

Phase I Land Condition (Contaminated Land) Assessment

Proposed Magna Park Extension, Hybrid Application

For IDI Gazeley

Delta-Simons Project No. 14-0159.01

**Issued: September 2015** 



#### PHASE I LAND CONDITION (CONTAMINATED LAND) ASSESSMENT SUMMARY TABLE PROPOSED MAGNA PARK EXTENSION, HYBRID APPLICATION DELTA-SIMONS PROJECT NO. 14-0159.01

| Context and                               | The purpose of this Report is to provide an Assessment of the potential for contamination  |
|---|--|
| Purpose                                   | risks at the Site, ahead of an outline planning application for the development of the Site.   |
| Current Site Use                          | The majority of the Site is currently used for agricultural purposes, with some residential/commercial buildings present on the southern quarter of the Site. The agricultural land is separated into large fields by mature hedgerows with some mature trees present. Small areas of woodland are also present.   |
|   | An embankment for a dismantled railway runs across the Site centre, running north-east-<br>south-west. A stream cuts across the Site, meandering along the path of the embankment,<br>crossing it twice. Drainage ditches and tributaries of the stream are present across the<br>centre and south of the Site.  |
| Environmental<br>Setting                  | The Site is located within a predominantly agricultural area with some limited residential housing to the north-east, north-west and south-west of the Site, with commercial/industrial use to the southeast, in the form of the existing Magna Park.  |
|   | The Site is located within an area of mixed agricultural and commercial/industrial use. The bedrock geology strata are classified as a mixture of Secondary A Aquifers, Secondary B Aquifers and Secondary (Undifferentiated) Aquifers. It is anticipated that there will be a significant depth of superficial material across the Site. These superficial deposits are classified as a mixture of Secondary A Aquifers, Secondary B Aquifers and Unproductive Strata. The Soar Brook is present across the centre of the Site, meandering along the path of the railway embankment, with associated drainage channels extending into the surrounding agricultural land. As such, the environmental sensitivity of the Site's setting is considered to be moderate. |
| Flood Risk                                | A corridor of land along the course of the Soar Brook on-Site is indicated as a Flood Risk Zone 3, where the annual probability of flooding is estimated to be 1 in 100 (1%) or greater from rivers.   |
| Historical                                |  |
| Information<br>Site:                      | Potential sources of contamination identified at the Site are primarily from the agricultural use of the Site, including the farming processes and buildings, the former railway line across the Site, the presence of any Made Ground on-Site, and the presence of Alluvium, likely around the southern boundary.   |
| Surrounding Area:                         | Potential sources of contamination identified in the surrounding area include the agricultural land use, the former railway line, and the commercial/industrial warehouses in the existing Magna Park.   |
| GroundSure <sup>®</sup><br>Report Summary | From regulatory information listed in the GroundSure <sup>®</sup> Report, there are potential sources of contamination present in the vicinity of the Site. These include landfilled material, deposited within 100 m to the south of the Site, associated with the former aerodrome.  |
| Conceptual Site<br>Model                  | Delta-Simons has completed a source-pathway-receptor risk assessment based upon<br>available information. Potential sources of contamination have been identified at the Site,<br>primarily associated with the former agricultural use of the property and any Made Ground<br>present on-Site. Considering the future commercial use of the Site, possible pollutant<br>linkages (PPL) have been identified.  |
| Conclusions and<br>Recommendations        | It is recommended that intrusive Site investigation work is undertaken across the Site area, in conjunction with geotechnical investigation works, targeting historical sources of contamination, as well as gaining spatial coverage. The additional works should include a suitable period of ground gas monitoring in accordance with current guidance. It is considered likely that these works would be undertaken on a plot by plot basis, as stages of development at the Site progress.  |
|   | In the unlikely event that significant contamination is identified then remedial works may potentially be required, in order to provide protection to controlled water receptors, including the Secondary A Aquifers underlying the Site, and the Soar Brook and associated drains on-Site. Any contamination could potentially impact the health of end-users of the proposed development, however, basic remedial measures are likely to be suitable in  |

| mitigat   | mitigating this risk.   |  |  |  |  |
|---|---|--|--|--|--|
|   | Materials management on-Site should be conducted in accordance with the waste hierarchy to minimise generation of waste and avoid disposal to landfill wherever possible.   |  |  |  |  |
|   | It is noted that there are development abnormals which may arise during future redevelopment works. These include the following:  |  |  |  |  |
| Δ   | To complete limited Phase II intrusive investigation for future development plots<br>and, if necessary, waste classification exercises and liaison with the Statutory<br>Authorities, should any soils require off-Site disposal;   |  |  |  |  |
| Δ   | To undertake any further assessments, for example a Quantitative Risk<br>Assessment (QRA) and subsequent soil and groundwater remediation, should<br>targeted investigation identify significant contamination. The likelihood of this being<br>required is considered to be low; |  |  |  |  |
|   | To remove soils for engineering purposes (e.g. foundation and service trench arisings, engineering cut, etc) or remediation;<br>To supply PPE for construction workers;   |  |  |  |  |
| Δ   | To use clean inert material in service runs, and as capping in landscaped areas, across the Site. Subject to chemical testing, soils on-Site may be suitable for this use; and  |  |  |  |  |
| Δ   | To use upgraded water supply pipes, even where low concentrations of hydrocarbons are present.  |  |  |  |  |
| This sheet is intended as a within the main body of the | a summary only. Further detail and limitations of the assessment is provided<br>Report.   |  |  |  |  |

# TABLE OF CONTENTS

| 1.0 INTRODUCTION 1  |
|---|
| 1.1 Authorisation 1                                       |
| 1.2 Context & Purpose 1                                   |
| 1.3 Scope of Works 1                                      |
| 1.4 Data Sources & Third Party Information 2              |
| 1.5 Limitations   |
| 2.0 SITE DESCRIPTION AND ENVIRONMENTAL SETTING            |
| 2.1 Site Details  |
| 2.2 Site Geology 3  |
| 2.3 Site Hydrogeology 5                                   |
| 2.4 Surface Water Features 6                              |
| 2.5 Flood Risk 6  |
| 2.6 Environmentally Sensitive Sites                       |
| 2.7 Environmental Sensitivity 6                           |
| 3.0 HISTORICAL LAND USE                                   |
| 3.1 Historical Maps7                                      |
| 3.2 Summary of Historical Information8                    |
| 4.0 REVIEW OF STATUTORY & ADDITIONAL INFORMATION          |
| 4.1 GroundSure® Report                                    |
| 4.2 Third Party Reports 10                                |
| 4.3 Planning Information 10                               |
| 4.4 Site Walkover   |
| 5.0 CONCEPTUAL SITE MODEL                                 |
| 5.1 Introduction  |
| 5.2 Conceptual Model 13                                   |
| 5.2.1 Summary of Site Description & Environmental Setting |
| 5.2.2 Contaminant Sources                                 |
| 5.2.3 Potential Receptors                                 |
| 5.2.4 Potential Pathways                                  |
| 5.2.5 Potential Pollutant Linkages                        |
| 6.0 CONCLUSIONS & RECOMMENDATIONS                         |
| 6.1 Conclusions   |
| 6.2 Recommendations                                       |
| 7.0 LIMITATIONS TO ENVIRONMENTAL ASSESSMENTS              |
|   |

# Tables

| Table 1 | Scope of Works                            |  |  |
|---------|---|--|--|
| Table 2 | Site Details                              |  |  |
| Table 3 | Radon and Coal Mining Details             |  |  |
| Table 4 | Historical On-Site Features               |  |  |
| Table 5 | Key Historical Off-Site Features          |  |  |
| Table 6 | Relevant Data from GroundSure® Report     |  |  |
| Table 7 | Identified On-Site Contamination Sources  |  |  |
| Table 8 | Identified Off-Site Contamination Sources |  |  |

# Figures

| Figure 1 | Site Location Map         |
|----------|---------------------------|
| Figure 2 | Proposed Development Plan |

# Appendices

| Appendix I   | Historical Maps                |
|--------------|--------------------------------|
| Appendix II  | GroundSure <sup>®</sup> Report |
| Appendix III | Site Walkover Photographs      |

# PHASE I LAND CONDITION (CONTAMINATED LAND) ASSESSMENT PROPOSED MAGNA PARK EXTENSION, HYBRID APPLICATION FOR IDI GAZELEY DELTA-SIMONS PROJECT NO. 14-0159.01

# **1.0 INTRODUCTION**

### 1.1 Authorisation

Delta-Simons Environmental Consultants Limited ("Delta-Simons") was instructed by IDI Gazeley (the "Client") to carry out a Phase I Land Condition (Contaminated Land) Assessment of an area of land referred to as Proposed Magna Park Extension, Lutterworth (hereafter referred to as the "Site").

### 1.2 Context & Purpose

The purpose of this Report is to provide a Phase I Land Condition (Contaminated Land) Assessment Report in advance of a proposed outline planning application for the Site.

The principal aims of a Phase I Assessment, as stated in British Standard BS10175:2011 are to obtain information in order to:

- $\Delta$  Evaluate the environmental setting of the Site and to identify sensitive receptors;
- $\Delta$  Provide information from which possible contaminant-pathway-receptor relationships can be identified; and
- △ Formulate a Conceptual Site Model (CSM) to consider the significance of the contaminant-pathway-receptor relationships and identify whether further investigation is required.

This Report adheres to these principal aims and has been undertaken in accordance with current relevant guidance and best practice as set out within Contaminated Land Report (CLR) 11.

#### 1.3 Scope of Works

The scope of works for this Assessment is presented in Table 1.

| Data                          | 1. Review of Environmental Setting:   |  |  |  |  |  |
|-------------------------------|---|--|--|--|--|--|
| Collection                    | a. Review current use/status of Site; and   |  |  |  |  |  |
|                               | <ul> <li>Review geology, hydrogeology, hydrology and<br/>environmental sensitivity of Site;</li> </ul>  |  |  |  |  |  |
|                               | <ol> <li>Review Site history from historical ordnance survey (OS) maps<br/>obtained from GroundSure<sup>®</sup>;</li> </ol>   |  |  |  |  |  |
|                               | <ol> <li>Review regulatory information relating to the Site obtained from a<br/>GroundSure<sup>®</sup> Report;</li> </ol>   |  |  |  |  |  |
|                               | 4. Review previous reports for the Site, if available;  |  |  |  |  |  |
|                               | 5. Review planning information for the proposed development of the Site, if available;  |  |  |  |  |  |
|                               | 6. Undertake a Site Inspection;   |  |  |  |  |  |
| Interpretation<br>& Reporting | <ol> <li>Formulate an initial CSM by identifying potential contamination<br/>sources, pathways and receptors, in the context of the proposed<br/>commercial use of the Site;</li> </ol> |  |  |  |  |  |
|                               | 8. Undertake a qualitative risk assessment; and   |  |  |  |  |  |
|                               | 9. Prepare final Report.  |  |  |  |  |  |

#### Table 1 - Scope of Works

### 1.4 Data Sources & Third Party Information

In completing this Assessment, Delta-Simons has utilised the following information:

- △ Online British Geological Survey (BGS) and Environment Agency (EA) data;
- △ OS maps obtained from GroundSure®, dated September 2014;
- △ GroundSure® Report, dated September 2014; and
- $\Delta$  Information provided by the Client.

#### 1.5 Limitations

This Report provides an assessment of the potential contamination status, ground conditions and a preliminary flood risk assessment of the Site based upon the available information. Although produced in accordance with the principles of BS10175:2011 in relation to a *Preliminary Investigation*, the Report does not constitute an archaeological or ecological assessment, nor does it constitute an asbestos inspection.

Delta-Simons obtained, reviewed and evaluated information in preparing this Report from the Client, the developer, GroundSure® Limited and others. Delta-Simons' conclusions, opinions and recommendations have been determined using this information. Delta-Simons does not warrant the accuracy of the information provided to it and will not be responsible for any opinions that Delta-Simons has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

#### 2.0 SITE DESCRIPTION AND ENVIRONMENTAL SETTING

#### 2.1 Site Details

#### Table 2 - Site Details

| National Grid           | The Site is centred on the approximate National Grid Reference   |
|-------------------------|--|
| Reference (NGR)         | 450107,285938, and comprises approximately 215 hectares.   |
| General Site            | The Site is located to the northeast of the A5, near Lutterworth. A Site   |
| Location                | location map and plan are provided as Figure 1.  |
| Site Description        | The Site comprises a combination of large open arable fields and<br>smaller enclosed pastoral fields bounded by both hedgerows with<br>broadleaved trees, and drainage ditches. There are further scattered<br>broadleaved trees across the Site, whilst pockets of broadleaved<br>woodland are present in the central and eastern areas of the Site. A<br>cluster of domestic and commercial buildings within the southern area<br>of the Site comprise Bittesby House and associated Farm, all<br>accessed off Mere Lane, along an avenue of mature trees leading up<br>to Bittesby House. Bittesby Cottages lie to the north-east of Bittesby<br>House. To the south-west of these properties, and immediately to the<br>east of the A5 road are the Lodge and Emmanuel Cottages. In the<br>north-east of the Site, Mere Lane Lagoon, an attenuation feature for<br>Magna Park, has previously been used as a fishing lake. This Lake<br>feeds a watercourse that a tributary valley of the River Soar to the<br>northern and western flanks of the Site. Two ponds are located within<br>the south-western extent of the Site, within the grounds of Bittesby<br>House and Lodge Cottage, respectively, whilst there are a number of<br>recently created seasonally wet scrapes in marshy grassland to the<br>north of the Site. Bisecting the Site centrally north-south on a wooded<br>embankment is the dismantled Midland Counties railway line. Also<br>included within the application boundary is the land immediately<br>surrounding the Magna Park services farm to the north-east, west and<br>south-west, comprising grassland and plantation woodland. |
| Surrounding             | The Site is located within a predominantly agricultural area with some   |
| Land Uses               | limited residential housing to the north-east, north-west and south-<br>west of the Site, with commercial/industrial use to the south-east, in<br>the form of the existing Magna Park.   |
| Proposed<br>Development | An outline planning application will be submitted for up to 427,350 square metres (m <sup>2</sup> ) of distribution warehousing and ancillary office space (Use Classes B8 and B1a) in Zone 1. This includes the DHL Supply Chain covering an area of 100,844 m <sup>2</sup> (Application Reference 15/00919/FUL, June 2015). Also proposed is a National Centre for Logistics Qualifications (Use Class D1) and its campus, to cover up to 3,700 m <sup>2</sup> , an Estate Office with a heritage exhibition centre and conference facility (Use Class D1) of up to 300 m <sup>2</sup> , Holovis expansion building (Use Class B1a, B1b) covering an area of up to 7,000 m <sup>2</sup> , and an Innovation Centre of up to 2,325 m <sup>2</sup> . The proposed landscaping is for a public park and meadowland area of approximately 70 hectares, an access corridor through the Site with structural landscaping, and Sustainable Urban Drainage systems (SUDs). In order to facilitate the proposed development it is proposed to demolish all existing buildings on the Site.  |

#### 2.2 Site Geology

From BGS geology maps, the Site is underlain by Alluvium (clay, silt, sand and gravel), the Bosworth Clay Member (also known as Wolston Clay), and Wolston Sand and Gravel, corresponding with the paths of streams on-Site. The remainder of

the Site is underlain by the Oadby Member (grey chalky gravelly clay), with occasional pockets of Dunsmore Gravel (flint rich sands and gravels). Mapping also indicates that there may be a pocket of peat present near the centre of the Site to the southeast of the dismantled railway.

The bedrock geology across the Site comprises three units. Across the northwestern third of the Site, the Mercia Mudstone Formation is present beneath the superficial geology. Across the middle third of the Site, is the Penarth Group comprising mudstone, and across the southeastern third of the Site is the Blue Lias Formation, comprising interbedded mudstone and limestone.

There is one BGS borehole record available for an existing borehole on-Site (Ref: SP48NE21). The borehole indicates, in the vicinity of the centre of the Site, that the geological sequence is as follows:

- $\Delta$  Topsoil cover to 0.40 metres below ground level (m bgl);
- ∆ Wolston Sand and Gravel to 1.20 m depth, comprising orange brown to red brown clayey sand;
- $\Delta$  Wolston Clay to 16.70 m bgl, comprising dark grey slightly silty sandy clay;
- ∆ Thrussington Till comprising orange brown or red brown sandy clay with occasional gravel, to a depth of 24.00 m bgl;
- △ Baginton Sand and Gravel, recorded as water bearing sand. No arisings from this unit were recovered to the surface for examination, as such the description is based on the driller's interpretation; and
- △ Weathered Mercia Mudstone was recorded from 28.30 m bgl to the borehole's termination at 31.50 m bgl, comprising blue grey to orange brown laminated clay.

An assessment of the potential for radon and coal mining issues is shown in Table 3.

| Other Information   | Yes/No | Details   |
|---|--------|---|
| Is the Site in a radon-affected area?                                       | No     | Reference to the National Radiological<br>Protection Board (NRPB) Radon Affected Areas  |
|   |        | of England and Wales indicates that less than 1% of homes in the area are above the action level for radon.   |
| Are radon protection<br>measures required?                                  | No     | Reference to Buildings Research Establishment<br>publication BRE211 'Radon: Guidance on<br>Protective Measures for New Buildings' (2007)<br>indicates that no radon protective measures are<br>necessary in the construction of new buildings<br>within the area of the Site. |
| Is the Site in a known area<br>affected by potential coal<br>mining issues? | No     | Reference to information held by the Coal<br>Authority indicates that the Site is not located<br>within an area that may be affected by coal<br>mining activity.  |

Table 3 – Radon and Coal Mining Details

# 2.3 Site Hydrogeology

The Environment Agency determines geological formations into hydrogeological categories based on their permeability as a water-bearing unit (aquifer). The following hydrogeological designations are relevant to the geological units present on Site:

- △ Secondary A Aquifers are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers;
- △ Secondary B Aquifers are lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering;
- △ Secondary (Undifferentiated) Aquifers are assigned in cases where it has not been possible to attribute either category A or B to a rock type due to the variable characteristics of the rock type.
- △ Unproductive Strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Of the superficial deposits, the Alluvium, the Wolston Sand and Gravel and the Dunsmore Gravel are all classified as Secondary A Aquifers, whilst the Bosworth Clay, the peat, and the Oadby Till are classified as Unproductive Strata. The Thrussington Till and the Baginton Sand and Gravel do not outcrop within the vicinity of the Site, and as such are not classified by the Environment Agency Aquifer maps.

Of the bedrock geology, the Mercia Mudstone is classified as a Secondary B Aquifer, the Penarth Group Mudstone is classified as a Secondary (undifferentiated) Aquifer, and the Blue Lias Formation is classified as a Secondary A Aquifer.

The Site is not located within an EA Source Protection Zone (SPZ).

According to the GroundSure® Report, the closest groundwater abstraction to the Site is a water supply used for general farming and domestic supply operated by Manor Farm, located on Manor Road, approximately 450 m northeast of the Site.

### 2.4 Surface Water Features

The Soar Brook runs across the centre of the Site in a north-south orientation, crossing the path of the dismantled railway in the approximate centre of the Site. Several drainage ditches across the Site flow into the Brook. The Environment Agency classifies the Brook as being of moderate ecological quality. There is no water quality data available for the drains.

Also present on Site is a large pond. This feature is artificial, as part of the existing Magna Park development, as such it is not considered to be in continuity with the underlying groundwater. There is no water quality data available for this water feature, listed within the GroundSure® report.

There are no currently licensed surface water abstractions within 2 km of the Site.

# 2.5 Flood Risk

From the GroundSure® Report, a corridor of land along the course of the Brook on-Site is indicated as a Flood Risk Zone 3, where the annual probability of flooding is estimated to be 1 in 100 (1%) or greater from rivers.

#### 2.6 Environmentally Sensitive Sites

The Site and the surrounding area is designated a Nitrate Vulnerable Zone, however, this will not impact the proposed redevelopment of the Site. There are no further environmentally sensitive sites within 500m of the Site.

#### 2.7 Environmental Sensitivity

Environmental sensitivity is based upon the geological, hydrogeological, ecological and land use of the Site's setting. For instance, an industrial area will have a lower environmental sensitivity than a residential area, and Unproductive Strata will have a lower sensitivity than a Principal Aquifer.

Based upon the available information, the Site setting is considered to be of a moderate environmental sensitivity, primarily given the presence of the Secondary A Aquifers directly underlying the Site, and the Soar Brook present passing through the Site.

### 3.0 HISTORICAL LAND USE

#### 3.1 Historical Maps

A study of historical OS maps presented within the GroundSure® Report has been undertaken to identify any potentially contaminative former land uses at the Site and within the surrounding area. These maps date from 1886 to 2014. The key features and land uses of the Site and surrounding area identified from the available information are summarised below. Copies of the OS historical maps are included in Appendix I.

| On-Site Features   | Location and<br>Approximate National<br>Grid Reference     |
|--|--|
| In the earliest map edition in 1886, there is a railway present<br>across the centre of the Site running northeast-southwest,<br>which is embanked along part of its length. The railway is<br>dismantled by circa 1986 and all but the southern section on-<br>Site is maintained as a pathway. The southern section was<br>reclaimed as agricultural land. | Centre of the Site (450000,<br>285960)                     |
| In the earliest map edition, 1886, there is a brook present<br>which meanders across the path of the railway, passing<br>beneath it twice. This brook remains present on current<br>mapping.   | Centre of the Site (450170, 286050)                        |
| In the earliest map edition, 1886, there is evidence of ground<br>working alongside the northeastern end of the railway line.  | Centre of the northeastern<br>boundary (450200,<br>286380) |
| From the earliest map edition until current day, Bittesby<br>House is present on the southern quarter of the Site.   | Southern corner (450230, 285350)                           |
| From the earliest map edition until current day, Bittesby Cottage is present on the southern quarter of the Site.  | Southern corner (450480, 285520)                           |
| From the earliest map edition until current day, the Lodge<br>Cottages are present on the southwestern boundary of the<br>Site.  | Southwestern boundary<br>(450040, 285090)                  |
| From the earliest map edition until circa 1986, there is a pond present adjacent to Bittesby House.  | Southern corner (450370, 285370)                           |
| From circa 1955 until circa 2010, there is a sewage works present on the eastern corner. This is replaced with a pond on 2010 mapping.   | Eastern corner (450960,<br>285900)                         |
| From circa 1955 until circa 1986, there is a wind pump present to the southeast of the railway line.   | Centre of the Site (450230, 285890)                        |
| The Medieval Village of Bittesby is shown on the 1968 map.   | Centre of the Site (450050, 285900)                        |
| From circa 1986, there are additional buildings present by the Lodge on the southwestern boundary.   | Southwestern boundary<br>(450040, 285090)                  |
| By circa 2010 there is a pond adjacent to Bittesby House.  | Southern corner (450270, 285300)                           |
| By circa 2010, there is also a pond adjacent to the Lodge on the southwestern boundary.  | Southwestern boundary<br>(450100, 285170)                  |

#### Table 4 – Historical On-Site Features

| Surrounding Features  | Direction | Approximate<br>Distance<br>from the Site |
|---|-----------|--|
| Numerous small ponds are present within 500m of the Site, first shown on the earliest mapping from 1886.  | Various   | Various                                  |
| A 'spring' is marked on mapping.  | 450m      | Northwest                                |
| By 1950 there is an airfield present immediately to the south<br>east of the Site. By 1965 this is labelled as Bitteswell<br>Aerodrome. This is present until circa 1992.             | Southeast | 0 m                                      |
| Buildings associated with the airfield are present by 1968.<br>These are present until circa 1992.  | East      | 50 m                                     |
| By 1990, White House Farm is present immediately to the northwest of the Site.  | Northwest | 0 m                                      |
| By 1992 construction of Magna Park has commenced to the southeast of the Site, on land previously occupied by the Aerodrome. This development comprises numerous warehouse buildings. | Southeast | 50 m                                     |

#### Table 5 – Key Historical Off-Site Features

#### 3.2 Summary of Historical Information

Potential sources of contamination identified are primarily associated with any potential Made Ground where the railway line was formerly located, in the western central area of the Site, and also from the general agricultural use of the Site, which could give rise to some elevated contamination concentration 'hotspots' (for example, petroleum hydrocarbon (fuel) spillages in the farm buildings).

#### 4.0 REVIEW OF STATUTORY & ADDITIONAL INFORMATION

#### 4.1 GroundSure® Report

The GroundSure® Report provides a database of environmental information held by various statutory bodies including the EA, Local Authority (LA), Health & Safety Executive (HSE), NRPB and the Coal Authority. A full copy of the GroundSure® Report is presented in Appendix II and the most relevant information from the GroundSure® Data Sheet is summarised in Table 6 below. However, issues associated with radon, coal, hydrogeology, water abstractions and Environmentally Sensitive Areas are discussed in Section 2.0.

| •   |              |                |                 |   |
|---|--------------|----------------|-----------------|---|
| Information<br>Type                               | 0 – 250<br>m | 251 –<br>500 m | 501 m<br>– 1 km | Details/Comments  |
| Discharge<br>Consents                             | 5            | 3              | -               | One discharge consent is recorded on-<br>Site, relating to treated sewage<br>discharges to surface waters.  |
|   |              |                |                 | Two consents relate to the cottage<br>immediately adjacent to the northern<br>boundary of the Site and relate to<br>treated sewage discharges to surface<br>waters.   |
|   |              |                |                 | The next two nearest entries relate to<br>Magna Park, approximately 25 m to the<br>southeast and relate to treated sewage<br>discharge and surface water discharge<br>to surface waters.  |
|   |              |                |                 | The other three entries also relate to treated sewage discharges.   |
| Pollution<br>Incidents to<br>Controlled<br>Waters | 0            | 1              | -               | Relates to a Category 3 pollution<br>incident, approximately 500 m<br>southwest of the Site, dated the 6 <sup>th</sup><br>September 2002. The pollutant was<br>firefighting run-off. This is unlikely to<br>detrimentally affect the Site.  |
| EA Historical<br>Landfill Sites                   | 1            | 0              | 1               | The closest entry relates to Bitteswell<br>Aerodrome landfill, located<br>approximately 100 m to the southeast,<br>which accepted industrial waste<br>between 1939 and 1986. This was<br>likely addressed when the existing<br>Magna Park development was<br>constructed, and is considered unlikely<br>to detrimentally impact the Site. |
|   |              |                |                 | The other entry relates to Wiley Tip,<br>located approximately 735 m to the<br>southwest, which accepted commercial,<br>household, special and liquid sludge<br>waste from 1970 to 1972, infilled into<br>the dismantled railway trace.   |
| EA Licensed                                       | 1            | 0              | 0               | The entry relates to Unipart Group  |

| Table 6 – Relevant Data from GroundSure® Report |
|---|
|---|

| Information<br>Type                 | 0 – 250<br>m | 251 –<br>500 m | 501 m<br>– 1 km | Details/Comments  |
|-------------------------------------|--------------|----------------|-----------------|---|
| Waste Sites                         |              |                |                 | Limited, approximately 215 m southeast of the Site. This is a WEEE treatment facility.  |
| Current<br>Industrial Sites<br>Data | 12           | -              | -               | Two entries relate to the Site directly,<br>with one relating to an educational<br>equipment and supplies business on<br>Site, and the other relating to waste<br>water disposal, located to an artificial<br>pond on Site. |
|                                     |              |                |                 | The other entries relate to a telecommunications mast, three records of tanks, two records of filter beds relating to waste processing, two storage businesses, a warehouse and an electricity substation.                  |

### 4.2 Third Party Reports

Delta-Simons has not been provided with any previous investigation reports relating to the Site.

### 4.3 Planning Information

It is understood that this report will be used in the near future in an outline planning application for the proposed redevelopment of the Site.

From a previous planning application for the Site (Leicestershire County Council Planning Reference: 2006/0879/03), it is evident that topsoil has been imported onto the Site to regrade the edge of a field, adjacent to an access track, north of the dismantled railway. The Decision Notice for this application stated a condition for the permission that only "uncontaminated topsoils and subsoils free of rubble or similar materials likely to hinder the future cultivation and agricultural operations" should be deposited on-Site.

#### 4.4 Site Walkover

A Site walkover was completed on the 16<sup>th</sup> September 2014. Referenced photographs are included in Appendix III.

#### <u>The Site</u>

The Site area was noted to be mostly comprised of agricultural land with small areas of woodland, divided by mature hedgerows with occasional mature trees (Photographs 1, 2 and 3). The Site naturally undulates, however, the overall slope of the Site is towards the south.

At the time of the Site walkover, the buildings present on-Site and an area around them were unable to be accessed, as such the observations detailed here were made from a distance.

Buildings on-Site are limited to the southern corner, with the Lodge Cottages present on the southwestern Site boundary, adjacent to Watling Street (A5), Bittesby House and the adjacent farm buildings, comprising a number of small and large buildings (Photograph 4), and Bittesby Cottage (Photograph 5). It is noted that the farm buildings potentially have asbestos roof sheeting.

#### The Railway

The embankment of the dismantled railway line runs from the northern Site boundary in a southwest direction, approximately two-thirds of the way across the Site before the embankment meets a natural hill. The embankment is currently a wildlife walk (Photograph 6), with the side slopes wooded with access trails at irregular intervals. At the southwest end of the embankment, the pathway descends down the south side of the embankment.

There are three tunnels through the embankment itself. All are brick-lined. Two are for the crossing of the brook through the embankment (Photograph 7 and 8). The third is a vehicle access (Photograph 9).

#### Other Features

During the walkover, a number of other small features were noted:

- $\Delta$  A piece of towable ploughing equipment was present on the northern boundary of one of the southern fields (Photograph 10);
- △ An IBC (Intermediate Bulk Carrier) was noted in the northeastern corner of one of the southernmost fields, with a corrosive warning sign on the side (Photograph 11). This was noted to be empty;
- $\Delta$  A warning pole indicating a high pressure gas main was located on the southern boundary of the Site (Photograph 12); and

△ Collapsed/disused manholes were noted within the wooded area surrounding the lagoon (Photograph 13 and 14). These are likely to have been feeds for the sewage works formerly present in the location of the lagoon.

#### Surrounding Area

To the north of the Site, there is a single-storey bungalow present with a pond (Photograph 15). To the west and east of the Site, the land is used for agricultural purposes (Photograph 16). To the south of the Site, the existing Magna Park is present, beyond the Mere Lane, comprising numerous warehouse units (Photograph 17).

A drainage lagoon associated with the existing Magna Park, encroaches north of Mere Lane onto the agricultural fields of the Site, although this is not included as the defined Site (Photograph 18). The lagoon is embanked with the water level higher than the surrounding land indicating the lagoon is not in continuity with any underlying groundwater.

# 5.0 CONCEPTUAL SITE MODEL

### 5.1 Introduction

A CSM represents the relationships between contaminant sources, pathways and receptors, to support the identification and assessment of possible pollutant linkages (PPLs) - and an assessment of known pollutant linkages, where identified from existing information.

Where PPLs are identified, a preliminary risk assessment is carried out to assess the likelihood that each possible linkage exists and to decide whether these pose potentially unacceptable risks to identified receptors and require further assessment. Where this linkage is of a form that subsequently leads to land being identified as 'contaminated land' under the terms of Part 2A of the Environmental Protection Act (EPA) 1990, the linkage is termed a significant pollutant linkage.

At the preliminary risk assessment stage, which is usually based upon desk top information, the decision on whether a PPL poses a potentially unacceptable risk is based upon professional judgement. The significance of the PPL will also be determined dependent on the context of the land use and the purpose of the assessment.

Assessing risks from land contamination underpins the "suitable for use" approach adopted for Part 2A of the EPA 1990 regulatory regime.

#### 5.2 Conceptual Model

# 5.2.1 Summary of Site Description & Environmental Setting

The Site is currently predominantly used as agricultural land. Several buildings are present in the west of the Site, and a dismantled railway passes through the western central part of the Site. The surrounding area predominantly consists of industrial (to the south) and agricultural land use with some residential housing in the immediate vicinity.

The ground conditions on the Site are likely to consist of some Made Ground in the historically developed areas of the Site, overlying various superficial deposits (Alluvium, Bosworth Clay Member, Wolston Sand and Gravel, Oadby Member, Dunsmore Gravel and Peat). Underlying superficial deposits, the solid strata generally comprises Mercia Mudstone Formation (northwest of the Site), Penarth Group (central part of the Site) and Blue Lias Formation (south eastern part of the Site).

The Wolston Sand and Gravel, the Alluvium and the Blue Lias Formation are classified as Secondary A Aquifers, and the Site is not located within a SPZ. The Soar Brook passes through the Site area.

The overall environmental sensitivity of the Site setting is considered to be moderate.

#### 5.2.2 Contaminant Sources

A CSM has been developed for the Site. Tables 7 and 8 show the identified on-Site and off-Site potential sources of contamination. Historical ground investigation has not been undertaken within the Site area.

| Potential Source Area   | Key Potential Contaminants/Comments                        |  |  |
|---|--|--|--|
| Dismantled former railway line.   | Heavy metals, hydrocarbons, PAHs, asbestos and ground gas. |  |  |
| Agricultural buildings.   | Hydrocarbons, asbestos and heavy metals.                   |  |  |
| Any Made Ground located at the Site.  | Heavy metals, hydrocarbons, asbestos and ground gas.       |  |  |
| Natural Alluvium/Peat/organic material,<br>and any deleterious/contaminative<br>materials within Made Ground beneath the<br>Site. | Ground gas.  |  |  |
| Imported topsoil and subsoil used to<br>regrade an area of ground north of the<br>dismantled railway line.                        | Heavy metals, asbestos, ground gas.                        |  |  |

 Table 7 – Identified On-Site Contamination Sources

| Potential Source Area              | Key Potential Contaminants/Comments  |
|------------------------------------|--|
| Dismantled former railway line.    | Heavy metals, hydrocarbons, PAHs,  |
|                                    | asbestos and ground gas.   |
| Magna Park.                        | Various contaminants, depending on chemicals and fuel stored at the numerous warehouses                            |
| Bitteswell Aerodrome and Landfill. | Industrial wastes associated with the aerodrome, likely to include heavy metals, hydrocarbons, PAHs, and asbestos. |
| Adjacent agricultural land use.    | Asbestos, hydrocarbons and heavy metals.   |

#### 5.2.3 Potential Receptors

Potential receptors to any contamination which may be present beneath the Site area are identified as follows:

- $\Delta$  Future Site workers and visitors;
- $\Delta$  Construction workers during the redevelopment of the Site;
- $\Delta$  Groundwater located beneath the Site within the Secondary A/B Aquifers;
- $\Delta$  Service conduits, especially potable water supply pipes;
- $\Delta$  Vegetation in any new landscaped areas;

- $\Delta$  The future buildings on-Site;
- $\Delta$  Neighbouring properties and users; and
- $\Delta$  The Site from any contamination from off-Site sources.

#### 5.2.4 Potential Pathways

The main pathways that can be considered at the Site include:

- Δ Exposure via direct contact and ingestion during groundworks and in landscaped areas;
- $\Delta$  Exposure via inhalation of volatile vapours and asbestos fibres;
- Δ Leaching of contamination from soils through infiltration of rainfall and migration into underlying groundwater;
- $\Delta$  Migration of contamination through drains and service runs;
- $\Delta$  Direct filtration into water supply pipes following degradation of plastic pipes by direct contact with hydrocarbon contaminated soils;
- $\Delta$  Root uptake by vegetation in any new landscaped areas; and
- ∆ Indoor exposure/explosive hazard via enclosed space accumulation of ground gas.

#### 5.2.5 Potential Pollutant Linkages

Based on the information reviewed within this Report, the following preliminary risk assessment tables have been formulated, which identifies all PPL in the context of the proposed commercial use of the Site.

|   | CONCEPTUAL SITE MODEL  |  |                       |  |  |  |
|---|--|--|-----------------------|--|--|--|
| Source(s)   | Receptor(s)  | Pathway(s)   | Pollutant<br>Linkage? | Comments/Linkage Significance/Mitigation   |  |  |
| Potentially<br>contaminated soils<br>and/or groundwater<br>underlying the Site. | Future Site<br>workers and<br>visitors.                              | Inhalation of volatile<br>vapours and direct<br>contact, ingestion and<br>inhalation in<br>landscaped areas. | Possible              | There is unlikely to be widespread significant contamination at the Site, however, localised areas of elevated soil and groundwater contamination may be present which could represent a risk to end-users of the development. It is recommended that limited investigation and further risk assessment is undertaken, in order to determine the likelihood of this pollutant linkage occurring. This would likely be undertaken on a 'plot by plot' basis, as and when they are developed in the future, and to address associated planning conditions for each plot. |  |  |
|   | Construction<br>workers.   | Direct contact,<br>ingestion and<br>inhalation of dust and<br>vapours.                                       | Possible              | Site workers may become exposed to contaminated soils and shallow groundwater during intrusive groundworks undertaken at the Site. Safe working practices and use of appropriate personal protective equipment (PPE) should be maintained. This should be re-assessed following limited intrusive investigation works at the Site.   |  |  |
|   | Secondary A<br>Aquifers beneath<br>the Site                          | Leaching of<br>contaminants and<br>migration through<br>permeable deposits.                                  | Possible              | It is possible that there could be localised areas of groundwater contamination present, given<br>the historical land use of the Site. The analysis of groundwater, where contamination sources<br>are identified, should form part of future limited investigation works at the Site.   |  |  |
|   | Water supply pipes.  | Permeation of<br>hydrocarbons through<br>plastic pipe work.  | Possible              | Hydrocarbons, especially aromatics and chlorinated solvents are known to permeate plastic pipes, particularly when encountered at high concentrations. The provision of upgraded pipes may be required as part of the proposed redevelopment.  |  |  |
|   | Vegetation in any<br>new landscaped<br>areas.                        | Root uptake.   | Possible              | Clean topsoil and subsoil is likely to be required in areas of the Site where landscaping is proposed. This requirement should be re-assessed following intrusive works at the Site. This could potentially be sourced from Site, subject to chemical testing.   |  |  |
|   | Off-Site Secondary<br>A Aquifers, and<br>neighbouring<br>properties. | Lateral migration<br>through any<br>groundwater beneath<br>the Site.   | Possible              | Given the permeable nature of the superficial sand and gravel deposits and the limestone of the Blue Lias Formation located beneath the Site area, off-Site migration of contamination, if present, is possible, therefore, the risk of any contamination migrating off-Site to any receptor is considered to be low to moderate. Intrusive investigation works and delineation of any groundwater contamination present should be undertaken.   |  |  |
| Ground gas.   | Site workers and<br>visitors; buildings<br>on-Site.                  | Vertical and lateral migration of ground gases.  | Possible              | There is the potential for ground gases to be generated from any Made Ground, organic material or contamination beneath the Site. This could potentially represent a risk to end-users of the development, however, should be easily mitigated via the incorporation of ground gas protection measures within new buildings, if required. Assessment of the ground gas regime beneath the Site should form part of future Site assessment works.   |  |  |
| Potentially<br>contaminated soil and<br>groundwater from off-<br>Site sources.  | Groundwater<br>beneath the Site<br>and future Site<br>users.         | Lateral migration and<br>subsequent indoor<br>inhalation of volatile<br>vapours.                             | Possible              | The risk to groundwater beneath the Site and future Site users is considered to be low, given the nature of the potential sources of contamination in the vicinity of the Site.  |  |  |
| ACMs.   | Construction workers.  | Inhalation of asbestos fibres.   | Possible              | Any Made Ground beneath the Site may potentially contain asbestos fibres. The analysis of Made Ground for ACMs should form part of any future Site investigation assessment works.   |  |  |

#### 6.0 CONCLUSIONS & RECOMMENDATIONS

#### 6.1 Conclusions

The majority of the Site is currently used for agricultural purposes, with some residential and commercial buildings in the southern portion of the Site. There is also an embankment for a dismantled railway which runs across the centre of the Site.

The Site is located within an area of mixed agricultural and commercial/industrial use. The bedrock geology strata are classified as a mixture of Secondary A Aquifers, Secondary B Aquifers and Secondary (Undifferentiated) Aquifers. It is anticipated that there will be a significant depth of superficial material across the Site. These superficial deposits are classified as a mixture of Secondary A Aquifers, Secondary B Aquifers and Unproductive Strata. The Soar Brook is present across the centre of the Site, meandering along the path of the railway embankment, with associated drainage channels extending into the surrounding agricultural land. As such, the environmental sensitivity of the Site's setting is considered to be moderate.

Delta-Simons has completed a source-pathway-receptor risk assessment based upon available information. Potential sources of contamination have been identified at the Site, primarily associated with the former agricultural use of the Site, and the presence of any Made Ground on-Site. Considering the future commercial use of the Site, PPLs have been identified.

#### 6.2 Recommendations

It is recommended that intrusive Site investigation work is undertaken across the Site area, in conjunction with the required geotechnical investigation, targeting historical sources of contamination, as well as gaining adequate spatial coverage. The additional works should include a suitable period of ground gas monitoring in accordance with current guidance. It is considered likely that these works would be undertaken on a plot by plot basis, as stages of development at the Site progress.

In the unlikely event that significant contamination is identified then remedial works may potentially be required, in order to provide protection to controlled water receptors, including the Secondary A Aquifers underlying the Site, and the Soar Brook and associated drains on-Site. Any contamination could potentially impact the health of end-users of the proposed development, however, basic remedial measures are likely to be suitable in mitigating this risk.

Materials management on-Site should be conducted in accordance with the waste hierarchy to minimise generation of waste and avoid disposal to landfill wherever possible.

There is the potential that abnormal costs may be incurred during redevelopment, as follows:

- ∆ To complete limited Phase II intrusive investigation for future development plots and, if necessary, a waste classification exercise and liaison with the Statutory Authorities, should any soils require off-Site disposal;
- △ To undertake any further assessments, for example a Quantitative Risk Assessment (QRA) and subsequent soil and groundwater remediation, should the targeted investigation identify significant contamination. The likelihood of this being required is considered to be low;
- ∆ To remove soils for engineering purposes (e.g. foundation and service trench arisings, engineering cut, etc) or remediation;
- $\Delta$  To supply PPE for construction workers;
- $\Delta$  To use clean inert material in service runs, and as capping in landscaped areas, across the Site. Subject to chemical testing, soils on-Site may be suitable for this use; and
- $\Delta$  To use upgraded water supply pipes, even where low concentrations of hydrocarbons are present.

#### 7.0 LIMITATIONS TO ENVIRONMENTAL ASSESSMENTS

The recommendations contained in this Assessment represent Delta-Simons' professional opinions, based upon the information referred to in Section 1.5 of this Assessment, exercising the duty of care required of an experienced Environmental Consultant. Delta-Simons does not warrant or guarantee that the Site is free of hazardous or potentially hazardous materials or conditions.

This Assessment was prepared by Delta-Simons for the sole and exclusive use of the Client and for the specific purpose for which Delta-Simons was instructed as defined in Section 1.0 of this Assessment. Nothing contained in this Assessment shall be construed to give any rights or benefits to anyone other than the Client and Delta-Simons, and all duties and responsibilities undertaken are for the sole and exclusive benefit of the Client and not for the benefit of any other party. In particular, Delta-Simons does not intend, without its written consent, for this Assessment to be disseminated to anyone other than the Client or to be used or relied upon by anyone other than the Client. Use of the Assessment by any other person is unauthorised and such use is at the sole risk of the user. Anyone using or relying upon this Assessment, other than the Client, agrees by virtue of its use to indemnify and hold harmless Delta-Simons from and against all claims, losses and damages (of whatsoever nature and howsoever or whensoever arising), arising out of or resulting from the performance of the work by the Consultant.

This Report was prepared by:

Hoterttetter.

Kirsten Mills Geo-environmental Engineer

This Report was reviewed by:

NUN

Tom Horner Project Manager

This Report was authorised by:

Ale Feg

Alex Ferguson **Projects Director** 

22/09/15

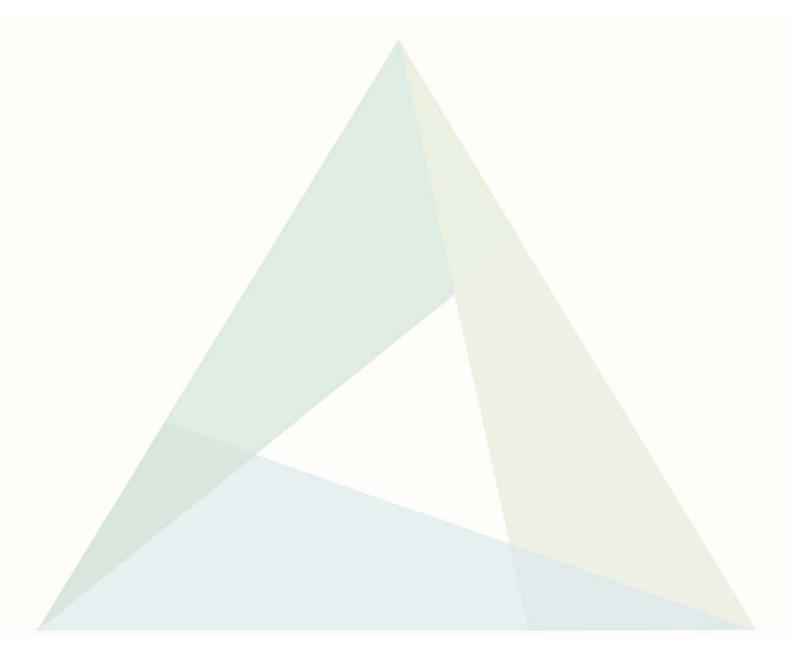
Date

22 1S

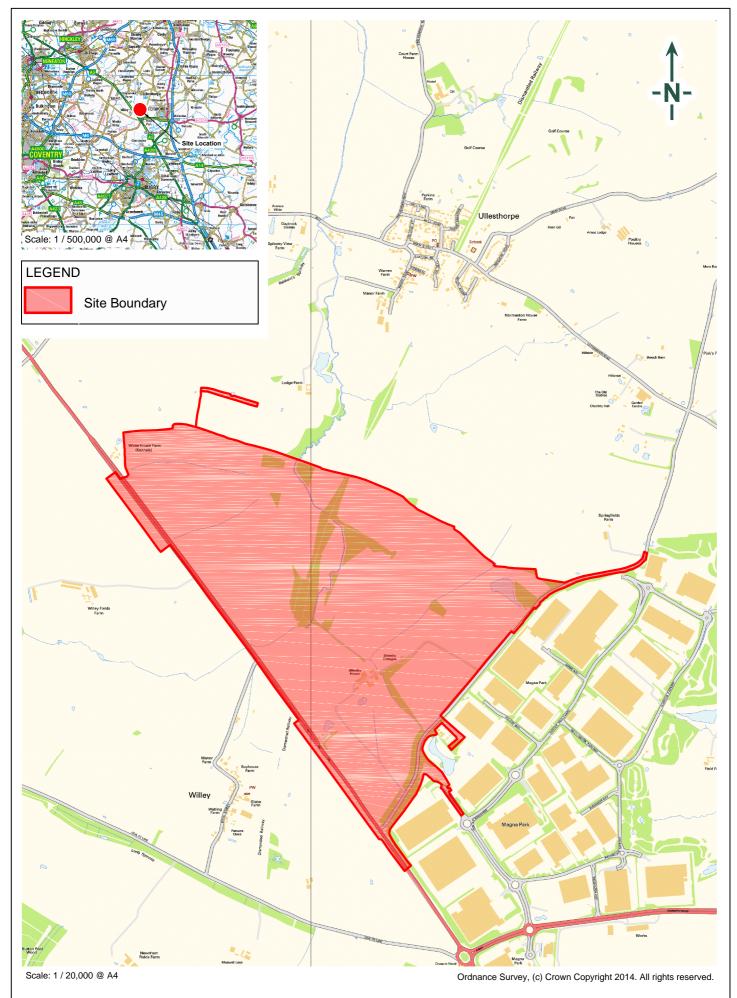
Date

22/09/15 Date

Figures









 TITLE:
 DWN:

 Site Location Plan
 CHK:

 Magna Park Extension: Hybrid Application, Zone 1
 DATE:

 Lutterworth
 DATE:

 
 DWN:
 DP
 SCA: To Scale@A4
 PROJECT NO.: 14-0159.01

 CHK:
 JS
 REV:
 1

 DATE:
 14 September 2015
 FIGURE NO.:
 1

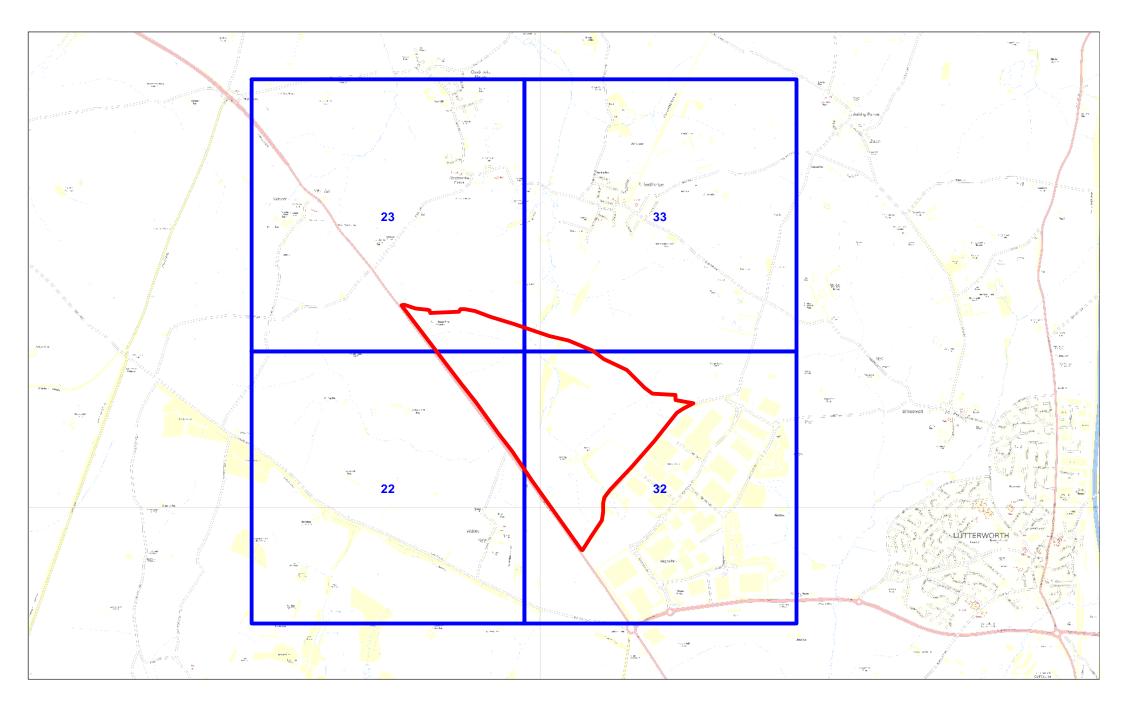


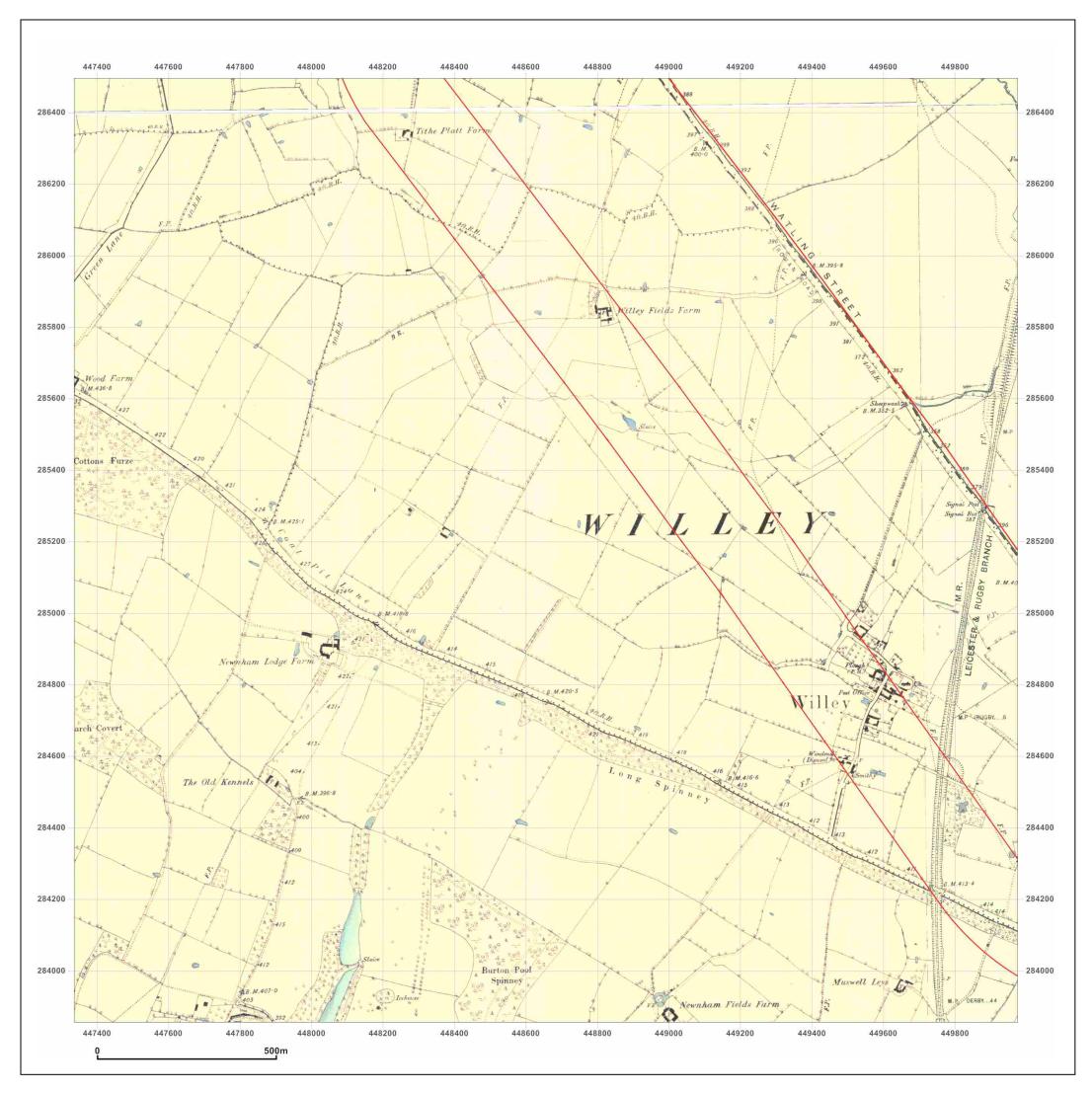


Appendix I

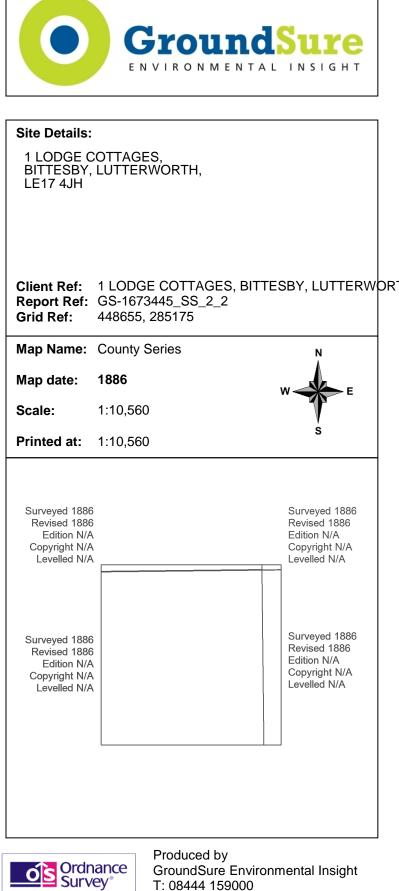








Licensed Partner

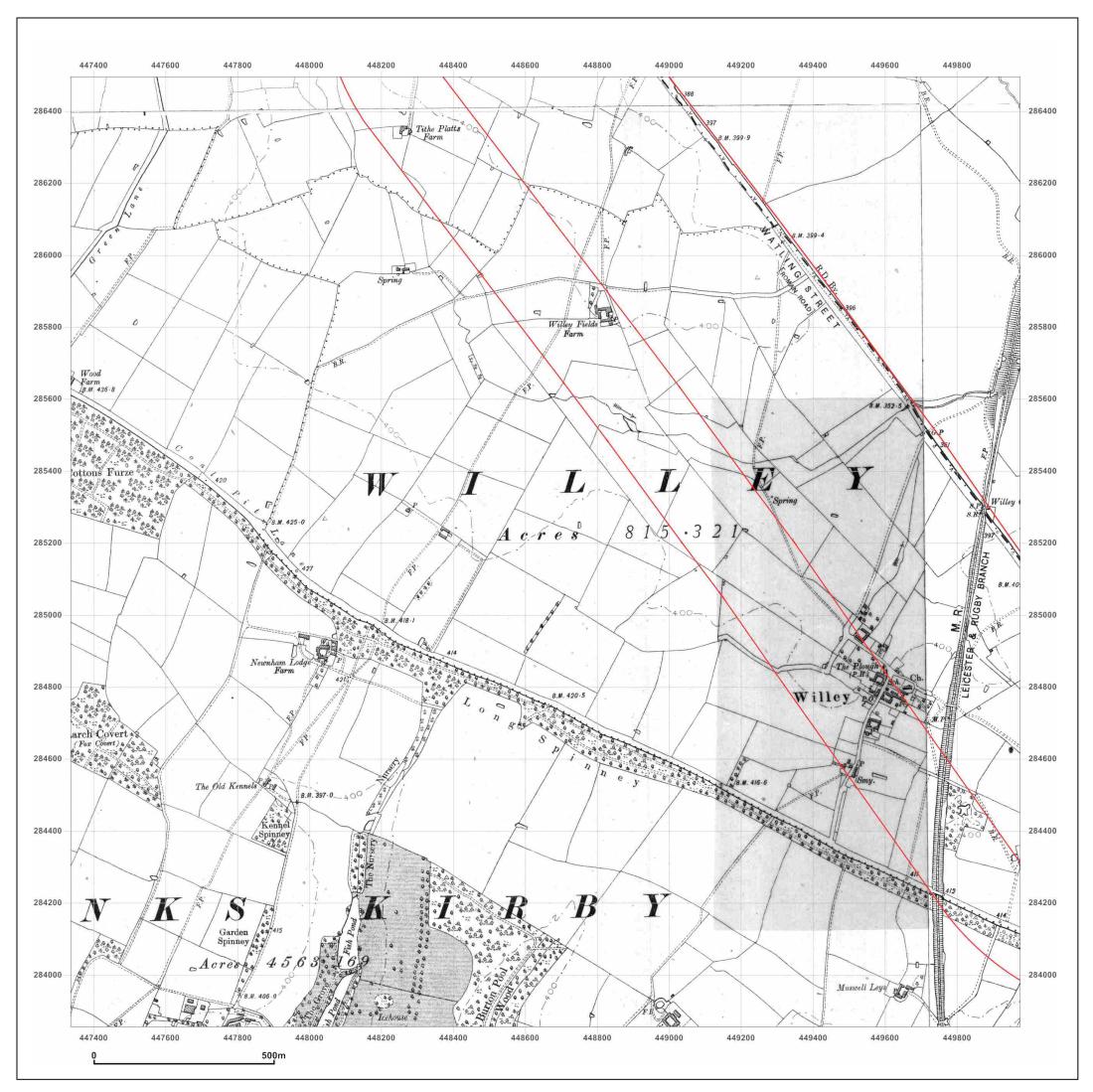


T: 08444 159000 E: info@groundsure.com

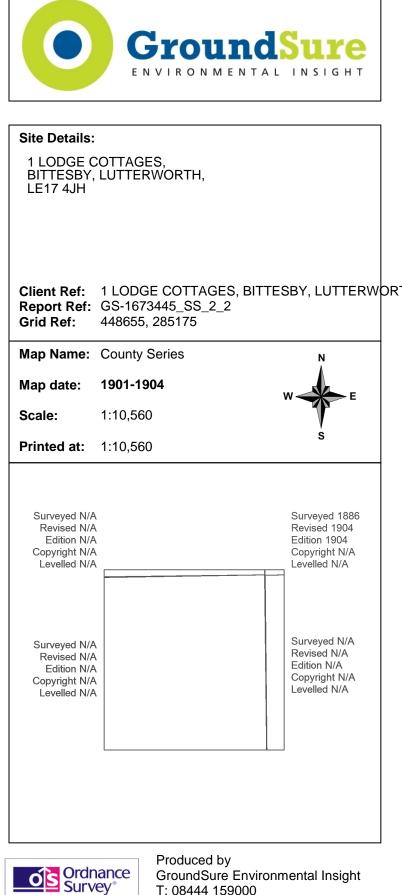
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



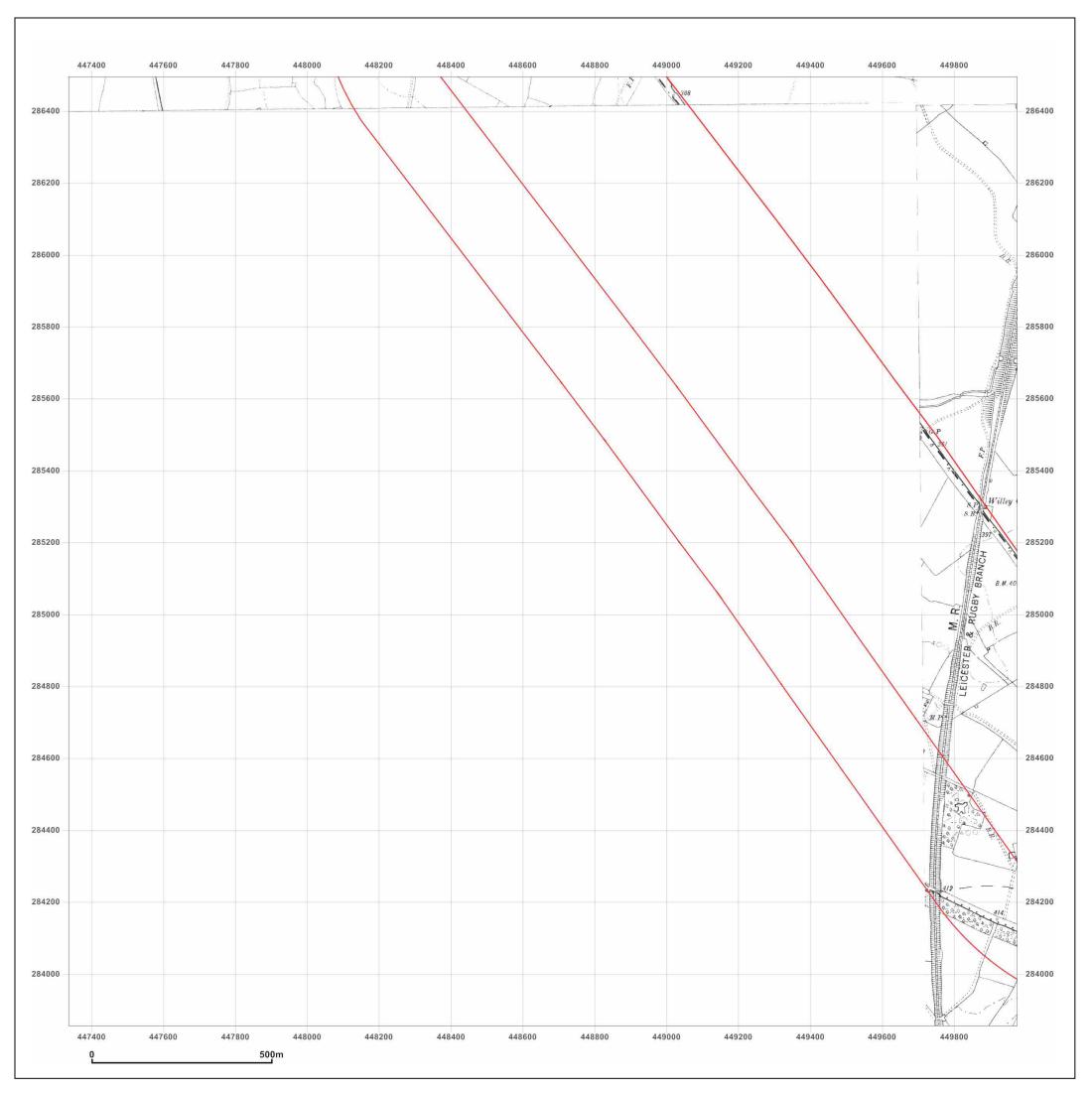
Licensed Partner



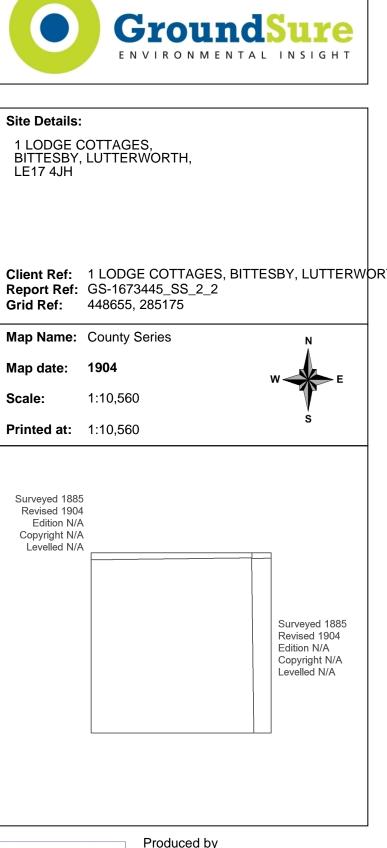
T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



To view map legend click here Legend

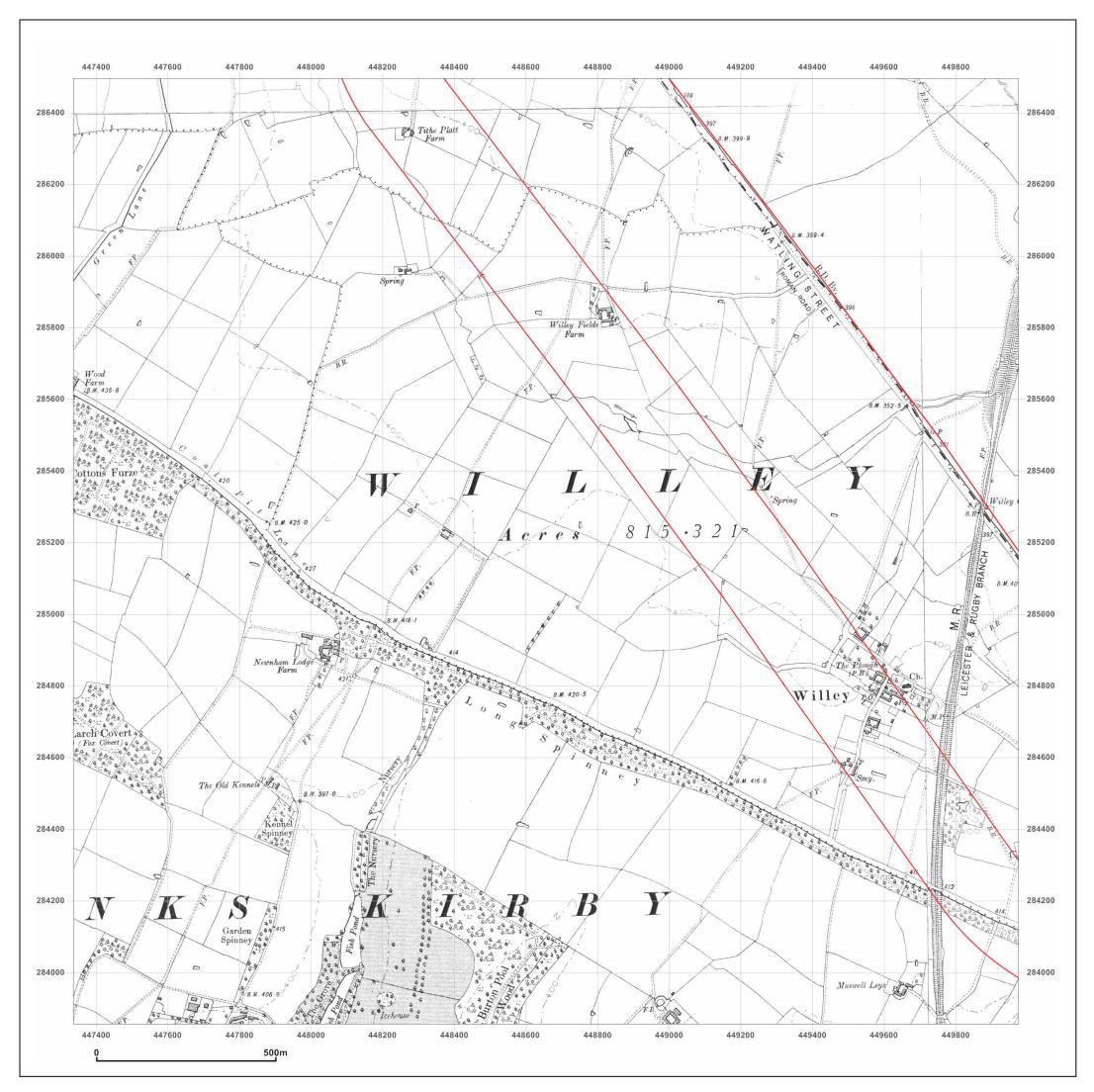


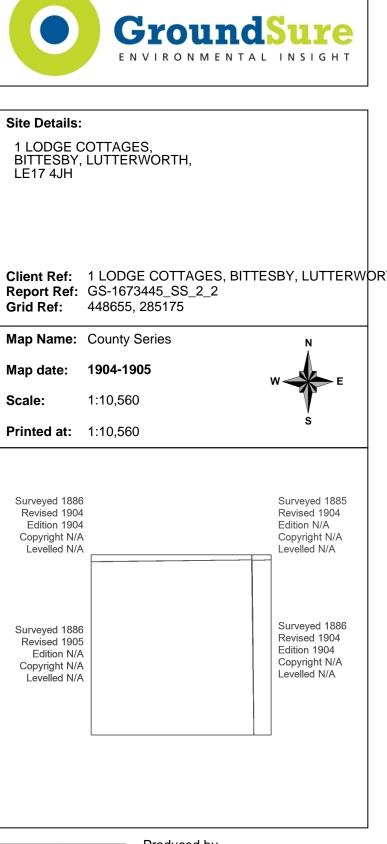


Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



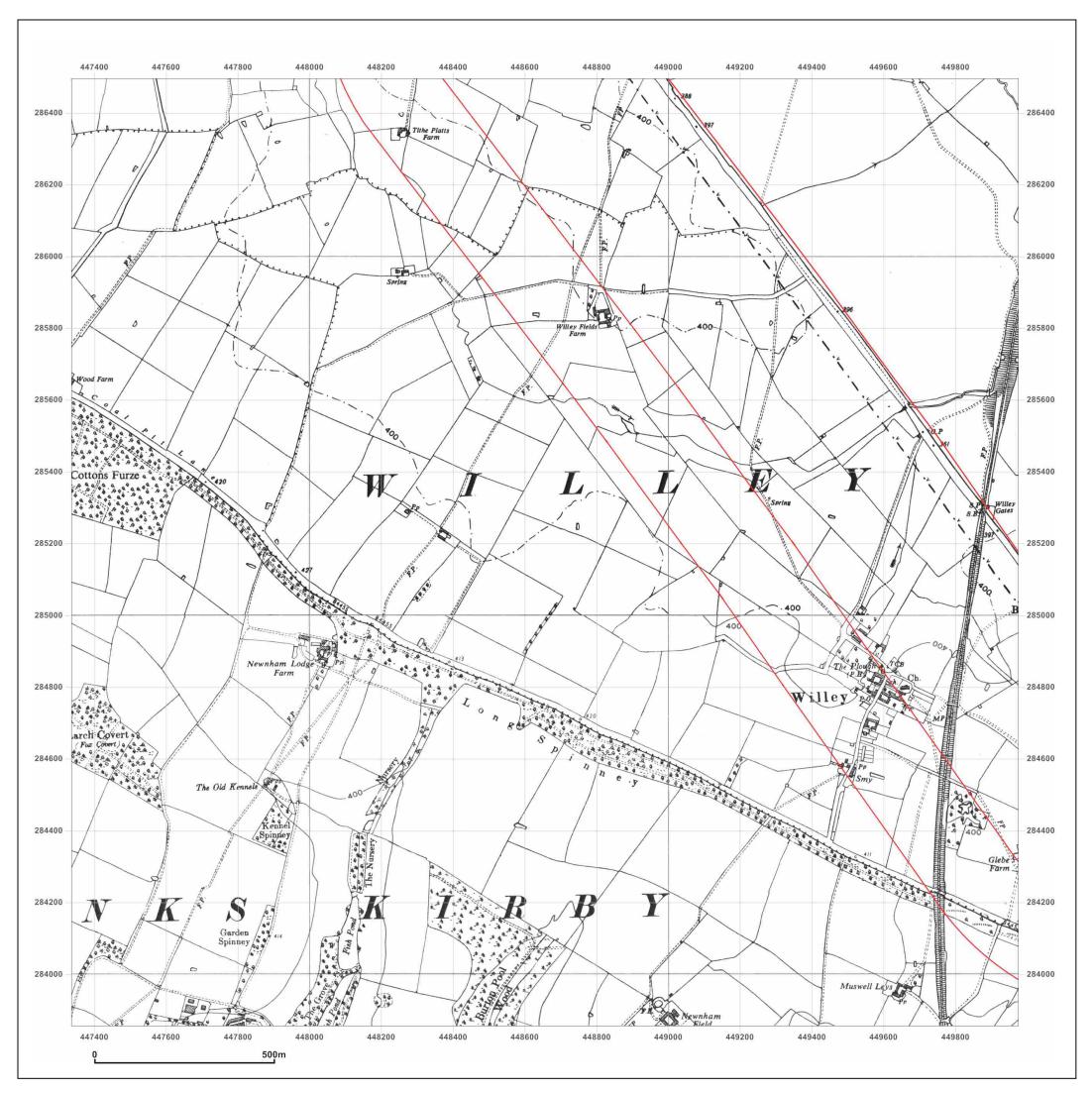


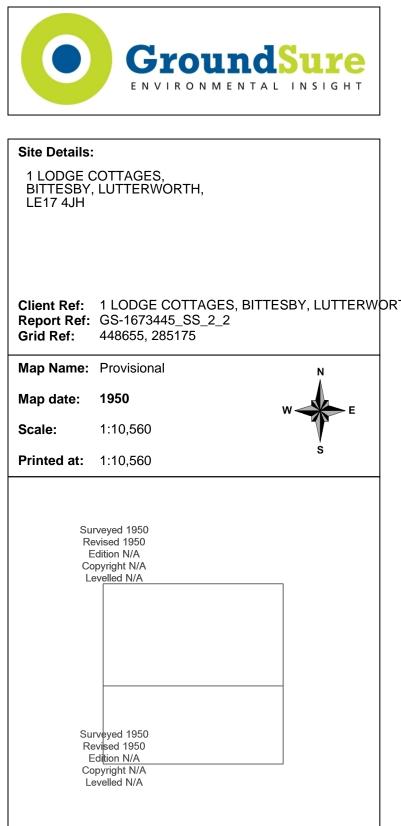
**Ordnance** Survey<sup>®</sup> Licensed Partner

Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



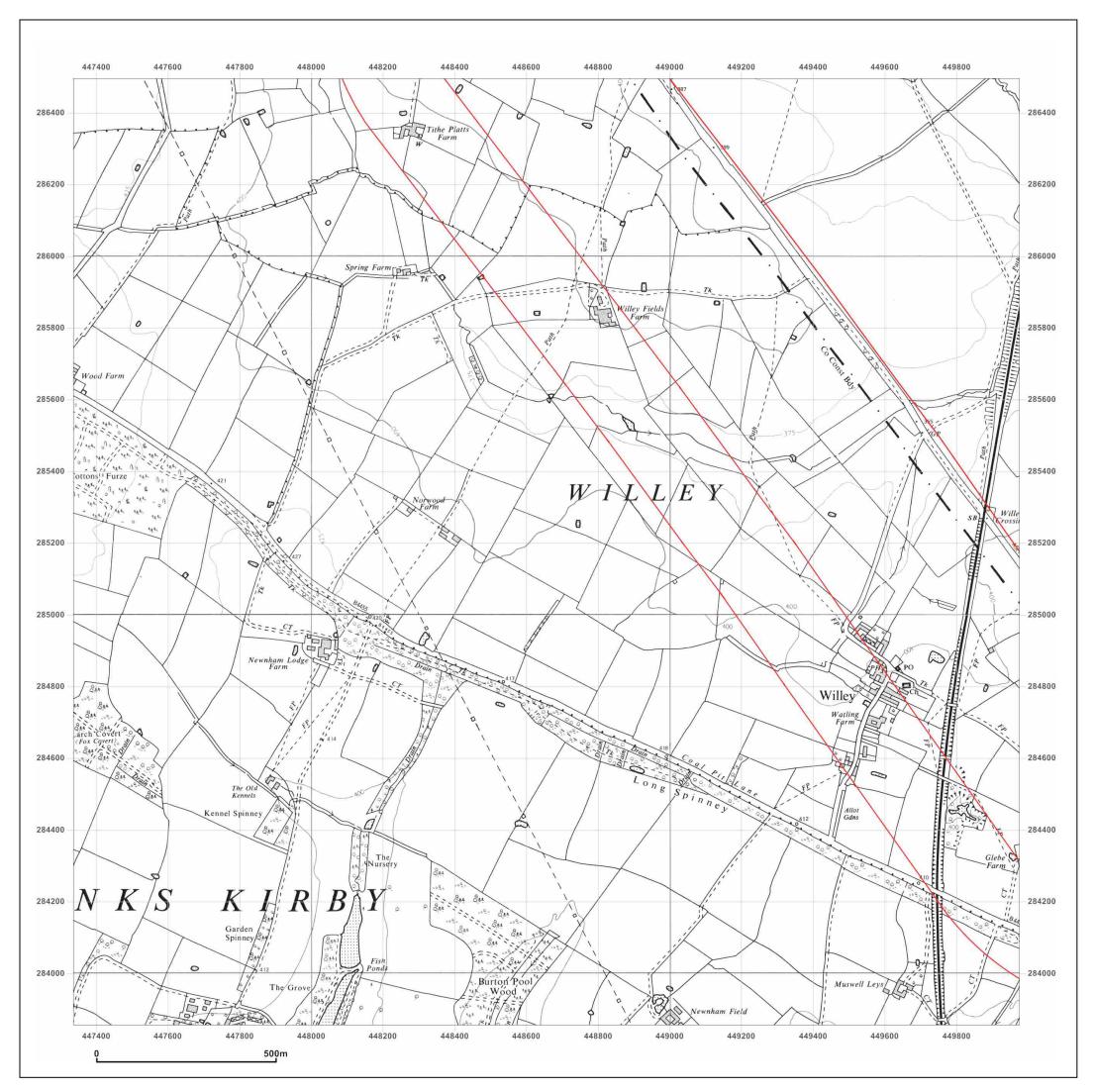


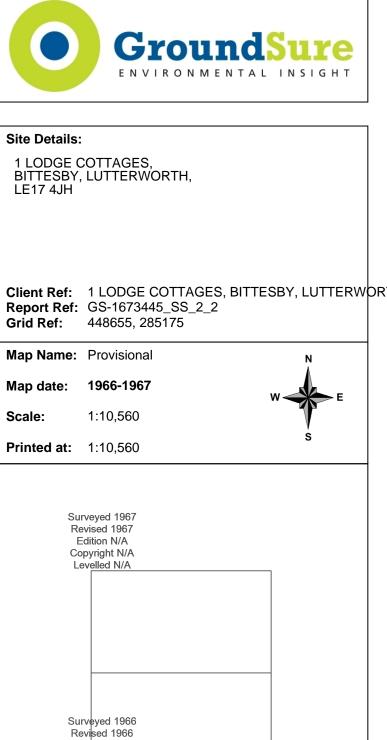


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





Edition N/A Copyright N/A

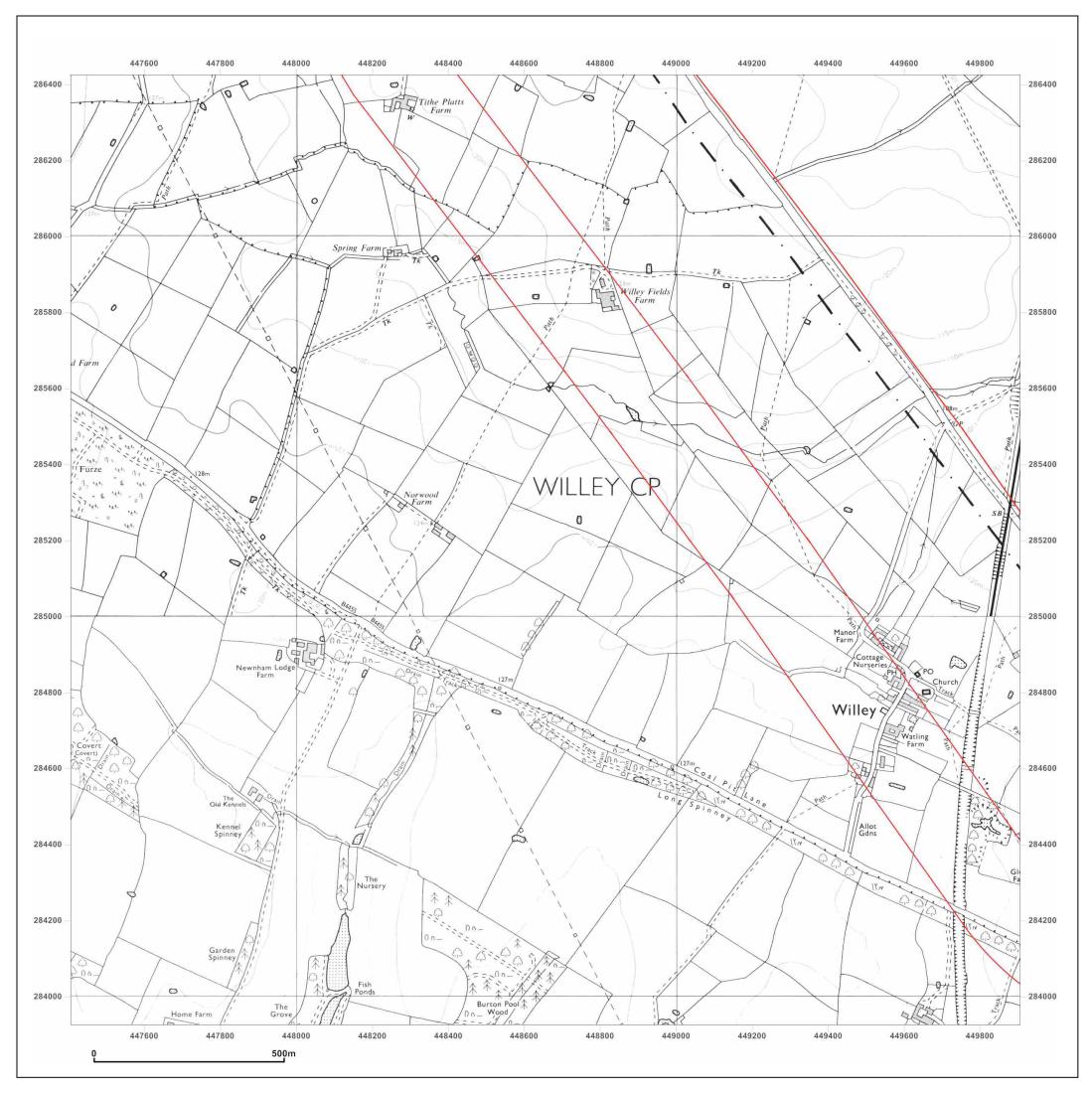
Levelled N/A

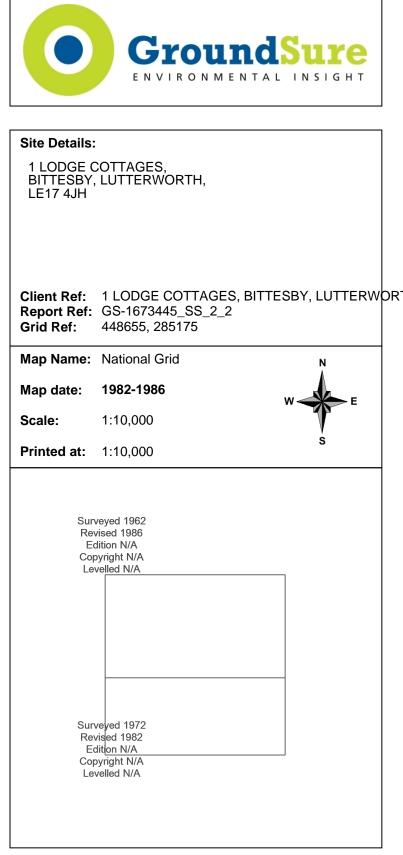


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

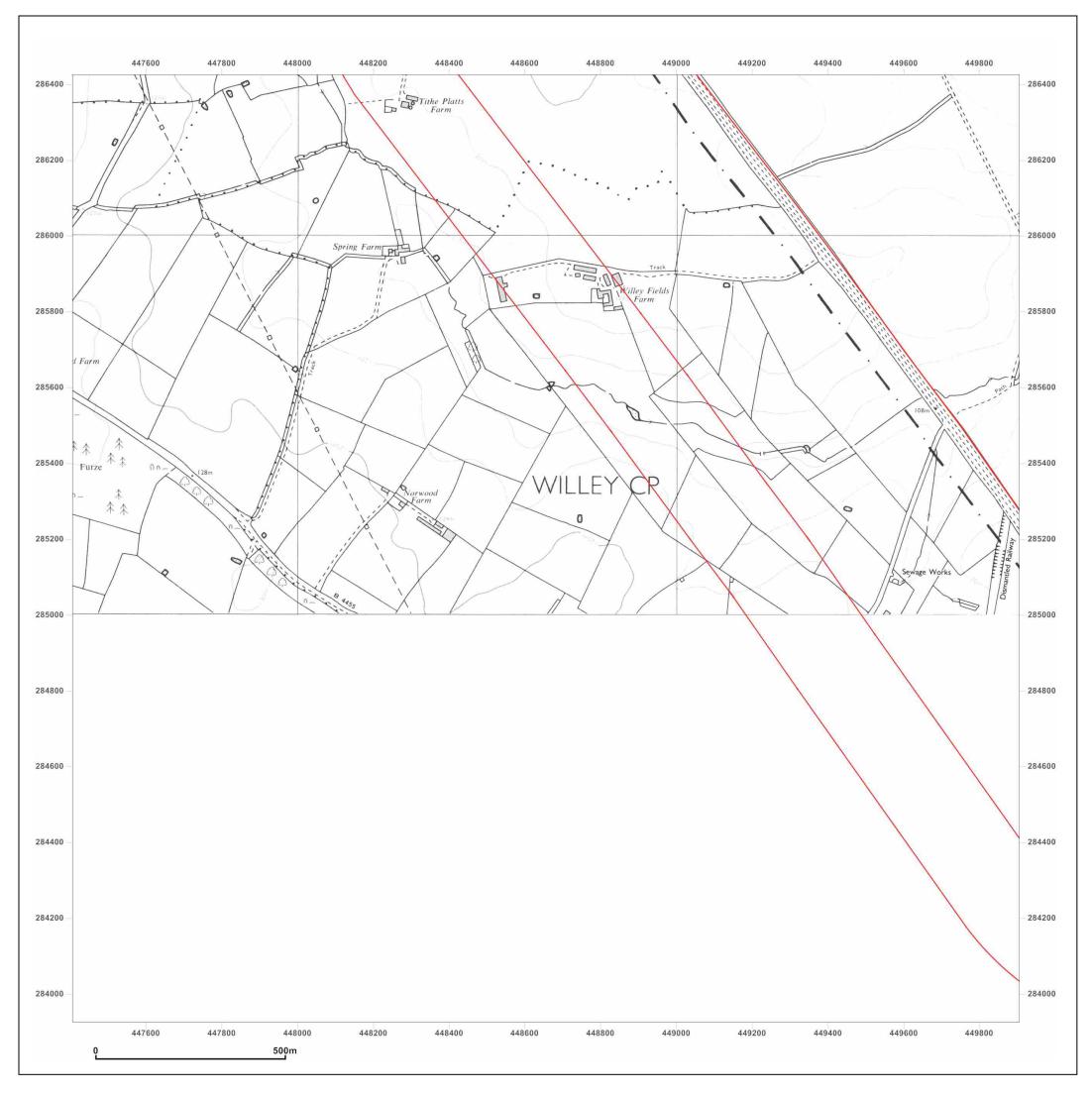


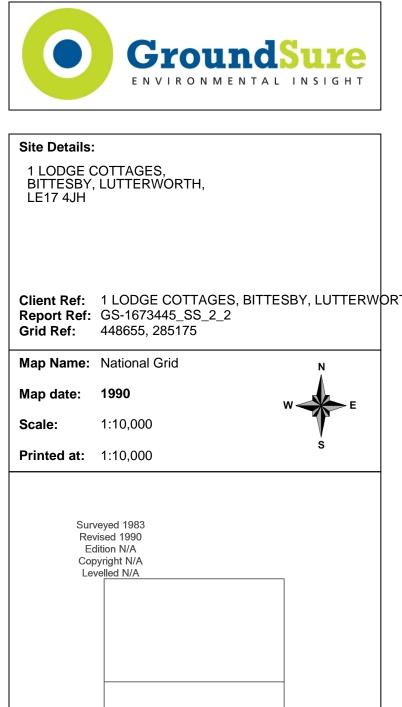




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

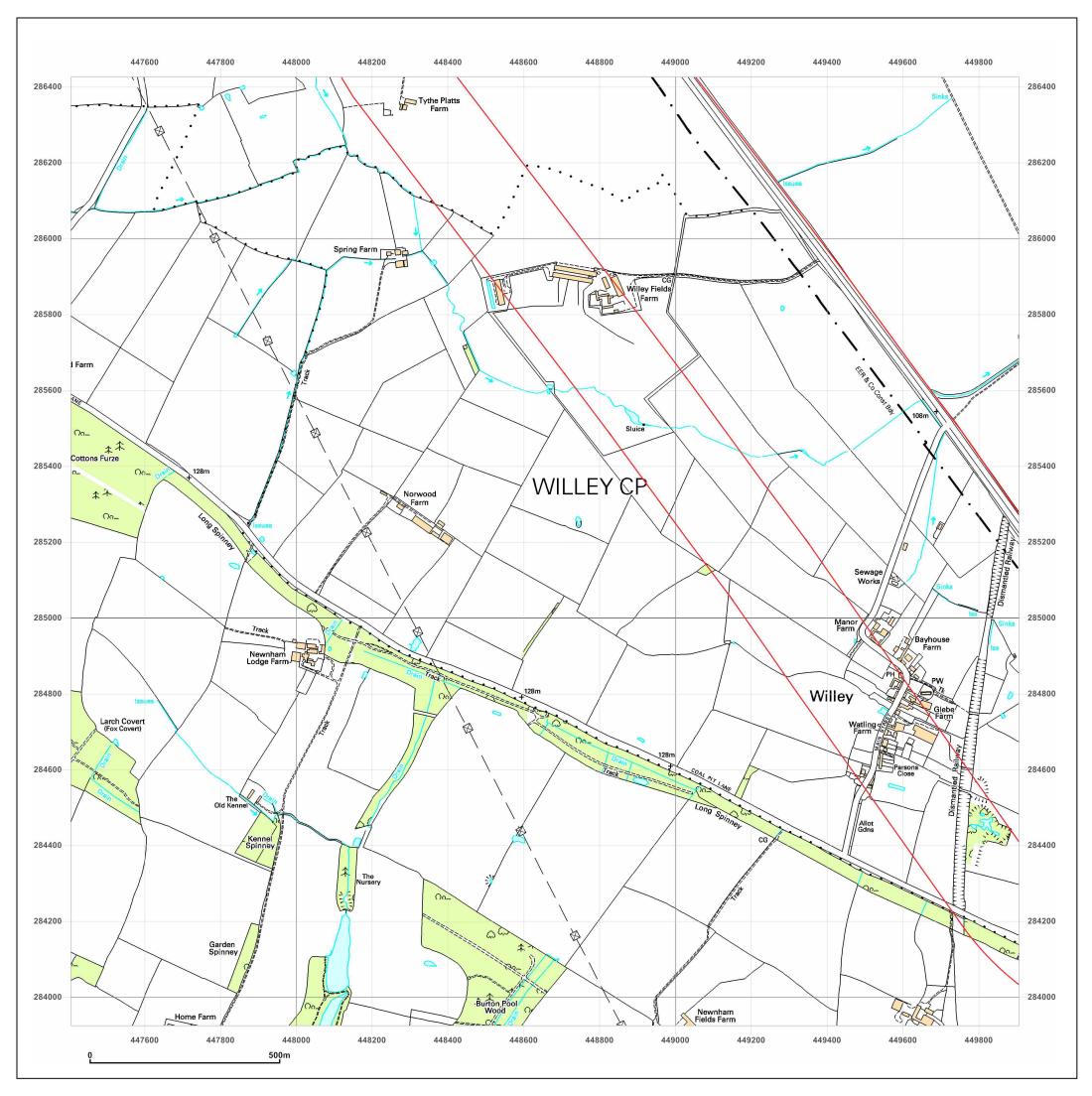






© Crown copyright and database rights 2013 Ordnance Survey 100035207

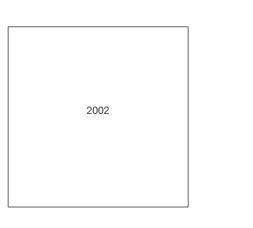
Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BITTESBY, LUTTERW<br>GS-1673445_SS_2_2<br>448655, 285175 | OR |
|-------------|--|----|
|             |  |    |

