part 1 Project summary**

*An archaeological desk-based assessment was undertaken by the Worcestershire Archaeological Service on behalf of the Environment Agency in order to determine the archaeological implications of maintenance work along a defined length of flood defences in Elmore and Longney parishes, Gloucestershire (NGR SO 7584 1442 to 7665 1666). The methods involved the collection and analysis of SMR data, archival material and secondary sources, and the additional input of information obtained during a brief site visit. The assessment identified a limited potential for the survival of banks and ditches of Roman and later date lying beneath or adjacent to the northern half of the existing defences. There is also a possibility that remains of an undated (but potentially Roman) bank may be affected by groundworks at the extreme southern end of the existing defences. If a significant amount of ground disturbance is anticipated, it is recommended that a watching brief should be undertaken to establish the presence or absence of these remains, and to make an adequate record of any remains exposed.*

## Part 2 Detailed report

### 1. Background

#### 1.1 Reasons for the project

The project was undertaken on behalf of the Environment Agency, who were required by Gloucestershire County Council to address the archaeological implications of maintenance work on a length of flood defences in Elmore and Longney parishes, Gloucestershire. The requirement was based on information held in the Gloucestershire Sites and Monuments Record, in accordance with local and national planning guidelines relating to archaeology.

#### 1.2 Project parameters

The project conforms to a brief prepared by Gloucestershire County Council (2000) and to the Service's own proposal (AS 2003). The project also conforms to the *Standard and guidance for archaeological desk-based assessment* (IFA 1999).

#### 1.3 Aims

The aims of the assessment were as follows:

- to collect relevant information relating to the archaeological potential of the proposed development area
- to determine whether any remains of earlier flood defences survive
- to assess the potential significance of any archaeological remains and the built heritage
- to assess the impact of the proposed development on these archaeological remains and the built heritage

### 2. Methods

#### 2.1 Documentary search

Prior to fieldwork commencing a search was made of the Gloucestershire Sites and Monuments Record (SMR). Other sources were obtained from the Local Studies Library of Gloucestershire County Library, Gloucestershire County Record Office (GRO), and via the Internet. The main sources used during the project are summarised below.

##### *Cartographic sources*

- Anon, nd [C20] *Field-names map* (annotation of Ordnance Survey 1924, *Gloucestershire sheets 32 NE and 32 SE* (GRO D5555/1/28))
- Ordnance Survey 2002 [Digital mapping]
- Ordnance Survey 1980, Sheet SO 71 SE (1:10,000)
- Ordnance Survey 1974, Sheet SO 71 NE (1:10,000)
- Ordnance Survey 1955, Sheet SO 71 SE (1:10,560)

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- Ordnance Survey 1954, Sheet SO 71 NE (1:10,560)
  - Ordnance Survey, 1902 *Gloucestershire, sheets 32 NE and 32 SE* (1:10,560)
  - Ordnance Survey, 1880-1888 *Gloucestershire, sheets 32 NE and 32 SE* (1:10,560) and *sheets 32.4; 32.7; 32.8; and 32.12* (1:2500)
  - J Menett, 1780 *Survey of Benjamin Hyett's estate, Longney, with explanation of lots in Southmoor and Bunnymill Meadows* (GRO 6/E4; Photocopy 490)
  - J Menett, 1772 *A map of the estate at Dinny in the Parish of Minsterworth and Doodings Farm in the Parish of Longney, Gloucestershire, belonging to Mr Daniel Ellis* (GRO Photocopy 283).

#### *Aerial photographs*

- Ordnance Survey 2003 [Vertical aerial photographs available via [www.ordnancesurvey.com/getamap](http://www.ordnancesurvey.com/getamap)]

#### *Documentary sources*

- Allen, J R L, and Fulford, M G, 1990a Romano-British and later reclamations on the Severn salt marshes in the Elmore area, Gloucestershire, *Trans Bristol and Gloucestershire Archaeol Soc*, Vol **108**, 17-32
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- Norman, R A, 1951 The 'Lot Meadows' of Longney, based on the Hyett survey of 1780, in University of Bristol Department of Adult Education, *Some notes on Gloucestershire History*, 26-27

## 2.2 **Fieldwork**

A site visit was made on 27<sup>th</sup> April 2003, during which the entire length of the flood defences scheduled for maintenance was observed, and notes were made on a 1:7500 plan. Colour transparency and monochrome photographs were also taken to record select features.

## 2.3 **Assessment**

Each of the maps listed above (including the map annotated during the site visit) was reproduced on acetate at a uniform scale of 1:10,000. The maps were then ordered chronologically and compared sequentially by overlaying to allow the post-medieval to modern development of the flood defences to be reconstructed at a suitable level of detail. These maps provide the basis for the interpretations presented below, although a good deal of information on earlier periods has been incorporated from the documentary sources listed (Allen and Fulford 1990a and 1990b). The SMR data was not found to be very relevant to the main aims of the project, as it mostly relates to sites and finds lying at some distance from the flood defences, but it has nonetheless been incorporated to a limited extent as background information.

