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**SYSTRA LTD**

**LAND AT NORFOLK ROAD, GREAT HOUGHTON,  
SOUTH YORKSHIRE**

**HERITAGE IMPACT ASSESSMENT**

**November 2021**

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SOUTH YORKSHIRE**

**HERITAGE IMPACT ASSESSMENT**

**November 2021**

**PREPARED BY:**

Cat Peters Principal Archaeologist



**EDITED BY:**

Dave Jackson Technical Director



**REVIEWED BY:**

Chloe Brownlee-Chapman Regional Director



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## SUMMARY

Wardell Armstrong LLP (WA) was commissioned by Systra Ltd on behalf of its client, Sapphire Utility Solutions, to prepare a Heritage Impact Assessment (HIA) applicable to land at Norfolk Road, Great Houghton, South Yorkshire (centred on NGR SE 43797 05978). This HIA aims to show the impact of the scheme on the heritage significance of upstanding and below ground heritage assets within the study area.

The site comprises a corridor of land to the south of Norfolk Road which extends east to meet Thurnscoe Lane and the former sewage works on the east side, east of Great Houghton. The site is located 2km to the west of the centre of Thurnscoe and c. 9.3km east of Barnsley, in South Yorkshire. It comprises an area of open public access land, part of an adjacent arable field with triangular area of public access land to the north, north of the former Deane Valley Railway line, and the former sewage works to the east.

This study has found that the site formed part of the townfields of the settlement of Great Houghton and may have contained the village's windmill. Prior to this, in the late prehistoric and/or Romano-British period, this area was extensively used for settlement and agricultural activity, evidenced by cropmarks seen on aerial photographs. Limitations in undertaking this work under ongoing COVID-19 restrictions has not allowed a thorough review of this potential but based on current evidence, there is no reason to assume such activity did not extend to within the site boundary.

Despite the sinking of collieries in the vicinity and resulting development of Great Houghton as a mining village, little post medieval or modern activity has occurred within the site, increasing the potential survival of any sub-surface archaeological remains. Any conclusions regarding sub-surface archaeological potential may therefore need to be informed by geophysical survey, dependant on the advice of the Local Authority Archaeologist.

## **ACKNOWLEDGEMENTS**

Wardell Armstrong LLP (WA) thanks Systra Ltd for commissioning the project on behalf of the client, Sapphire Utility Solutions, and for all assistance throughout the work.

WA also thank Zac Nellist, Archaeological Records Officer at South Yorkshire Archaeology Service, for advice regarding the scope of the work and for provision of the Historic Environment Record dataset.

This report has been written by Cat Peters with the figures produced by Helen Phillips. The research and site visit were undertaken by Cat Peters. Dave Jackson managed the project and edited the report, and Chloe Brownlee-Chapman provided final quality assurance review.

## **1 INTRODUCTION**

### **1.1 Circumstances of Project**

1.1.1 Wardell Armstrong LLP (WA) was commissioned by Systra Ltd on behalf of Sapphire Utility Solutions to prepare a Heritage Impact Assessment (HIA) for a site at Norfolk Road, Great Houghton, South Yorkshire (centred on NGR SE 43797 05978).

### **1.2 The Purpose of the Heritage Impact Assessment**

1.2.1 This Heritage Impact Assessment is designed to assess the impact of the scheme on the heritage significance of upstanding and below ground heritage assets within the study area.

1.2.2 The Heritage Impact Assessment seeks to address in detail the issues of impacts on heritage significance of upstanding and below ground heritage assets and to do this it both seeks to understand the significance of the assets before evaluating the impact of the development proposals upon them.

### **1.3 Planning Policy and Legislative Framework**

1.3.1 National planning policies on the conservation of the historic environment are set out in the *National Planning Policy Framework* (NPPF), which was updated by the Ministry of Housing, Communities and Local Government in July 2021 (MHCLG 2021). This is supported by *Planning Practice Guidance* (PPG) which was published in March 2014.

1.3.2 The NPPF draws a distinction between designated heritage assets and other remains considered to be of lesser significance. With regard to designated heritage assets, *'great weight should be given to the asset's conservation'*. The more important the asset, the greater the weight should be; substantial harm to or loss of a Grade II Listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, including scheduled monuments, protected wreck sites, battlefields, Grade I and II\* Listed Buildings and Grade I and II\* Registered Parks and Gardens and World Heritage Sites, should be wholly exceptional (NPPF, para 194). Therefore, preservation in-situ is the preferred course in relation for such sites unless exceptional circumstances exist.

1.3.3 The NPPF states that *'the effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset'* (NPPF, para 203). The NPPF advises

that local planning authorities should *'require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact'* (NPPF, para 205).

1.3.4 The NPPF advises that local planning authorities should look for opportunities for new development within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably (NPPF, para 206).

#### 1.4 Local Planning Policies

1.4.1 Great Houghton is included within the area covered by Barnsley Metropolitan Borough Council. Barnsley's Local Plan was adopted in January 2019. This includes Policy HE1: The Historic Environment, which states that the Council will *'a. support proposals which conserve and enhance the significance and setting of the borough's heritage assets, paying particular attention to those elements which contribute most to the borough's distinctive character and sense of place.. [including the] relatively widespread evidence of prehistoric settlements, and occupation which are often archaeological and below ground but sometimes expressed as physical or topographical features'* (Barnsley Metropolitan Borough Council 2019, 155-156).

1.4.2 It also states that *'d. ensuring that proposals effecting an archaeological site of less than national importance or sites with no statutory protection conserve those elements which contribute to its significance in line with the importance of the remains. In those cases where development affecting such sites is acceptable in principle, mitigation of damage will be ensured through preservation of the remains in situ as a preferred solution. Where in-situ preservation is not justified, an understanding of the evidence to be lost must be gained in line with the provisions of Policy HE6'* (Barnsley Metropolitan Borough Council 2019, 156).

1.4.3 Policy HE6: Archaeology states that *'applications for development on sites where archaeological remains may be present must be accompanied by an appropriate archaeological assessment (including a field evaluation if necessary) that must include the following:*

- *Information identifying the likely location and extent of the remains, and the nature of the remains;*
- *An assessment of the significance of the remains; and*
- *Consideration of how the remains would be affected by the proposed development.*



*Where preservation of the remains are not justified, permission will be conditional upon:*

- *Archaeological recording of the evidence (including evidence that might be destroyed), whether buried remains or part of a standing structure or building;*
- *Analysis of the information gathered;*
- *Interpretation of the results gained;*
- *Public dissemination of the results; and*
- *Deposition of the resulting archive with an appropriate museum or archive service' (Barnsley Metropolitan Borough Council 2019, 161).*

## **2 METHODOLOGY**

### **2.1 Introduction**

2.1.1 The preparation of this Heritage Impact Assessment has been undertaken in accordance with guidance recommended by Historic England and is consistent with the relevant standards and procedures of the Chartered Institute for Archaeologists, as set out in *Standard and Guidance for Historic Environment Desk-Based Assessment* (ClfA 2020). Note is also taken of Historic England guidance on understanding place (2017) and on the setting of heritage assets (2015).

2.1.2 The data underlying this Heritage Impact Assessment derives from South Yorkshire's Historic Environment (HER) dataset, on website sources and on archive material available at the time of this study. For the HER dataset, ongoing home-working and lack of access to the physical holdings at offices has meant that this data relies solely on the digital database. This is particularly problematic for the present study, as many of the records are cropmark features but access to the photographs or reports on which these are based remained inaccessible. Similarly, for accessing original archive material, ongoing COVID-19 related constraints restricted access to archives but allowed the ordering of digital copies of documents cited on online catalogues). The impact of the development on heritage assets within a 1km study area, centred on the Site, was assessed using a series of standard tables (*confer* Appendix 1).

### **2.2 Documentary Sources**

2.2.1 Primary and secondary sources were used to provide the background to the historical character of the study area. Much of the information in this Heritage Impact Assessment is derived from internet sources and from the Historic Environment Record dataset.

2.2.2 Historic England's guidance on historic area assessments, conservation areas and heritage asset setting were used, with best practice planning guidance.

### **2.3 Site Visit**

2.3.1 The route of the scheme was visited on Wednesday 20<sup>th</sup> October 2021. The results of the survey are included within the main historic background chapter and summarised in the gazetteer (Appendix 2). The walkover survey aimed to:

- test the survival of assets within the site identified by the research;
- assess the route for upstanding remains of potential heritage interest;

- identify any factors which may have affected the sub-surface survival of potential as-yet unknown heritage assets at risk from the Scheme.

2.3.2 The site visit was co-ordinated by Sapphire Utility Solutions and undertaken alongside the topographical and ecological surveys. Sapphire Utility Solutions had pre-warned residents about the surveys so that access to private gardens could be included during the site visit. The archaeological element concentrated on the stretch of land to the south of the private gardens which included a publicly accessible open area (including neglected basketball court) and an adjoining arable field to the east with second smaller area of public open access land to the north. This land was accessed from a public right of way heading south from Norfolk Road. The far western part of the site was an area of overgrown land beneath trees.

## 2.4 Impact Assessment Tables

2.4.1 The assessment of the impact of development proposals is undertaken using a series of heritage impact tables (Appendix 1). These tables use standard assessment methods as used by Government agencies, as for example those used in the Highway Agency's *Design Manual for Roads and Bridges LA104 (rev 1)*, August 2020. These tables first establish the value/sensitivity of the heritage asset against set criteria, secondly, they estimate the magnitude of impact and, taking the results of these two together, allow a calculation of impact on overall heritage significance. These results are summarised in Appendix 2, Table 2.

## 2.5 Heritage Impact Assessment

2.5.1 For the purposes of this report, the terms '*site*' is used to refer to the area to be affected by the development, within the redline boundary (Figure 2) and the term '*study area*' is used for a wider 1km study area, centred on the site (Figure 3).

2.5.2 Several sources of information were consulted, in accordance with professional guidelines (ClfA 2020). A search of online resources was undertaken in order to identify any additional designated sites such as scheduled monuments, listed buildings and conservation areas in the study area. This was done in order to help assess the possible impact of a development on archaeologically sensitive areas.

2.5.3 **National Heritage List, England:** the online database of all designated assets (scheduled monuments, listed buildings, registered parks and gardens, battlefields etc.), maintained by Historic England (NHLE 2021), was searched for the 1km study area, and the results detailed in Appendix 2 and illustrated in Figure 3.