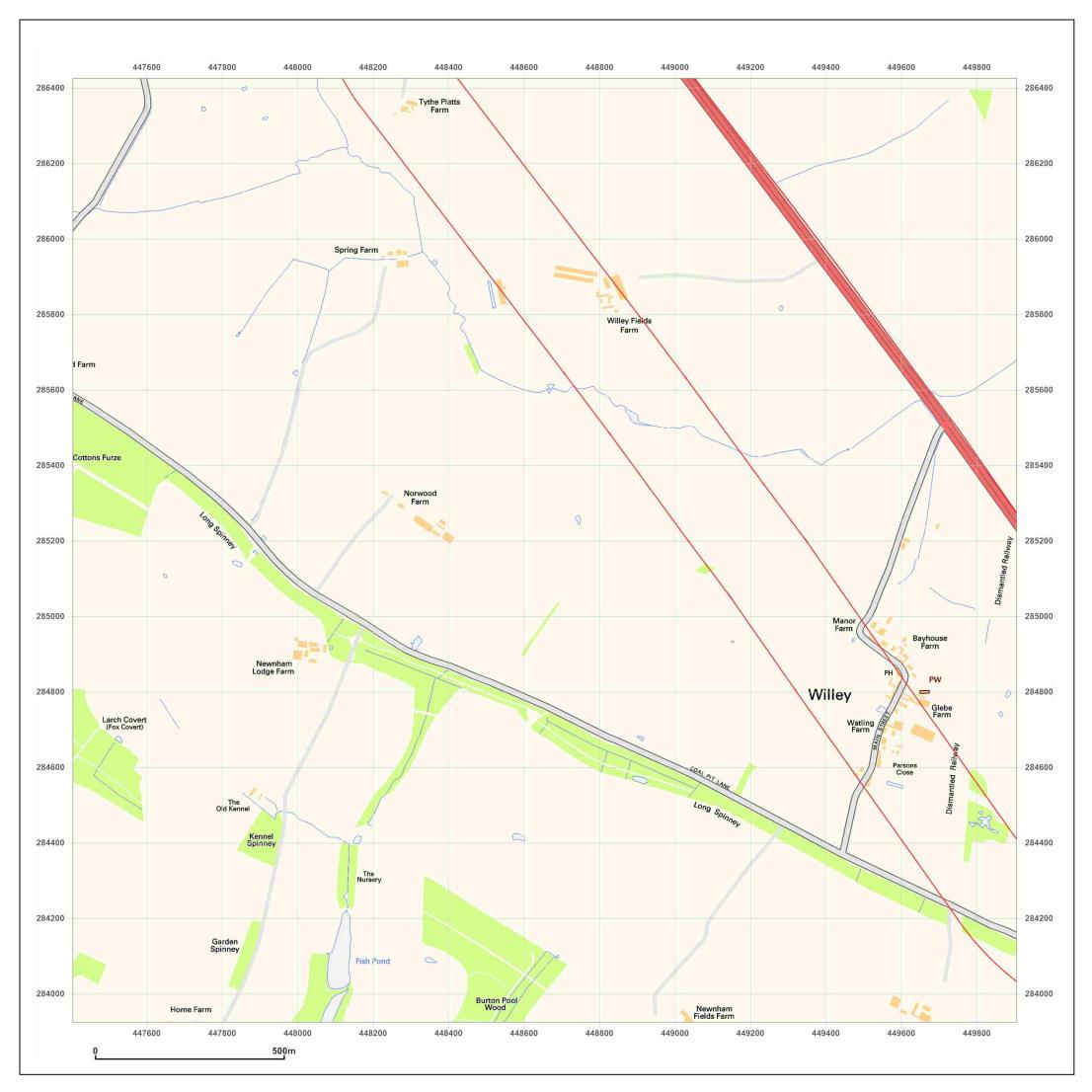
- Map Name: 1:10,000 Raster
- Map date: 2002
- 1:10,000 Scale:
- **Printed at:** 1:10,000





© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





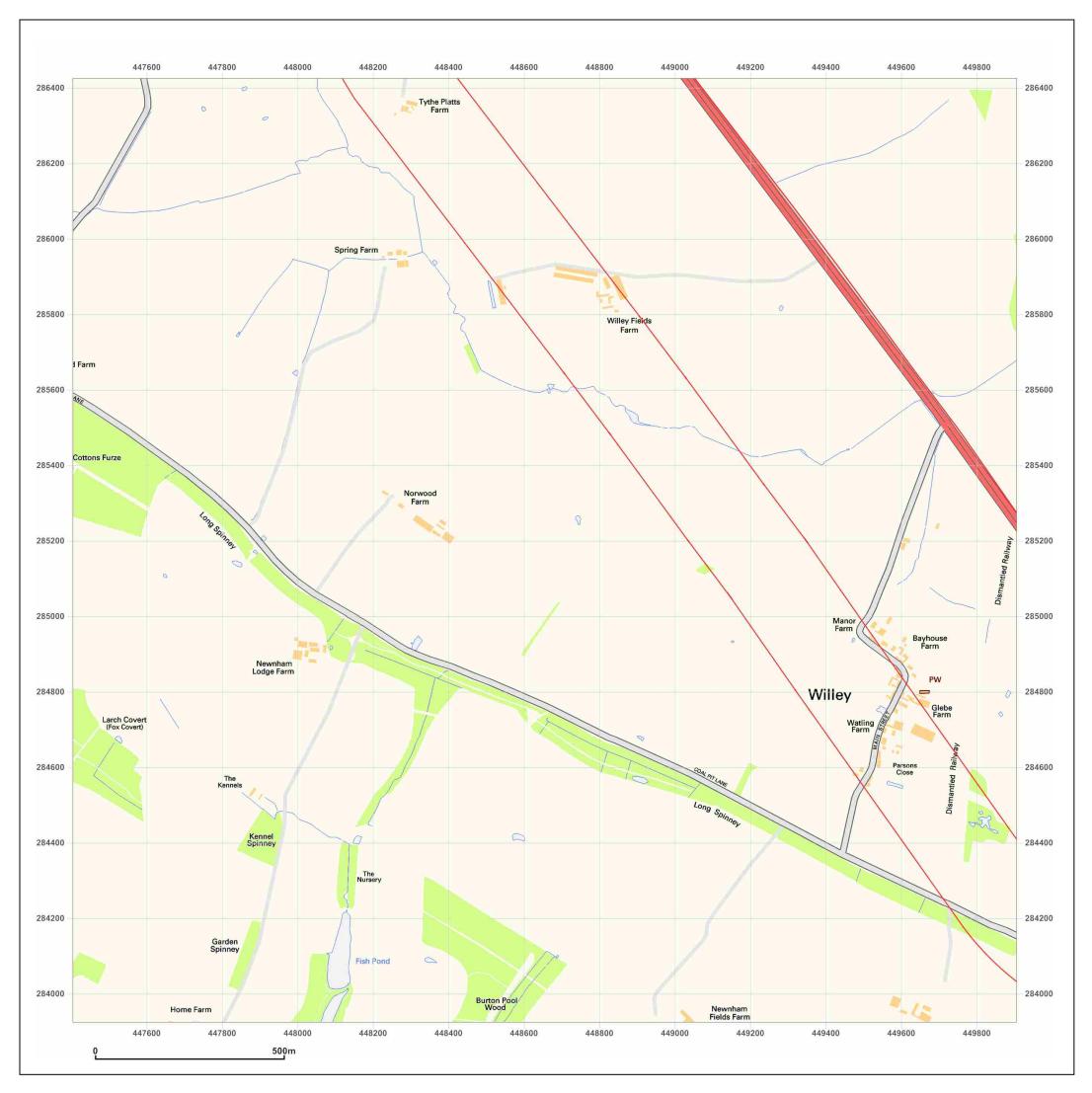
| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_SS_2_2<br>448655, 285175 | TESBY, LUTTERWC | DR. |
|-------------|--|-----------------|-----|
| Map Name:   | National Grid  | N               |     |
| Map date:   | 2010   | W               |     |
| Scale:      | 1:10,000   |                 |     |
| Printed at: | 1:10,000   | S               |     |

|--|



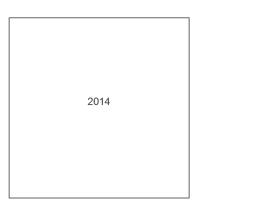
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BITT<br>GS-1673445_SS_2_2<br>448655, 285175 | ESBY, LUTTERWO | DR- |
|-------------|---|----------------|-----|
| Map Name:   | National Grid   | N              |     |
| Map date:   | 2014  | W              |     |
| Scale:      | 1:10,000  |                |     |
| Printed at: | 1:10,000  | S              |     |

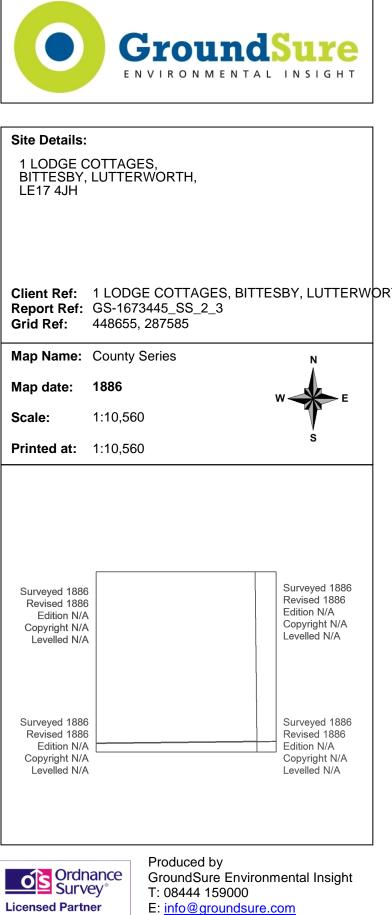




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

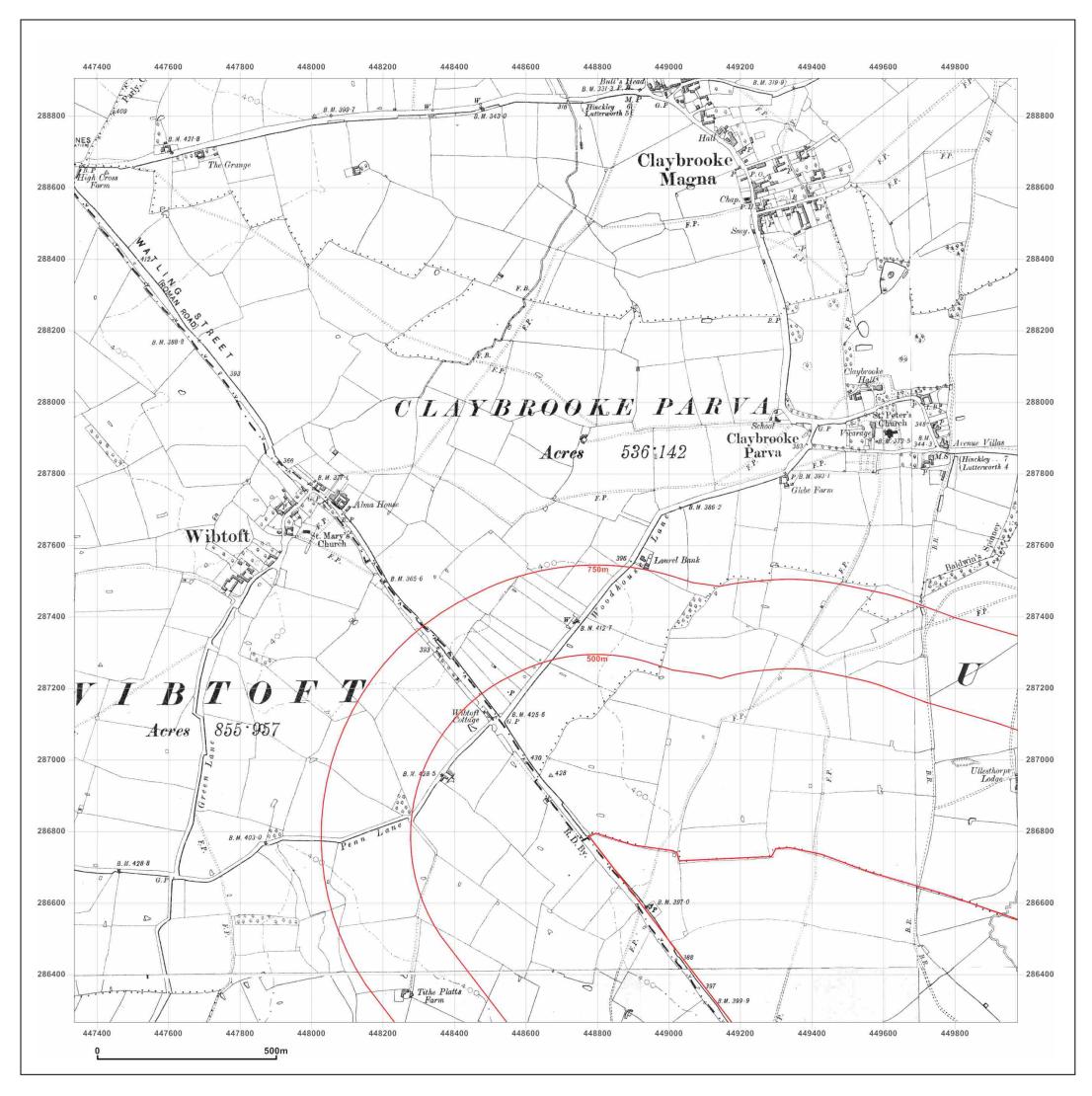


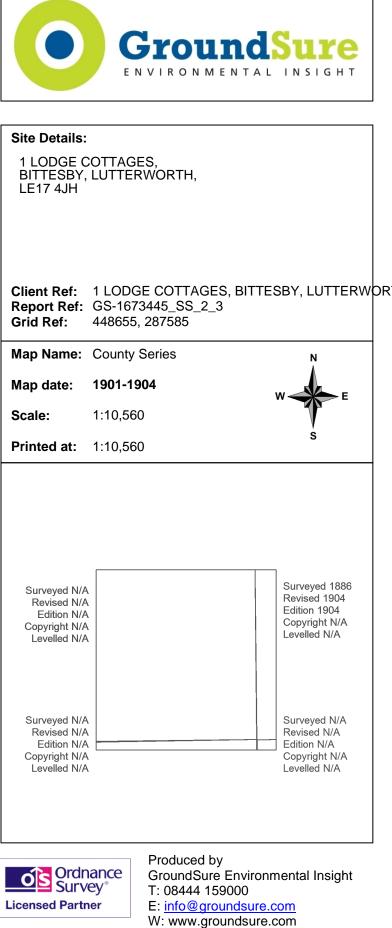


W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

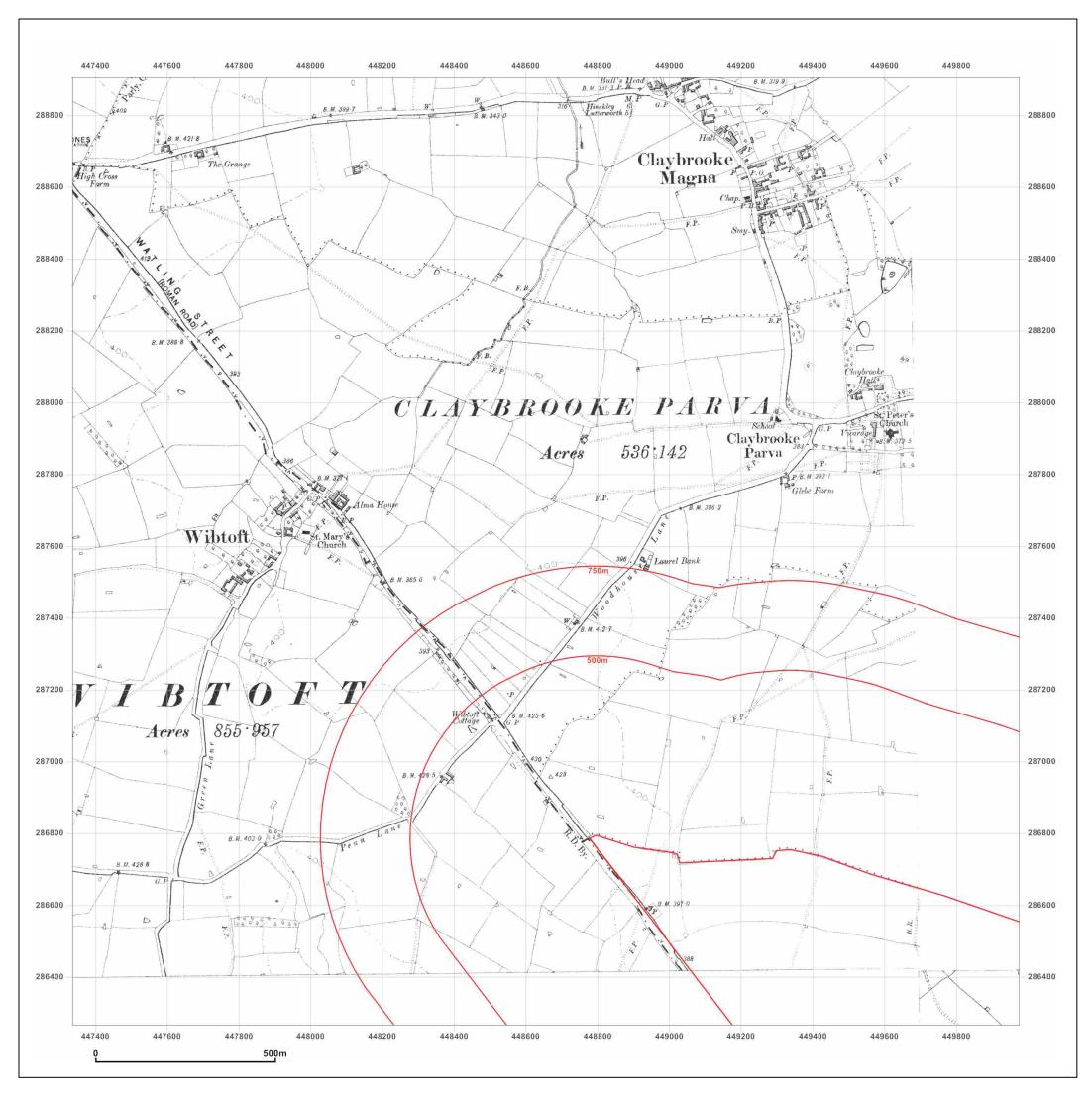
Production date: 22 September 2014



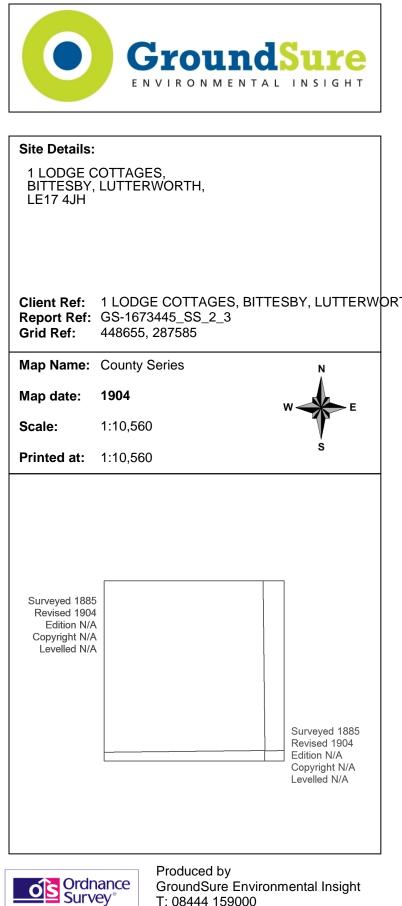


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

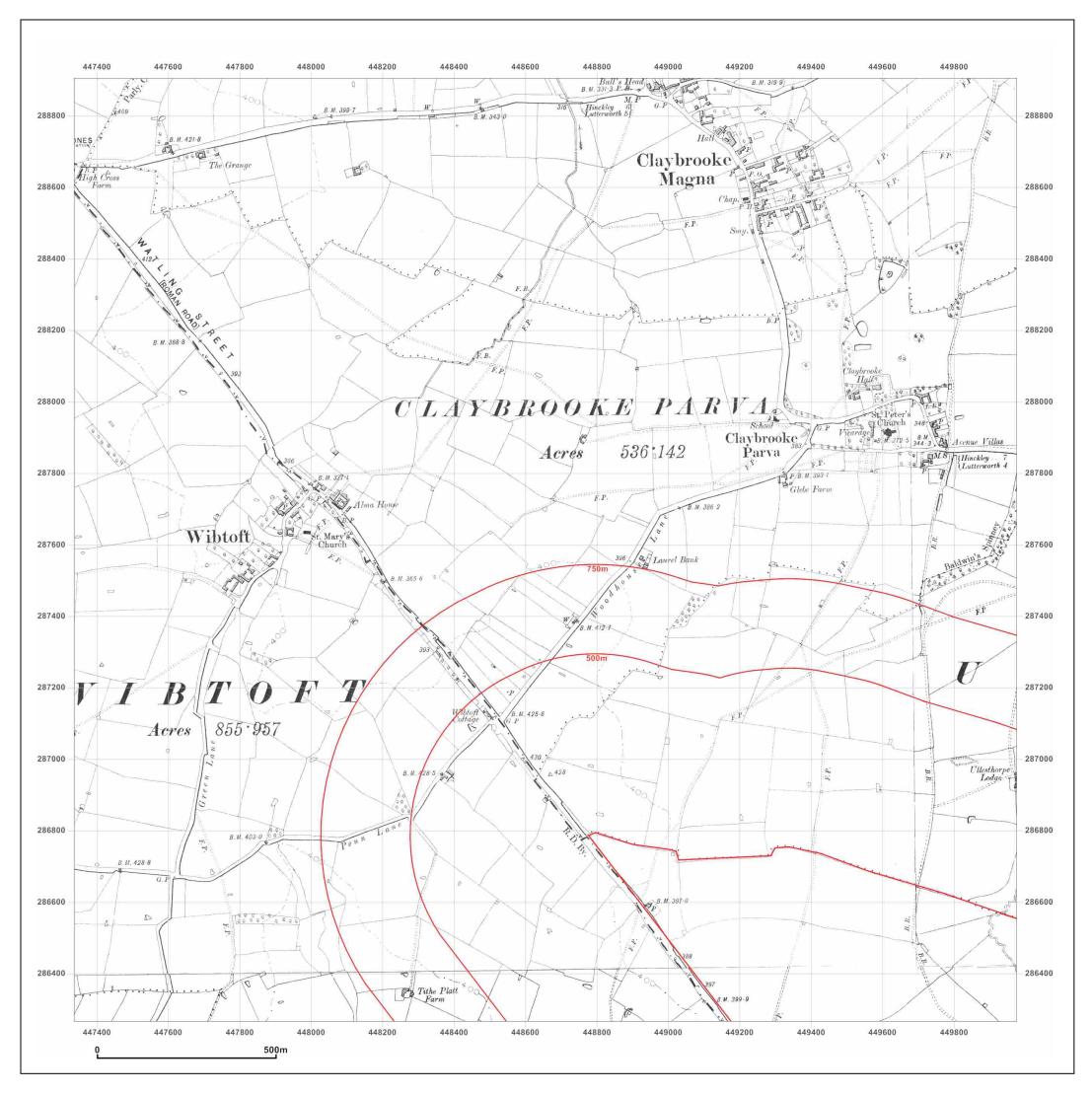


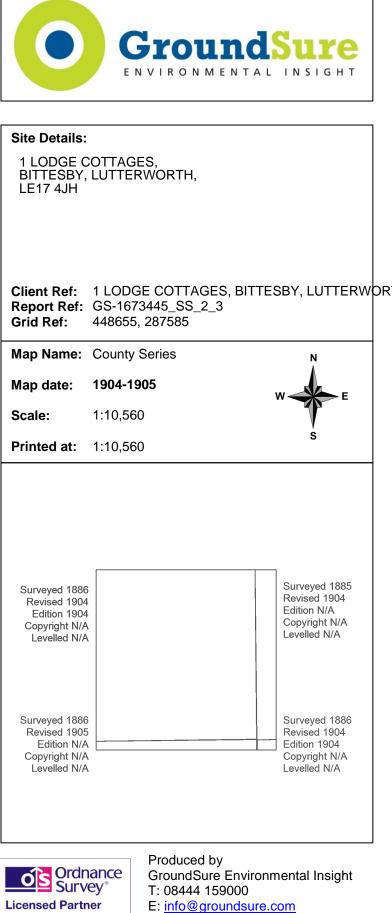
T: 08444 159000 E: info@groundsure.com

W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

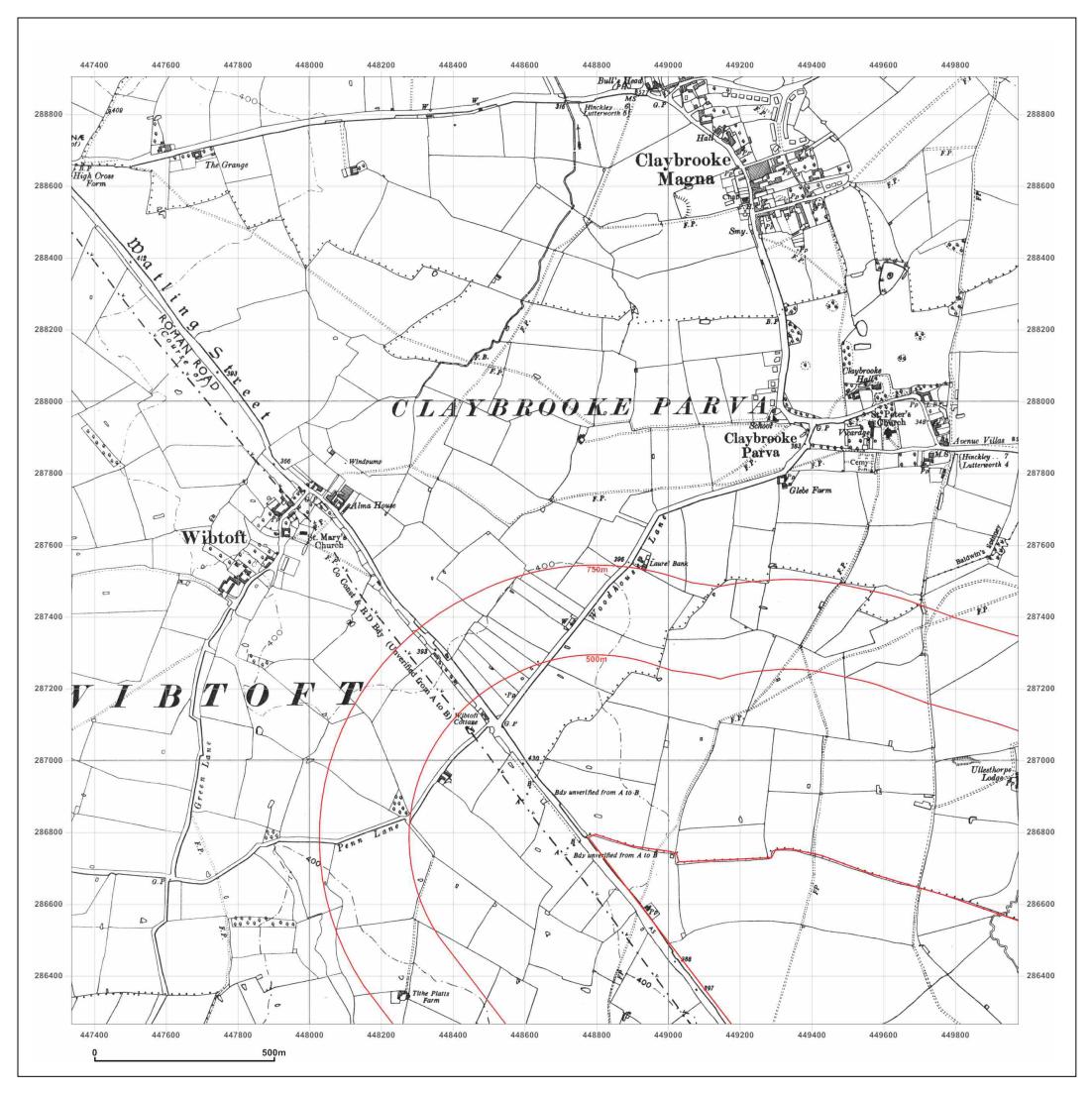


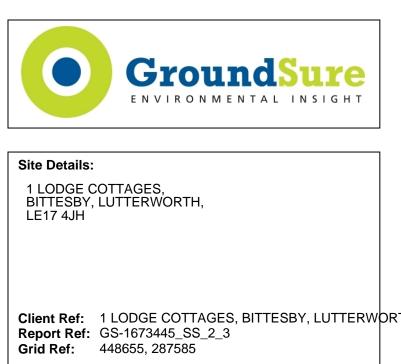


W: www.groundsure.com

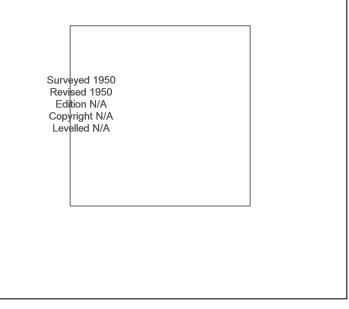
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





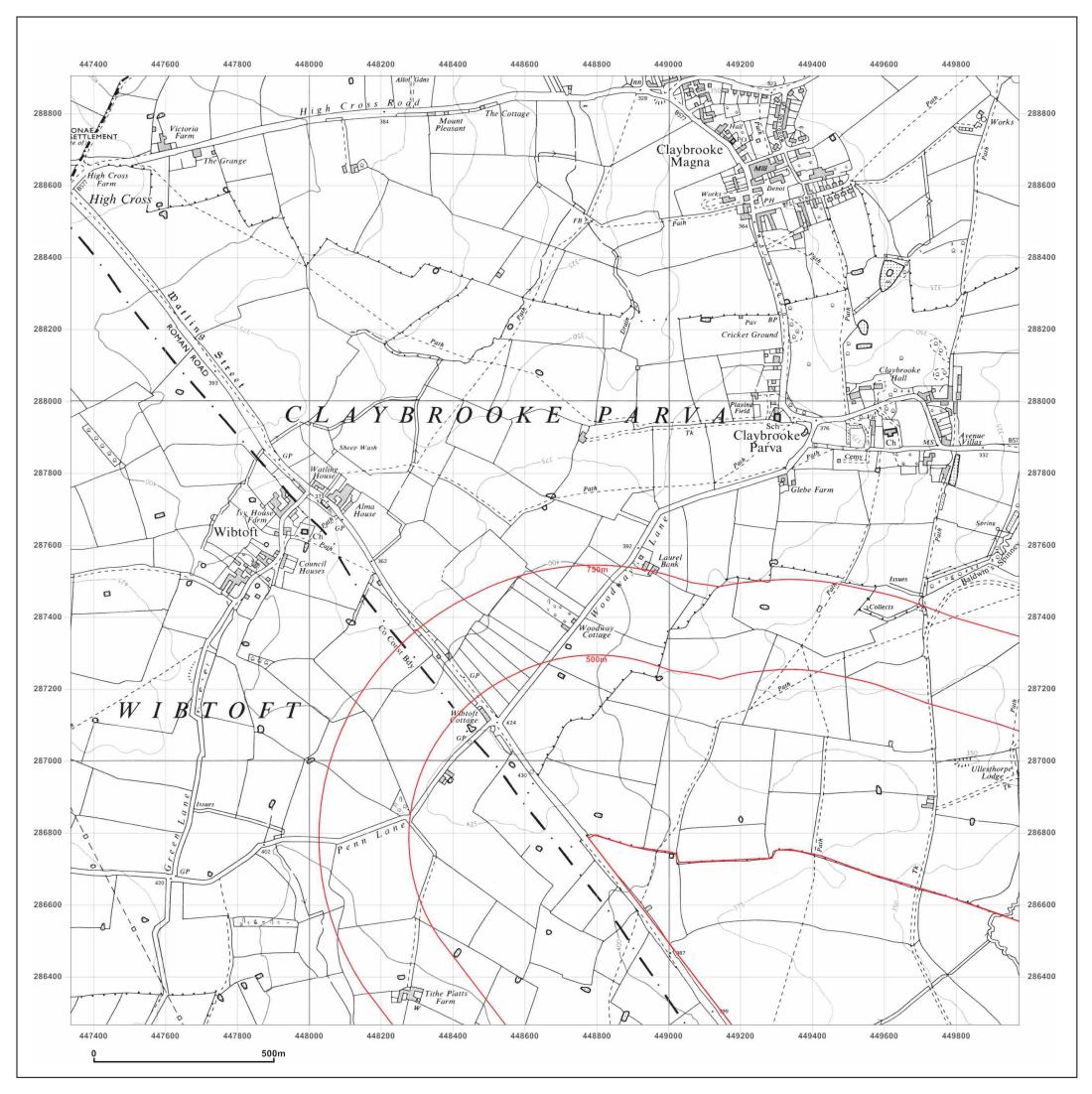
| Map Name:   | Provisional | N |
|-------------|-------------|---|
| Map date:   | 1950        | W |
| Scale:      | 1:10,560    | Y |
| Printed at: | 1:10,560    | S |





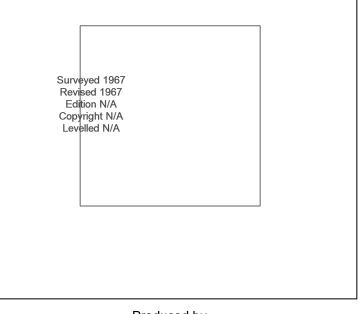
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





| Map Name:   | Provisional | N |
|-------------|-------------|---|
| Map date:   | 1967        | W |
| Scale:      | 1:10,560    |   |
| Printed at: | 1:10,560    | S |

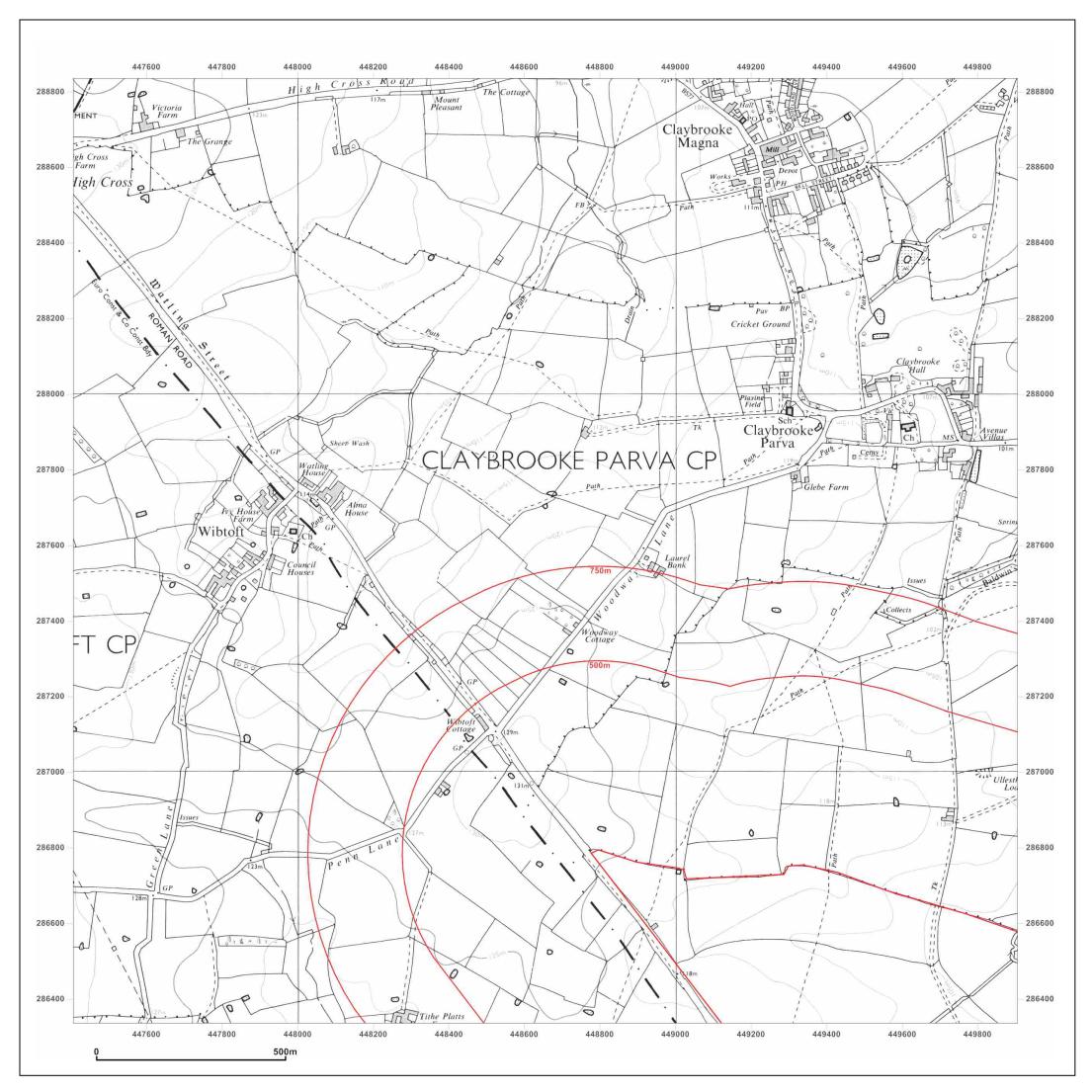


Ordnance Survey® Licensed Partner

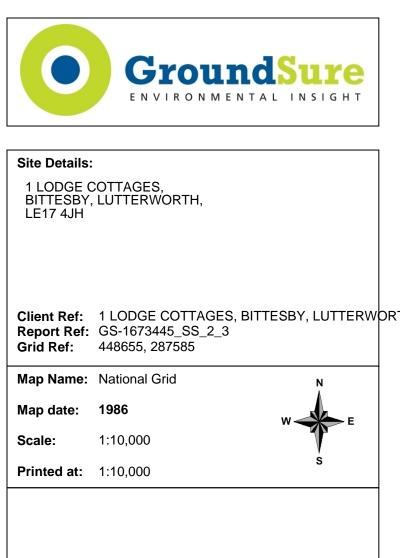
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

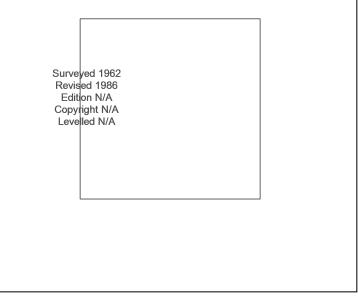
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



-



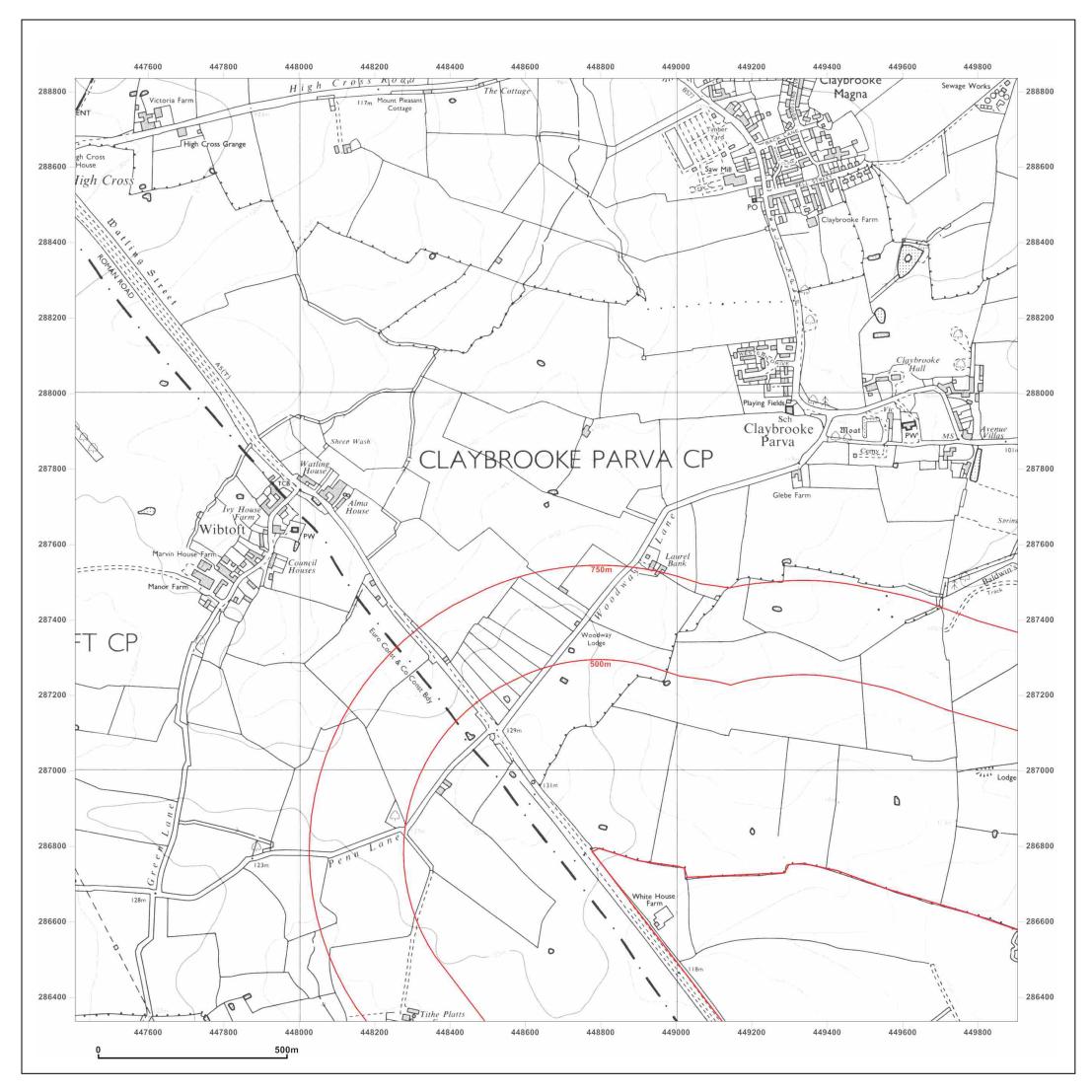


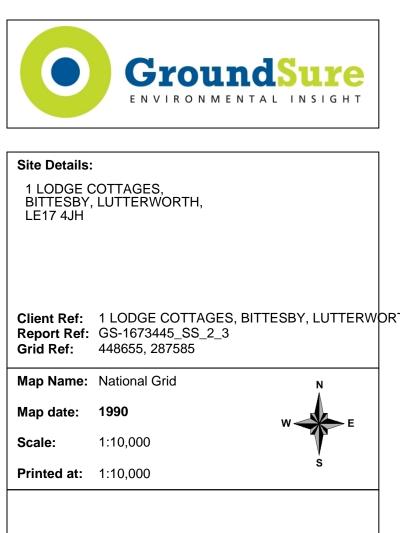


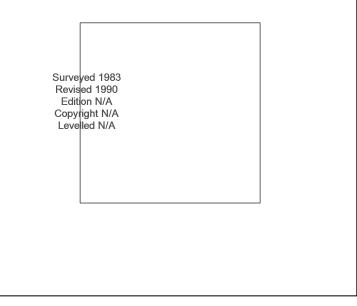
Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



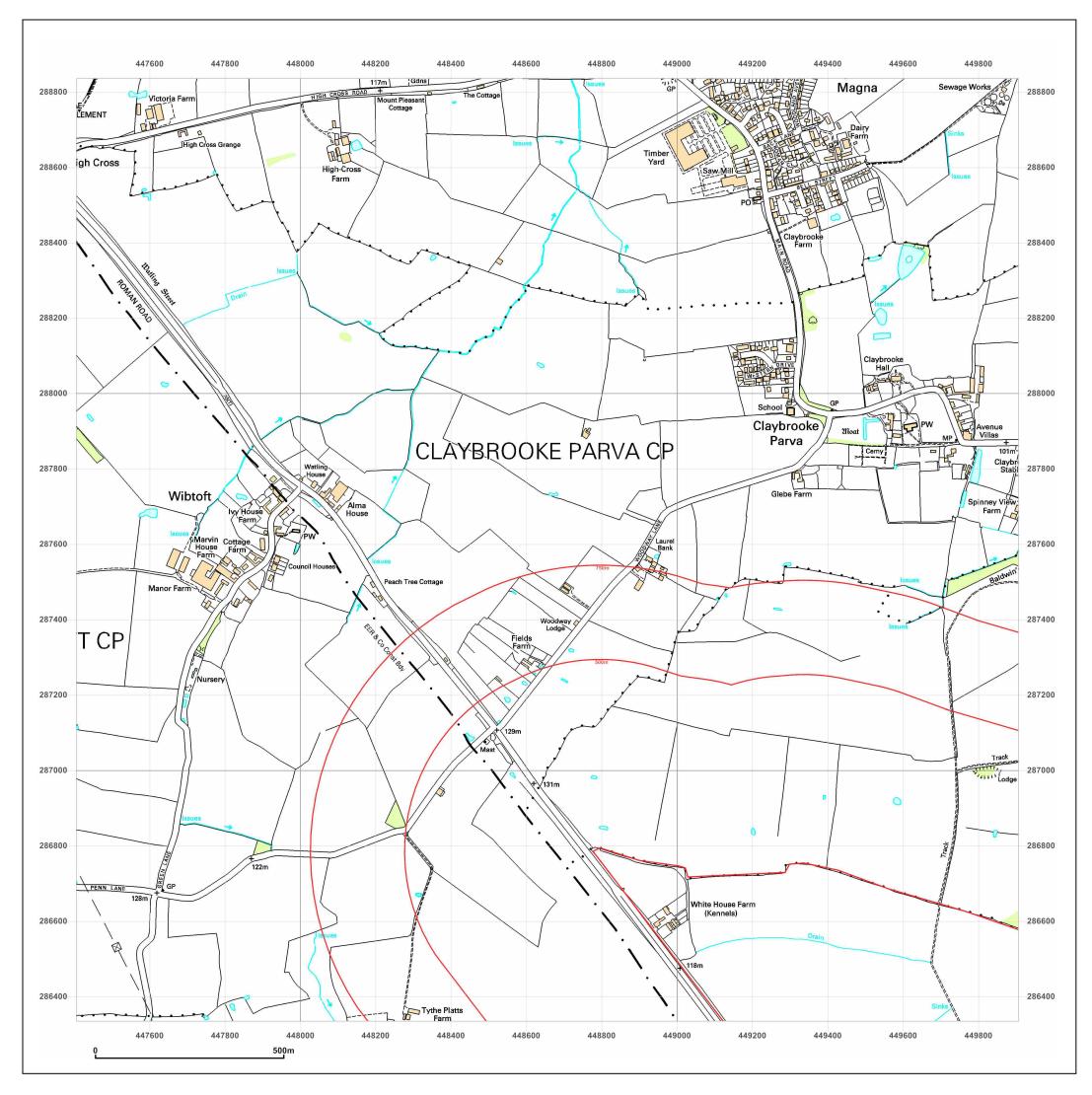






© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





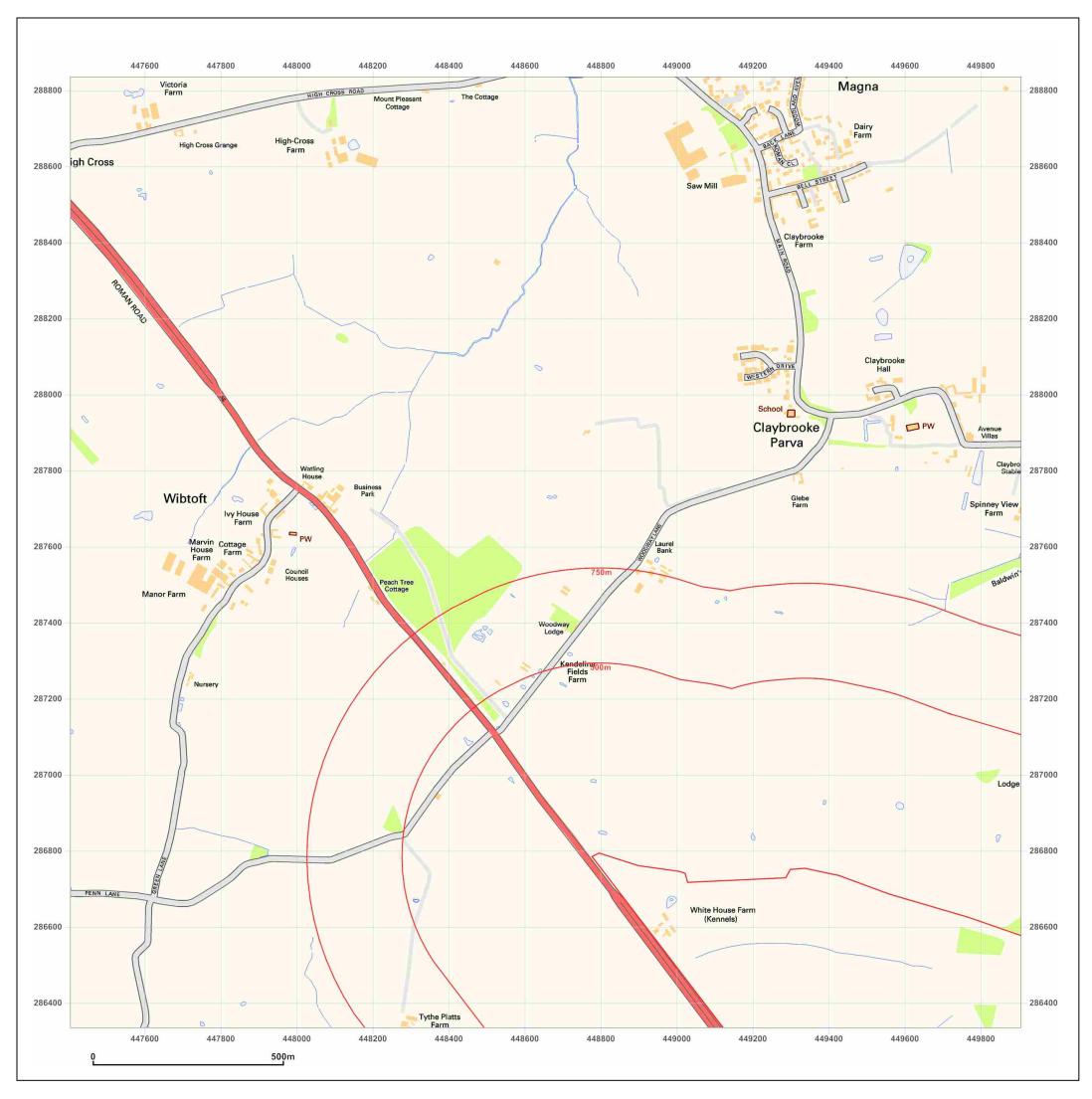
|             | GS-1673445_SS_2_3<br>448655, 287585 |  |
|-------------|-------------------------------------|--|
| Map Name:   | 1:10,000 Raster                     | N  |
| Map date:   | 2002                                | W  |
| Scale:      | 1:10,000                            | The second secon |
| Printed at: | 1:10,000                            | S  |

| 2002 |  |  |
|------|--|--|
|      |  |  |



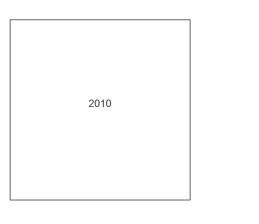
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





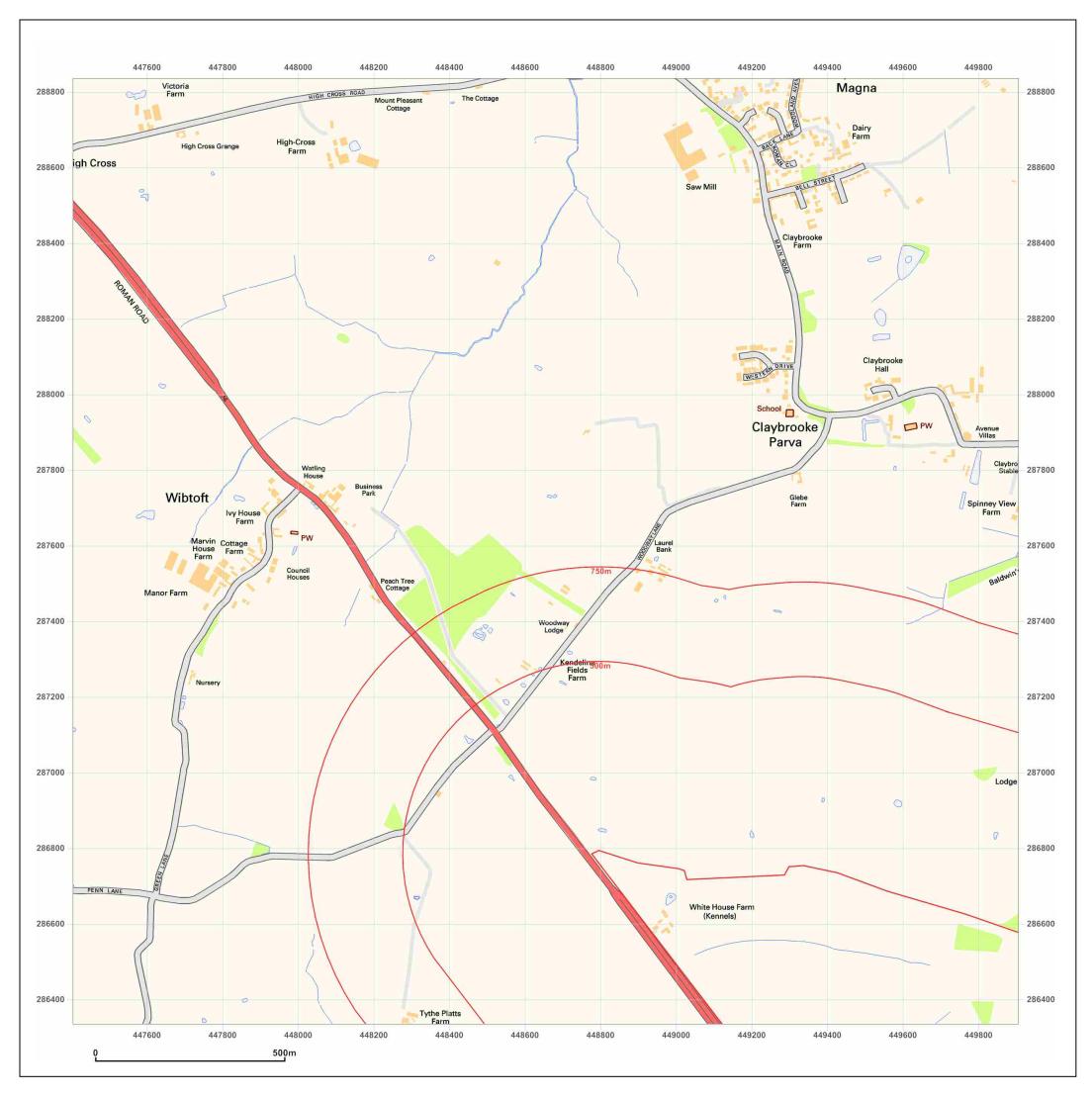
| Report Ref: | 1 LODGE COTTAGES, BITT<br>GS-1673445_SS_2_3<br>448655, 287585 | ESBY, LUTTERWC | DR <sup>-</sup> |
|-------------|---|----------------|-----------------|
| Map Name:   | National Grid   | N              |                 |
| Map date:   | 2010  | W              |                 |
| Scale:      | 1:10,000  | <b>Y</b>       |                 |
| Printed at: | 1:10,000  | S              |                 |





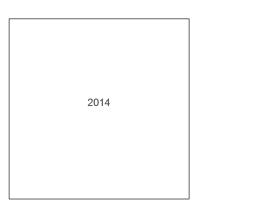
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





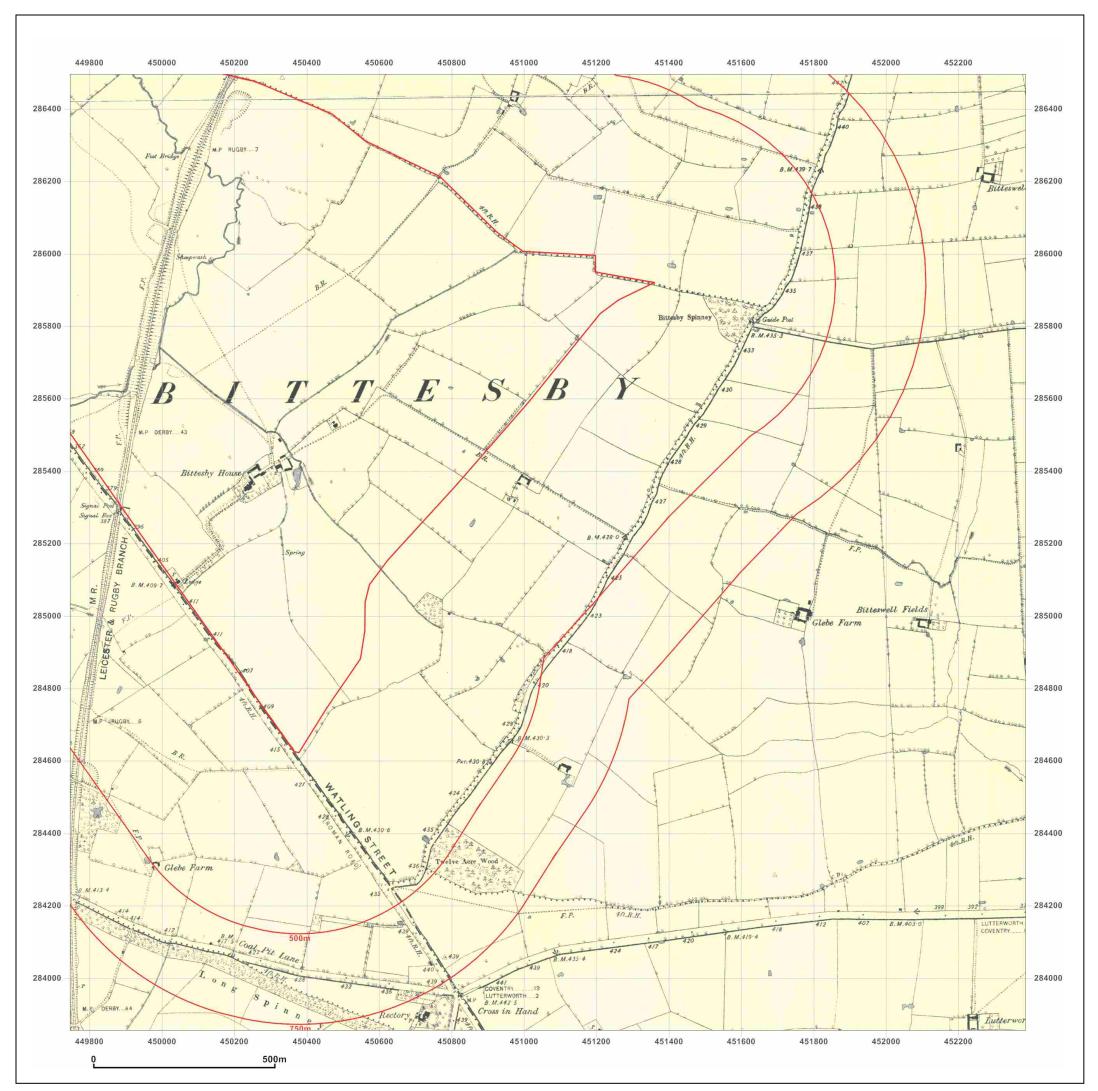
| Report Ref: | 1 LODGE COTTAGES, BITT<br>GS-1673445_SS_2_3<br>448655, 287585 | ESBY, LUTTERWC | DR <sup>-</sup> |
|-------------|---|----------------|-----------------|
| Map Name:   | National Grid   | N              |                 |
| Map date:   | 2014  | W              |                 |
| Scale:      | 1:10,000  | Y              |                 |
| Printed at: | 1:10,000  | S              |                 |

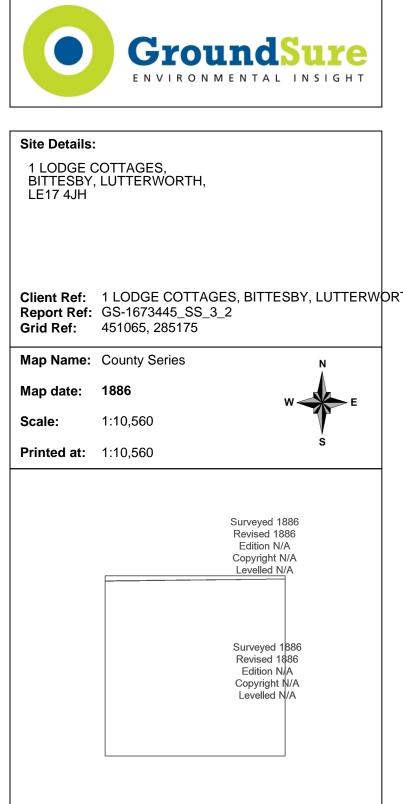




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

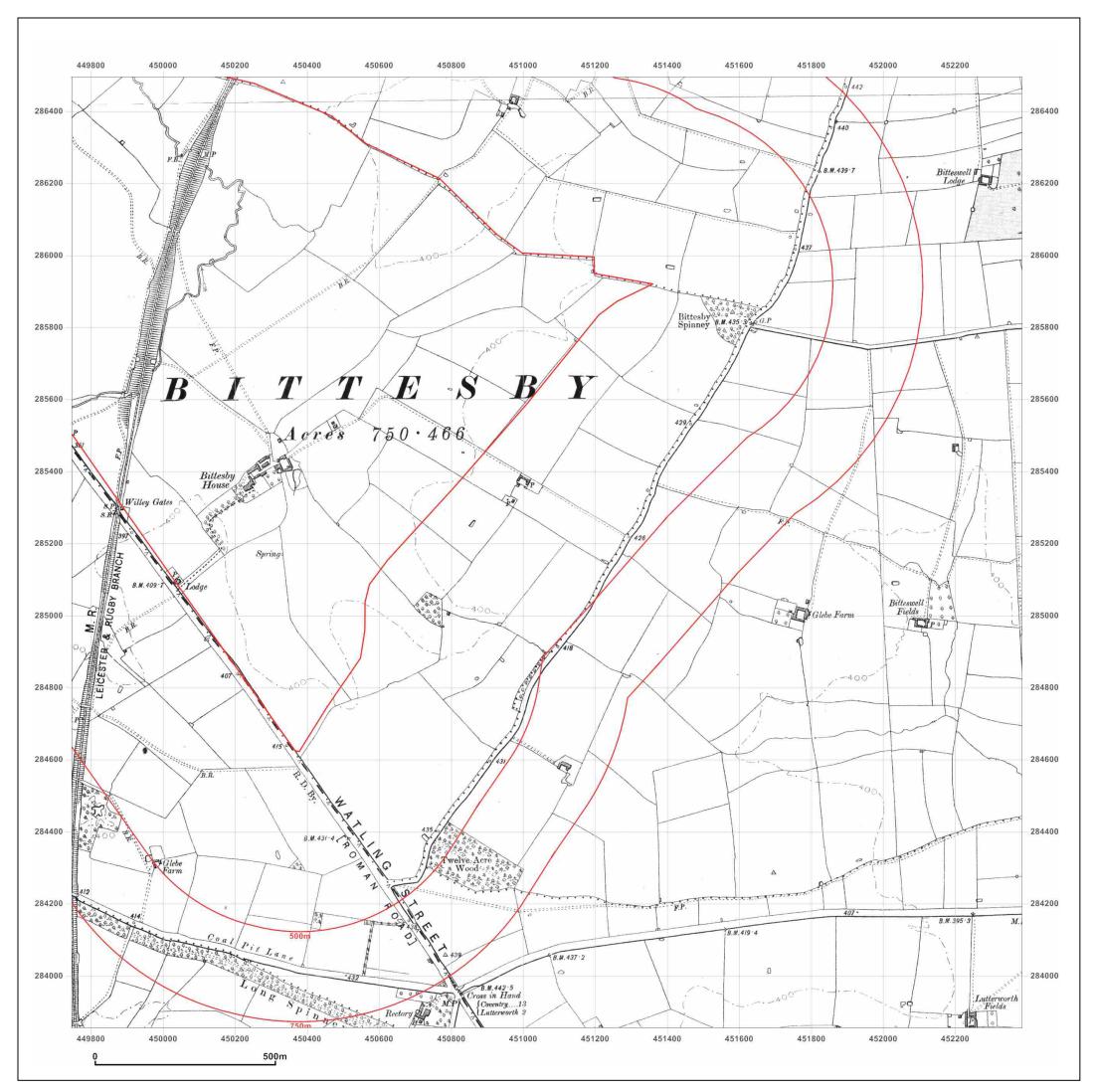


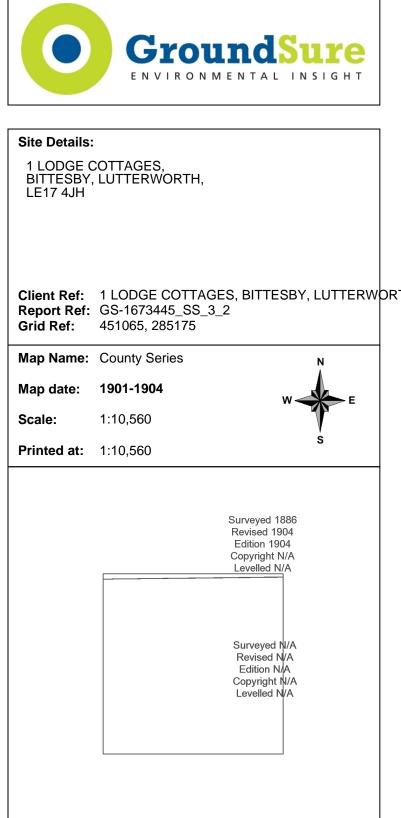




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

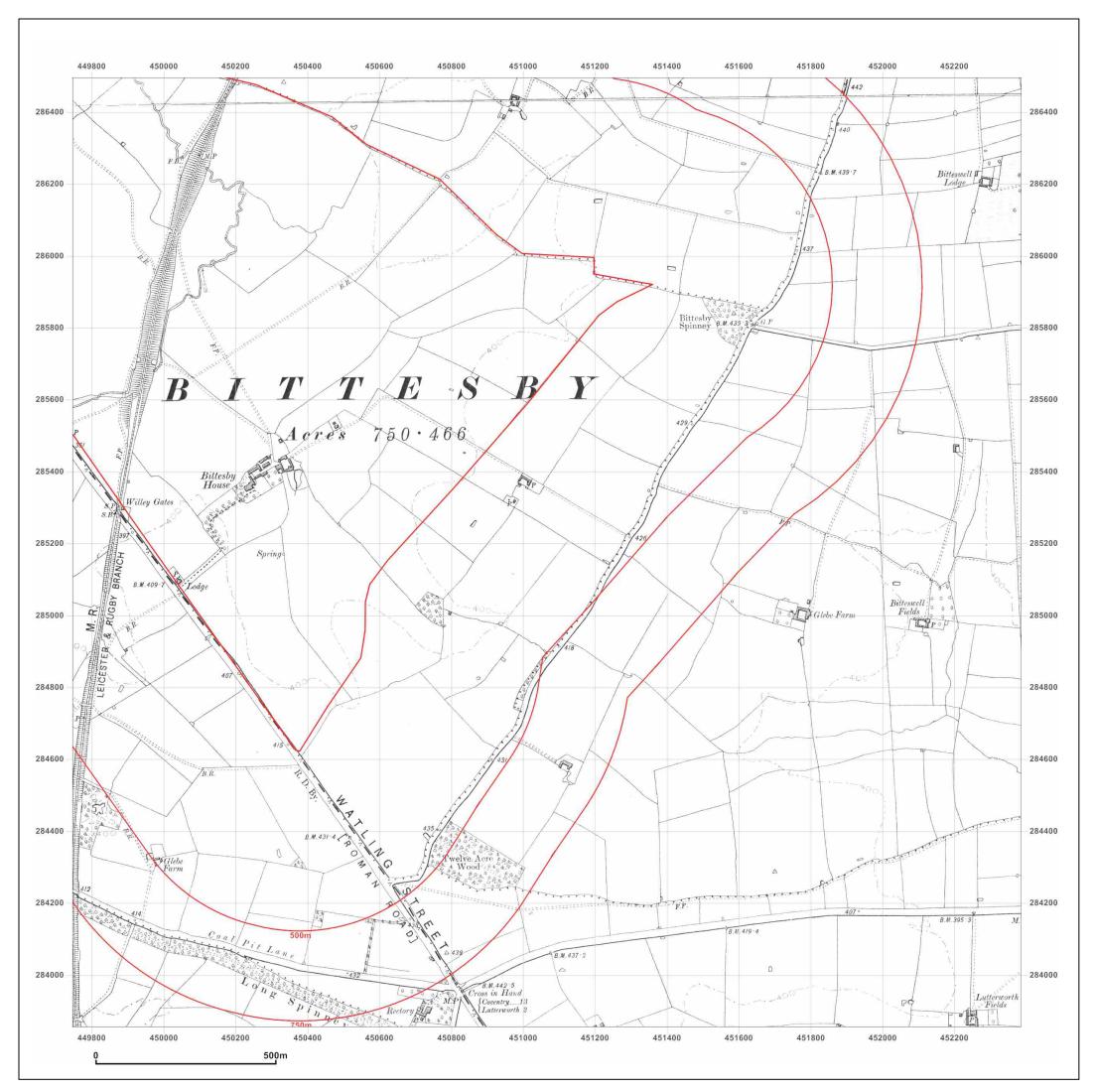


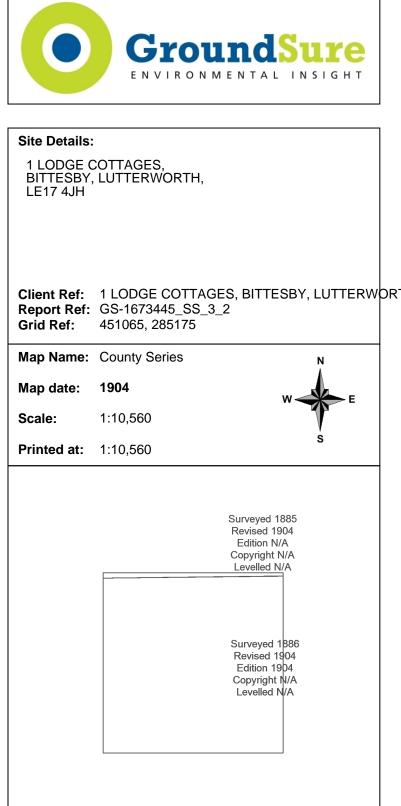




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

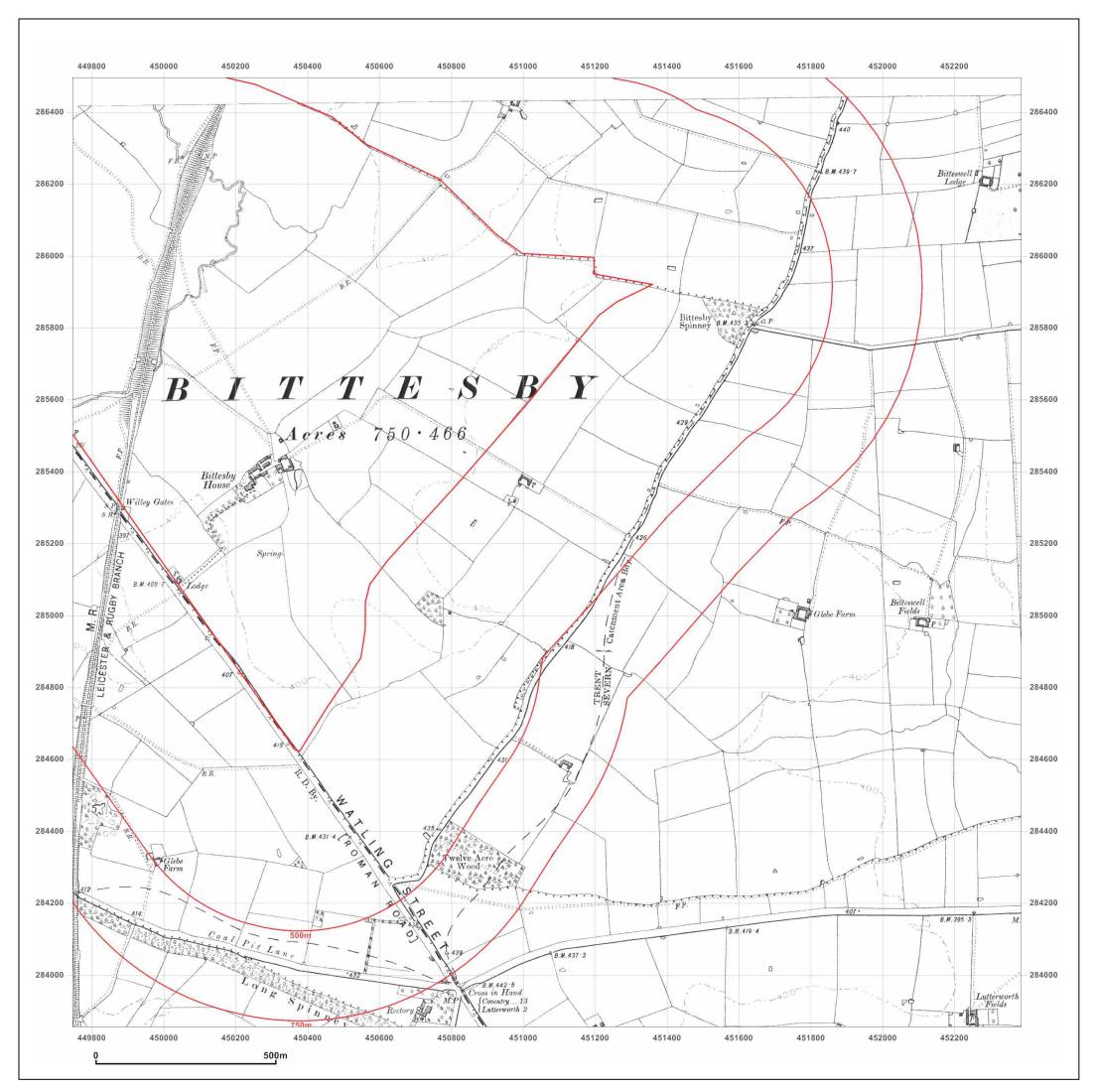






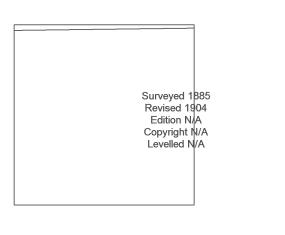
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





Printed at: 1:10,560

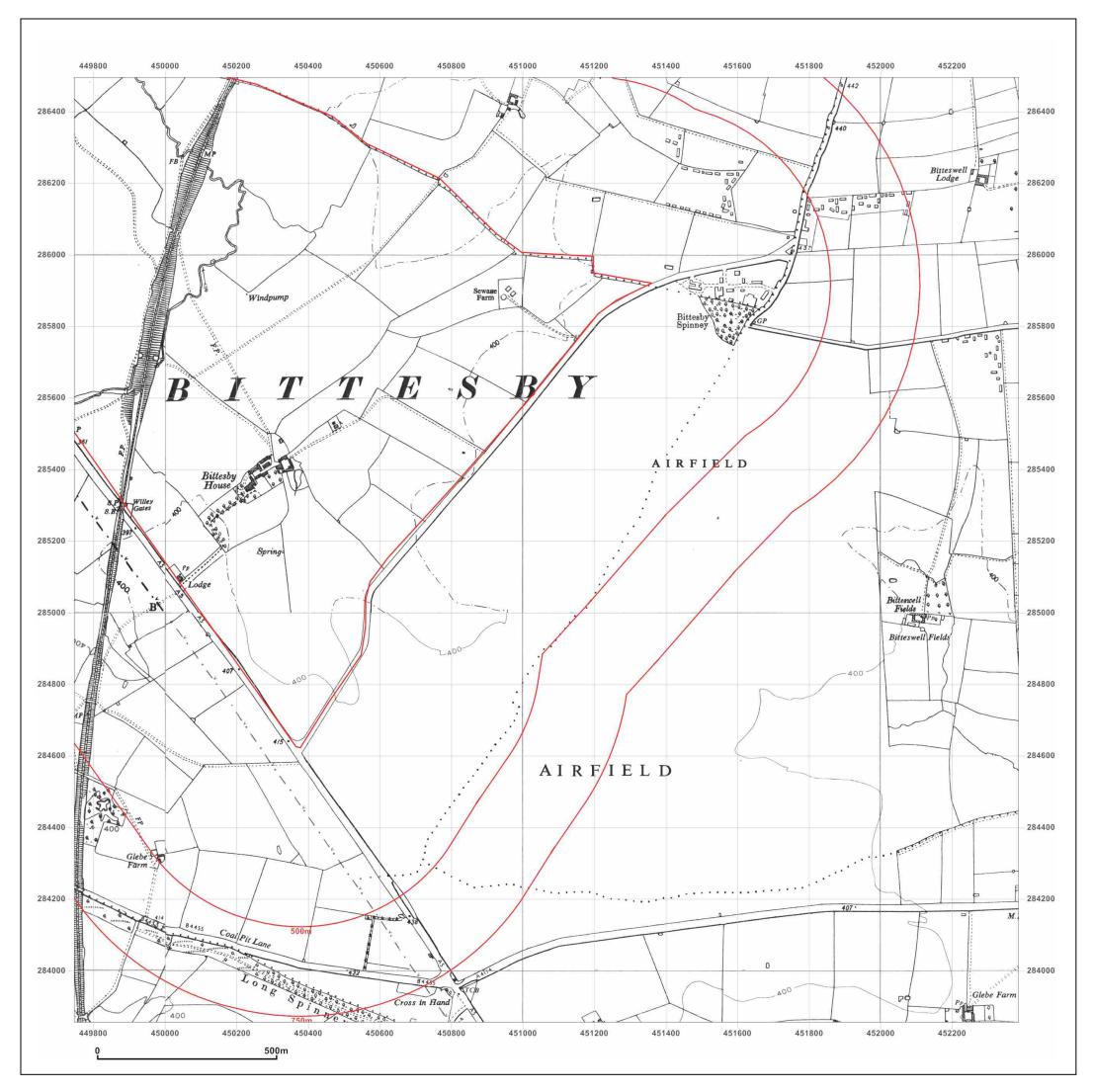




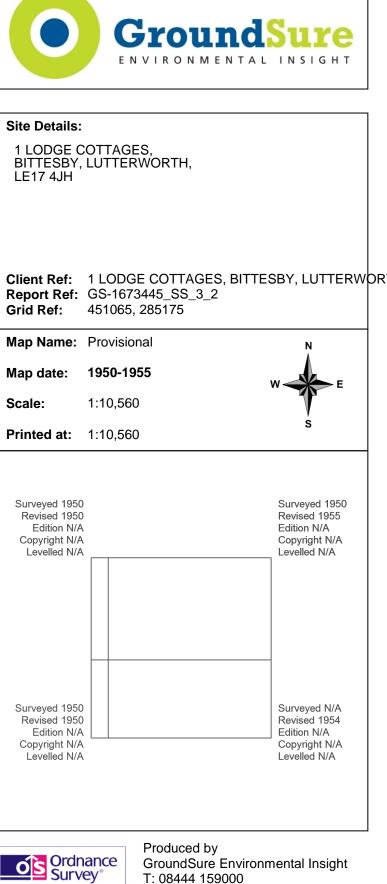
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner



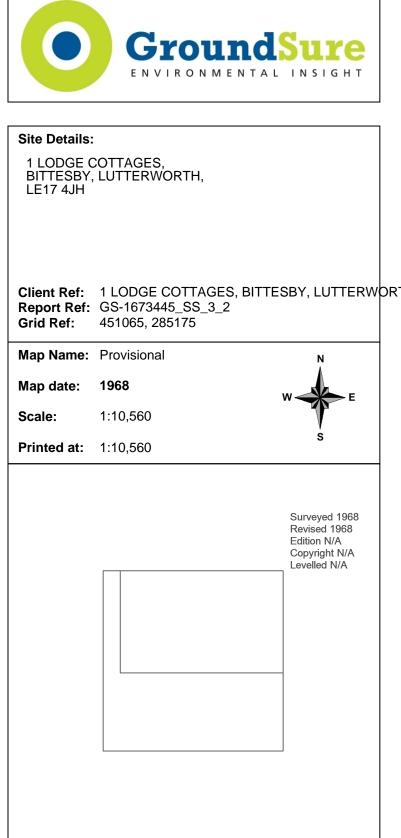
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com

W: www.groundsure.com

Production date: 22 September 2014

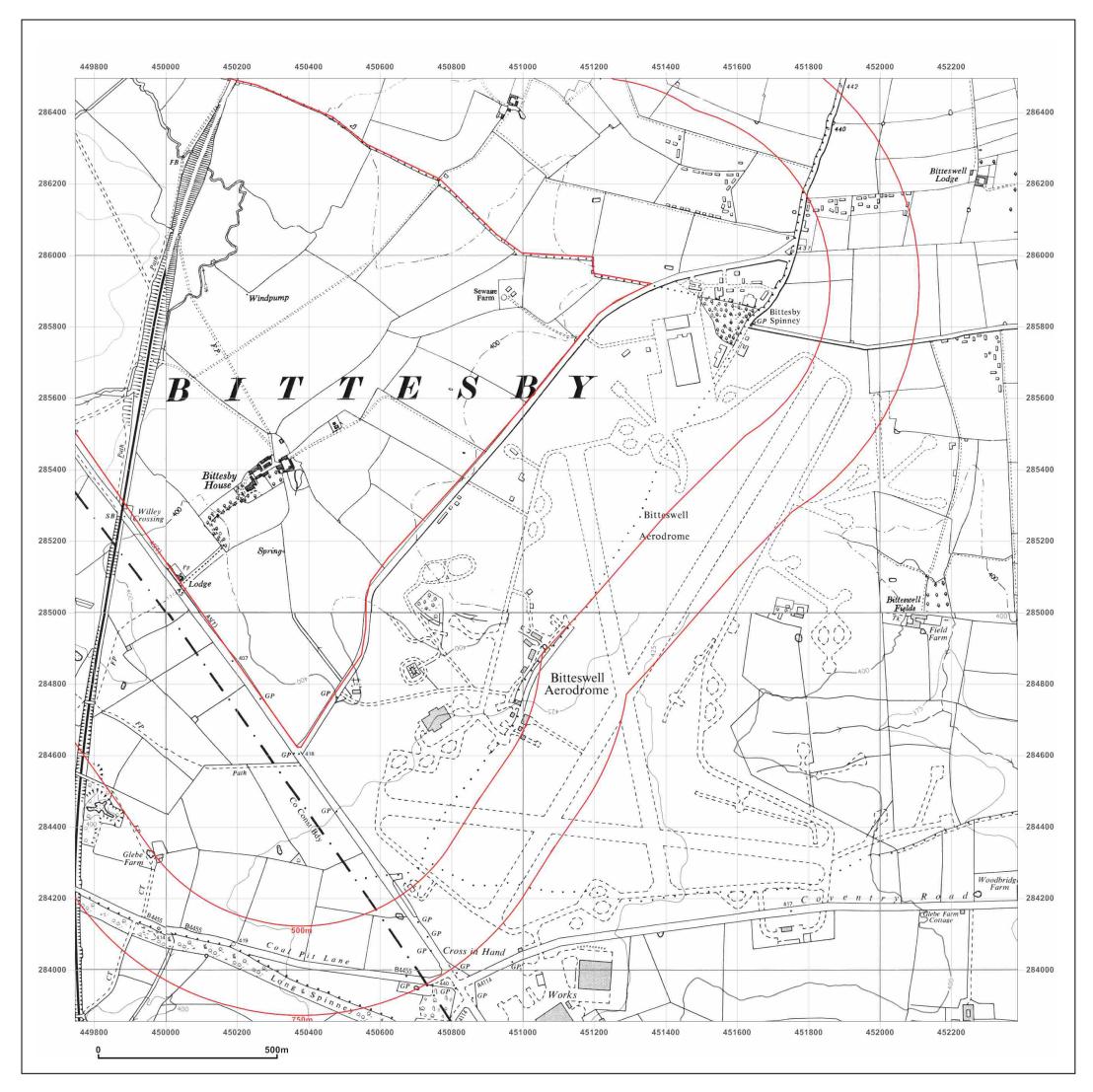




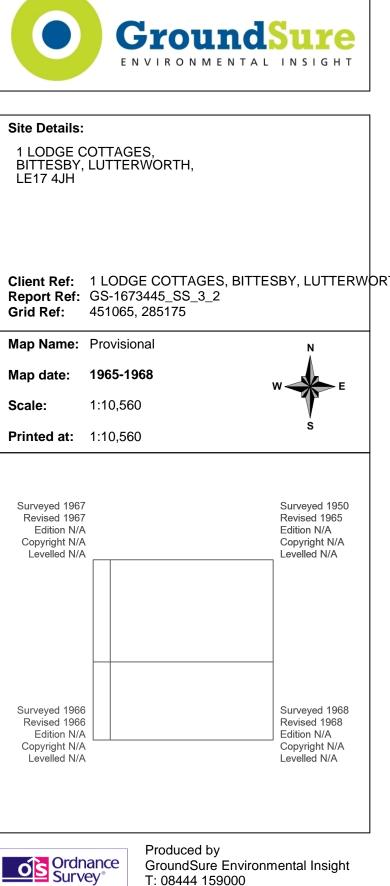


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

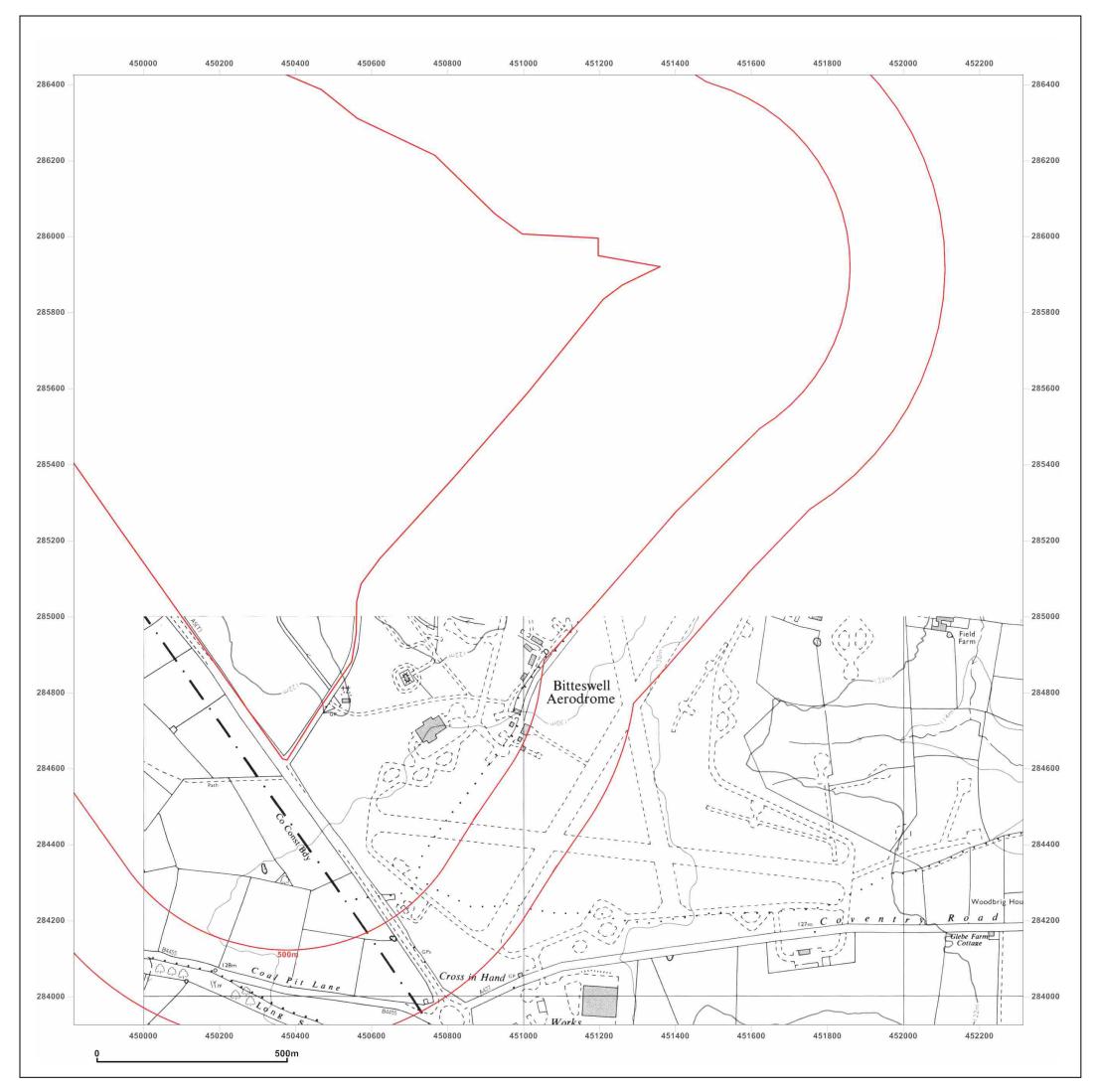


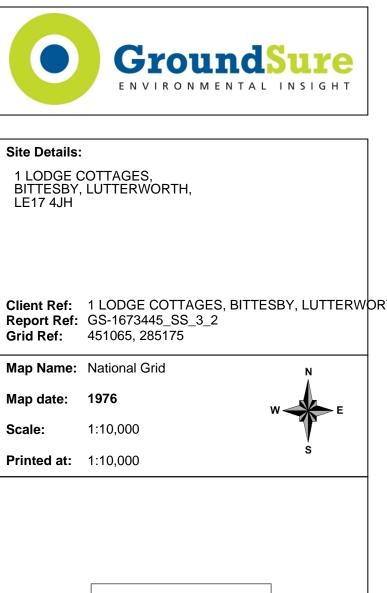
© Crown copyright and database rights 2013 Ordnance Survey 100035207