### 3. Topographical context

The length of flood defences with which this project is concerned lie along the east bank of the River Severn, in the parishes of Elmore and Longney, c7km south-west of Gloucester (Fig 1). The geology, soils and topography of the wider area reflect its position on the floodplain of a major post-glacial river, and its more recent (Roman and later) history of reclamation for agricultural use. In summary, deep alluvial silts deposited by the river are contained by a ridge of Triassic and earlier rocks (capped by fluvio-glacial gravels) that lie c1.2km to the south of the present channel (Allen and Fulford 1990a, 19). The alluvial silts show that a varied wetland environment obtained in the area throughout most of the Flandrian period (10,000BC to present), although the present fine loamy soils and the relatively marked differences in surface levels are largely the result of successive reclamations and associated improvements beginning in the late Roman period.

### 4. Archaeological and historical context

Basic information on archaeological sites in the area of the flood defences is tabulated below, in a form adapted from print-outs supplied by the Gloucestershire Sites and Monuments Record. The list includes all sites in the area shown on Figure 1, except for those on the west bank of the Severn, in Minsterworth parish.

Gloucester SMR reference	NGR OS grid reference	Site name/description	Date
Area 9451	376970 216040	Two rectangular cropmarks south of Lake Street Farm	Medieval or earlier
Area 11127	376200 215400	Roman pottery and building materials at Bridgemancote Farm	C3-4
Area 11128	376200 214500	Medieval pottery at Bridgemancote Farm	C12-13
Area 12717	376200 215400	Early medieval pottery at Bridgemancote Farm	C10-11
Area 13065	376970 216040	Medieval pottery near Lake Street Farm	C12-13
Area 13066	376900 216000	Post-medieval clay pipes at Lake Street Farm	C17
16690	375900 215600	Ridge and furrow cropmarks north of Doodings Farm	Medieval or post-medieval
16692	SO 70 NE	Roman land reclamation	C3
Not given	376240 216030	'Great Wall' Roman flood defence	Post-medieval

*Table 1: Archaeological sites in the vicinity of the flood defences*

The sites listed above are known from different sources, and are all imperfectly understood, but they clearly represent a long history of reclamation and land-use in the area of the flood defences.

The process of reclamation appears to have begun in the later Roman period, as indicated by concentrations of material found during fieldwalking at Bridgemancote Farm (Area 11127), and at Windmill Hill 2.5km to the east (Allen and Fulford 1990a, 23-28). Both scatters represent settlement and agriculture on reclaimed marshland, while slight differences in surface levels on either side of an 800m length of earth and stone embankment known as the



*Great Wall* have been taken to indicate two successive phases of reclamation (Allen and Fulford 1990a, 19-23). The *Great Wall* (Figs 6-7) is likely to have bounded the earlier of the two reclamations, either by turning north-east from its present northern limit towards Elmore Back, or by continuing further north to reach the Severn and then following the riverbank eastwards. The defences of the later, slightly higher reclamation are represented by an earthen bank that extends for 500m from Bridgemancote Farm to Doodings Farm (later Dowdings Farm); and by a long-established field boundary which suggests that the embankment continued to the north-east to join with the *Great Wall*. In addition to these Roman reclamations, there is also some evidence of a third intake 800m to the south, represented by a scarp that extends from Hill Farm to the present flood defences, and formerly continued to the south-west through the farm/hamlet of Watersend (Fig 6). The area bounded by these features has not produced any archaeological material, but lies at a similar level to the reclamations to the east, and may be of similar date (Allen and Fulford 1990a, 20).

Turing to later periods, pottery of medieval date has been recovered from Bridgemancote Farm and Windmill Hill, and it is likely that much of the ridge and furrow earthworks visible from the air are of medieval date, at least on the early reclamations (Allen and Fulford 1990a, Fig 1b). Cartographic evidence, including detailed maps made in 1772 (Fig 2), 1780 and 1815 (see Fig 6), show that the early reclamations were partially enclosed before this period, and divided between arable fields and meadows, with the latter being allocated each year in lots by long-established custom (Norman 1951). From various indicators, the higher land between the second of these reclamations and the possible third intake to the south does not appear to have been embanked until the present flood defences were constructed (Allen and Fulford 1990a, 20-21). However, it is clear that this land was also cultivated and enclosed by the late 18<sup>th</sup> century, as indicated by widespread ridge and furrow cropmarks and by the evidence of the early maps (Allen and Fulford 1990a, fig 1b). In the period since 1815, the local fieldscape has been modified to some extent, with the removal of field boundaries suggesting a greater emphasis on arable cultivation. This period has also seen significant developments along the riverbank, which are described in detail below.

## 5. **The archaeology of the Longney flood defences**

### 5.1 **Roman**

#### *Earliest set of flood defences*

As described above, the earliest Roman flood defences represented by the truncated *Great Wall* (Fig 6) may have turned at its present northern limit towards Elmore Back, or continued up to the Severn and upstream along the riverbank. The latter extrapolation raises the possibility that buried remains of these defences might lie to the west of Elmore Back (Fig 9).