- 2.5.4 **Yorkshire's Archives and Record Offices:** an initial remote search was undertaken of the catalogues held by the various archives covering South Yorkshire. Ongoing COVID-19 measures meant that at the time of producing this report, public libraries and archives were subject to restrictions. Sheffield City Archives appeared to hold a copy of the tithe map, also available remotely, and West Yorkshire Archive Service in Leeds had various documents relating to Great and Little Houghton. Although West Yorkshire Archive Service are open to the public, restrictions remain in place limiting the number of people who can visit, and there are several weeks' wait for an appointment. However, remote activity, including the ordering of digital copies of certain documents, and the ability to pay for research to be undertaken on your behalf on an hourly charged basis, are in operation. This allowed for a limited research of primary sources, whereby online catalogues were checked, and details from written documents noted. One of these documents, an estate map, had the potential to add to an understanding of the past use of the site, and so digital copies of these were ordered to inform the study. Copyright restrictions mean that these cannot be reproduced, but information from them has been used to inform the baseline.
- 2.5.5 **Historic England's Aerial Photograph Archive:** in-line with the South Yorkshire Archaeological Record Officer's advice, and as many of the HER records are cropmark features and access to the physical holdings of South Yorkshire Archaeology Service is not possible at present, Historic England's online aerial photograph archive was also checked (Britain from Above 2021). This indicated that none of the relevant aerial photographs of the area have yet been digitised, and so an enquiry was issued to Historic England regarding their physical holdings. Unfortunately, as of writing, no response has yet been issued (the archivists can take up to 15 working days to respond which could be as late as 19<sup>th</sup> November 2021, beyond the deadline of this report).
- 2.5.6 **Wardell Armstrong LLP:** various publications and unpublished reports on excavations and other work in the region are held within the Wardell Armstrong library and these were examined and are referenced as appropriate.
- 2.5.7 **Websites:** various websites were checked for information relevant to the site's assessment, including Google Earth™, LiDAR Finder, and the British Geological Survey. These are listed, as appropriate, in the bibliography.

## 2.6 Reporting

- 2.6.1 A digital copy of the report will be sent to the Historic Environment Record at South Yorkshire Archaeology Service, where access will be made available on request.

2.6.2 Wardell Armstrong support the Online Access to the Index of archaeological investigations (OASIS) project. This project aims to provide an online index and access to the extensive and expanding body of grey literature created as a result of developer-funded archaeological work. As a result, details of the results of this study will be made available by Wardell Armstrong, as a part of this national scheme, under the code: **wardella2-433613**.

## 2.7 Glossary

2.7.1 The following standard terms are used throughout the report:

- Designation – the process that acknowledges the significance of a heritage asset and thus advances its level of consideration/protection within the planning process. Designated assets can either be statutory, like listed buildings, or non-statutory such as registered parks and gardens or conservation areas.
- Heritage Asset – a building, monument, site, place, area or defined landscape positively identified as having a degree of heritage significance that merits consideration in planning decisions.
- Mitigation – action taken to reduce potential adverse impacts on the heritage significance of a place.
- Setting – the surroundings in which a heritage asset is experienced. The extent is not fixed and will vary according to the historic character of the asset and the evolution of its surroundings.
- Significance – the value of a heritage asset to present and future generations attributable of its heritage interest. That interest may be archaeological, architectural, artistic or historic (including historical associations).

### **3 DESCRIPTION**

#### **3.1 Location**

3.1.1 The site is located to the south of Norfolk Road, Great Houghton, South Yorkshire centred on NGR SE 43797 05978 (Figure 1).

3.1.2 The site comprises a corridor of land to the south of Norfolk Road which extends east to meet Thurnscoe Lane and the former sewage works on the east side, east of Great Houghton. The site is located 2km to the west of the centre of Thurnscoe and c. 9.3km east of Barnsley, in South Yorkshire. It comprises an area of open public access land, part of an adjacent arable field with smaller triangular area of open access land to the north, north of the former Deane Valley Railway line and a former sewage works to the east (Figure 2).

#### **3.2 Geology**

3.2.1 The bedrock geology of the western part of the site is mapped as mudstone, siltstone and sandstone of the Pennine Upper Coal Measures Formation, a sedimentary bedrock formed approximately 308-315 million years ago in the Carboniferous Period (BGS 2021). The eastern part of the site is mapped as Newstead Rock, a sedimentary bedrock of sandstone formed approximately 310 to 315 million years ago, also in the Carboniferous Period (BGS 2021).

3.2.2 Superficial deposits are mapped as Alluvium, clay and silt formed up to 2 million years ago on the Quaternary Period (BGS 2021).

#### **3.3 Historic Landscape Character**

3.3.1 South Yorkshire's Historic Landscape Characterisation classifies the site as part of Great Houghton's town fields, fields agglomerated in 1970.

#### **3.4 Archaeological and Historical Background**

3.4.1 This historical and archaeological background is compiled predominantly from primary and secondary sources consulted in October and November 2021 during continued COVID-19 pandemic related restrictions in England when restrictions remained in place at local libraries and archives. It is intended only as a summary of historical developments around the site. The locations of known heritage assets within the study area are represented in Figure 3 and summarised in Appendix 2.

3.4.2 ***Prehistoric and Roman:*** the wider study area includes a relatively high number of cropmark sites, characteristic of late prehistoric or Romano-British origin, though

none appear to have been excavated to indicate their level of preservation or significance (Assets 2, 3, 6, 7, 8, 9, 10, 11, 12, 14 and 16). These appear to be particularly concentrated to the south of the site, with one area to the north (Asset 14) and potentially more features to the north-east, suggested by Google Earth imagery of 2002 (not shown). These all seem to suggest enclosures, trackways and field systems, suggesting a complex pattern of activity across a wide area, which is also likely to have incorporated the present site. Some to the south-west, the golf course site, were also confirmed by geophysical surveys (Asset 6), indicating that the interpretations of the cropmarks from aerial photography are more likely to be accurate.

- 3.4.3 **Medieval:** both [Great] Houghton and Thurnscoe appear in Domesday of 1086, indicating that settlement in the vicinity was early. In 1086 the tenant in chief for Great Houghton was Count Robert of Mortain, the lord was Richard of Sourdeval and the lords in 1086 had been Godhyse and Hunding's sons. It contained 6 villagers, 5 smallholders and 5 ploughlands (opendomesday 2021). Further evidence for early medieval activity comes from the site of an 11<sup>th</sup> century hall, and also moated site (Asset 5) to the east of the site at Thurscoe. When partially excavated in the 1960s, a 17<sup>th</sup> century kiln was also identified, demonstrating continued activity throughout the medieval and into the post medieval period. To the north of this, a series of earthworks have been identified, which may represent activity associated with the early medieval site (Asset 13). Further west, but some distance to the north of the site, an Angle Saxon brooch has been recovered, further indicating early medieval activity in the vicinity (Asset 15).
- 3.4.4 **Post-medieval:** for Great Houghton itself, there is little evidence for medieval activity. An old hall, the residence of Sir Edward Rhodes did exist there, built in the mid 16<sup>th</sup> century (Asset 4). Later in the post medieval period, this building lost its significance, ending its days as a public house with lodging rooms from 1831 until it was demolished in 1960. The existing Church of St Michael and All Saints apparently has its origins as the chapel for this manor house, extended in the 20<sup>th</sup> century (Asset 1).
- 3.4.5 The land to the east of Great Houghton, in which the site lies, appears to have remained part of the agricultural hinterland of the settlement. The historic landscape character of the area has been defined as former townfields. This undeveloped agricultural character is suggested on Greenwood's map of 1828 (Plate 1). However, fieldname evidence from the tithe award of 1840 (Appendix 3, Figure 4) as well as the former name of Thurnscoe Lane as Windmill Lane in 1854 (Figure 5) suggests that a

windmill once stood in the vicinity. As this is not depicted on Greenwood's map of 1828 it may already have gone out of use and if so, is likely to have had at least 18<sup>th</sup> century origins and may have been a post windmill. All of the fieldnames for land now within the site boundary included 'windmill' in their name so it is possible that sub-surface remains of this windmill survive within the site (Asset 17). Unfortunately, the only map noted from online catalogues with the potential to show the site before 1828 did not include the site (WYL 156/maps/52).

- 3.4.6 The earliest map encountered by the research to show the site in detail was the Tithe Award Map of 1842 (Figure 4). This shows the site as occupying part of a wider landscape pattern of regular fields to the east of Great Houghton, accessed from Thurnscoe Lane to the north and from a track which headed east from the road to the west (Church Street, now Rotherham Road). Much of the land in the vicinity of the site was held by Earl Fitzwilliam and tenanted (Appendix 3). In 1841, the site comprised elements of seven fields and included a number of field boundaries, one north-south one perhaps surviving today (Asset 18; *confer* 3.4.11).
- 3.4.7 Great Houghton saw great changes following the sinking of the Houghton Main Colliery between 1871 and 1873 to the south-west of the village. Despite this, the late 19<sup>th</sup> century saw little change to the site itself, consistently comprising the same field pattern (Figures 5 and 6).
- 3.4.8 **Modern:** a second colliery, the Dearne Valley colliery was sunk in 1903, also near Little Houghton. The need to transport coal must have been a key reason why the Dearne Valley Railway was initiated, opening as a goods route in sections after 1902, though incorporated by Act of Parliament in 1897 (Asset 19). The Second Edition Ordnance Survey map of 1906 (Figure 7) shows this to the south of the site, the embankment just within the south-western extent of the boundary, with associated tanks close to the site boundary, not shown in 1930 (Figure 8).
- 3.4.9 By 1930, and presumably as a result of population growth to staff the nearby collieries, housing developments were extending eastwards from the centre of Great Houghton towards the site, and, presumably to serve the growing population and housing stock, the sewerage works had been constructed to the north-east (Figure 8). By 1962, housing continued to be built and planned, with Wescoe Avenue and the road layout for Norfolk Road having been laid out, with overhead electricity lines crossing the site (Figure 9). The railway was also still in operation in 1962, closing in 1968, with the coal presumably being hauled by road; the Dearne Valley Colliery closed in 1991 and the



Houghton Main colliery closed in 1993.