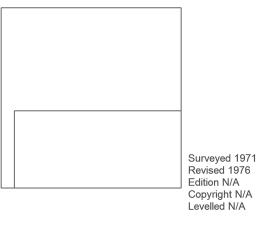
E: info@groundsure.com

W: www.groundsure.com

Production date: 22 September 2014



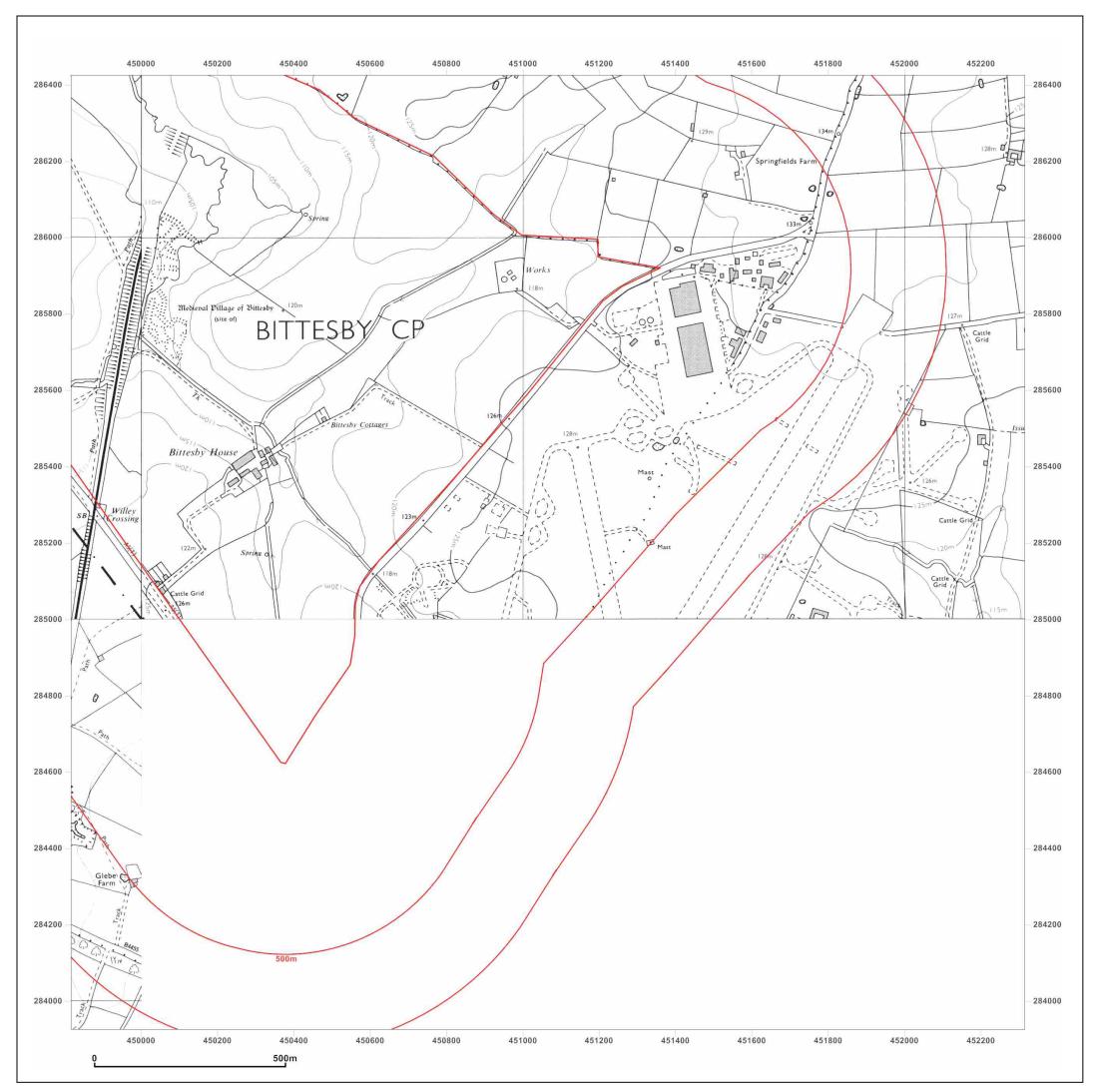




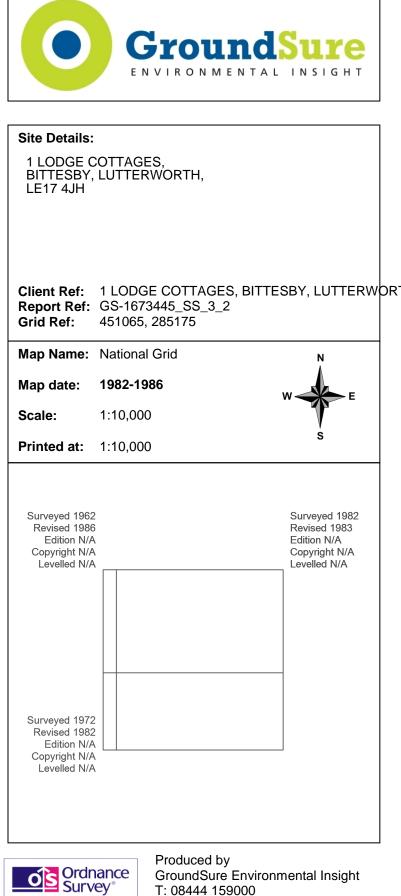


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner



E: info@groundsure.com

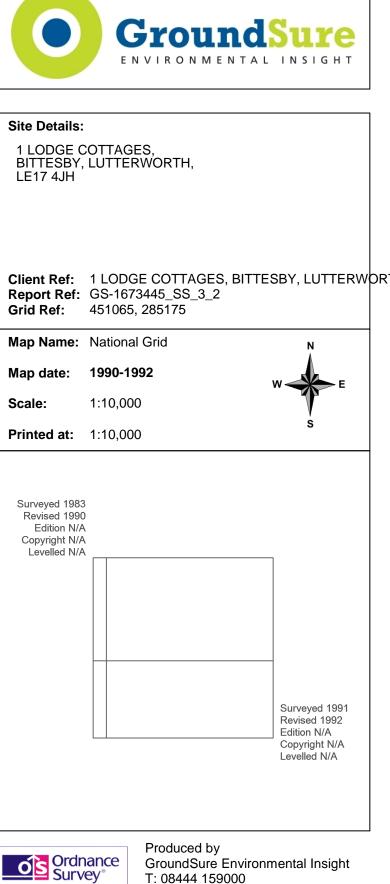
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

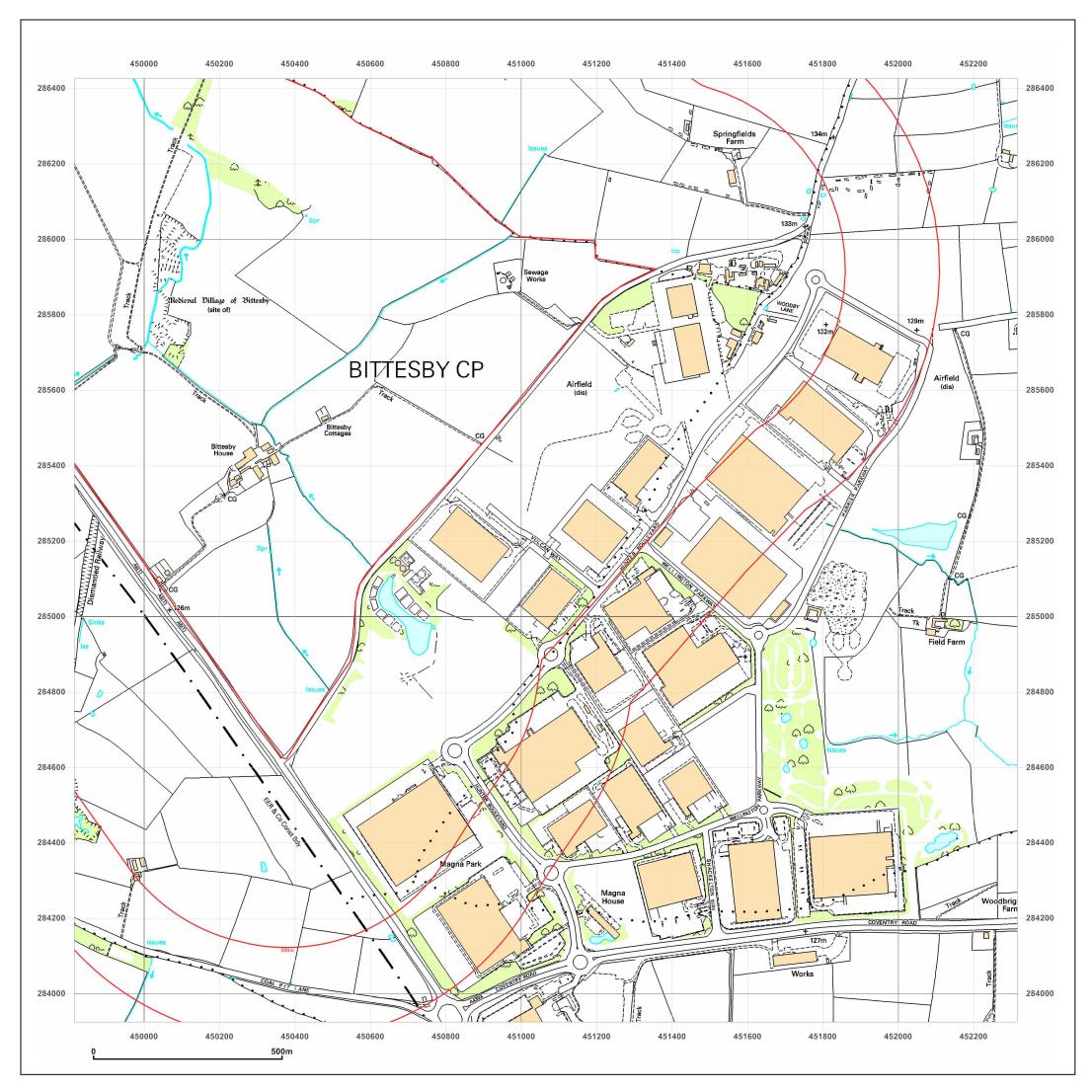


T: 08444 159000 E: info@groundsure.com

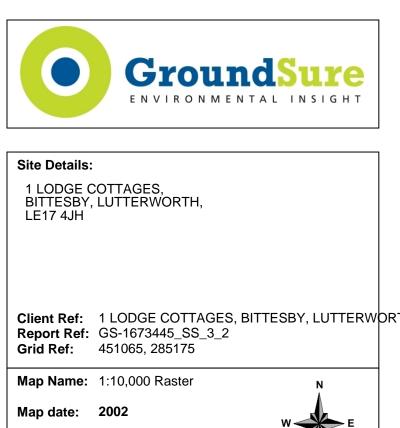
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

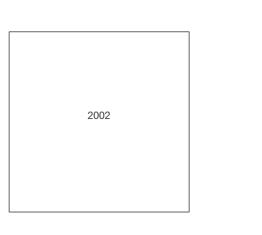


To view map legend click here Legend



Scale: 1:10,000

Printed at: 1:10,000

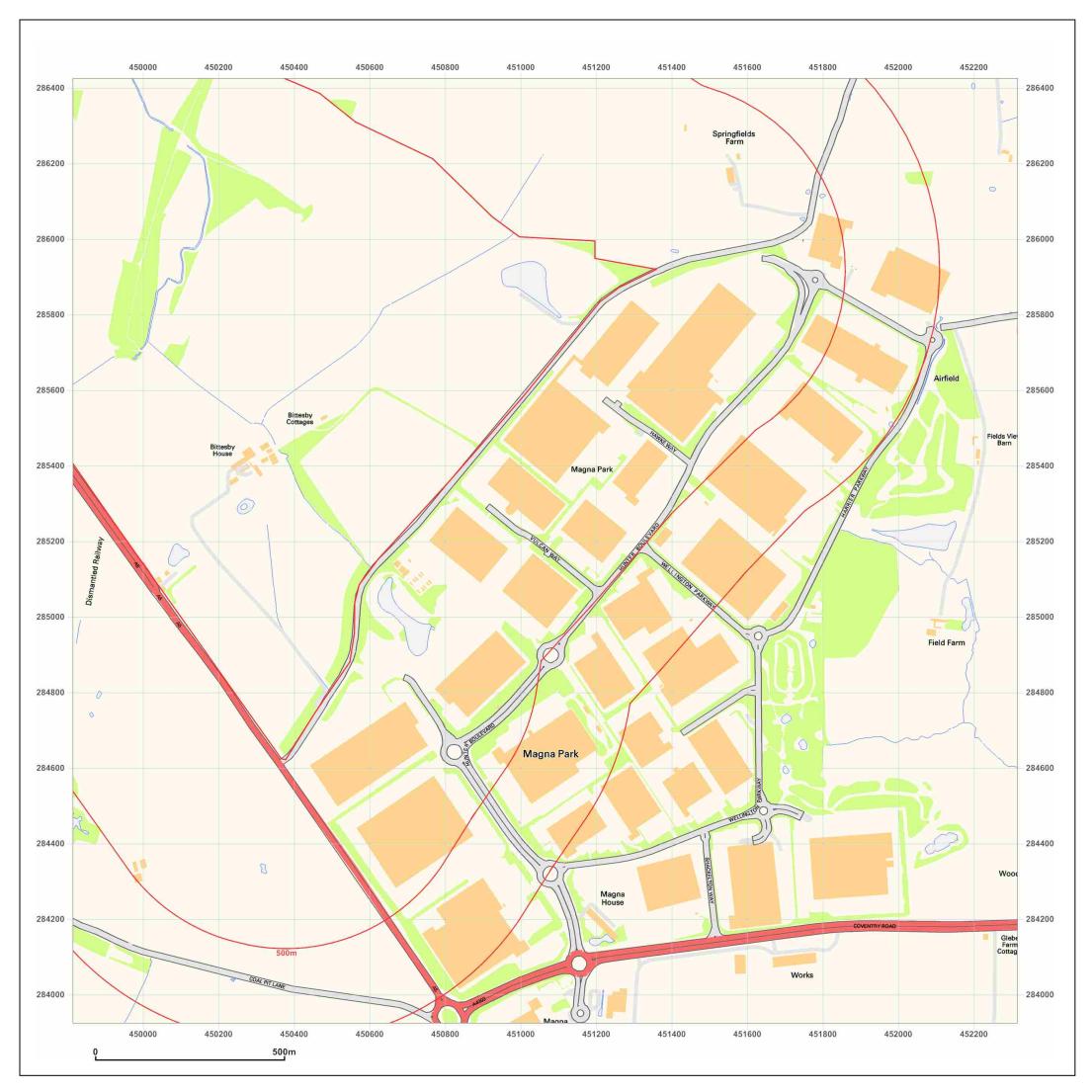




Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

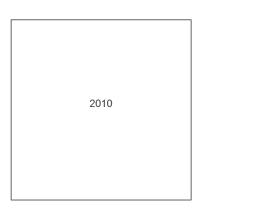
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





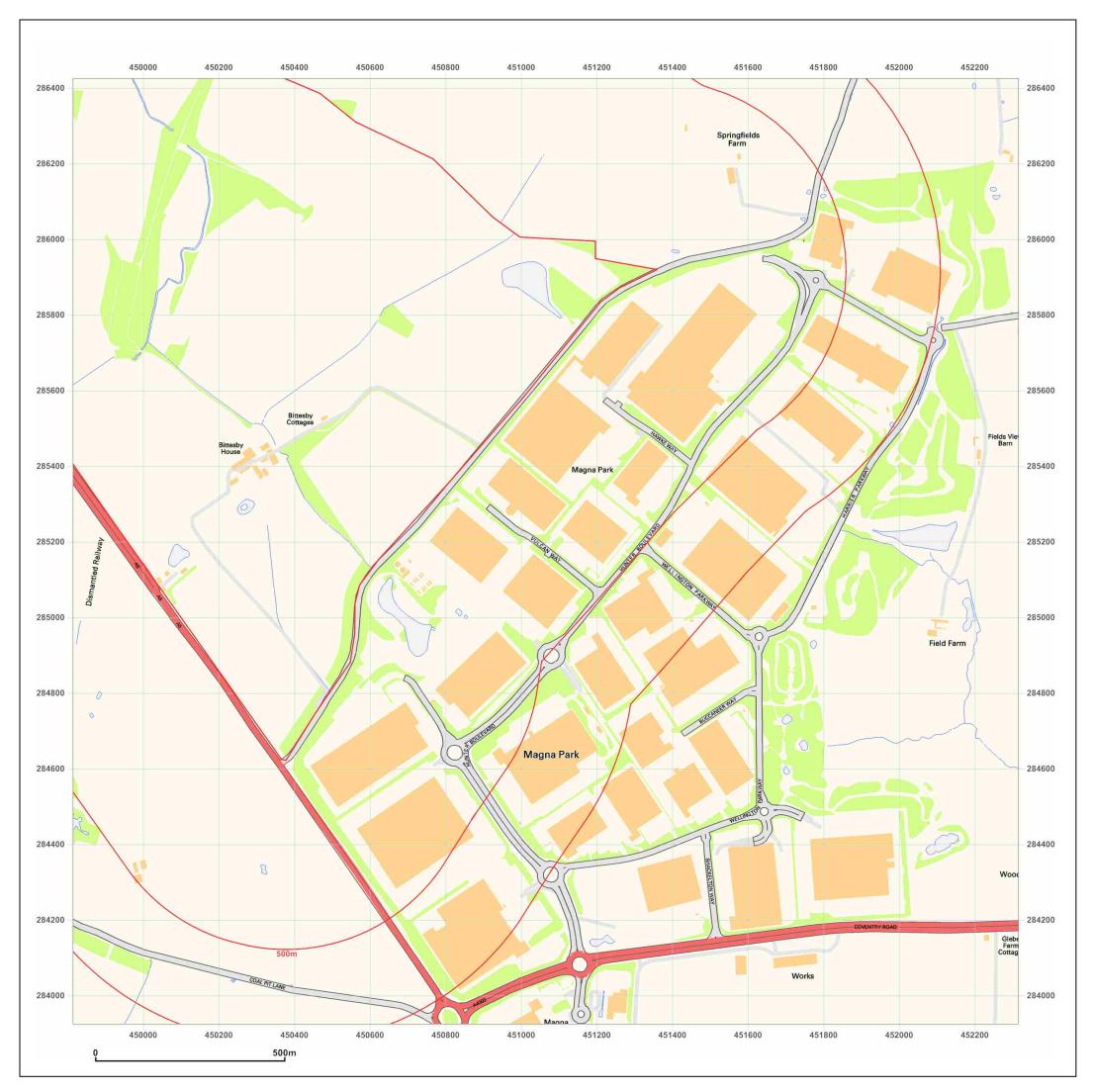
| Report Ref: | 1 LODGE COTTAGES, BITTESBY, LUTTERV<br>GS-1673445_SS_3_2<br>451065, 285175 | VOR |
|-------------|--|-----|
| Map Name:   | National Grid N  |     |
| Map date:   | 2010 W   |     |
| Scale:      | 1:10,000   |     |
| Printed at: | s<br>1:10,000  |     |





© Crown copyright and database rights 2013 Ordnance Survey 100035207

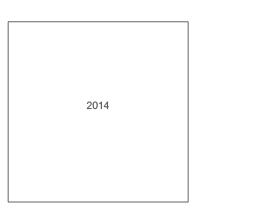
Production date: 22 September 2014



т



| LE17 4JH    |   |
|-------------|---|
|             |   |
| Report Ref: | 1 LODGE COTTAGES, BITTESBY, LUTT<br>GS-1673445_SS_3_2<br>451065, 285175 |
| Map Name:   | National Grid   |
| Map date:   | 2014 w  |
| Scale:      | 1:10,000  |
| Printed at: | 1:10,000 s  |



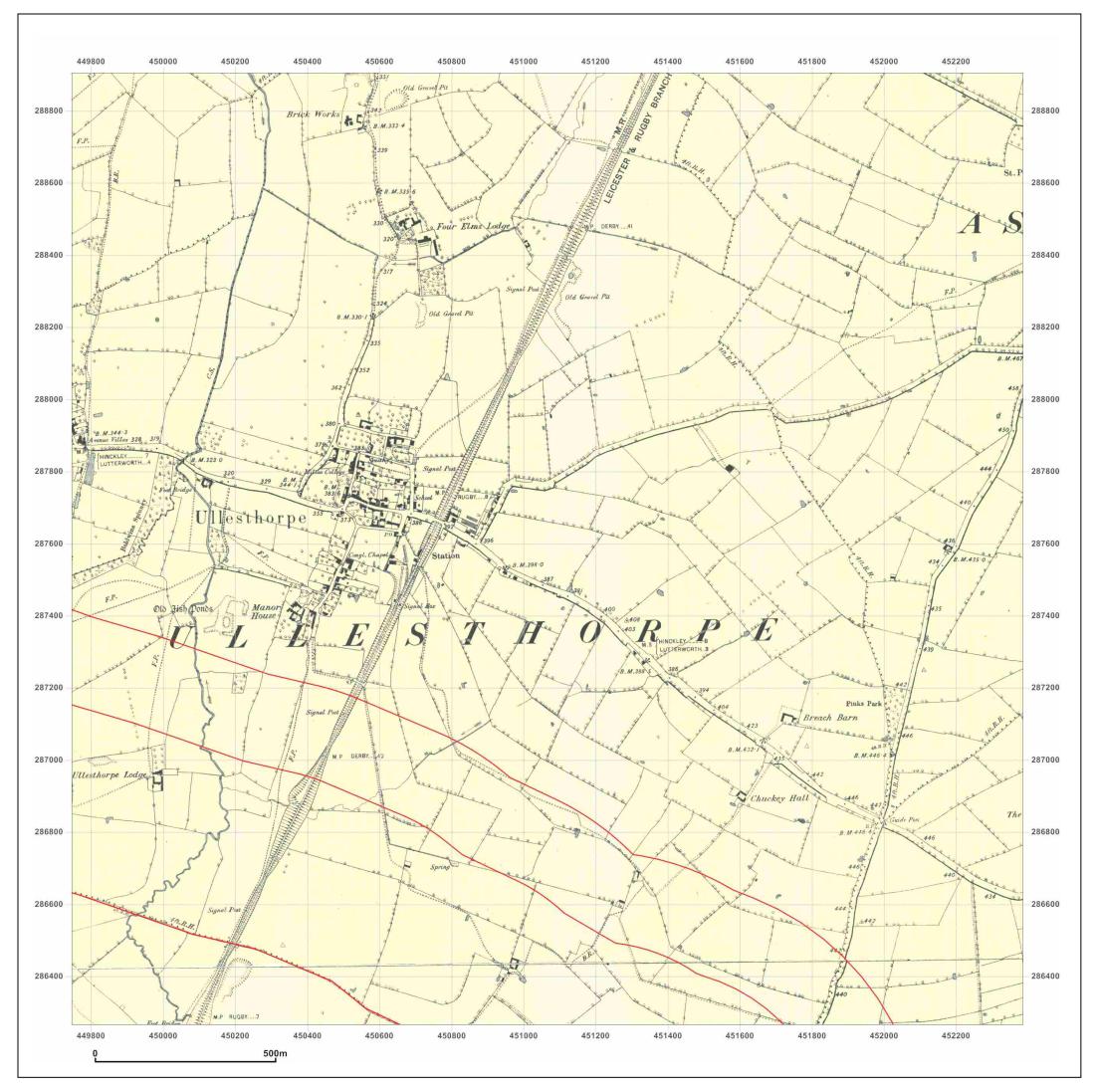
Е

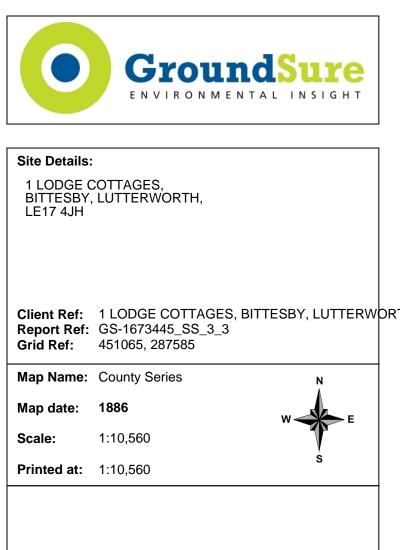


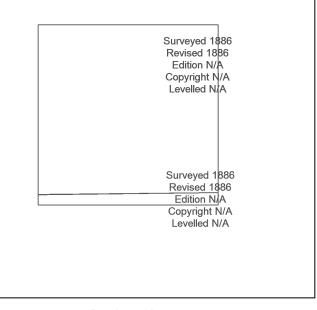
Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



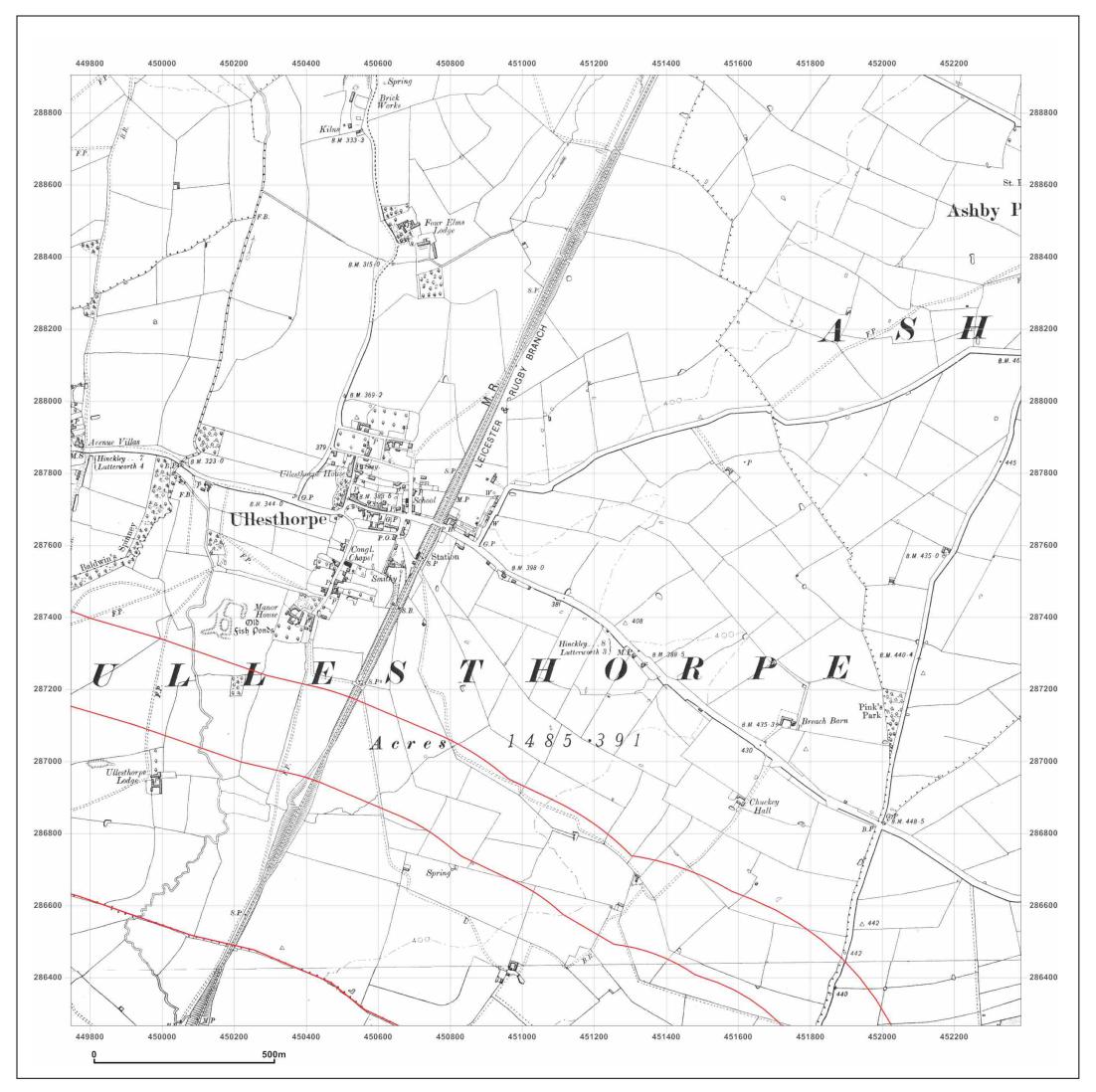


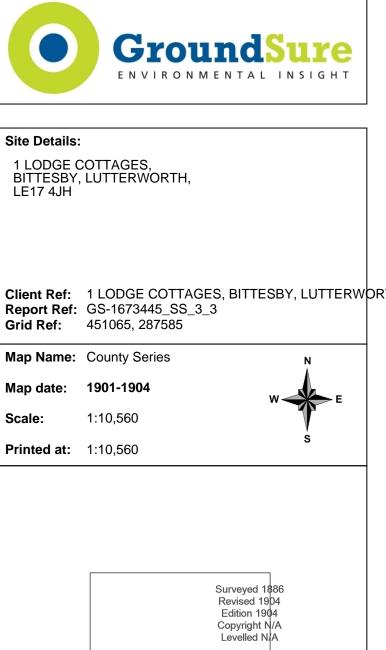


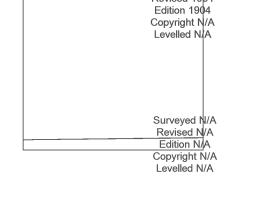


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



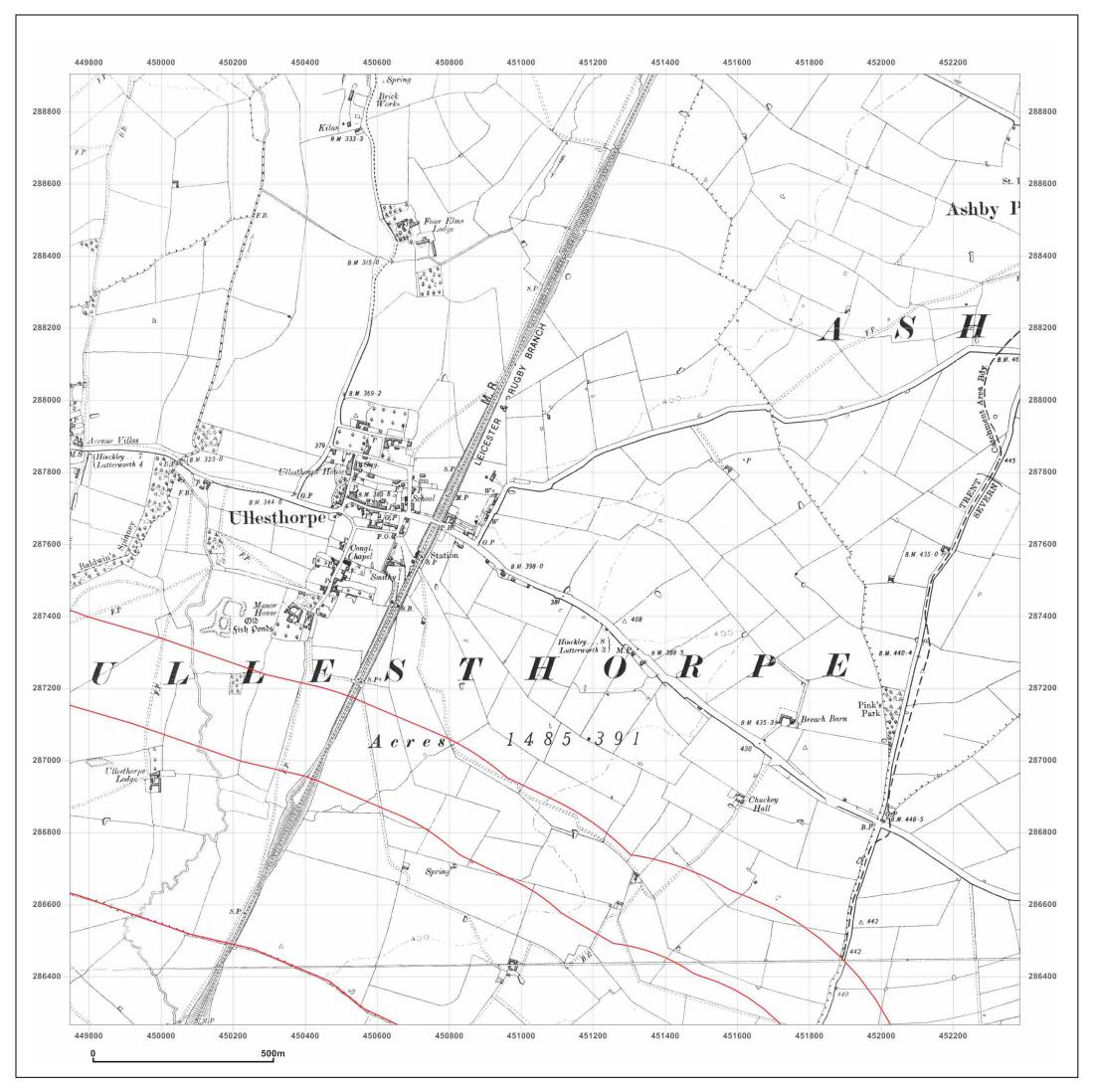


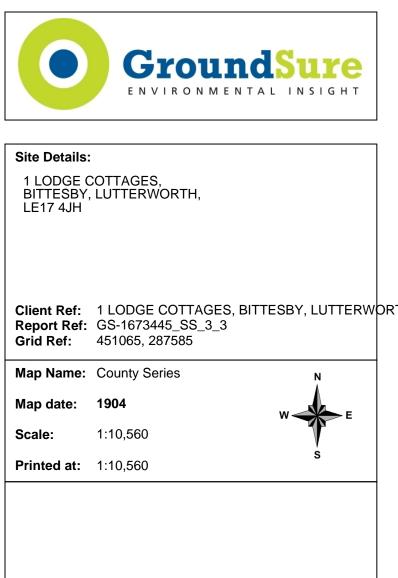


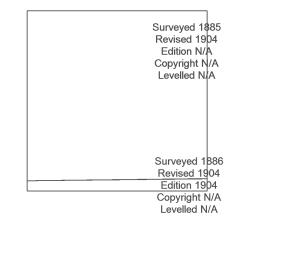


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



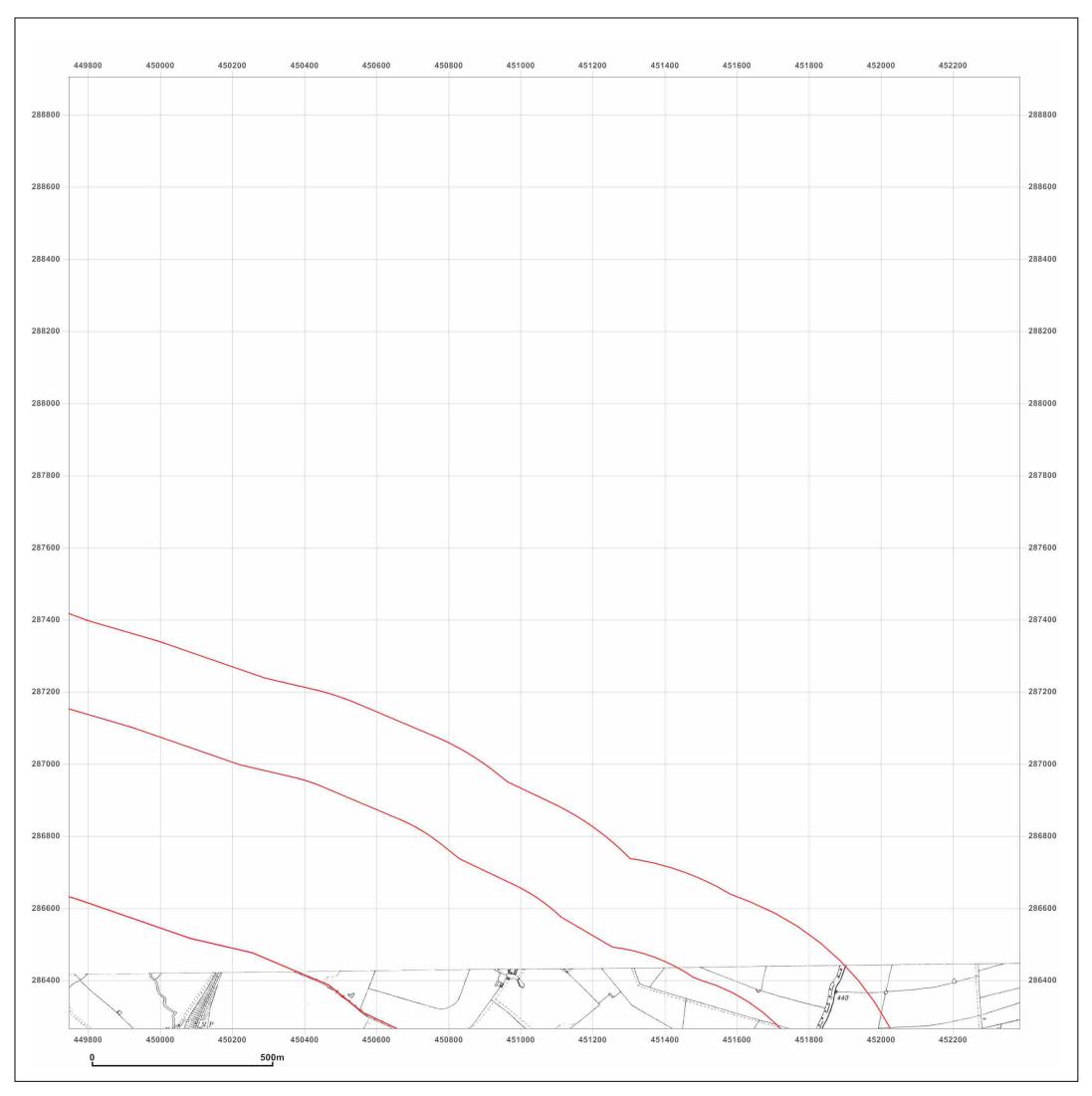


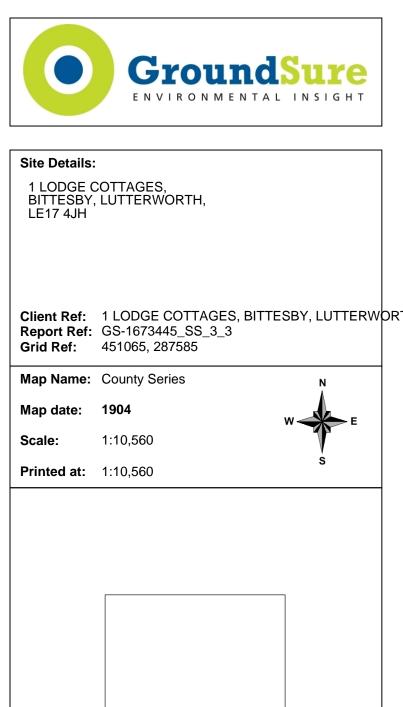




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





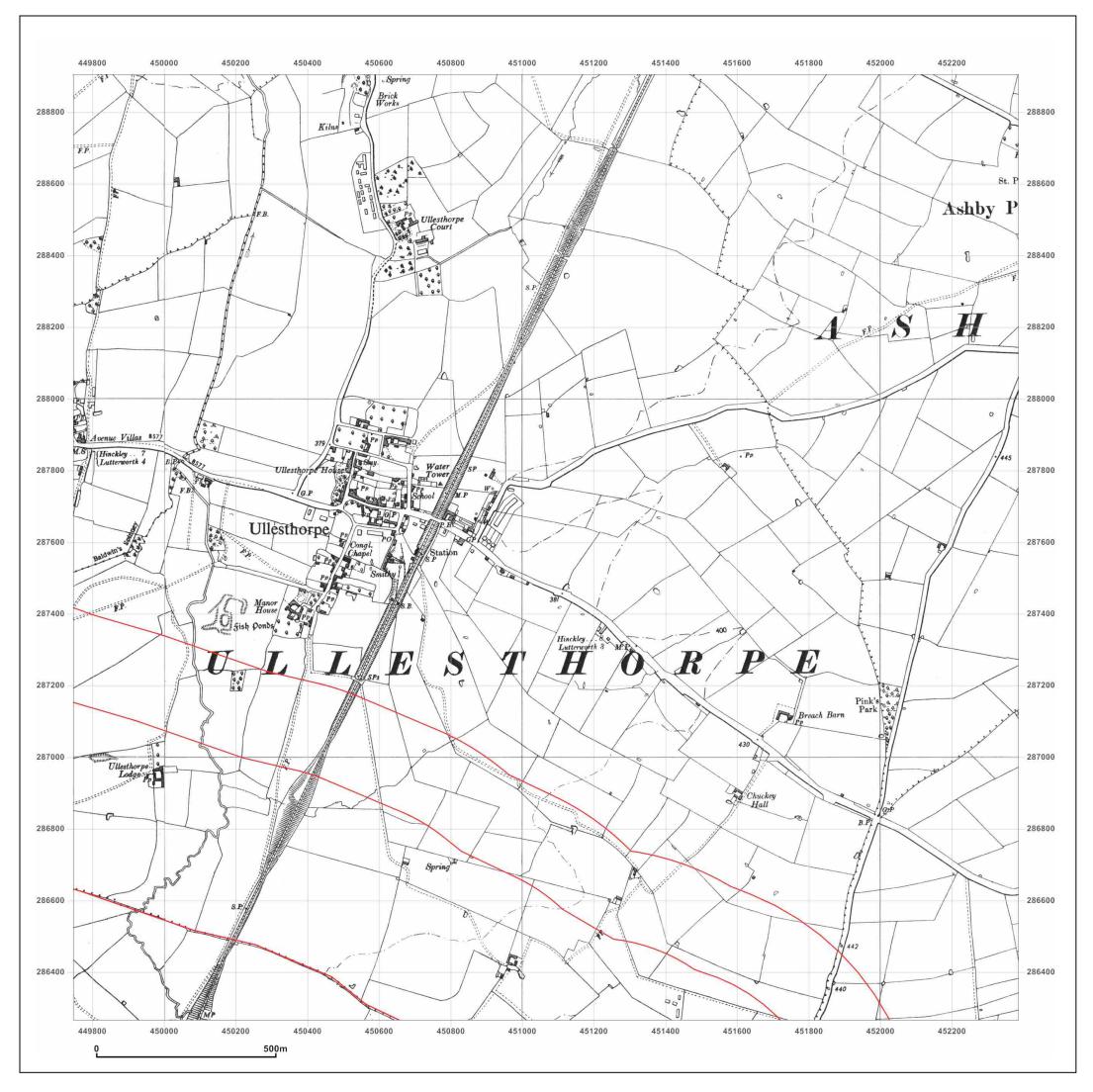
Surveyed 1885 Revised 1904 Edition N/A Copyright N/A Levelled N/A

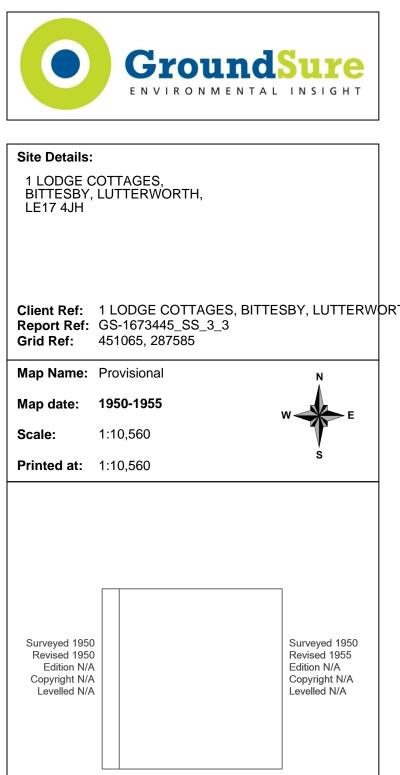


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

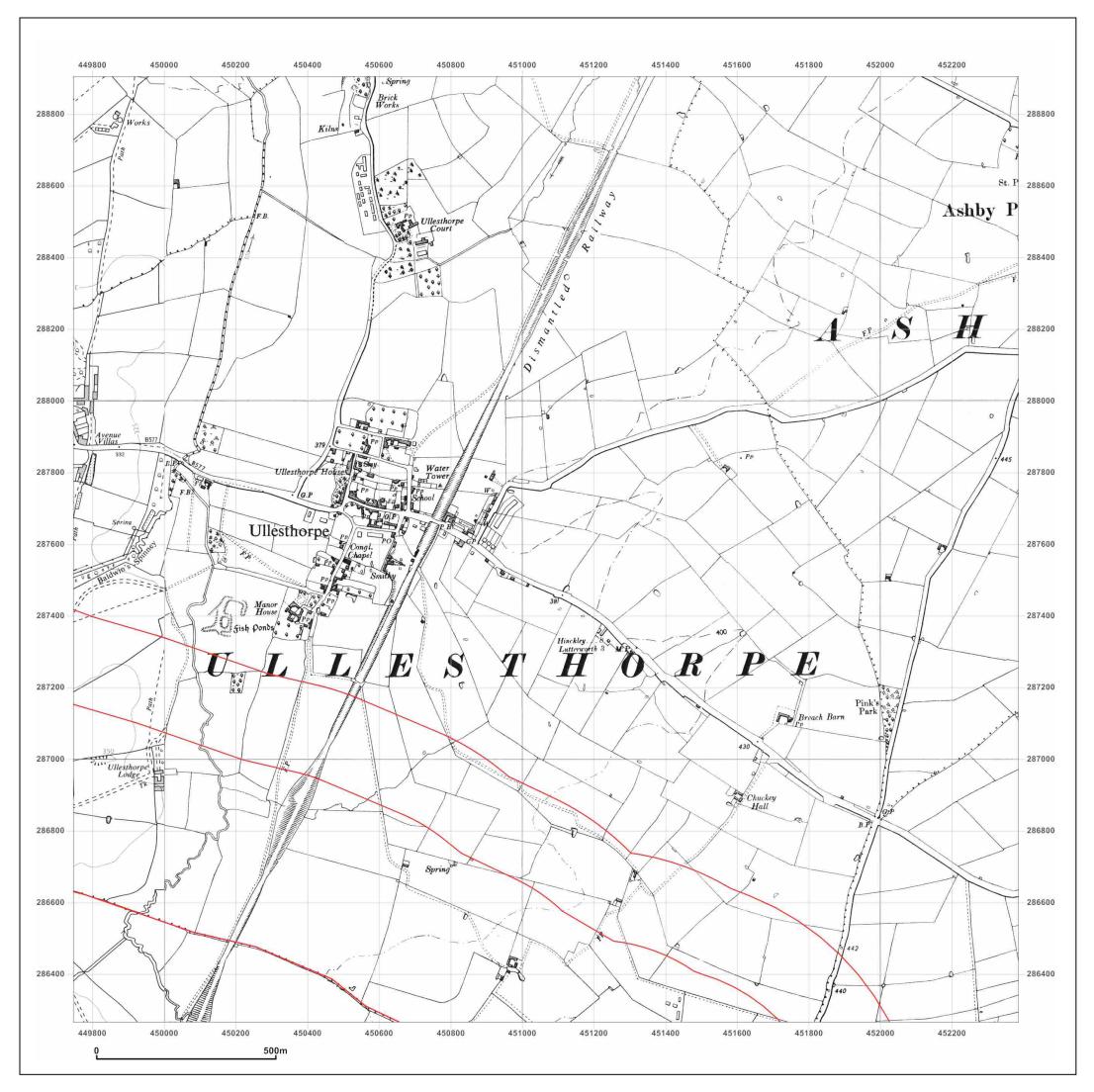


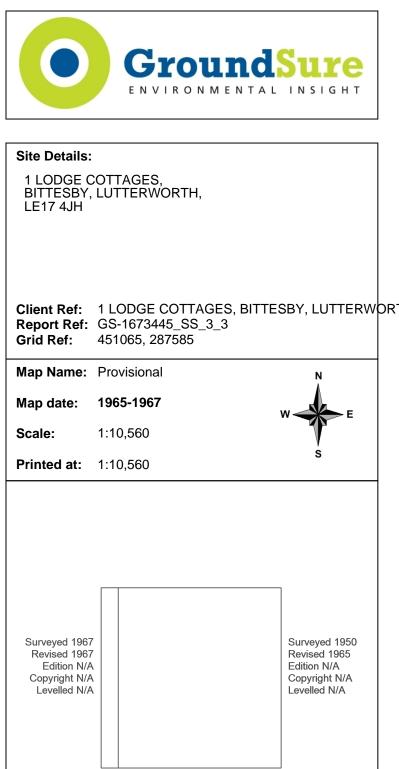




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

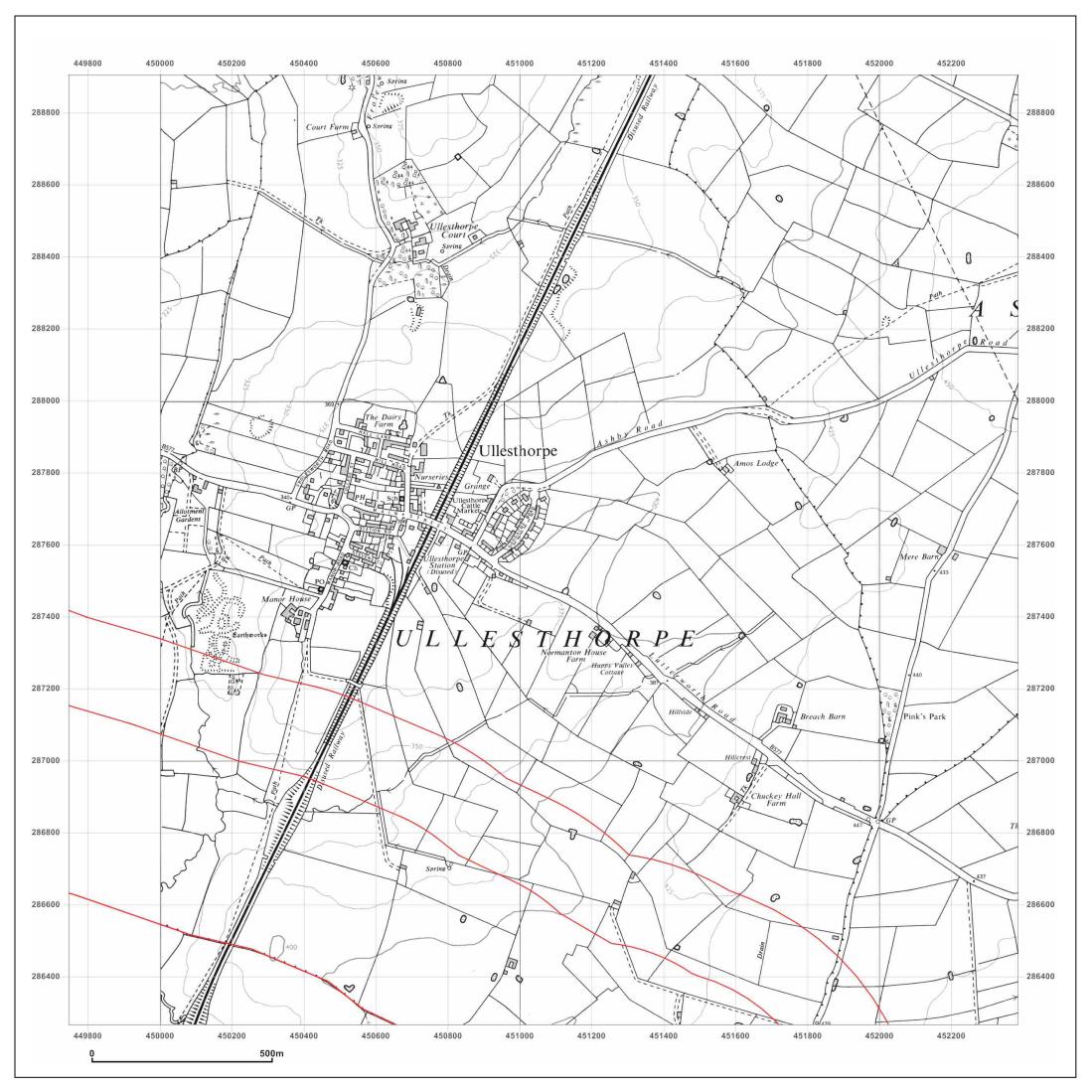






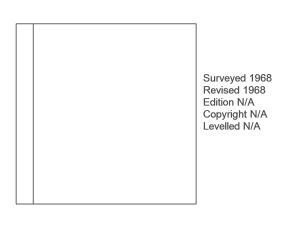
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_SS_3_3<br>451065, 287585 | TESBY, LUTTERW | OR' |
|-------------|--|----------------|-----|
| Map Name:   | Provisional  | N              |     |
| Map date:   | 1968   | W              |     |
| Scale:      | 1:10,560   | Y              |     |
| Printed at: | 1:10,560   | S              |     |
|             |  |                |     |



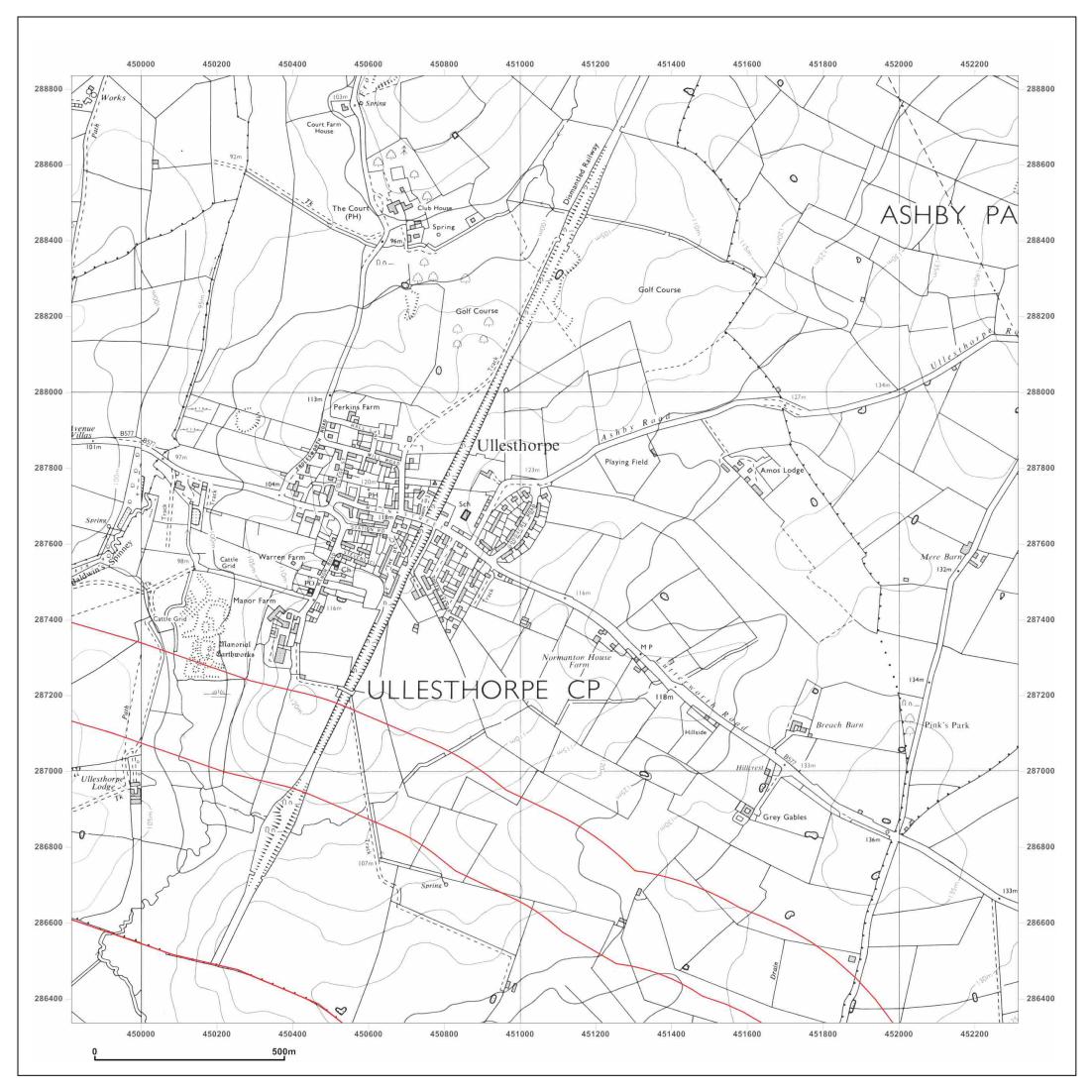


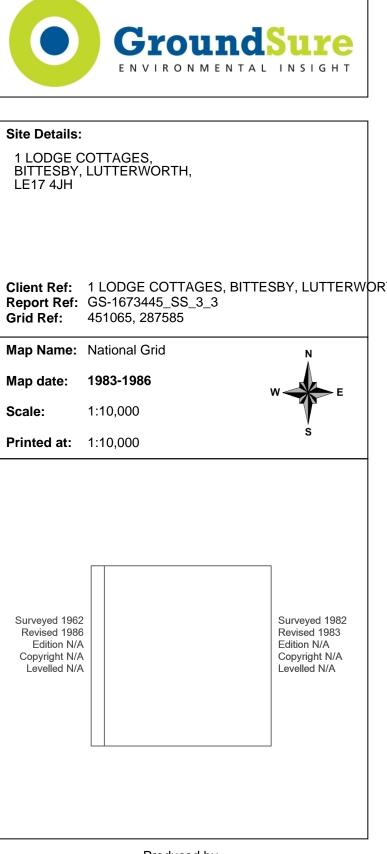
LE17 4JH

Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

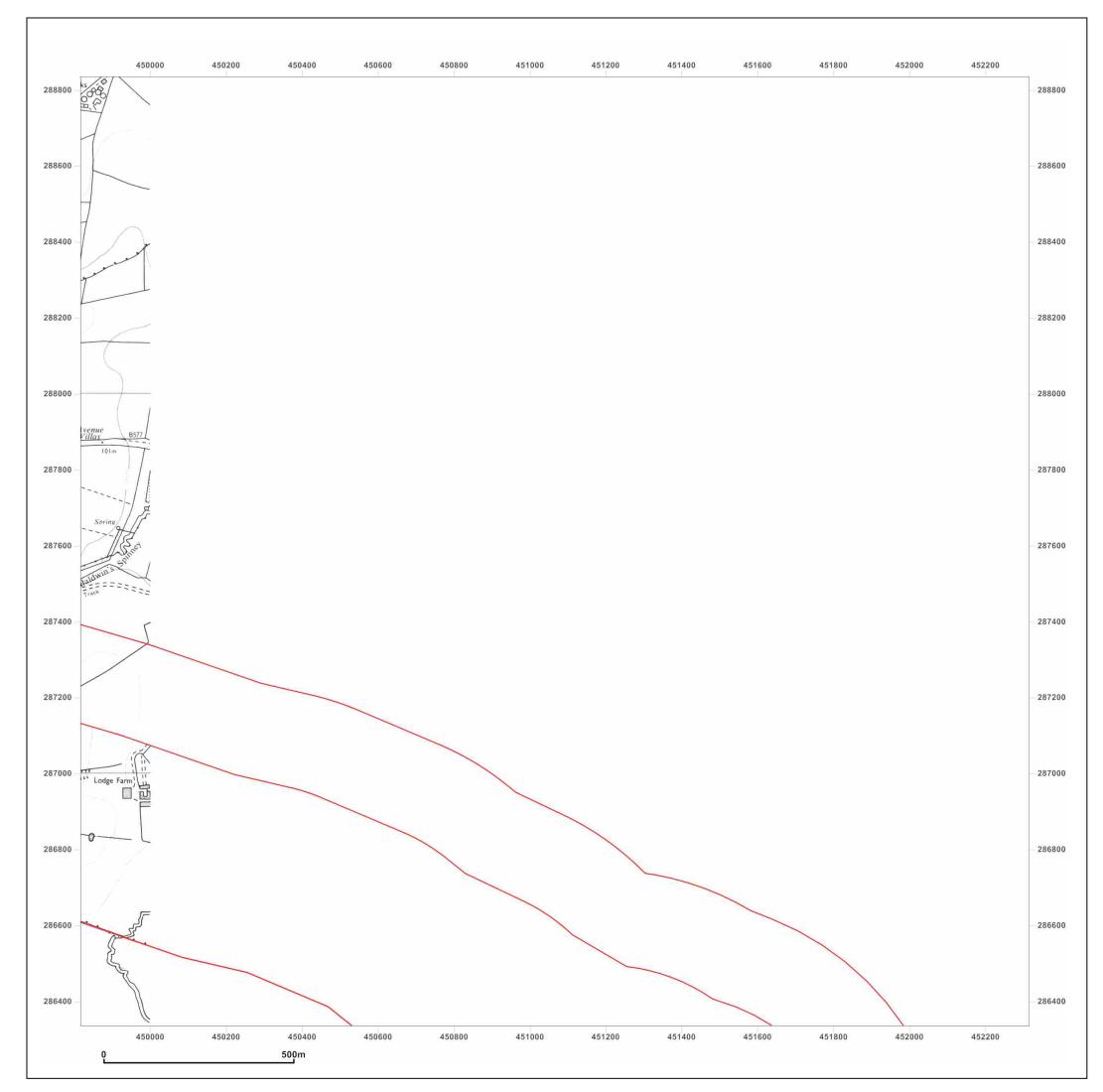


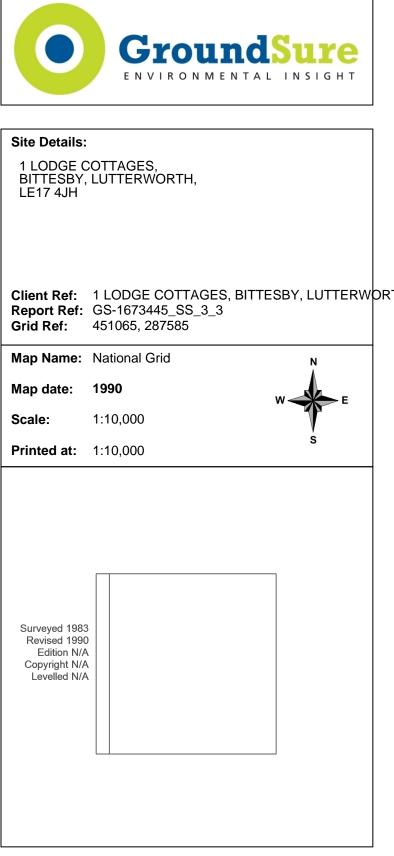




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

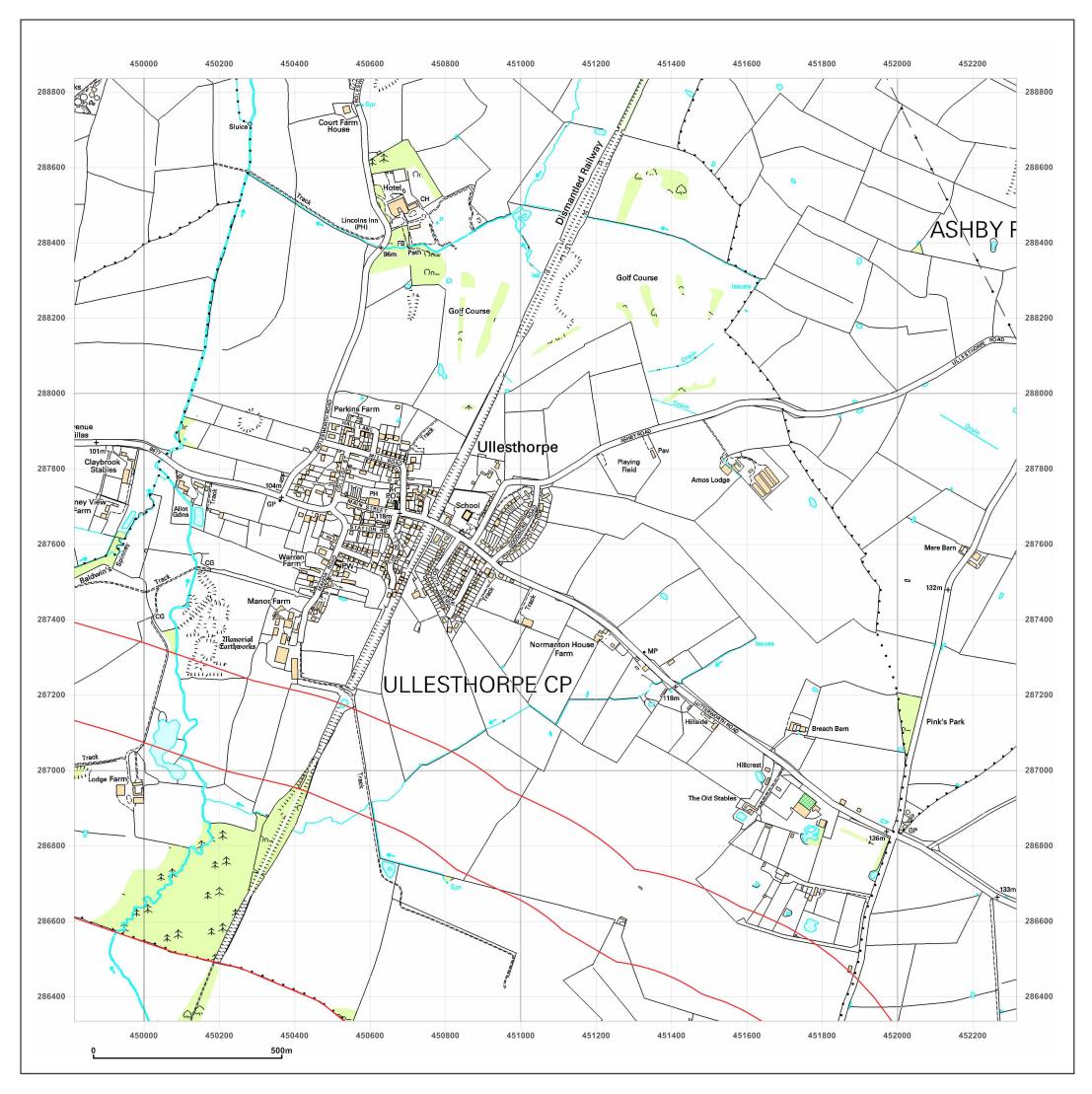


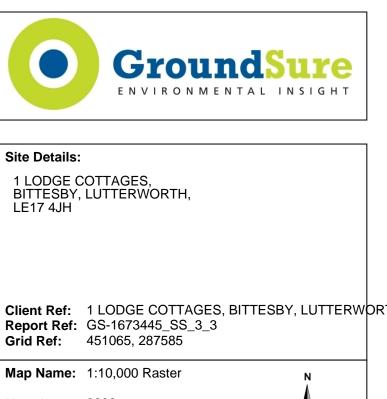




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

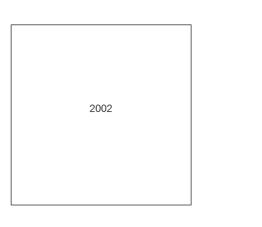




Map date: 2002

1:10,000 Scale:

Printed at: 1:10,000

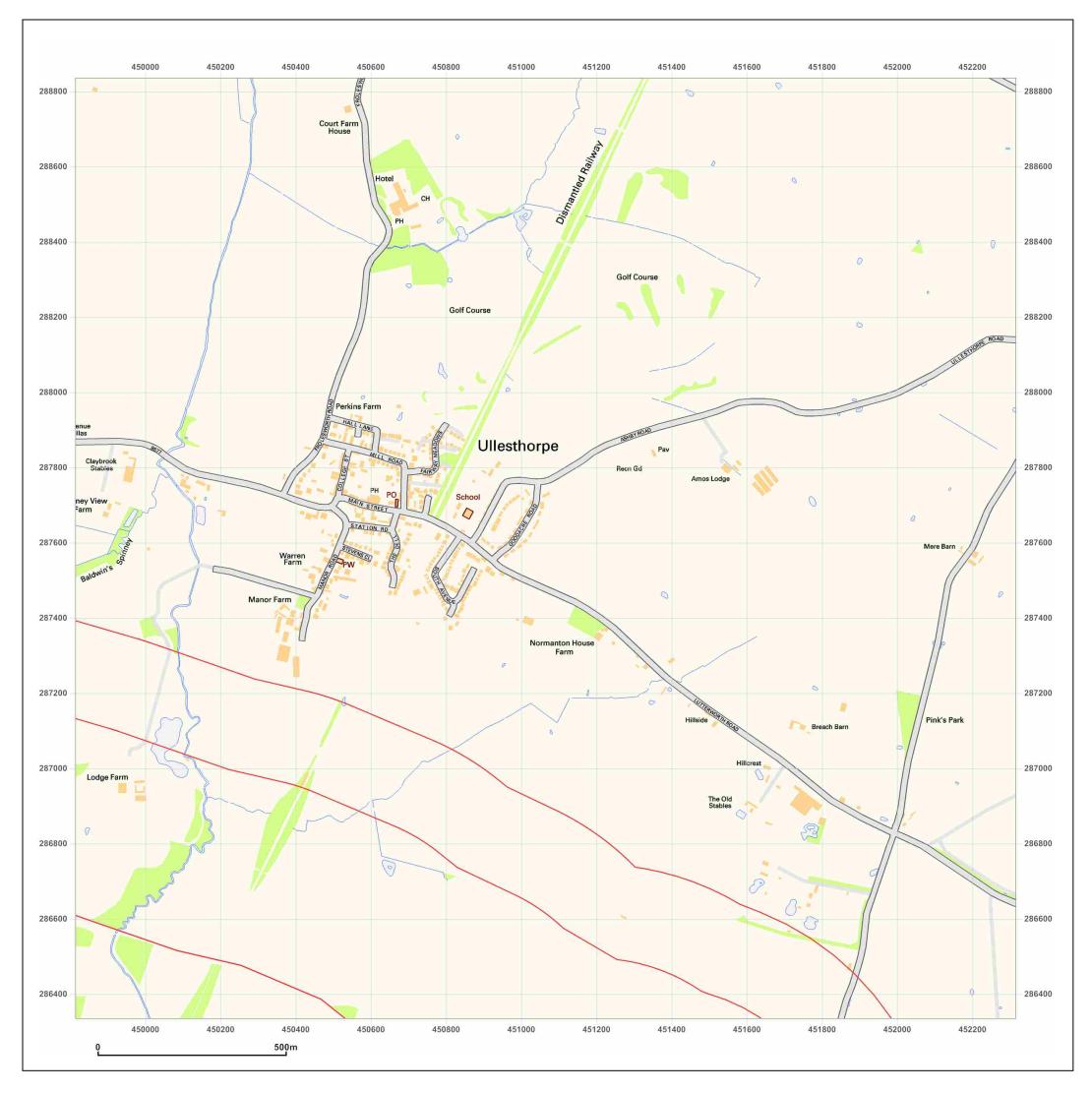




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BITTESBY, LUTTERW<br>GS-1673445_SS_3_3<br>451065, 287585 | OR |
|-------------|--|----|

Map Name: National Grid Map date: 2010 1:10,000 Scale: **Printed at:** 1:10,000

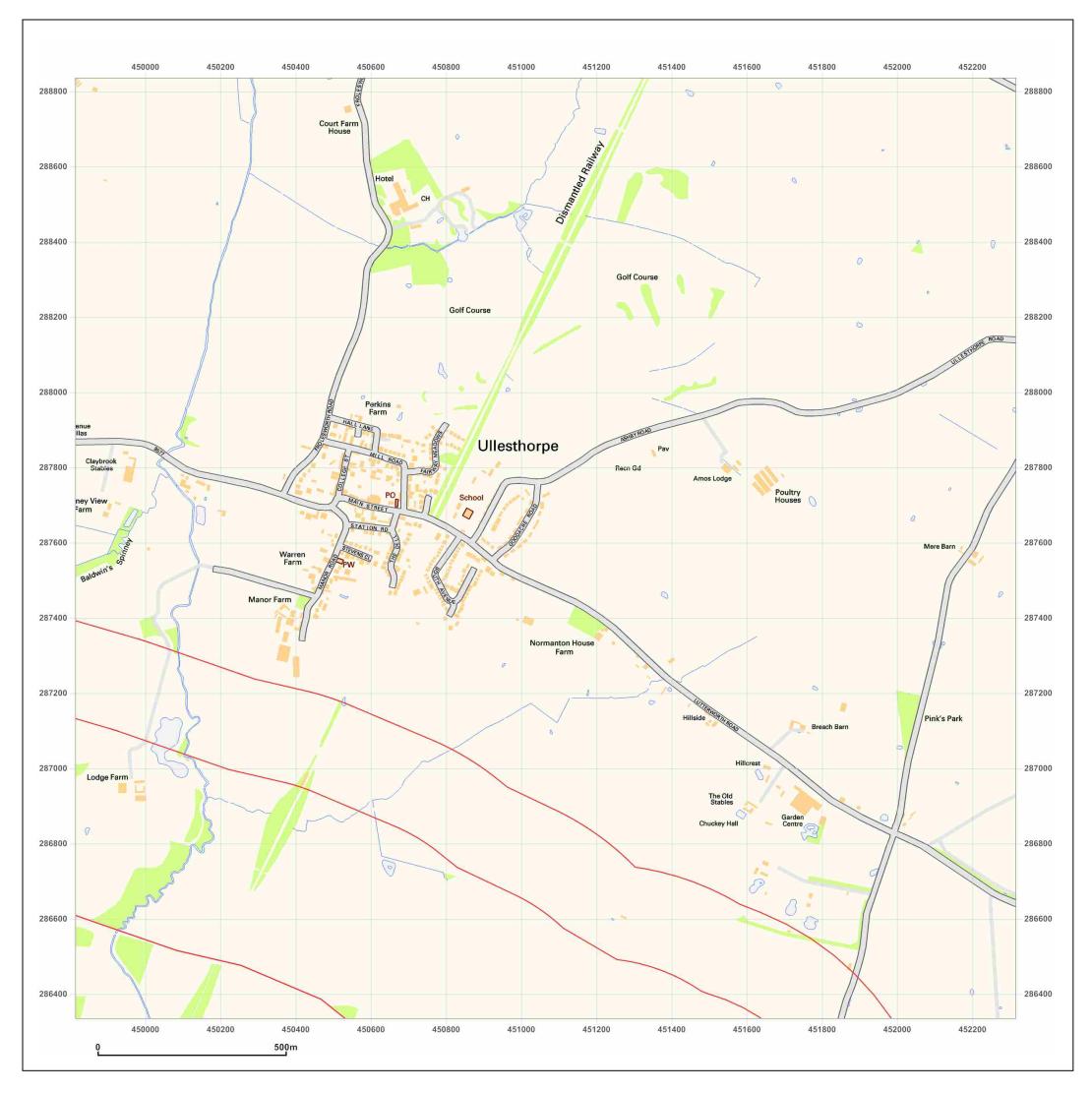




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

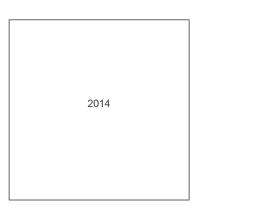
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





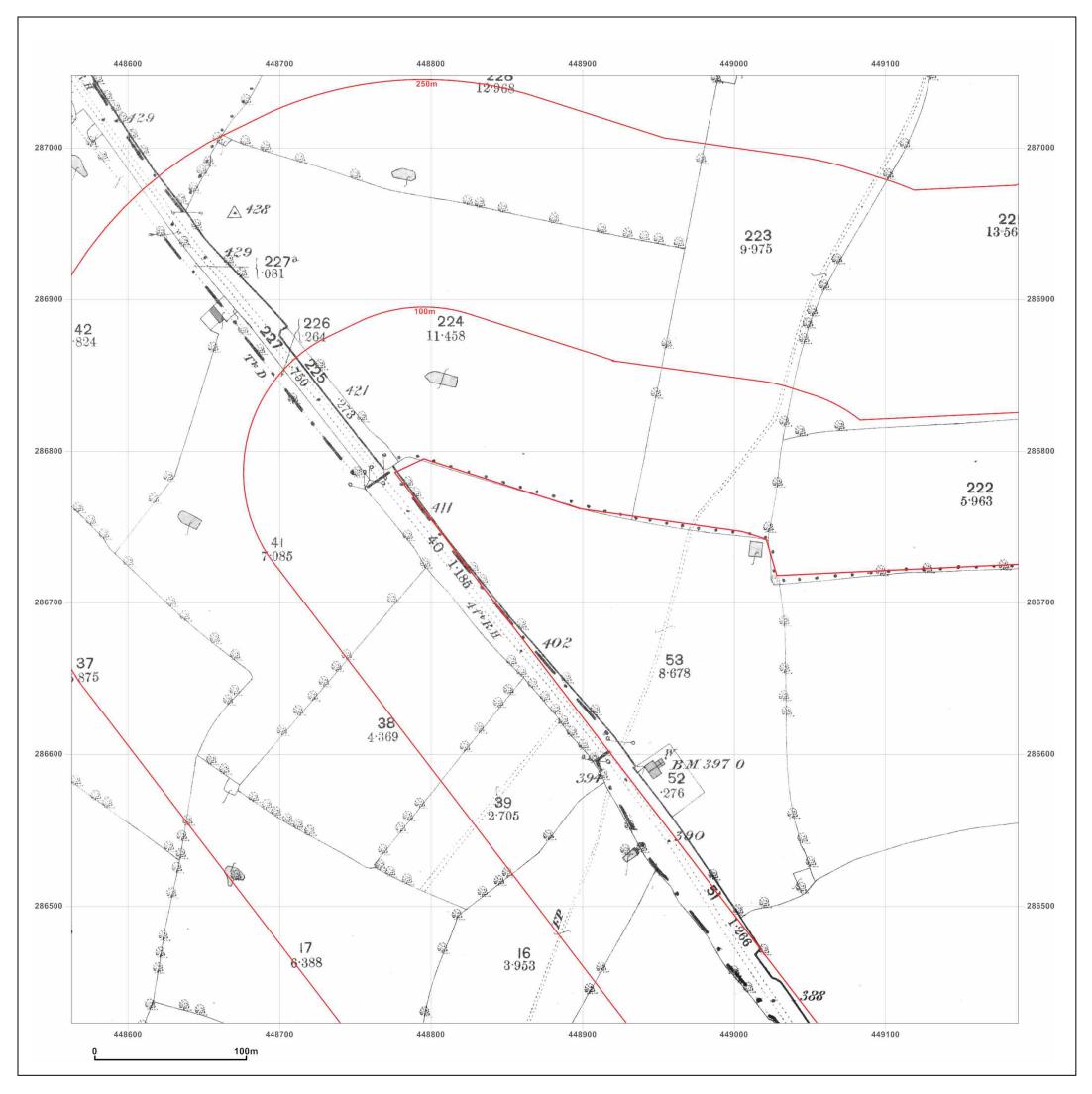
| BITTESBY,<br>LE17 4JH                   | LUTTERWORTH,   |    |
|---|--|----|
| Client Ref:<br>Report Ref:<br>Grid Ref: | 1 LODGE COTTAGES, BITTESBY, LUTTERW<br>GS-1673445_SS_3_3<br>451065, 287585 | OR |
| Map Name:                               | National Grid  |    |
| Map date:                               | 2014 W   |    |
| Scale:                                  | 1:10,000   |    |
| Printed at:                             | 1:10,000 s   |    |

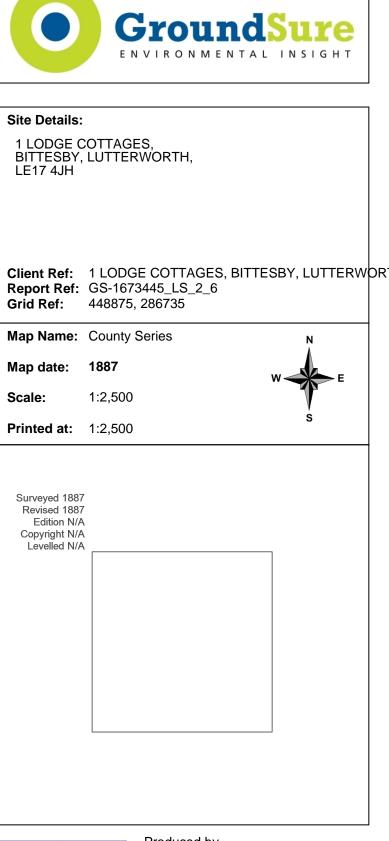




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

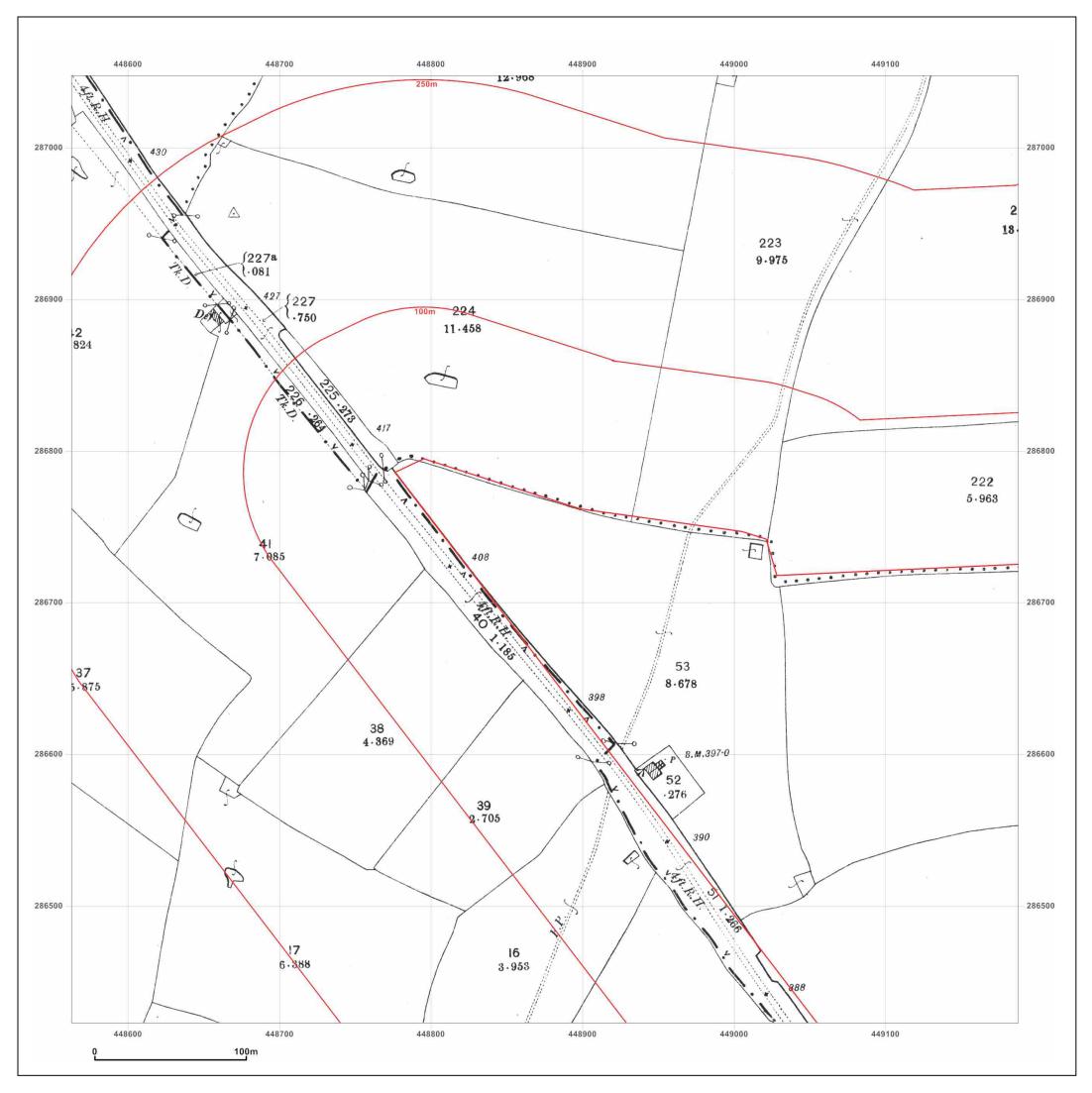


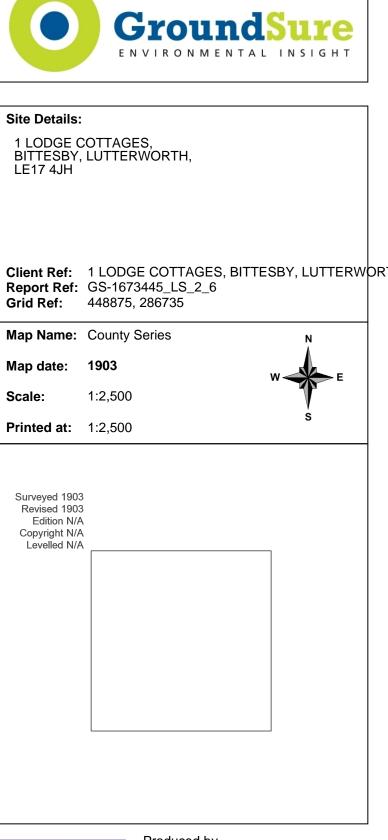




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



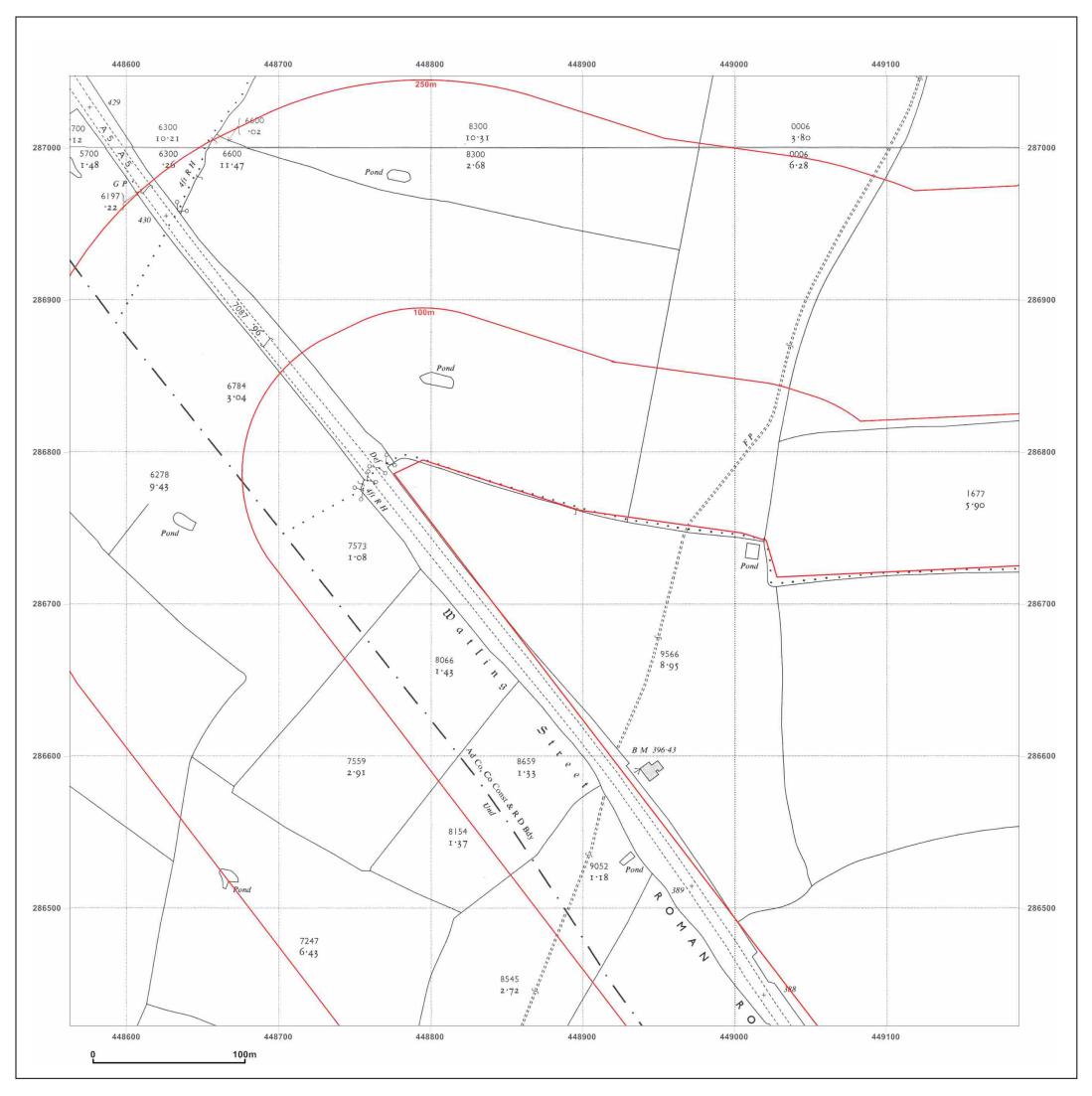


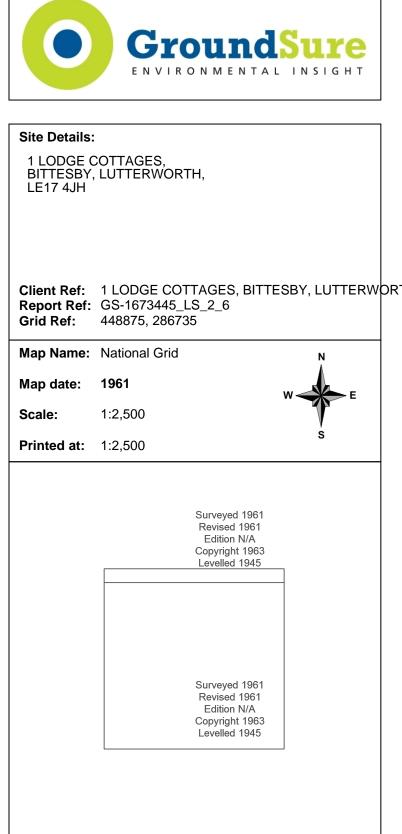
Ordnance Survey<sup>®</sup> Licensed Partner

Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

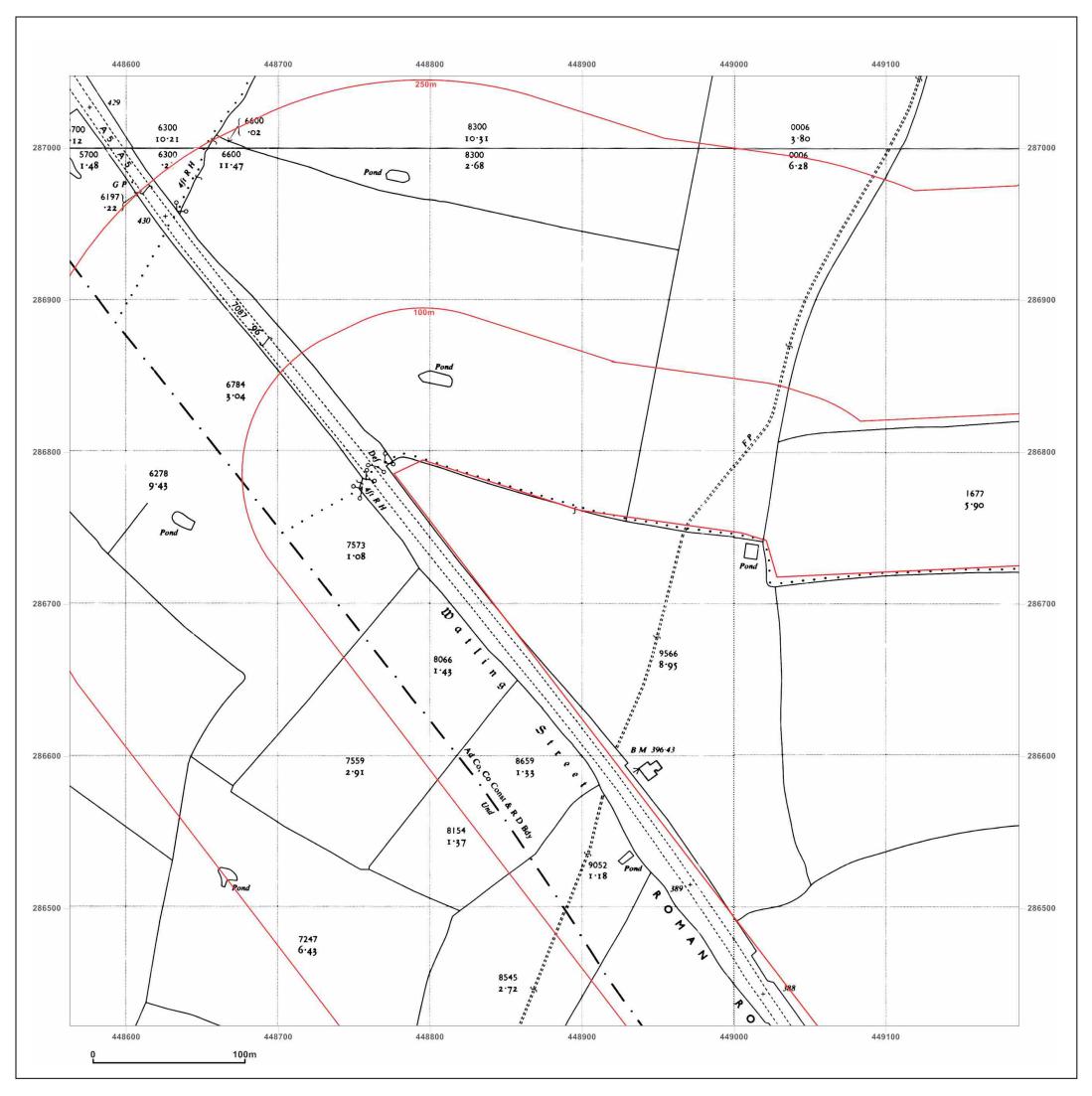


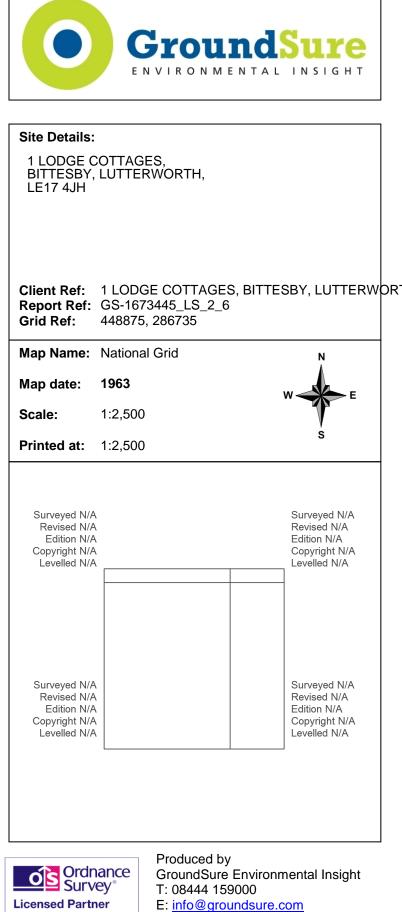




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

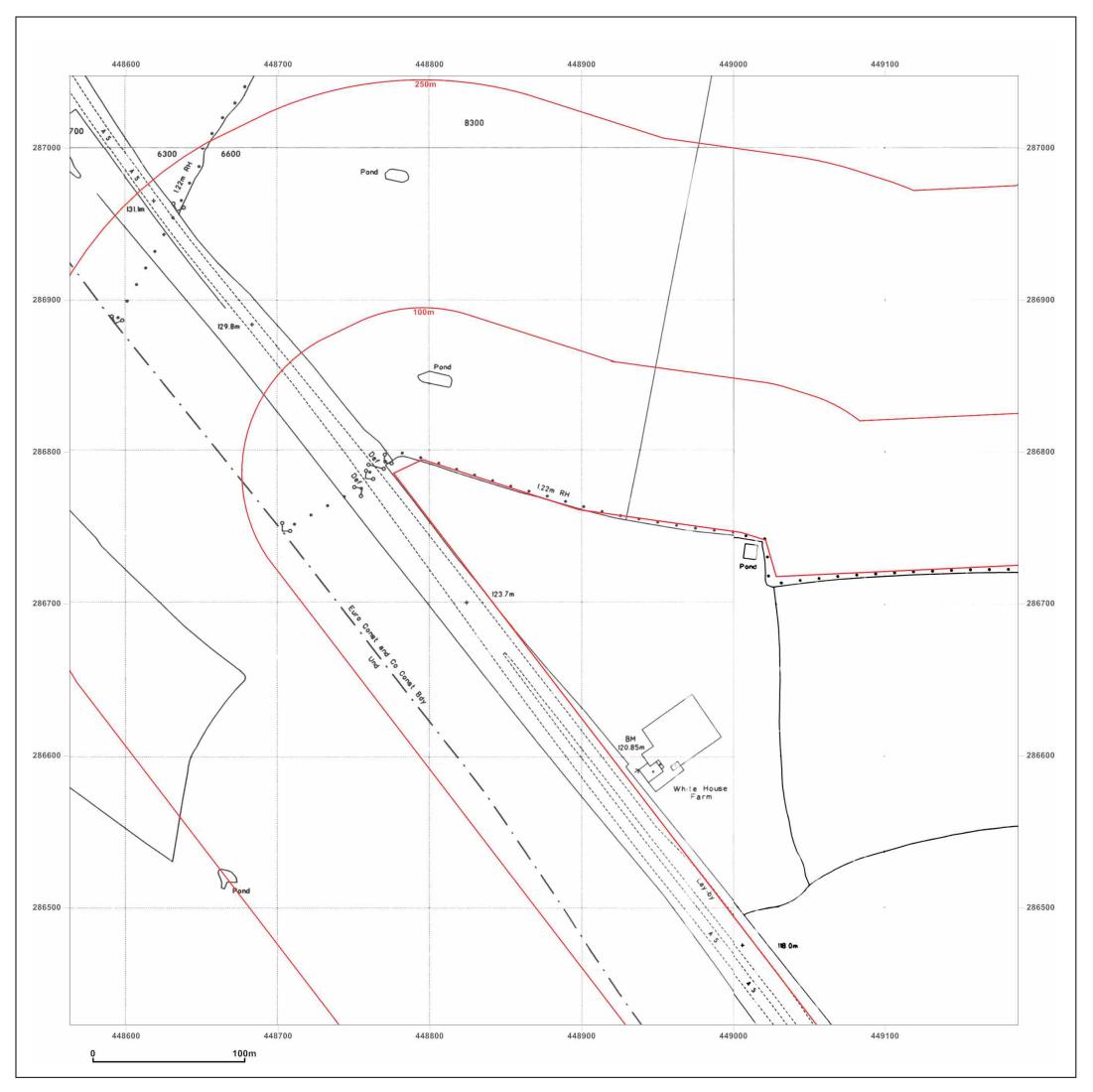


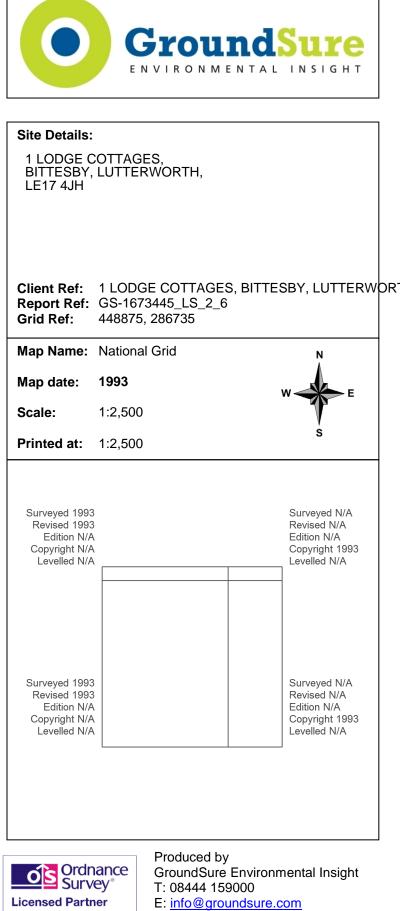


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014

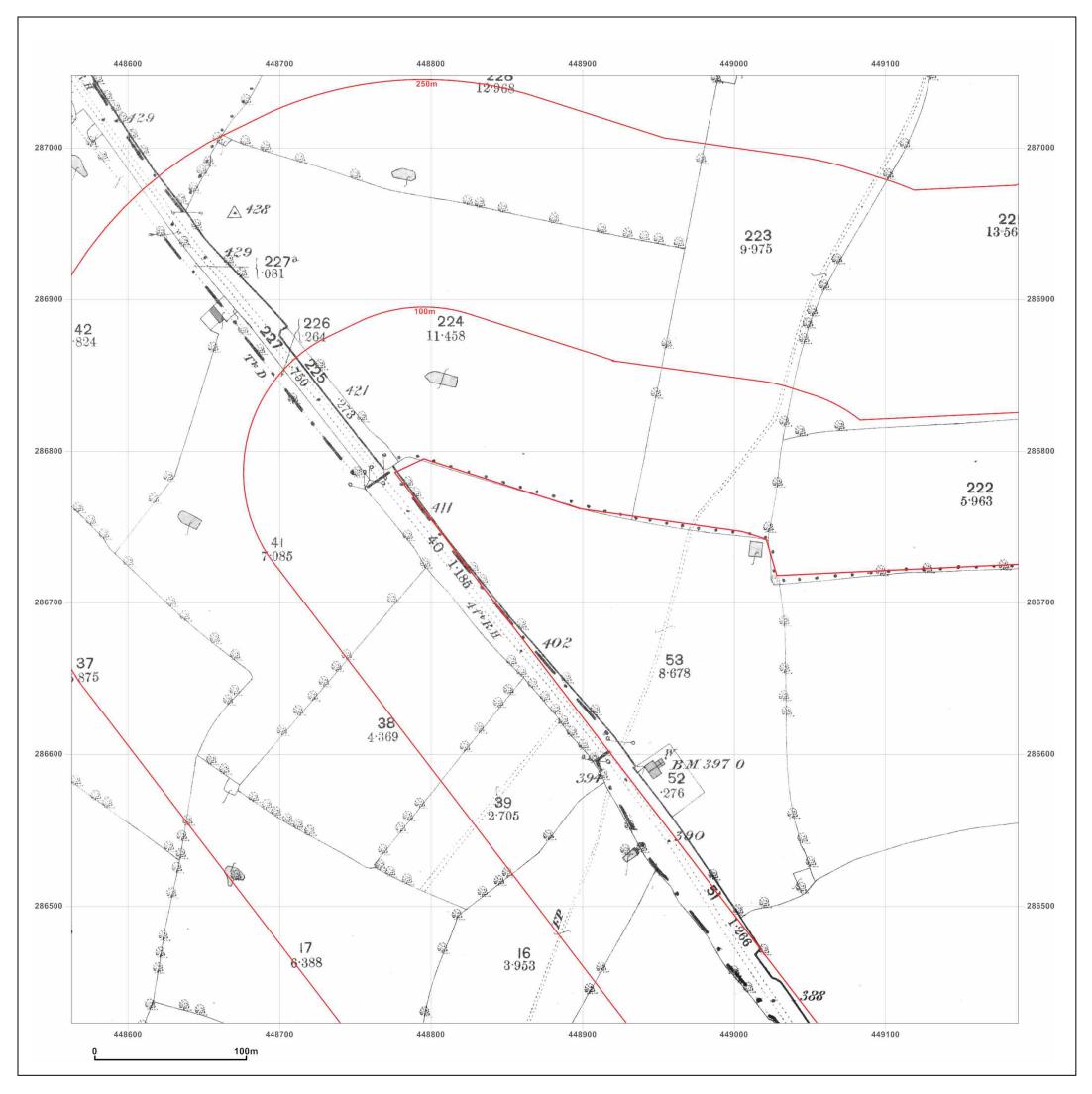


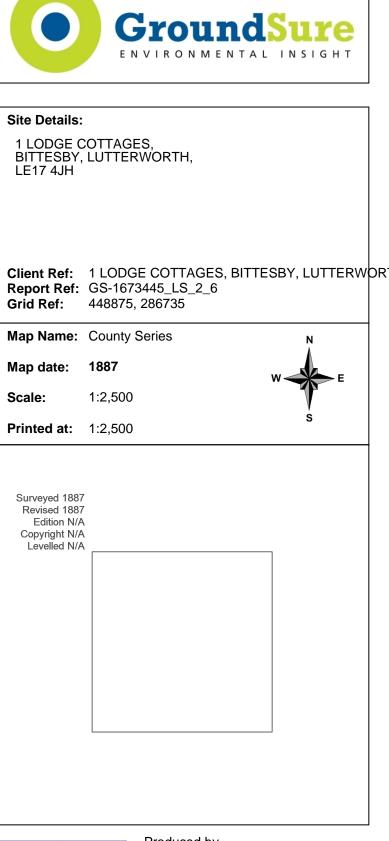


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014

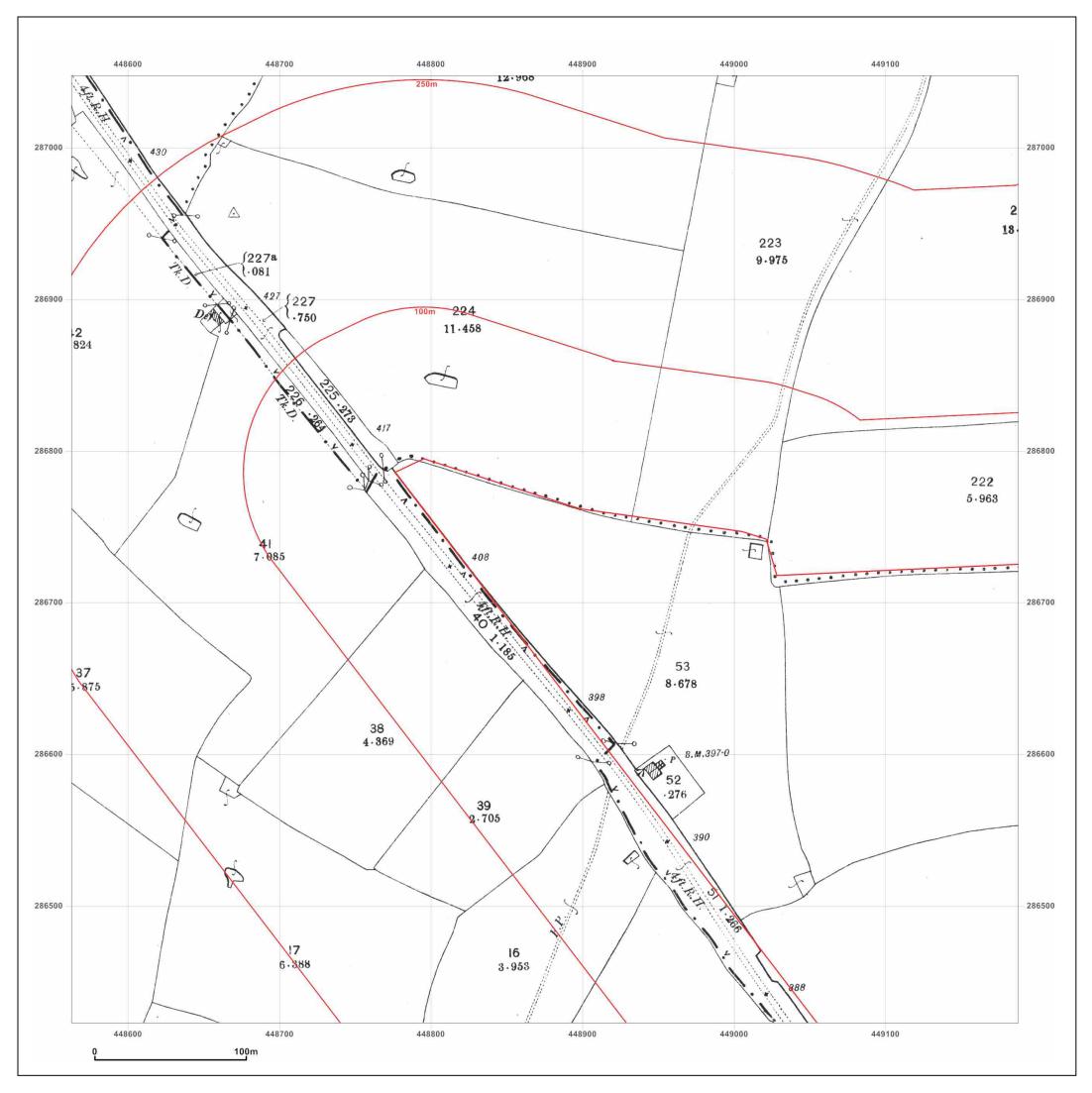


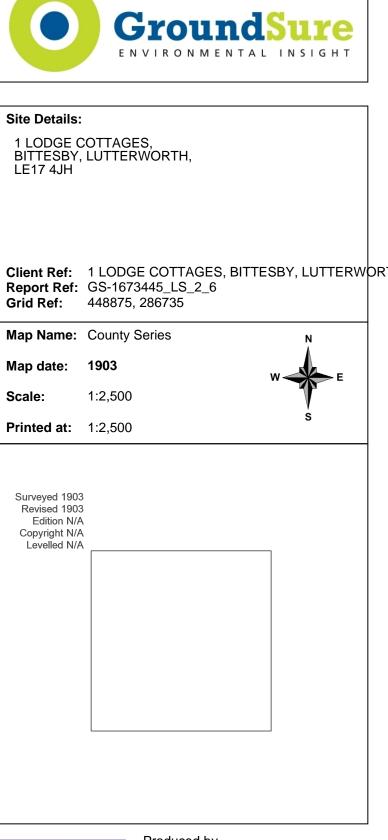




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



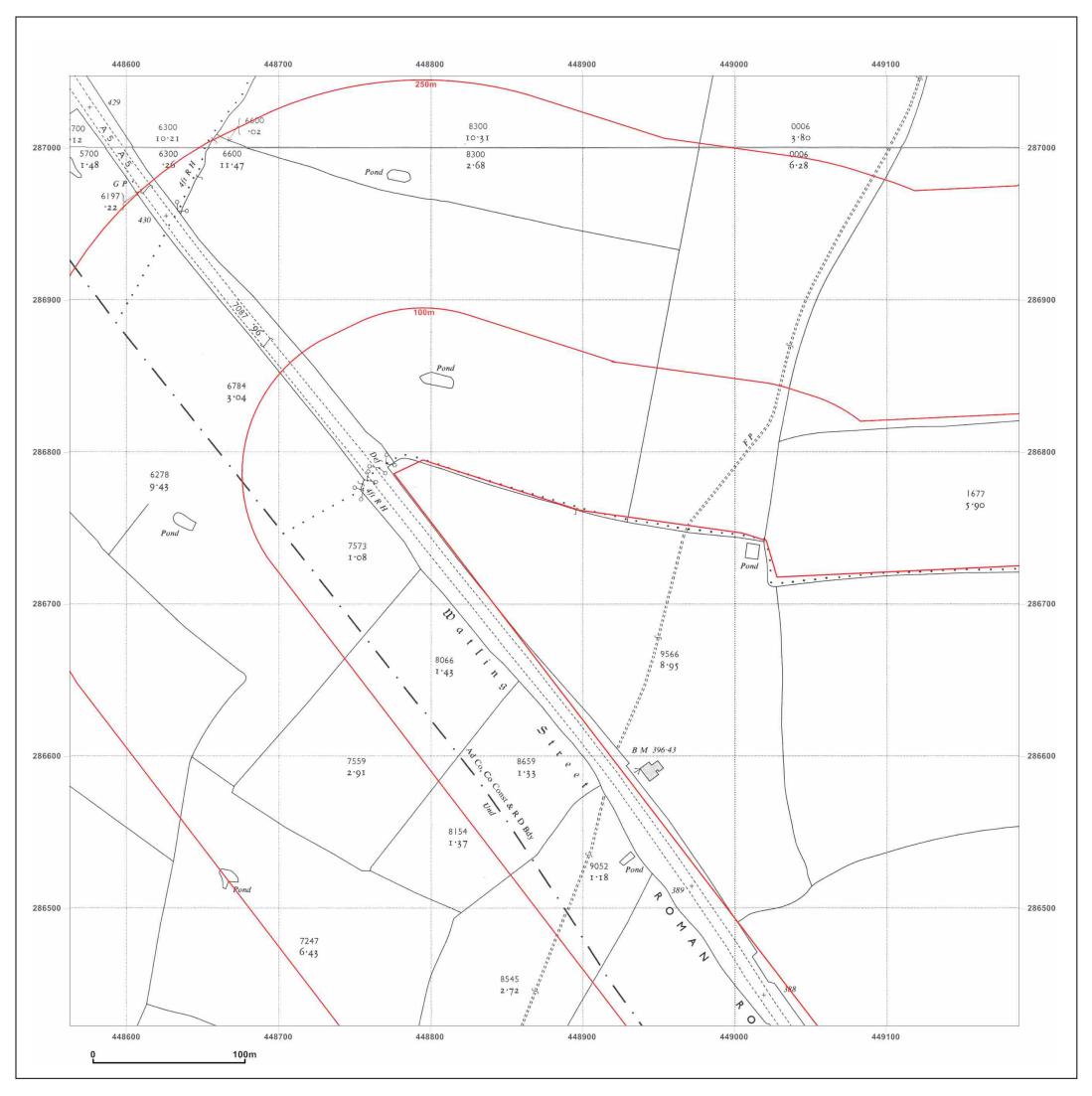


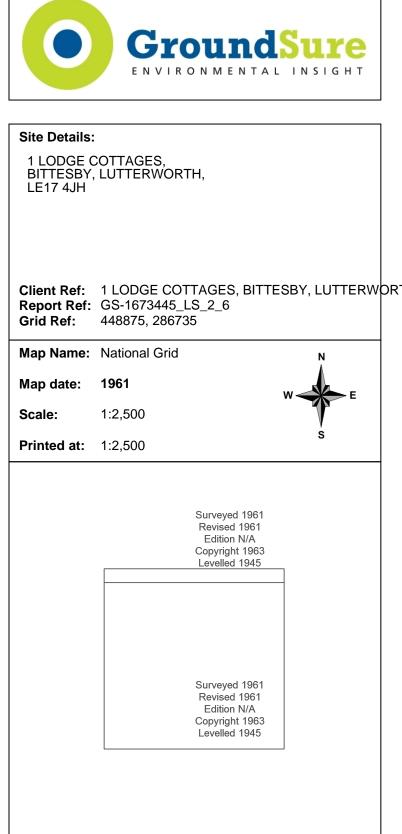
Ordnance Survey<sup>®</sup> Licensed Partner

Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

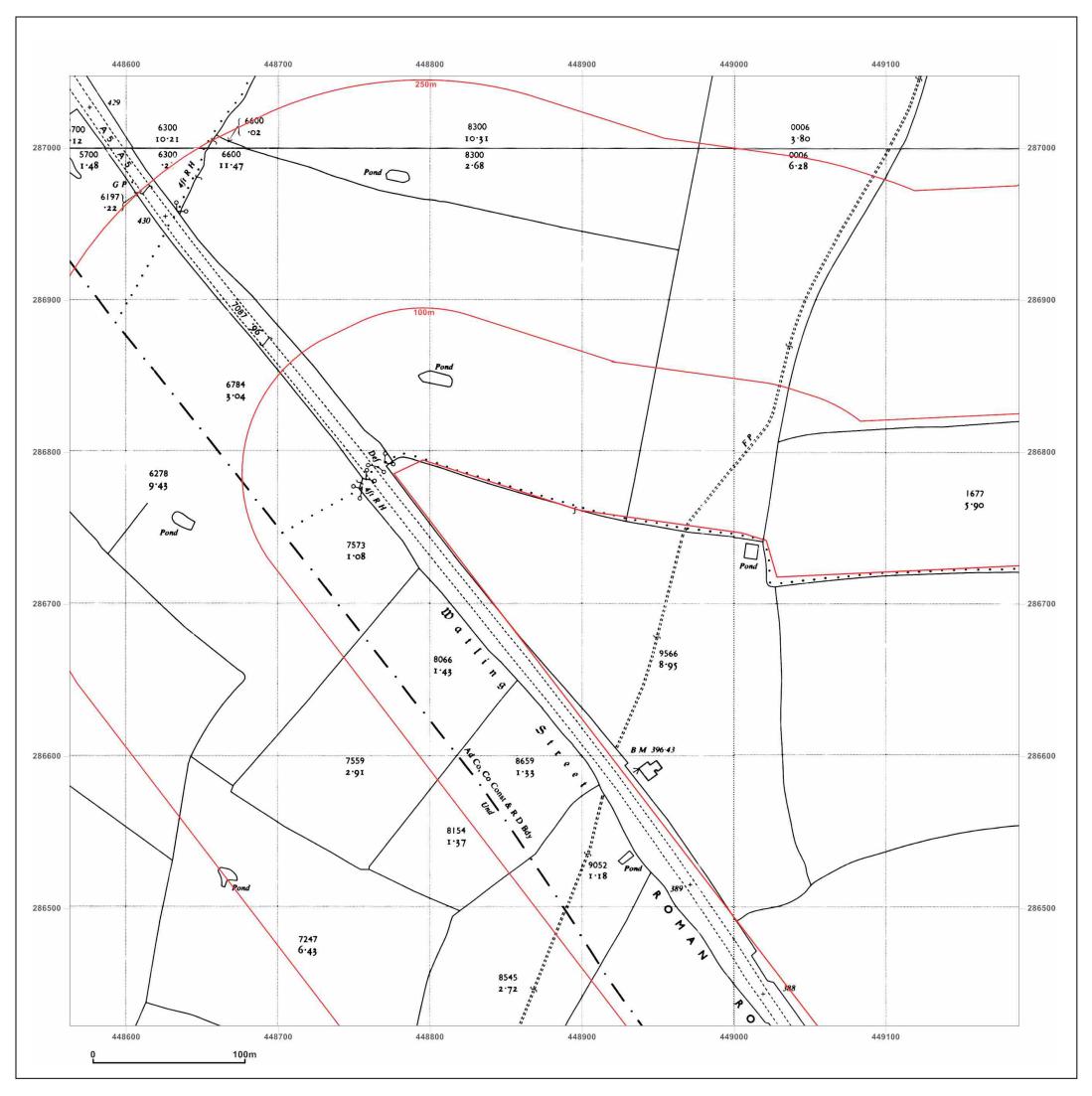


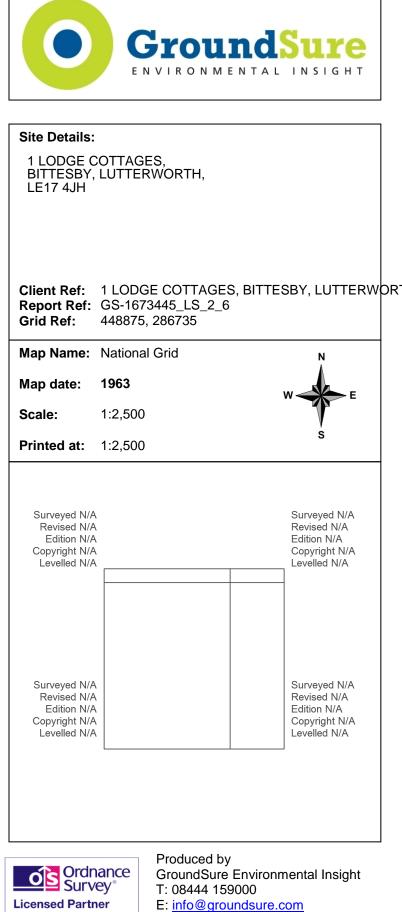




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

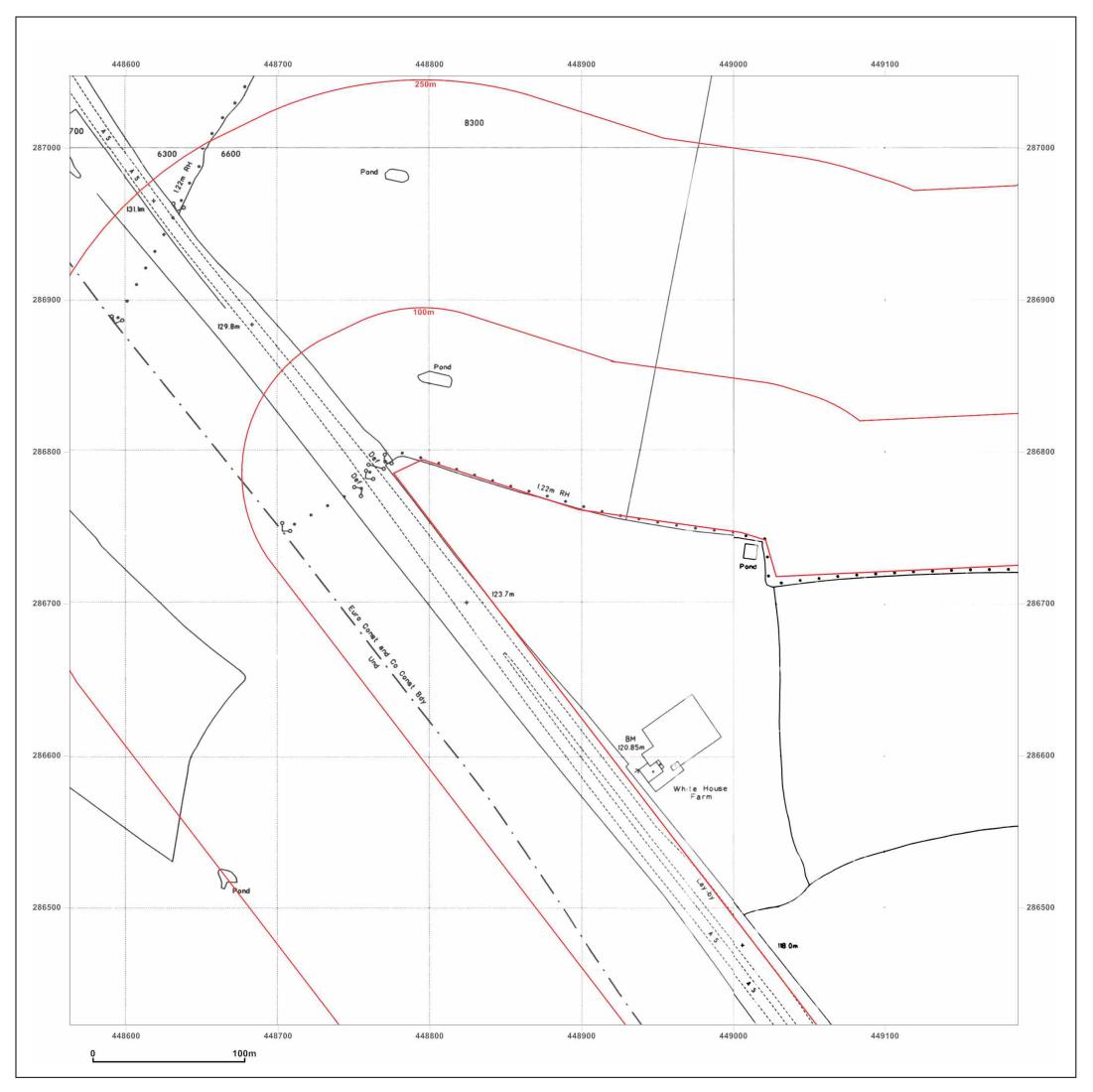


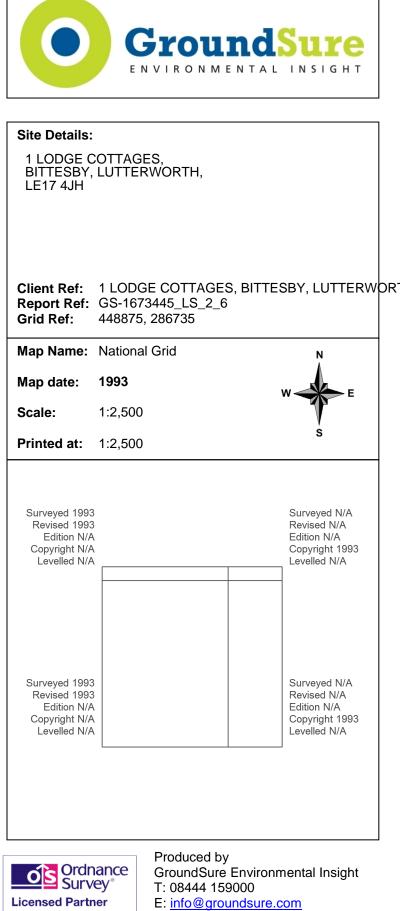


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014

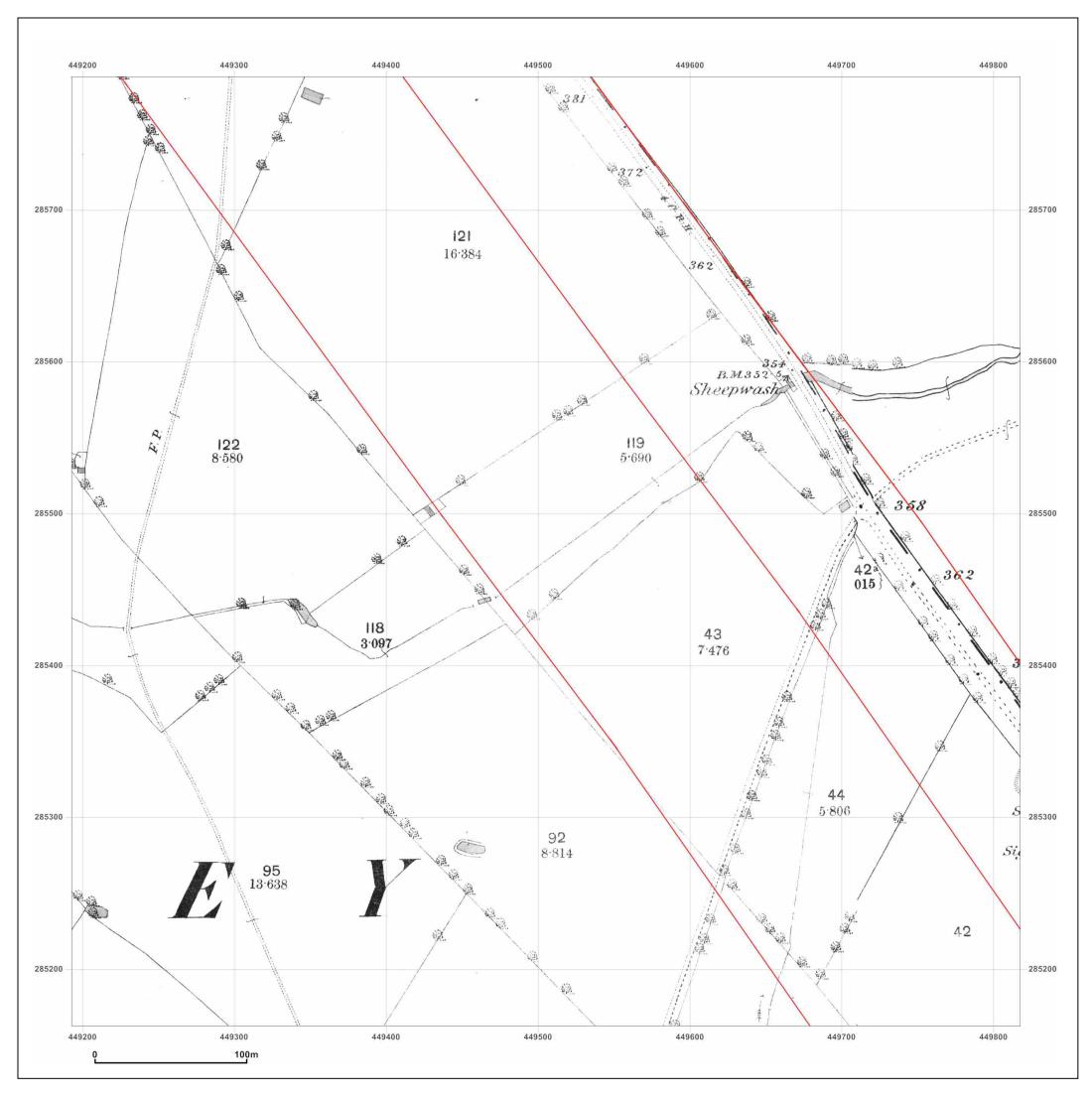




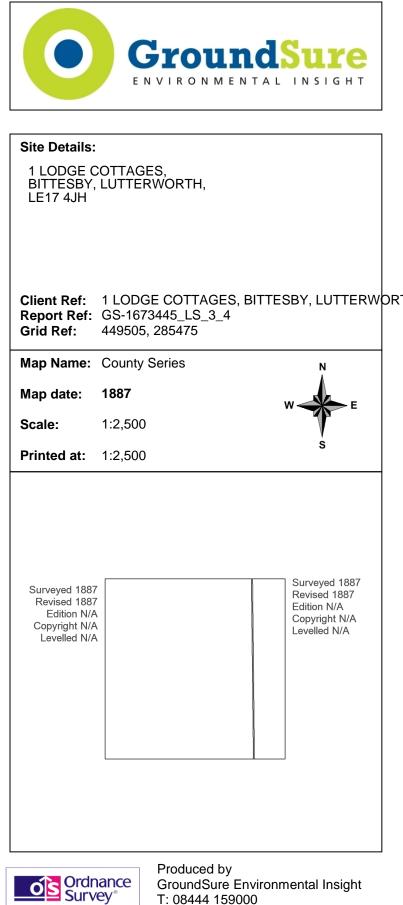
© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014



т

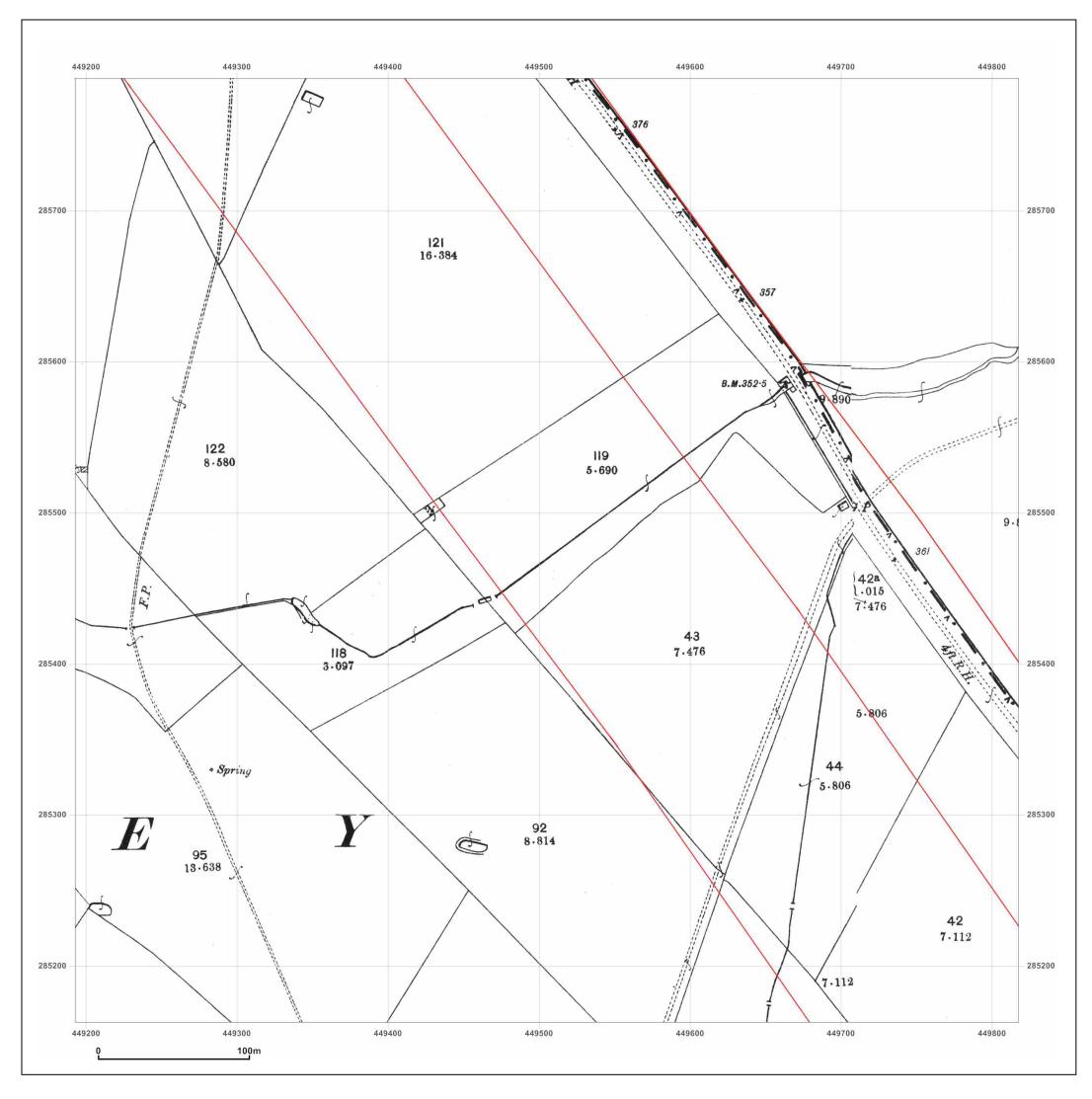


T: 08444 159000 E: info@groundsure.com

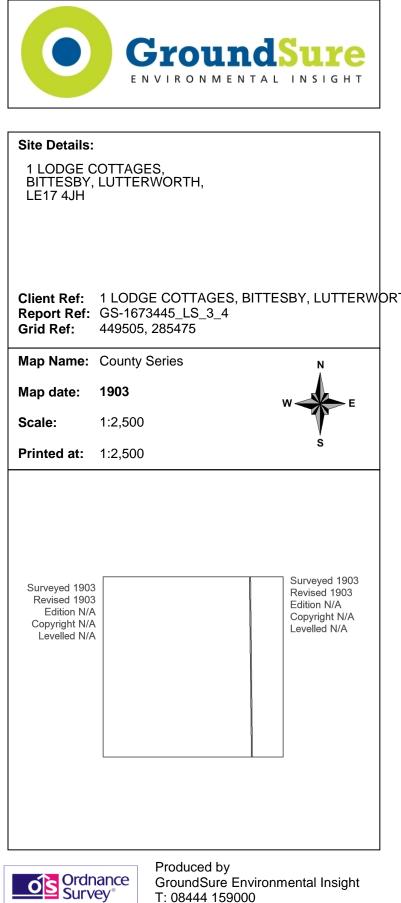
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



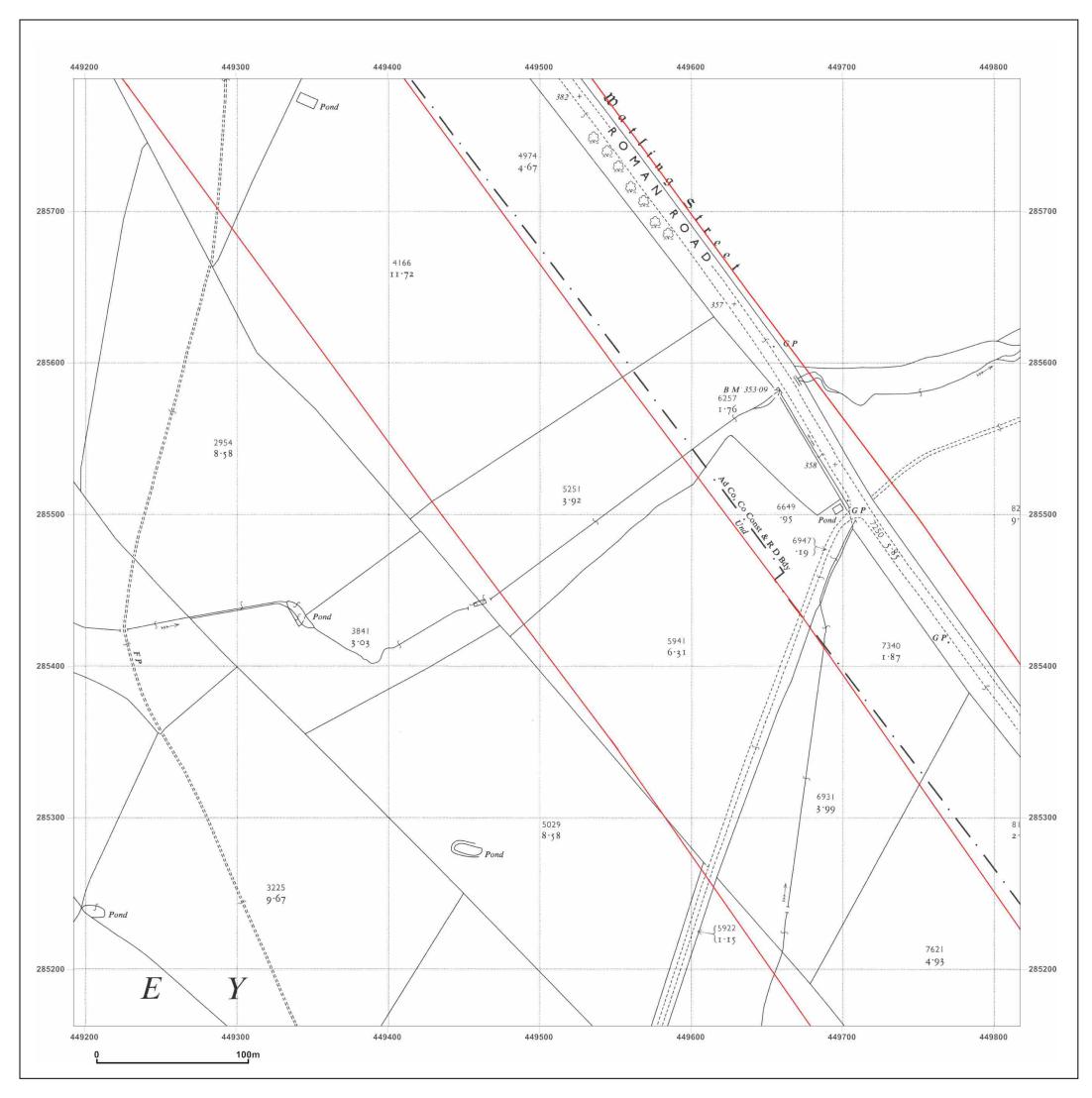
Licensed Partner

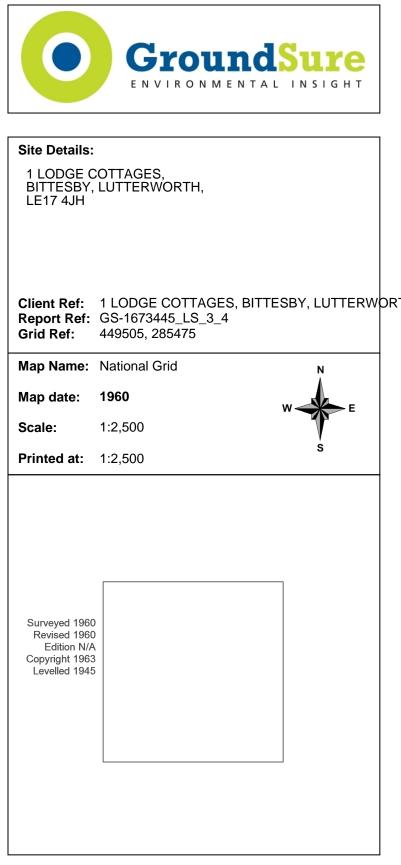


T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

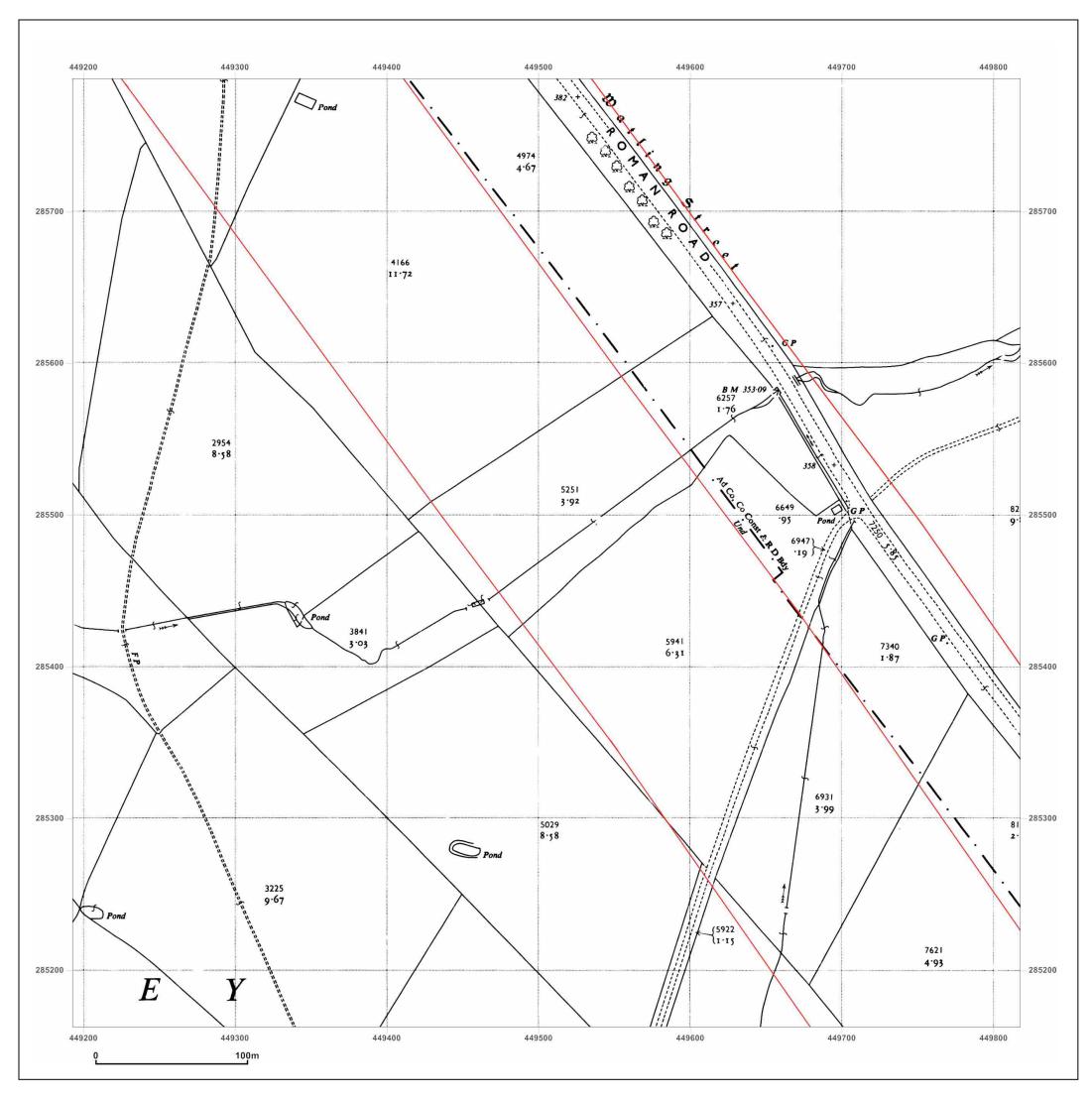






© Crown copyright and database rights 2013 Ordnance Survey 100035207

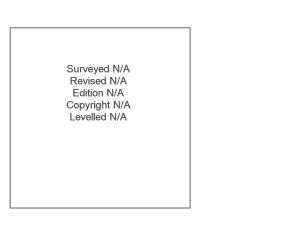
Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_LS_3_4<br>449505, 285475 | TESBY, LUTTERW | OR⁻ |
|-------------|--|----------------|-----|
| Map Name:   | National Grid  | N              |     |
| Map date:   | 1963   | W              |     |
| Scale:      | 1:2,500  |                |     |
|             | 4 0 500  | S              |     |

**Printed at:** 1:2,500

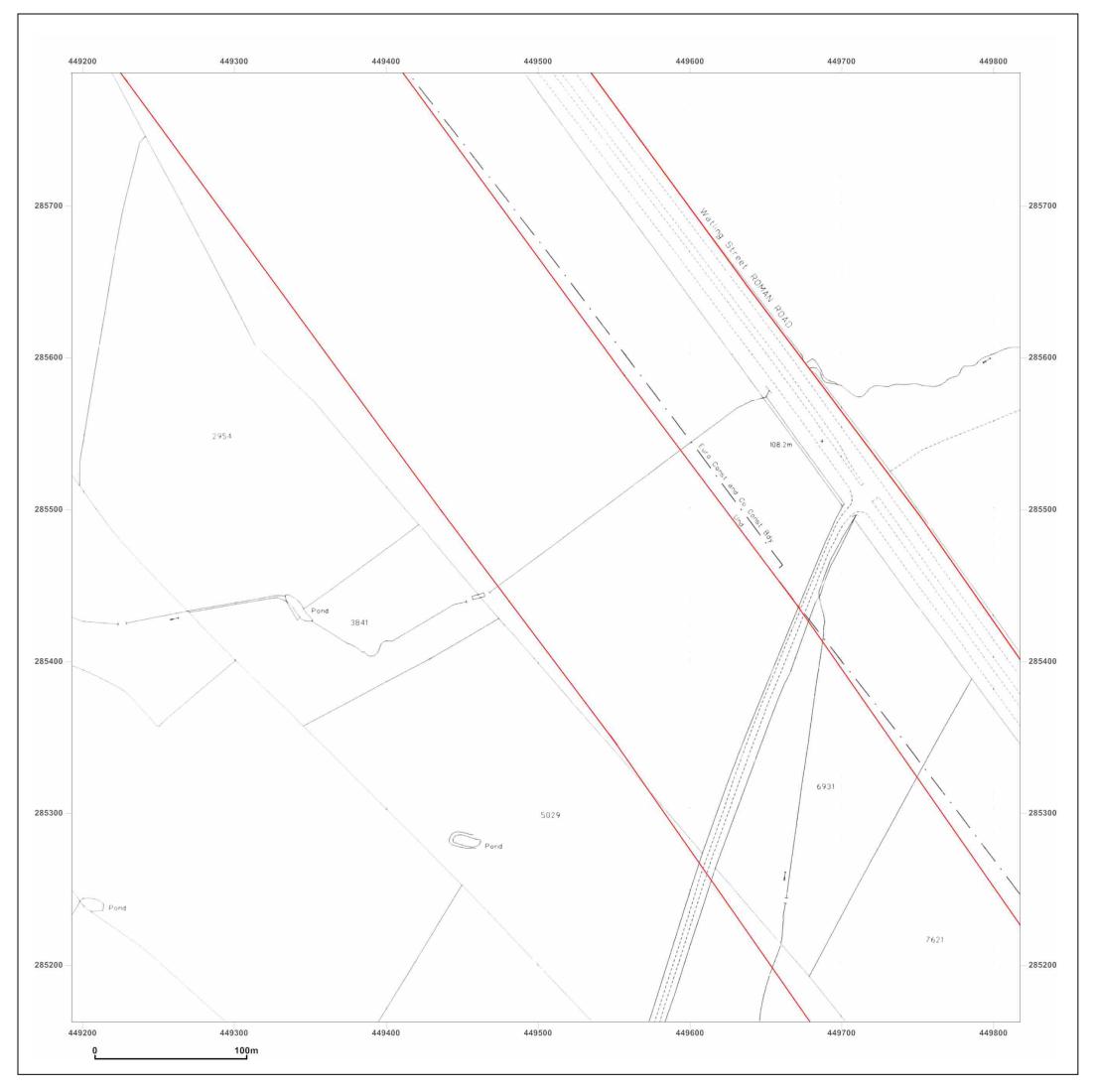




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

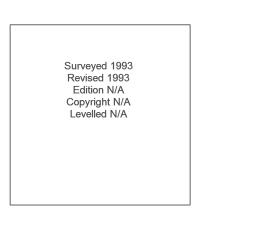






| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_LS_3_4<br>449505, 285475 | TESBY, LUTTERWO | R |
|-------------|--|-----------------|---|
| Map Name:   | National Grid  | N               |   |
| Map date:   | 1993   | W               |   |
| Scale:      | 1:2,500  |                 |   |
|             |  | s               |   |

**Printed at:** 1:2,500

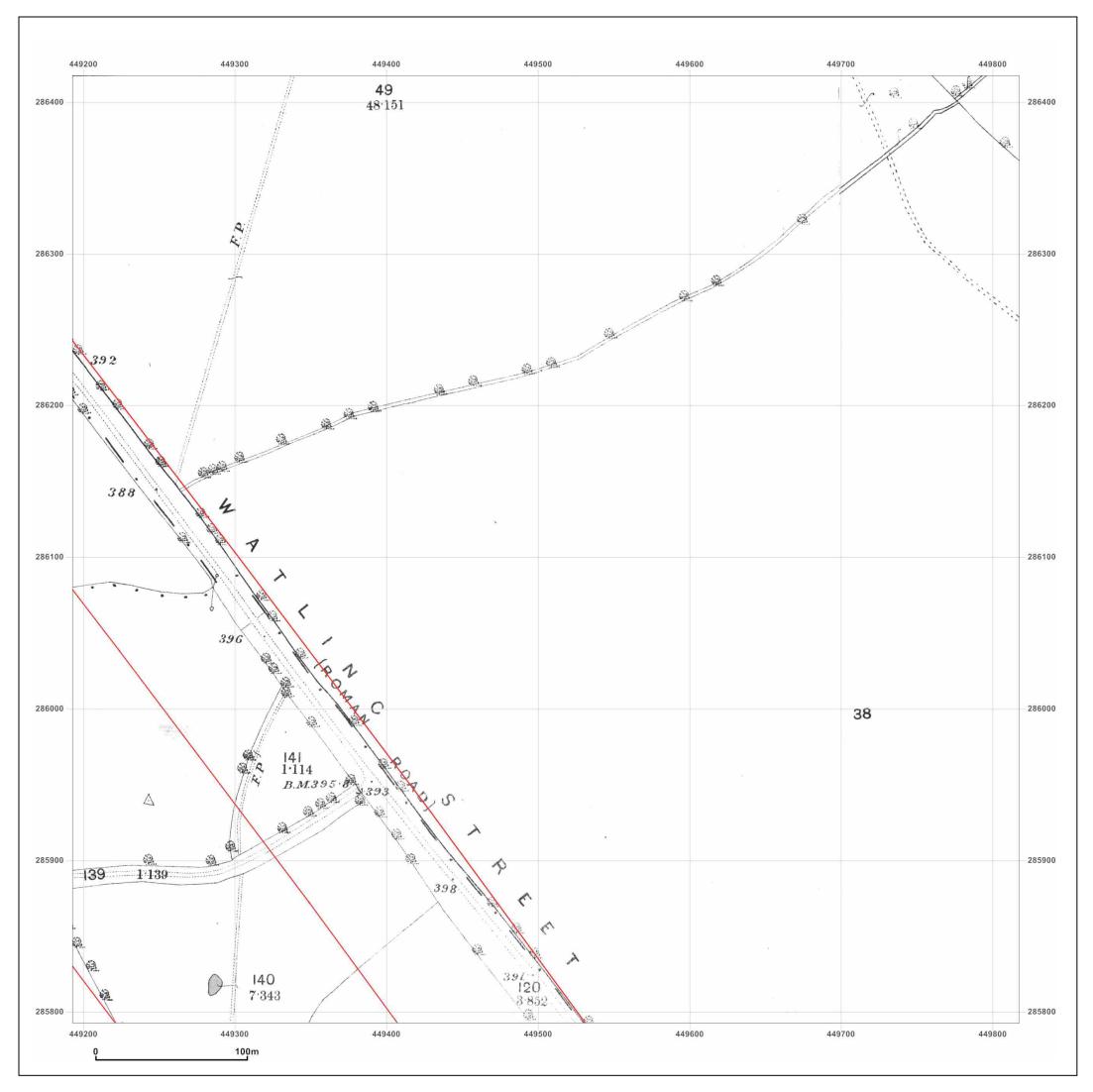


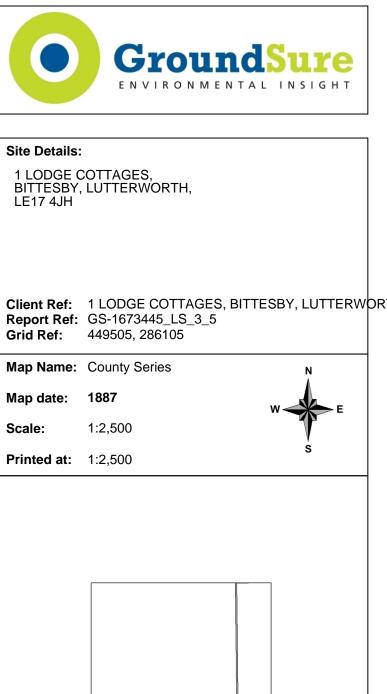


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

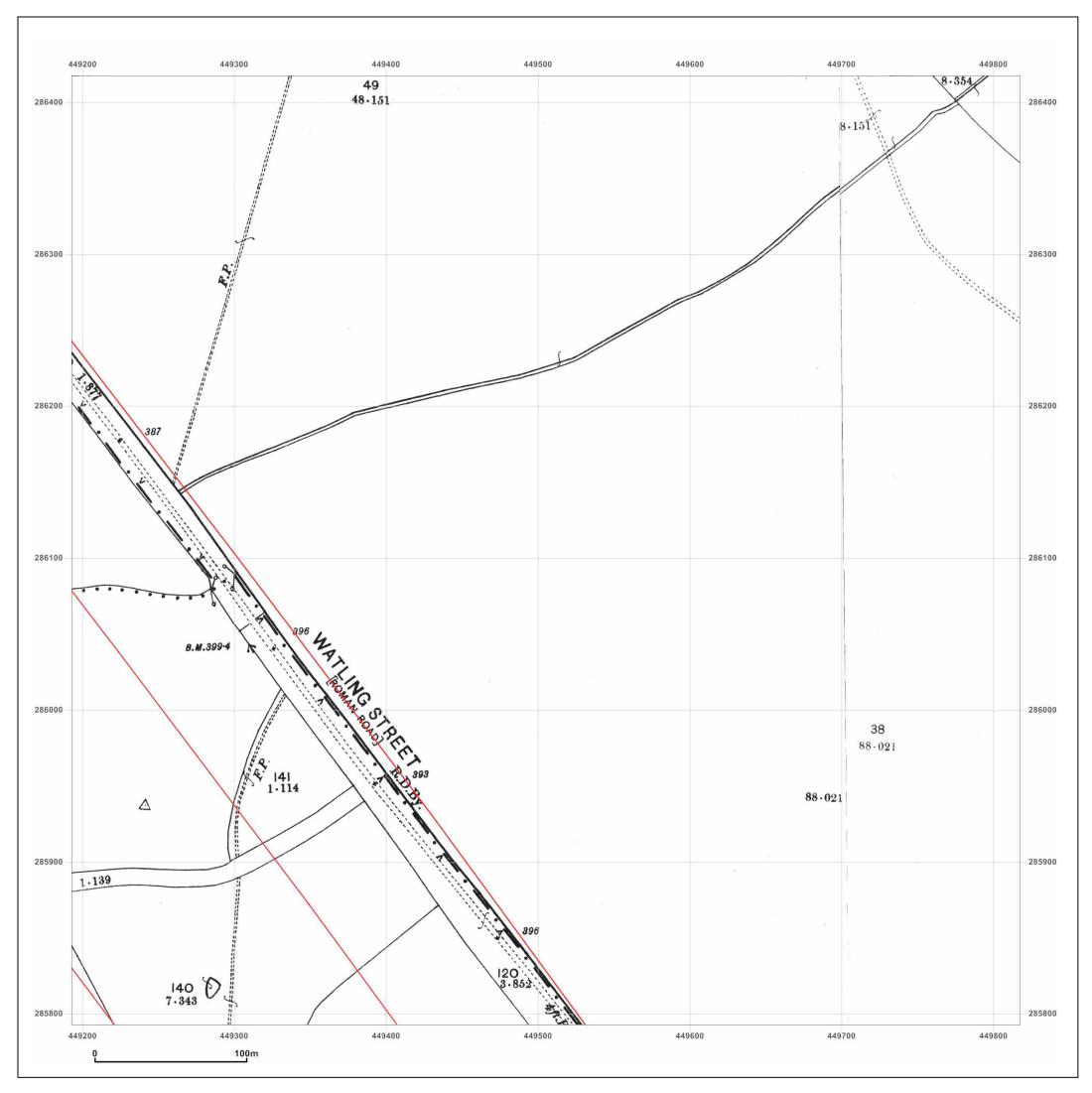




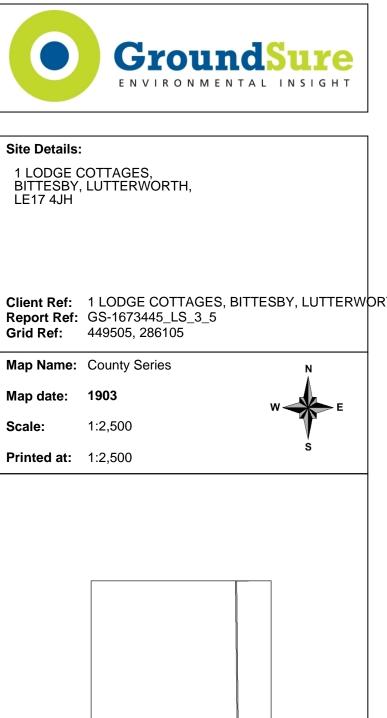
Surveyed 1887 Revised 1887 Surveyed 1887 Revised 1887 Edition N/A Edition N/A Copyright N/A Levelled N/A Copyright N/A Levelled N/A Produced by GroundSure Environmental Insight **Ordnance** Survey<sup>®</sup> T: 08444 159000 Licensed Partner E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



To view map legend click here <u>Legend</u>



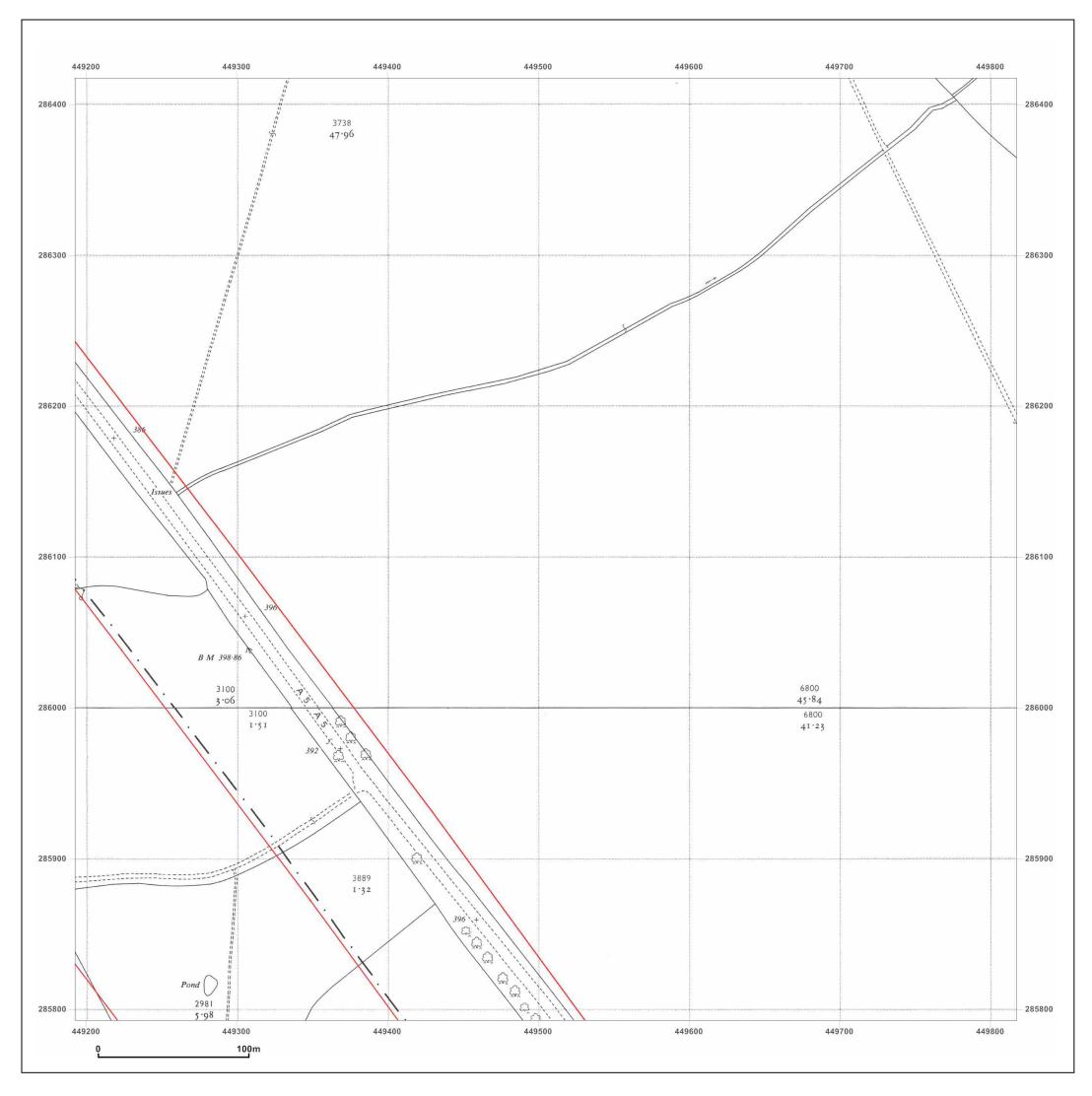
Surveyed 1903 Revised 1903 Edition N/A Copyright N/A Levelled N/A Surveyed 1903 Revised 1903 Edition N/A Copyright N/A Levelled N/A



Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

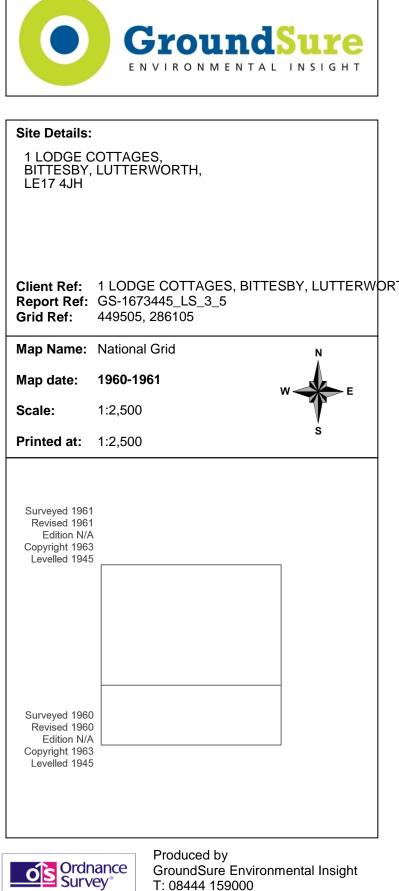
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

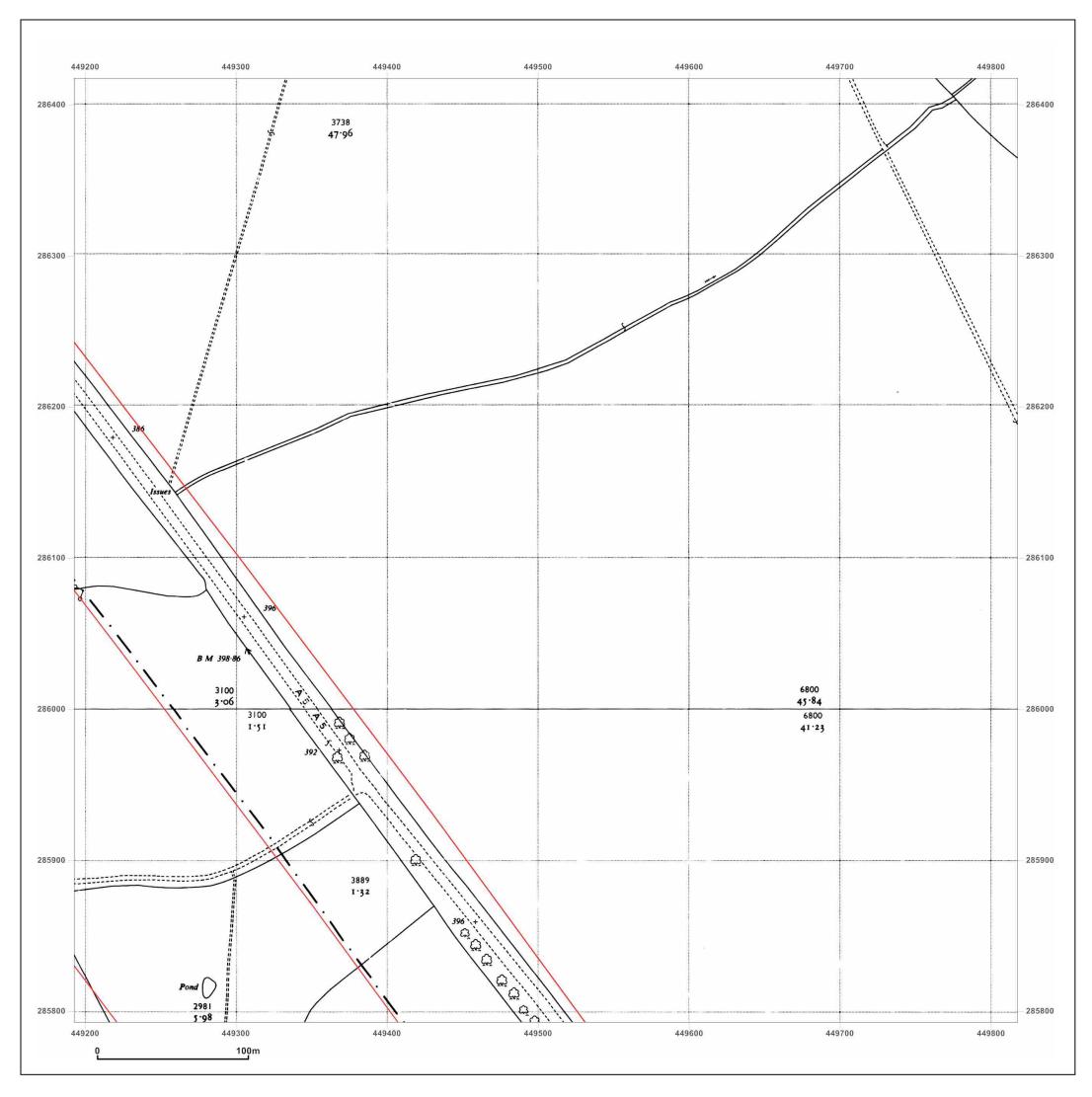
To view map legend click here <u>Legend</u>

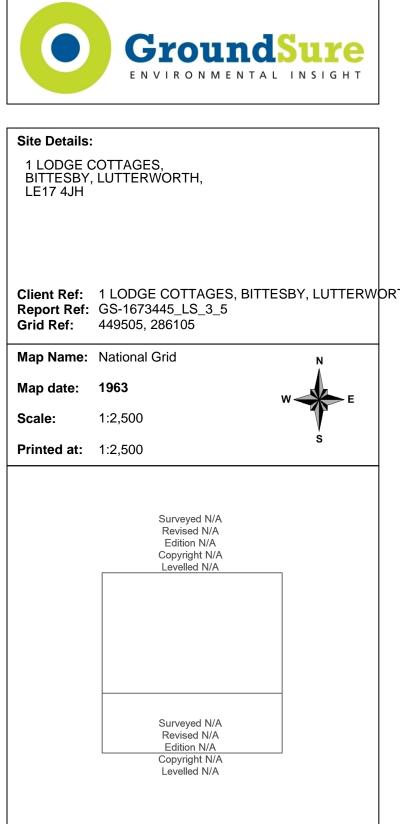


© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com W: www.groundsure.com

Production date: 22 September 2014

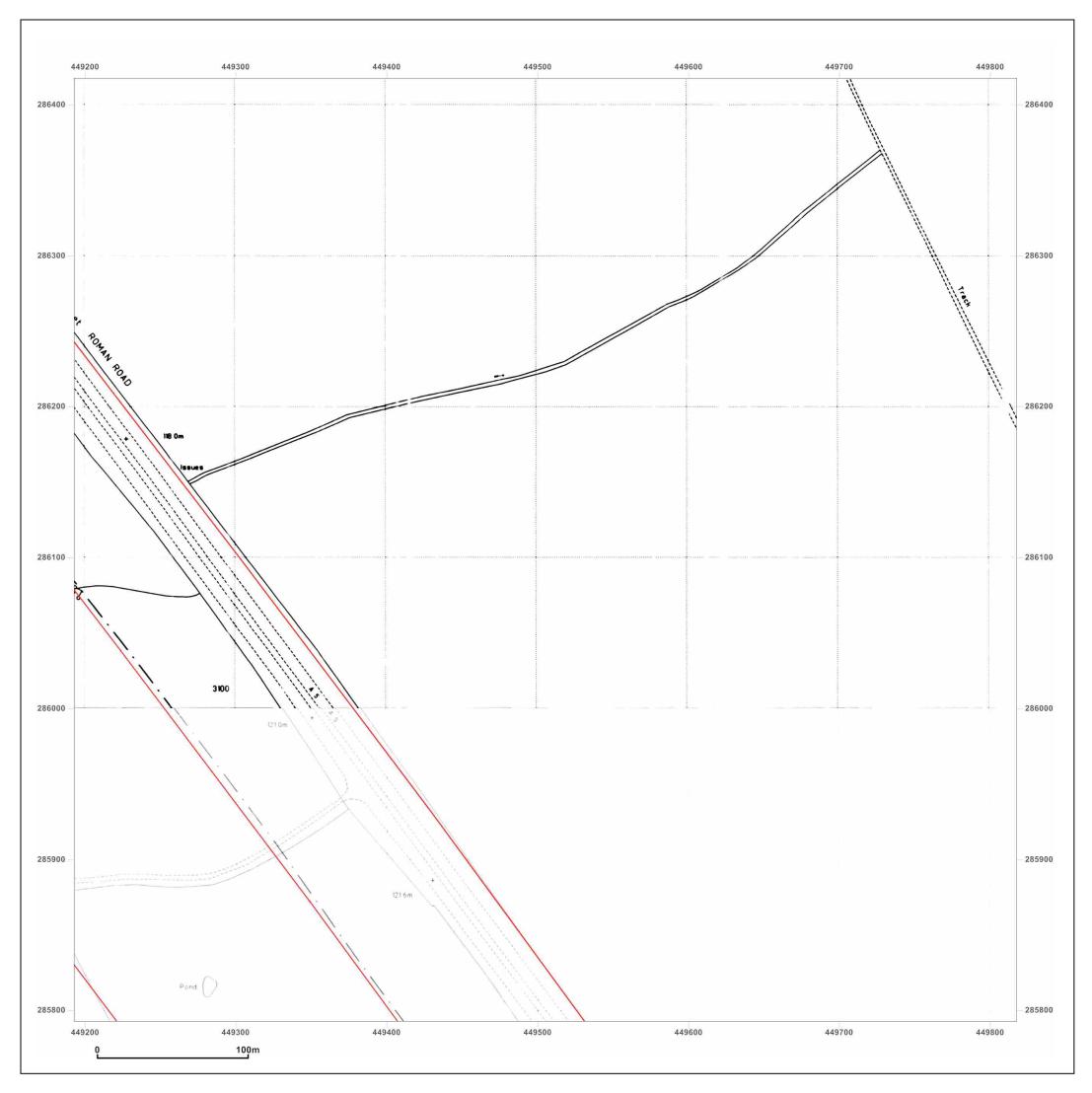


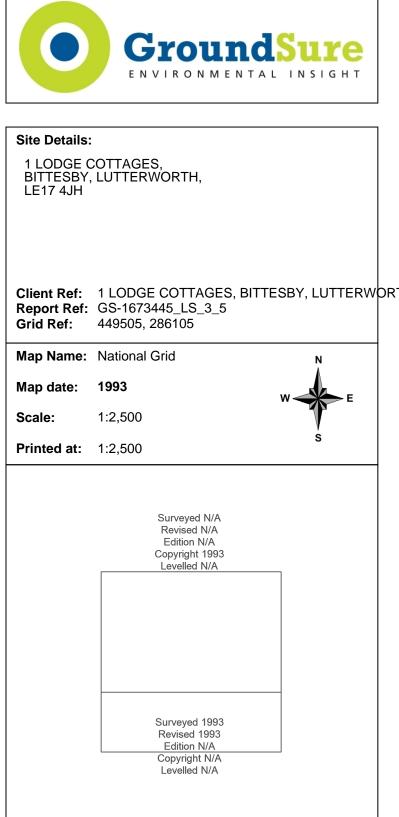




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

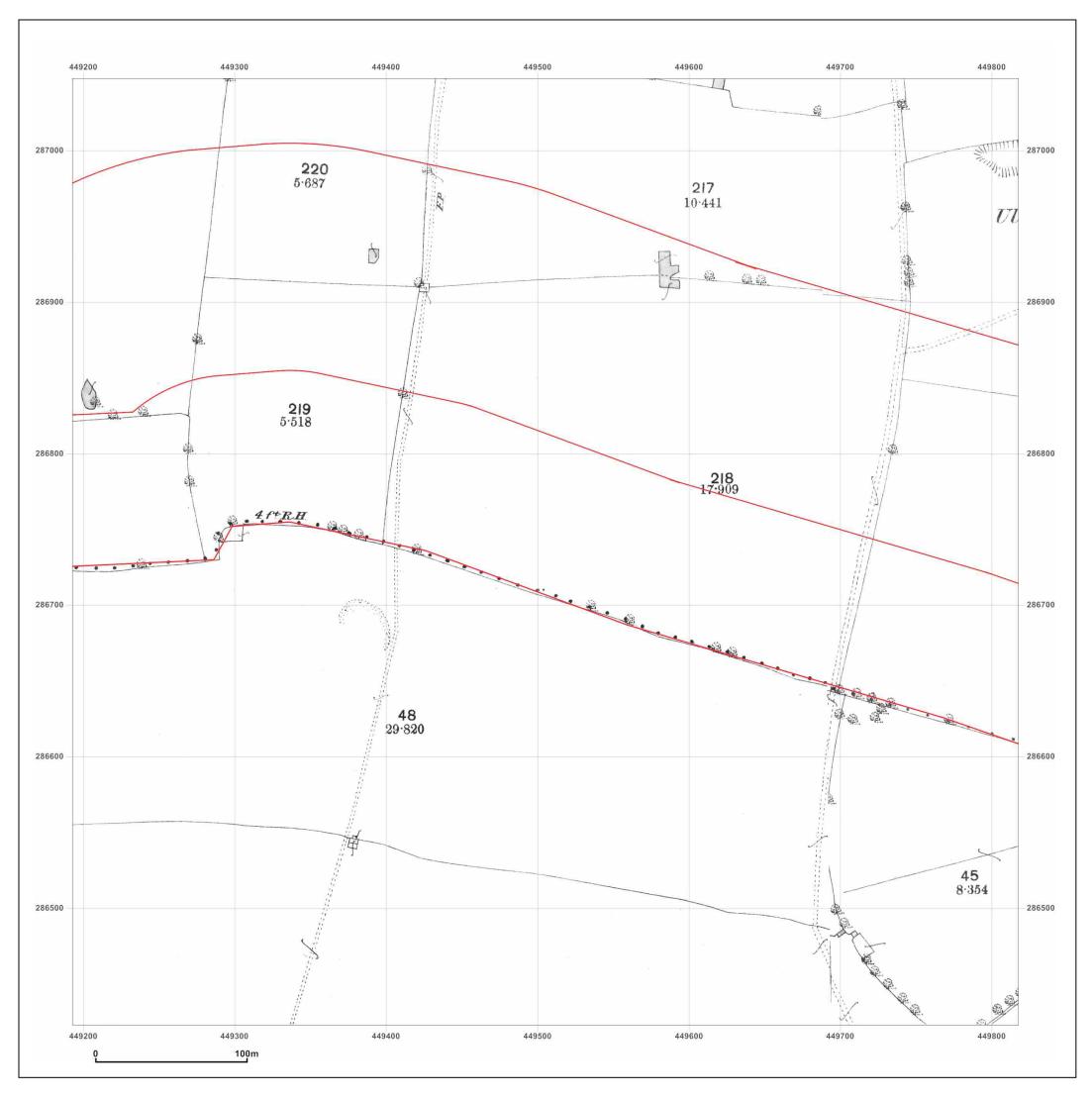




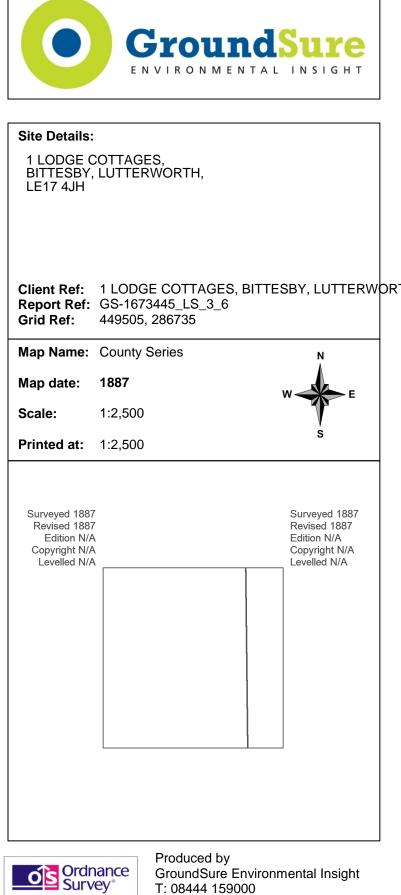


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

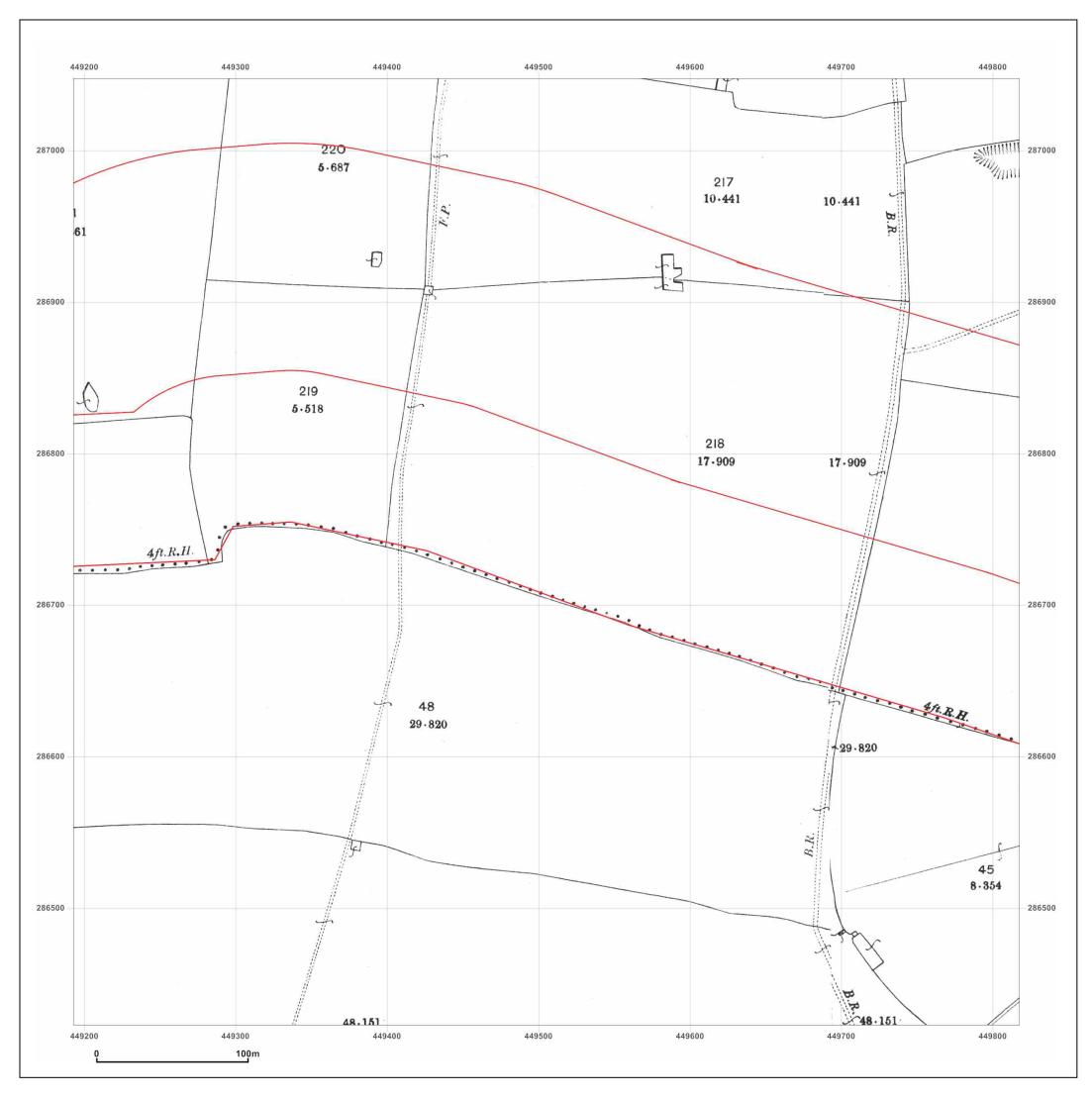


T: 08444 159000 E: info@groundsure.com

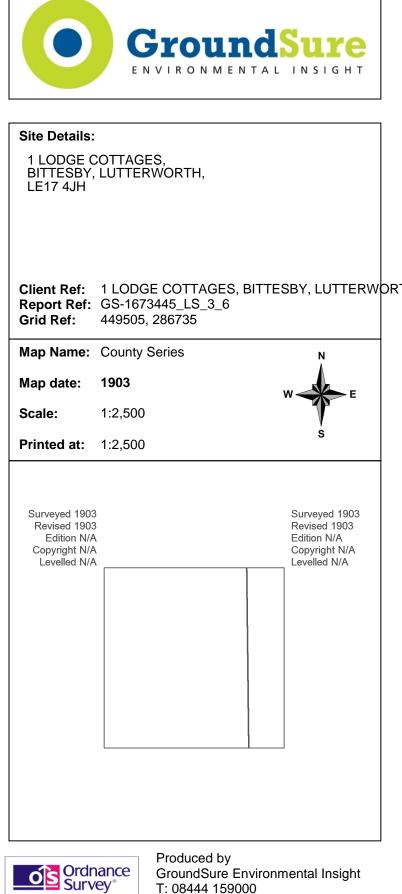
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