#### *Second early set of flood defences*

It is also possible that remains of a second set of Roman defences (see Figs 6-7) might survive along the riverbank from a point north-west of Dowdings Farm to the limit of the earlier defences (either at or before Elmore Back; Figs 6-7). In addition, it is possible that the remains of the undated (but early bank) might survive to the west of Hill Farm (Figs 6-7). In each case, these remains would lie in the vicinity of the present flood defences (Fig 9), and might be exposed by groundworks associated with their maintenance.

#### *Discussion of the character of the first and second sets of flood defences*

In terms of the likely character of any buried remains, the length of the *Great Wall* examined by Fulford and Allen suggests that it was in origin a massive earth bank faced with cobbles and stones, and associated with an external ditch (Allen and Fulford 1990a, 21-23). On this

evidence, remains of the order of a slighted bank and/or infilled ditch might be expected. In view of the scale and impact of modern flood defence works along the riverbank, it is likely that any remains would be severely truncated, although even so, as the only known Roman flood defences in the region, they should be considered to be highly significant.

## 5.2 Medieval

No evidence of medieval flood defences along the riverbank was identified in the course of this project, although the evidence for medieval settlement and cultivation implies that at least the second set of Roman defences was maintained throughout this period. On this basis, it is possible that evidence of such maintenance might survive, most probably in the form of refurbished banks and recut ditches. Such remains would not be archaeologically insignificant, although they may well have been truncated just like the original Roman defences.

## 5.3 Post-medieval and modern

### *Post-medieval and modern flood defences*

Post-medieval and modern developments along the riverbank can be reconstructed in some detail from a long series of large-scale maps, beginning with the Inclosure map of 1815 (Fig 6). As noted above, this map shows the abandoned *Great Wall*, part of the second set of Roman defences, and the undated, but early bank extending westwards from Hill Farm to the riverbank and on to Watersend. No other flood defences are shown on this map, and none are likely to have been omitted, in view of the high quality of the surveying and draughtsmanship. Much the same situation is shown on several Ordnance Survey maps published in the 1880s (Figs 3 and 7), and in 1902 (not reproduced here), although the bank passing through Watersend appears to have been removed between 1815-1880s (see Figs 6-7). Only on the Ordnance Survey map of 1924 (Fig 8) is a significant change apparent along the riverbank, with lengths of the second set of early flood defences being removed (compare Figs 7 and 8). This gradual decline in the condition of the early (at least partly Roman) flood defences seems to have obtained, until the present flood defences were constructed in 1960-1 (as stated by Allen and Fulford 1990a, 20), as Ordnance Survey maps of 1954 and 1955 show no significant differences from the flood defences of 1924 (Fig 4), while those of 1974 and 1980 show the flood defences almost exactly as they appear today (Fig 5).

### *Discussion of the overall sequence of flood defences*

The implications of this sequence of maps for the chronology of flood defences are relatively clear. In short, the active defences of Roman origin appear to have been maintained up to the 1920s, then neglected for some 40 years, before being thoroughly reconstructed and extended in 1960-1, while throughout this entire period, elements of abandoned defences continued to be lost. In terms of potential post-medieval archaeology along the riverbank, both the cartographic evidence and the observations made during the site visit convey a general impression of a wholesale modern rebuilding that may have affected any earlier elements. However, there is a greater possibility that banks raised or strengthened in the post-medieval period might survive within the northern length of the existing flood defences, and in a small area to at their extreme southern end (Fig 9). In the former case, differences in the width and profile of the existing defences might well indicate the degree to which the existing bank incorporated elements of its predecessors (Fig 9).

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## 6. Recommendations

As discussed above, a limited potential can be identified for remains of flood defences of Roman to post-medieval date surviving beneath or adjacent to two lengths of the existing flood defences (Fig 9). As such, it is appropriate to recommend that an archaeological watching brief should be undertaken during future maintenance works. This watching brief should concentrate on the two lengths highlighted on Figure 9, and should be targeted towards gaining further information on the location and character of the Roman and medieval flood defences.

The recommendations above are those of the Service and may vary from those of any archaeological curator or advisor to the planning authority.

## 7. Publication summary

The Service has a professional obligation to publish the results of archaeological projects within a reasonable period of time. To this end, the Service intends to use this summary as the basis for publication through local or regional journals. The client is requested to consider the content of this section as being acceptable for such publication.

*An archaeological desk-based assessment was undertaken by the Worcestershire Archaeological Service on behalf of the Environment Agency in order to determine the archaeological implications of maintenance work along a defined length of flood defences in Elmore and Longney parishes, Gloucestershire (NGR SO 7584 1442 to 7665 1666). The methods involved the collection and analysis of SMR data, archival material and secondary sources, and the additional input of information obtained during a brief site visit. The assessment identified a limited potential for the survival of banks and ditches of Roman and later date lying beneath or adjacent to the northern half of the existing defences. There is also a possibility that remains of an undated, but potentially Roman bank may be affected by groundworks at the extreme southern end of the existing defences. If a significant amount of ground disturbance is anticipated, it is recommended that a watching brief should be undertaken to establish the presence or absence of these remains, and to make an adequate record any remains exposed.*

## 8. The archive

The archive consists of:

- 1 Colour transparency film
- 1 Monochrome photographic film

## 9. Acknowledgements

The Service would like to thank Giles Matthews (Area Environment Assessment Officer, Environment Agency), Tim Grubb (Gloucestershire County Council SMR) and Sean Round (Elmore Back Farm) for their kind assistance in the conclusion of this project.