- 3.4.10 The road layout to the west of the site planned in 1962 didn't quite match the as-built form by 2003, but Norfolk Road with houses either side was built. By 2003 the railway tracks had been lifted, but the route has been maintained as a public footpath, the area within the site boundary populated by trees. Also by 2003, all of the former field boundaries between the railway and Thurnscoe Lane had been removed except one (Asset 18). By 2008 a basketball court had been added within the western part of the site, north of the former railway line, and since then the site and vicinity has remained relatively unchanged (Figure 2). None of the modern aerial images available for this study (not reproduced) or LiDAR imagery (Figure 10) appears to show any earlier features, except perhaps the former field boundaries on LiDAR imagery.
- 3.4.11 **October 2021:** the site visit confirmed that the rears of No. 24, 26 and 28 and the old sewage works retained no obvious archaeological features. It is likely that any pre-existing sub surface archaeological features within the sewage works boundary would have been impacted by the construction and extension of the works. The western part of the site comprises trees with vegetation beneath, with no obvious trace of the railway embankment within the site (Plate 2). The public open access land to the east of this is predominantly grassed, though overgrown at the far south-western extent, except for the unmaintained basketball court (Plates 3 and 4). The land to the immediate south of the gardens in this area includes evidence of small-scale fly tipping, particularly of garden waste. A public footpath leads from the eastern extent of this open area from Norfolk Road, southwards, to meet the former railway line and the public right of way there. Adjacent to this, on the eastern side, is a hedgerow, which respects the line of the boundary shown on the tithe award of 1840 (Asset 18; Plate 5). This was predominantly hawthorn and sporadic.
- 3.4.12 The eastern part of the site comprised a ploughed field (Plates 6 and 7), with a small triangular area of open access land to the north which includes a goalpost. The northern boundary to the field was varied, the western extent comprising hedgerow, with fencing to property housing further east, and hedging again to the far east. Again, evidence for small-scale fly tipping was apparent over the property boundaries at the edges of the field. No features of archaeological interest were identified during the site visit.
- 3.4.13 The area around the site is relatively built-up, limiting inter-visibility from within the site to the wider area. Views are restricted by housing to the west and north, dense

tree coverage around the old sewage works, tall hedgerow boundaries around the arable field and the raised former railway running east to west to the south.

## **4 DISCUSSION**

### **4.1 Summary of Baseline**

4.1.1 The baseline dataset, based on research and a site visit, has shown the high level of potential for late prehistoric and/or Romano-British activity in the vicinity. Unfortunately, ongoing COVID-19 related restrictions meant that checking the primary records for these cropmark features was not possible, and so this study cannot confirm whether similar features extend within the site boundaries from the desk-based research. Geophysical surveys to the south-west, on the golf course, were able to confirm significant features of archaeological potential highlighted by cropmarks identified on aerial photographs.

4.1.2 There is also the potential for the sub-surface remains of a former windmill to survive within the site boundary, based on 19<sup>th</sup> century fieldname and road name evidence.

4.1.3 The only known evidence for modern activity within the site which may have affected earlier subsurface survival is the construction of the sewage works, and this area is unlikely to retain important archaeological remains. As the other areas have remained relatively unaffected, these still have the potential to retain surviving archaeological remains, except perhaps at the far western extent where it encroaches on the former line of the railway.

4.1.4 The surviving hedgerow which separates the open access land in the western part of the site from the arable field to the east respects a boundary shown on 1842 mapping, and therefore may be protected under Hedgerow Regulations 1997. It doesn't survive well as a continuous hedgerow, however, and an ecological survey would be better place to confirm, based on species retention.

4.1.5 The built-up nature of the area around the site, including housing to the west and north, dense tree coverage around the old sewage works, tall hedgerow boundaries around the arable field and the raised former railway running east to west to the south, mean that impacts on the setting of heritage impacts are not considered a risk. This is particularly true as no permanent impacts on setting are anticipated beyond the construction phase.

### **4.2 Development Proposals**

4.2.1 The outline design is for the laying of a new sewer to extend from the rear garden of No. 24 Norfolk Road and extend into the marginal woodland to the south, then extend eastwards across the open access land and arable field to the east to cross Thurnscoe

Lane and link into the abandoned sewage works, which is now a sewage pumping station.

#### 4.3 Heritage Statement

4.3.1 **Indirect Impacts:** a total of 19 heritage assets have been identified within the study area on current knowledge. Of these, the majority (16) either no longer exist or are not intervisible with the site (Appendix 2, Table 2). For these 16, a magnitude of impact of no change is anticipated, which would result in neutral or slight significance, and therefore is unlikely to require further consideration (applicable to Assets 1-16).

4.3.2 **Direct Impacts:** the remaining three heritage assets are at risk of direct impact from the proposals, although this number is subject to alteration dependent on sub-surface survival of as-yet unknown features, particularly features of the late prehistoric or Romano-British period for which the potential remains high. Of these known heritage assets, two are anticipated to be only partially impacted, through truncation, and therefore unlikely to require further consideration (applicable to Assets 18 and 19).

4.3.3 The remaining heritage asset at risk of direct impact, the possible sub-surface remains of a windmill (Asset 17), should they be encountered during the excavations for the new sewer, would likely to be completely demolished/lost. The significance of such an impact would equate to slight or neutral, assuming such remains are considered of low value. A similar level of significance of impact would be applicable to the sub-surface remains of any features of late prehistoric or Romano-British activity, should they also be completely lost as a result of the development.

#### 4.4 Conclusions

4.4.1 Groundworks required for the insertion of the new sewer, as well as having the potential to directly impact sub-surface remains of a windmill (Asset 17) as outlined above, would also impact upon any additional as-yet unknown surviving subsurface archaeological remains. This is particularly significant given the high potential for features of the late prehistoric/Romano-British period within the area.

4.4.2 It may be advisable that additional works, such as a geophysical survey, which could better inform on the potential for sub-surface archaeological remains, should occur. The details of any mitigation would be dependent upon the requirements of the local planning authority archaeologist.

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## APPENDIX 1: HERITAGE IMPACT ASSESSMENT TABLES

In ascribing levels of **importance** to heritage assets, the Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England 2019) has been used (Table 1).

**Table 1: Establishing the importance of a heritage asset**

Value (sensitivity)	Typical description
Very High	Very high importance and rarity, international scale and very limited potential for substitution
High	High importance and rarity, national scale, and limited potential for substitution
Medium	Medium or high importance and rarity, regional scale, limited potential for substitution.
Low	Low or medium importance and rarity, local scale
Negligible	Very low importance and rarity, local scale

*Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England 2019)*

The **magnitude of impact** is measured from the condition that would prevail in a ‘do nothing’ scenario and it is assessed without regard to the importance of the receptor (Highways England, 2019). The worst magnitude of impact would be Loss of resource and/or quality and integrity of resource and severe damage to key characteristics, features, or elements. In ascribing the magnitude of impact, guidance presented in the Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England 2019) has been used (Table 2).

**Table 2: Establishing the magnitude of impact**

Magnitude of impact (change)		Typical description
Major	Adverse	Loss of resource and/or quality and integrity of resource; severe damage to key characteristics, features, or elements.
	Beneficial	Large scale or major improvement of resource quality; extensive restoration; major improvement of attribute quality.
Moderate	Adverse	Loss of resource, but not adversely affecting the integrity; partial loss of/damage to key characteristics, features, or elements.
	Beneficial	Benefit to, or addition of, key characteristics, features, or elements; improvement of attribute quality.
Minor	Adverse	Some measurable change in attributes, quality, or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features, or elements.
	Beneficial	Minor benefit to, or addition of, one (maybe more) key characteristics, features, or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse	Very minor loss or detrimental alteration to one or more characteristics, features, or elements.
	Beneficial	Very minor benefit to or positive addition of one or more characteristics, features, or elements.
No change		No loss or alteration of characteristics, features, or elements; no observable impact in either direction.

*Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England, 2019)*

The **significance of impact** is devised by cross referencing the importance of the receptor with the magnitude of the impact, see Table 3. In some cases, the significance of impact is shown as being one of two alternatives. In these cases, a single description should be decided upon with reasoned judgement for that level of significance chosen.

**Table 3: Establishing the significance of impact**

<b>Value/Importance</b>	<b>Very High</b>	Neutral	Slight	Moderate/large	Large or very large	Very large
	<b>High</b>	Neutral	Slight	Slight or moderate	Moderate or large	Large or very large
	<b>Medium</b>	Neutral	Neutral/slight	Slight	Moderate	Moderate or large
	<b>Low</b>	Neutral	Neutral or slight	Neutral or slight	Slight	Slight or moderate
	<b>Negligible</b>	Neutral	Neutral	Neutral or slight	Neutral or slight	Slight
		<b>No change</b>	<b>Negligible</b>	<b>Minor</b>	<b>Moderate</b>	<b>Major</b>
<b>Magnitude of impact</b>						

*Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England, 2019)*

**Table 4: Significance categories**

<b>Significance Category</b>	<b>Typical Description</b>
<b>Very large</b>	Effects at this level are material in the decision-making process.
<b>Large</b>	Effects at this level are likely to be material in the decision-making process.
<b>Moderate</b>	Effects at this level can be considered to be material decision-making factors.
<b>Slight</b>	Effects at this level are not material in the decision-making process.
<b>Neutral</b>	No effects or those that are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.