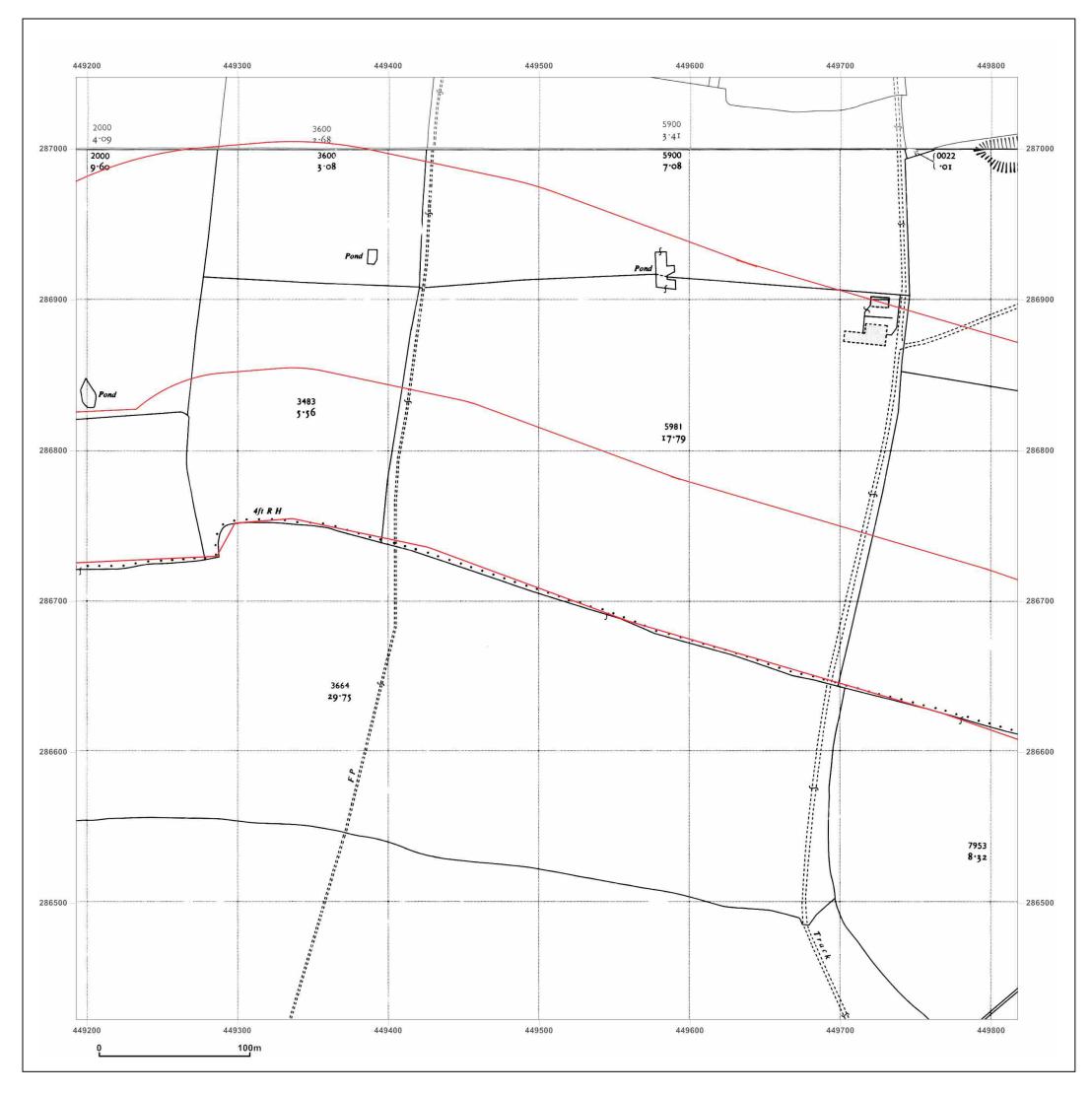


T: 08444 159000 E: info@groundsure.com

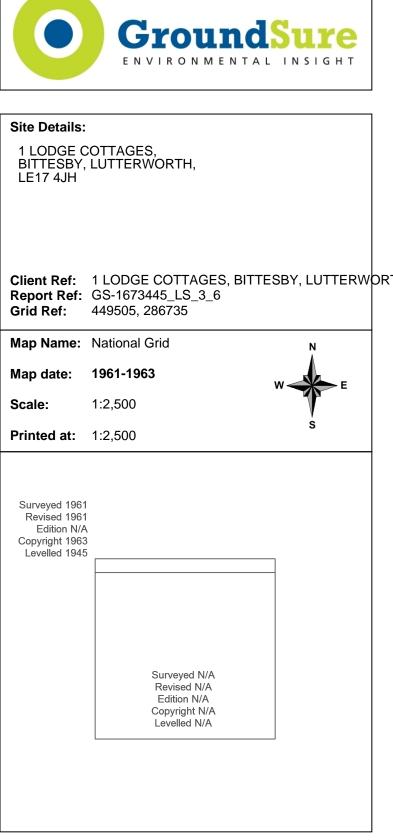
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



To view map legend click here Legend

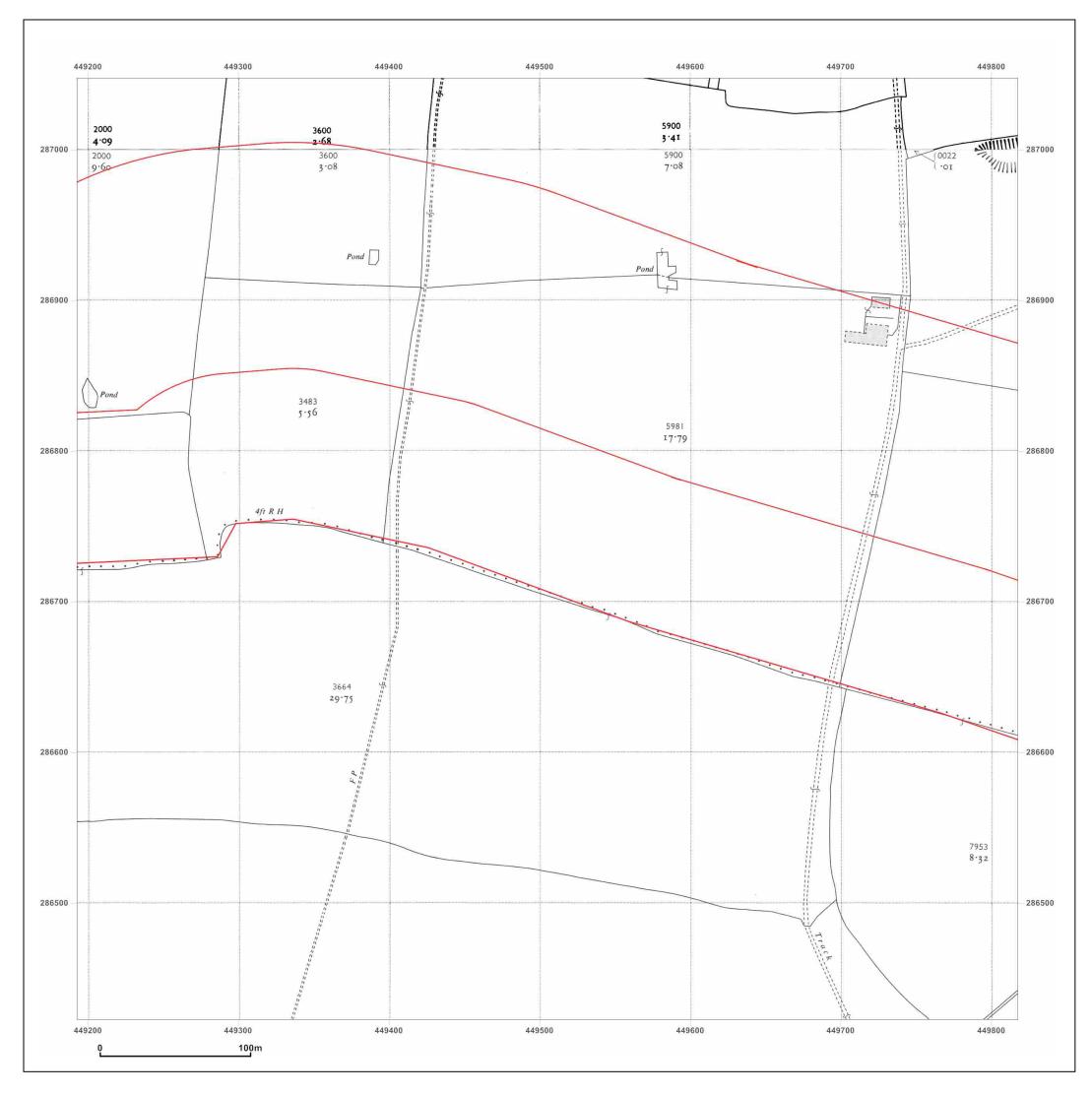


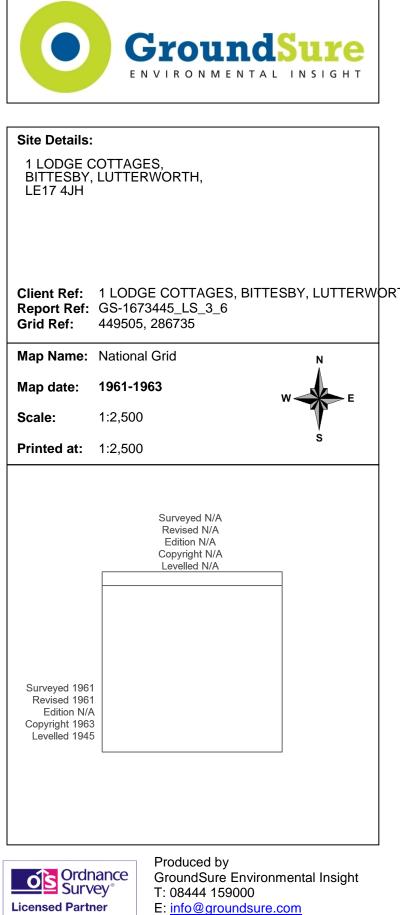


Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

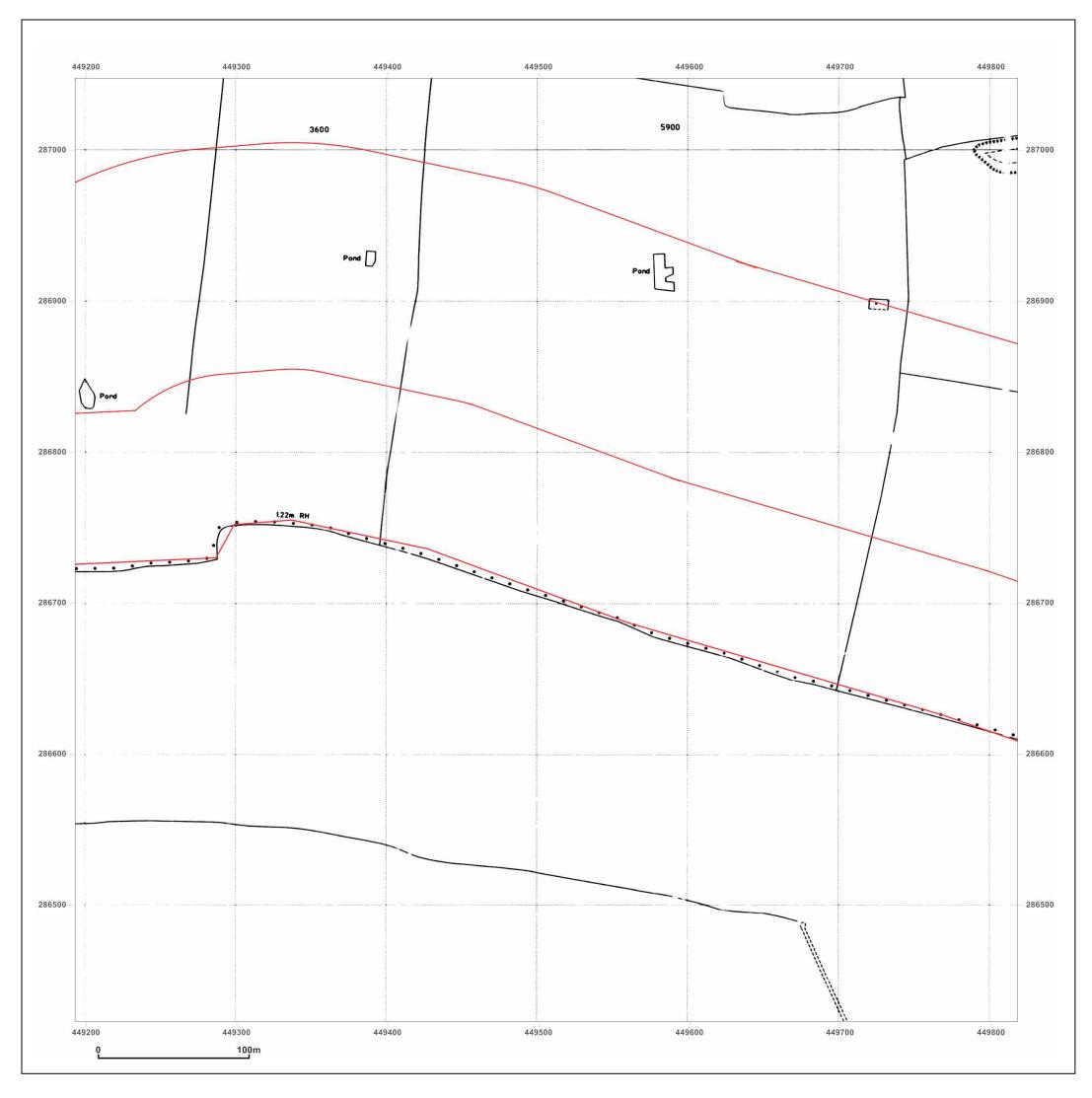


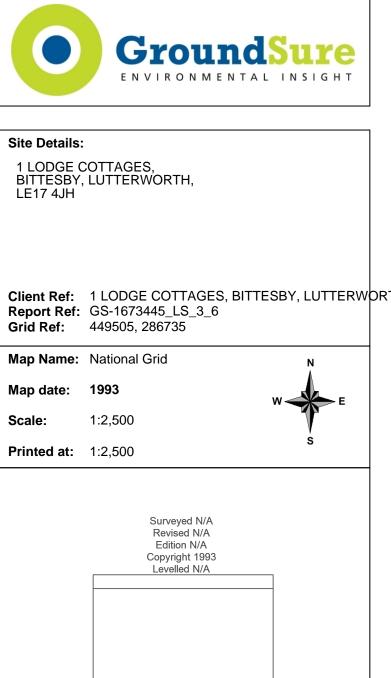


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014





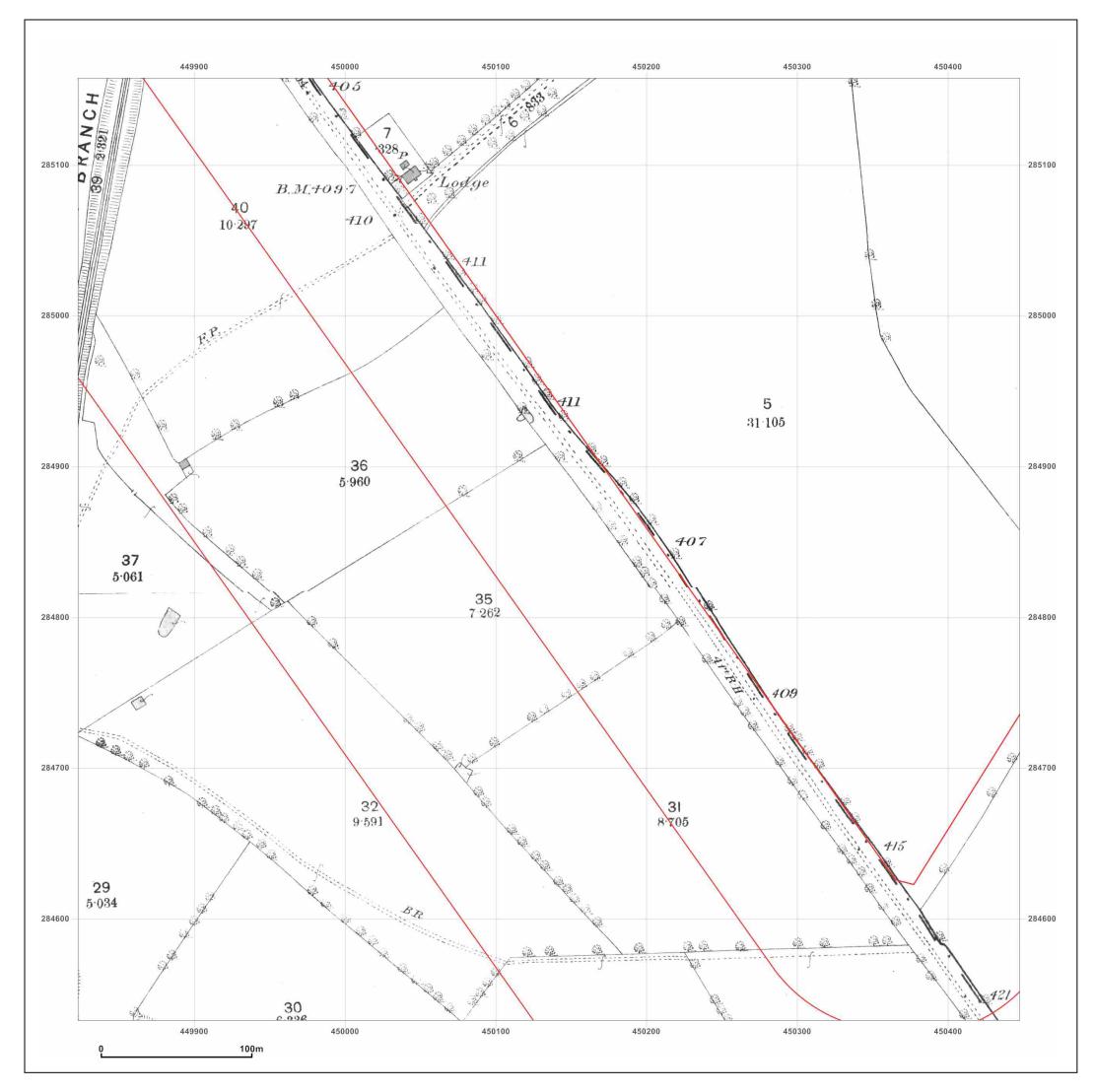
Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A



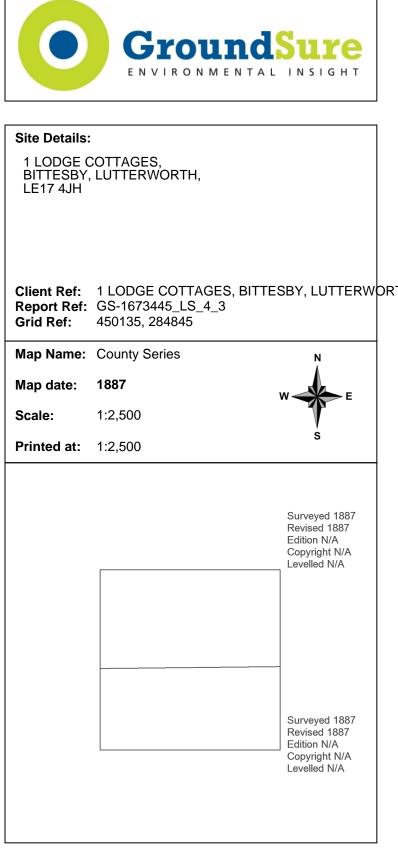
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



To view map legend click here Legend

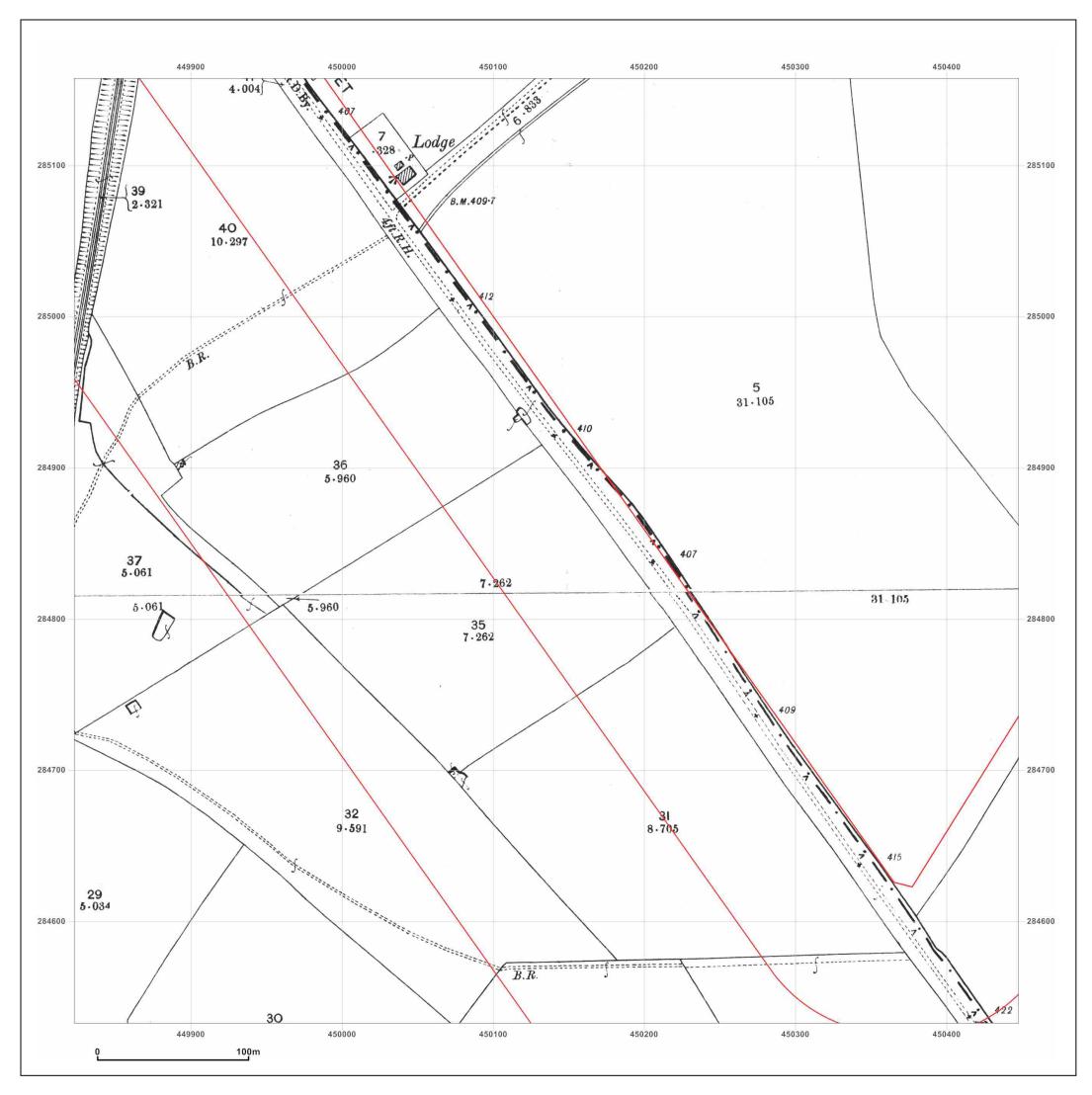


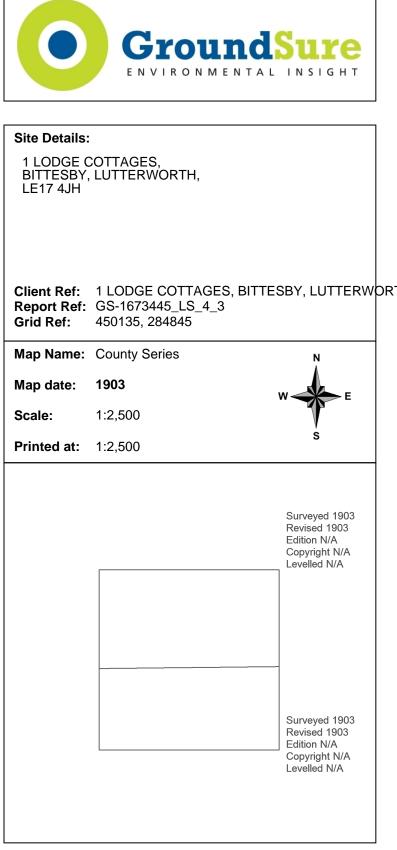


Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

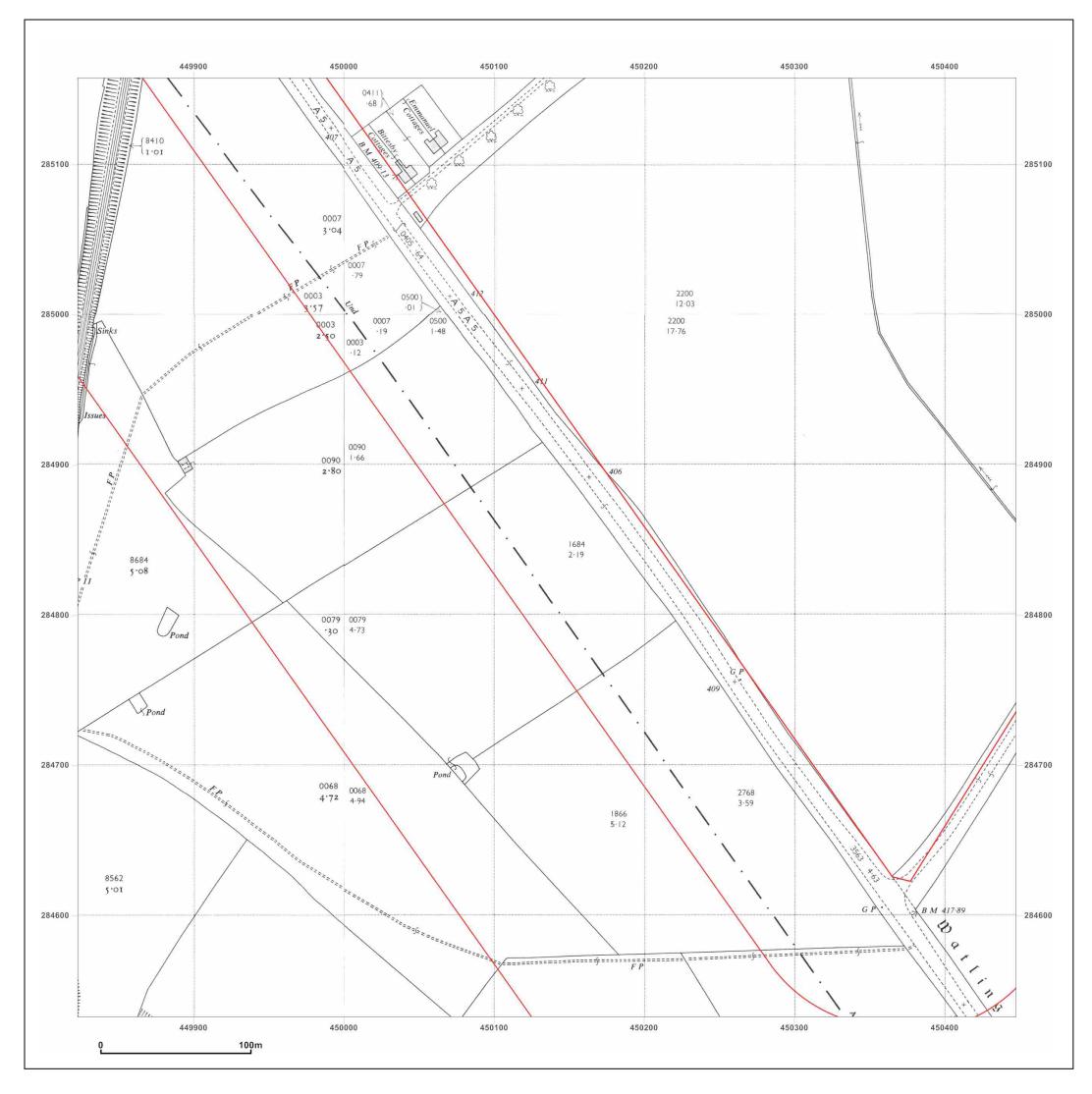


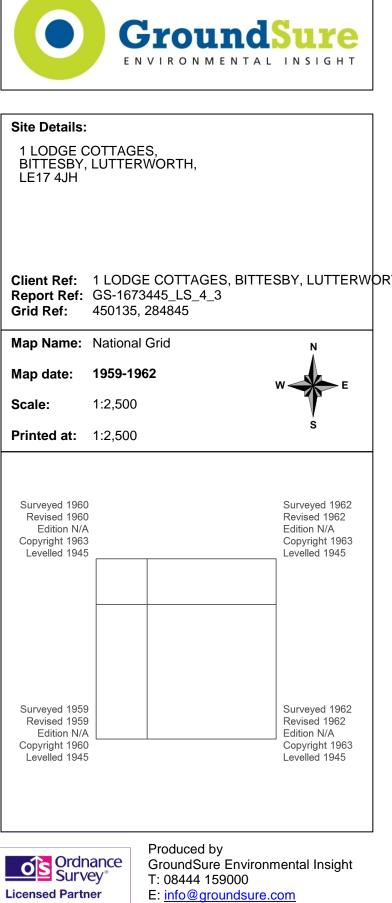




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

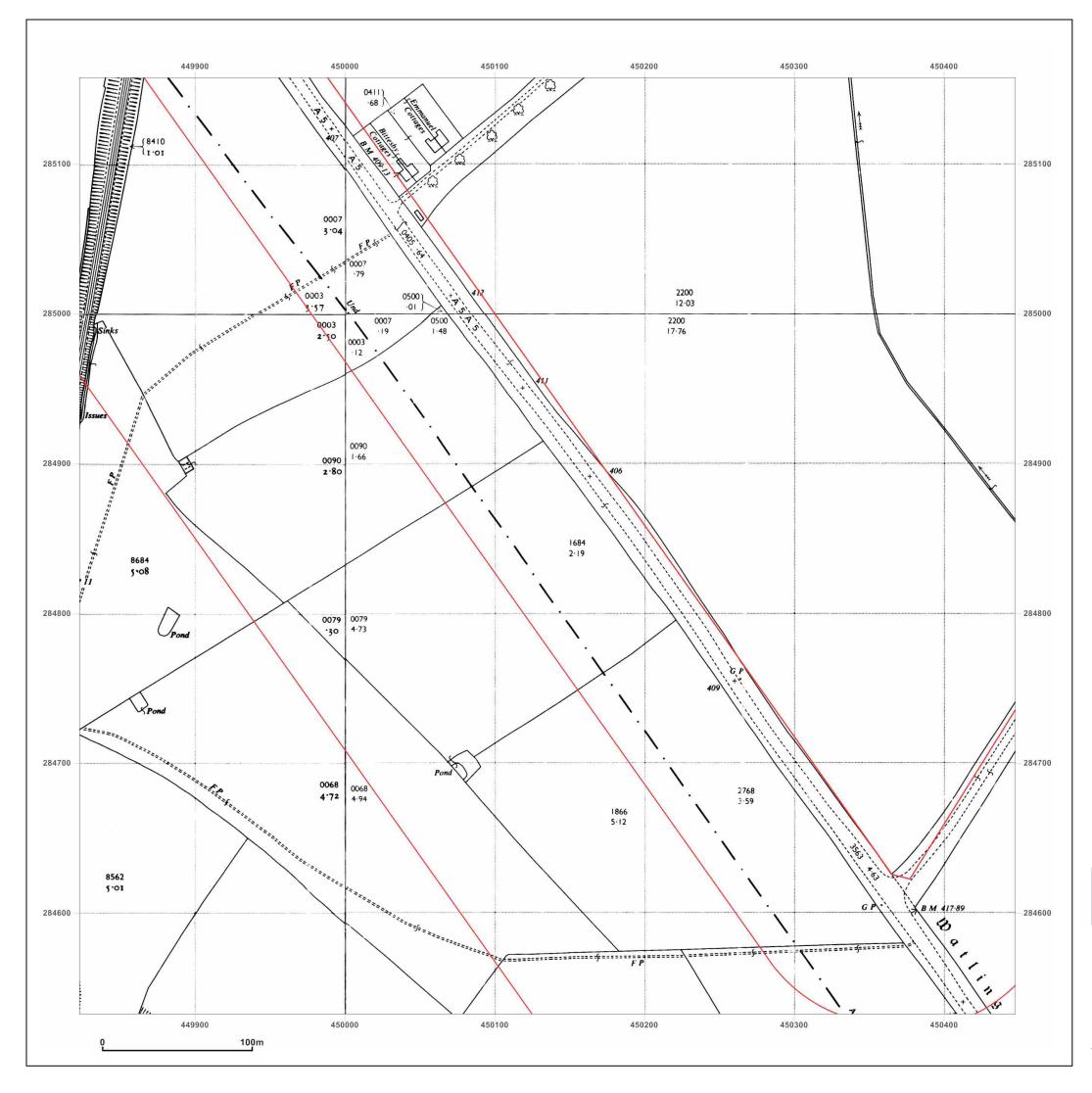


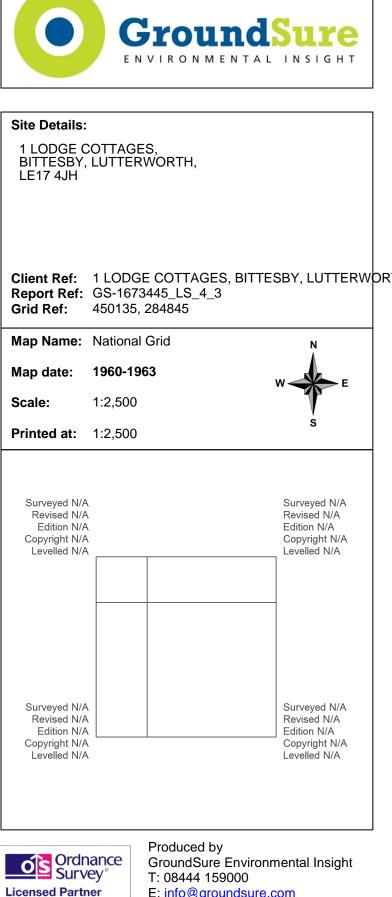


W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

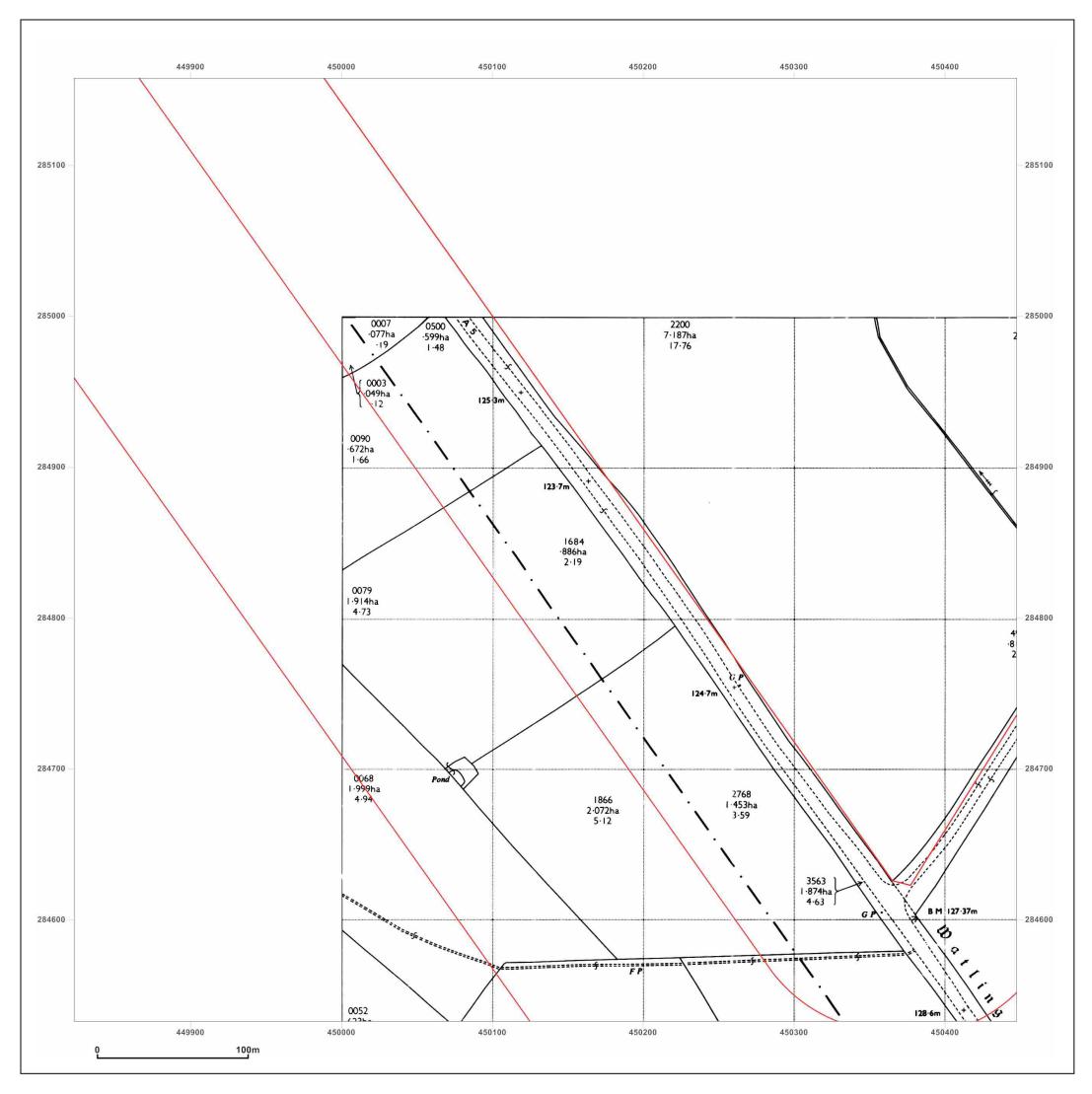


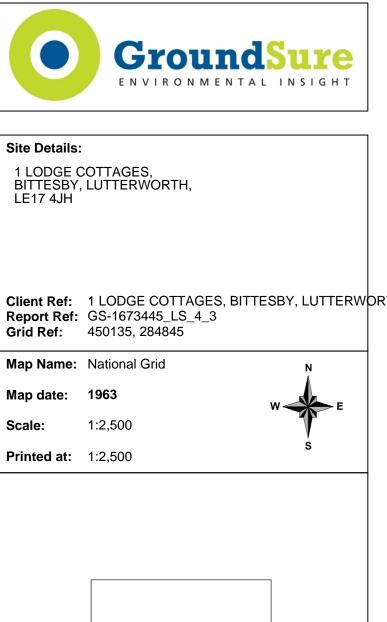


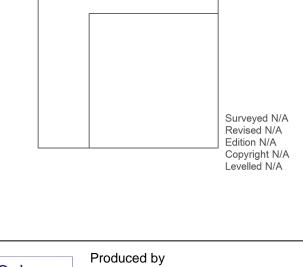
E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



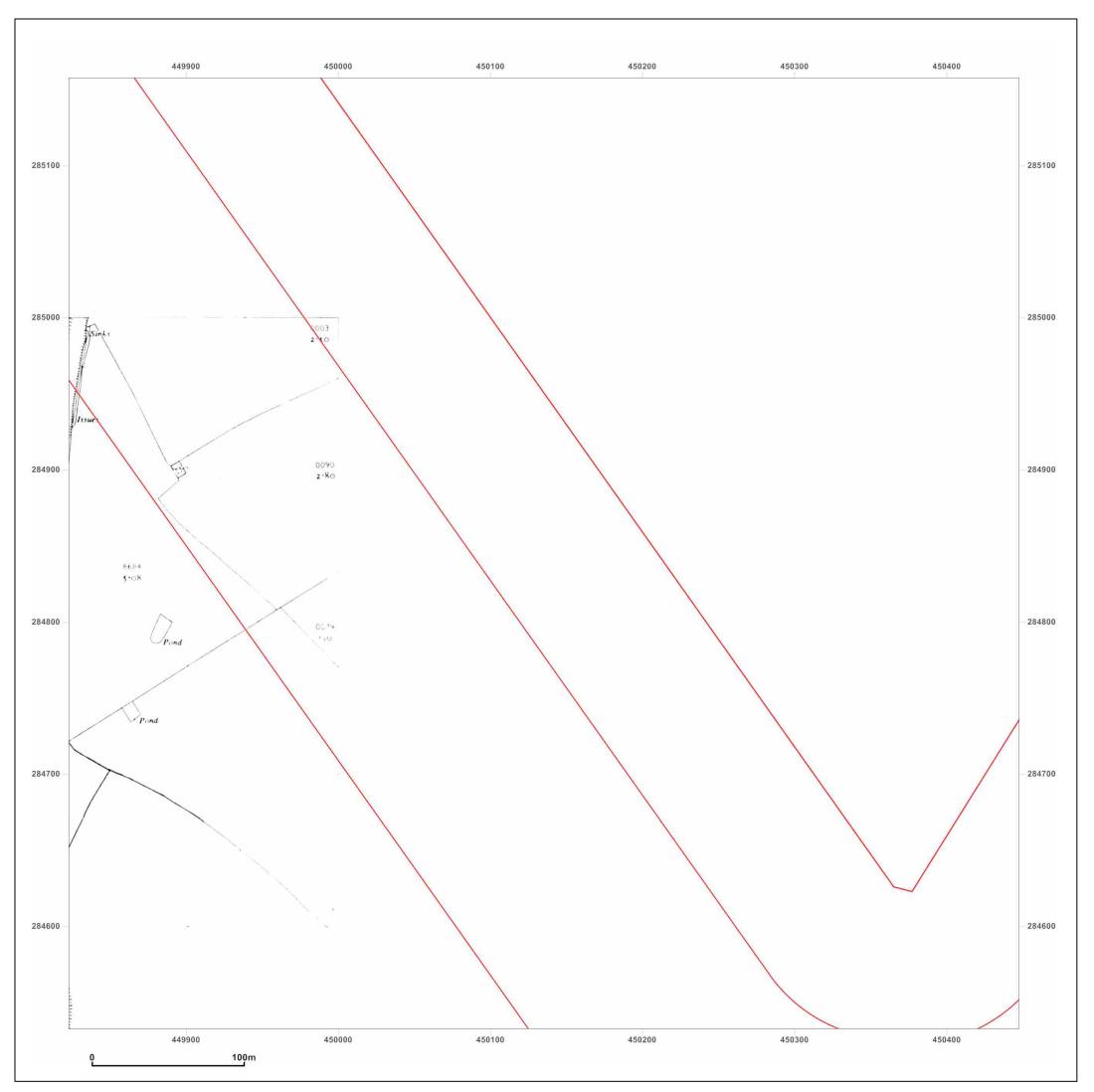


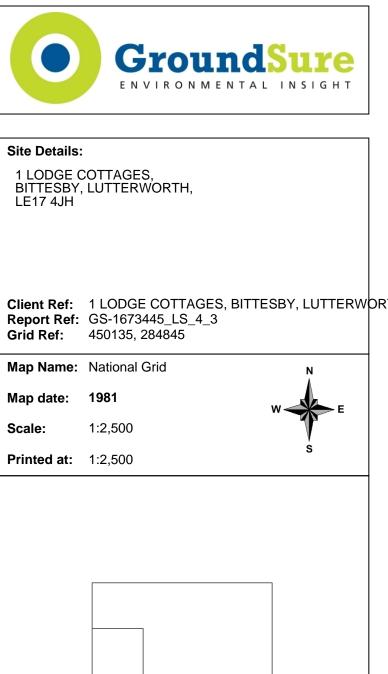


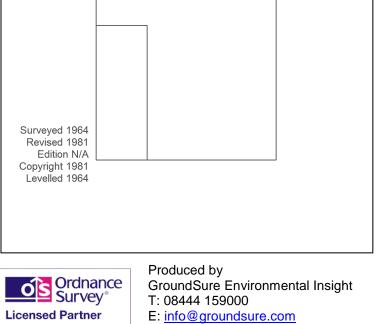


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



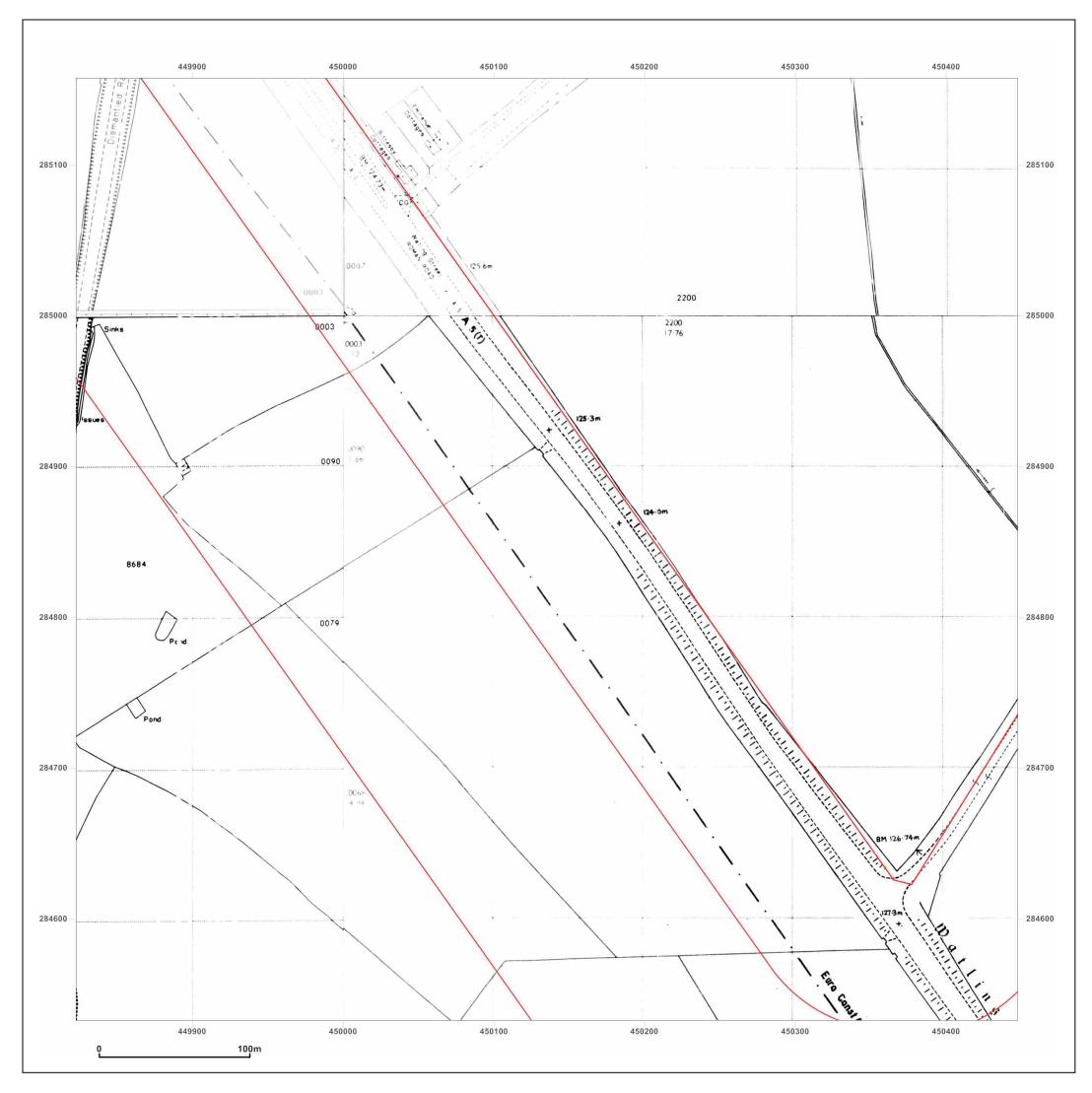


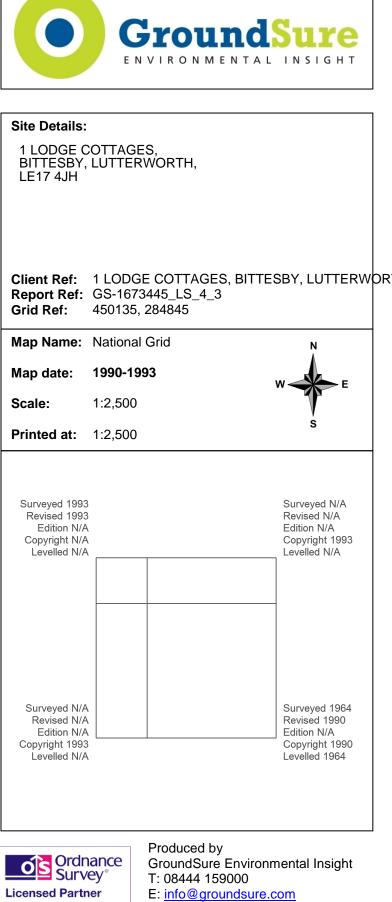


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014

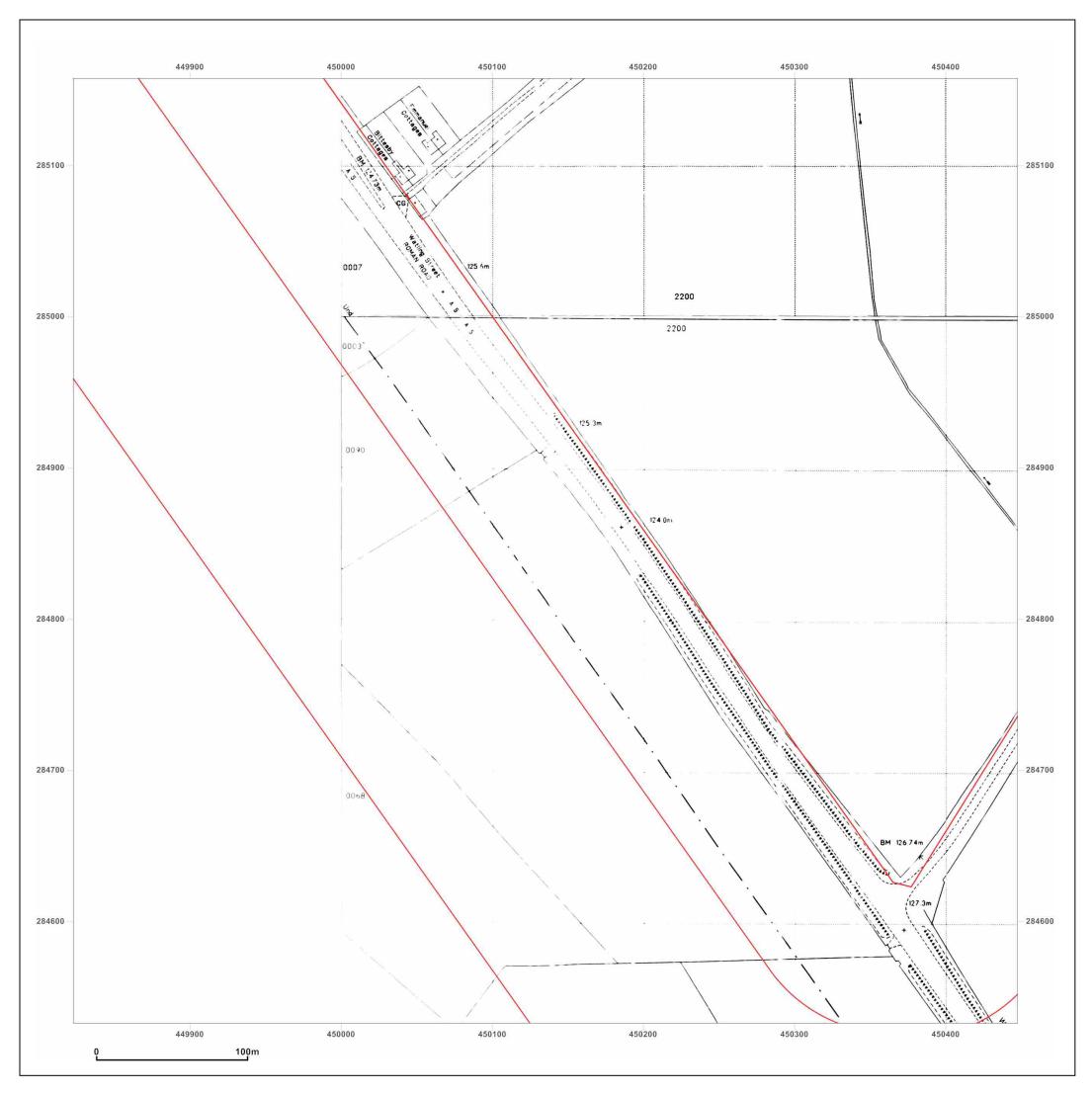


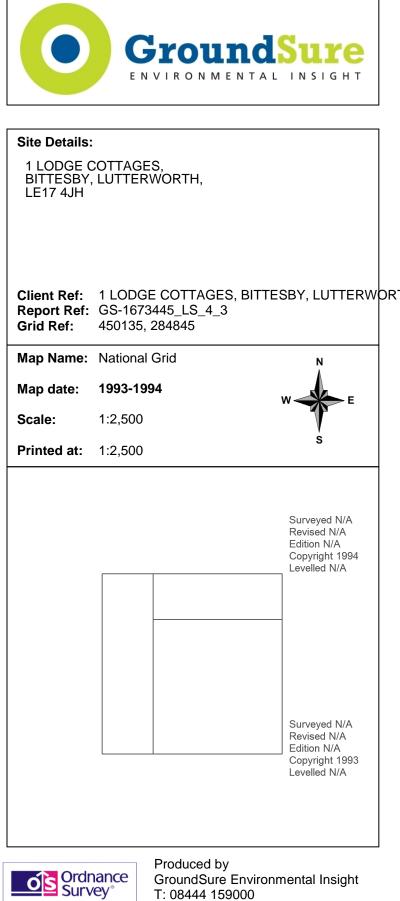


W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

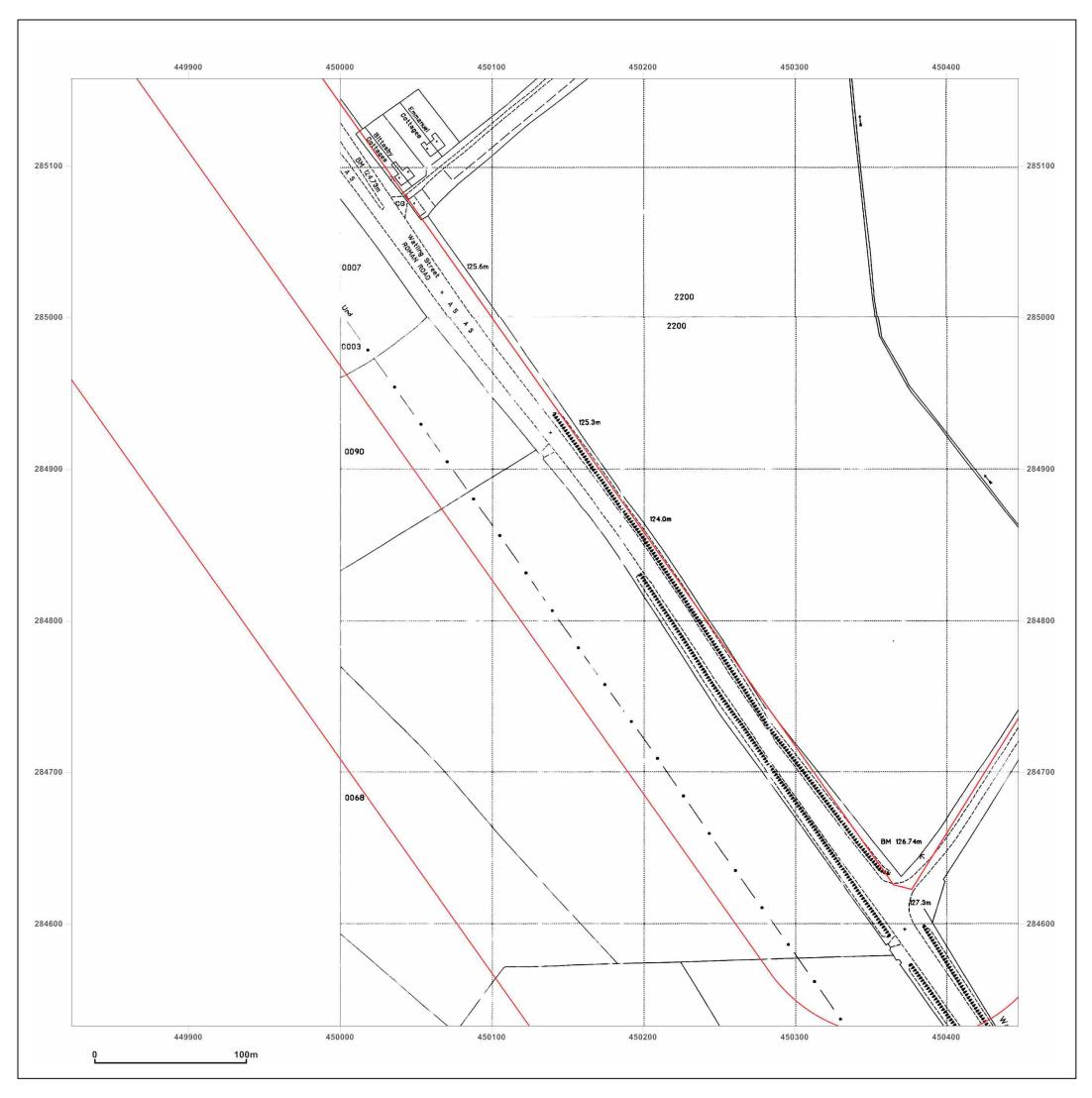


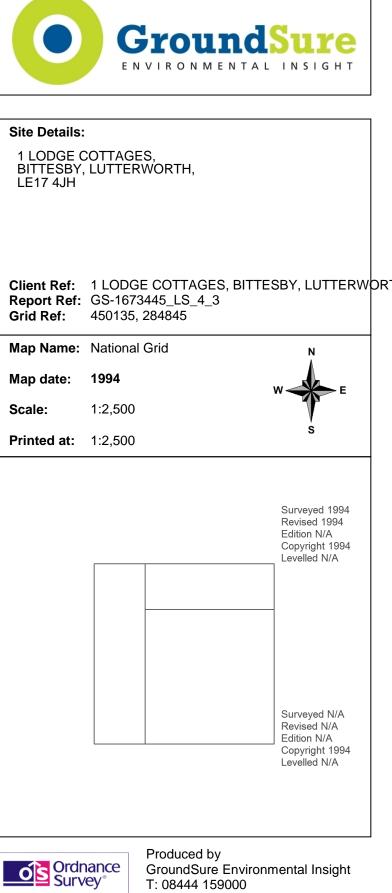


T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



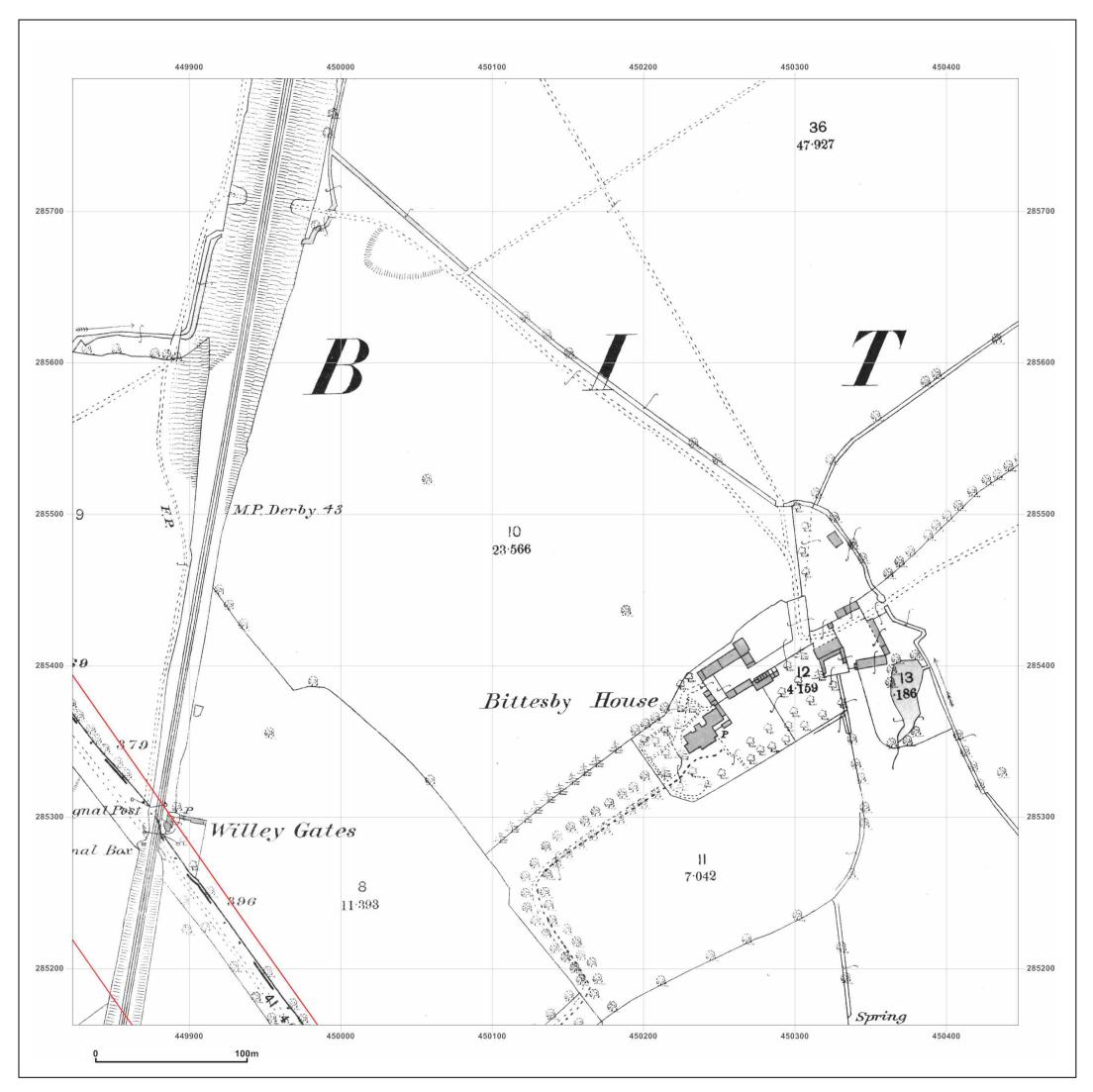


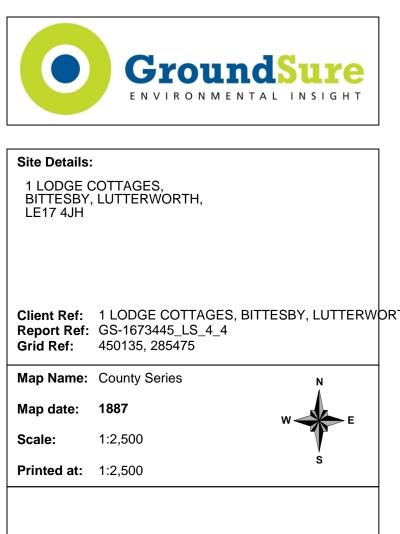
E: info@groundsure.com

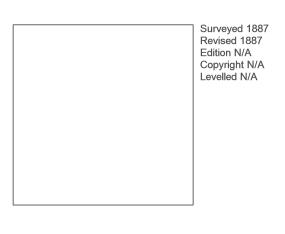
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



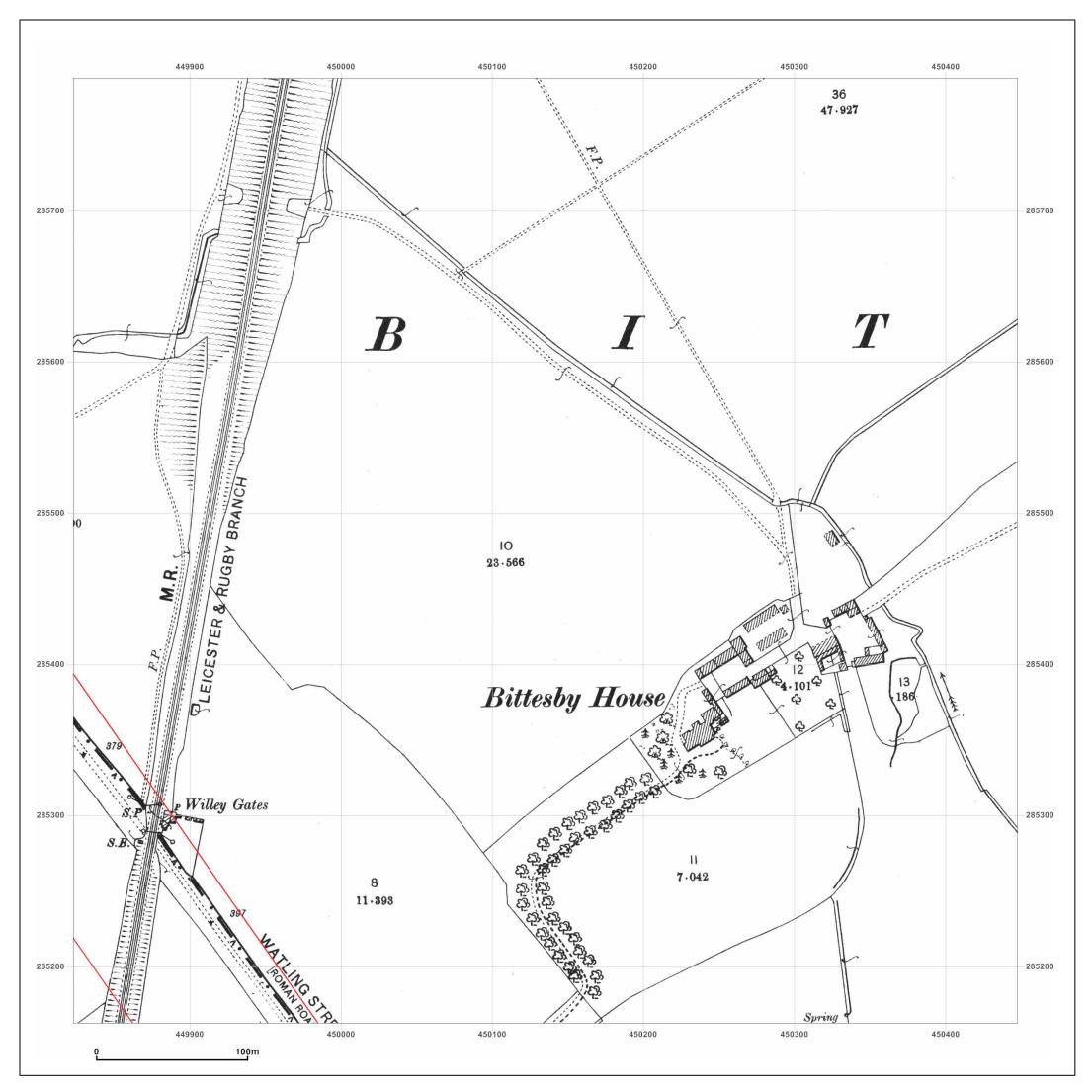


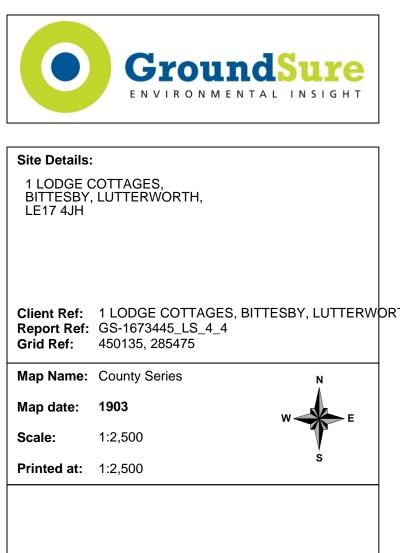


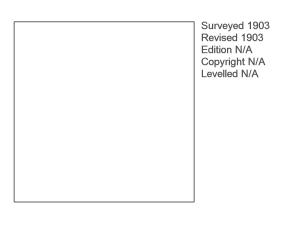


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



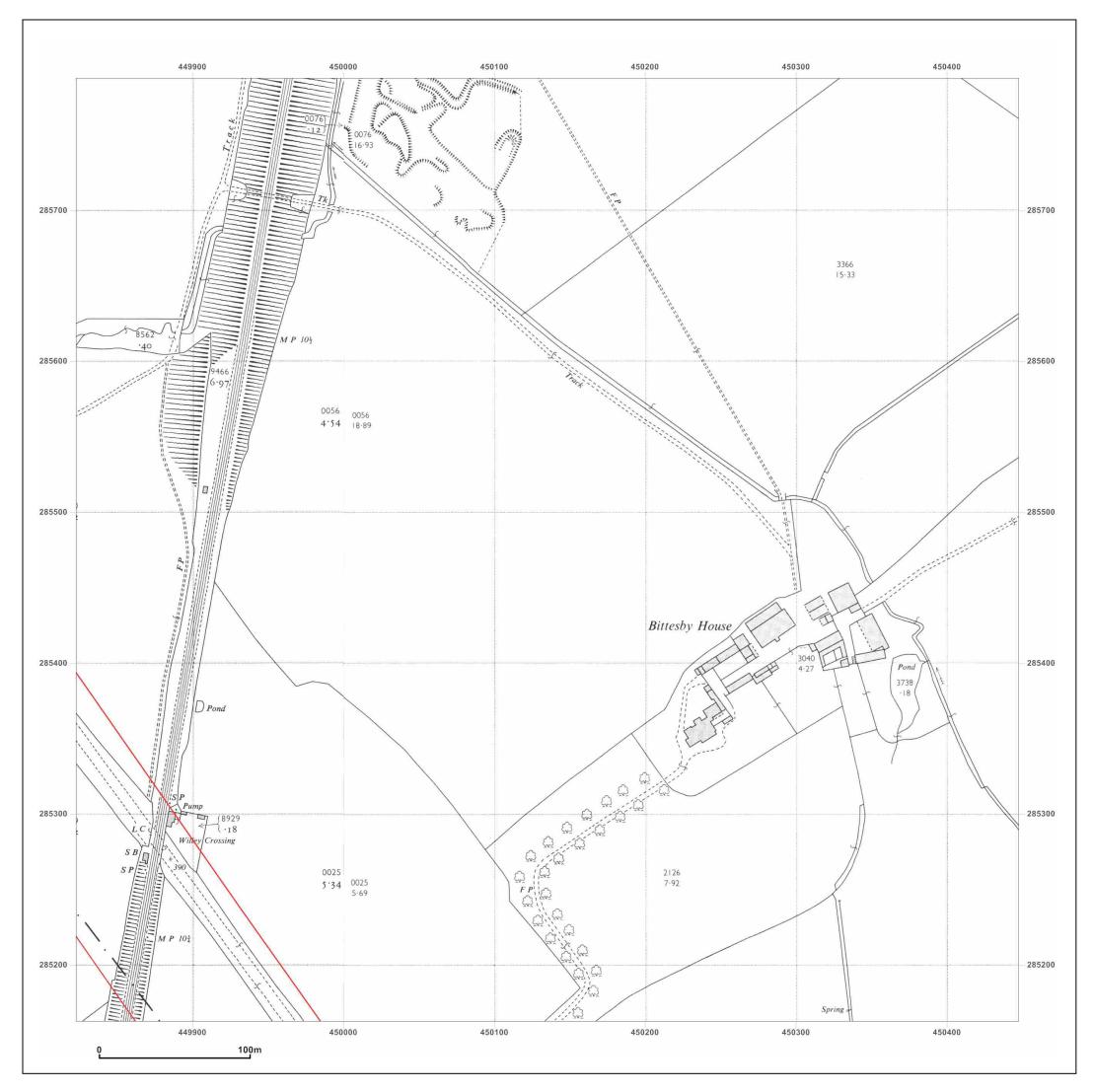


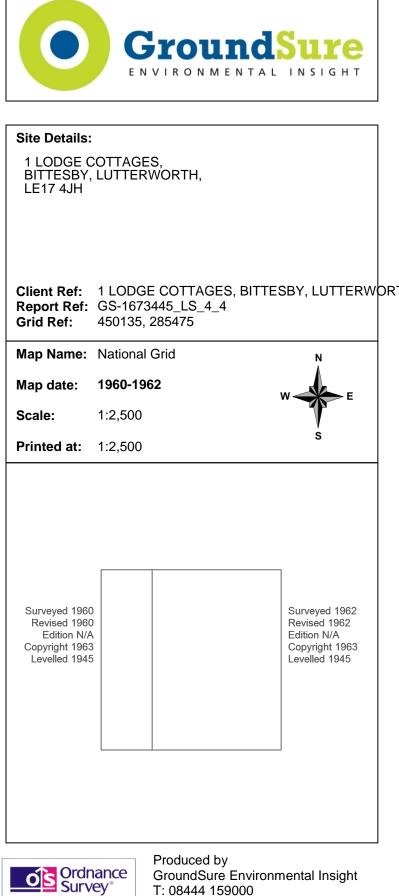




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



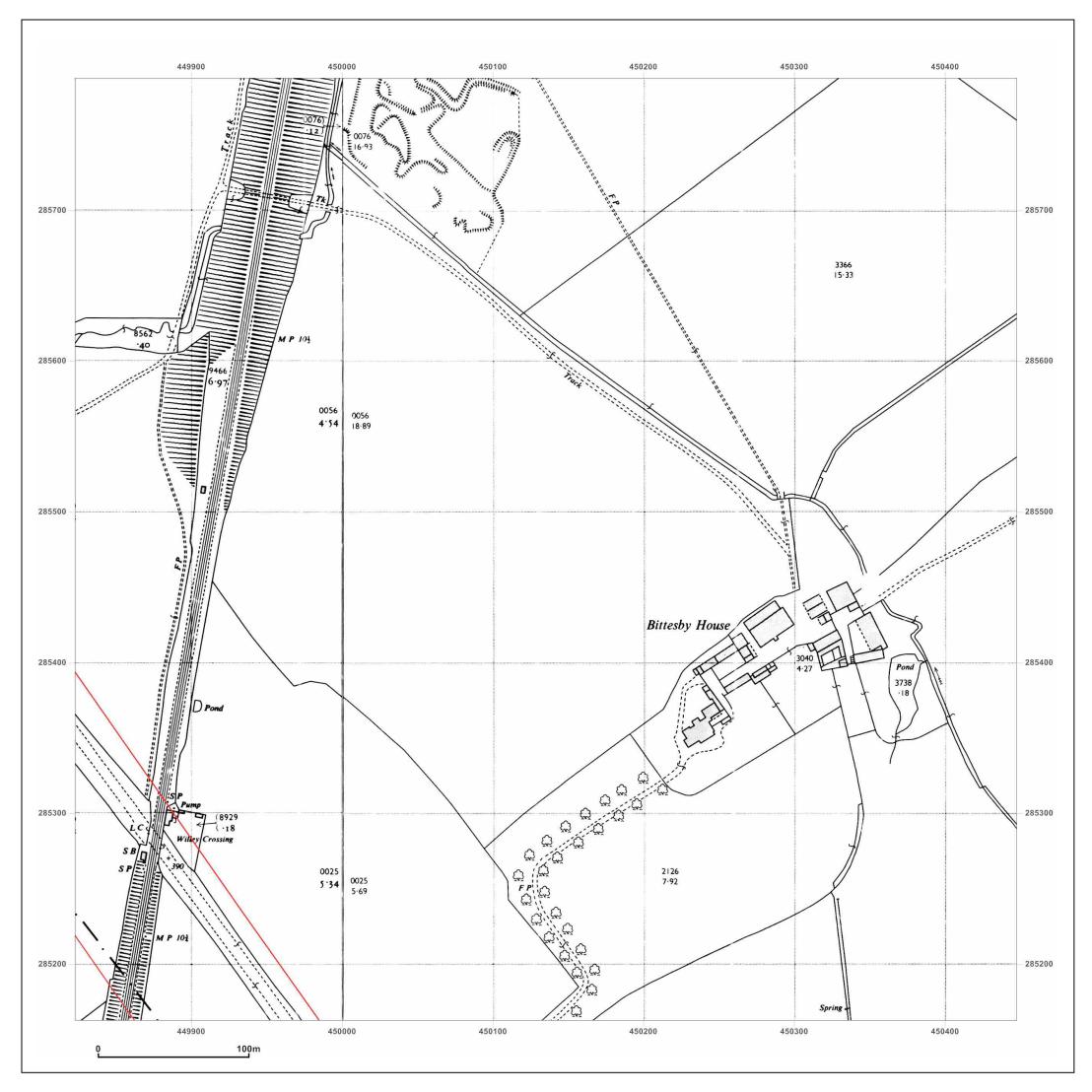


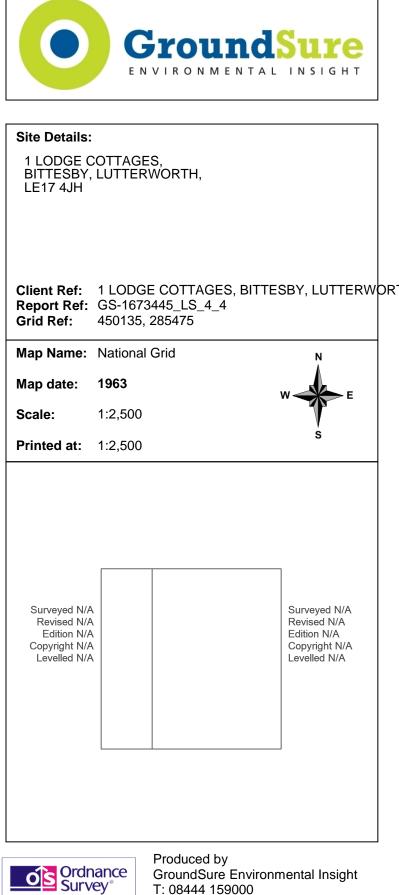
T: 08444 159000 E: info@groundsure.com

W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



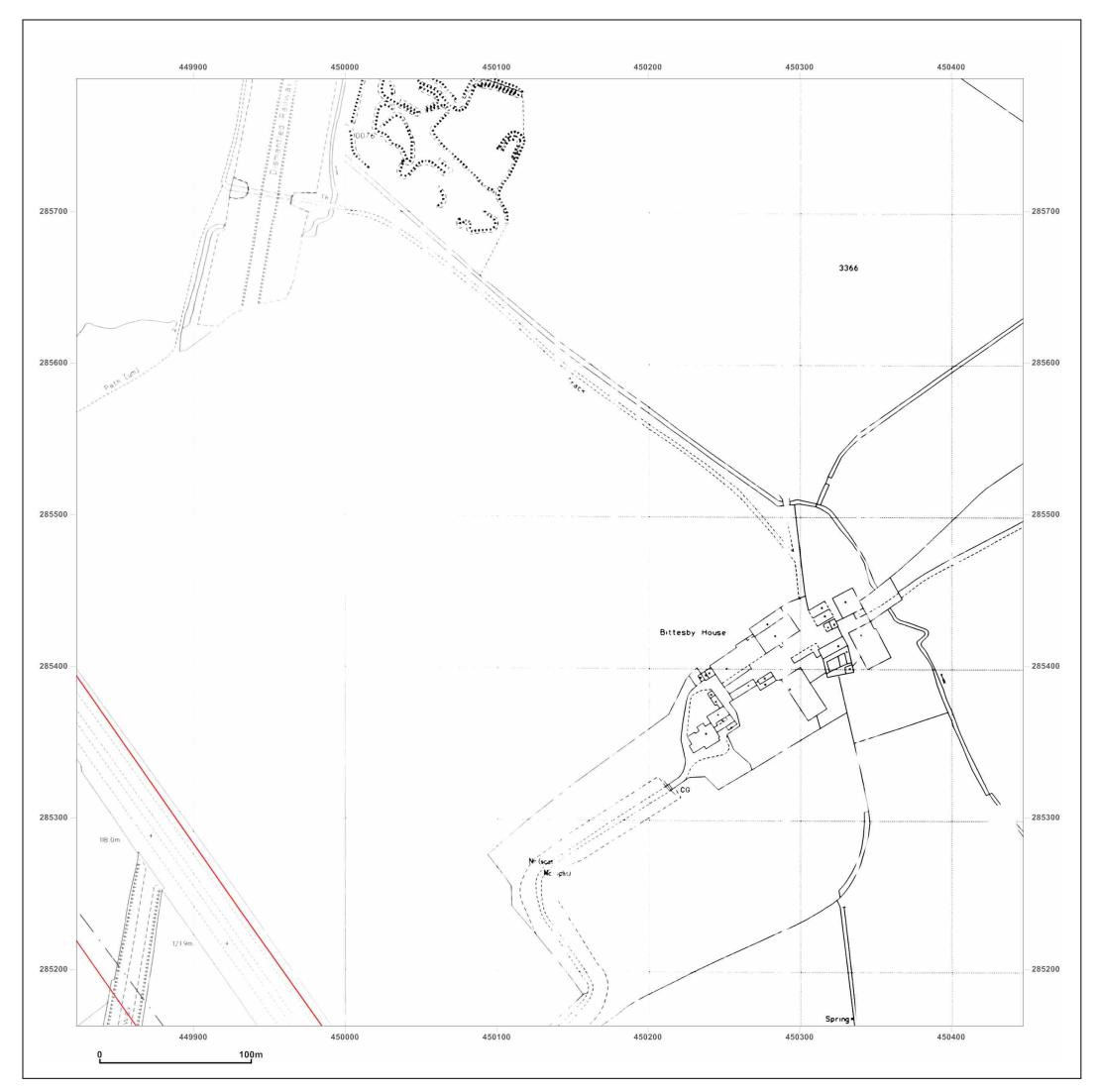


T: 08444 159000 E: info@groundsure.com

W: www.groundsure.com

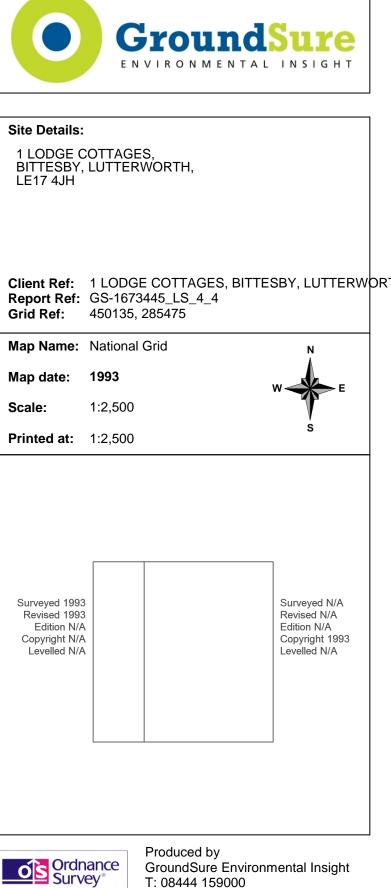
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



**–** 

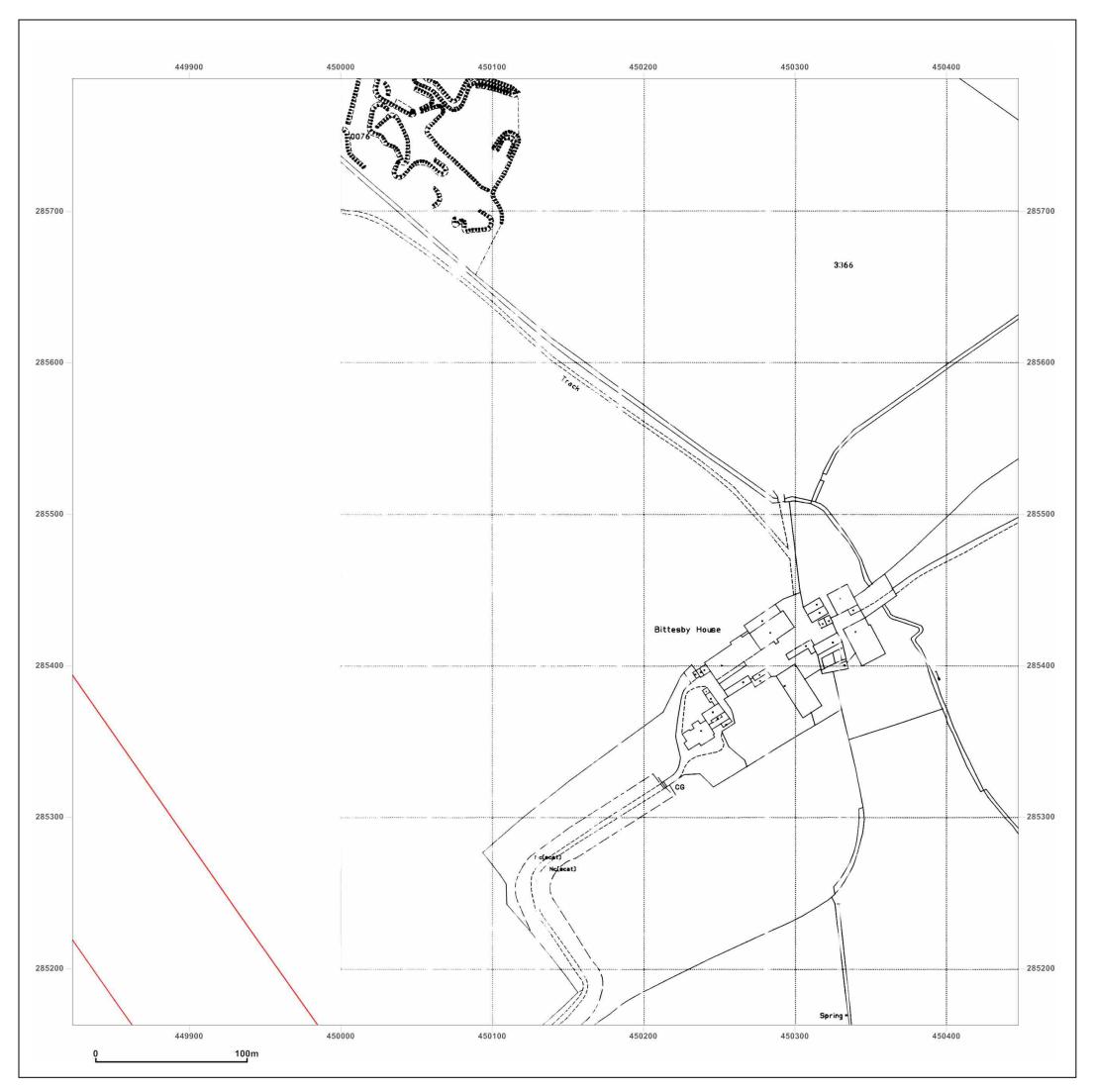
Licensed Partner

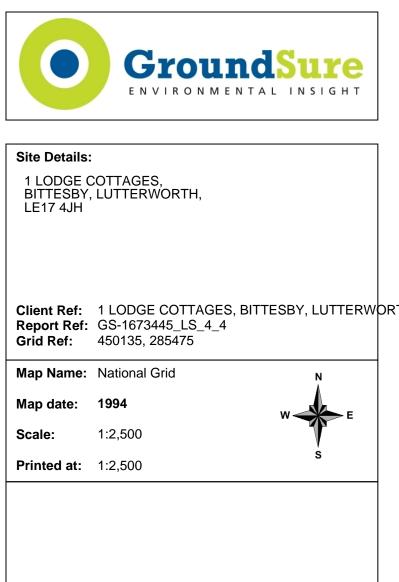


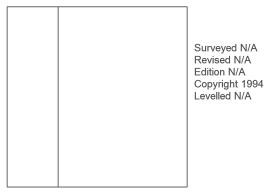
T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