## 10. Personnel

The documentary research and fieldwork were undertaken by Darren Miller, and the illustrations were produced by Carolyn Hunt. The project manager responsible for the quality of the project was Derek Hurst.

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Ordnance Survey 2002 [Digital maps obtained by arrangement with Gloucestershire County Council]

Ordnance Survey 1980, Sheet SO 71 SE (1:10,000)

Ordnance Survey 1974, Sheet SO 71 NE (1:10,000)

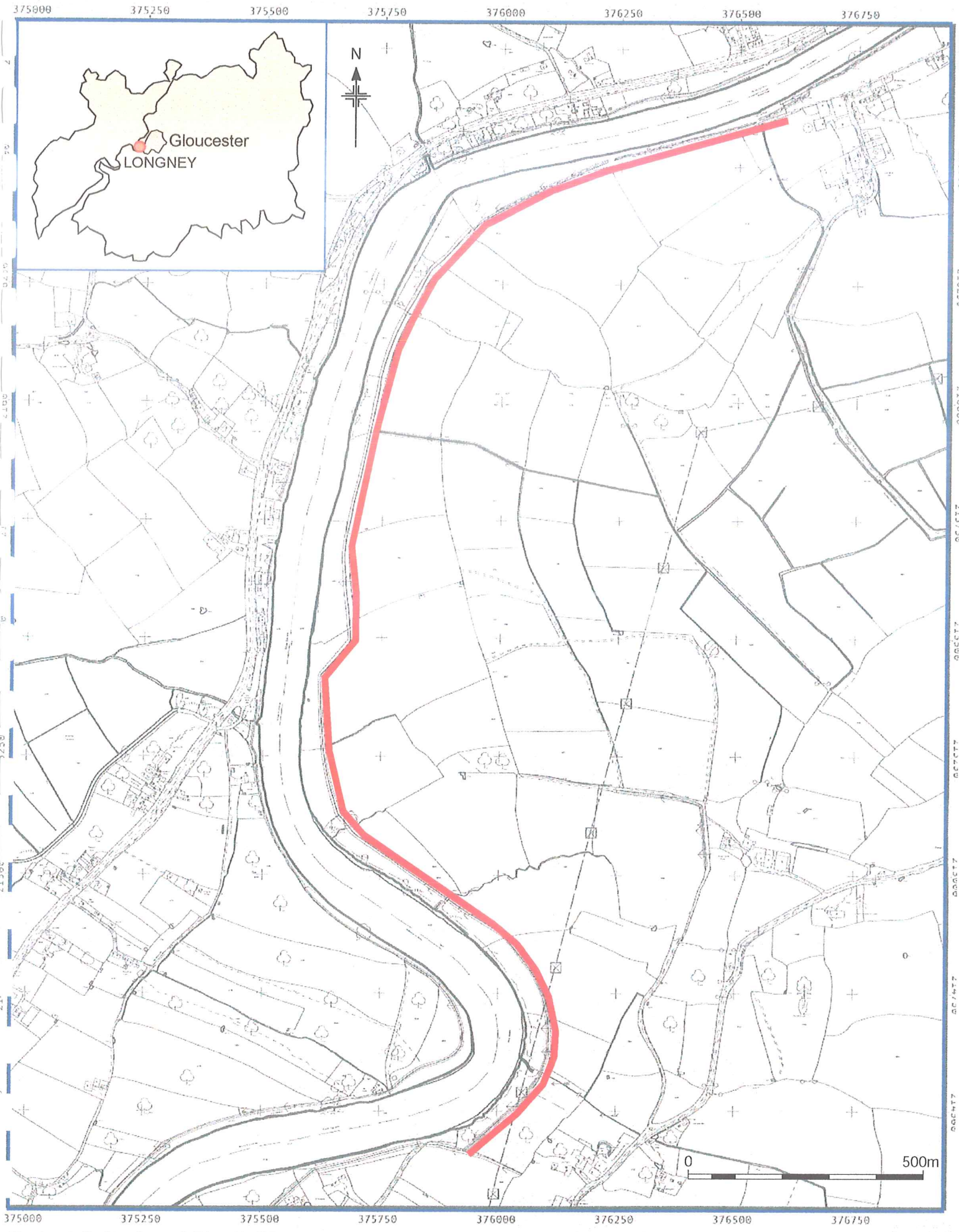
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Ordnance Survey, 1880-1888 *Gloucestershire, sheets 32 NE and 32 SE* (1:10,560) and *sheets 32.4; 32.7; 32.8; and 32.12* (1:2500)