*Design Manual for Roads and Bridges, LA 104 Environmental Assessment and Monitoring (Highways England, 2019)*



## APPENDIX 2: GAZETTEER OF HERITAGE ASSETS

*Table 1: the table below summarises known heritage assets within a 1km study area and includes assets from South Yorkshire's Historic Environment Record (HER), curated by South Yorkshire Archaeology Service, and National Heritage List England (NHLE) Historic England web resource. The locations of all known heritage assets are shown in Figure 3. For those previously unknown heritage assets, a level of 'low' significance has been attributed; it is possible, with enhanced understanding of these assets, that they may be considered of greater significance.*

<b>Asset No.</b>	<b>Reference</b>	<b>Site Name</b>	<b>Period</b>	<b>Description</b>	<b>Grid Reference</b>	<b>Value</b>
1	NHLE 1151170; HER 0352/01	Church of St Michael and All Saints	Post medieval	Grade II* listed church and adjoining wall to west side of churchyard. Presbyterian chapel, now church, built c. 1650, reputedly for Sir Edward Rhodes of Great Houghton Hall, with 20 <sup>th</sup> century addition	443041,406536	High
2	HER 00080/01	Field system	Iron Age/ Roman	Cropmarks on aerial photographs south of the former railway at Great Houghton show possible traces of an early field system	443600,405700	Low
3	HER 00081/01	Enclosures and field boundaries	Iron Age/ Roman	Irregular 5-sided enclosure with attached two field boundaries of likely Iron Age or Roman origin	443800,405100	Low
4	HER 00352/01	Site of The Hall	Post Medieval	Site of a hall, built between 1578 and 1588 and used as a public house from 1831 to c.1960 when it was demolished	443060,406520	Low
5	HER 00487/01	Hall and moat site with kiln	Medieval	A hall was at this location in the 11 <sup>th</sup> century. Medieval moated site excavated in 1967. Prior to this, it survived as slight earthworks, the eastern side having been destroyed by housing. The moat was stone-lined and the interior had traces of a pottery kiln of probable 17 <sup>th</sup> century date,	444800,405600	Low
6	HER 02331/01	Enclosure and field system	Iron Age or Roman	Aerial photograph and geophysical survey results indicate probable field systems and enclosures	443200,405600	Low

<b>Asset No.</b>	<b>Reference</b>	<b>Site Name</b>	<b>Period</b>	<b>Description</b>	<b>Grid Reference</b>	<b>Value</b>
7	HER 02499/01	Field system	Iron Age or Roman	Aerial photographs show possible Iron Age or Romano-British field system	443100,406200	Low
8	HER 02500/01	Linear cropmarks	Iron Age or Roman	Linear cropmarks of possible Iron Age or Romano-British origin shown on aerial photographs	443000,405700	Low
9	HER 02503/01	Cropmark	Iron Age or Roman	Iron Age or Romano-British cropmark shown on aerial photographs	443900,405800	Low
10	HER 02504/01	Cropmark features	Iron Age or Roman	Aerial photographs show cropmarks of enclosures, trackways and field boundaries	444090,405620	Low
11	HER 02686/01	Cropmark	Iron Age or Roman	Iron Age or Romano-British cropmark shown on aerial photographs	444000,405700	Low
12	HER 03035/01	Rectangular cropmark	Iron Age or Roman	A rectangular cropmark which may represent an Iron Age or Romano-British enclosure south of the railway line	443810,405780	Low
13	HER 03545/01	Earthworks	Medieval	A series of unidentified earthworks within football field with no clear pattern but covering almost whole field. Located to the north of Thurnscoe moated site	444800,405730	Low
14	HER 04024/01	Cropmark features	Iron Age or Roman	At least three linear features shown on aerial photograph which may form part of an enclosure	444100,406900	Low
15	HER 02624/01	Brooch findspot	Early medieval	An Anglo Saxon brooch was found just to the east of a spring	444250,406550	Low
16	HER 05682	Cropmark features	Iron Age or Roman	Cropmarks extending across a wide area including sub-rectangular enclosures, trackways and field boundaries identified from aerial photographs	443820,405210	Low

<b>Asset No.</b>	<b>Reference</b>	<b>Site Name</b>	<b>Period</b>	<b>Description</b>	<b>Grid Reference</b>	<b>Value</b>
17	Tithe Award	Site of windmill	Medieval or Post medieval	Fieldname evidence from tithe award 1840 and road name evidence from First Ed OS map suggest a former windmill stood in the vicinity. Not shown on 1823 County map	443760,405978	Low
18	Tithe Award; Historic OS mapping	Field boundary	Post medieval	North-south field boundary within central part of Site, separating arable field to east from open grassland and basketball court to west	443704,405973	Low
19	Historic OS mapping	Dearne Valley Railway line	Modern	The Dearne Valley Railway (DVR) was incorporated by Act of Parliament in 1897 and opened in sections after 1902. Initially a good only line, it opened to passengers in 1912, closing to passengers in 1951. Removed some time after 1968. The 1906 OS map shows the line with associated tanks in the vicinity of the Site	443737,405905	Low

*Table 2: the table below is a summary of the heritage assets listed above including the significance of each asset, the assessed magnitude of impact of the Scheme based on available knowledge and assumptions ahead of detailed design proposals being confirmed and concluding in the overall magnitude of impact of the Scheme on the heritage significance of each asset, using the three tables in Appendix 1.*

<b>Asset No.</b>	<b>Site Name</b>	<b>Significance</b>	<b>Magnitude of Impact</b>	<b>Significance of Impact</b>
1	Church of St Michael and All Saints	High	No change – not intervisible	Neutral
2	Field system	Low	No change – not intervisible	Neutral
3	Enclosures and field boundaries	Low	No change – not intervisible	Neutral
4	Site of The Hall	Low	No change – not intervisible	Neutral
5	Hall and moat site with kiln	Low	No change – not intervisible	Neutral
6	Enclosure and field system	Low	No change – not intervisible	Neutral
7	Field system	Low	No change – not intervisible	Neutral
8	Linear cropmarks	Low	No change – not intervisible	Neutral

<b>Asset No.</b>	<b>Site Name</b>	<b>Significance</b>	<b>Magnitude of Impact</b>	<b>Significance of Impact</b>
9	Cropmark	Low	No change – not intervisible	Neutral
10	Cropmark features	Low	No change – not intervisible	Neutral
11	Cropmark	Low	No change – not intervisible	Neutral
12	Rectangular cropmark	Low	No change – not intervisible	Neutral
13	Earthworks	Low	No change – not intervisible	Neutral
14	Cropmark features	Low	No change – not intervisible	Neutral
15	Brooch findspot	Low	No change – not intervisible	Neutral
16	Cropmark features	Low	No change – not intervisible	Neutral
17	Site of windmill	Low	Major adverse – potential loss of resource	Slight or Moderate
18	Field boundary	Low	Minor adverse – potential loss of elements of resource through truncation	Neutral or Slight
19	Dearne Valley Railway line	Low	Minor adverse – potential loss of elements of resource through truncation combined with very minor impact on setting, not anticipated to extend beyond construction phase	Neutral or Slight

### APPENDIX 3: DOCUMENTARY EVIDENCE

Table 1: Tithe Award Summary (see also Figure 4)

<b>Plot No</b>	<b>Landowner</b>	<b>Occupier</b>	<b>Name</b>	<b>Description</b>	<b>A</b>	<b>R</b>	<b>P</b>
94	Earl Fitzwilliam	William Pearson	Wind Mill Field	Arable	5	-	-
95		William Brooke	Wind Mill Field	Arable	4	3	23
96		George Brooke	Wind Mill Field	Arable	4	2	10
97		Thomas Littlewood	Wind Mill Field (bottom)	Arable	3	-	-
98			Wind Mill Field (top)	Arable	1	3	-
99		Thomas Hutchinson	Wind Mill Field (top)	Arable	3	1	-
100			Wind Mill Field (far)	Arable	3	3	-
101			Wind Mill Field (low)	Arable	3	1	23
102		William Pearson	Wind Mill Field	Grass	5	1	11

APPENDIX 4: PLATES

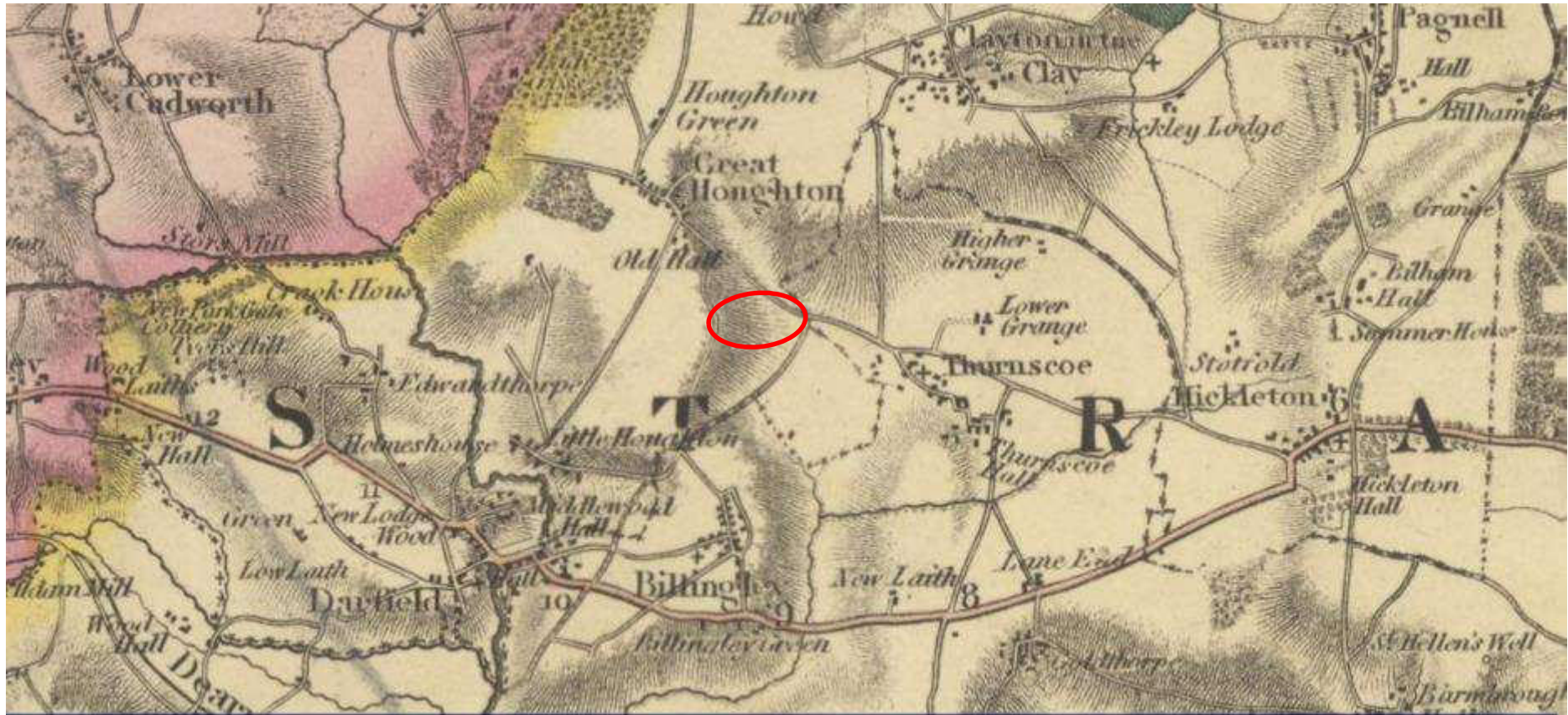


Plate 1: Extract from Greenwood's plan of Yorkshire, 1828



Plate 2: Western extent of site, facing west



Plate 3: Western part of site from western extent, facing east



Plate 4: Western part of site, facing east



Plate 5: Western part of site, eastern extent, and hedgerow (Asset 18), facing north