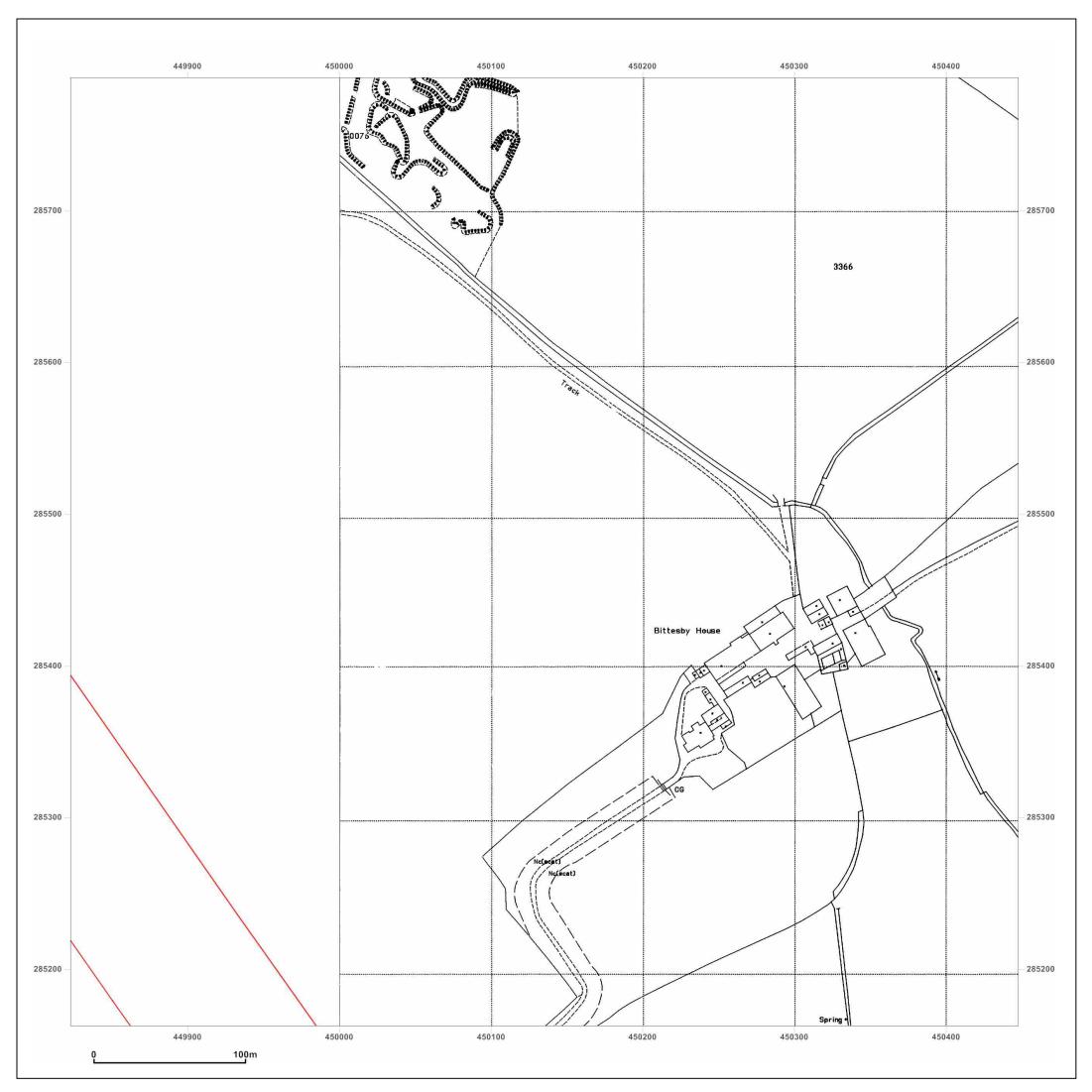


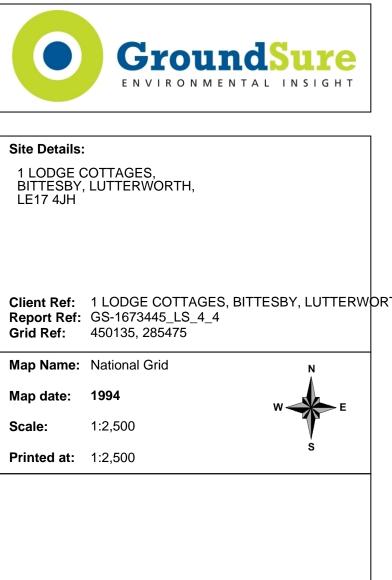


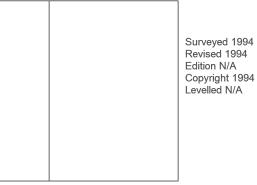


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



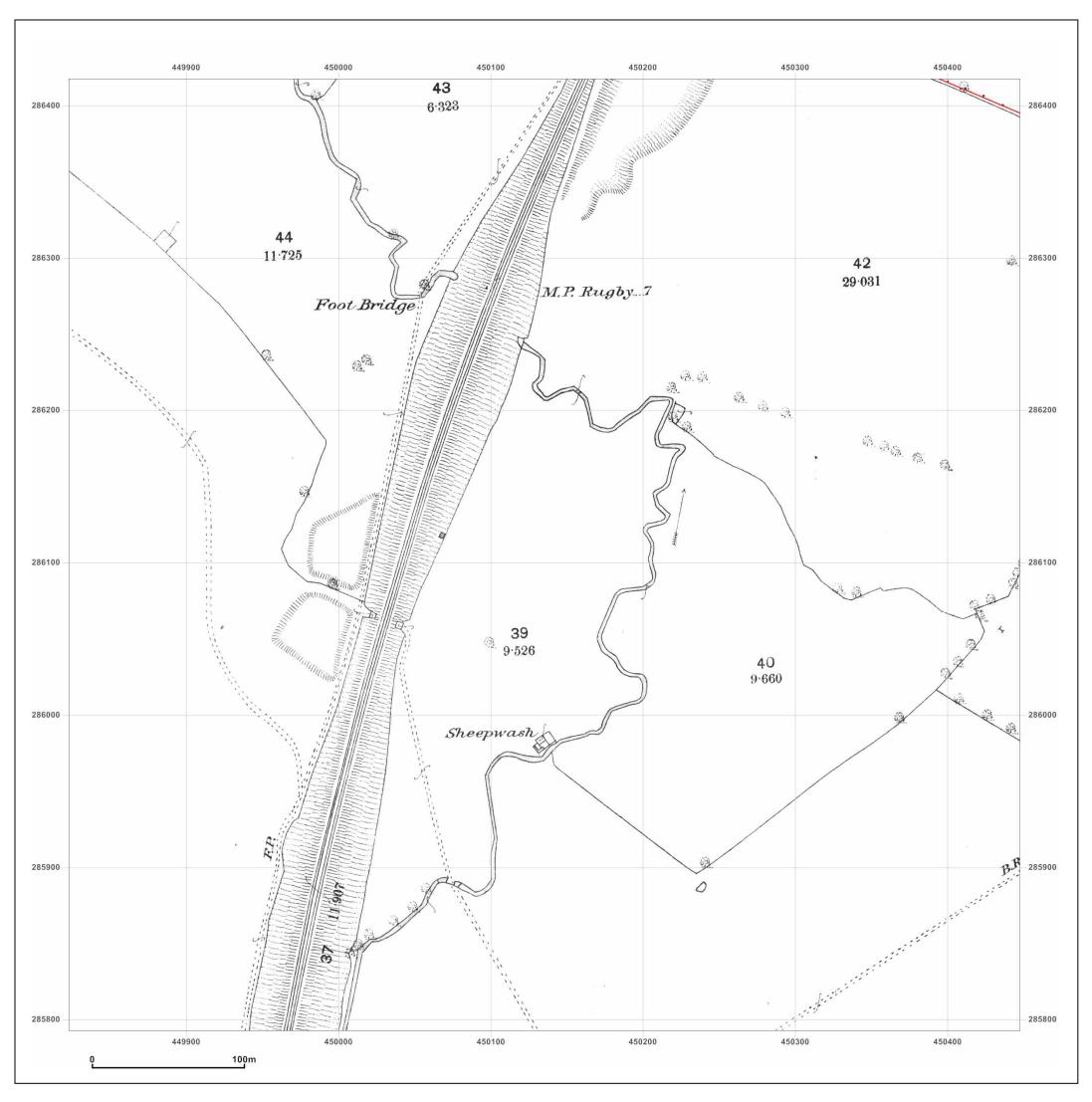


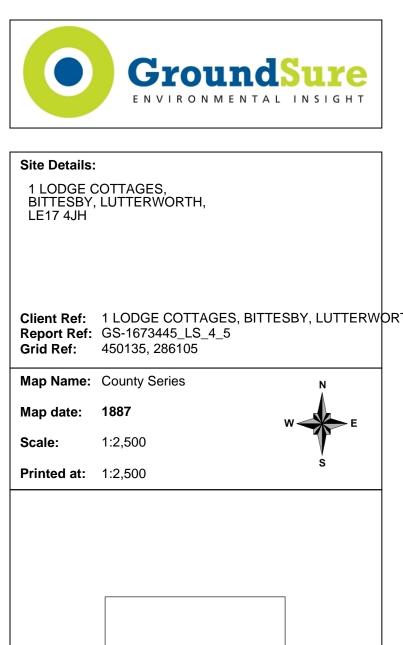




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





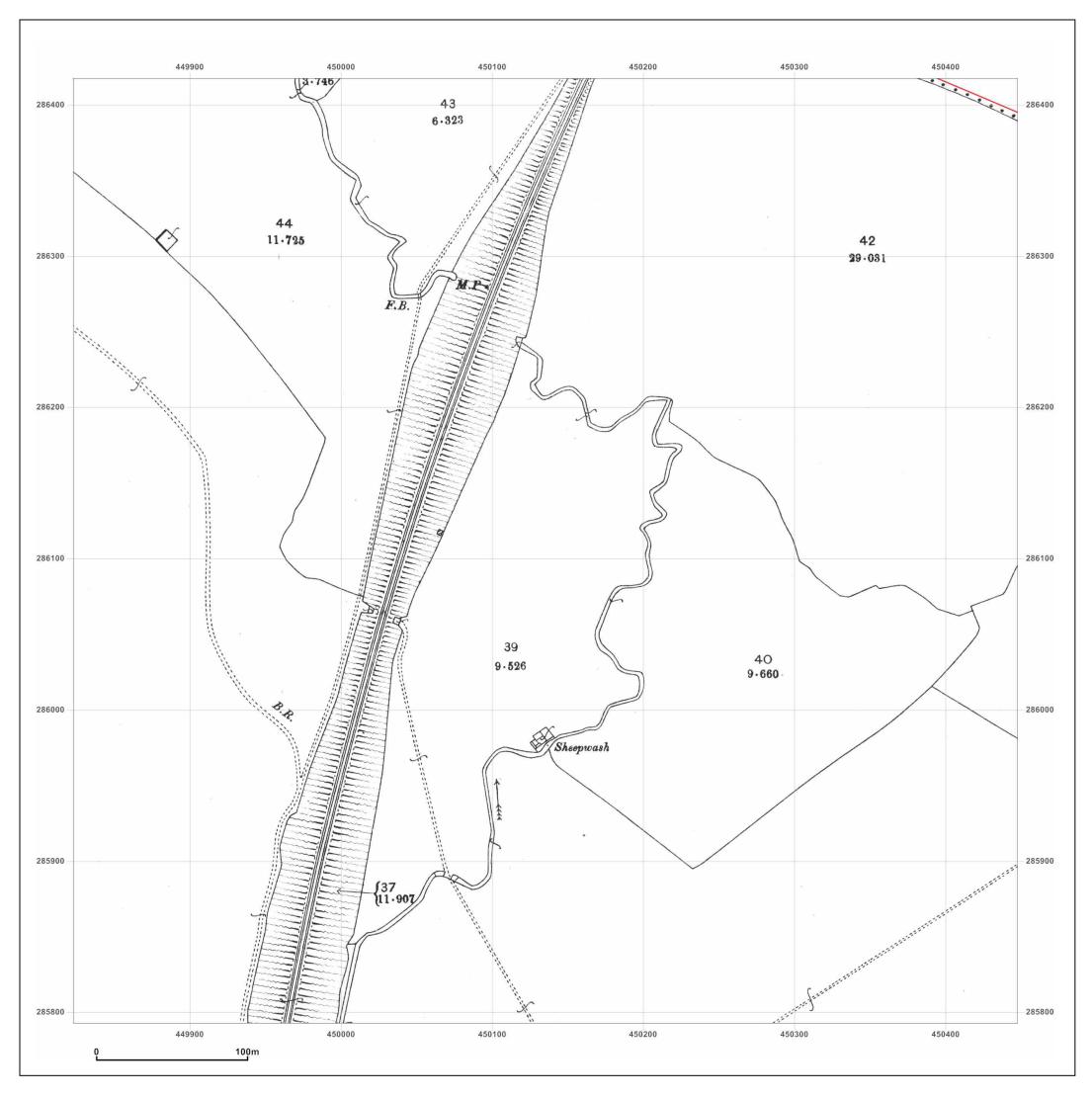


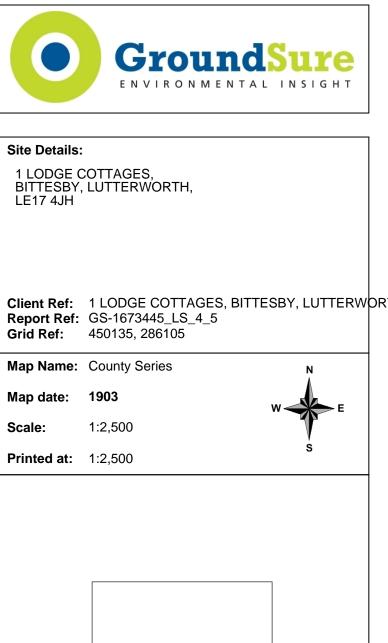
W: www.groundsure.com

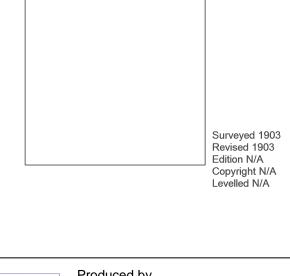
Surveyed 1887 Revised 1887 Edition N/A Copyright N/A Levelled N/A

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



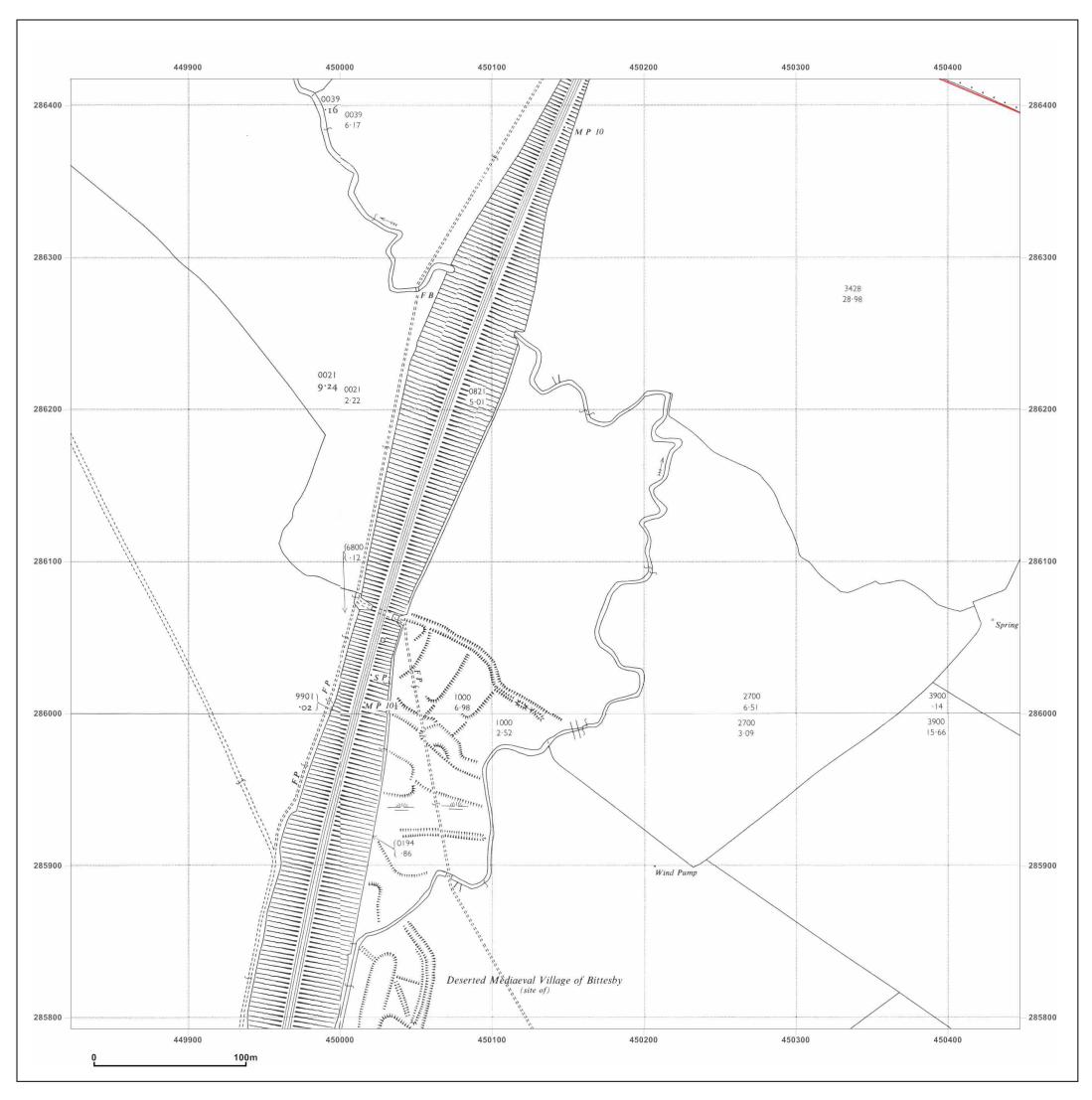


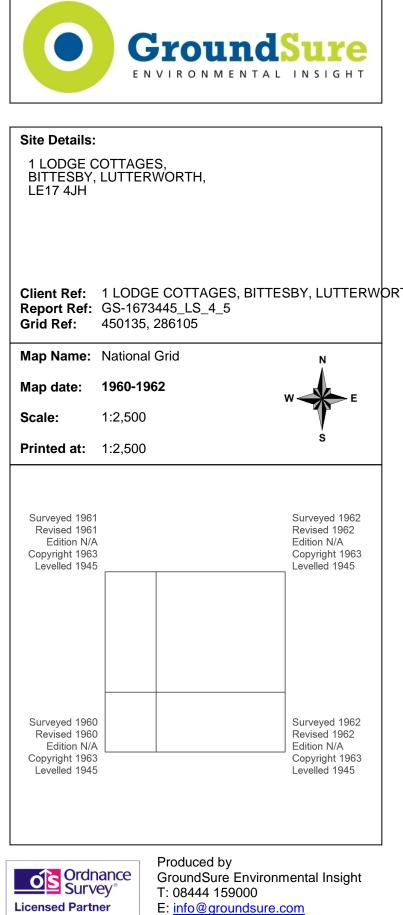




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

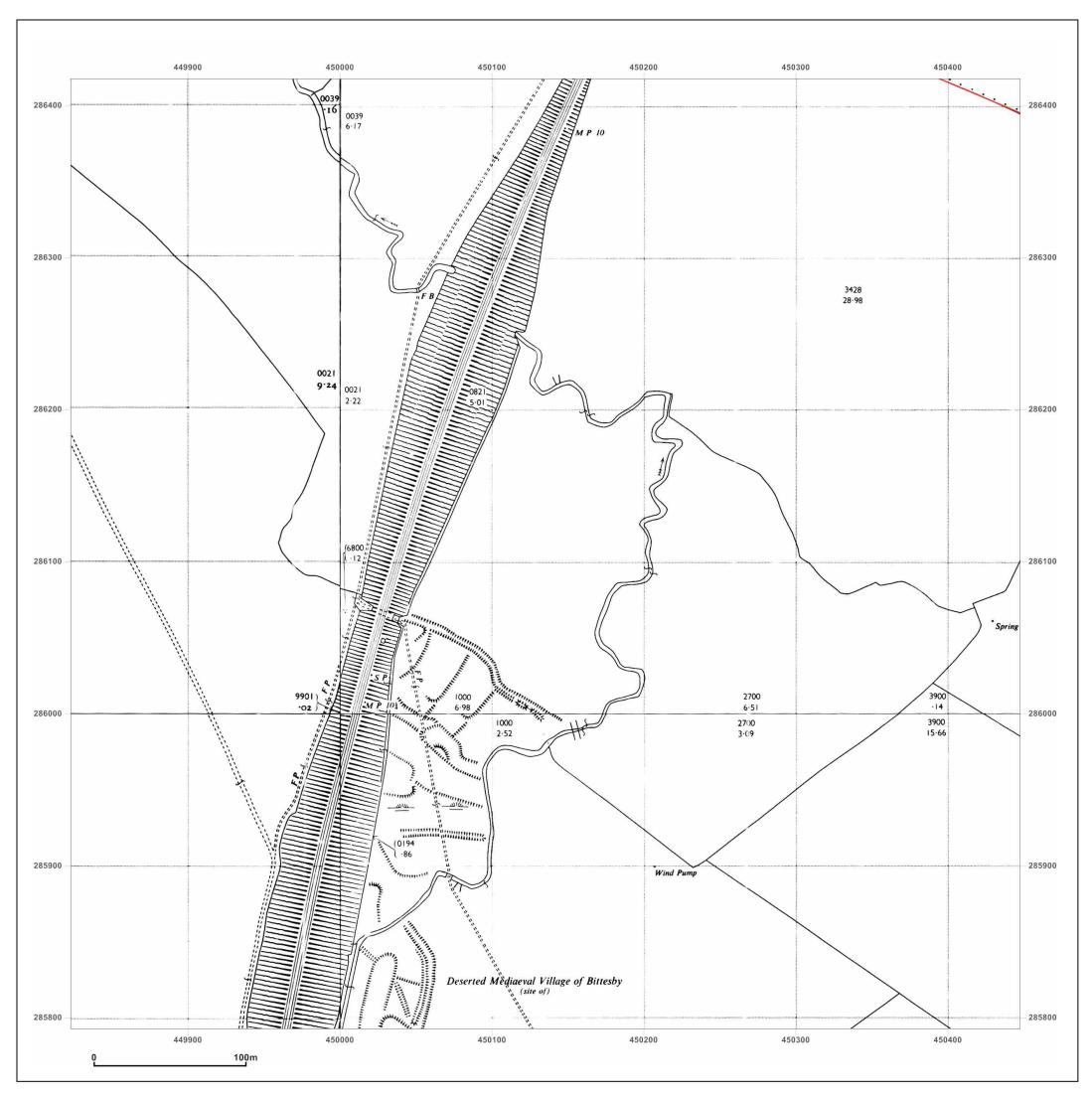


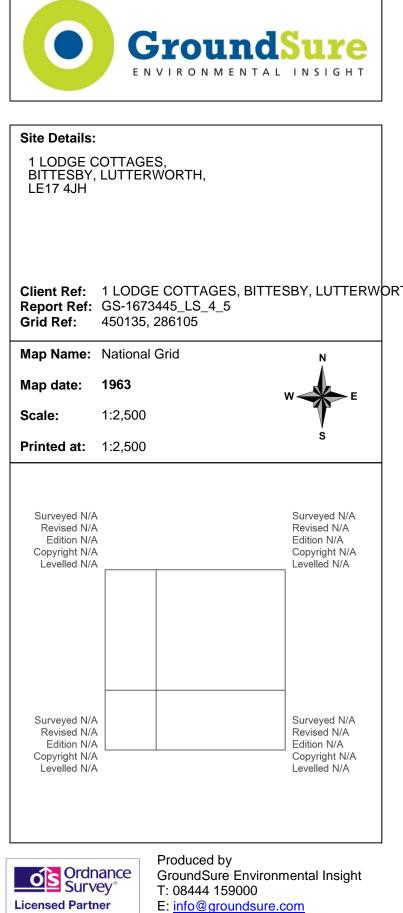


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014

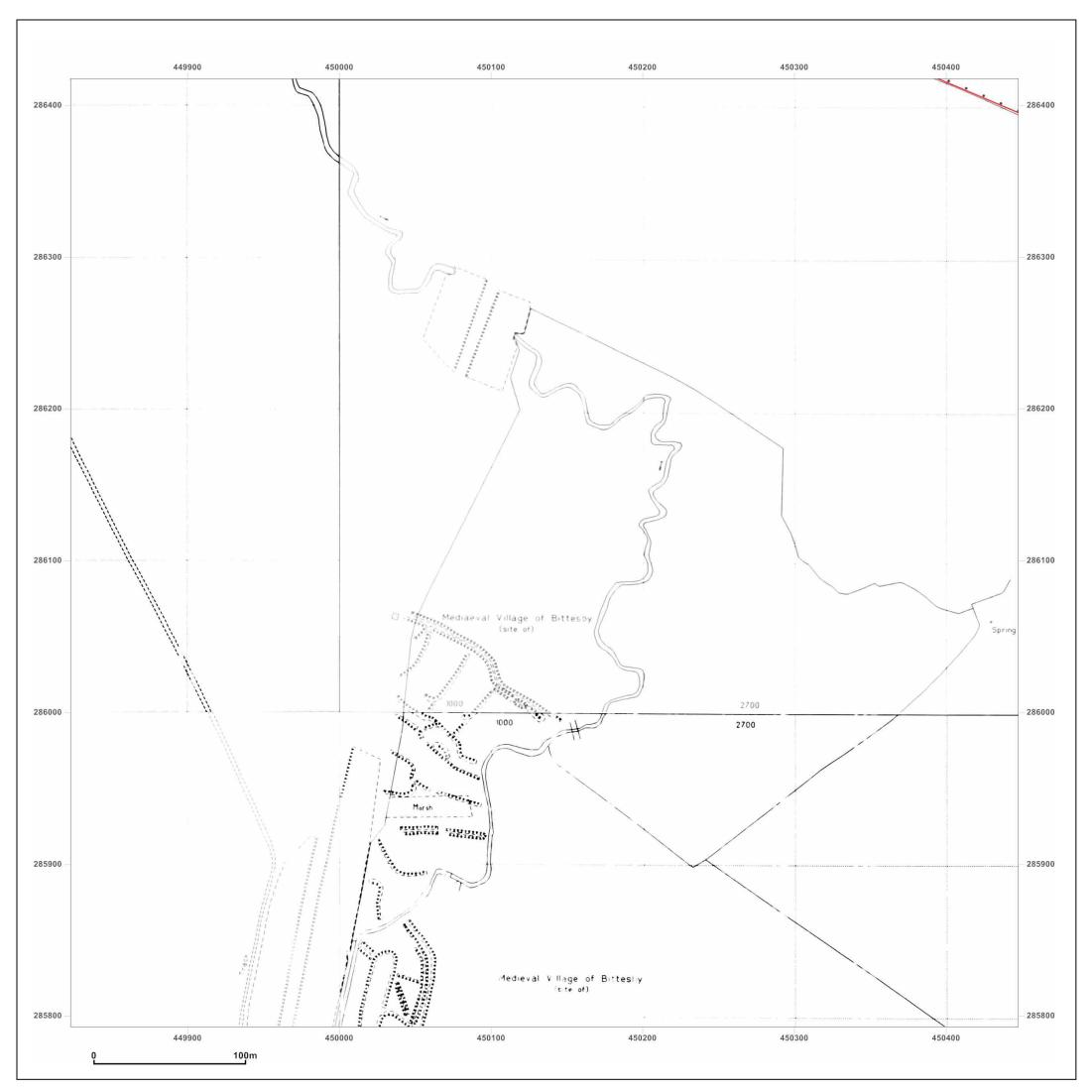


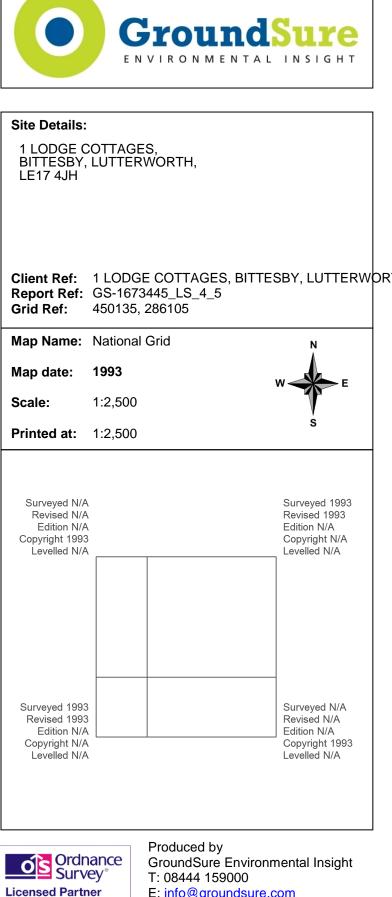


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014



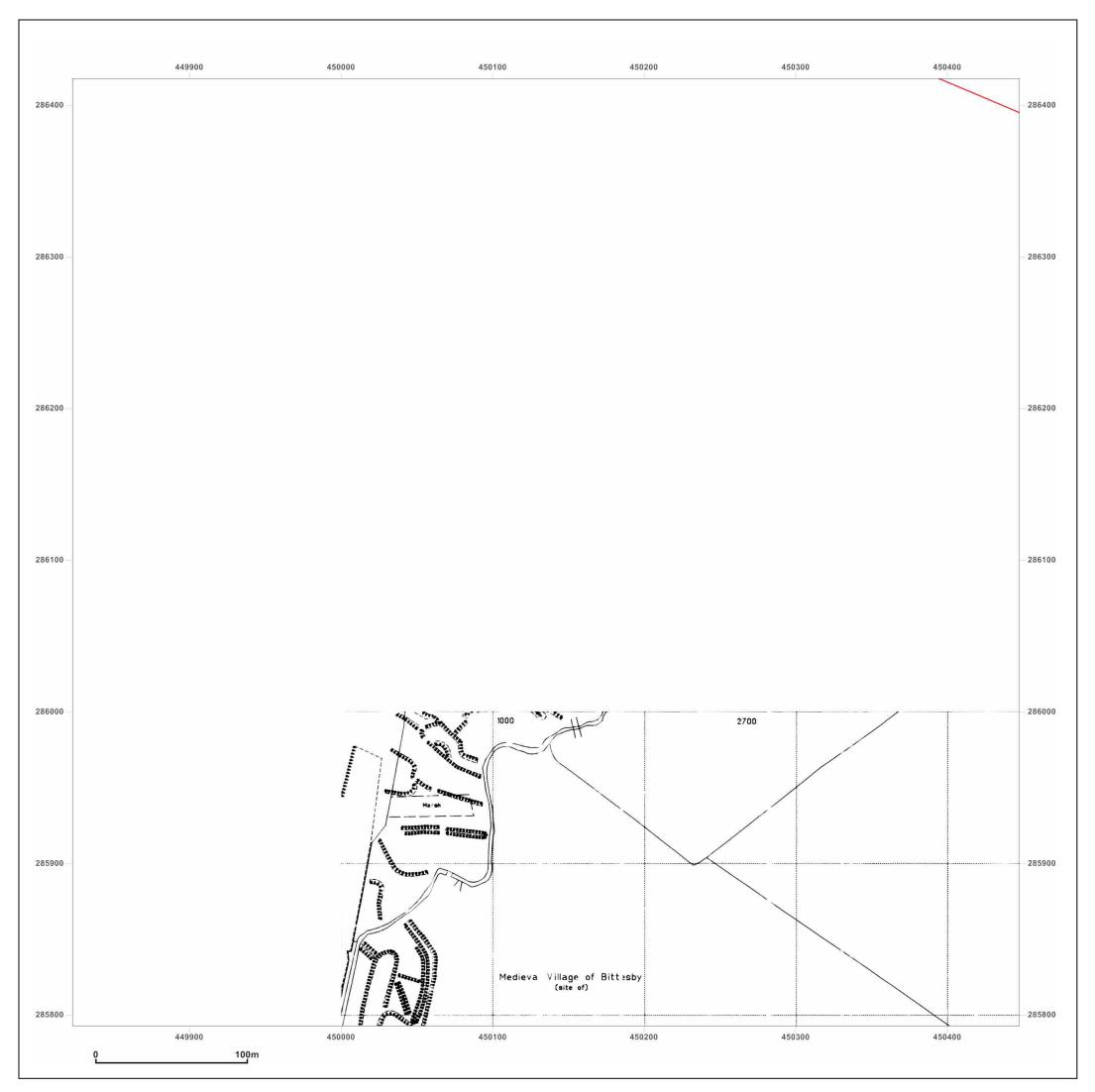


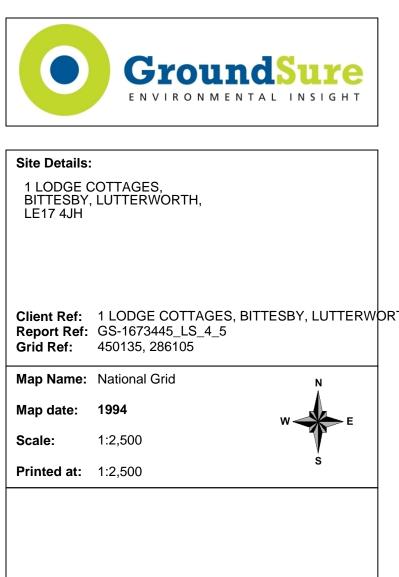
E: info@groundsure.com

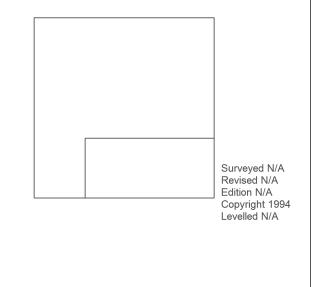
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



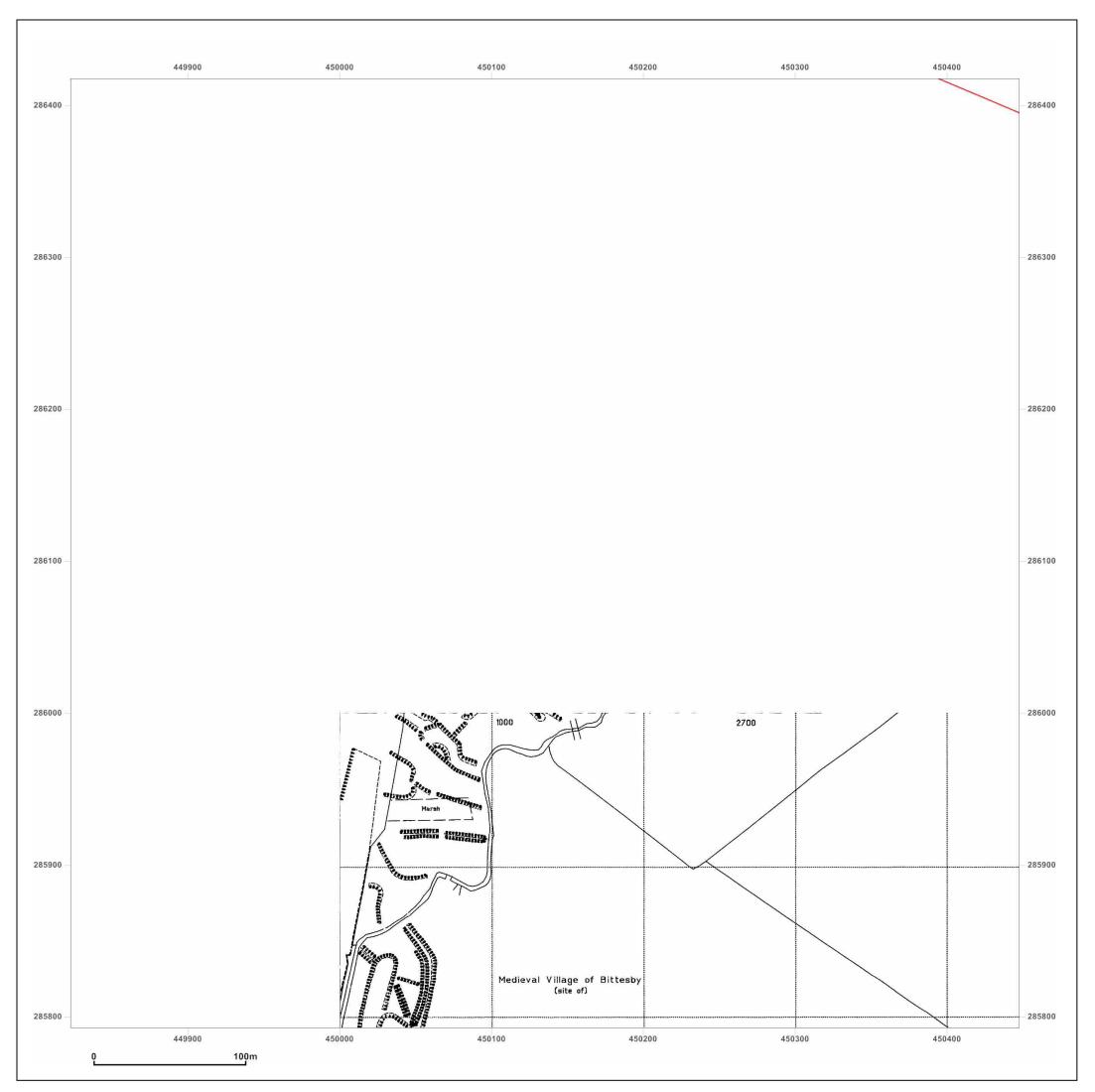


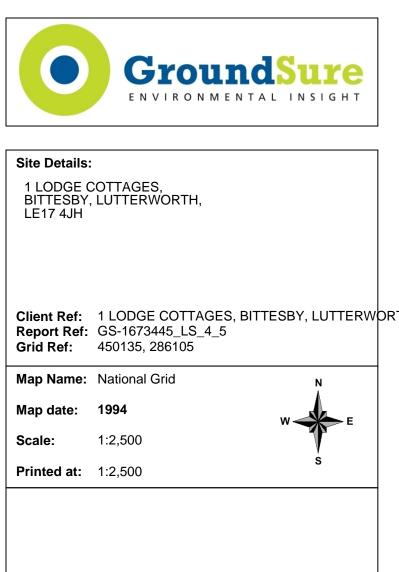


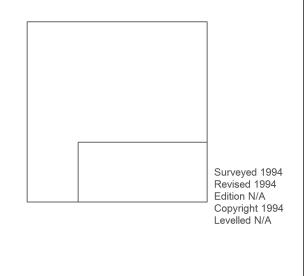


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



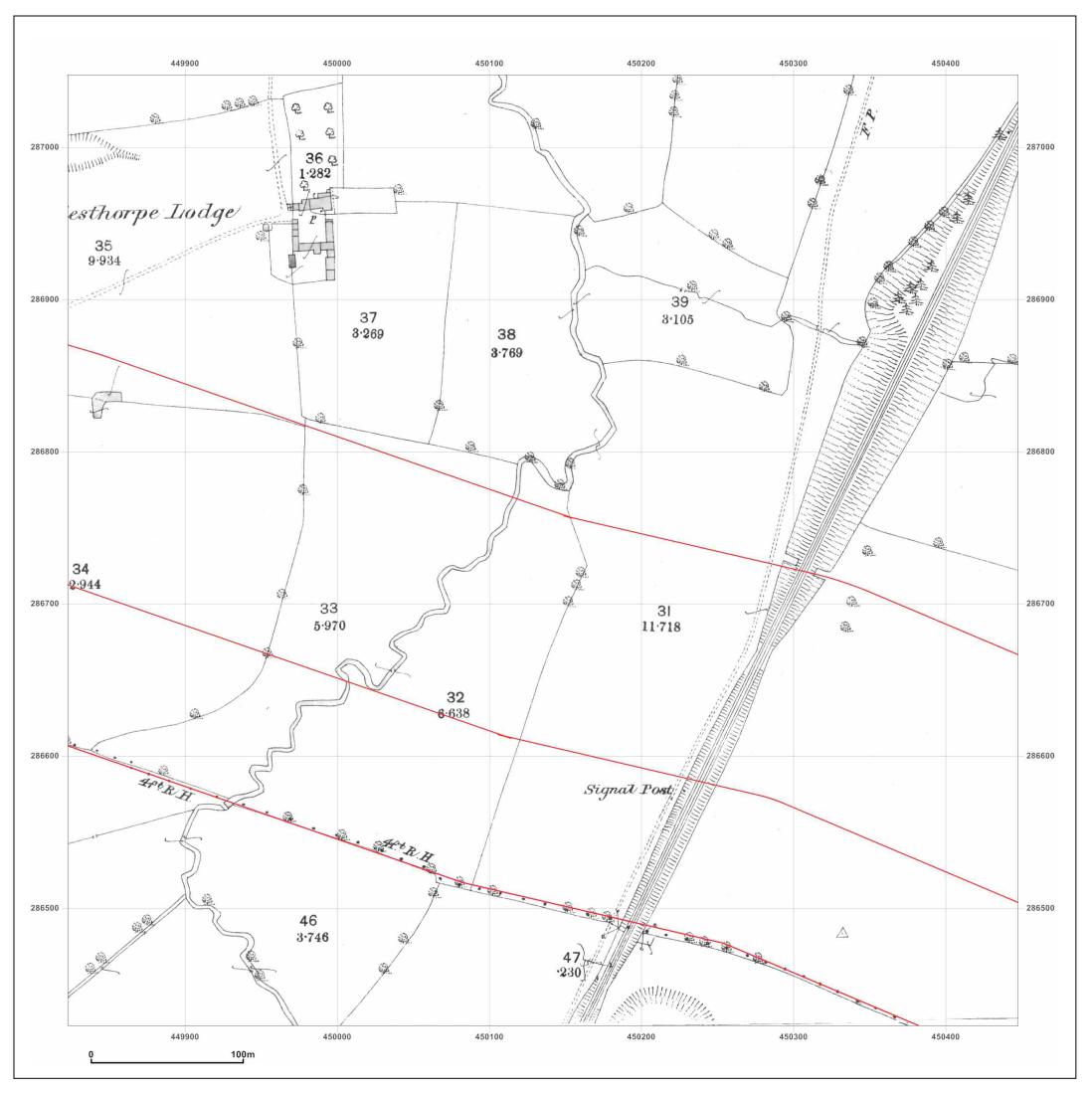


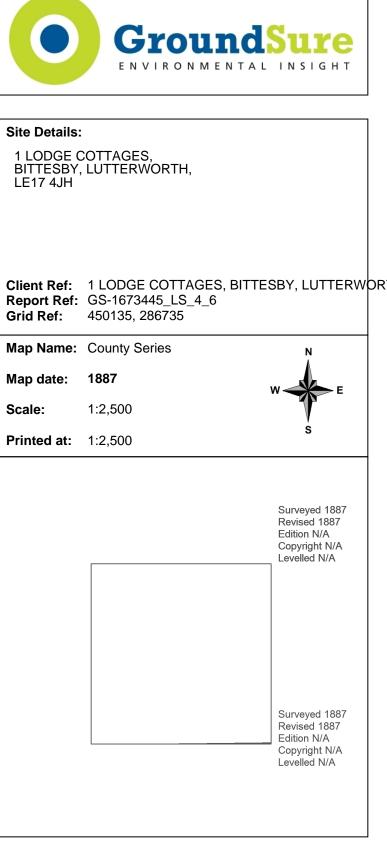




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

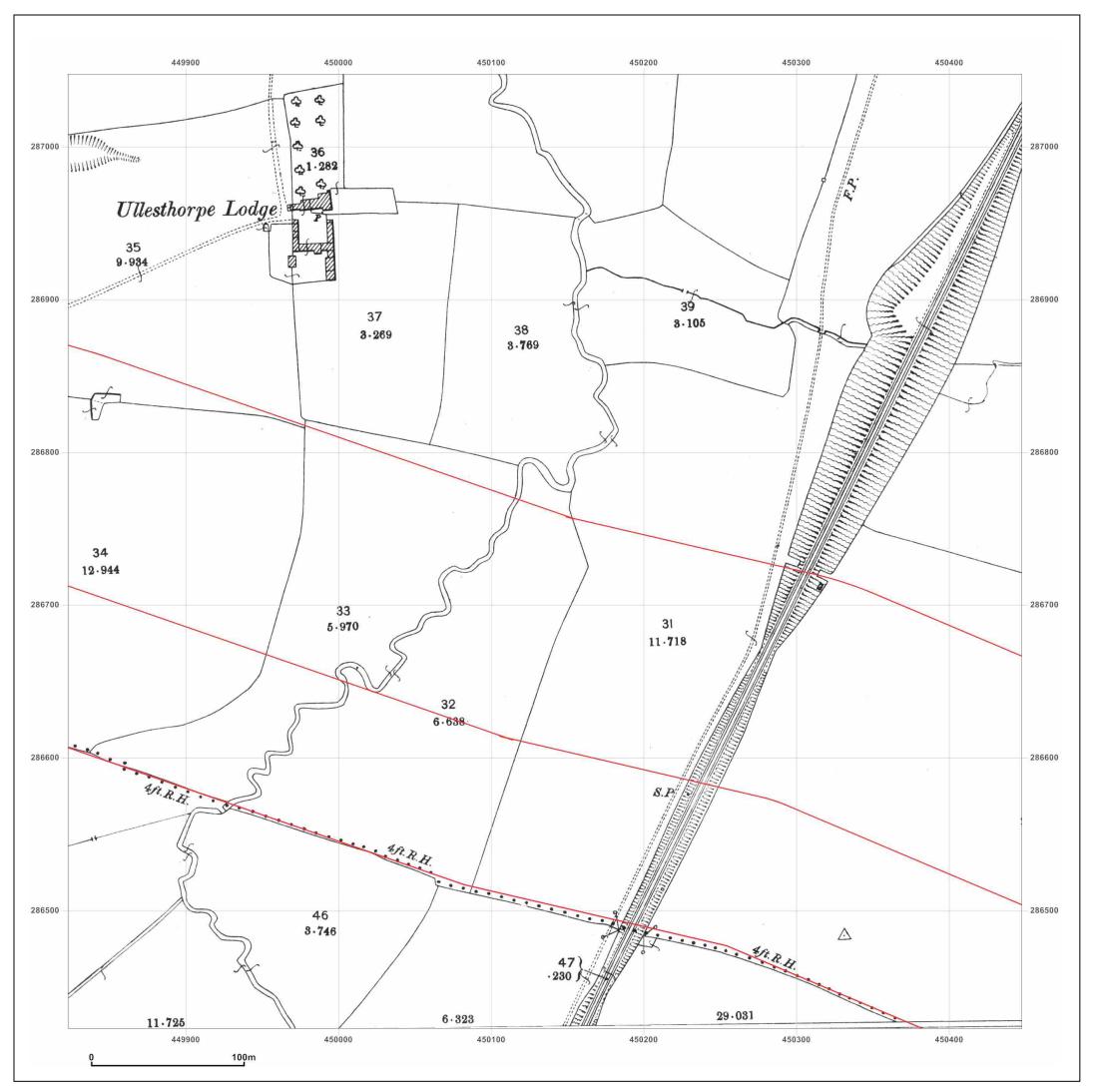


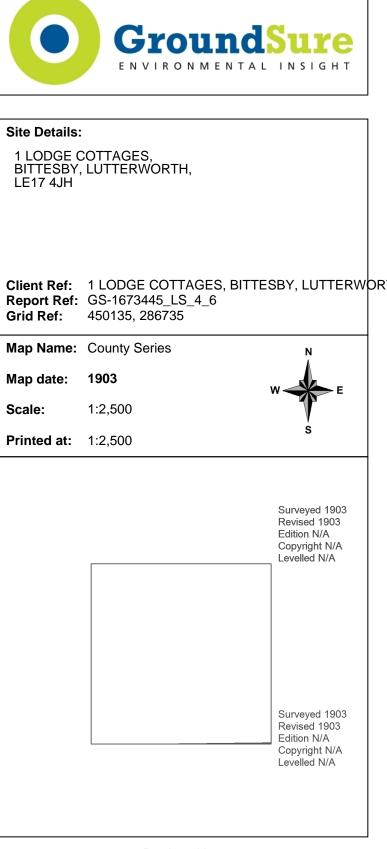




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

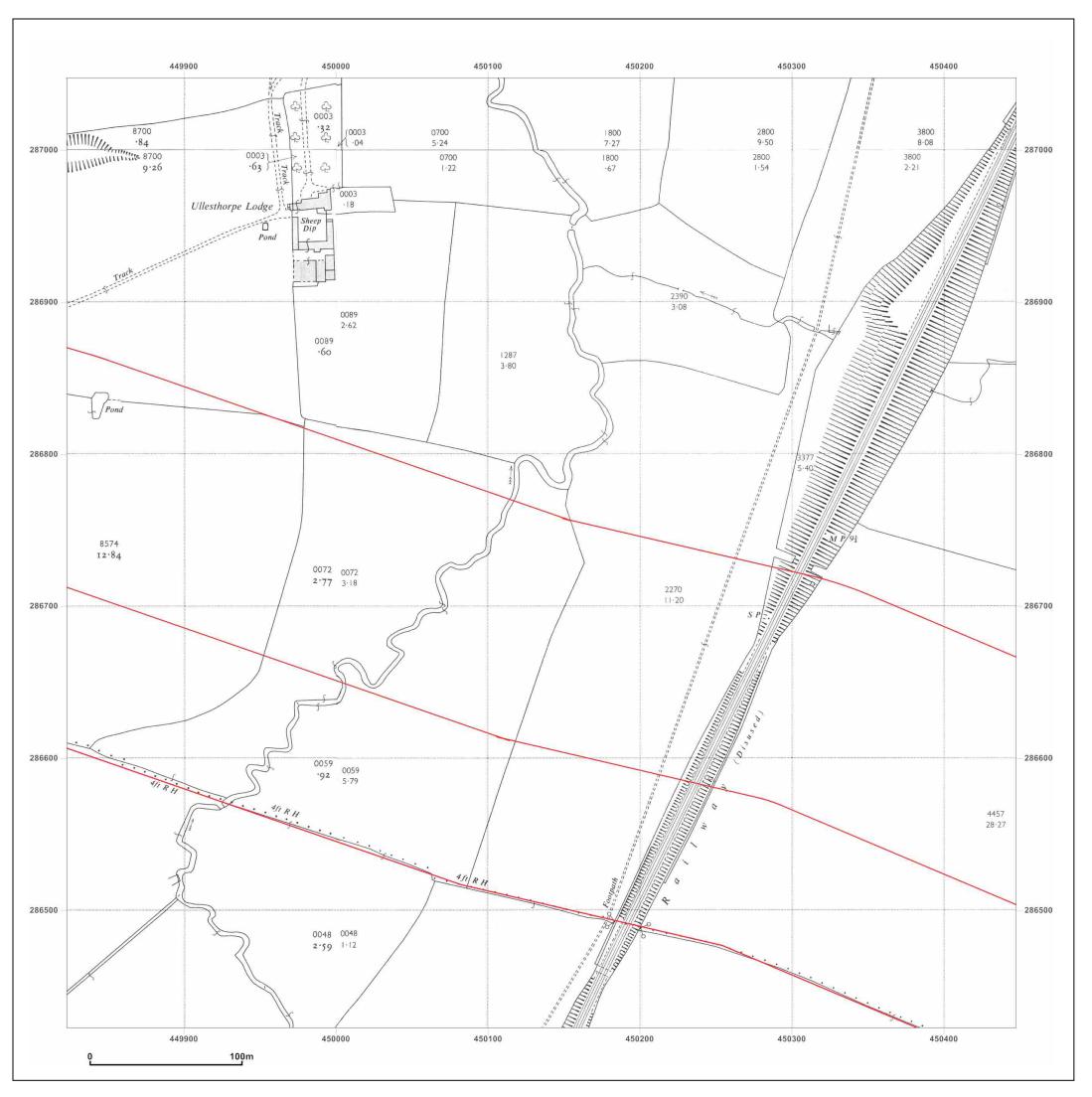


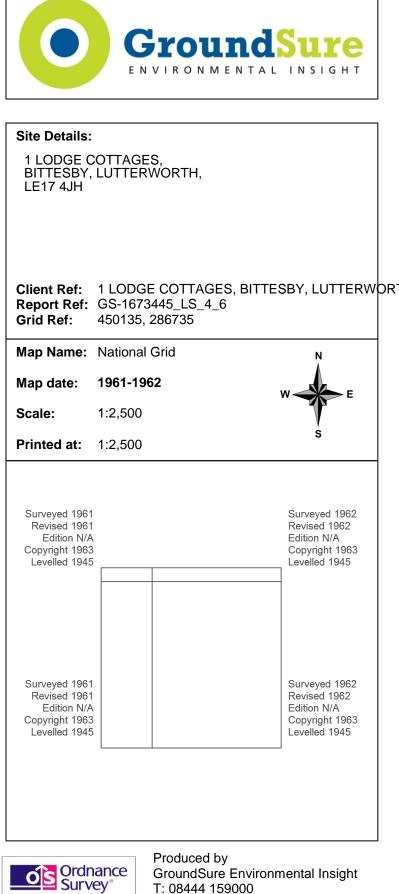




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



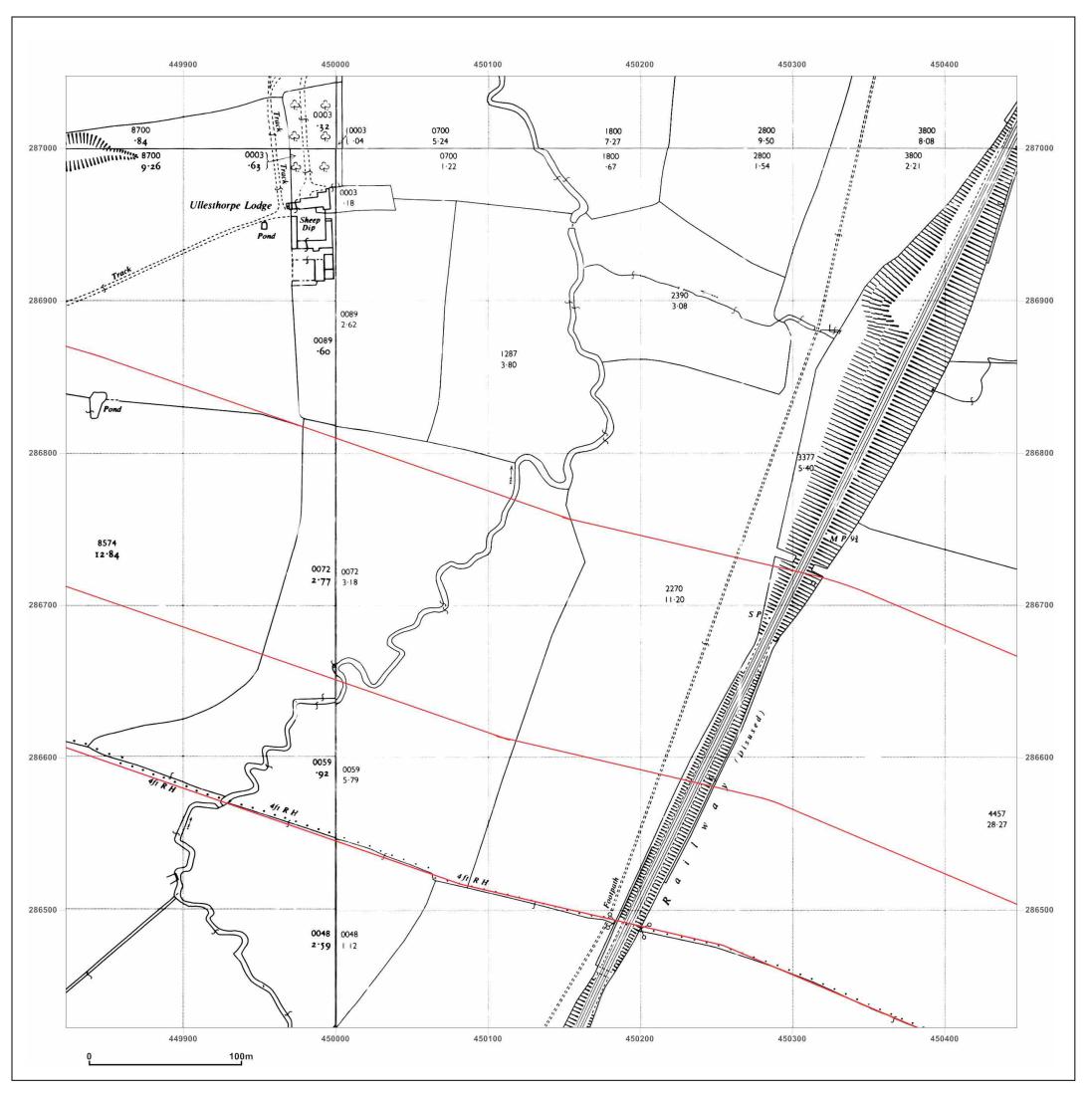


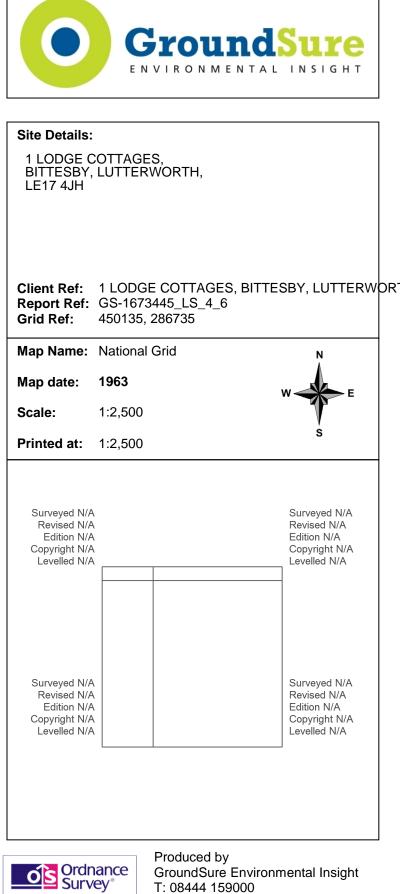
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com

W: www.groundsure.com

Production date: 22 September 2014



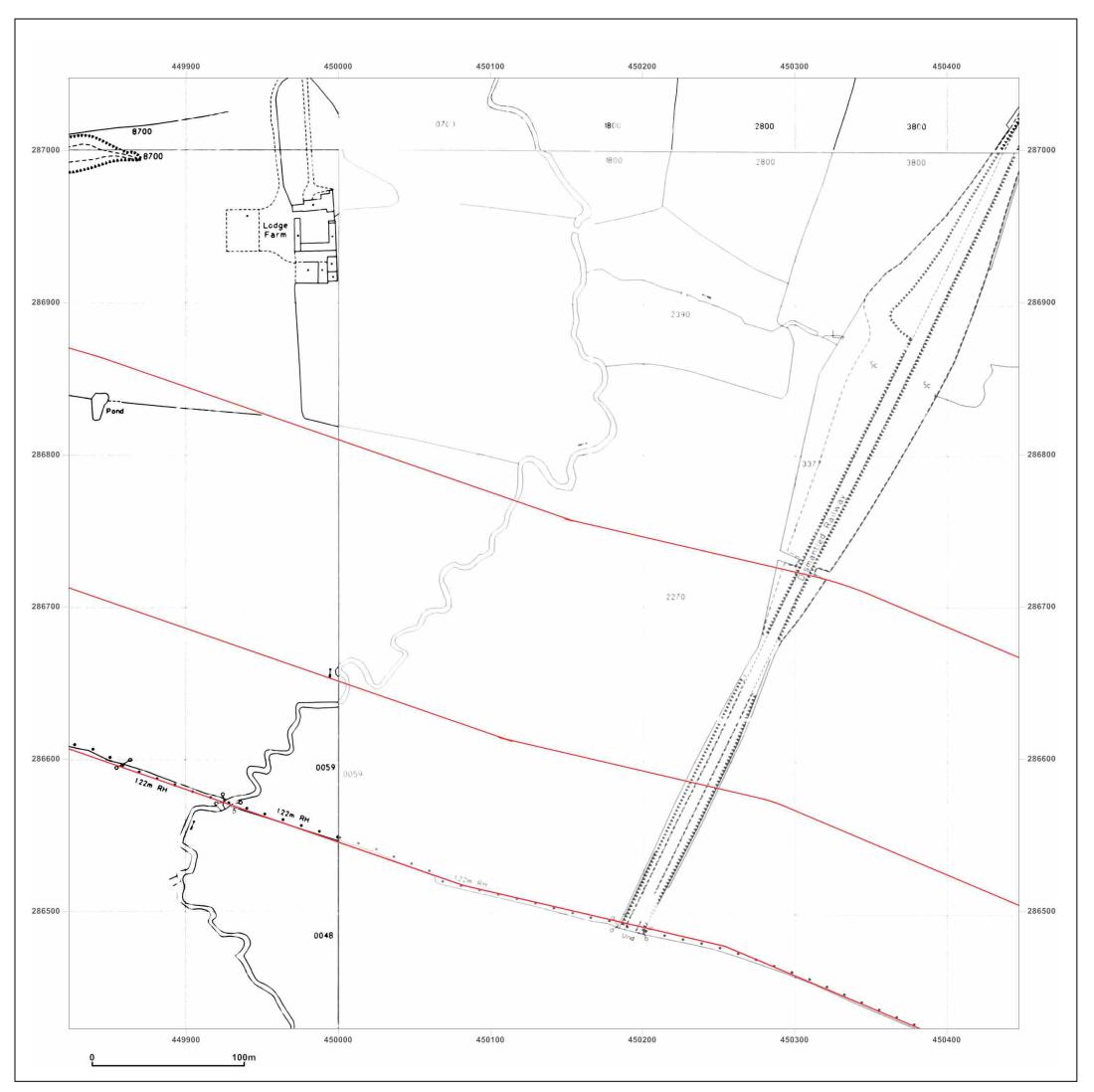


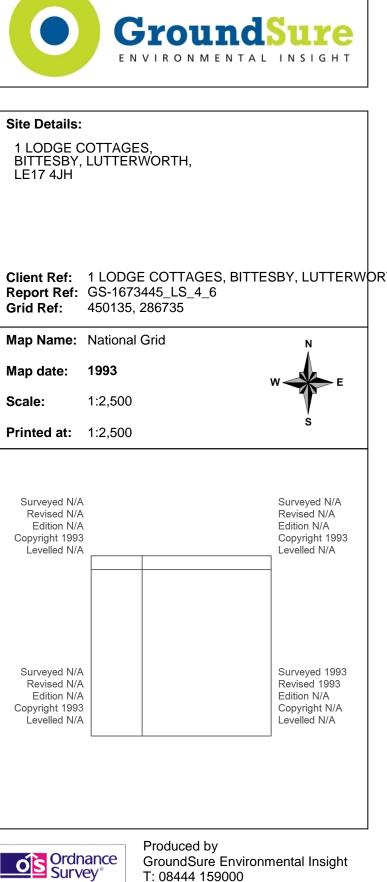
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com

W: www.groundsure.com

Production date: 22 September 2014

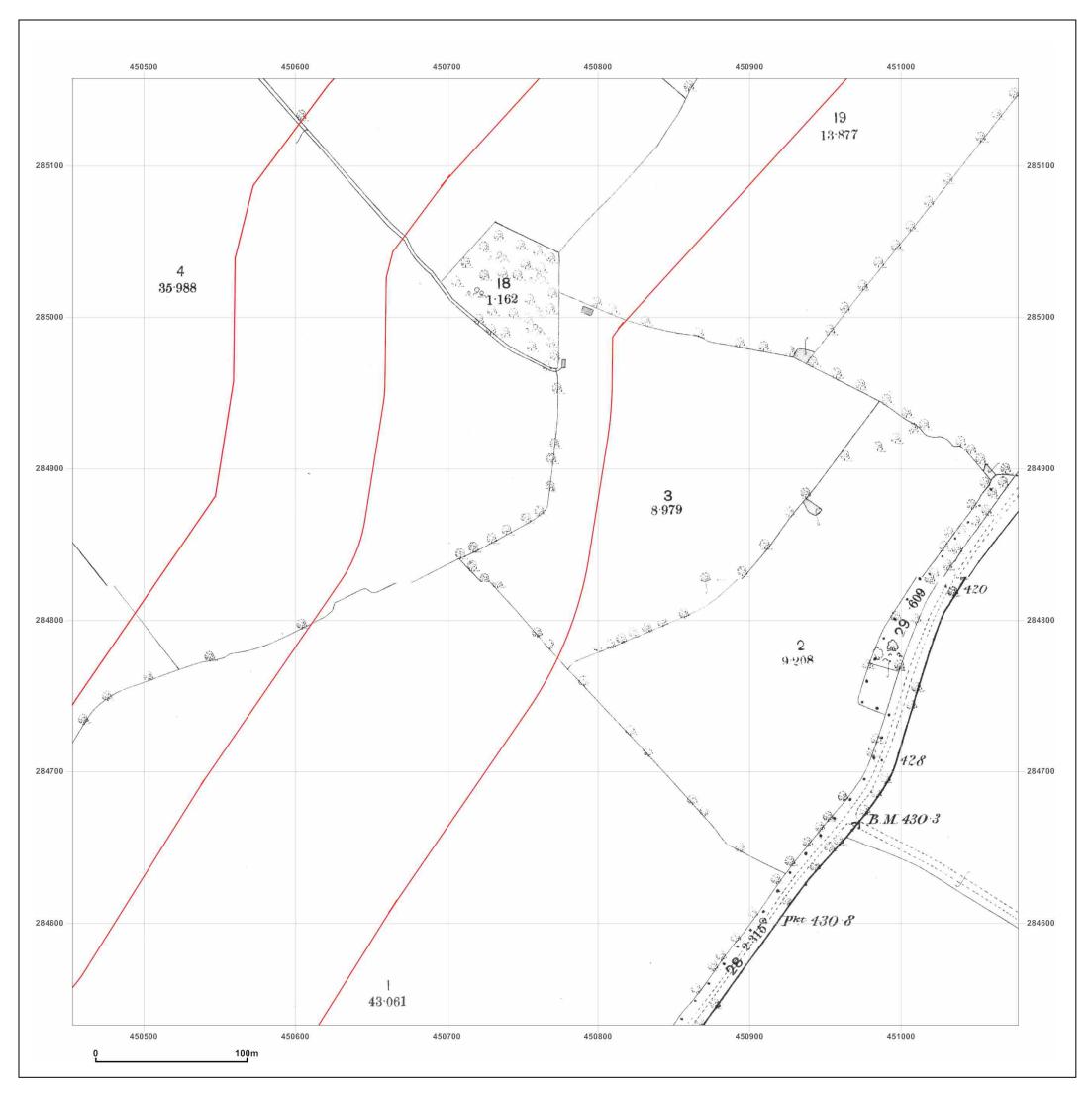


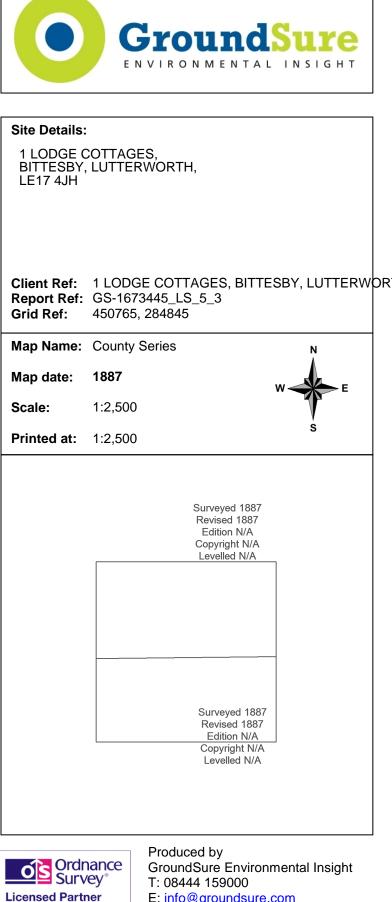


E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

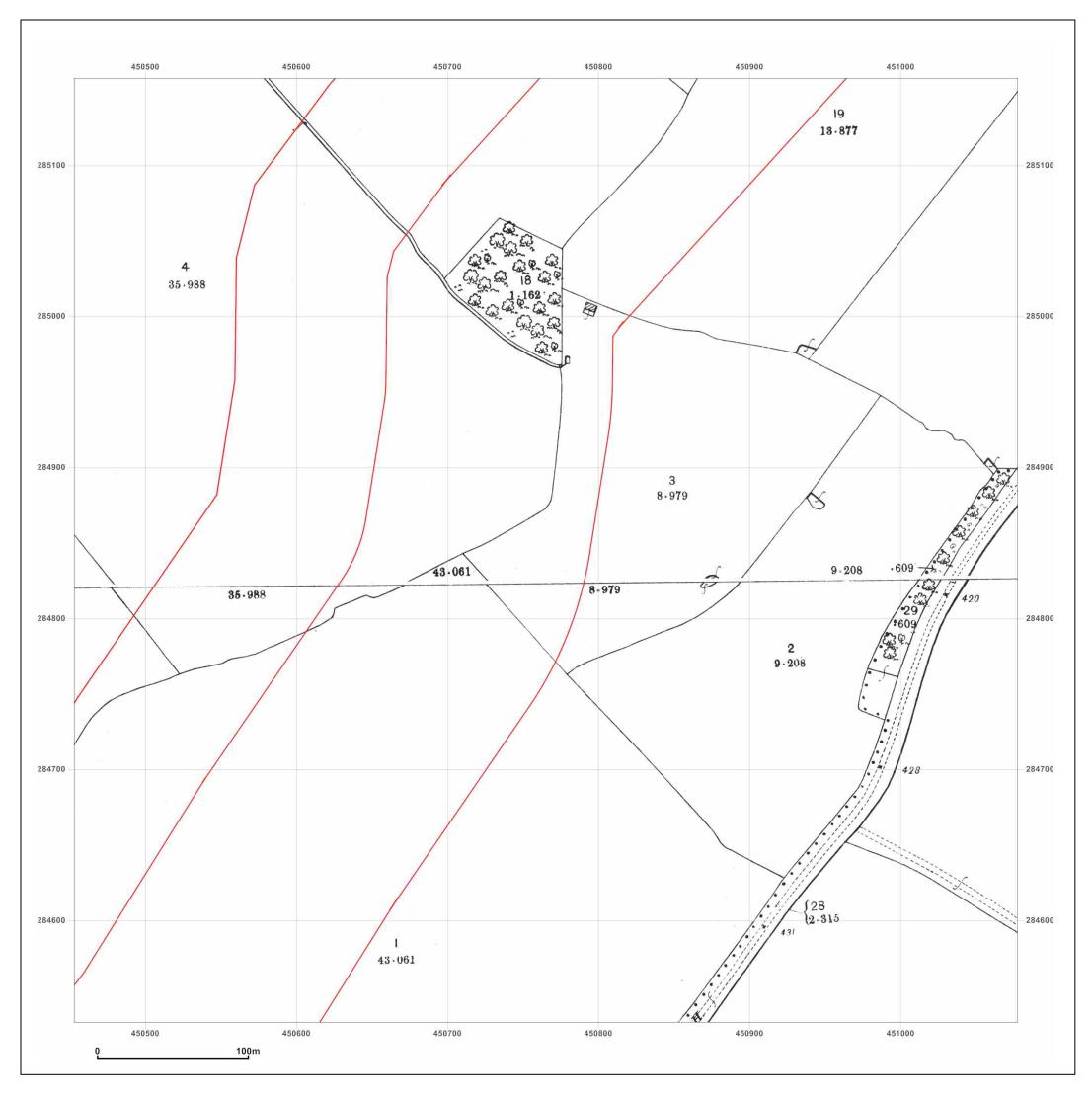


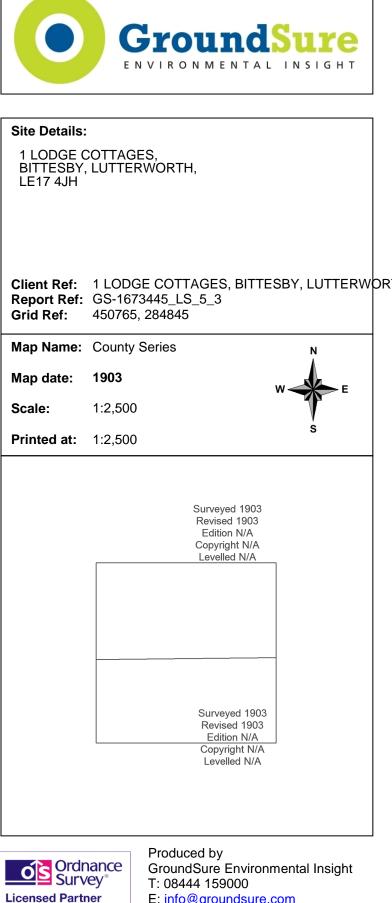


E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

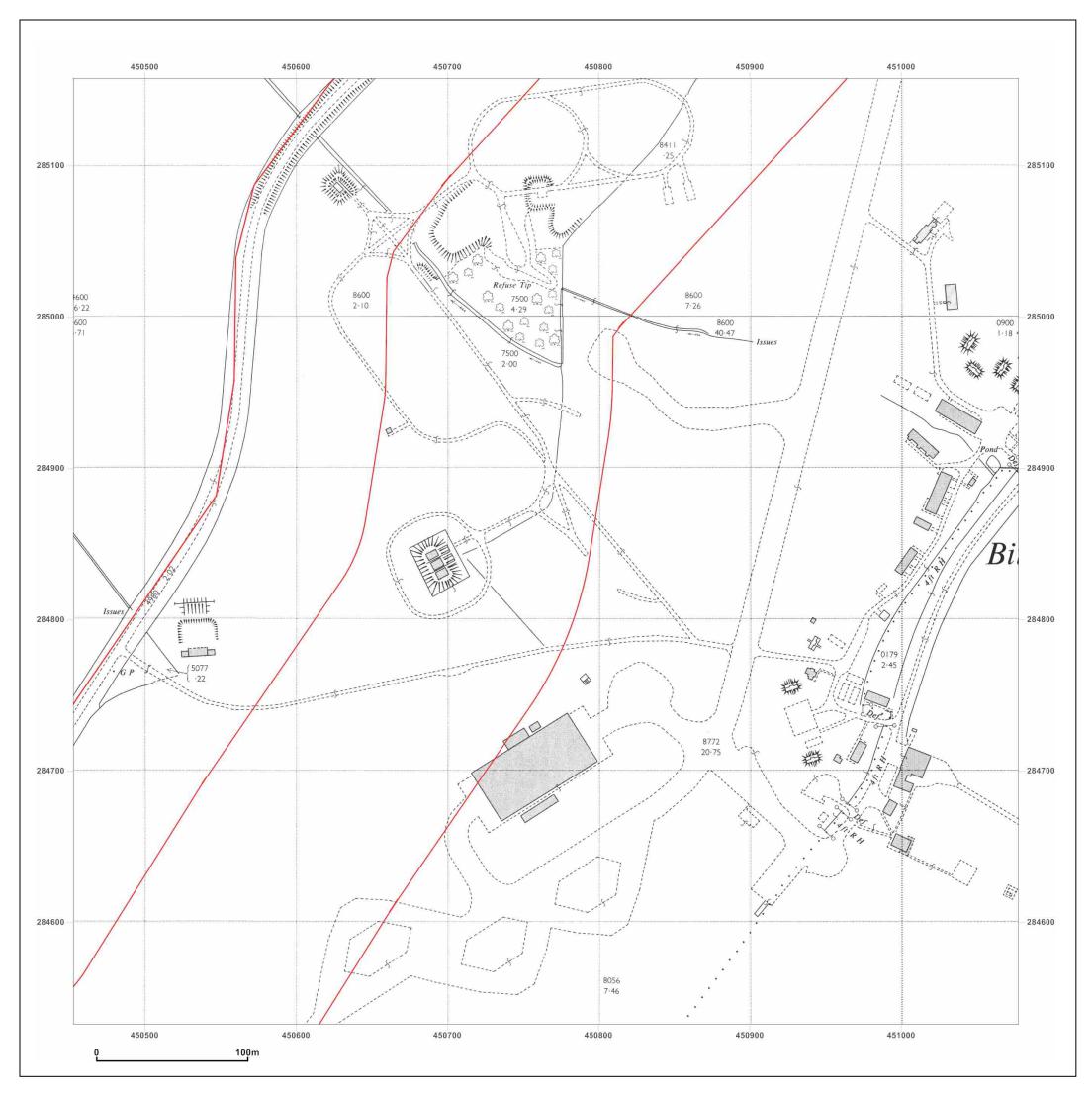


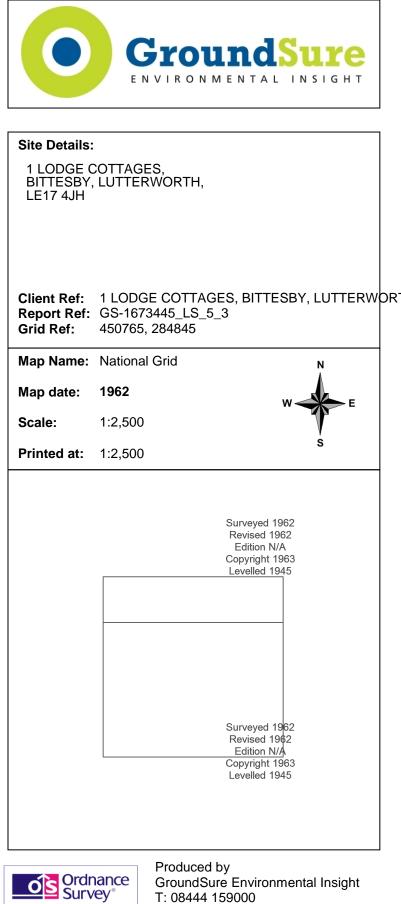


E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

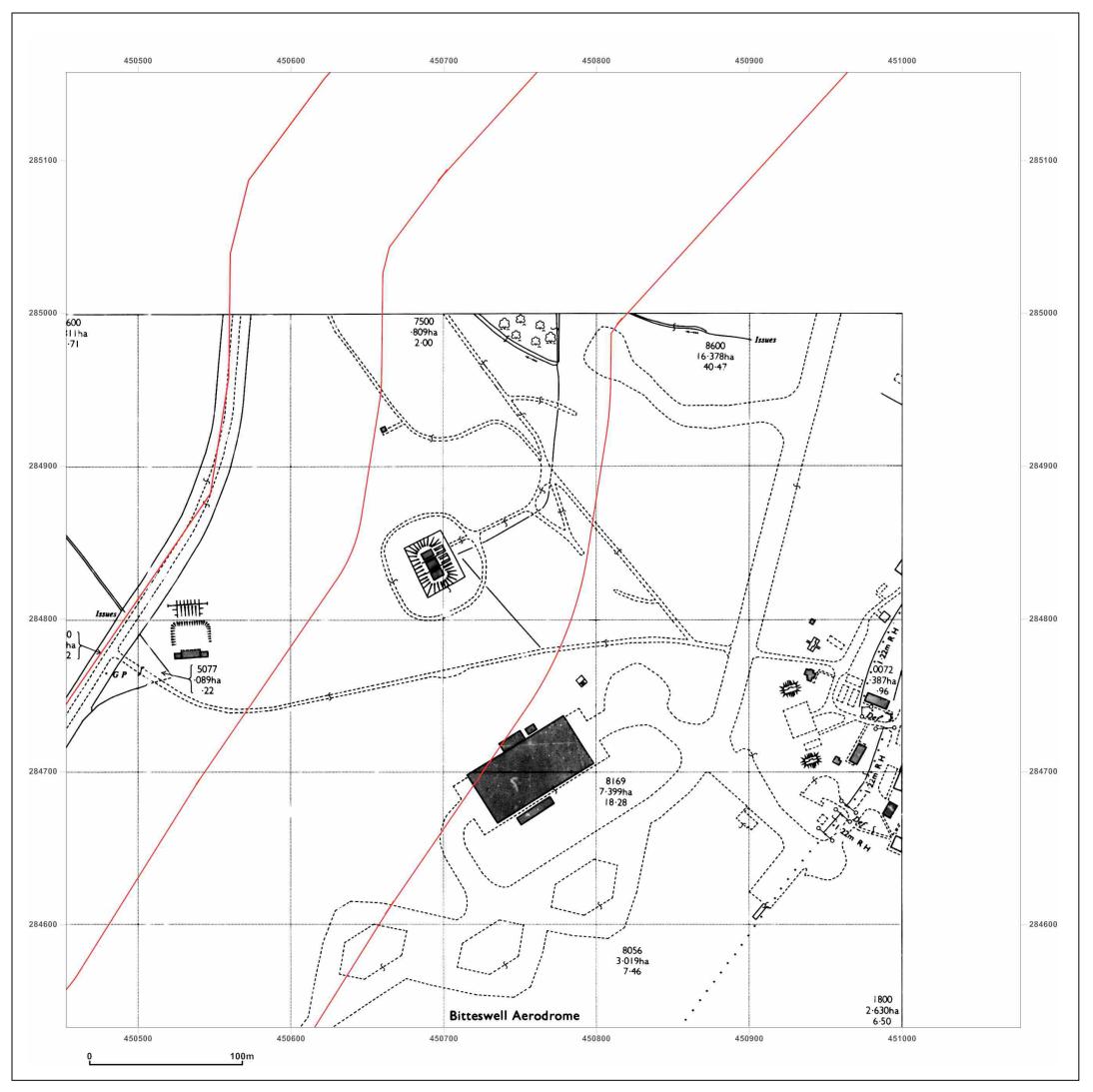


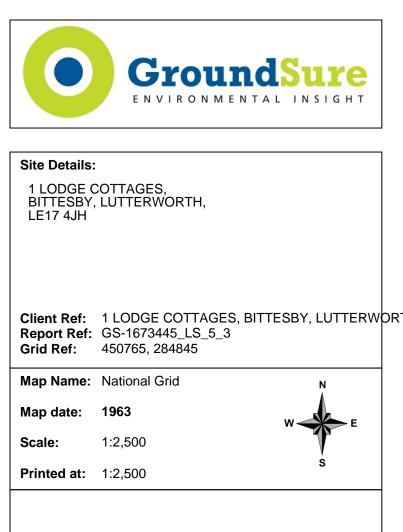


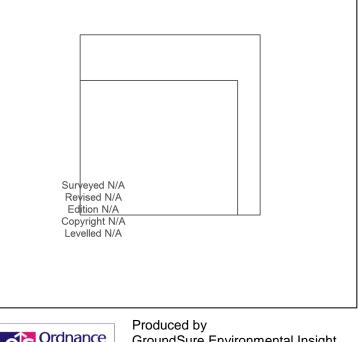
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com W: www.groundsure.com

Production date: 22 September 2014





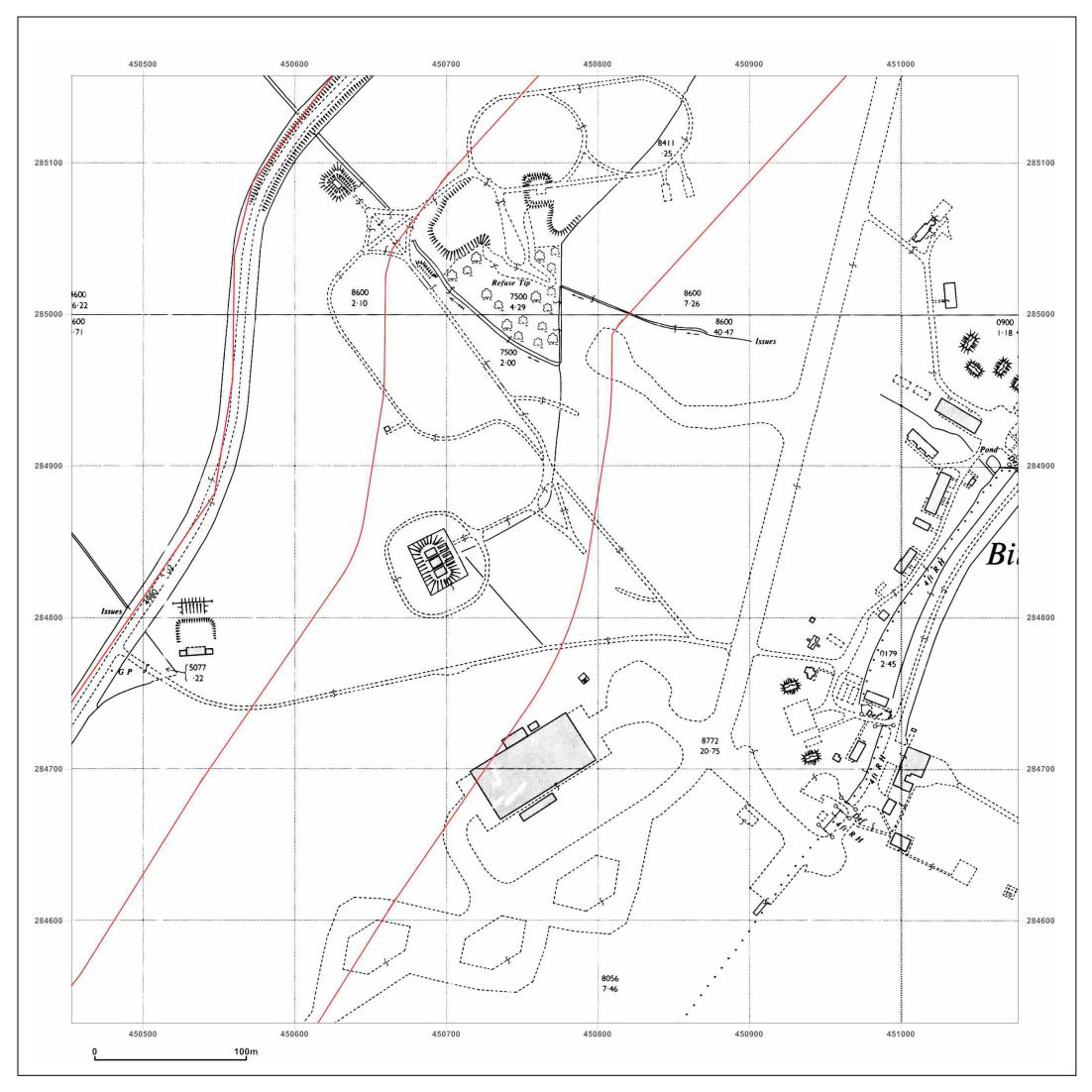


**Ordnance** Survey<sup>®</sup> Licensed Partner

Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

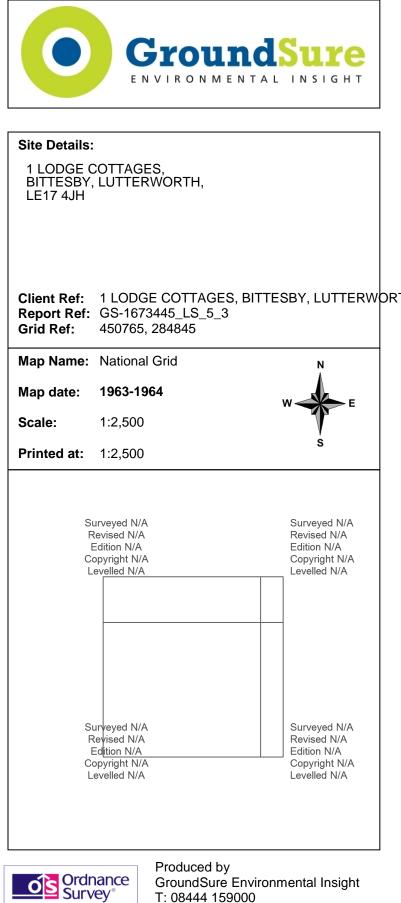
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



т

Licensed Partner

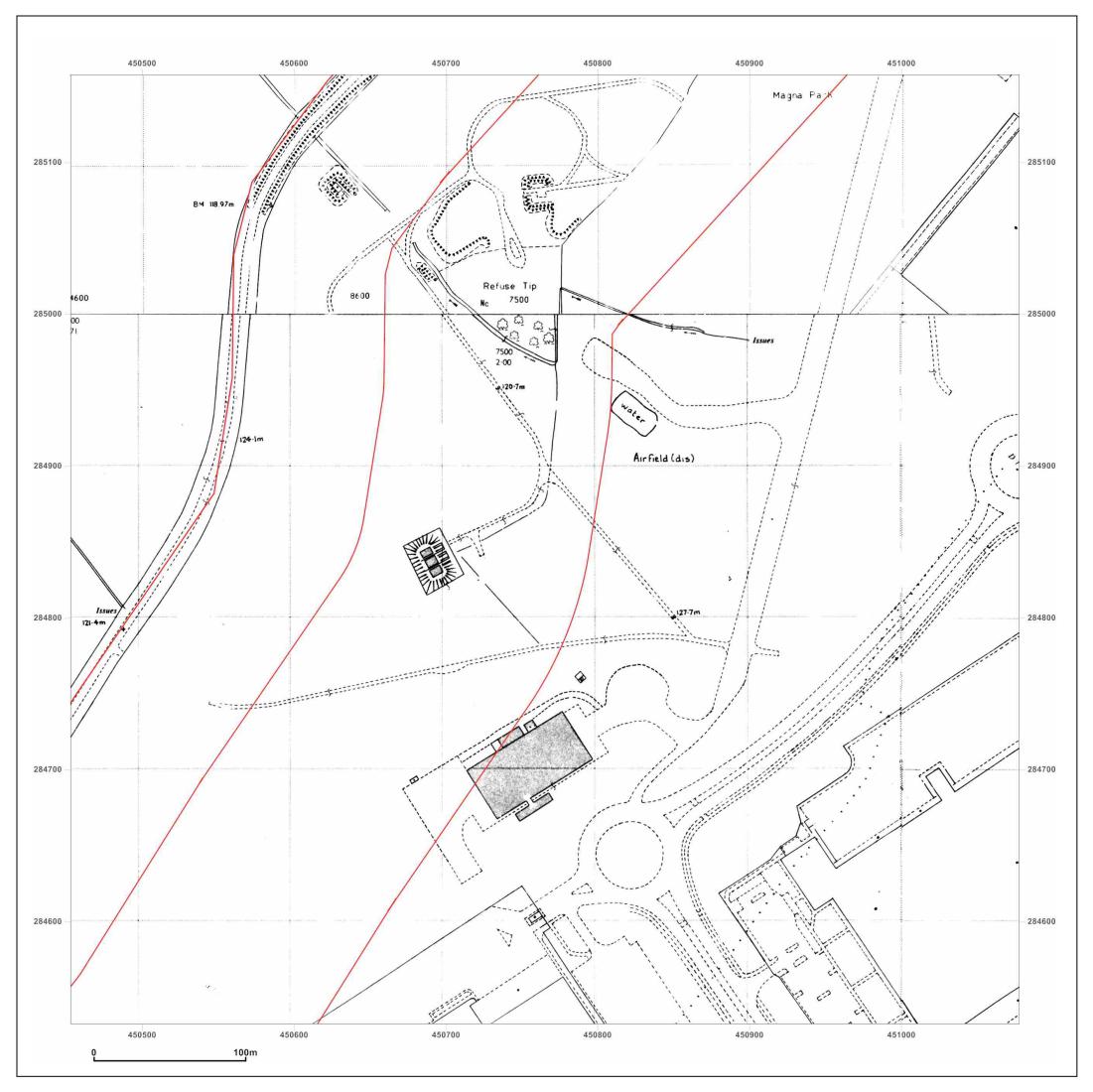


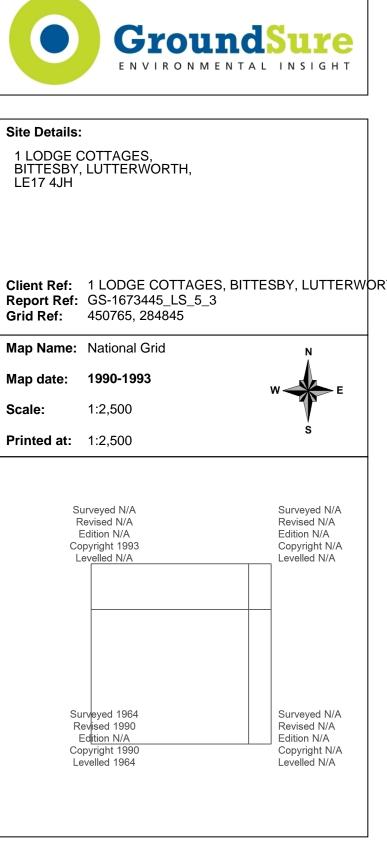
T: 08444 159000 E: <u>info@groundsure.com</u>