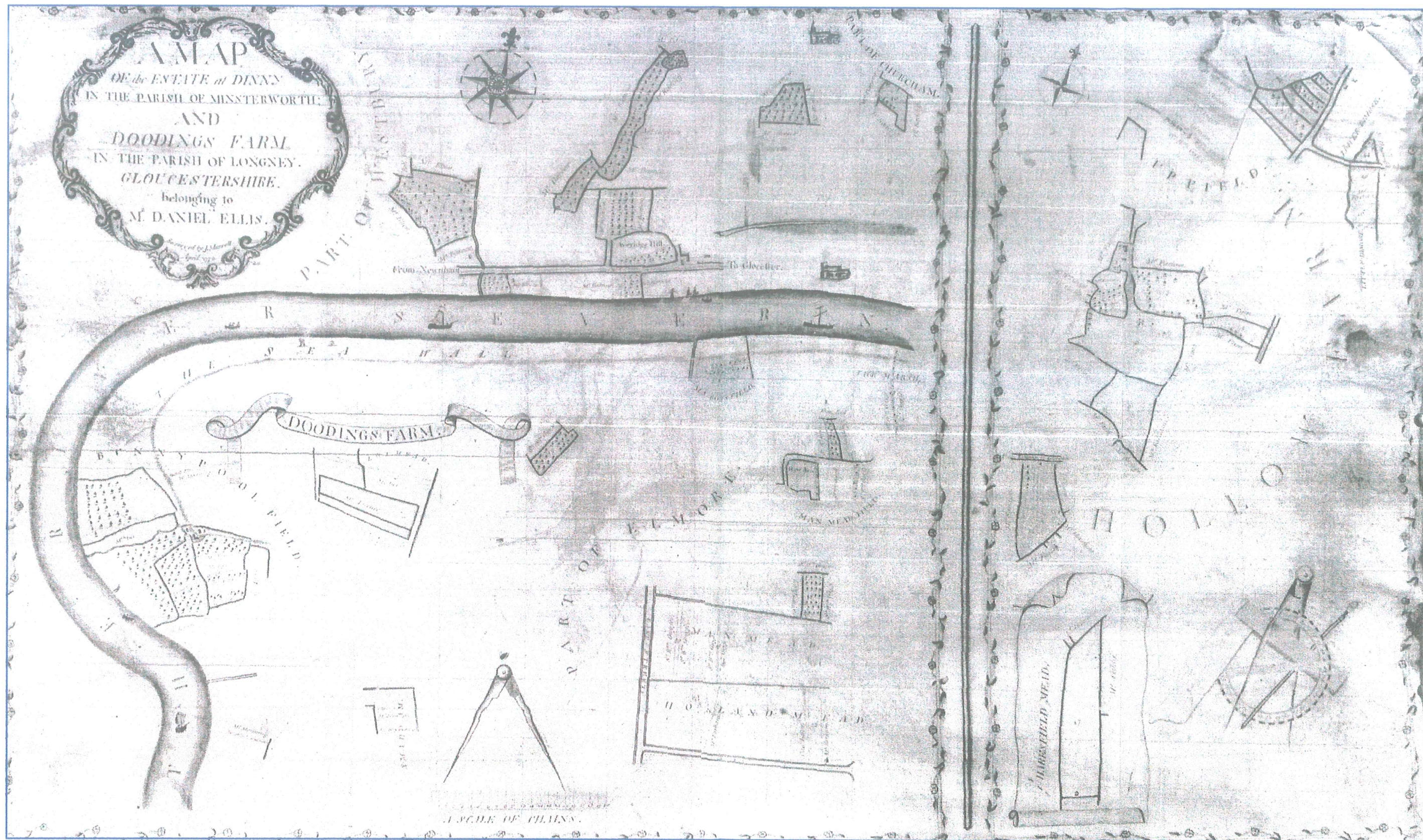
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*Location of the site.*

*Figure 1*



A map of the estate at Dinny in the parish of Minsterworth and Doodings Farm in the Parish of Longney, Gloucestershire.  
 GRO 283, reproduced by permission of Gloucestershire Record Office (1957 copy of map held by Mrs Armstrong of Minsterworth Court).

Figure 2



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Extract from OS 1888 Sheet 32 NE.

Figure 3



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Extract from OS 1955 Sheet SO71 NE, 1:10,000 (top) and OS 1954 Sheet SO71 SE (bottom).