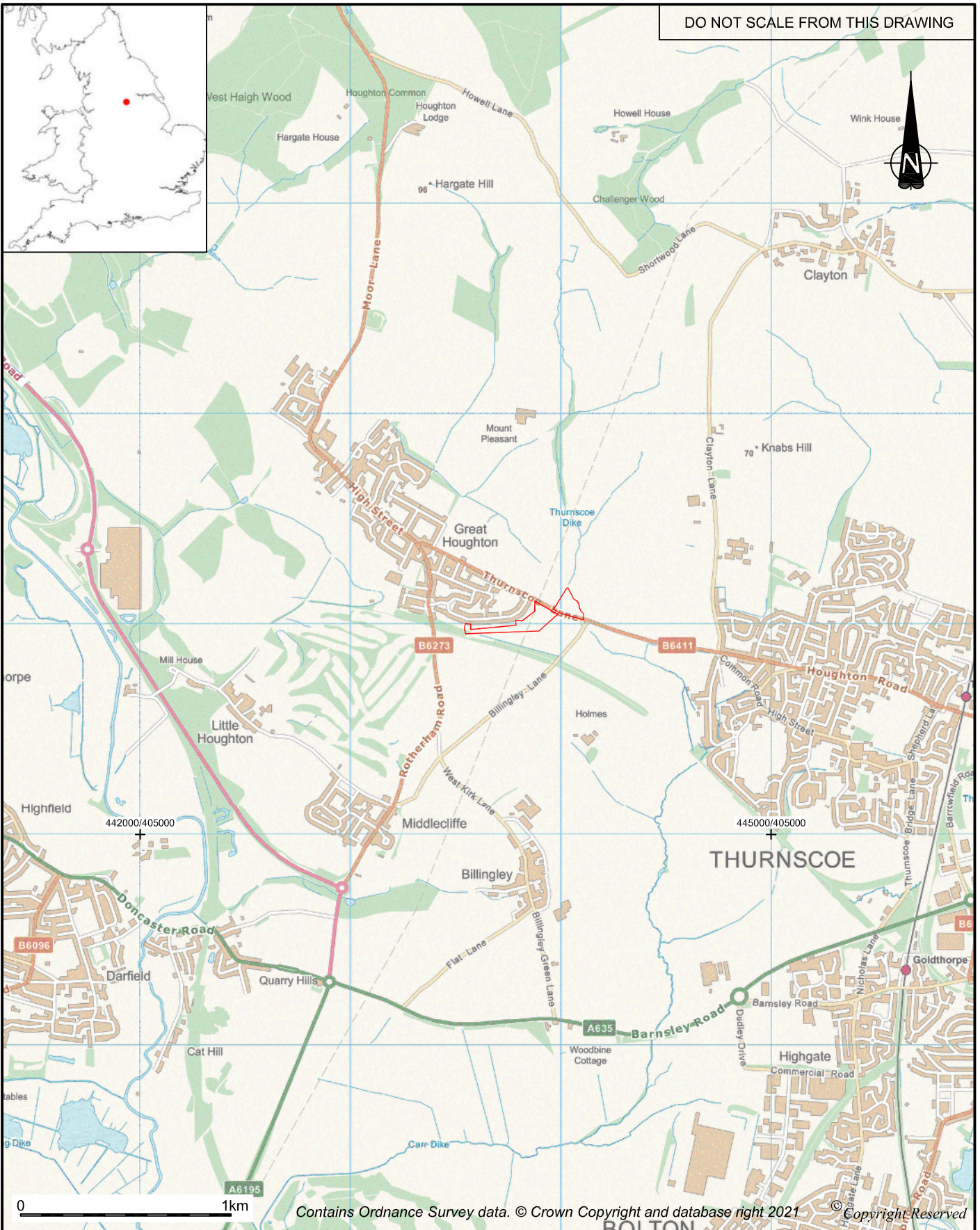
Plate 6: Eastern part of site, western extent, with hedgerow (Asset 18), facing east