W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

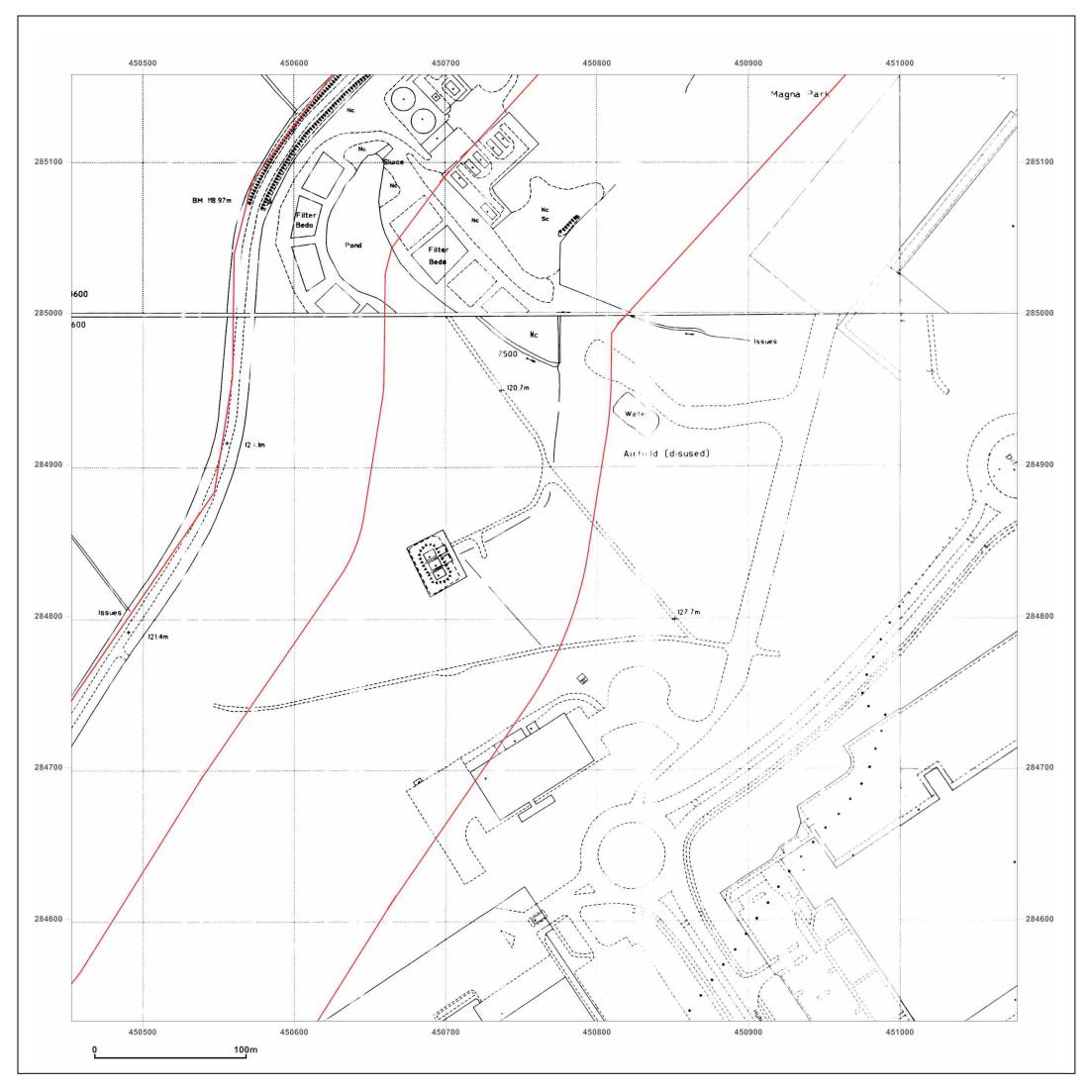


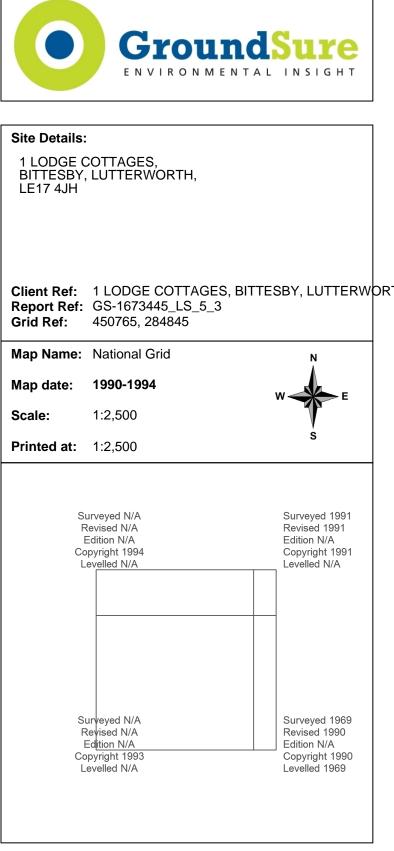




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

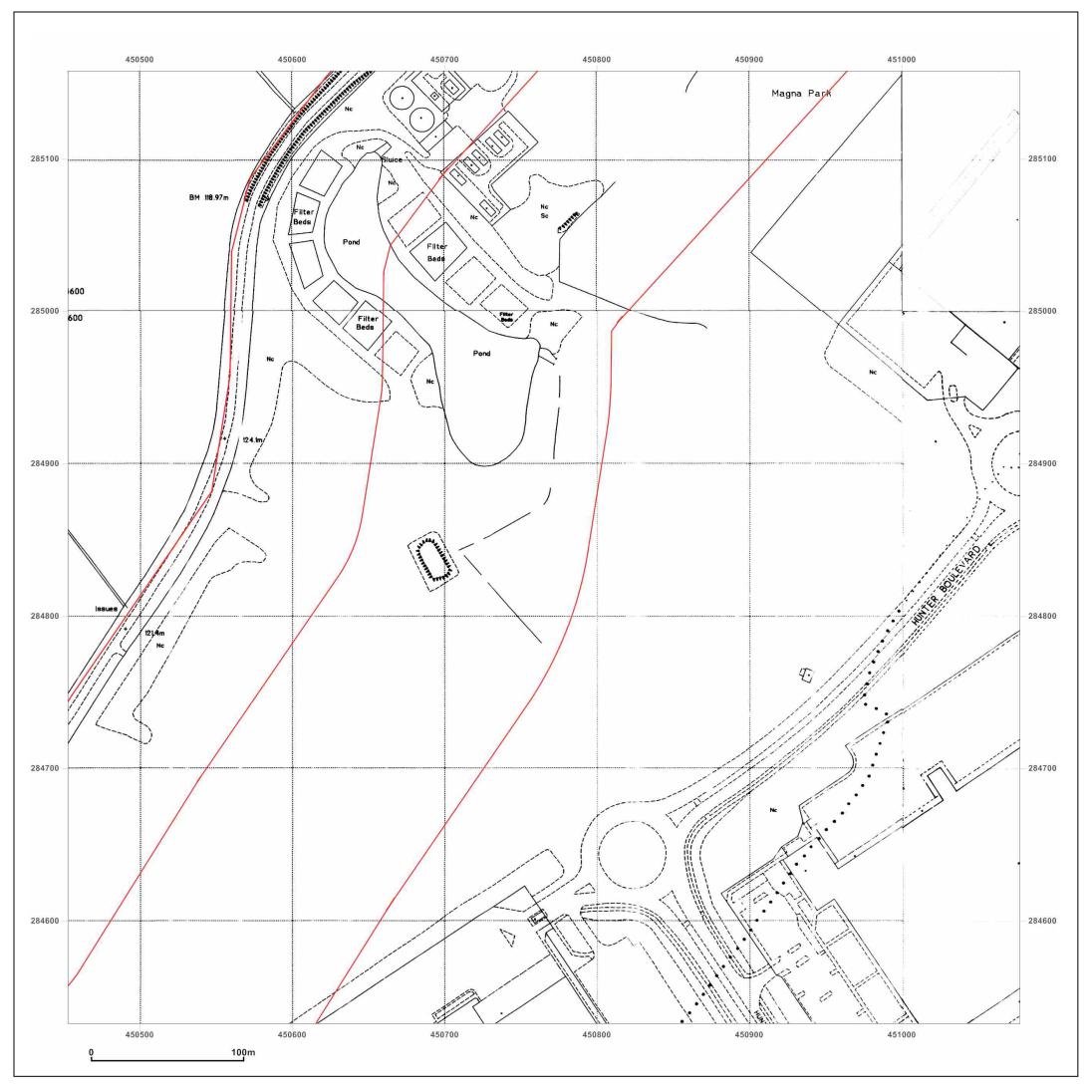


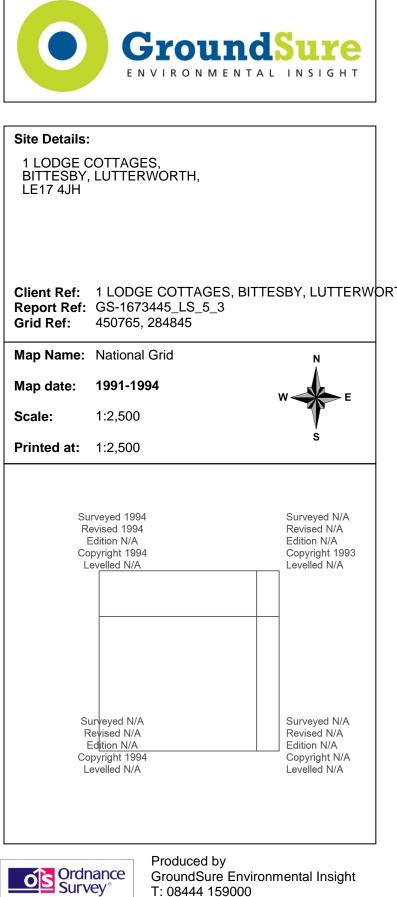




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

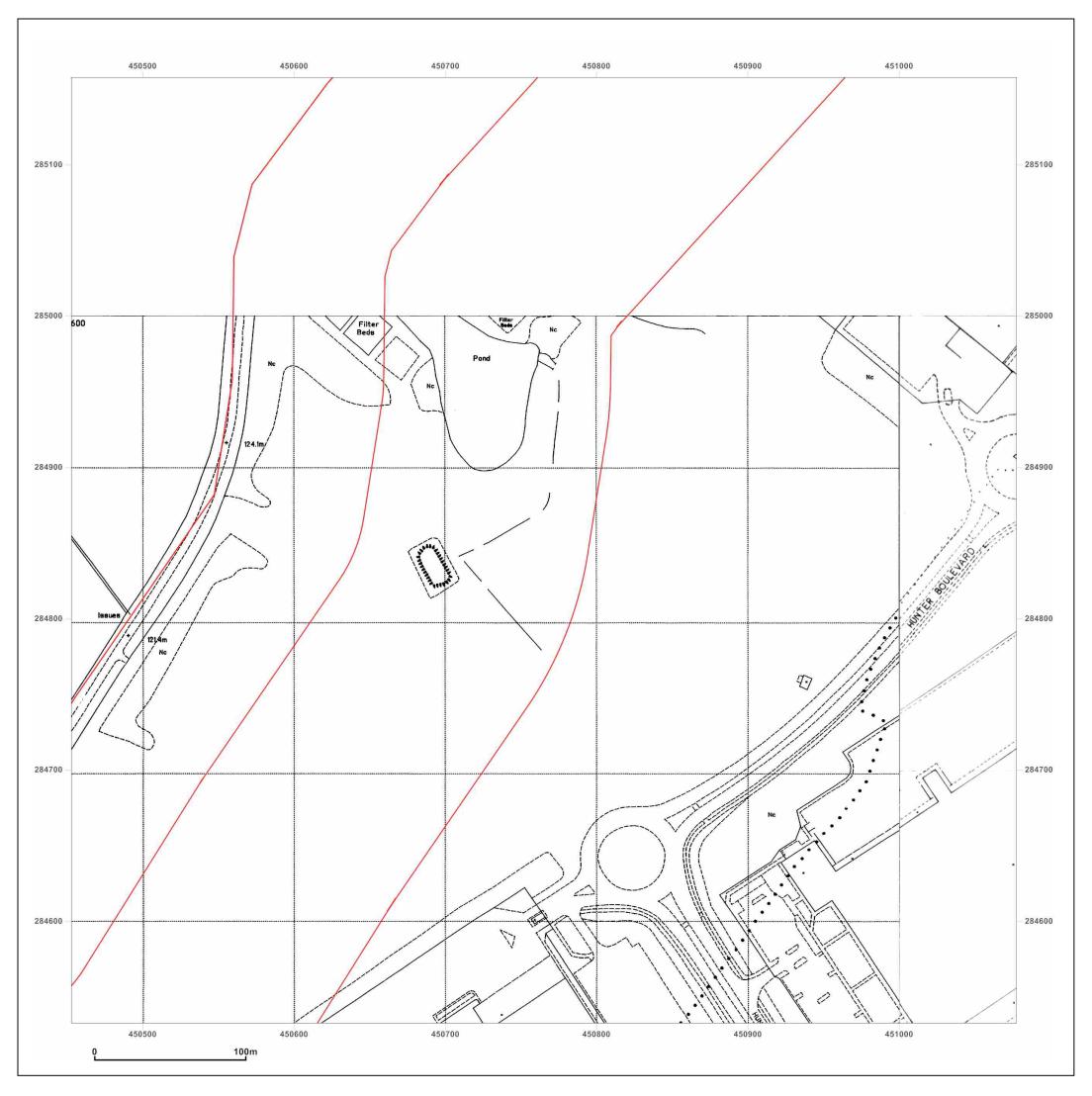


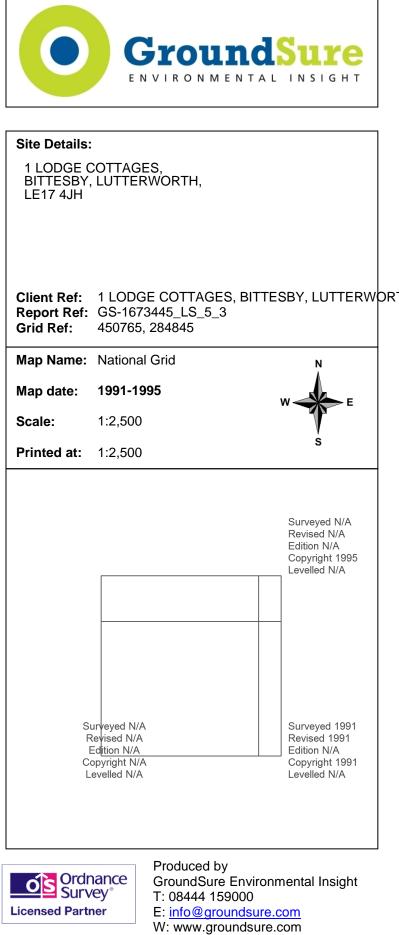


T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

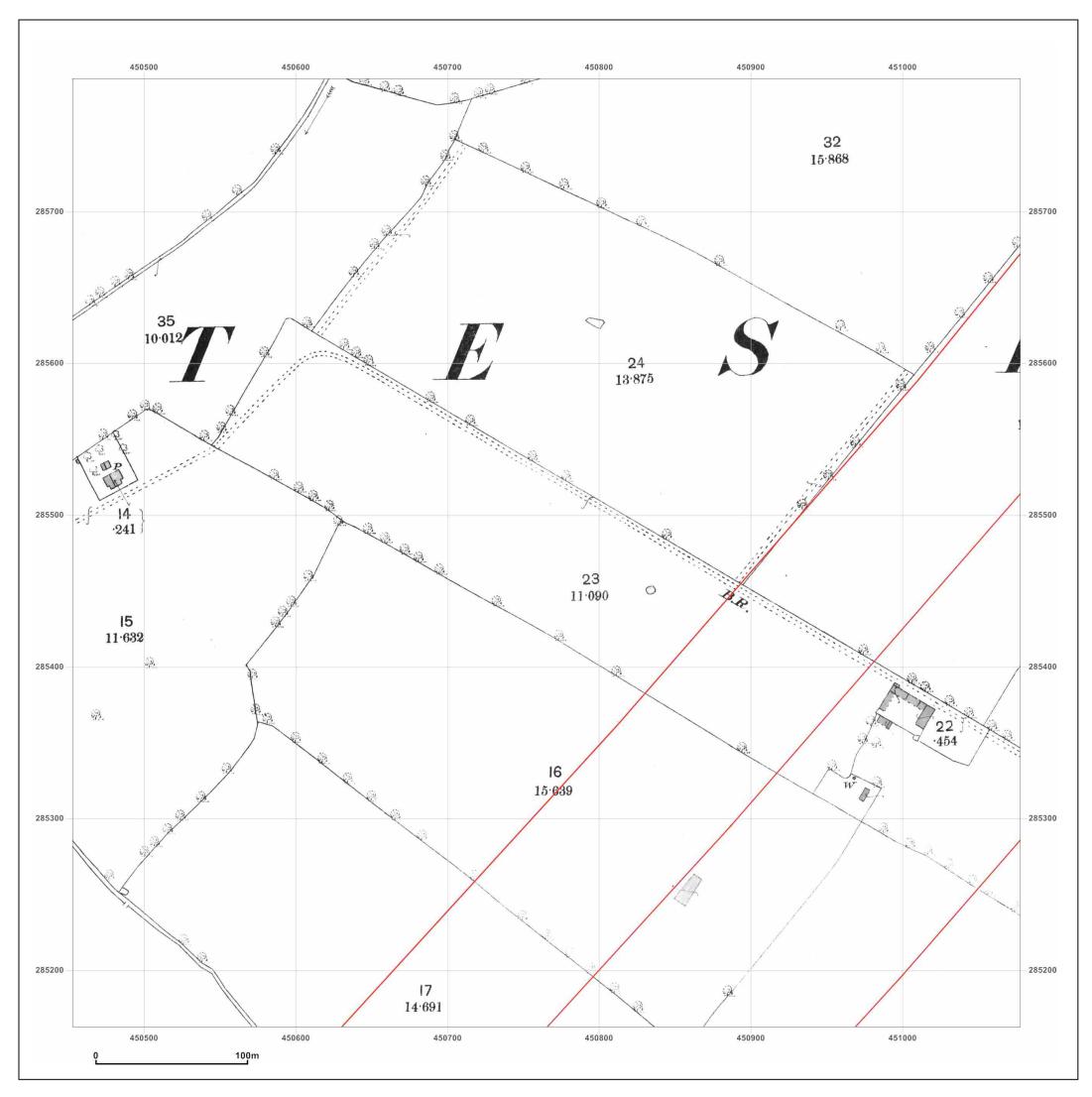
Production date: 22 September 2014

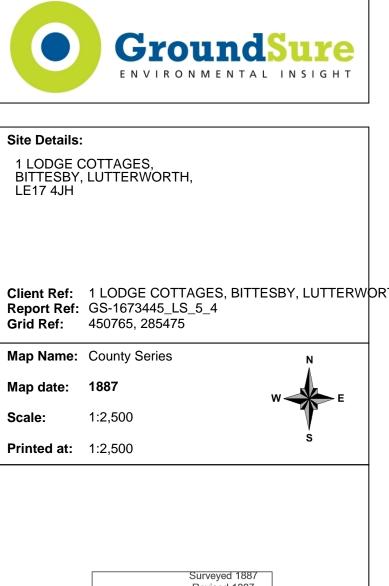




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





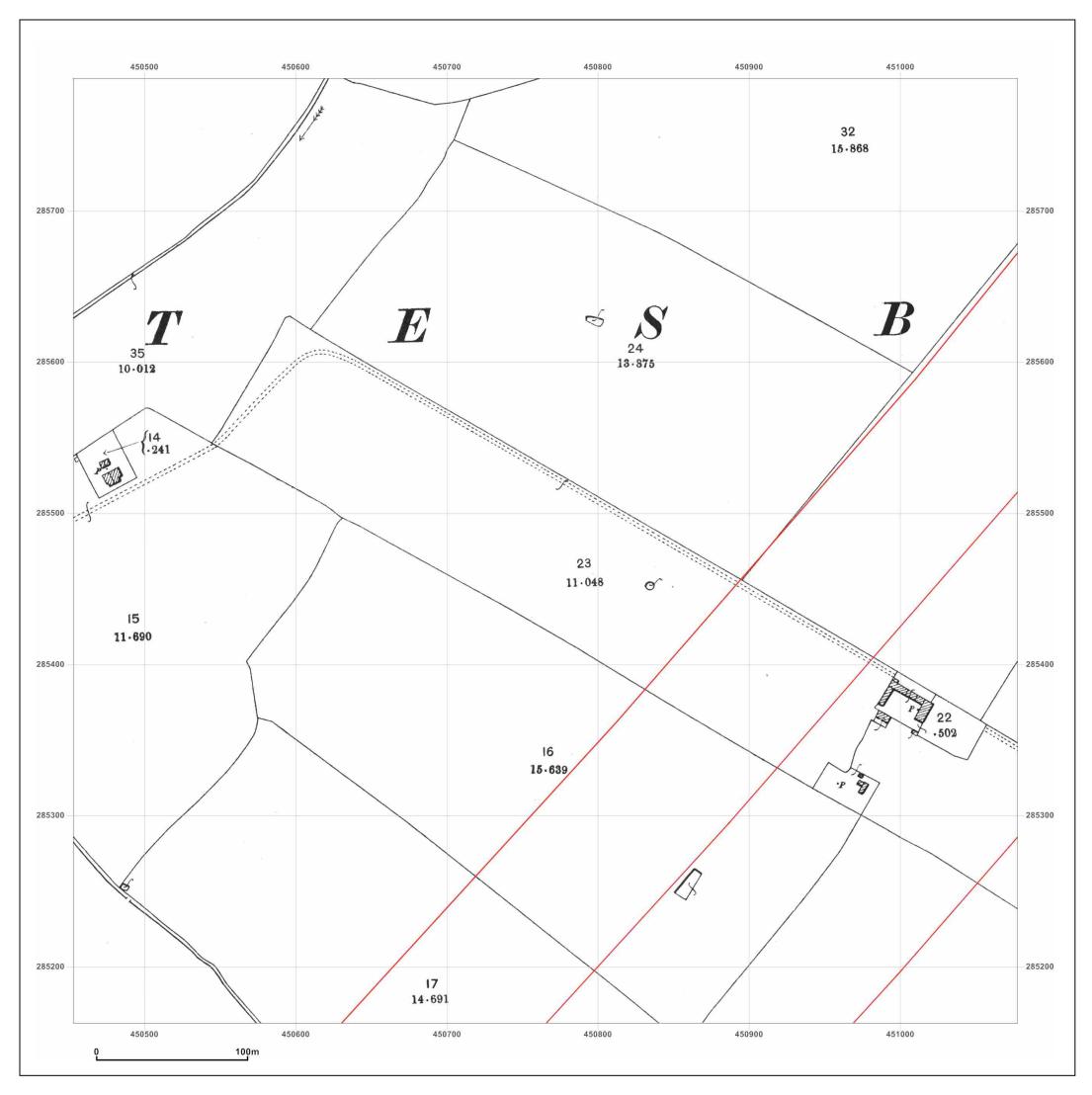
Surveyed 1887 Revised 1887 Edition N/A Copyright N/A Levelled N/A

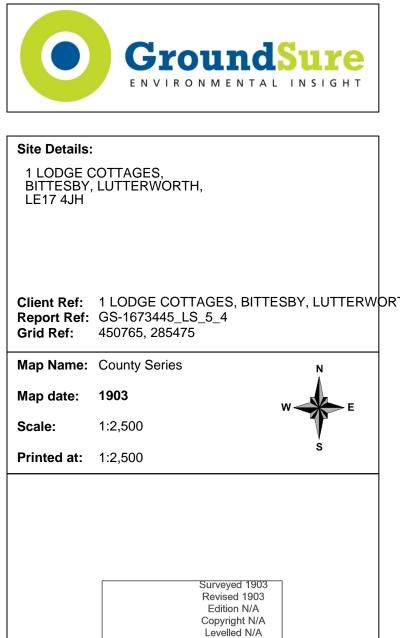


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

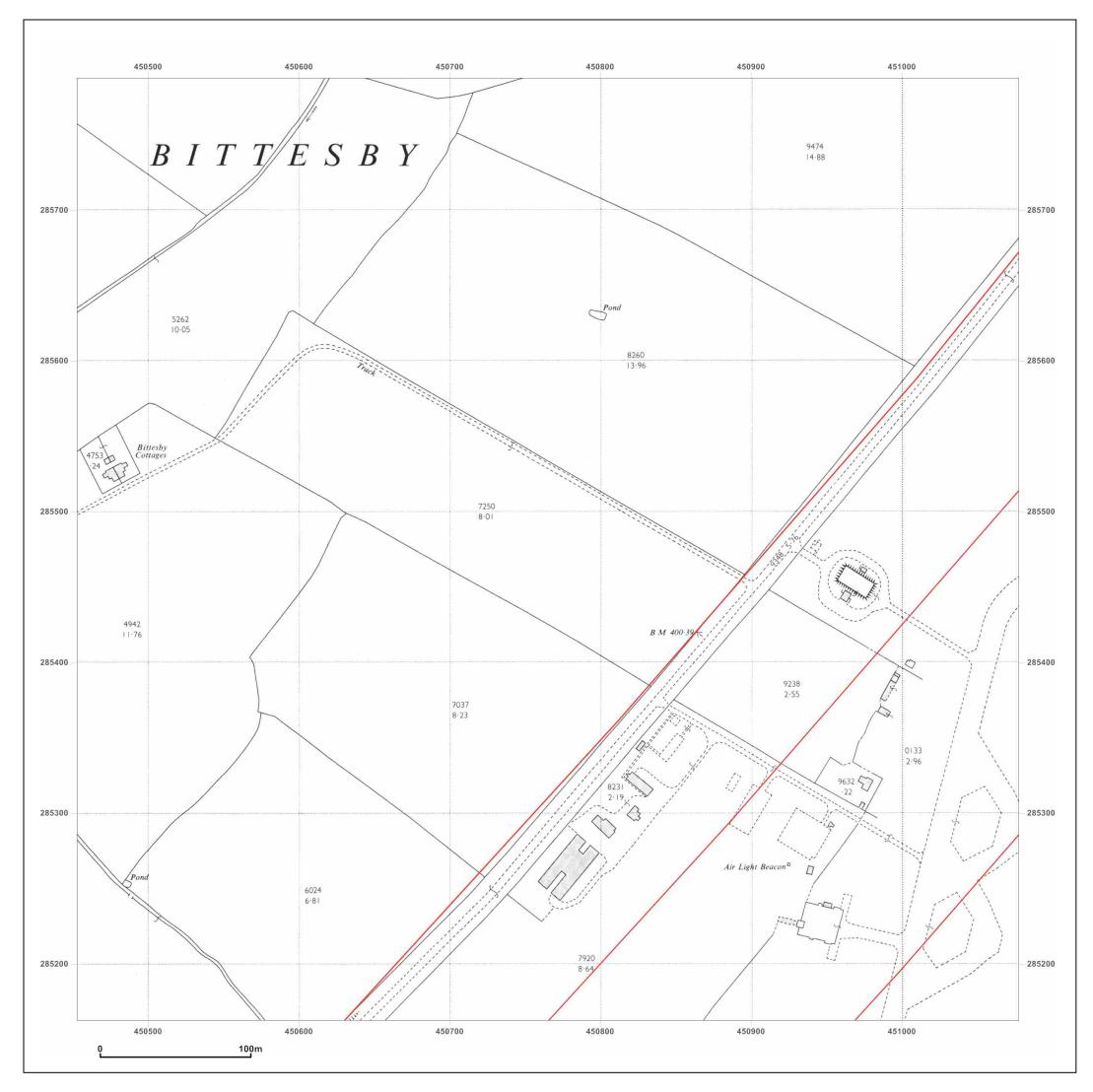






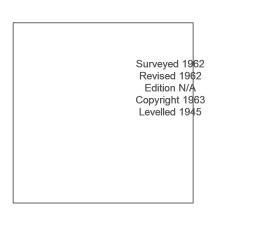
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





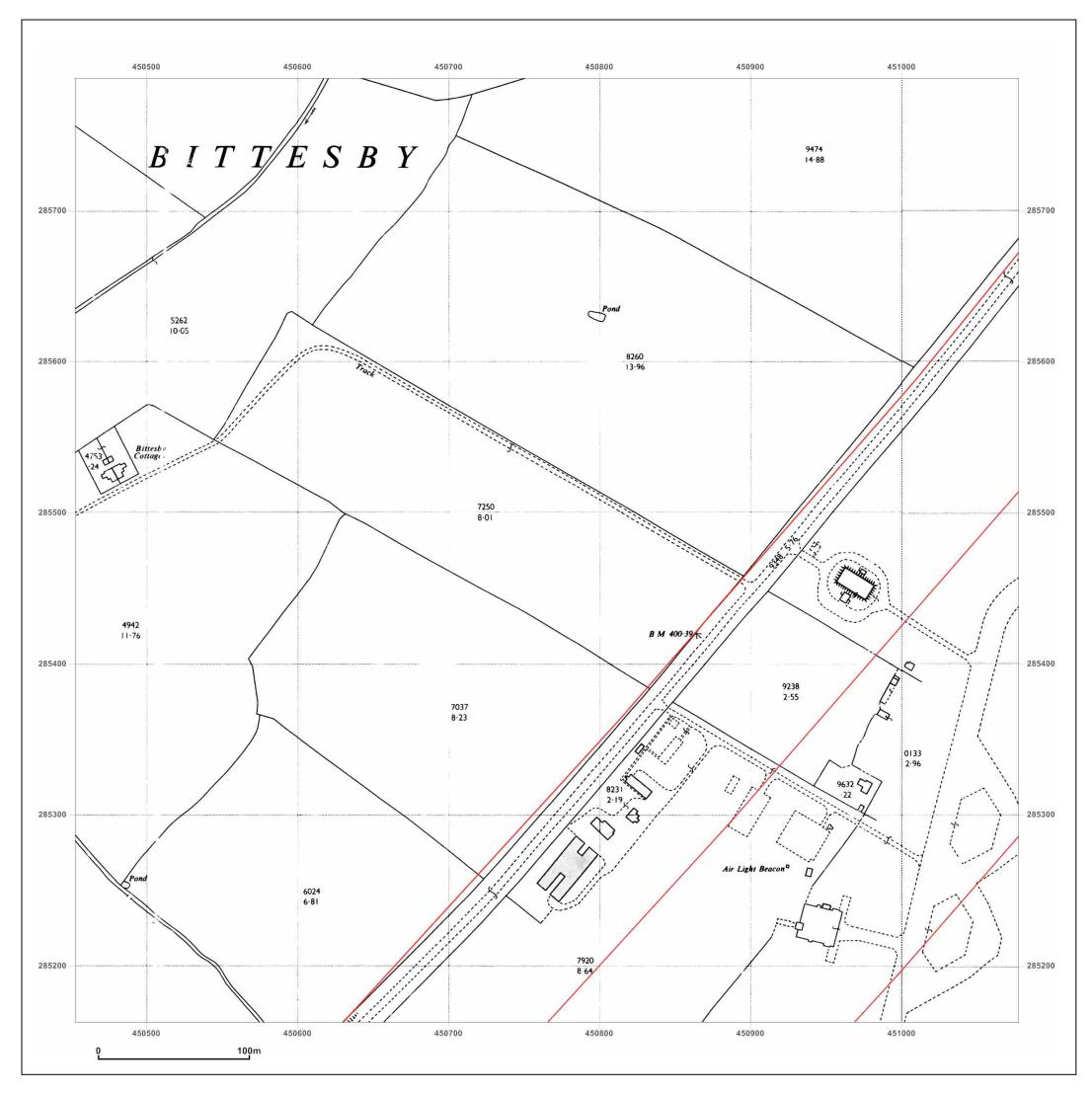
| Map Name:   | National Grid | N        |
|-------------|---------------|----------|
| Map date:   | 1962          | W        |
| Scale:      | 1:2,500       | <b>W</b> |
| Printed at: | 1:2,500       | S        |
|             |               |          |

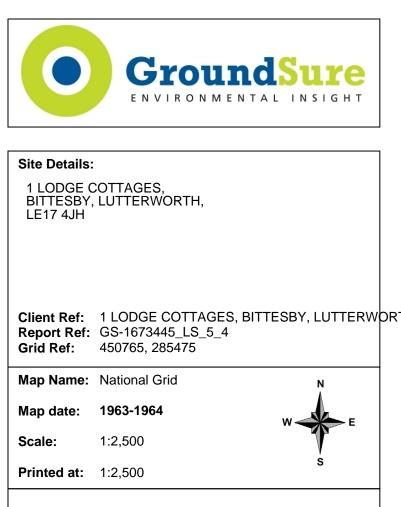


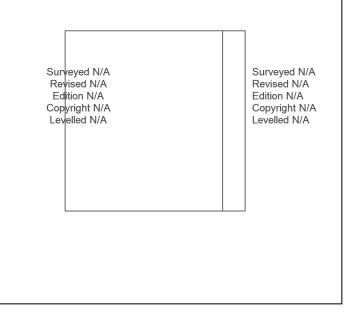


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



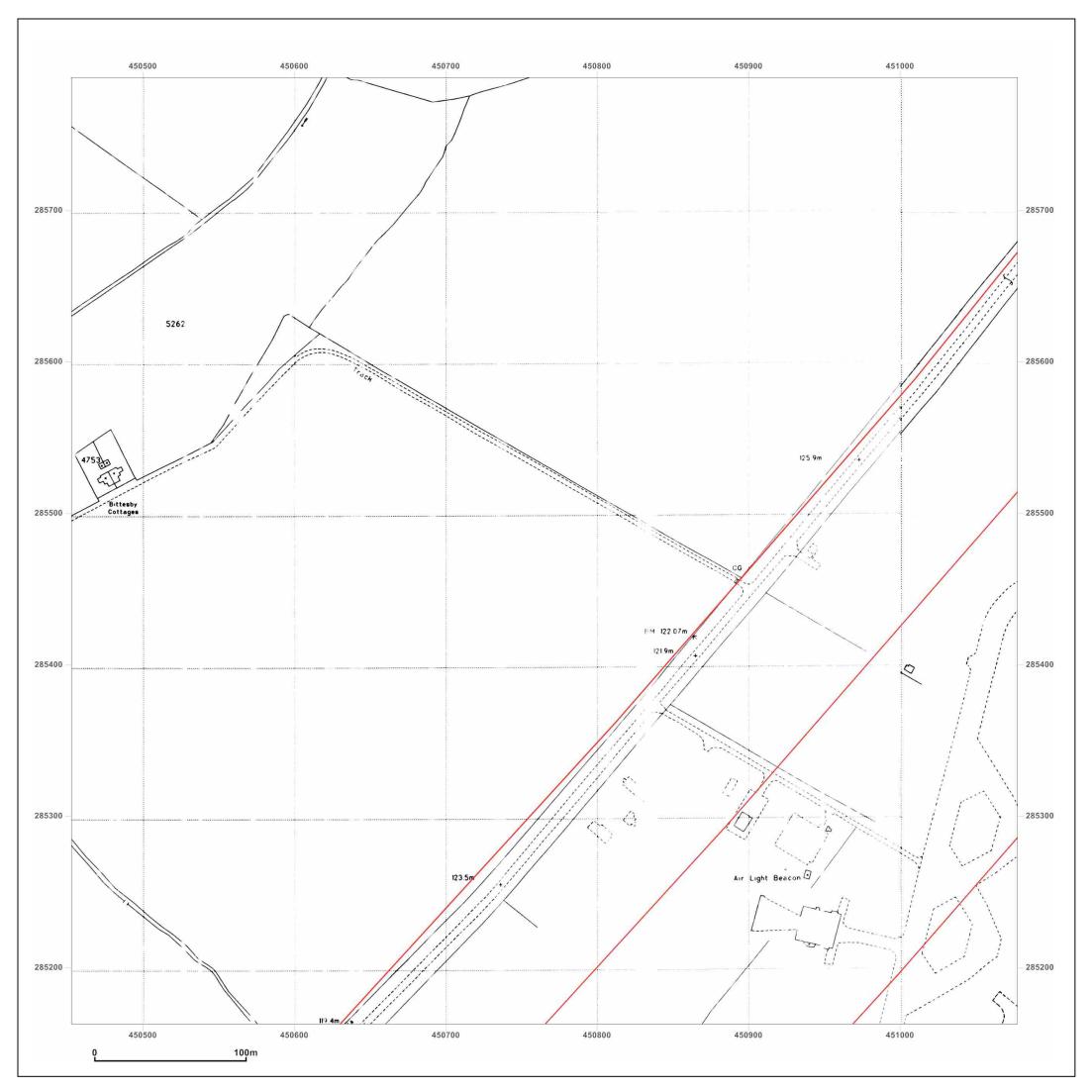


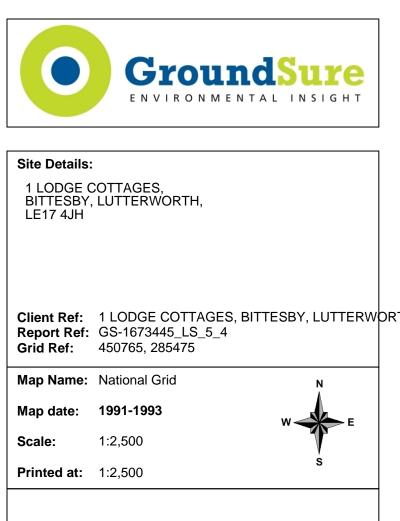


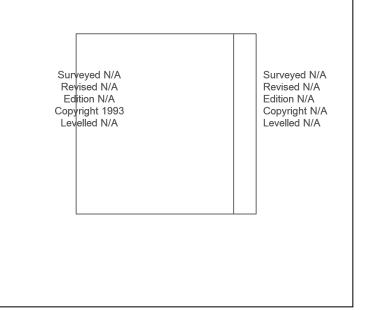


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



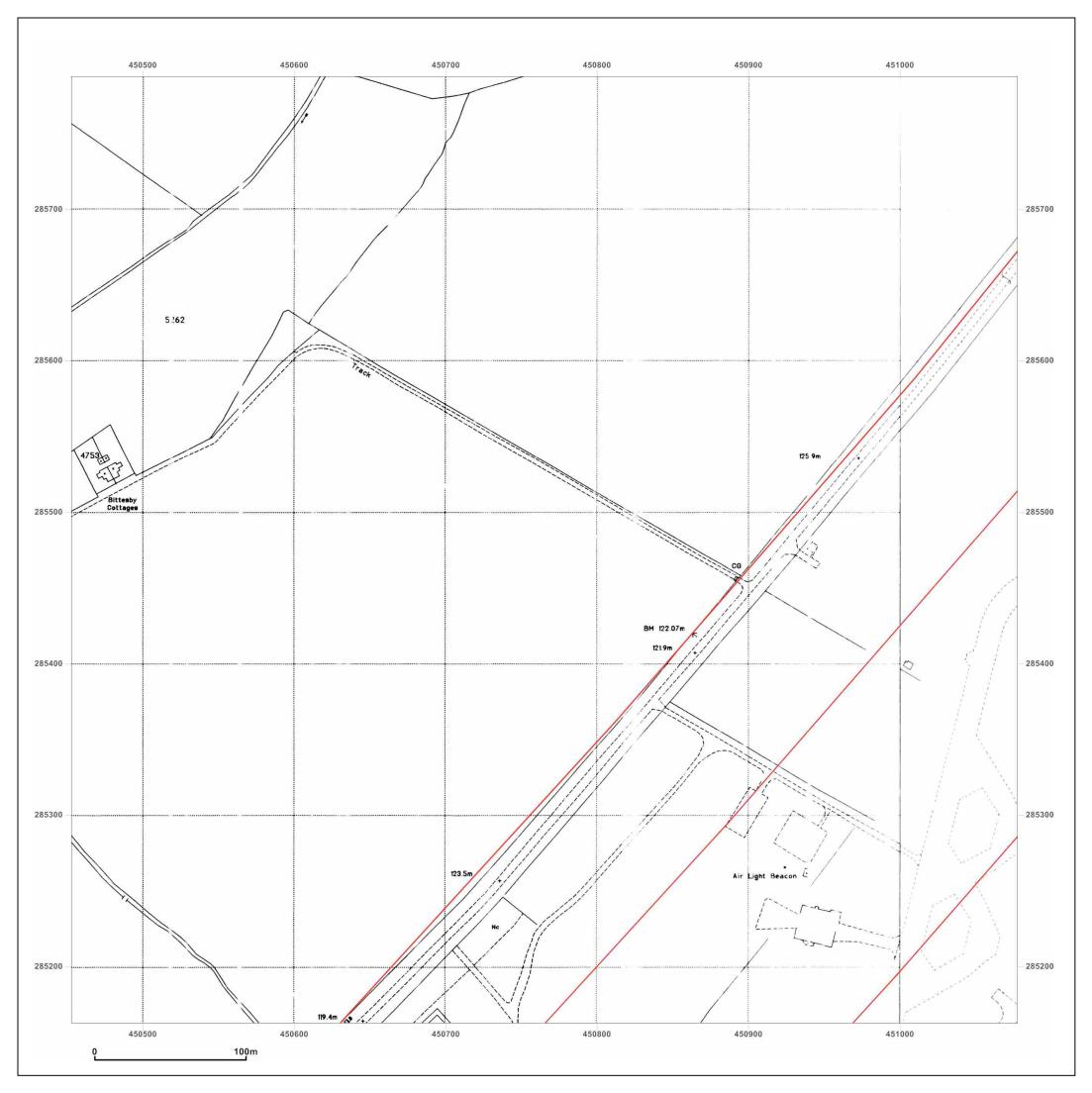


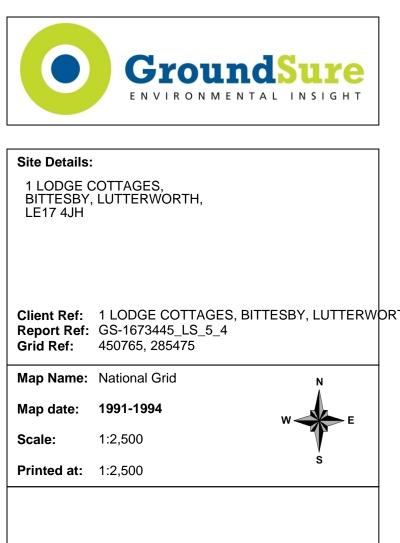


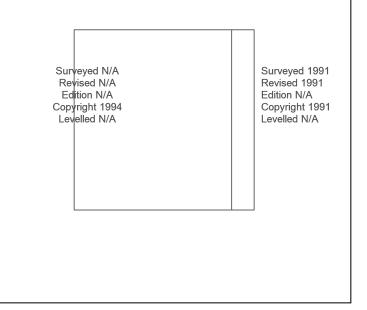


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





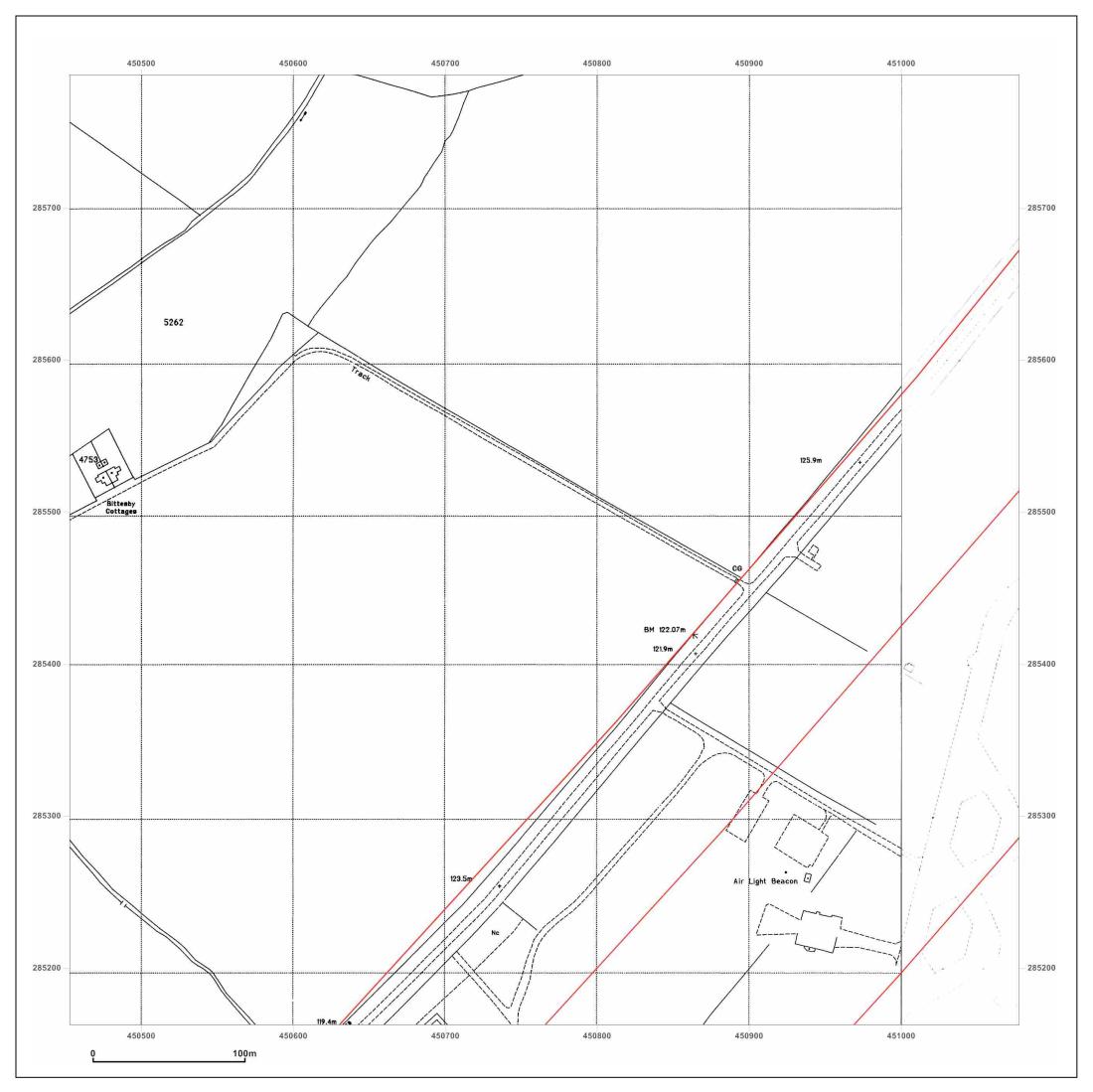


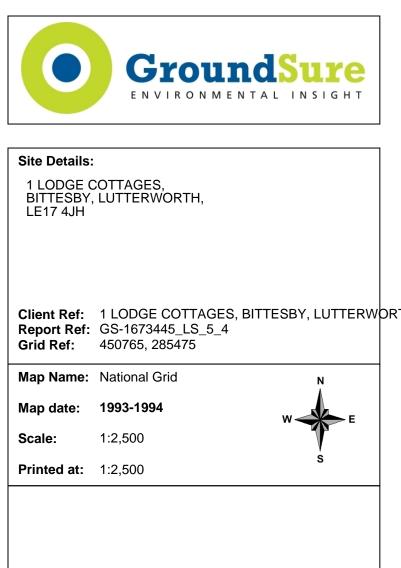


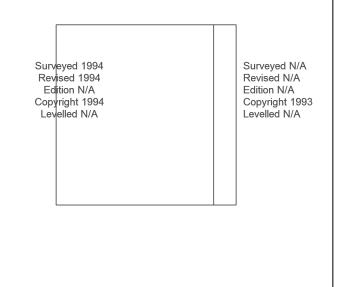
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





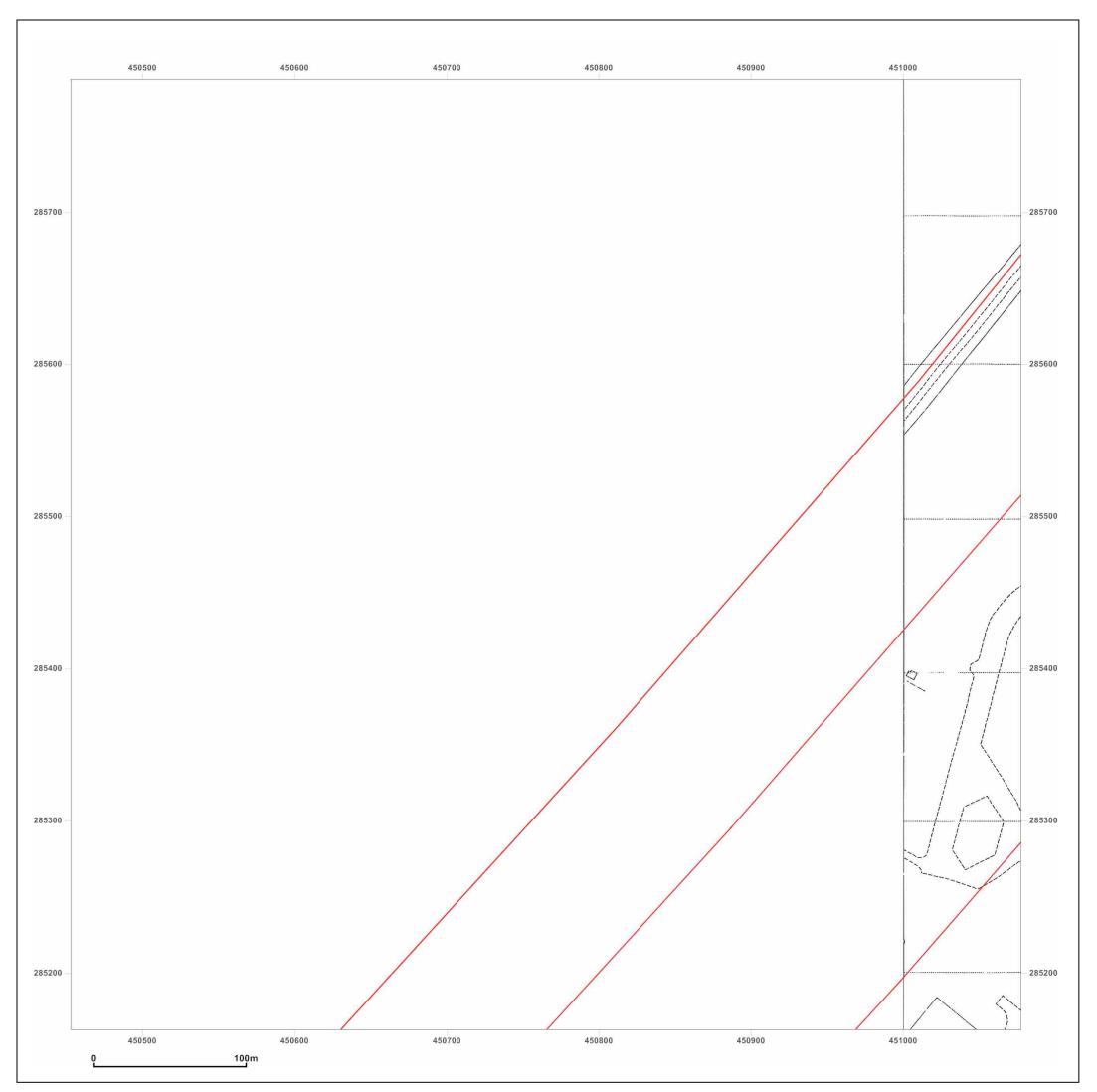




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

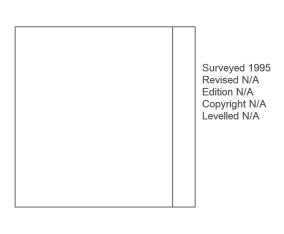
Production date: 22 September 2014



To view map legend click here Legend



| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_LS_5_4<br>450765, 285475 | TESBY, LUTTERW | OR <sup>.</sup> |
|-------------|--|----------------|-----------------|
| Map Name:   | National Grid  | N              |                 |
| Map date:   | 1995   | W              |                 |
| Scale:      | 1:2,500  |                |                 |
| Printed at: | 1:2,500  | S              |                 |

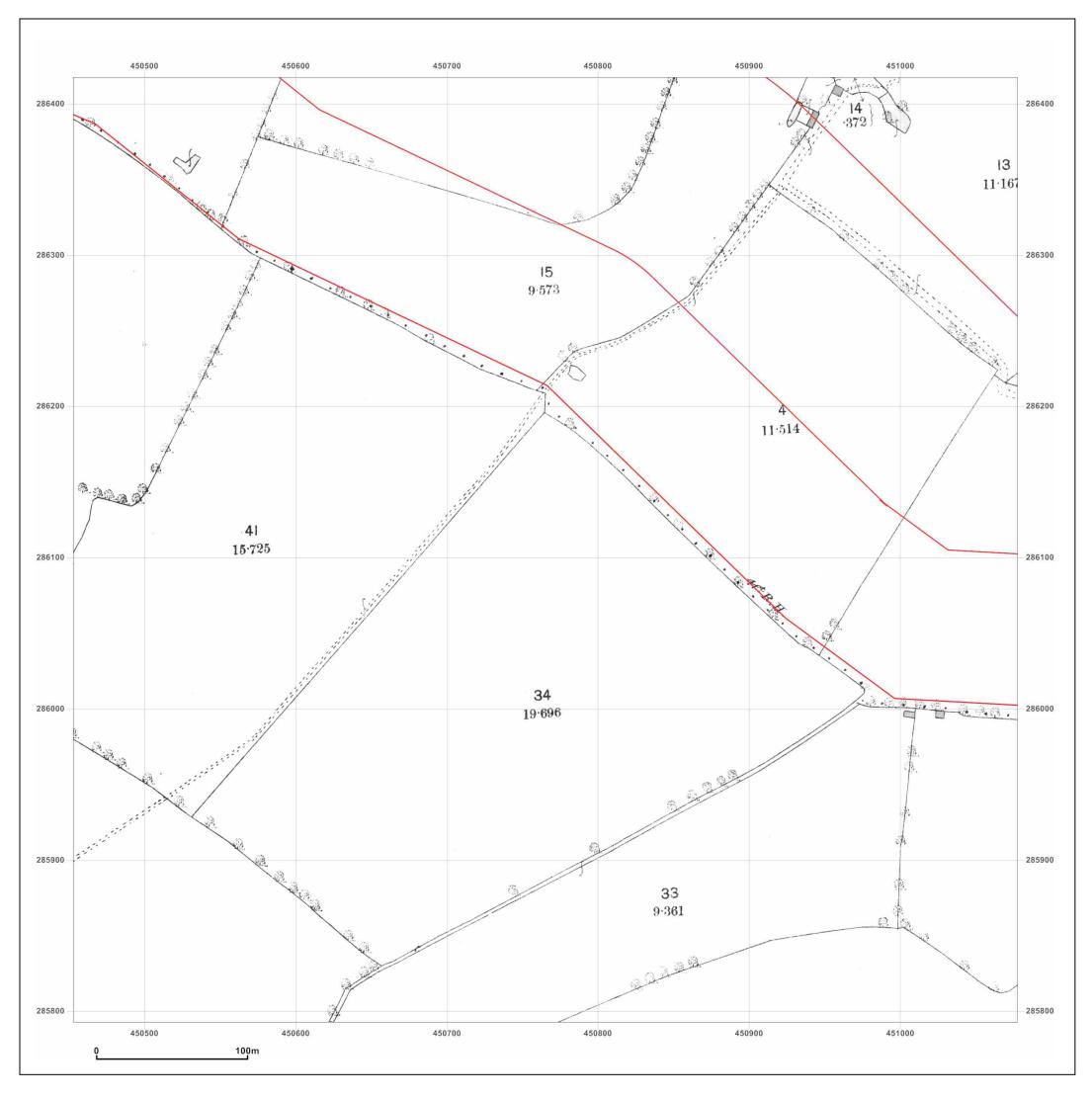


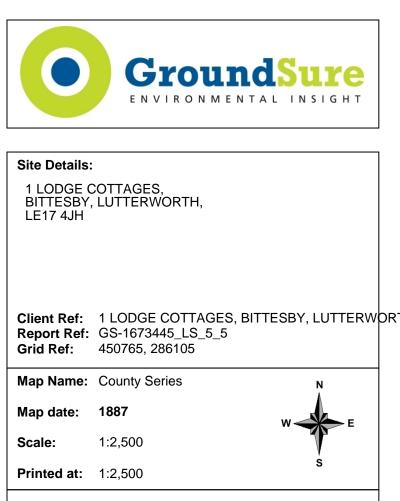


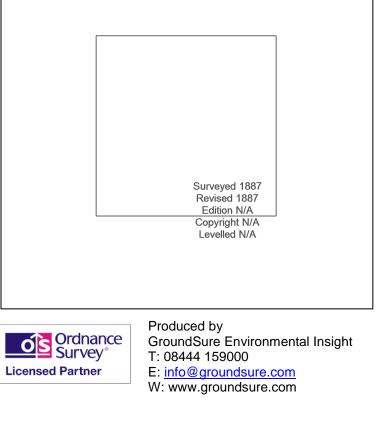
Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

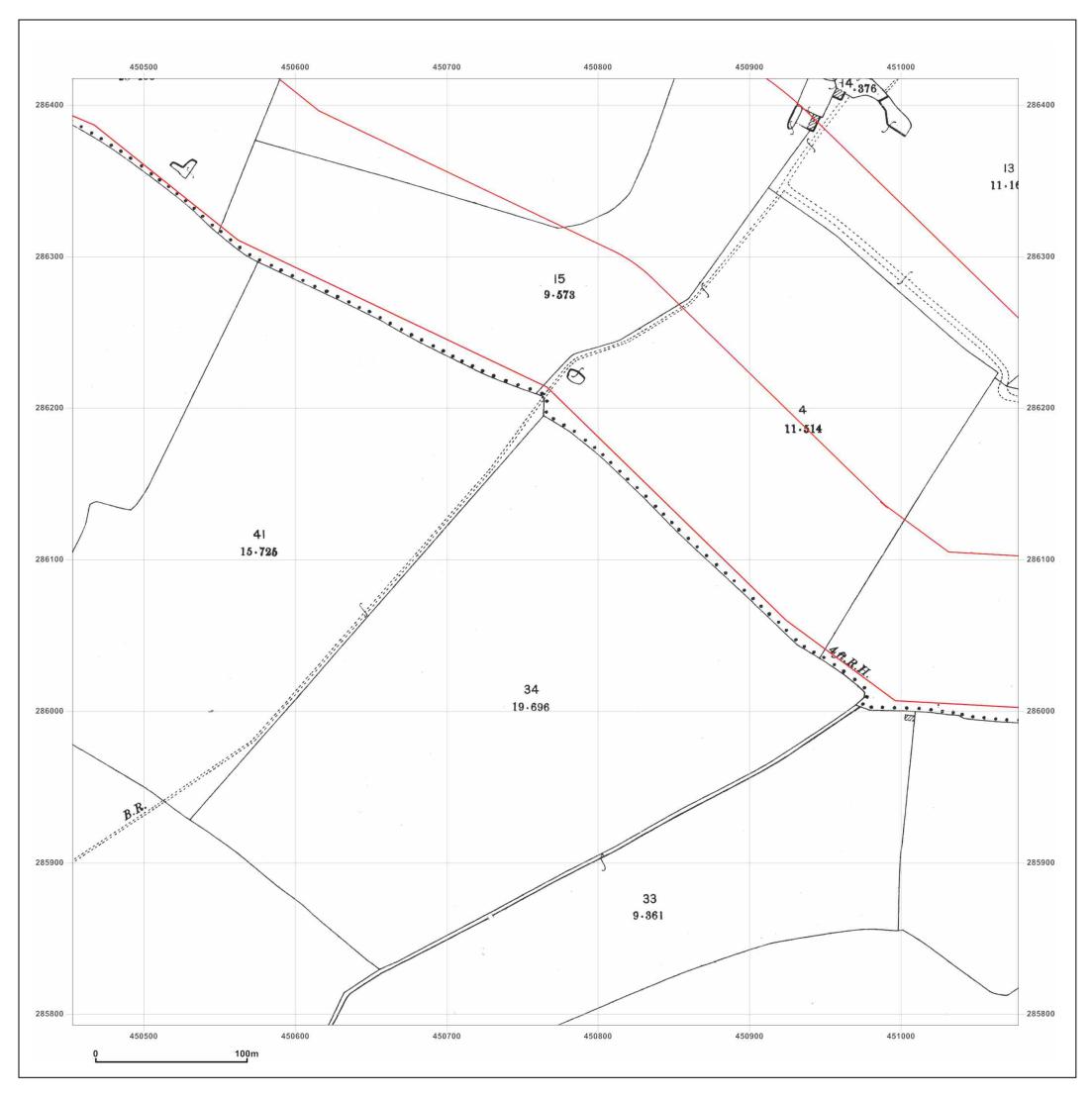
Production date: 22 September 2014

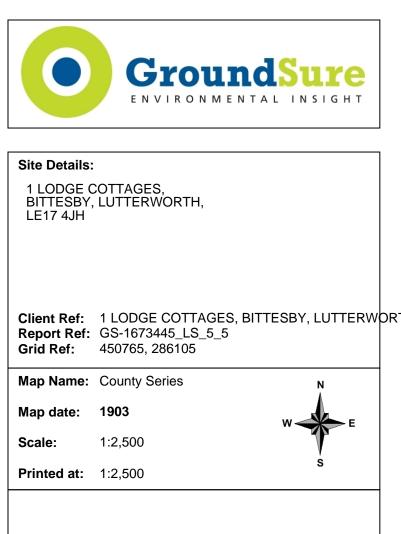


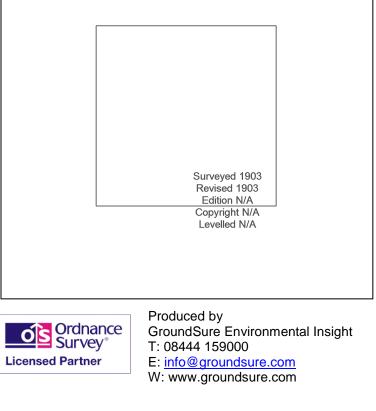




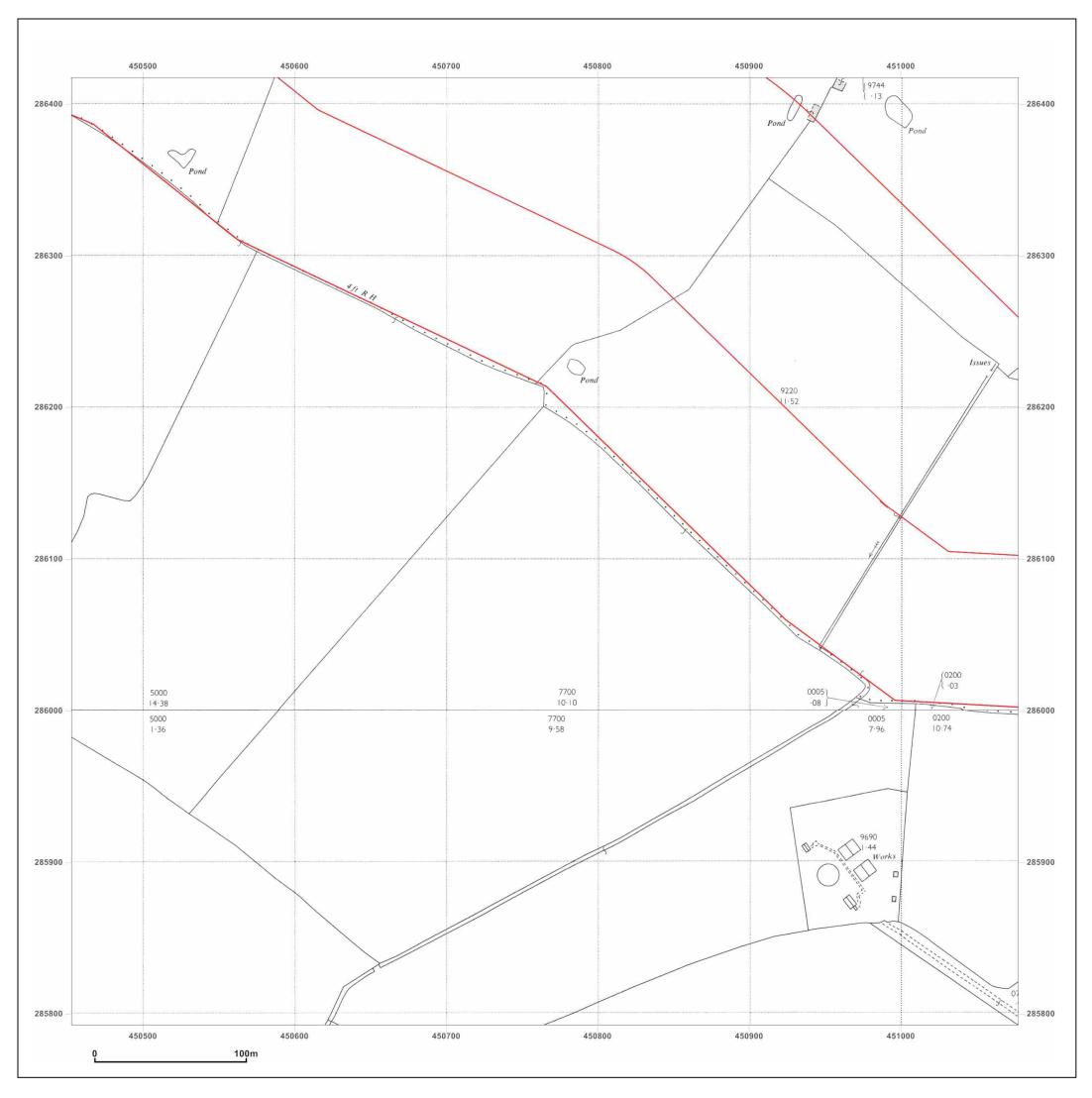
Production date: 22 September 2014



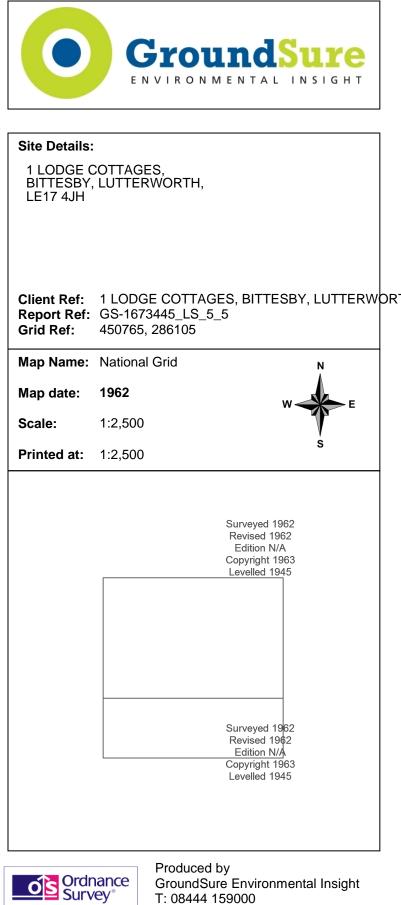




Production date: 22 September 2014



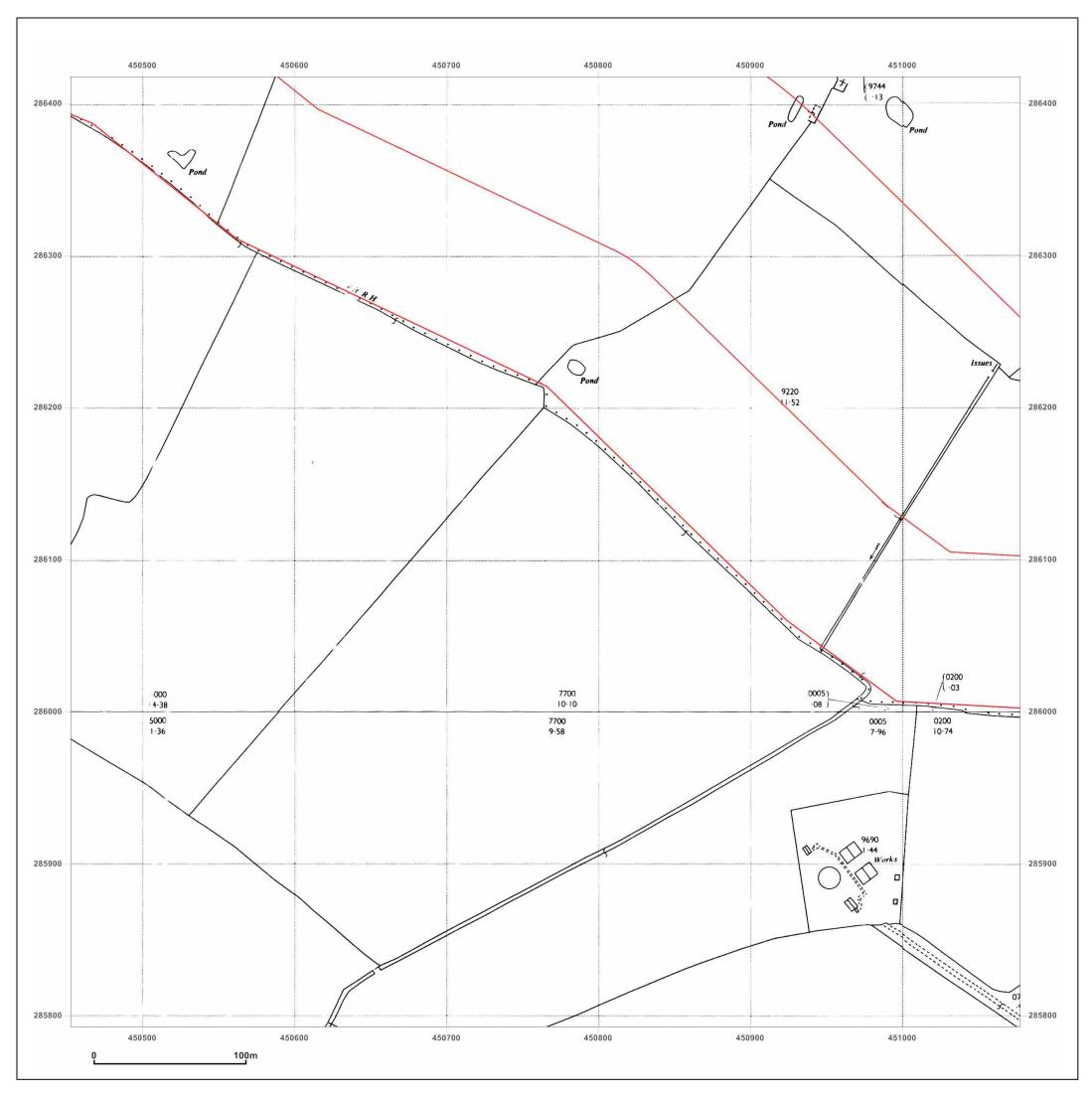
Licensed Partner



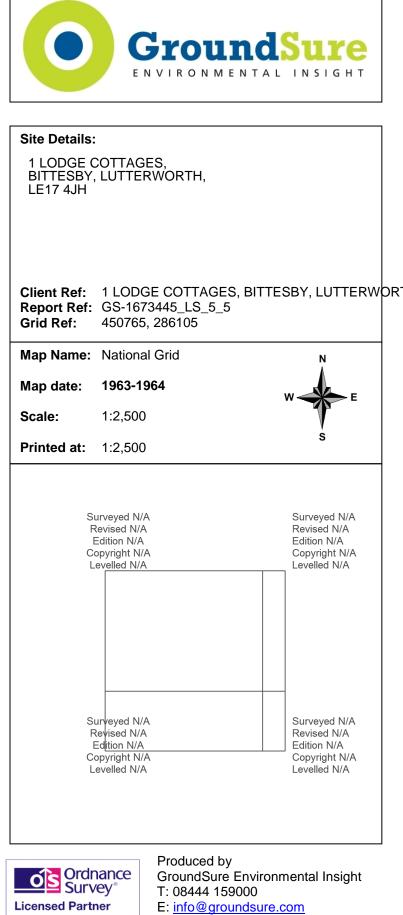
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com W: www.groundsure.com

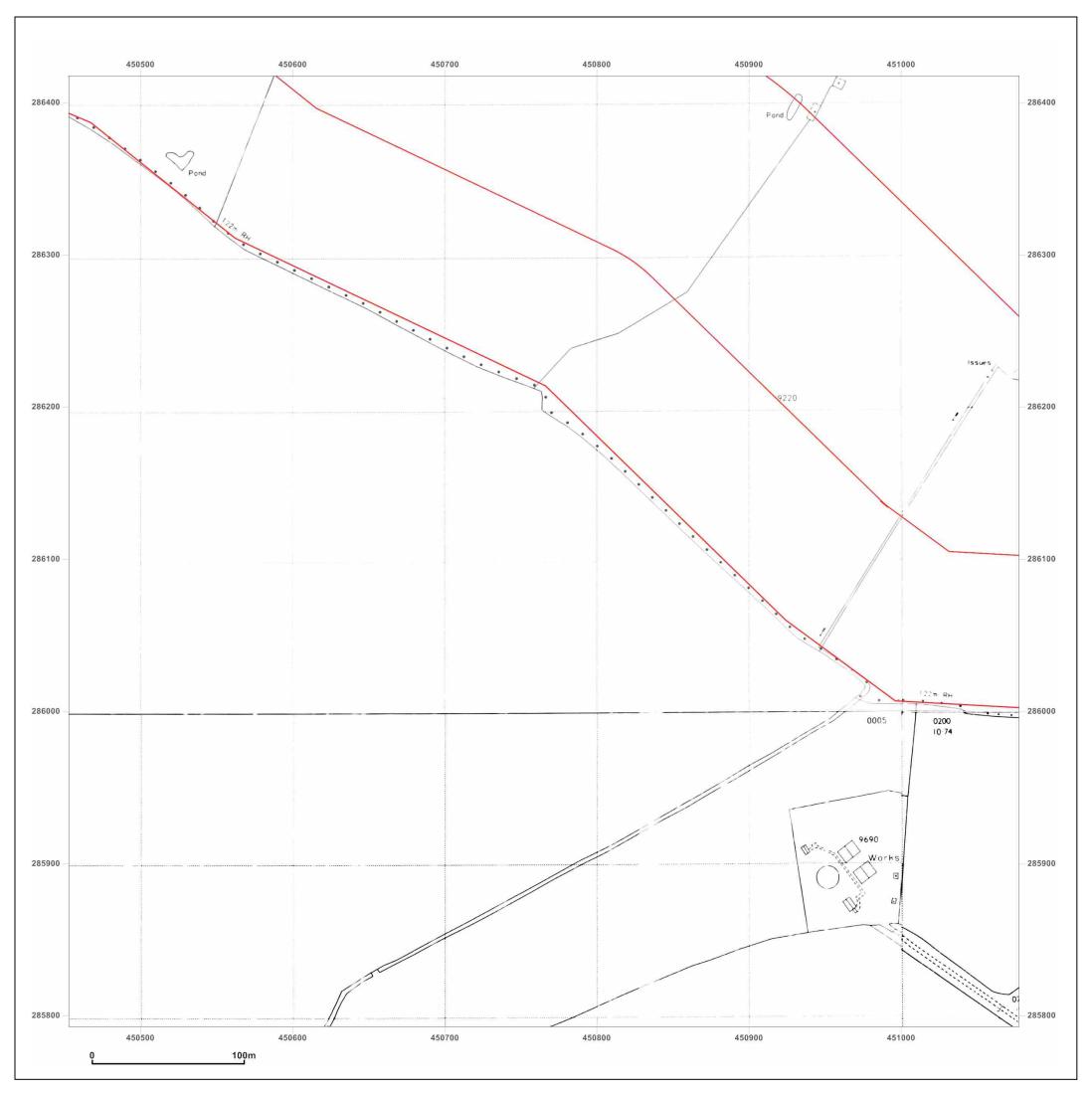
Production date: 22 September 2014

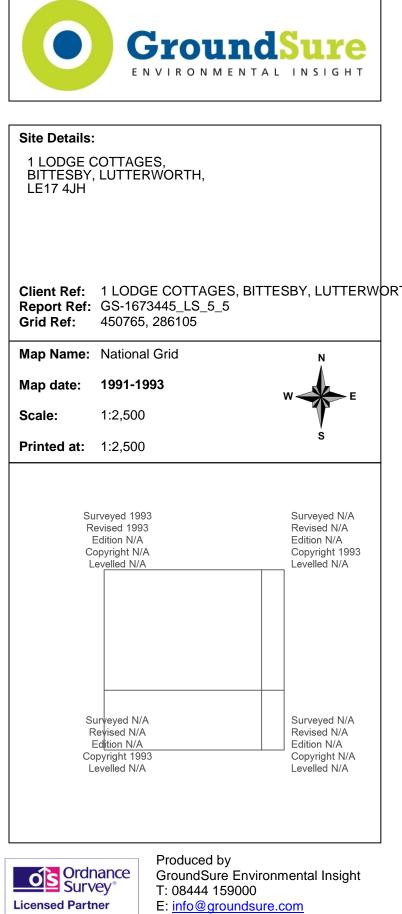


W: www.groundsure.com



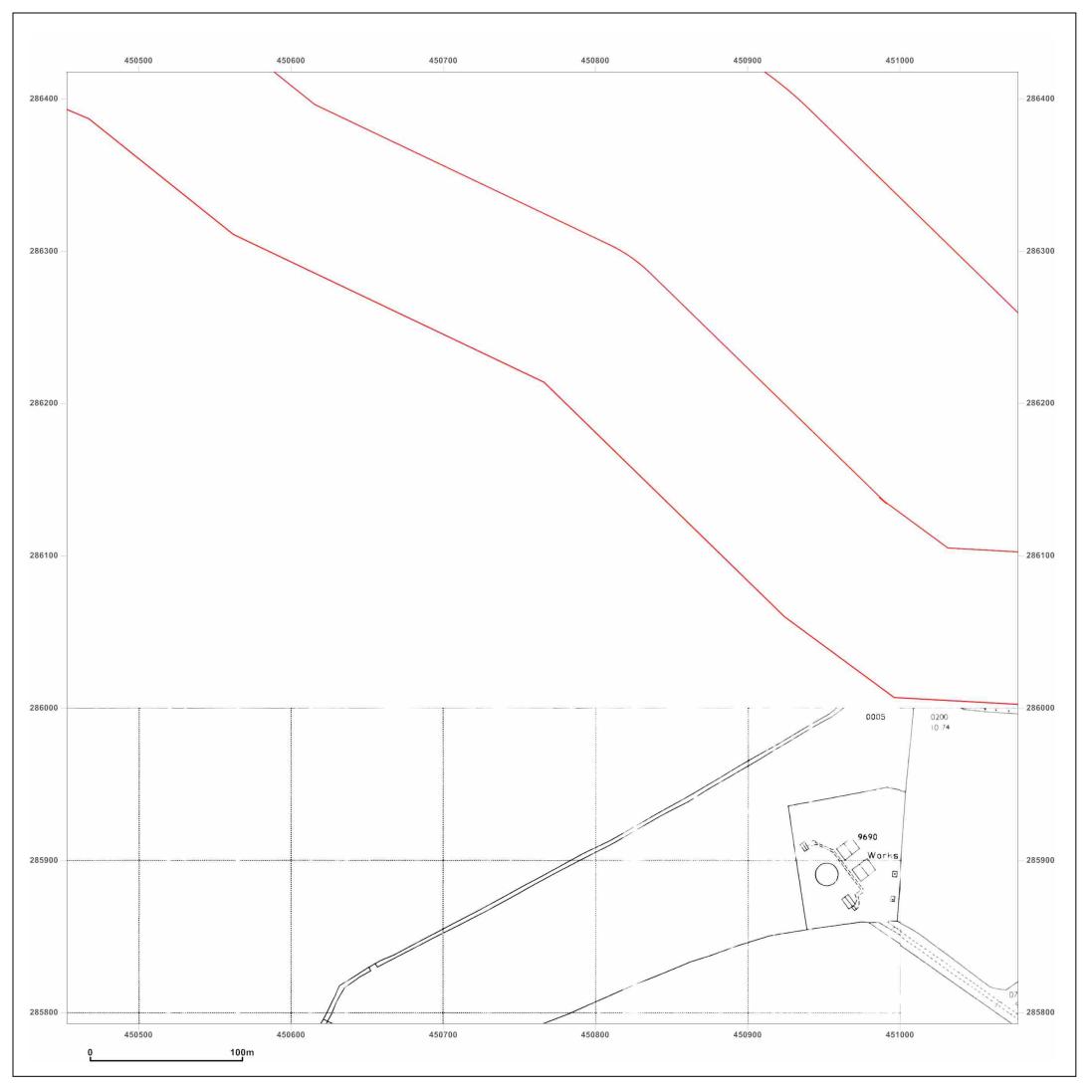
Production date: 22 September 2014

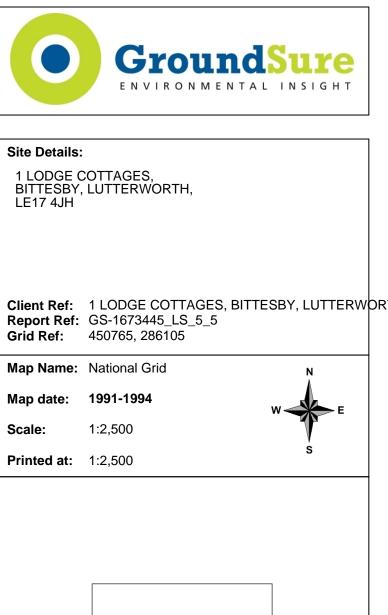


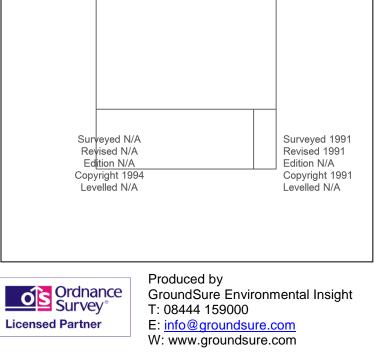


W: www.groundsure.com

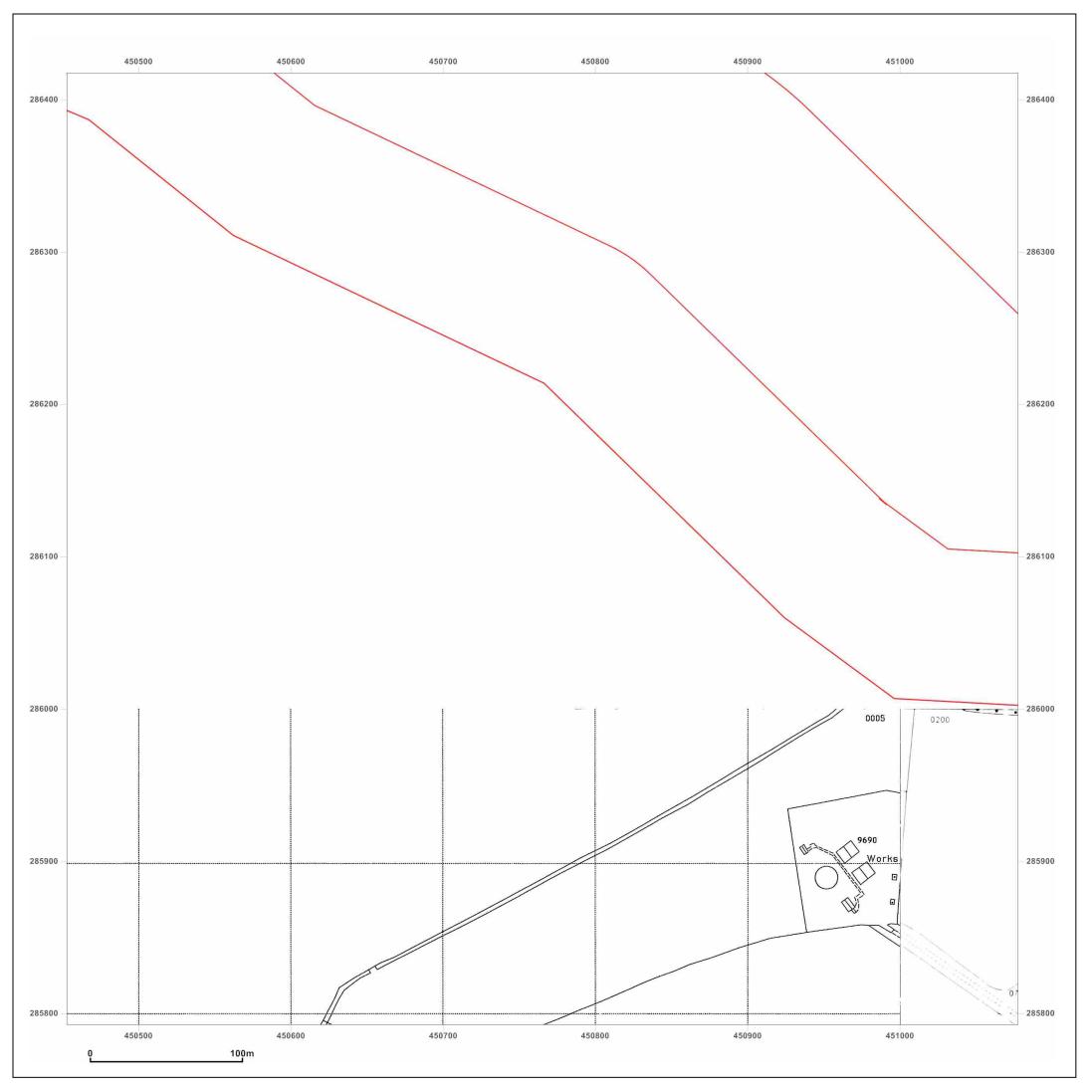
Production date: 22 September 2014

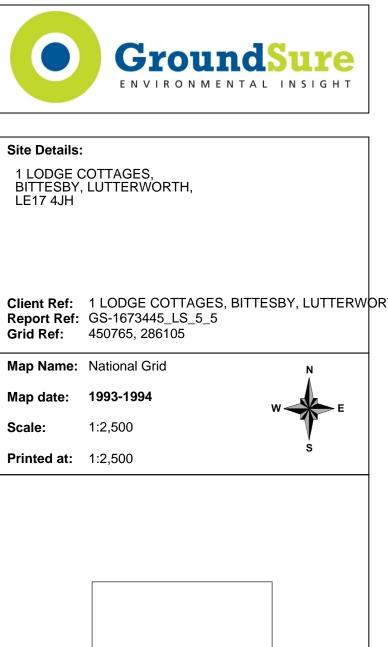


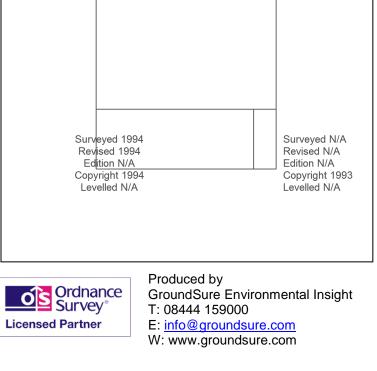




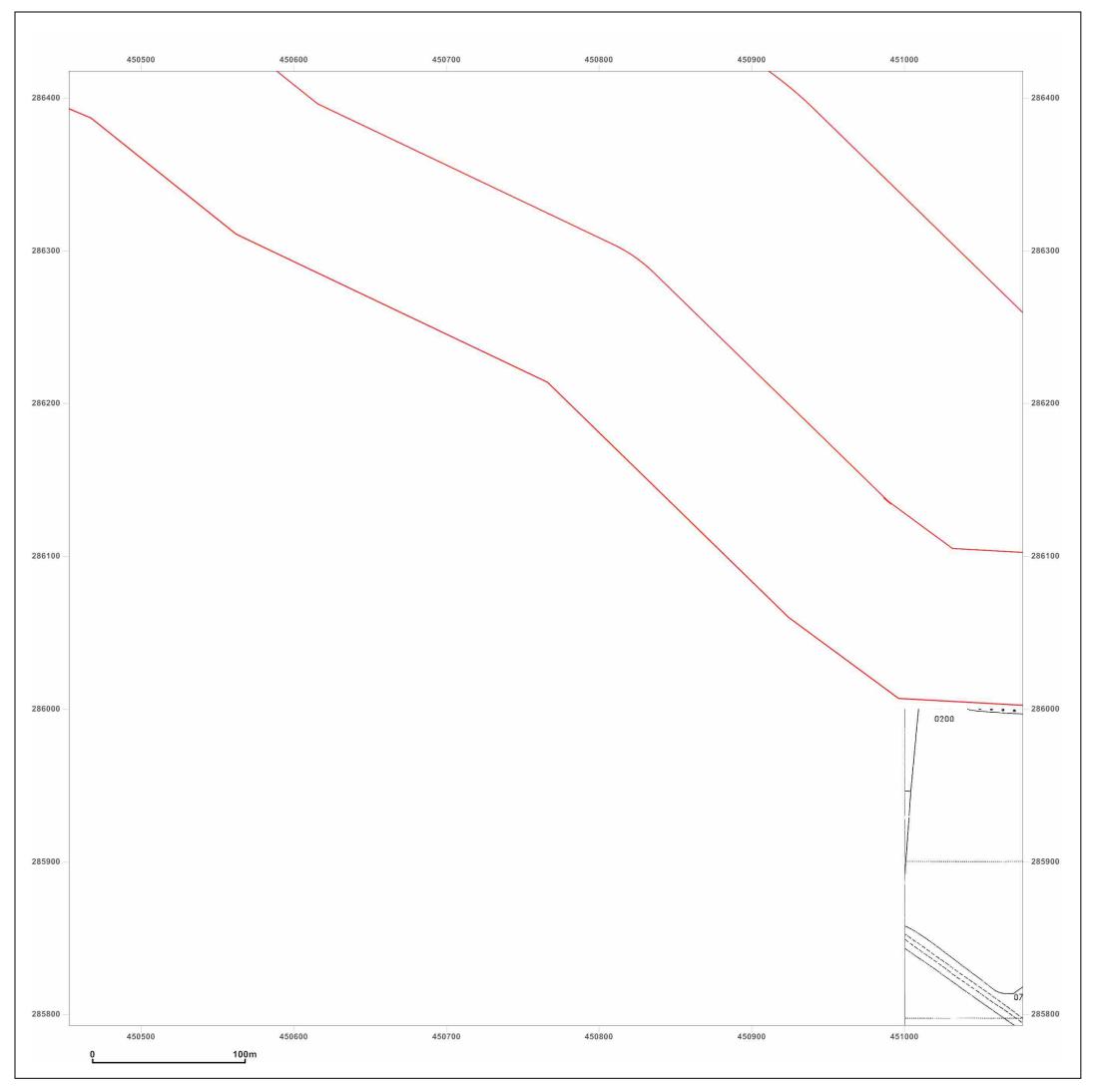
Production date: 22 September 2014





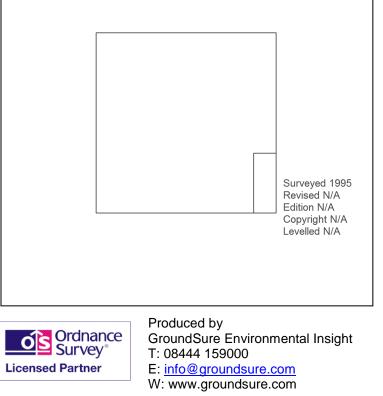


Production date: 22 September 2014

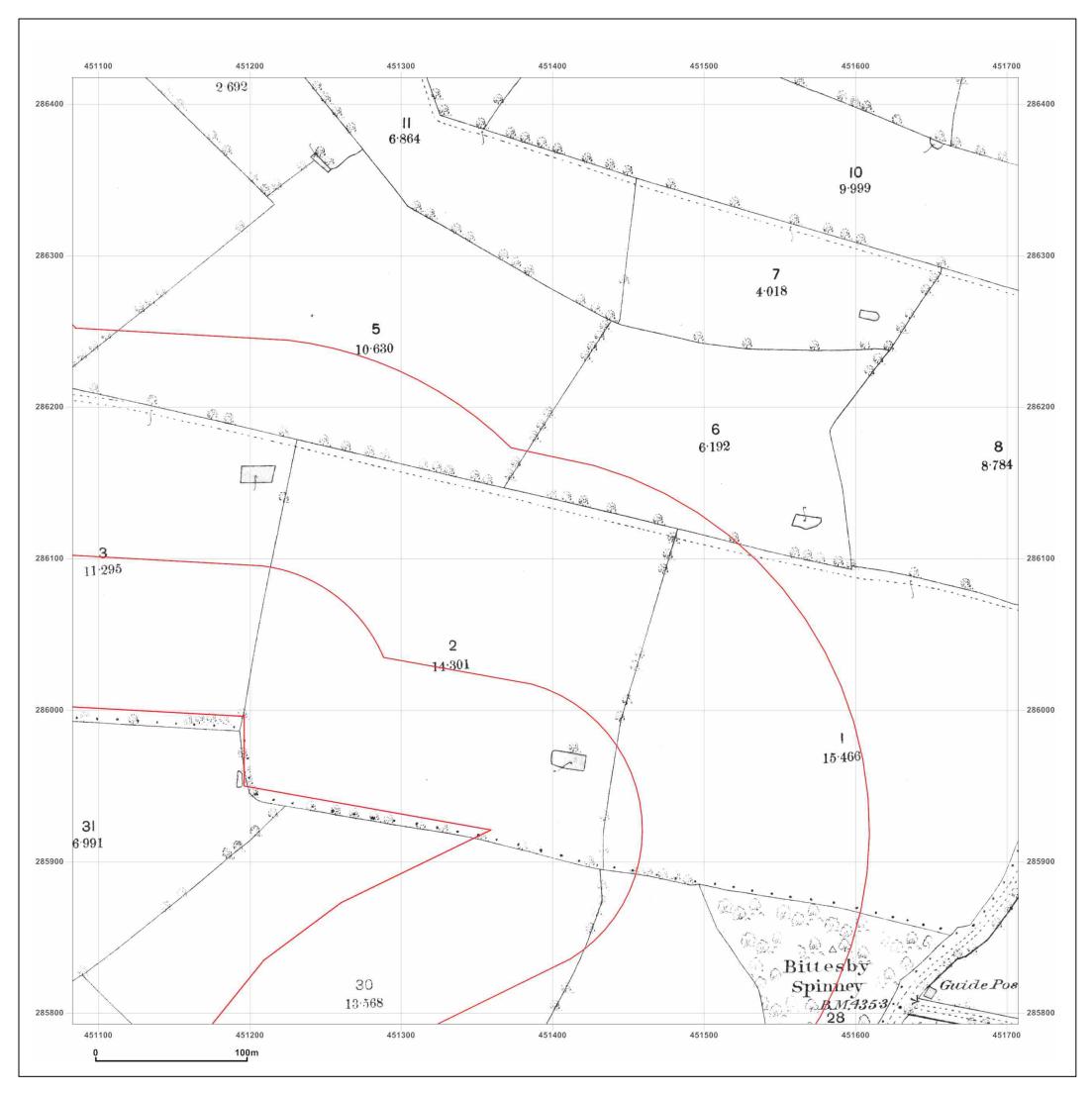


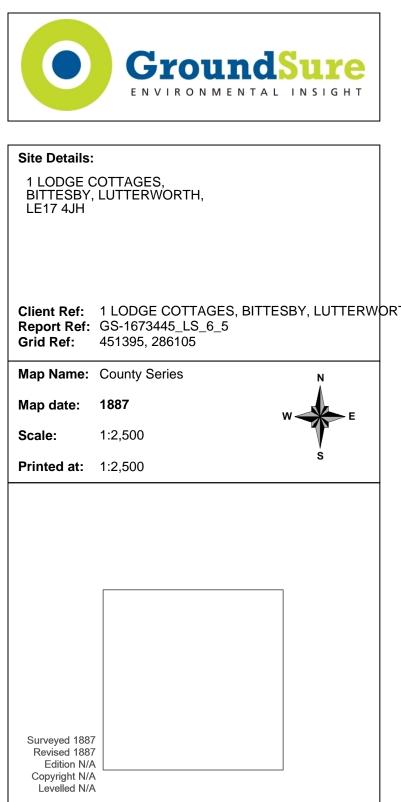


| Map Name:   | National Grid | N |
|-------------|---------------|---|
| Map date:   | 1995          | W |
| Scale:      | 1:2,500       | Y |
| Printed at: | 1:2,500       | S |
|             |               |   |