Figure 4

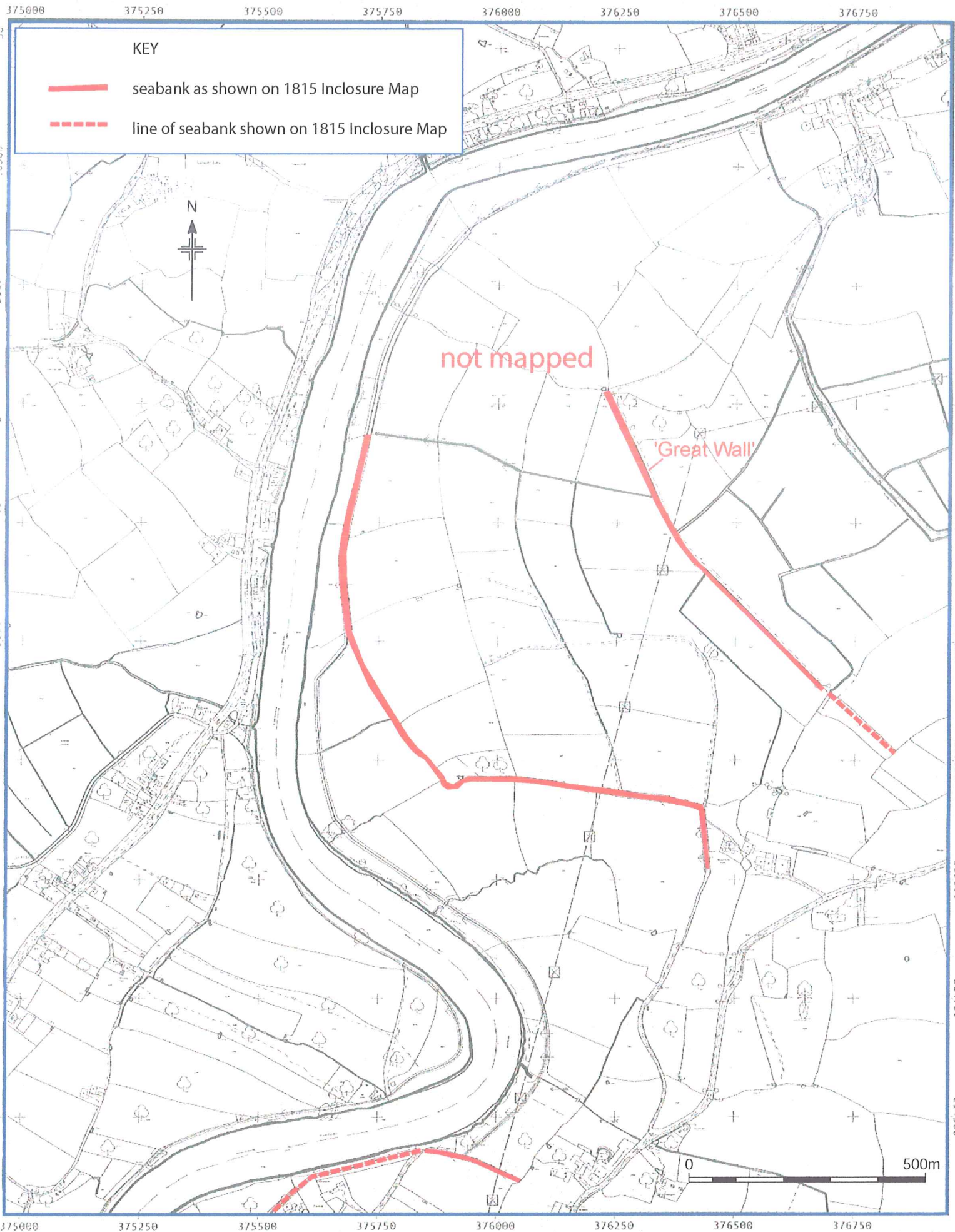




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Extract from OS 1974 Sheet SO71 NE, 1:10,000 (top) and OS 1980 Sheet SO71 SE (bottom).