Plate 7: Eastern part of site, facing north

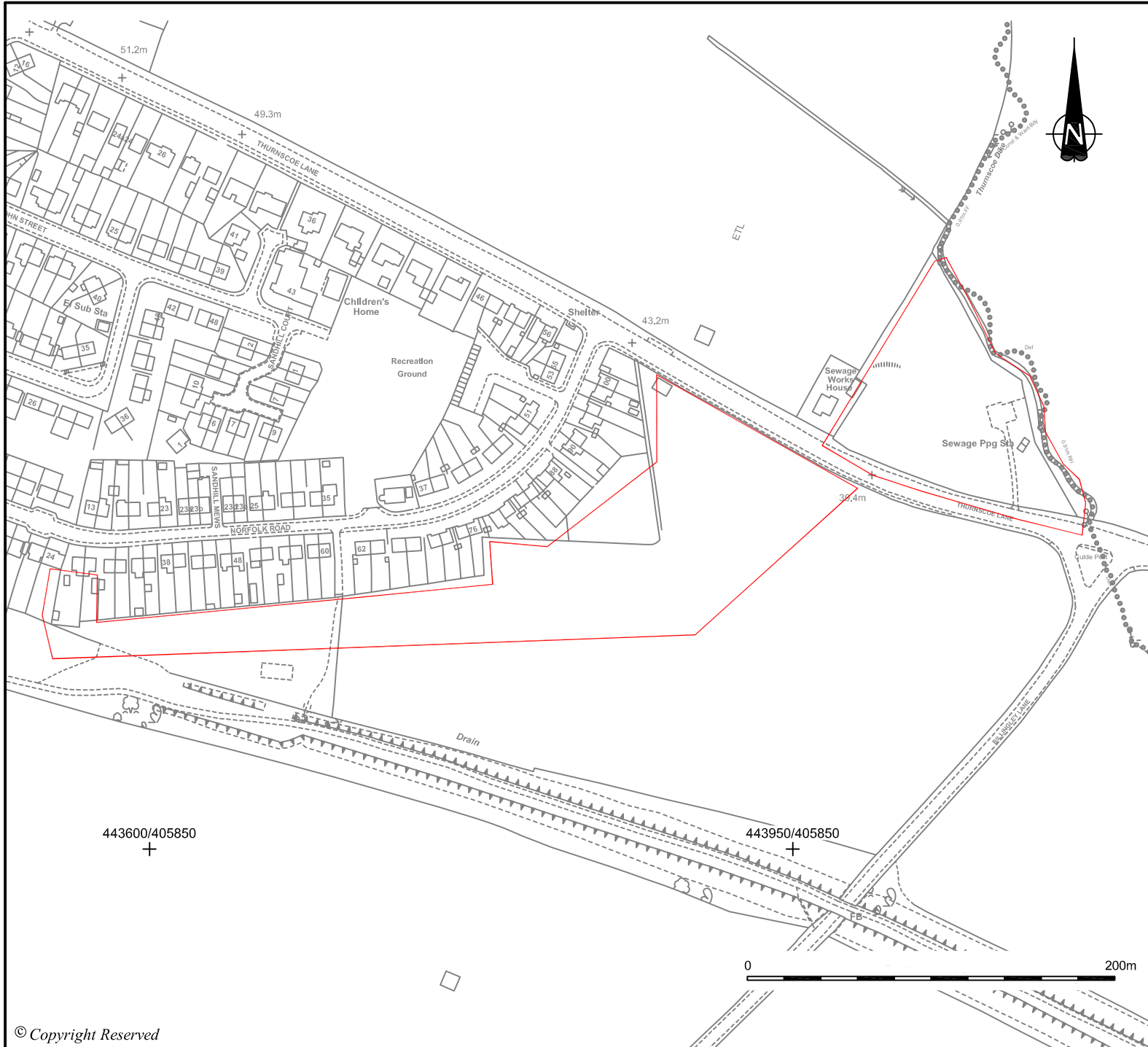
## APPENDIX 5: FIGURES

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PROJECT	Land at Norfolk Road, Great Houghton		SIZE	A4		SCALE	1:25,000	
			DATE	Nov 2021		APPROVED BY	CBC	
DRAWING TITLE	Figure 1: Site location		DRAWN BY	HP		CHECKED BY	DJ	
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<b>B</b>	Addition of former sewage works area to east	Nov 21	CP	DJ	CBC
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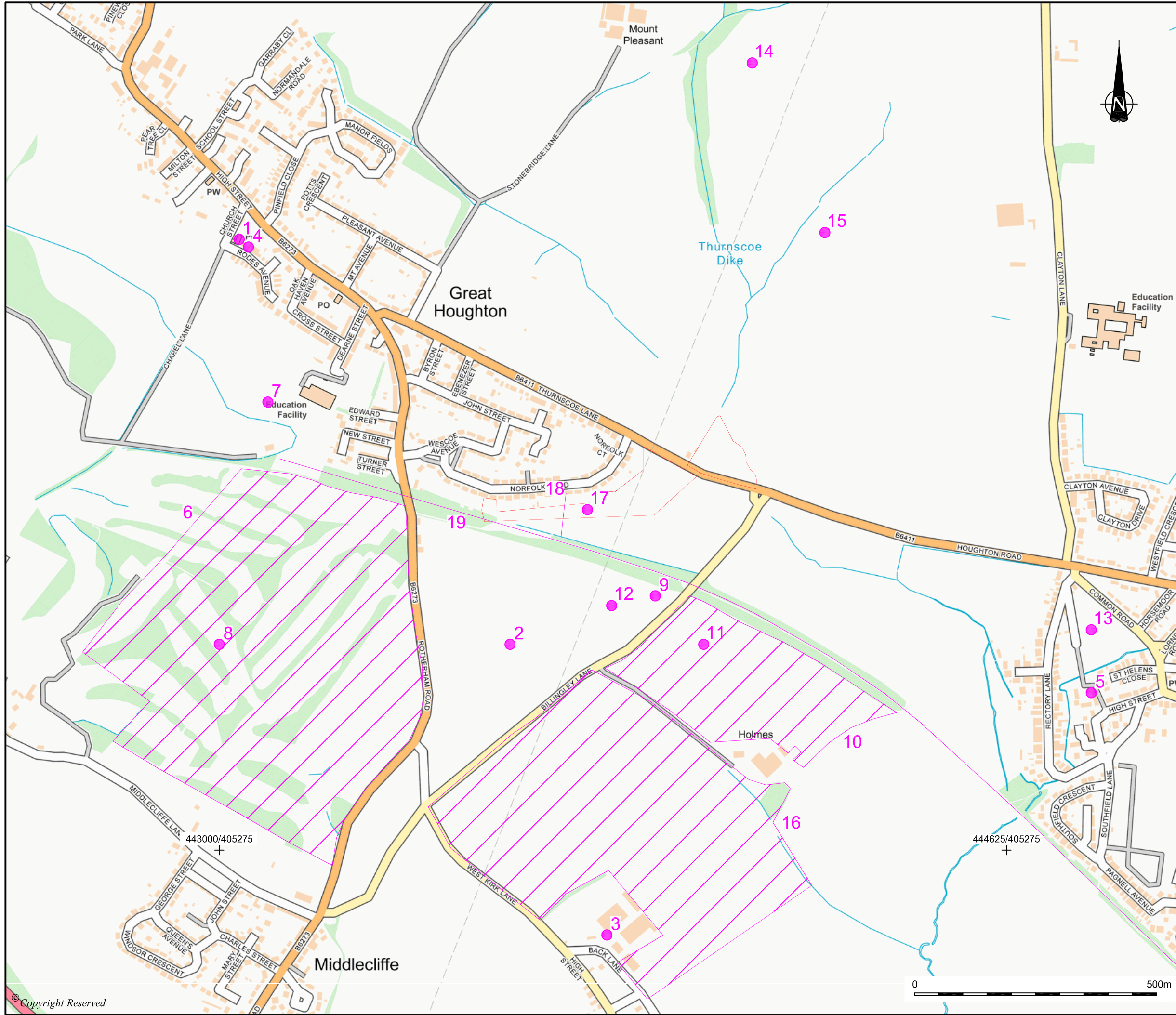
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**Figure 2:  
Detailed site location**

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**Figure 3:  
Location of heritage assets within  
1km study area**

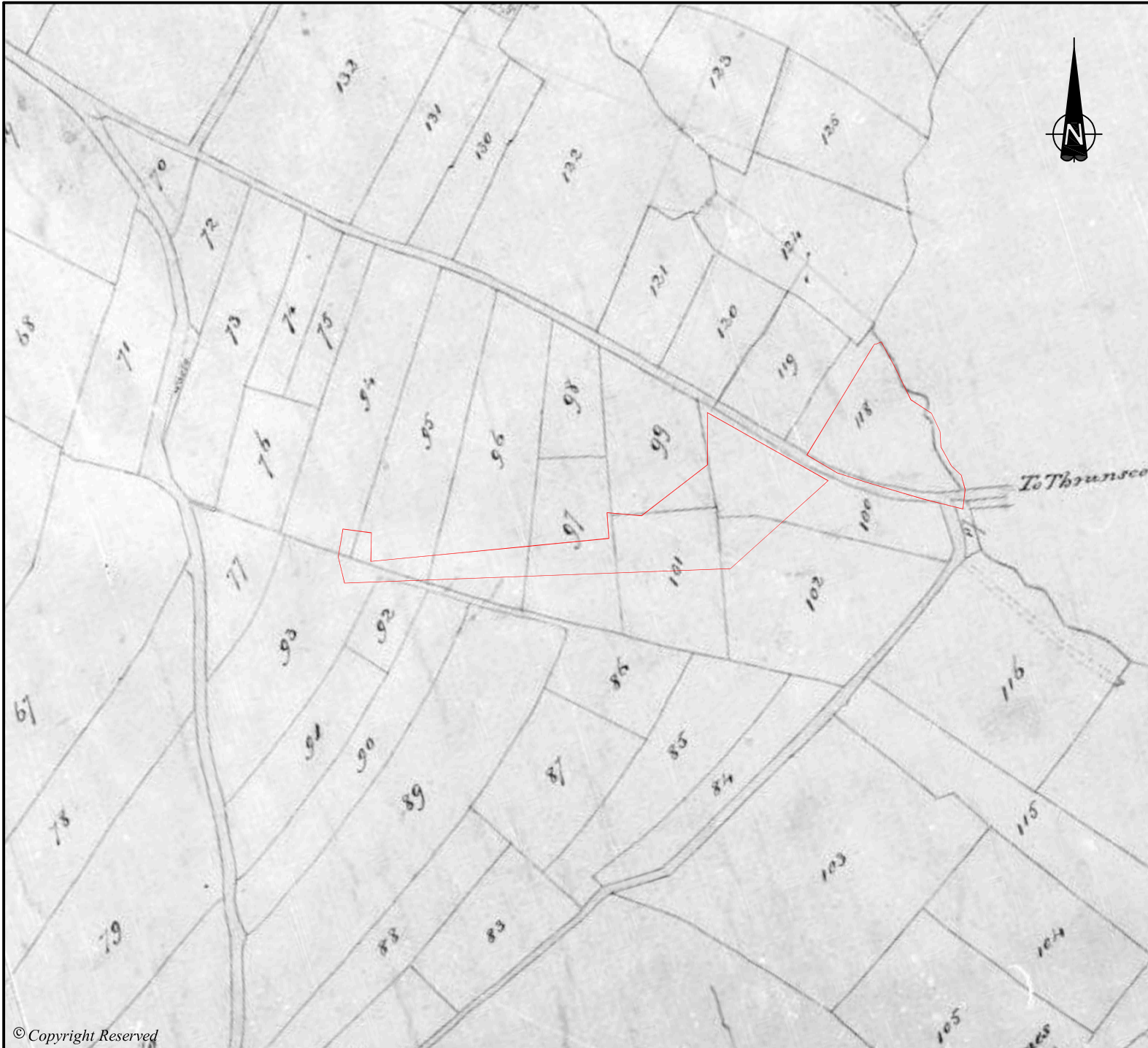
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Figure 4:  
Tithe Map, Great Houghton,  
1840

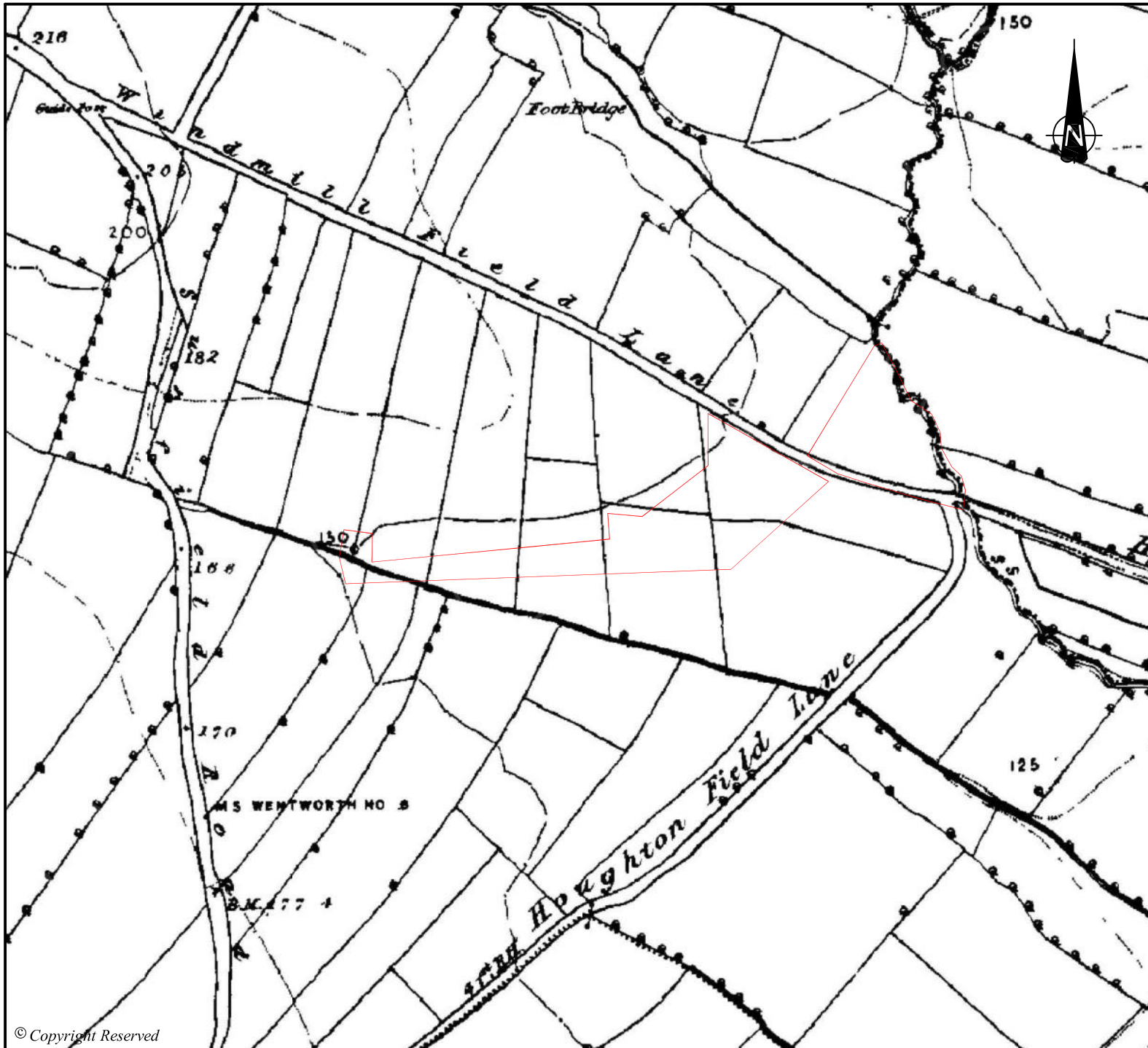
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Figure 5:  
First Edition Ordnance Survey Map, 1854  
(6 inch to 1 mile scale)