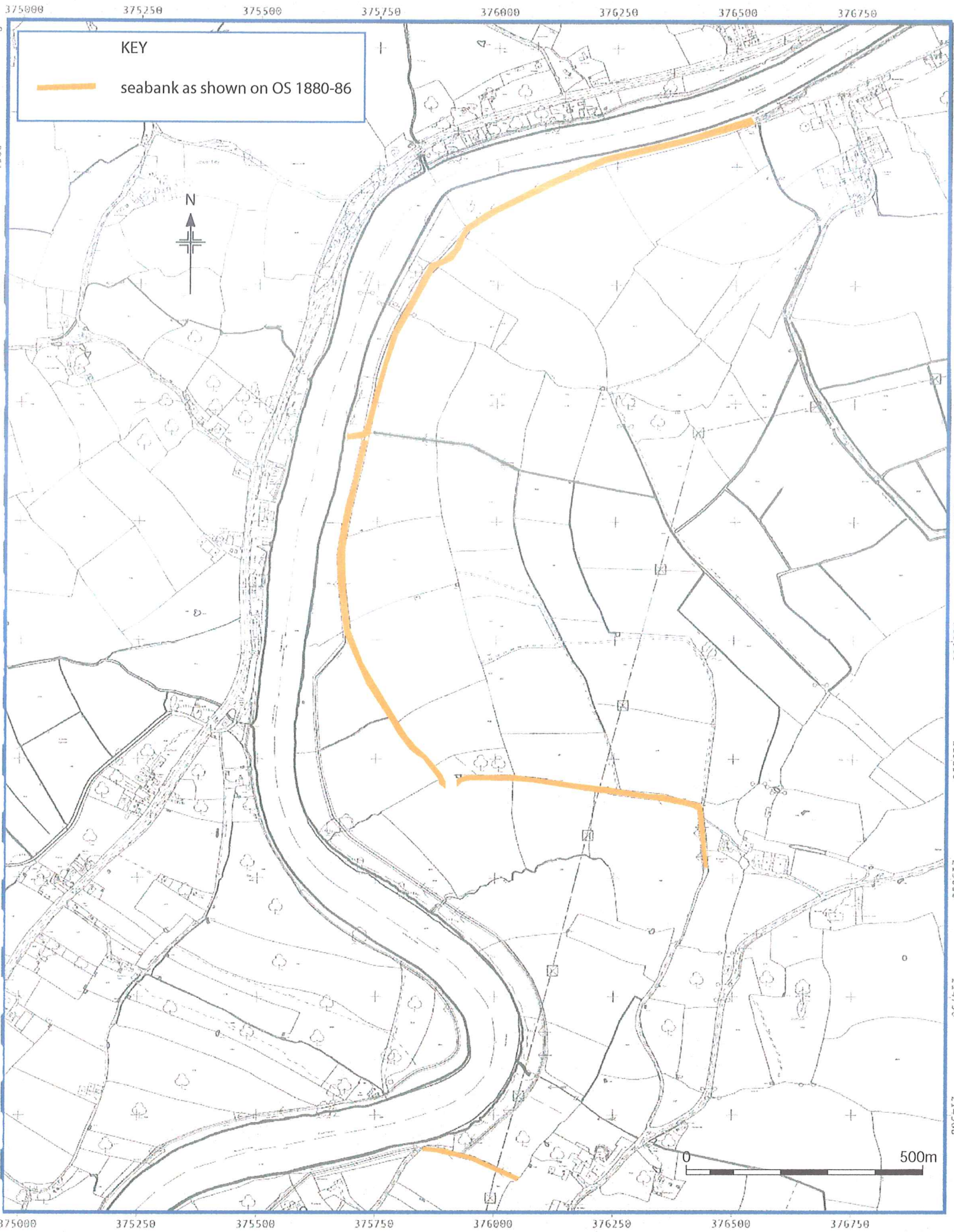
Figure 5



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Location of seabanks on 1815 Inclosure Map.

Figure 6



**KEY**

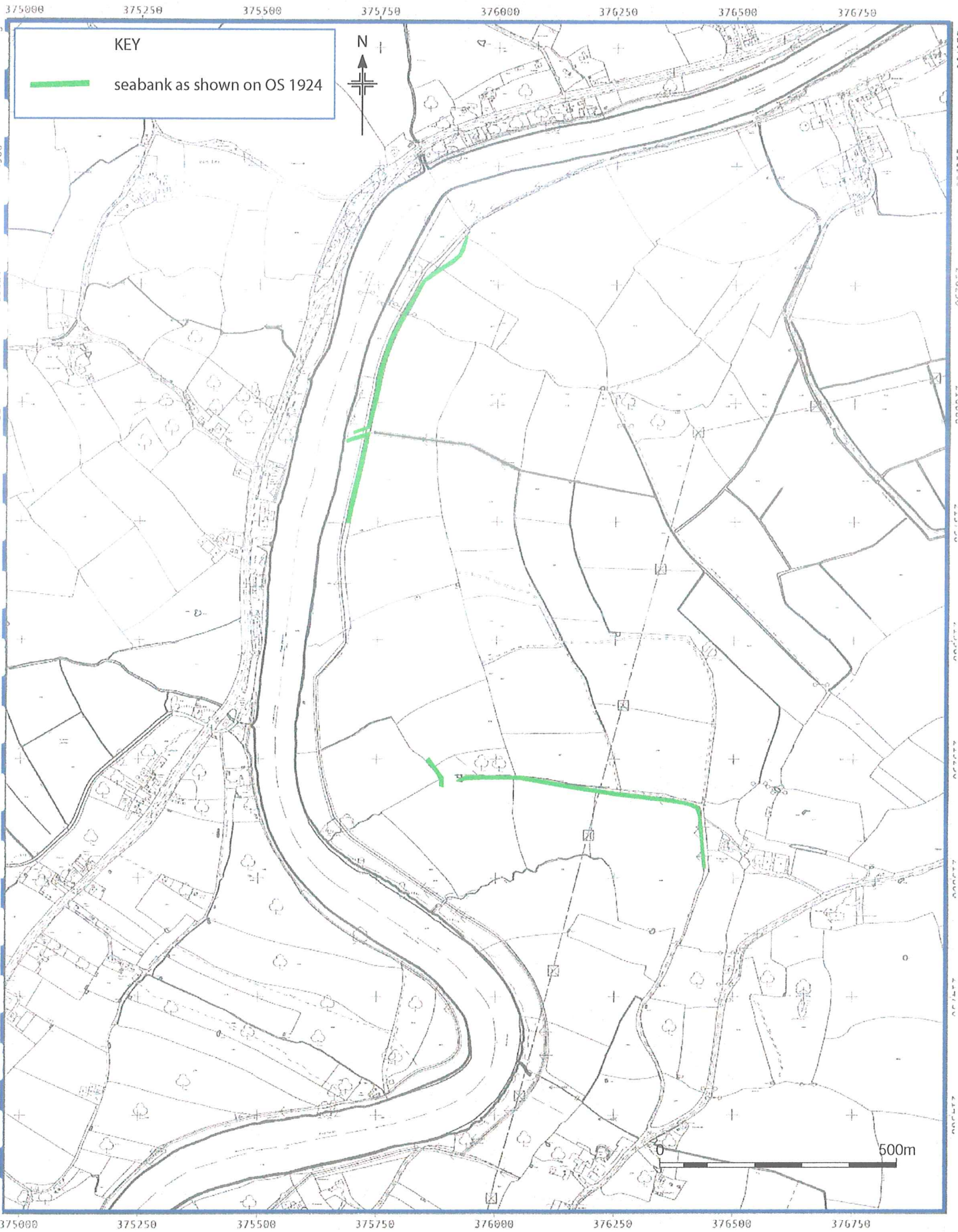
— seabank as shown on OS 1880-86



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*Location of seabanks on OS 1880-86.*

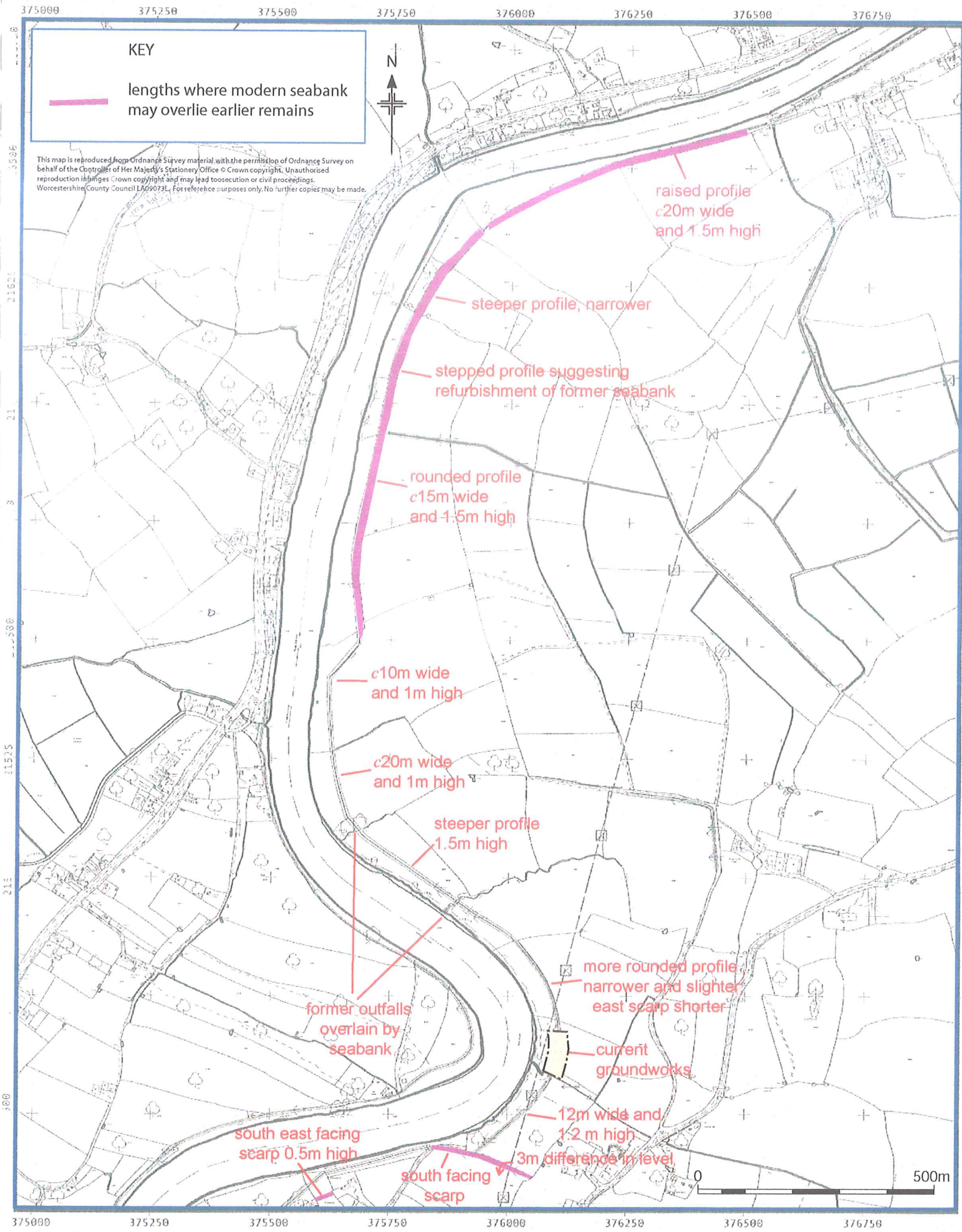
*Figure 7*



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*Location of seabanks on OS 1924.*

*Figure 8*



**KEY**

lengths where modern seabank may overlie earlier remains

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Observations made during site visit on 26th April, 2003, and areas of potential archaeological significance.

Figure 9