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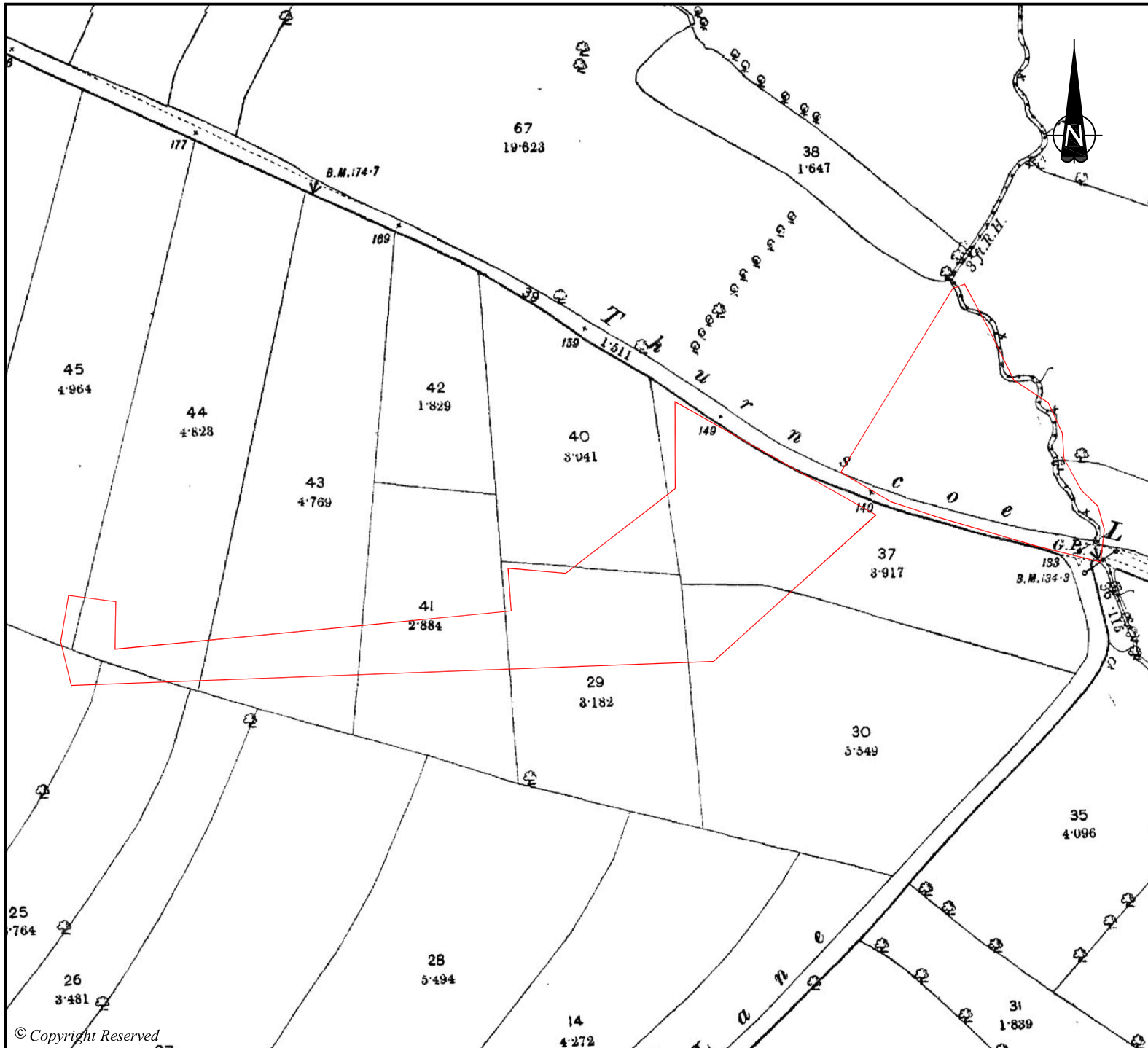
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Figure 6:  
First Edition Ordnance Survey Map, 1892  
(25 inch to 1 mile scale)

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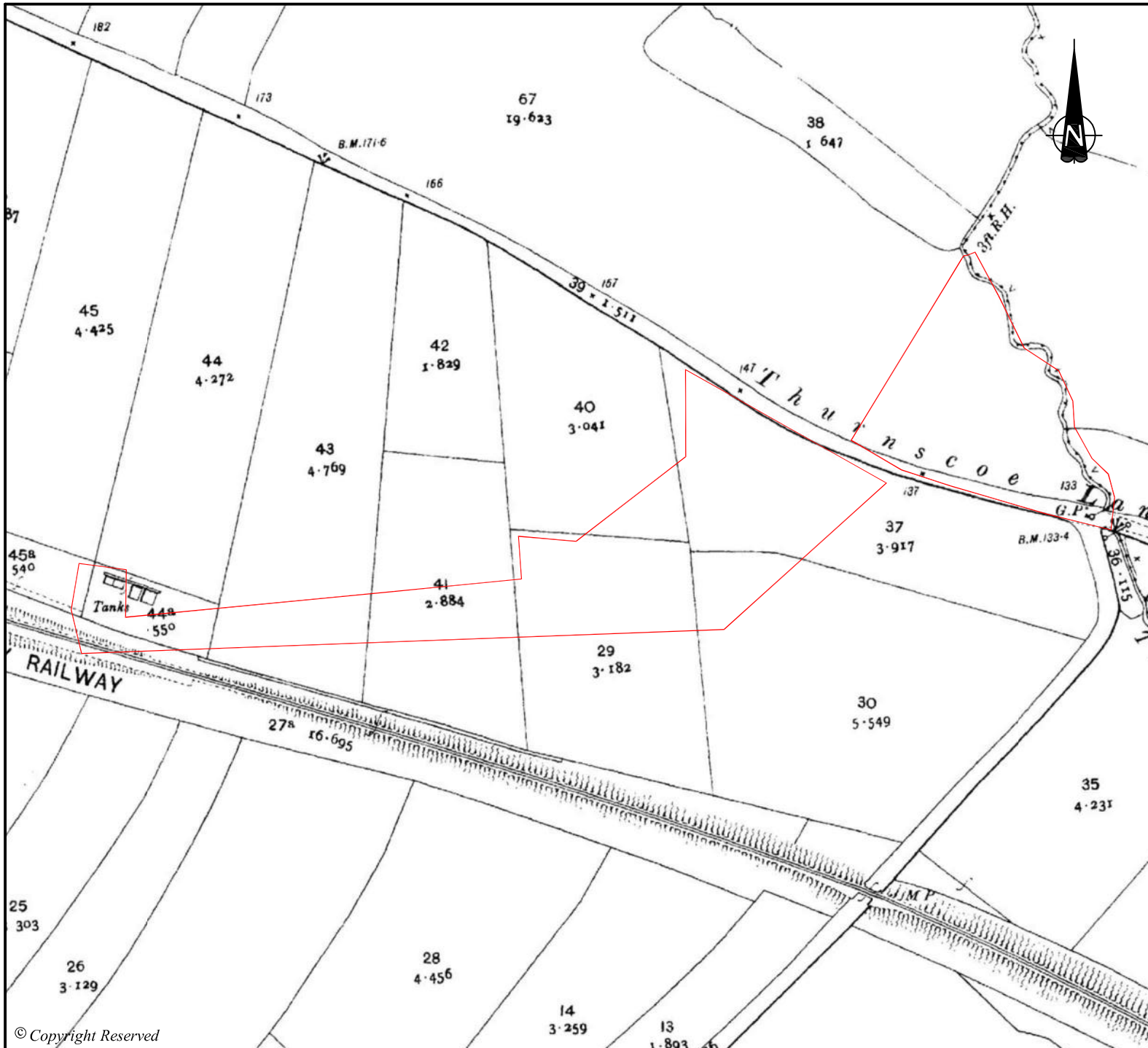
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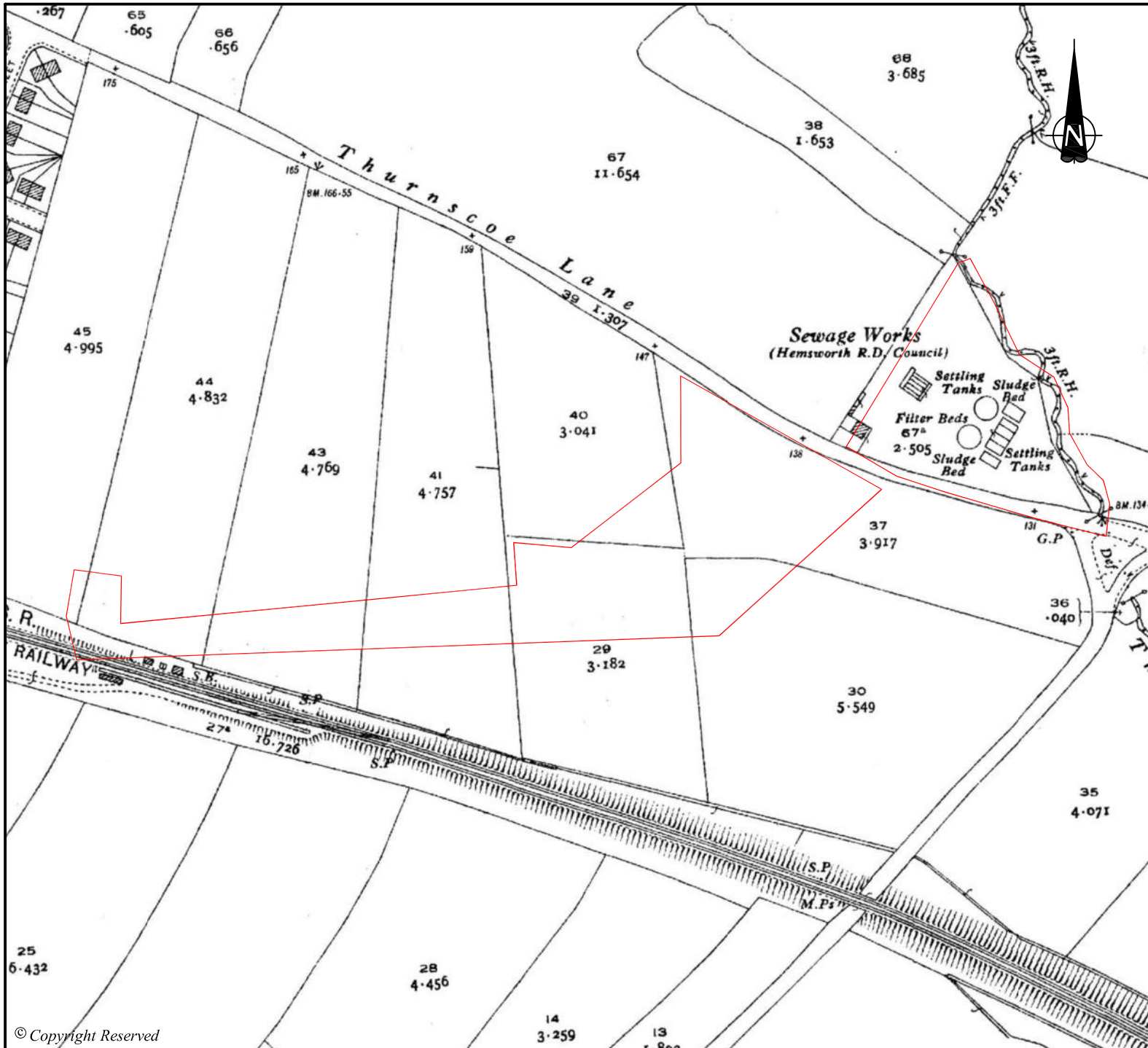
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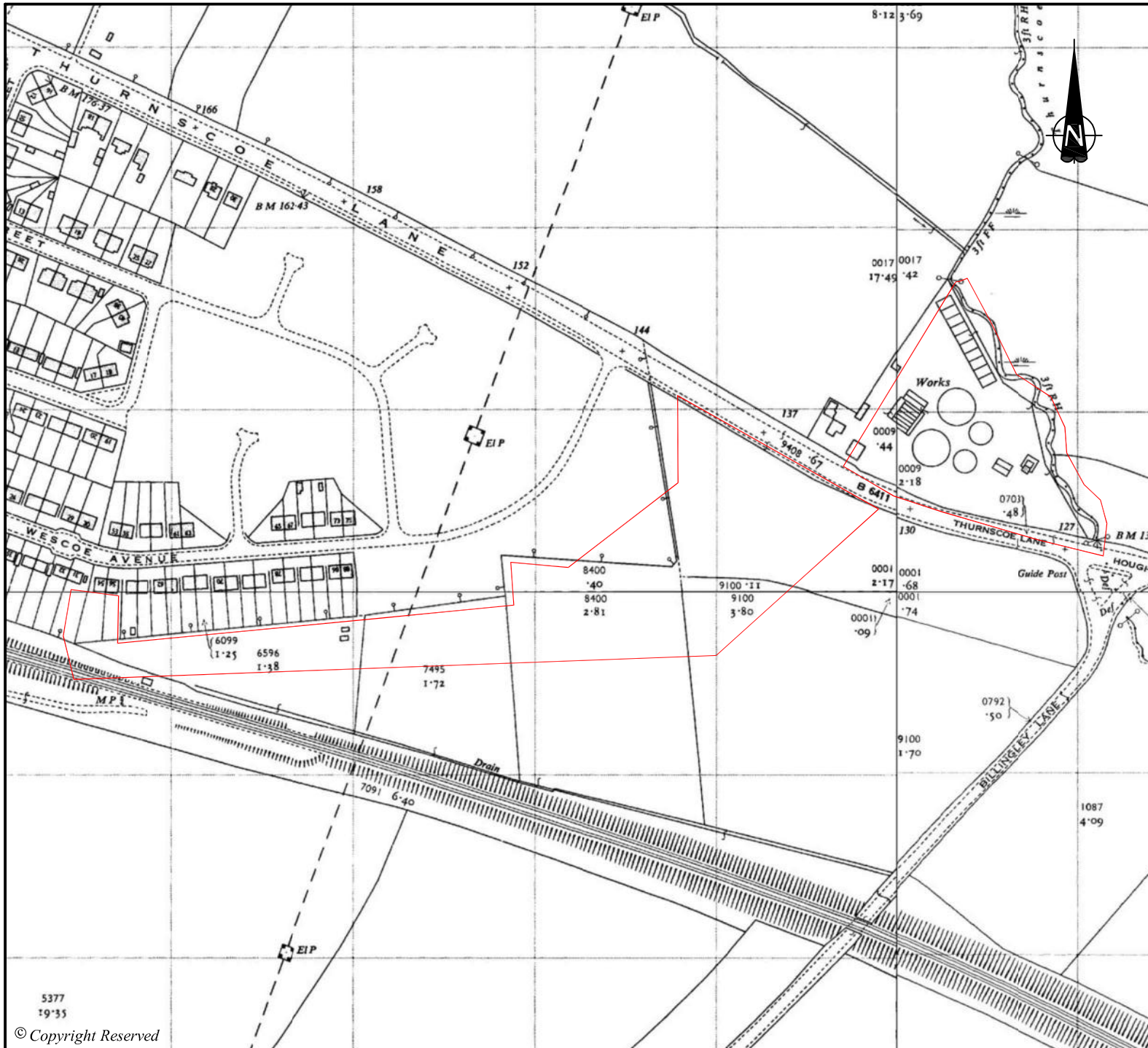
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 Figure 8:  
 Third Edition Ordnance Survey Map, 1930  
 (25 inch to 1 mile scale)

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<input type="checkbox"/> BIRMINGHAM	<input type="checkbox"/> LEEDS
<input type="checkbox"/> BOLTON	<input type="checkbox"/> LONDON
<input type="checkbox"/> CARDIFF	<input type="checkbox"/> MANCHESTER
<input type="checkbox"/> EDINBURGH	<input type="checkbox"/> N.J.-T.
<input type="checkbox"/> GLASGOW	<input type="checkbox"/> STOKE ON TRENT

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— Site boundary

<b>B</b>	Addition of former sewage works area to east	Nov 21	CP	DJ	CBC
REVISION	DETAILS	DATE	DRAWN	CHKD	APPD

CLIENT  
**Systra Ltd**

PROJECT  
**Land at Norfolk Road, Great Houghton**

DRAWING TITLE  
**Figure 9:  
1962 Ordnance Survey Map  
(25 inch to 1 mile scale)**

DRG No **CL12631-009** REV **B**

SIZE **A4** SCALE **1:3,000** DATE **Nov 2021**

DRAWN BY **HP** CHECKED BY **DJ** APPROVED BY **CBC**

BIRMINGHAM  LEEDS  
 BOLTON  LONDON  
 CARDIFF  MANCHESTER  
 EDINBURGH  N-J-T  
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5377  
19'35  
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<b>B</b>	Addition of former sewage works area to east	Nov 21	CP	DJ	CBC
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REVISION	DETAILS	DATE	DRAWN	CHKD	APPD
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**Land at Norfolk Road, Great Houghton**

DRAWING TITLE  
**Figure 10:  
LiDAR imagery**

DRG No	CL12631-010	REV	B
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SIZE	A4	SCALE	1:3,000	DATE	Nov 2021
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DRAWN BY	HP	CHECKED BY	DJ	APPROVED BY	CBC
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<input type="checkbox"/> BOLTON	<input type="checkbox"/> LONDON
<input type="checkbox"/> CARDIFF	<input type="checkbox"/> MANCHESTER
<input type="checkbox"/> EDINBURGH	<input type="checkbox"/> N-J-T
<input type="checkbox"/> GLASGOW	<input type="checkbox"/> STOKE ON TRENT



**STOKE-ON-TRENT**

Sir Henry Doulton House  
Forge Lane  
Etruria  
Stoke-on-Trent  
ST1 5BD  
Tel: +44 (0)1782 276 700

**BIRMINGHAM**

Two Devon Way  
Longbridge Technology Park  
Longbridge  
Birmingham  
B31 2TS  
Tel: +44 (0)121 580 0909

**BOLTON**

41-50 Futura Park  
Aspinall Way  
Middlebrook  
Bolton  
BL6 6SU  
Tel: +44 (0)1204 227 227

**BRISTOL**

Desk Lodge  
2 Redcliffe Way  
Bristol  
BS1 6NL

**BURY ST EDMUNDS**

6 Brunel Business Court  
Eastern Way  
Bury St Edmunds  
Suffolk  
IP32 7AJ  
Tel: +44 (0)1284 765 210

**CARDIFF**

Tudor House  
16 Cathedral Road  
Cardiff  
CF11 9LJ  
Tel: +44 (0)292 072 9191

**CARLISLE**

Marconi Road  
Burgh Road Industrial  
Estate Carlisle  
Cumbria  
CA2 7NA  
Tel: +44 (0)1228 550 575

**EDINBURGH**

Great Michael House  
14 Links Place  
Edinburgh  
EH6 7EZ  
Tel: +44 (0)131 555 3311

**GLASGOW**

2 West Regent Street  
Glasgow  
G2 1RW  
Tel: +44 (0)141 433 7210

**LEEDS**

36 Park Row  
Leeds  
LS1 5JL  
Tel: +44 (0)113 831 5533

**LONDON**

Third Floor  
46 Chancery Lane  
London  
WC2A 1JE  
Tel: +44 (0)207 242 3243

**NEWCASTLE UPON TYNE**

City Quadrant  
11 Waterloo Square  
Newcastle upon Tyne  
NE1 4DP  
Tel: +44 (0)191 232 0943

**TRURO**

Baldhu House  
Wheal Jane Earth Science Park  
Baldhu  
Truro  
TR3 6EH  
Tel: +44 (0)187 256 0738

**International offices:**

**ALMATY**

29/6 Satpaev Avenue  
Hyatt Regency Hotel  
Office Tower  
Almaty  
Kazakhstan  
050040  
Tel: +7(727) 334 1310

**MOSCOW**

21/5 Kuznetskiy Most St.  
Moscow  
Russia  
Tel: +7(495) 626 07 67