Production date: 22 September 2014



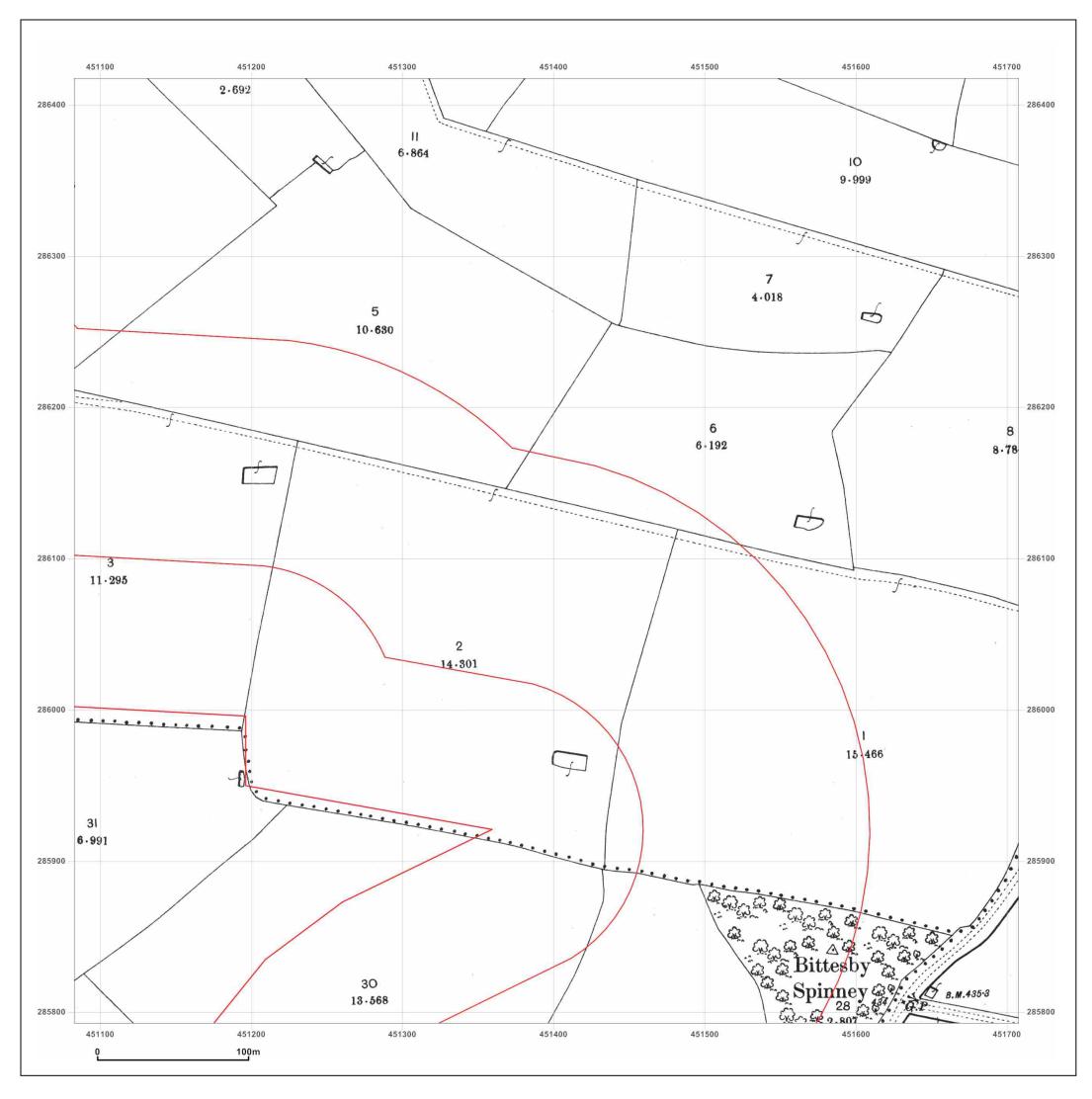




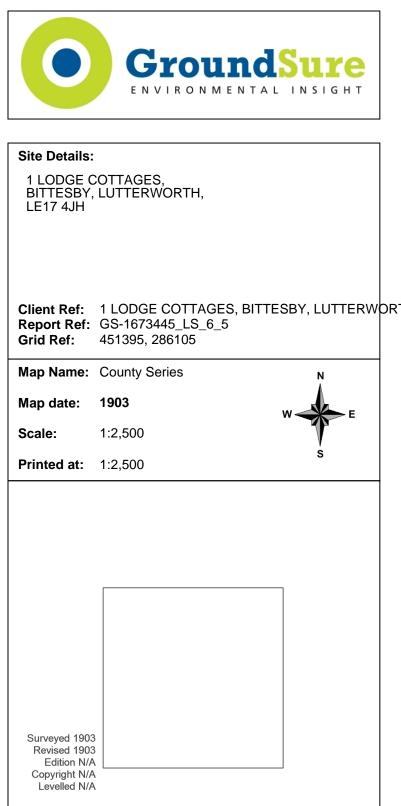
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



To view map legend click here <u>Legend</u>

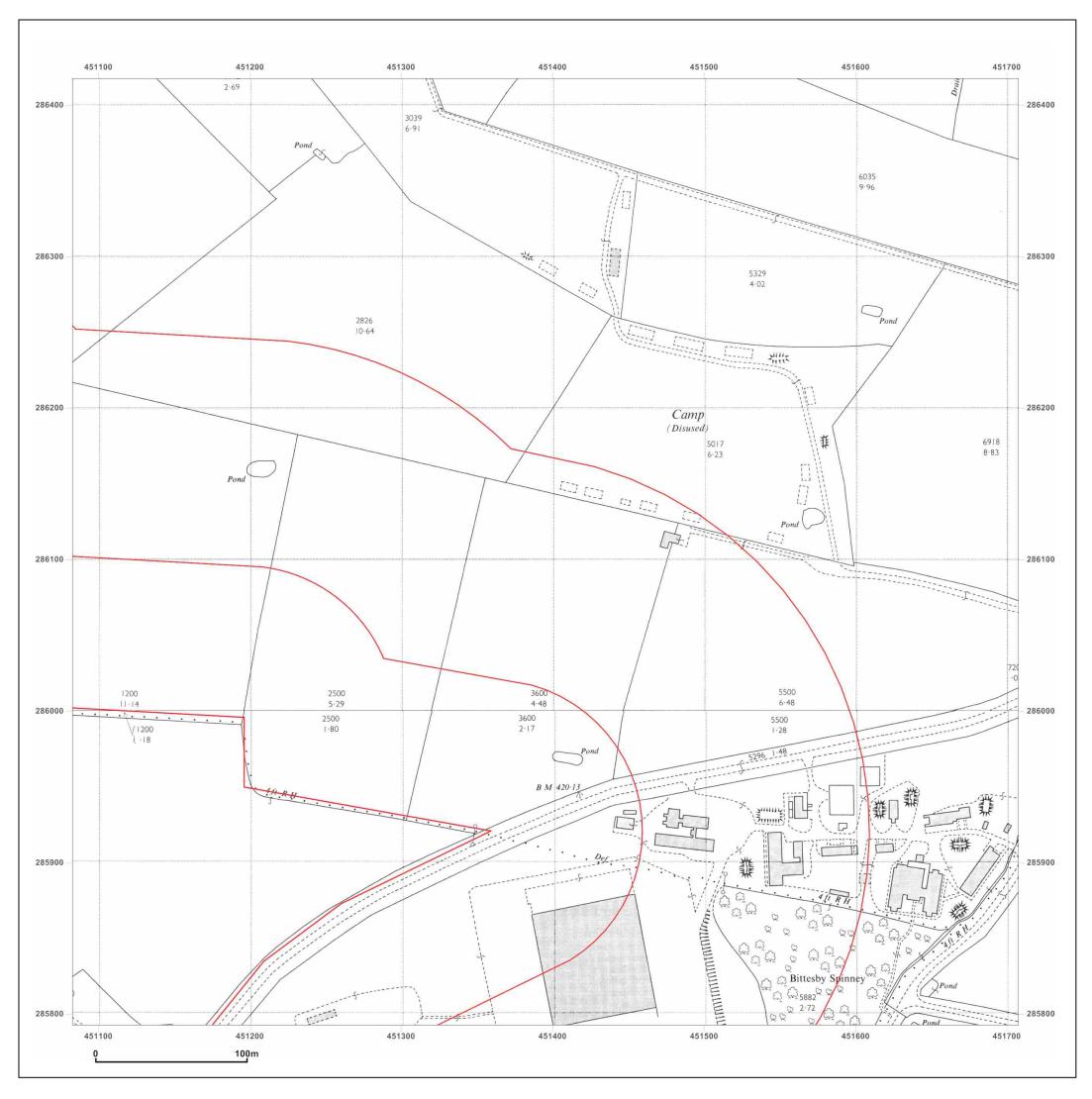




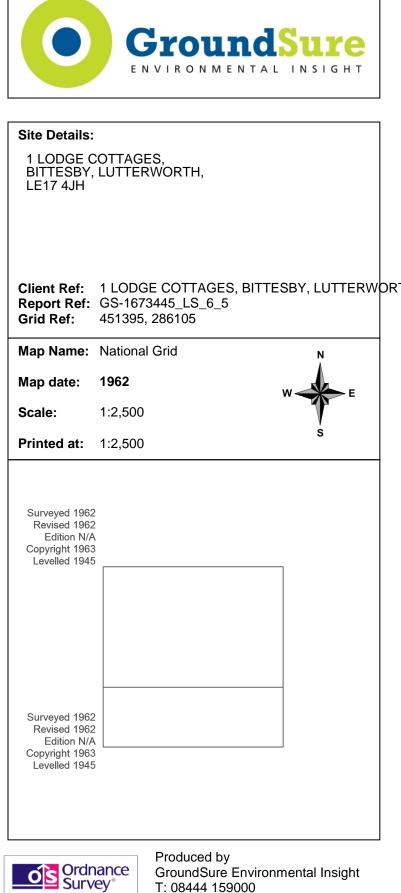
Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



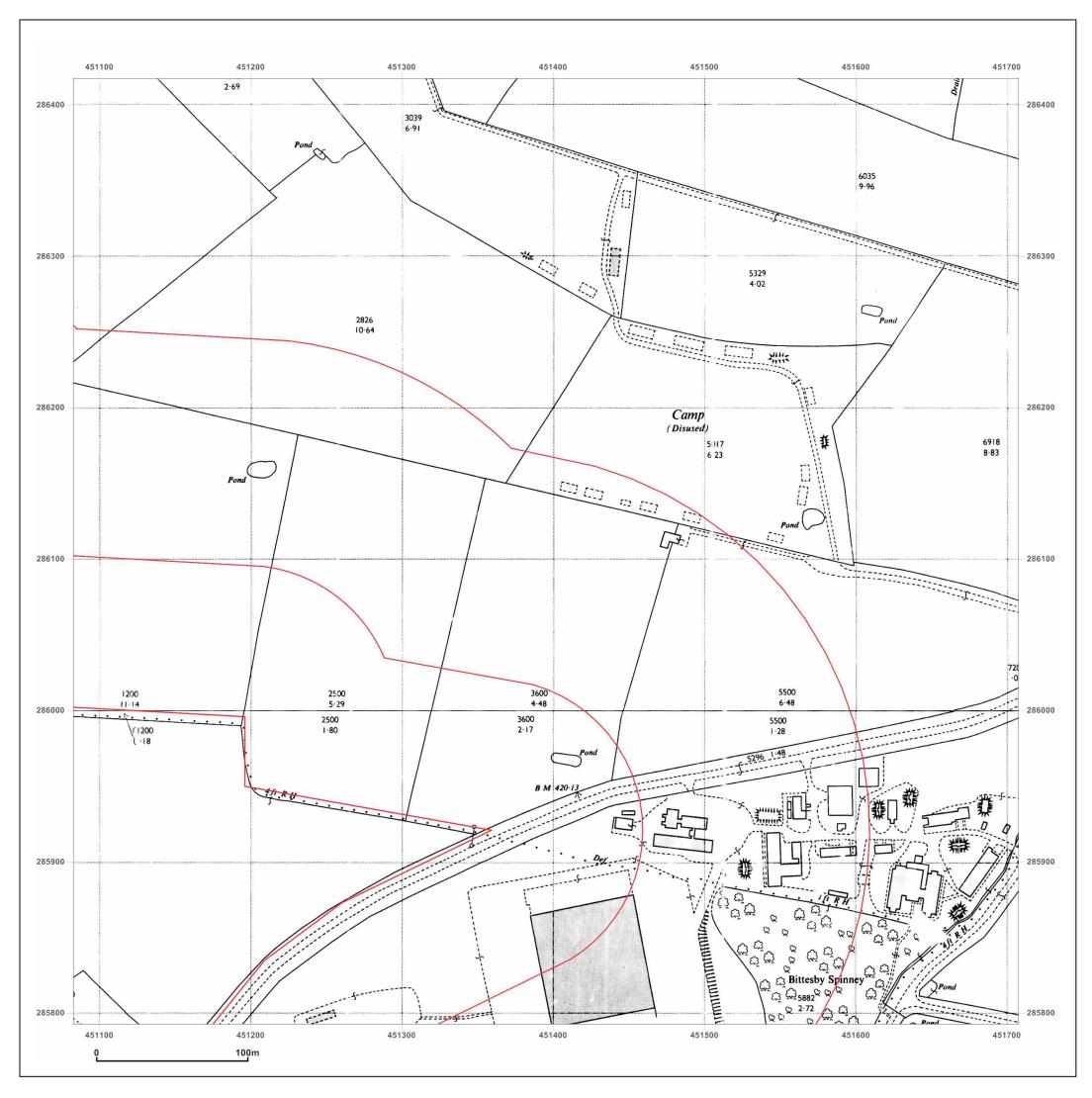
Licensed Partner



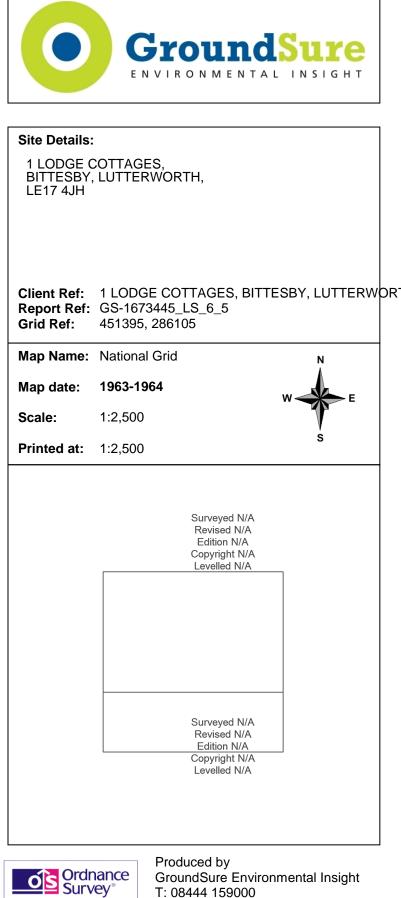
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com W: www.groundsure.com

Production date: 22 September 2014



Licensed Partner

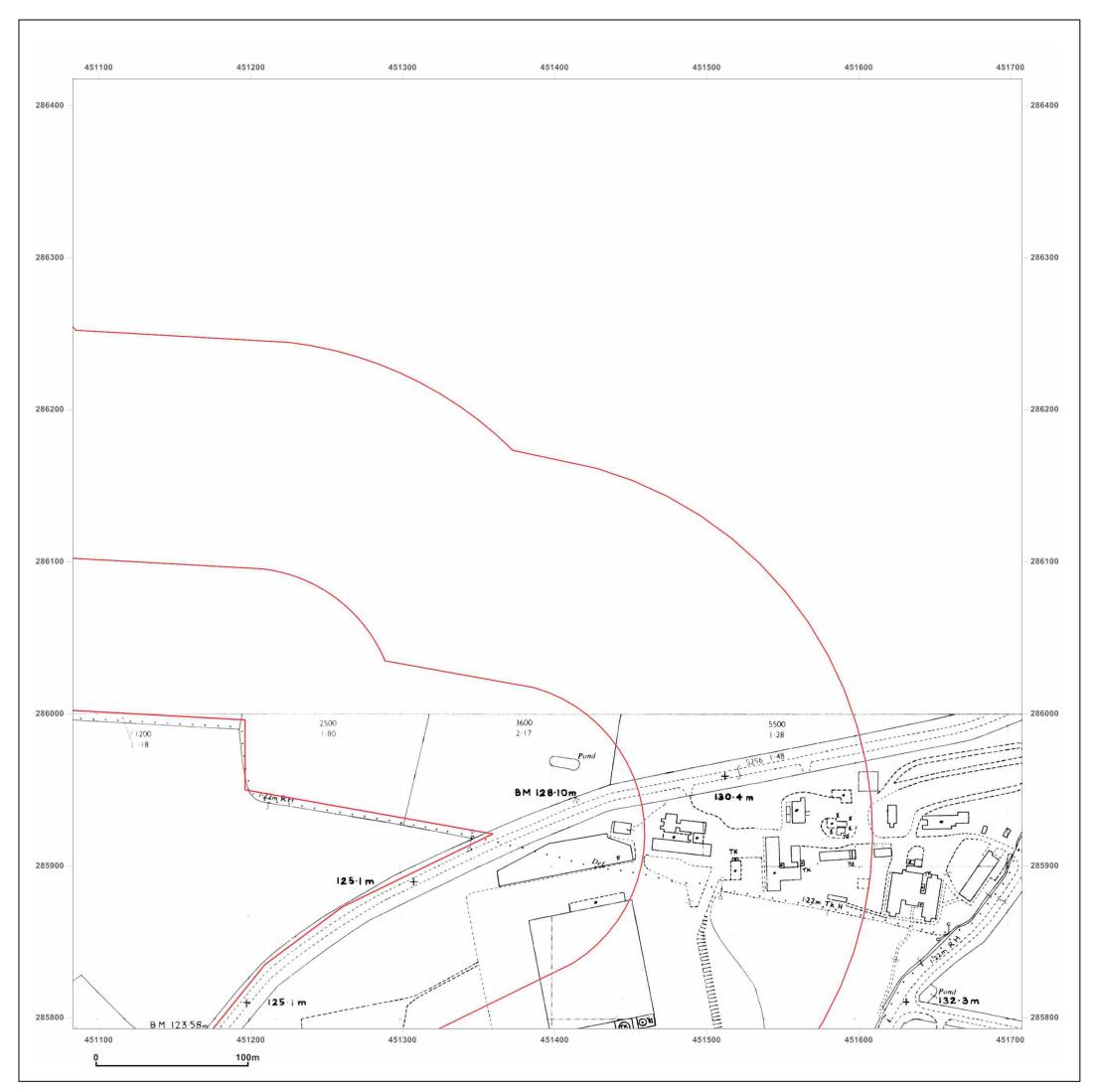


© Crown copyright and database rights 2013 Ordnance Survey 100035207

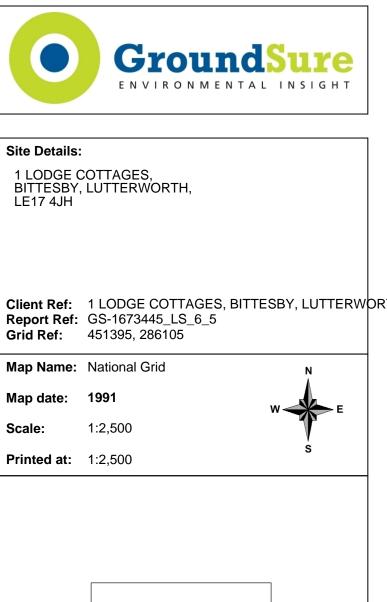
E: info@groundsure.com

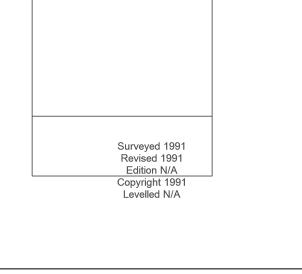
W: www.groundsure.com

Production date: 22 September 2014



\_\_\_\_



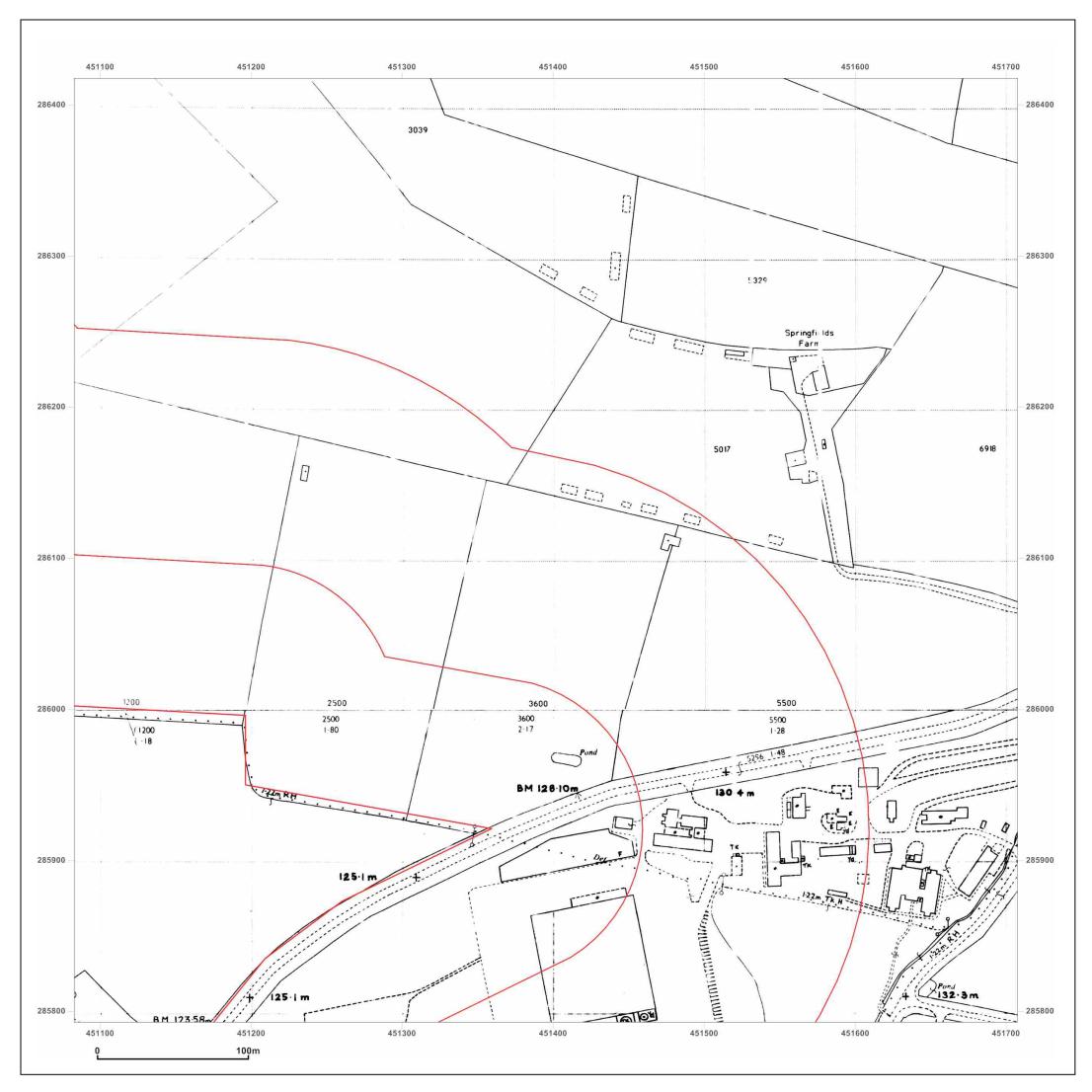




Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

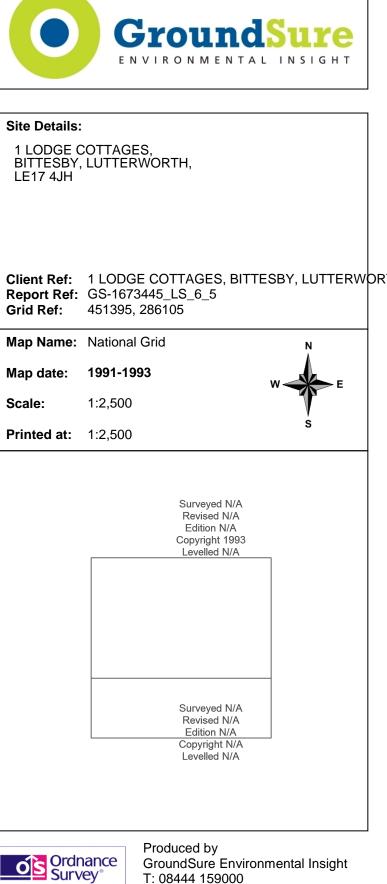
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

To view map legend click here Legend

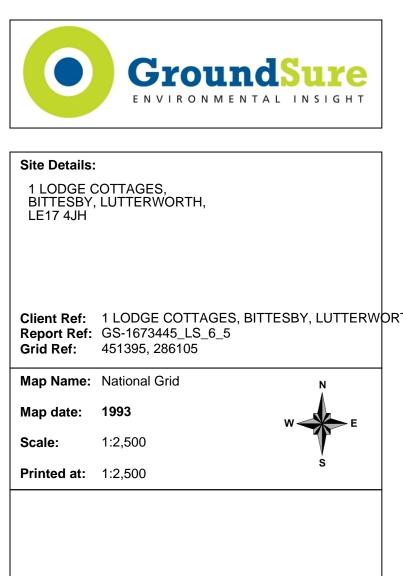


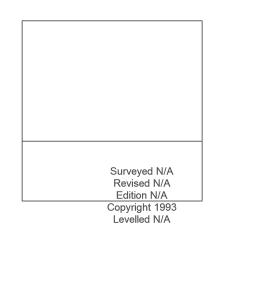
T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





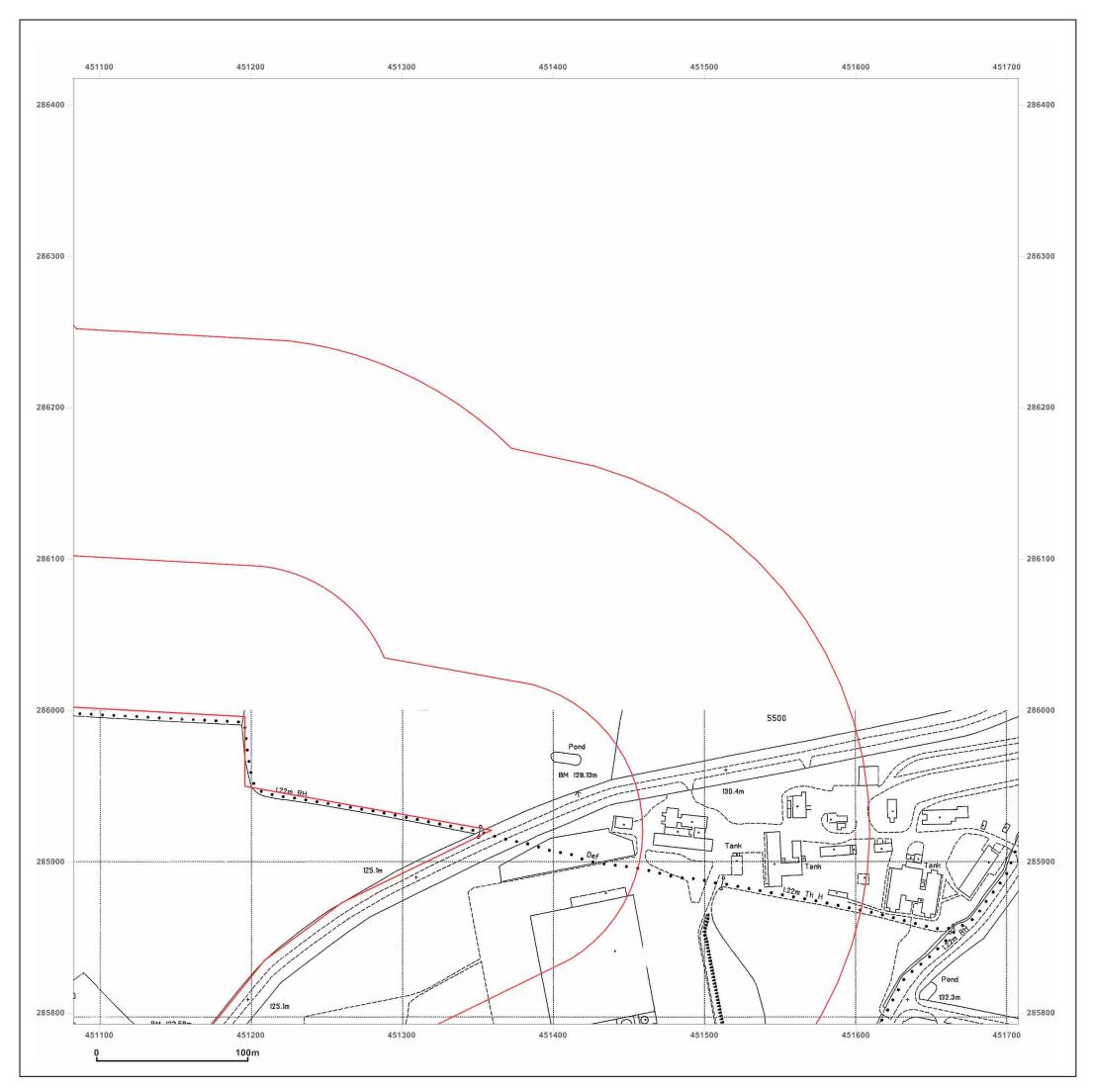


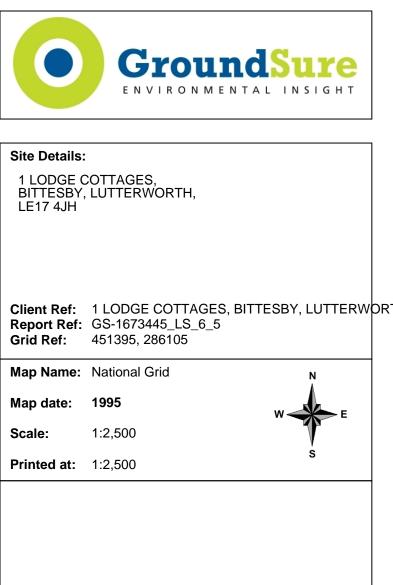


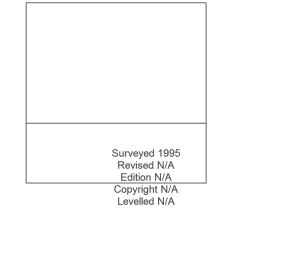
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014







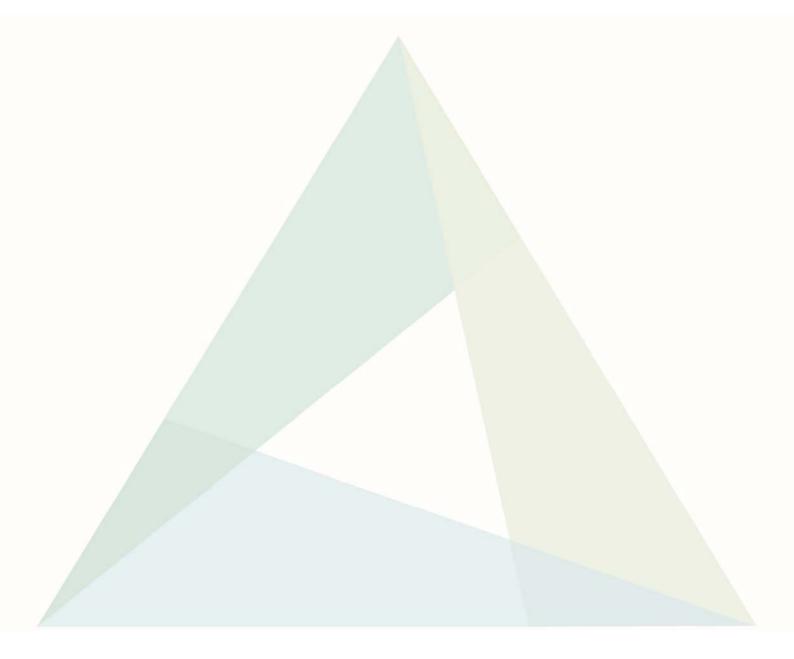


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

Appendix II







| Delta-Simons<br>3 Henley Office Park, Doddington Road, | GroundSure<br>Reference:   | GS-1673446  |
|--|----------------------------|---|
| LINCOLN, LN6 3QR                                       | Your Reference:            | 1 LODGE COTTAGES, BITTESBY,<br>LUTTERWORTH LE17 4JH |
|  | Report Date                | 22 Sep 2014   |
|  | Report Delivery<br>Method: | Email - pdf   |

#### GroundSure EnviroInsight

Address: 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH, LE17 4JH

Dear Sir/Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure Enviroinsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,

¥0.

Managing Director Groundsure Limited

Enc. GroundSure EnviroInsight



# GroundSure EnviroInsight

| Address:   | 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH, LE17 4JH |
|------------|---|
| Date:      | 22 Sep 2014                                       |
| Reference: | GS-1673446  |
| Client:    | Delta-Simons                                      |

NW



W

SW

Aerial Photograph Capture date:03-Jun-2010Grid Reference:450107,285938Site Size:222.54ha

S

SE

NE

Е

## **Contents Page**

| Contents Page  | 3  |
|--|----|
| Overview of Findings   | 5  |
| Using this report  | 9  |
| 1. Environmental Permits, Incidents and Registers Map  | 10 |
| 1. Environmental Permits, Incidents and Registers  |    |
| 1.1 Industrial Sites Holding Licences and/or Authorisations  |    |
| 1.1.1 Records of historic IPC Authorisations within 500m of the study site:  | 11 |
| 1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:   |    |
| 1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:  |    |
| 1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:<br>1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site: |    |
| 1.1.6 Records of List 2 Dangerous Substances Inventory Sites within 500m of the study site:  |    |
| 1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:   |    |
| 1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:  |    |
| 1.1.9 Records of Licensed Discharge Consents within 500m of the study site:  |    |
| 1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:  |    |
| 1.2 Dangerous or Hazardous Sites<br>1.3 Environment Agency Recorded Pollution Incidents  |    |
| 1.3 Environment Agency Recorded Pondtion incluents   |    |
| 1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:  |    |
| 1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990   |    |
| 2. Landfill and Other Waste Sites Map  | 15 |
| 2. Landfill and Other Waste Sites  |    |
| 2.1 Landfill Sites   |    |
| 2.1 Lanorm Sites   |    |
| 2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:  |    |
| 2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:  |    |
| 2.1.4 Records of Local Authority landfill sites within 1500m of the study site:  |    |
| 2.2 Other Waste Sites  |    |
| 2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:  |    |
| 3. Current Land Use Map  |    |
| 3. Current Land Uses   |    |
| 3.1 Current Industrial Data  |    |
| 3.2 Petrol and Fuel Sites  |    |
| 3.3 Underground High Pressure Oil and Gas Pipelines  |    |
| 4. Geology   |    |
|  |    |
| 4.1 Artificial Ground and Made Ground  |    |
| 4.2 Superficial Ground and Drift Geology<br>4.3 Bedrock and Solid Geology  |    |
| 5. Hydrogeology and Hydrology  |    |
| 5a. Aquifer Within Superficial Geology   |    |
|  |    |
| 5b. Aquifer Within Bedrock Geology and Abstraction Licenses  |    |
| 5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses  |    |
| 5d. Hydrology – Detailed River Network and River Quality   |    |
| 5. Hydrogeology and Hydrology  |    |
| 5.1 Aquifer within Superficial Deposits  |    |
| 5.2 Aquifer within Bedrock Deposits  |    |
| 5.3 Groundwater Abstraction Licences   |    |
| 5.4 Surface Water Abstraction Licences   |    |

| 5.5 Potable Water Abstraction Licences   | 29         |
|--|------------|
| 5.6 Source Protection Zones  | 29         |
| 5.7 Groundwater Vulnerability and Soil Leaching Potential  |            |
| 5.8 River Quality  |            |
| 5.8.1 Biological Quality:  |            |
| 5.8.2 Chemical Quality:  |            |
| 5.9 Detailed River Network   | 31         |
| 5.10 Surface Water Features  | 34         |
| 6. Environment Agency Flood Map for planning (from rivers and the sea)   | 35         |
| 6. Flooding  | 36         |
| 6.1 Zone 2 Flooding  |            |
| 6.2 Zone 3 Flooding  |            |
| 6.3 Flood Defences   |            |
| 6.4 Areas benefiting from Flood Defences   | 37         |
| 6.5 Areas benefiting from Flood Storage  |            |
| 6.6 Groundwater Flooding Susceptibility Areas  |            |
| 6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the stud   | ly site?37 |
| 6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological condition | าร?37      |
| 6.7 Groundwater Flooding Confidence Areas  |            |
| 7. Designated Environmentally Sensitive Sites Map  |            |
| 7. Designated Environmentally Sensitive Sites  | 40         |
| 7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:                                       | 40         |
| 7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:  |            |
| 7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:   |            |
| 7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:  |            |
| 7.5 Records of Ramsar sites within 2000m of the study site:  |            |
| 7.6 Records of Ancient Woodland within 2000m of the study site:  |            |
| 7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:   | 41         |
| 7.8 Records of World Heritage Sites within 2000m of the study site:  |            |
| 7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:   | 41         |
| 7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:                                       | 41         |
| 7.11 Records of National Parks (NP) within 2000m of the study site:  | 41         |
| 7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:  |            |
| 7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:   | 41         |
| 8. Natural   | Hazards    |
| Findings   | 43         |
| 8.1 Detailed BGS GeoSure Data  |            |
| 8.1.1 Shrink Swell   |            |
| 8.1.2 Landslides   |            |
| 8.1.3 Soluble Rocks  |            |
| 8.1.4 Compressible Ground  |            |
| 8.1.5 Collapsible Rocks  |            |
| 8.1.6 Running Sand   |            |
| 9. Mining  |            |
| 9.1 Coal Mining  |            |
| 9.2 Shallow Mining   |            |
| 9.3 Brine Affected Areas   |            |
| Contact Details  |            |
| Standard Terms and Conditions  |            |
|  |            |

# **Overview of Findings**

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

| Section 1: Environmental Permits,<br>Incidents and Registers                                       | On-site | 0-50m | 51-250 | 251-500 |
|--|---------|-------|--------|---------|
| 1.1 Industrial Sites Holding Environmental Permits and/or<br>Authorisations                        |         |       |        |         |
| 1.1.1 Records of historic IPC Authorisations   | 0       | 0     | 0      | 0       |
| 1.1.2 Records of Part A(1) and IPPC Authorised Activities  | 0       | 0     | 0      | 0       |
| 1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer)     | 0       | 0     | 0      | 0       |
| 1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) | 0       | 0     | 0      | 0       |
| 1.1.5 Records of List 1 Dangerous Substances Inventory sites                                       | 0       | 0     | 0      | 0       |
| 1.1.6 Records of List 2 Dangerous Substances Inventory sites                                       | 0       | 0     | 0      | 0       |
| 1.1.7 Records of Part A(2) and Part B Activities and Enforcements                                  | 0       | 0     | 0      | 0       |
| 1.1.8 Records of Category 3 or 4 Radioactive Substances<br>Authorisations                          | 0       | 0     | 0      | 0       |
| 1.1.9 Records of Licensed Discharge Consents   | 3       | 2     | 0      | 3       |
| 1.1.10 Records of Planning Hazardous Substance Consents and Enforcements                           | 0       | 0     | 1      | 0       |
| 1.2 Records of COMAH and NIHHS sites   | 0       | 0     | 0      | 1       |
| 1.3 Environment Agency Recorded Pollution Incidents  |         |       |        |         |
| 1.3.1 National Incidents Recording System, List 2  | 0       | 0     | 0      | 1       |
| 1.3.2 National Incidents Recording System, List 1  | 0       | 0     | 0      | 0       |
| 1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990                                   | 0       | 0     | 0      | 0       |

| Section 2: Landfill and Other Waste Sites  | On-site | 0-50m | 51-250 | 251-500 | 501-1000     | 1000-<br>5000 |
|--|---------|-------|--------|---------|--------------|---------------|
| 2.1 Landfill Sites   |         |       |        |         |              |               |
| 2.1.1 Environment Agency Registered Landfill Sites                                 | 0       | 0     | 0      | 0       | 0            | Not searched  |
| 2.1.2 Environment Agency Historic Landfill Sites                                   | 0       | 0     | 1      | 0       | 1            | 0             |
| 2.1.3 BGS/DoE Landfill Site Survey   | 0       | 0     | 0      | 0       | 0            | 1             |
| 2.1.4 GroundSure Local Authority Landfill Sites Data                               | 0       | 0     | 1      | 0       | 0            | 0             |
| 2.2 Landfill and Other Waste Sites Findings  |         |       |        |         |              |               |
| 2.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites | 0       | 0     | 0      | 0       | Not searched | Not searched  |
| 2.2.2 Environment Agency Licensed Waste Sites                                      | 0       | 0     | 1      | 0       | 0            | 0             |
|  |         |       |        |         |              |               |

| Section 3: Current Land Use                         | On-site | 0-50m | 51-250 | 251-500      |
|---|---------|-------|--------|--------------|
| 3.1 Current Industrial Sites Data                   | 2       | 0     | 10     | Not searched |
| 3.2 Records of Petrol and Fuel Sites                | 0       | 0     | 0      | 0            |
| 3.3 Underground High Pressure Oil and Gas Pipelines | 0       | 0     | 0      | 0            |

| Section 4: Geology   |     |
|--|-----|
| 4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?         | Yes |
| 4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?      | Yes |
| 4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section. |     |

| Section 5: Hydrogeology and Hydrology  |         |       | 0-5       | 00m          |              |               |
|--|---------|-------|-----------|--------------|--------------|---------------|
| 5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site? | Yes     |       |           |              |              |               |
| 5.2 Are there any records of Strata Classification in the Bedrock<br>Geology within 500m of the study site?  |         | Yes   |           |              |              |               |
|  | On-site | 0-50m | 51-250    | 251-500      | 501-1000     | 1000-<br>2000 |
| 5.3 Groundwater Abstraction Licences (within 2000m of the study site)  | 0       | 0     | 0         | 1            | 0            | 1             |
| 5.4 Surface Water Abstraction Licences (within 2000m of the study site)                                      | 0       | 0     | 0         | 0            | 0            | 0             |
| 5.5 Potable Water Abstraction Licences (within 2000m of the study site)                                      | 0       | 0     | 0         | 0            | 0            | 0             |
| 5.6 Source Protection Zones (within 500m of the study site)  | 0       | 0     | 0         | 0            | Not searched | Not searche   |
| 5.7 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)                    | 3       | 0     | 0         | 2            | Not searched | Not searche   |
|  | On-site | 0-50m | 51-250    | 251-500      | 501-1000     | 1000-<br>1500 |
| 5.8 Is there any Environment Agency information on river quality within 1500m of the study site?             | No      | No    | No        | No           | No           | No            |
| 5.9 Detailed River Network entries within 500m of the site   | 16      | 2     | 1         | 11           | Not searched | Not search    |
| 5.10 Surface water features within 250m of the study site  | Yes     | Yes   | Yes       | Not searched | Not searched | Not search    |
| Section 6: Flooding  |         |       |           |              |              |               |
| 6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?                       |         |       | Y         | ′es          |              |               |
| 6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?                       |         |       | Ŷ         | 'es          |              |               |
| 6.3 Are there any Flood Defences within 250m of the study site?  |         |       | 1         | No           |              |               |
| 6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?                        |         |       | 1         | No           |              |               |
| 6.5 Are there any areas used for Flood Storage within 250m of the study site?                                |         |       | 1         | No           |              |               |
| 6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?                |         |       | Potential | at Surface   |              |               |
| 6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?                     |         |       | Н         | igh          |              |               |

| Section 7: Designated Environmentally<br>Sensitive Sites   | On-site | 0-50m | 51-250 | 251-500 | 501-1000 | 1000-<br>2000 |
|--|---------|-------|--------|---------|----------|---------------|
| 7.1 Records of Sites of Special Scientific Interest (SSSI) | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.2 Records of National Nature Reserves (NNR)              | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.3 Records of Special Areas of Conservation (SAC)         | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.4 Records of Special Protection Areas (SPA)              | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.5 Records of Ramsar sites                                | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.6 Records of Ancient Woodlands                           | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.7 Records of Local Nature Reserves (LNR)                 | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.8 Records of World Heritage Sites                        | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.9 Records of Environmentally Sensitive Areas             | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.10 Records of Areas of Outstanding Natural Beauty (AONB) | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.11 Records of National Parks                             | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.12 Records of Nitrate Sensitive Areas                    | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.13 Records of Nitrate Vulnerable Zones                   | 2       | 0     | 0      | 0       | 0        | 0             |

### Section 8: Natural Hazards

| 8.1 What is the maximum risk of natural ground subsidence?                                | High       |
|---|------------|
| 8.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?        | Low        |
| 8.1.2 What is the maximum Landslides hazard rating identified on the study site?          | Low        |
| 8.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?       | Negligible |
| 8.1.4 What is the maximum Compressible Ground hazard rating identified on the study site? | High       |
| 8.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?   | Very Low   |
| 8.1.6 What is the maximum Running Sand hazard rating identified on the study site?        | Low        |

| Section 9: Mining  |            |
|--|------------|
| 9.1 Are there any coal mining areas within 75m of the study site?                            | No         |
| 9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site? | Negligible |
| 9.3 Are there any brine affected areas within 75m of the study site?                         | No         |

# Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between GroundSure and the Client. The document contains the following sections:

#### 1. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

#### 2. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

#### 3. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

#### 4. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

#### 5. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

#### 6. Flooding

Provides information on surface water flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

#### 7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

#### 8. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence.

#### 9. Mining

Provides information on areas of coal and shallow mining.

#### 10. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, GroundSure provide a free Technical Helpline (08444 159000) for further information and guidance.

#### Note: Maps

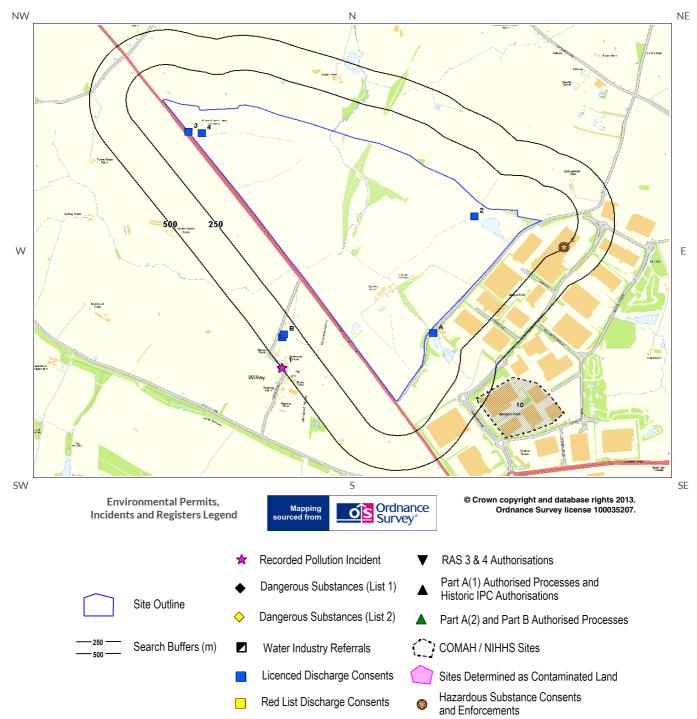
Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

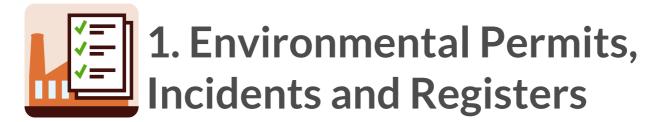
All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.



### **1. Environmental Permits, Incidents and Registers Map**







1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

1.1.1 Records of historic IPC Authorisations within 500m of the study site:

Database searched and no data found.

1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

Database searched and no data found.

1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

Database searched and no data found.

1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

Database searched and no data found.

1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

0

0

0

0

Database searched and no data found.



1.1.6 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

0

Database searched and no data found.

1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

Database searched and no data found.

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

Database searched and no data found.

1.1.9 Records of Licensed Discharge Consents within 500m of the study site:

8

0

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

| ID | Distance | Direction  | NGR              | Details  |   |  |  |
|----|----------|------------|------------------|--|---|--|--|
| 2  | 0.0      | On<br>Site | 450900<br>285950 | Address: Magna Park, Lutterworth,<br>Leicestershire, LE17 4XN<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Not Water Company<br>Permit Number: T/50/11005/S<br>Permit Version: 1  | Receiving Water: Trib Of Soar Brook<br>Status: Revoked (wra 91, S88 & Sched 10 As<br>Amended By Env Act 1995)<br>Issue date: 18/2/1988<br>Effective Date: 18/2/1988<br>Revocation Date: 1/10/2001   |  |  |
| 3  | 0.0      | On<br>Site | 448950<br>286560 | Address: White House Farmhouse And Bittesby,<br>Watling Street, Claybrooke Parva, Lutterworth,<br>Leicestershire, LE17 5BQ<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Not Water Company<br>Permit Number: T/50/46150/S<br>Permit Version: 1 | Receiving Water: Unnamed Trib River Soar<br>Status: New Consent (wra 91, S88 & Sched 10<br>As Amended By Env Act 1995)<br>Issue date: 14/6/2005<br>Effective Date: 14/6/2005<br>Revocation Date: -  |  |  |
| 4  | 0.0      | On<br>Site | 449040<br>286550 | Address: An Stp Serving Stable Cottage, White<br>House Farm, Watling Street, Claybrooke Parva,<br>Leicestershire, LE17 5BQ<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Not Water Company<br>Permit Number: T/50/46396/S<br>Permit Version: 1 | Receiving Water: A Trib Of The River Soar<br>Status: New Consent (wra 91, S88 & Sched 10<br>As Amended By Env Act 1995)<br>Issue date: 25/7/2007<br>Effective Date: 25/7/2007<br>Revocation Date: - |  |  |
| 5A | 25.0     | SE         | 450620<br>285110 | Address: Magna Park, Lutterworth,<br>Leicestershire, LE17 4XN<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Not Water Company<br>Permit Number: T/50/20847/S<br>Permit Version: 1  | Receiving Water: Trib Of Ullesthorpe<br>Status: Post Nra Legislation Where Issue Date<br>> 31-aug-89 (historic Only)<br>Issue date: 11/1/1992<br>Effective Date: 11/1/1992<br>Revocation Date: -    |  |  |



| ID | Distance | Direction | NGR              | Details  |  |  |  |
|----|----------|-----------|------------------|--|--|--|--|
| 6A | 25.0     | SE        | 450620<br>285110 | Address: Magna Park, Lutterworth,<br>Leicestershire, LE17 4XN<br>Effluent Type: Trade Discharges - Site Drainage<br>Permit Number: T/50/20847/S<br>Permit Version: 1   | Receiving Water: Trib Of Ullesthorpe<br>Status: Post Nra Legislation Where Issue Date<br>> 31-aug-89 (historic Only)<br>Issue date: 11/1/1992<br>Effective Date: 11/1/1992<br>Revocation Date: - |  |  |
| 7B | 351.0    | SW        | 449600<br>285100 | Address: Willey Stw - Obselete Site, Main<br>Street, Willey, Rugby, Warwickshire<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Water Company<br>Permit Number: T/50/07435/R<br>Permit Version: 1 | Receiving Water: Trib Of River Soar<br>Status: Revoked (wra 91, S88 & Sched 10 As<br>Amended By Env Act 1995)<br>Issue date: 30/9/1977<br>Effective Date: 30/9/1977<br>Revocation Date: -        |  |  |
| 8B | 370.0    | SW        | 449590<br>285080 | Address: Willey Stw, Willey Stw, Main Street,<br>Willey, Warwickshire, CV23 0SJ<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Water Company<br>Permit Number: T/50/45880/R<br>Permit Version: 1  | Receiving Water: Trib Of River Soar<br>Status: New Consent (wra 91, S88 & Sched 10<br>As Amended By Env Act 1995)<br>Issue date: -<br>Effective Date: -<br>Revocation Date: -                    |  |  |
| 9B | 370.0    | SW        | 449590<br>285080 | Address: Willey Stw, Willey Stw, Main Street,<br>Willey, Warwickshire, CV23 0SJ<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Water Company<br>Permit Number: T/50/45880/R<br>Permit Version: 2  | Receiving Water: Trib Of River Soar<br>Status: New Consent (wra 91, S88 & Sched 10<br>As Amended By Env Act 1995)<br>Issue date: 24/9/2009<br>Effective Date: 1/1/2010<br>Revocation Date: -     |  |  |

1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

1

The following records are represented as points on the Environmental Permits, Incidents and Registers Map:

| ID  | Distance I | Direction | Application<br>Reference<br>Number | NGR              | Application<br>Status | Application<br>Date | Address   | Details   | Details of Enforcement<br>Action  |
|-----|------------|-----------|------------------------------------|------------------|-----------------------|---------------------|---|---|---|
| 12C | 243.0      | SE        | 05/00126/HA<br>Z                   | 451509<br>285730 | Approved              | 26/01/2005          | Asda IDC 7438,<br>Hunter Boulevard,<br>Magna Park,<br>Lutterworth,<br>Leicestershire,<br>LE17 4XN | Application for<br>hazardous substances<br>consent. | Enforcement: No<br>Enforcement Notified<br>Date of Enforcement: No<br>Enforcement Notified<br>Comment: No<br>Enforcement Notified |

#### 1.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

1

The following COMAH & NIHHS Authorisation records provided by the Health and Safety Executive are represented as polygons or buffered points on the Environmental Permits, Incidents and Registers Map:

| ID | Distance | Direction | Company          | Address   | Operational Status    | Tier |
|----|----------|-----------|------------------|---|-----------------------|------|
| 10 | 442.0    | SE        | Tibbet & Britain | Tibbet And Britain, Wellington Park Way, Magna<br>Park, Lutterworth, Le17 4xw | Historical NIHHS Site | -    |



#### 1.3 Environment Agency Recorded Pollution Incidents

1.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

1

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

| ID | Distance | Direction | NGR              | De   | tails   |
|----|----------|-----------|------------------|--|---|
| 1  | 499.0    | SW        | 449585<br>284863 | Incident Date: 06/09/2002<br>Incident Identification: 105966<br>Pollutant: Contaminated Water<br>Pollutant Description: Firefighting Run-Off | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |

1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

0

Database searched and no data found.

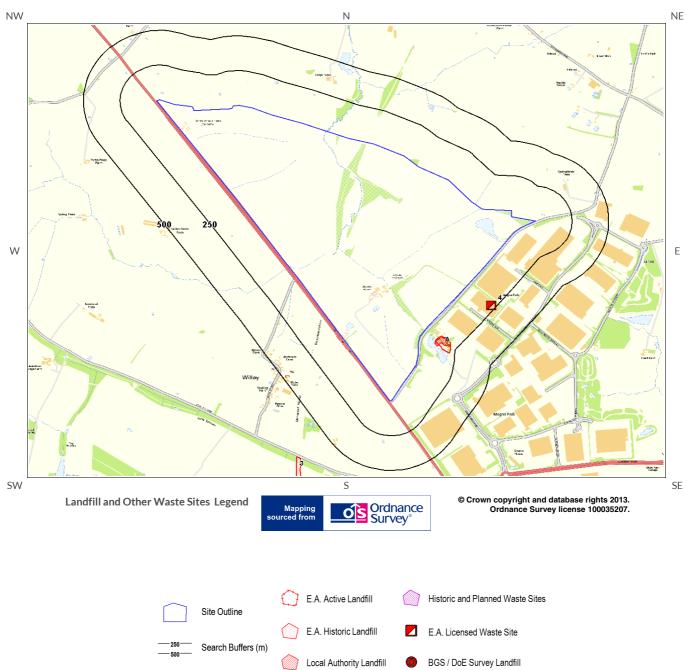
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

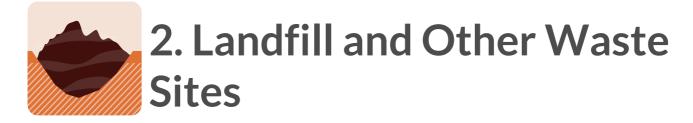
Database searched and no data found.



### 2. Landfill and Other Waste Sites Map







#### 2.1 Landfill Sites

2.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

2

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

| ID | Distance (m) | Direction | NGR              | Details   |  |
|----|--------------|-----------|------------------|---|--|
| 2A | 103.0        | SE        | 450700<br>285000 | Site Address: Bitteswell Aerodrome,<br>Bitteswell Aerodrome, Lutterworth,<br>Leicestershire<br>Waste Licence: Yes<br>Site Reference: GDO 71, 0057<br>Waste Type: Industrial,<br>Environmental Permitting Regulations<br>(Waste) Reference: -                                | Licence Issue: 06-May-1977<br>Licence Surrendered: 27-Jan-1992<br>Licence Hold Address: -<br>Operator: -   |
| 3  | 737.0        | SW        | 449800<br>283300 | Site Address: Willey Tip, Off Coal Pit Lane,<br>Willey, Warwickshire<br>Waste Licence: Yes<br>Site Reference: WDL149, WDL071,<br>3700/0071<br>Waste Type: Commercial, Household, Special,<br>Liquid sludge,<br>Environmental Permitting Regulations<br>(Waste) Reference: - | Licence Issue: 14-Jun-1977<br>Licence Surrendered:<br>Licence Hold Address: PO Box 45, Shire Hall<br>Warwick<br>Operator: Rugby Rural District Council |

2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

1

The following landfill records are represented as points on the Landfill and Other Waste Sites map:

| ID           | Distance (m) | Direction | NGR                          |   | Details                                     |
|--------------|--------------|-----------|------------------------------|---|---|
| Not<br>shown | 1350.0       | SW        | 44980<br>0.0<br>28340<br>0.0 | Address: Willey Tip, off Coal Pit Lane,<br>Willey, Warwicks<br>BGS Number: 2155.0 | Risk: No risk to aquifer<br>Waste Type: N/A |



#### 2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

0

1

#### The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

| ID | Distance<br>(m) | Direction NGR | Site Address | Source       | Data Type |
|----|-----------------|---------------|--------------|--------------|-----------|
| 5A | 100.0           | SE            | Refuse Tip   | 1962 mapping | Polygon   |

#### 2.2 Other Waste Sites

2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

Database searched and no data found.

2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

| ID | Distance<br>(m) | Direction | NGR              | D  | etails   |
|----|-----------------|-----------|------------------|--|--|
| 4  | 215.0           | SE        | 451055<br>285314 | Site Address: Magna Park, Vulcan Way,<br>Magna Park, Lutterworth, Leics, LE17 4XR<br>Type: WEEE treatment facility<br>Size: < 25000 tonnes<br>Environmental Permitting Regulations<br>(Waste) Licence Number: UNI559<br>EPR reference: EA/EPR/HB3731AL/A001<br>Operator: Unipart Group Limited<br>Waste Management licence No: 104359<br>Annual Tonnage: 74999.0 | Issue Date: 29/06/2012<br>Effective Date: -<br>Modified: -<br>Surrendered Date: -<br>Expiry Date: -<br>Cancelled Date: -<br>Status: Issued<br>Site Name: Unipart Technology Ltd, Magna<br>Park<br>Correspondence Address: -, - |



# 3. Current Land Use Map







3. Current Land Uses

### 3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

12

The following records are represented as points on the Current Land Uses map.

| ID | Distance<br>(m) | Direction | Company                      | NGR              | Address   | Activity                                  | Category                        |
|----|-----------------|-----------|------------------------------|------------------|---|---|---------------------------------|
| 1  | 0.0             | On Site   | Sewage<br>Works              | 450980<br>285907 | LE17  | Waste Storage, Processing and<br>Disposal | Infrastructure and Facilities   |
| 2  | 0.0             | On Site   | Holovis<br>Internationa<br>I | 450336<br>285439 | The Brick Barn, Bittesby,<br>Lutterworth, LE17 4JH                | Educational Equipment and<br>Supplies     | Industrial Products             |
| 3  | 76.0            | SE        | Mast                         | 450708<br>285135 | LE17  | Telecommunications Features               | Infrastructure and Facilities   |
| 4  | 88.0            | E         | Filter Beds                  | 450647<br>284994 | LE17  | Waste Storage, Processing and<br>Disposal | Infrastructure and Facilities   |
| 5  | 156.0           | SE        | C M L Plc                    | 450867<br>285191 | Vulcan Way, Magna Park,<br>Lutterworth, LE17 4XR                  | Container and Storage                     | Transport, Storage and Delivery |
| 6A | 162.0           | SE        | Tank                         | 451449<br>285786 | LE17  | Tanks (Generic)                           | Industrial Features             |
| 7A | 167.0           | SE        | Tank                         | 451464<br>285791 | LE17  | Tanks (Generic)                           | Industrial Features             |
| 8  | 180.0           | E         | Filter Beds                  | 450739<br>284997 | LE17  | Waste Storage, Processing and<br>Disposal | Infrastructure and Facilities   |
| 9  | 191.0           | SE        | Warehouse                    | 450613<br>284641 | LE17  | Container and Storage                     | Transport, Storage and Delivery |
| 10 | 214.0           | E         | Tank                         | 451572<br>285897 | LE17  | Tanks (Generic)                           | Industrial Features             |
| 11 | 216.0           | SE        | Unipart<br>Logistics         | 451055<br>285312 | Vulcan Point, Vulcan Way,<br>Magna Park, Lutterworth,<br>LE17 4XR | Distribution and Haulage                  | Transport, Storage and Delivery |
| 12 | 248.0           | SE        | Electricity<br>Sub Station   | 450732<br>284713 | LE17  | Electrical Features                       | Infrastructure and Facilities   |

#### 3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

0

Database searched and no data found.



0

# 3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site:

Database searched and no data found.





# 4.1 Artificial Ground and Made Ground

The database has been searched on site, including a 50m buffer.

| Lex Code | Description             | Rock Type          |
|----------|-------------------------|--------------------|
| MGR-MGRD | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |
| MGR-MGRD | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |

### 4.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

| Lex Code  | Description             | Rock Type                   |
|-----------|-------------------------|-----------------------------|
| ODT-DMTN  | OADBY MEMBER            | DIAMICTON                   |
| ALV-CSSG  | ALLUVIUM                | CLAY, SILT, SAND AND GRAVEL |
| ODT-DMTN  | OADBY MEMBER            | DIAMICTON                   |
| DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL             |
| WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL             |
| WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL             |
| PEAT-P    | PEAT                    | PEAT                        |
| DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL             |
| WOC-CLSI  | WOLSTON CLAY            | CLAY AND SILT               |
| WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL             |
| WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL             |

### 4.3 Bedrock and Solid Geology

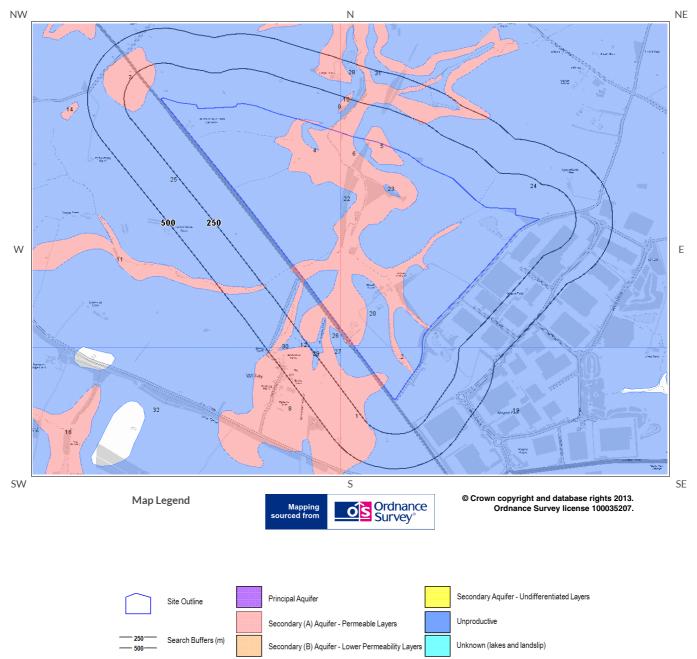
The database has been searched on site, including a 50m buffer.

| Lex Code | Description                | Rock Type                           |
|----------|----------------------------|-------------------------------------|
| PNG-MDST | PENARTH GROUP              | MUDSTONE                            |
| MMG-MDST | MERCIA MUDSTONE GROUP      | MUDSTONE                            |
| BLI-MDLM | <b>BLUE LIAS FORMATION</b> | MUDSTONE AND LIMESTONE, INTERBEDDED |

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

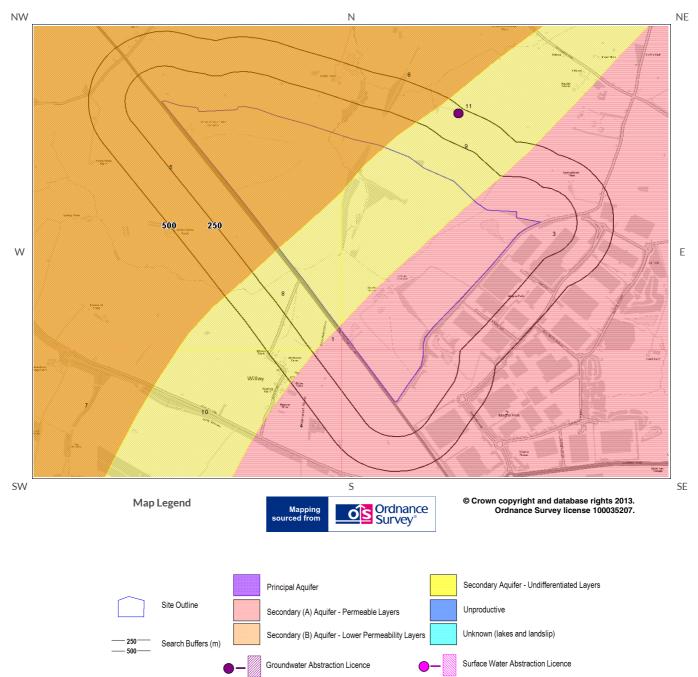


# 5. Hydrogeology and Hydrology5a. Aquifer Within Superficial Geology



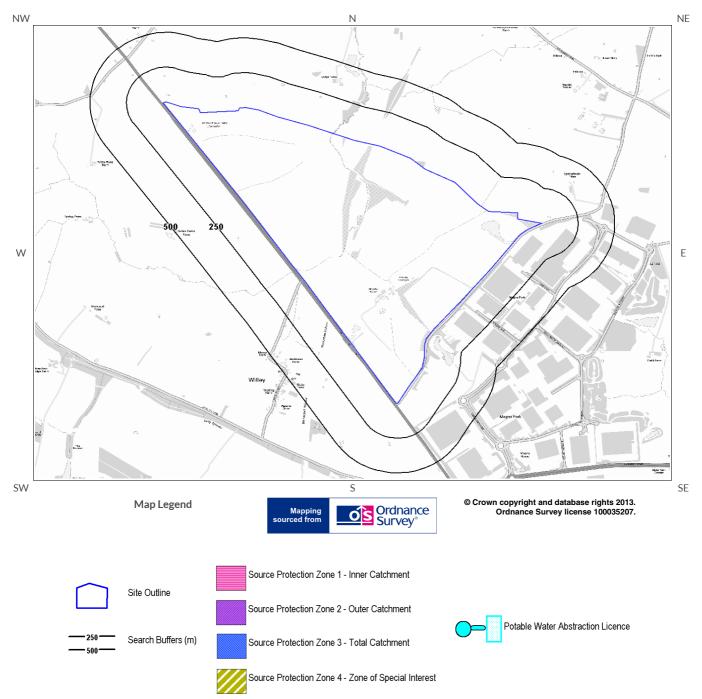


# 5b. Aquifer Within Bedrock Geology and Abstraction Licenses



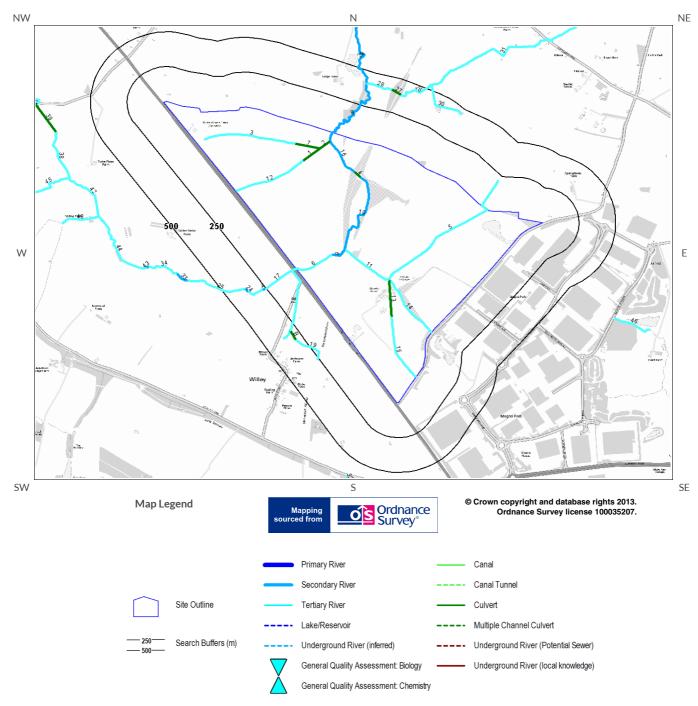


# 5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses





# 5d. Hydrology – Detailed River Network and River Quality



Report Reference: GS-1673446 Client Reference: 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH LE17 4JH





#### 5.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Environsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

| ID  | Distance<br>(m) | Direction | Designation  | Description  |
|-----|-----------------|-----------|--------------|--|
| 1   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 2   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 3A  | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 4   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 5   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 6   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 19  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 20  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 21A | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 22  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 23  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 24  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |



| ID | Distance<br>(m) | Direction | Designation  | Description  |
|----|-----------------|-----------|--------------|--|
| 25 | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 26 | 23.0            | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 27 | 82.0            | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 28 | 93.0            | Ν         | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 7  | 105.0           | NW        | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 8  | 123.0           | SW        | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 9  | 123.0           | Ν         | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 10 | 139.0           | Ν         | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 29 | 182.0           | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 11 | 229.0           | SW        | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 12 | 258.0           | SW        | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers       |
| 30 | 325.0           | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 13 | 337.0           | Ν         | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 31 | 369.0           | Ν         | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 32 | 463.0           | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |



### 5.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Environsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

| ID | Distance<br>(m) | Direction | Designation                         | Description   |
|----|-----------------|-----------|-------------------------------------|---|
| 1  | 0.0             | On Site   | Secondary A                         | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and<br>in some cases forming an important source of base flow to rivers. These are generally aquifers<br>formerly classified as minor aquifers              |
| 2  | 0.0             | On Site   | Secondary A                         | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers                    |
| 3  | 0.0             | On Site   | Secondary A                         | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and<br>in some cases forming an important source of base flow to rivers. These are generally aquifers<br>formerly classified as minor aquifers              |
| 5  | 0.0             | On Site   | Secondary B                         | Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering.<br>These are generally the water-bearing parts of the former non-aquifers |
| 6  | 0.0             | On Site   | Secondary B                         | Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering.<br>These are generally the water-bearing parts of the former non-aquifers |
| 8  | 0.0             | On Site   | Secondary<br>(undifferentiated<br>) | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type   |
| 9  | 0.0             | On Site   | Secondary<br>(undifferentiated<br>) | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type   |
| 4  | 82.0            | SW        | Secondary A                         | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers                    |
| 10 | 223.0           | SW        | Secondary<br>(undifferentiated<br>) | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type   |

#### 5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

| ID | Distance<br>(m) | Direction | NGR              | Details   |   |
|----|-----------------|-----------|------------------|---|---|
| 11 | 452.0           | NE        | 450800<br>286700 | Licence No: 03/28/50/0076<br>Details: General Farming & Domestic<br>Direct Source: Groundwater Midlands Region<br>Point: Manor Farm<br>Data Type: Point | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 24/2/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 1/4/2000<br>Version End Date: |



| )            | Distance<br>(m) | Direction   | NGR   | Details   |  |   |  |
|--------------|-----------------|-------------|---|---|--|---|--|
| Not<br>shown | 1934.0          | Ν           | Licence No: 03/28/50/0010 Max Daily Volu<br>Original Applic<br>Details: General Farming & Domestic Original Start Dat<br>Direct Source: Groundwater Midlands Region<br>Point: The Laurels Issue No:<br>Data Type: Point Version Start Dat |   | Annual Volume (r<br>Max Daily Volume<br>Original Application<br>Original Start Date: 5/<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 1,<br>Version End Date | me (m <sup>3</sup> ): -<br>ation No: -<br>e: 5/11/1965<br>te: -<br>100<br>e: 1/4/2000 |  |
|              |                 |             |   | ion Licences<br>traction Licences within 2000m of the study site? |  | No  |  |
|              |                 |             |   | Database searched and no data found.                              |  |   |  |
| 5.5          | Potable         | e Water     | Abstract  | ion Licences  |  |   |  |
| Are          | there an        | y Potable ' | Water Abs   | traction Licences within 2000m of the study site?                 |  | No  |  |
|              |                 |             |   | Database searched and no data found.                              |  |   |  |
| 5.6          | Source          | Protect     | ion Zone  | S   |  |   |  |
| Are          | there an        | y Source P  | Protection  | Zones within 500m of the study site?                              |  | No  |  |
|              |                 |             |   |   |  |   |  |



# 5.7 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

| Distance (m) | Direction | Classification                           | Soil Vulnerability Category | Description  |
|--------------|-----------|--|-----------------------------|--|
| 0            | On Site   | Minor Aquifer/Low Leaching<br>Potential  | L                           | Soils in which pollutants are<br>unlikely to penetrate the soil layer<br>because either water movement is<br>largely horizontal, or they have the<br>ability to attenuate diffuse<br>pollutants. |
| 0            | On Site   | Minor Aquifer/Low Leaching<br>Potential  | L                           | Soils in which pollutants are<br>unlikely to penetrate the soil layer<br>because either water movement is<br>largely horizontal, or they have the<br>ability to attenuate diffuse<br>pollutants. |
| 0            | On Site   | Minor Aquifer/Low Leaching<br>Potential  | L                           | Soils in which pollutants are<br>unlikely to penetrate the soil layer<br>because either water movement is<br>largely horizontal, or they have the<br>ability to attenuate diffuse<br>pollutants. |
| 322          | SW        | Minor Aquifer/High Leaching<br>Potential | H2                          | Deep, permeable, coarse textured<br>soils which readily transmit a wide<br>range of pollutants because of<br>their rapid drainage and low<br>attenuation potential.                              |
| 456          | SW        | Minor Aquifer/Low Leaching<br>Potential  | L                           | Soils in which pollutants are<br>unlikely to penetrate the soil layer<br>because either water movement is<br>largely horizontal, or they have the<br>ability to attenuate diffuse<br>pollutants. |

5.8 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site?

No

5.8.1 Biological Quality:

Database searched and no data found.

5.8.2 Chemical Quality:

Database searched and no data found.



### 5.9 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?

Yes

The following Detailed River Network records are represented on the Hydrology Map (5d):



| ID      | Distance (m) | Direction | Det   | tails   |
|---------|--------------|-----------|---|---|
| 1       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 2       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 3       | 0.0          | On Site   | River Name: Drain<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 4       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 5       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 6       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 7       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 8       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 9       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 10      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 11      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 12      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 13      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 14      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 15      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 16      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 17      | 33.0         | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 18      | 33.0         | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 19      | 222.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 20<br>A | 257.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 21<br>A | 273.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |



| ID      | Distance (m) | Direction | ſ   | Details   |
|---------|--------------|-----------|---|---|
| 22<br>B | 294.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 23<br>B | 294.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 24      | 362.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 25      | 366.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 26      | 388.0        | NE        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 27      | 390.0        | Ν         | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 28      | 403.0        | Ν         | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 29      | 408.0        | Ν         | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 30      | 413.0        | NE        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |



### 5.10 Surface Water Features

#### Are there any surface water features within 250m of the study site?

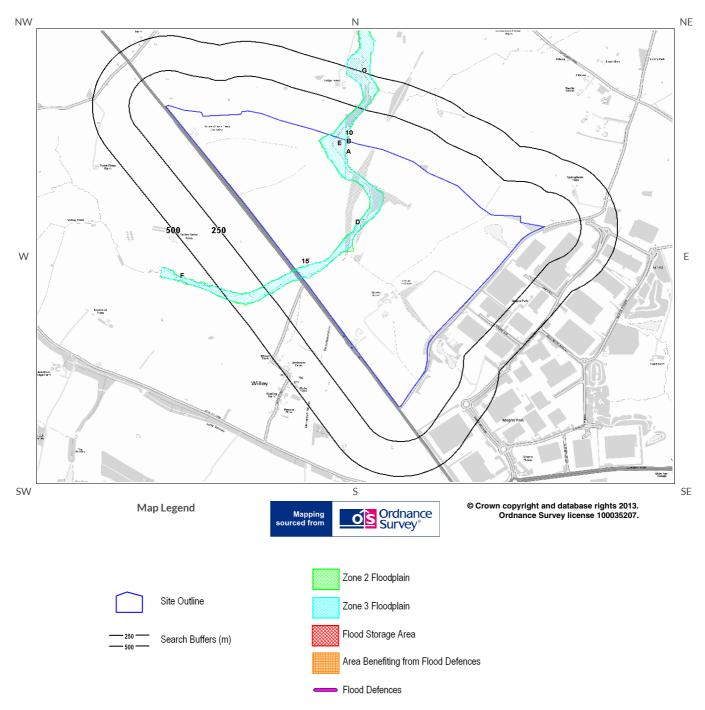
Yes

#### The following surface water records are not represented on mapping:

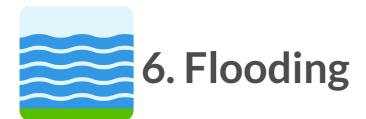
| Distance (m) | Direction |
|--------------|-----------|
| 0.0          | On Site   |
| 33.0         | SW        |
| 33.0         | SW        |
| 33.0         | SW        |
| 51.0         | SE        |
| 83.0         | Ν         |
| 202.0        | E         |
| 203.0        | E         |
| 220.0        | SW        |
| 222.0        | SW        |
| 236.0        | SW        |



# 6. Environment Agency Flood Map for planning (from rivers and the sea)







6.1 Zone 2 Flooding

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning:

Is the site within 250m of an Environment Agency Zone 2 floodplain?

Yes

The following floodplain records are represented as green shading on the Flood Map:

| ID | Distance (m) | Direction | Update      | Туре                       |
|----|--------------|-----------|-------------|----------------------------|
| 1C | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 2A | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 3A | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 4B | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 5G | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 6F | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 7E | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
|    |              |           |             |                            |

#### 6.2 Zone 3 Flooding

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning.

Is the site within 250m of an Environment Agency Zone 3 floodplain?

Yes

The following floodplain records are represented as blue shading on the Flood Map:

| ID  | Distance (m) | Direction | Update      | Туре                       |
|-----|--------------|-----------|-------------|----------------------------|
| 8B  | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 9C  | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 10  | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 11D | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 12D | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |



| D Distan | ce (m) Direction | Update      | Туре                       |
|----------|------------------|-------------|----------------------------|
| 13E 0.0  | 0 On Site        | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 14F 0.0  | 0 On Site        | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 15 0.0   | 0 On Site        | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 16G 47   | .0 N             | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |

#### 6.3 Flood Defences

| Are there any Flood Defences within 250m of the study site?<br>Database searched and no data found.  | No         |
|--|------------|
| 6.4 Areas benefiting from Flood Defences   |            |
| Are there any areas benefiting from Flood Defences within 250m of the study site?  | No         |
| 6.5 Areas benefiting from Flood Storage  | -          |
| Are there any areas used for Flood Storage within 250m of the study site?  | No         |
| 6.6 Groundwater Flooding Susceptibility Areas  |            |
| 6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of boundary of the study site?  | the        |
|  | Yes        |
| Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Clearwate  | r Flooding |
| Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentar<br>which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (C<br>Flooding). |            |

6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.



### 6.7 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result?

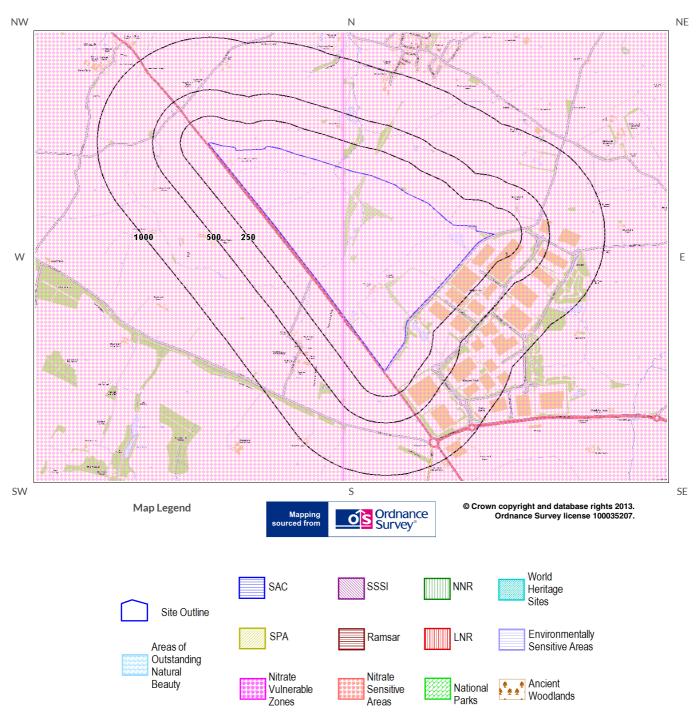
High

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.



# 7. Designated Environmentally Sensitive Sites Map







| Presence of Designated Environmentally Sensitive Sites within 2000m of the study site?     | Yes |
|--|-----|
| 7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site: | 0   |
| Database searched and no data found.   |     |
| 7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:              | 0   |
| Database searched and no data found.   |     |
| 7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:         | 0   |
| Database searched and no data found.   |     |
| 7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:              | 0   |
| Database searched and no data found.   |     |
| 7.5 Records of Ramsar sites within 2000m of the study site:                                | 0   |
| Database searched and no data found.   |     |
| 7.6 Records of Ancient Woodland within 2000m of the study site:                            | 0   |
| Database searched and no data found.   |     |



| 7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:   | 0 |
|--|---|
| Database searched and no data found.   | 0 |
|  |   |
| 7.8 Records of World Heritage Sites within 2000m of the study site:  | 0 |
| Database searched and no data found.   |   |
| 7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:   | 0 |
| Database searched and no data found.   | 0 |
| 7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:   | 0 |
| Database searched and no data found.   |   |
| 7.11 Records of National Parks (NP) within 2000m of the study site:  | 0 |
| Database searched and no data found.   | 0 |
| 7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:  | 0 |
| Database searched and no data found.   | 0 |
| 7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:   | 2 |
| The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygo<br>Designated Environmentally Sensitive Sites Map: |   |

| ID | Distance<br>(m) | Direction | NVZ Name | Data Source |
|----|-----------------|-----------|----------|-------------|
| 1  | 0.0             | On Site   | NVZ Area | DEFRA       |



| ID | Distance<br>(m) | Direction | NVZ Name | Data Source |
|----|-----------------|-----------|----------|-------------|
| 2  | 0.0             | On Site   | NVZ Area | DEFRA       |





#### 8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a GroundSure GeoInsight, available from our website. The following information has been found:

#### 8.1.1 Shrink Swell

What is the maximum Shrink-Swell\*\* hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

#### 8.1.2 Landslides

What is the maximum Landslide\* hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property no significant increase in insurance risk due to natural slope instability problems.

<sup>\*</sup> This indicates an automatically generated 50m buffer and site.

# 8.1.3 Soluble Rocks

What is the maximum Soluble Rocks\* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

Hazard

# 8.1.4 Compressible Ground

What is the maximum Compressible Ground\* hazard rating identified on the study site?

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Very significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Construction may not be possible at economic cost. For existing property probable increase in insurance risk from compressibility especially if water conditions or loading of the ground change significantly.

Hazard

# 8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks\* hazard rating identified on the study site?

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.



High

Very Low



### 8.1.6 Running Sand

What is the maximum Running Sand<sup>\*\*</sup> hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property no significant increase in insurance risk due to running sand problems is likely.

<sup>\*</sup> This indicates an automatically generated 50m buffer and site.





#### 9.1 Coal Mining

Are there any coal mining areas within 75m of the study site?

Database searched and no data found.

#### 9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site\*?

\*Please note this data is searched with a 150m buffer.

### 9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? Guidance: No Guidance Required. Negligible

No

No



# **Contact Details**

GroundSure Helpline Telephone: 08444 159 000 info@groundsure.com



British Geological Survey Enquiries

Kingsley Dunham Centre Keyworth, Nottingham NG12 5GG Tel: 0115 936 3143. Fax: 0115 936 3276. Email: enquiries@bgs.ac.uk Web:www.bgs.ac.uk BGS Geological Hazards Reports and general geological enquiries

Environment Agency

National Customer Contact Centre, PO Box 544 Rotherham, S60 1BY Tel: 08708 506 506 Web:www.environment-agency.gov.uk Email:enquiries@environment-agency.gov.uk

**Public Health England** 

Public information access office Public Health England, Wellington House 133-155 Waterloo Road, London, SE1 8UG https://www.gov.uk/government/organisations/public-healthengland Email:enquiries@phe.gov.uk Main switchboard: 020 7654 8000

The Coal Authority

200 Lichfield Lane Mansfield Notts NG18 4RG Tel: 0345 7626 848 DX 716176 Mansfield 5 www.coal.gov.uk

Ordnance Survey

Adanac Drive, Southampton SO16 0AS Tel: 08456 050505

Local Authority Authority: Harborough District Council Phone: 01858 828282 Web: www.harborough.gov.uk Address: Council Offices, Adam and Eve Street, Market Harborough, Leicestershire. I F16 7AG Gemapping PLC

> Virginia Villas, High Street, Hartley Witney, Hampshire RG27 8NW Tel: 01252 845444



British Geological Survey











Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, English Nature who retain the Copyright and Intellectual Property Rights for the data. PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

#### **Standard Terms and Conditions**

#### **1** Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

**"Confidential Information"** means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

**"Support Services"** means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

**"GroundSure Materials**" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

**"Ordnance Survey"** means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

**"Risk Screening Report"** means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

**"Third Party Content"** means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

# 2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions

implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

#### 3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

#### 4 Reliance

(iv)

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

the first purchaser or first tenant of the Site, and

 $(\mathsf{v})$  the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

#### **5** Fees and Disbursements

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

#### 6 Intellectual Property and Confidentiality

6.1 Subject to

#### (i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### 7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

 (i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

 $(\mbox{ii})$  any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death

or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

| (i)   | loss of profits;                             |
|-------|--|
| (ii)  | loss of business;                            |
| (iii) | depletion of goodwill and/or similar losses; |
| (iv)  | loss of anticipated savings;                 |
| (v)   | loss of goods;                               |
| (vi)  | loss of contract;                            |

- (vii) loss of use:
- (viii) loss or corruption of data or information;
- (ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to  $\pm 10$  million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

#### 8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### 9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

- the Reports and/or Mapping provided under this Contract are
- (a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

#### 10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(ii)

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

#### GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

#### 11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anticorruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### 12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

- (viii) changes in law; or
- (ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English

law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © GroundSure Limited June 2013



Delta-Simons 3 Henley Office Park, Doddington Road, LINCOLN, LN6 3QR Report Date Report Delivery Method: GroundSure Reference: GS-1673447 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH LE17 4JH Report Delivery Method:

# **GroundSure Geoinsight**

Address: 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH, LE17 4JH

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure GeoInsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,

, O

Managing Director Groundsure Limited

Enc. GroundSure GeoInsight



# GroundSure GeoInsight

| Address:   | 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH, LE17 4JH |
|------------|---|
| Date:      | 22 Sep 2014                                       |
| Reference: | GS-1673447  |
| Client:    | Delta-Simons                                      |

Ν

NW

NE



SW

Aerial Photograph Capture date:03-Jun-2010Grid Reference:450107,285938Site Size:222.54ha

S

SE

### **Contents Page**

| Overview of Findings  | 5  |
|---|----|
| 1 Geology   | 8  |
| 1.1 Artificial Ground Map   | 8  |
| 1 Geology   |    |
| 1.1 Artificial Ground   |    |
| 1.1.1Artificial/ Made Ground  |    |
| 1.1.2 Permeability of Artificial Ground   |    |
| 1.2 Superficial Deposits and Landslips Map  |    |
| 1.2 Superficial Deposits and Landslips  |    |
| 1.2.1 Superficial Deposits/ Drift Geology<br>1.2.2 Permeability of Superficial Ground |    |
| 1.2.3 Landslip  |    |
| 1.2.4 Landslip Permeability   |    |
| 1.3 Bedrock and Faults Map  |    |
| 1.3 Bedrock, Solid Geology & Faults   | 14 |
| 1.3.1 Bedrock/ Solid Geology  |    |
| 1.3.2 Permeability of Bedrock Ground<br>1.3.3 Faults                                  |    |
| 1.4 Radon Data  |    |
| 1.4.1 Radon Affected Areas  |    |
| 1.4.2 Radon Protection  |    |
| 2 Ground Workings Map   | 16 |
| 2 Ground Workings   |    |
| 2.1 Historical Surface Ground Working Features derived from Historical Mapping        |    |
| 2.2 Historical Underground Working Features derived from Historical Mapping           |    |
| 2.3 Current Ground Workings   |    |
| 3 Mining, Extraction & Natural Cavities Map   |    |
| 3 Mining, Extraction & Natural Cavities   |    |
| 3.1 Historical Mining   |    |
| 3.2 Coal Mining   |    |
| 3.3 Johnson Poole and Bloomer   |    |
| 3.4 Non-Coal Mining   |    |
| 3.5 Non-Coal Mining Cavities  | 21 |
| 3.6 Natural Cavities  |    |
| 3.7 Brine Extraction  |    |
| 3.8 Gypsum Extraction   |    |
| 3.9 Tin Mining  |    |
| 3.10 Clay Mining  |    |
| 4 Natural Ground Subsidence   |    |
| 4.1 Shrink-Swell Clay Map   |    |
| 4.2 Landslides Map  | 24 |
| 4.3 Ground Dissolution Soluble Rocks Map  |    |
| 4.4 Compressible Deposits Map   |    |
| 4.5 Collapsible Deposits Map  |    |
| 4.6 Running Sand Map  |    |
| 4 Natural Ground Subsidence   |    |
| 4.1 Shrink-Swell Clays  |    |
| 4.2 Landslides  |    |
| 4.3 Ground Dissolution of Soluble Rocks   |    |
| 4.4 Compressible Deposits   |    |
| 4.5 Collapsible Deposits  |    |
| 4.6 Running Sands   |    |
| 5 Borehole Records Map  |    |
| 5 Borehole Records  |    |
|   |    |



| 6 Estimated Background Soil Chemistry      | 38 |
|--|----|
| 7 Railways and Tunnels Map                 | 40 |
| 7 Railways and Tunnels                     |    |
| 7.1 Tunnels                                |    |
| 7.2 Historical Railway and Tunnel Features | 41 |
| 7.3 Historical Railways                    | 41 |
| 7.4 Active Railways                        | 42 |
| 7.5 Railway Projects                       | 42 |



### **Overview of Findings**

The GroundSure GeoInsight provides high quality geo-environmental information that allows geoenvironmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and GroundSure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

| Section 1:Geology                        |   |                  |            |  |                |              |
|--|---|------------------|------------|--|----------------|--------------|
| 1.1 Artificial Ground                    | 1.1.1 Is there any Artificial Ground/ Made the study site?  | Ground presen    | it beneath | Yes  |                |              |
|  | 1.1.2 Are there any records relating to per<br>ground within the study site* boundary?  | meability of art | ificial    | Yes  |                |              |
| 1.2 Superficial<br>Geology and Landslips | 1.2.1 Is there any Superficial Ground/Drift beneath the study site?   | Geology prese    | ent        | Yes  |                |              |
|  | 1.2.2 Are there any records relating to per geology within the study site boundary?   | Yes              |            |  |                |              |
|  | 1.2.3 Are there any records of landslip with site boundary?   | No               |            |  |                |              |
|  | 1.2.4 Are there any records relating to per within the study site boundary?   | ndslips          | No         |  |                |              |
| 1.3 Bedrock, Solid<br>Geology & Faults   | 1.3.1 For records of Bedrock and Solid Geo<br>site* see the detailed findings section.  | he study         |            |  |                |              |
|  | 1.3.2 Are there any records relating to per within the study site boundary?   | meability of be  | drock      | Yes  |                |              |
|  | 1.3.3 Are there any records of faults withir boundary?  | n 500m of the s  | tudy site  | No   |                |              |
| 1.4 Radon data                           | 1.4.1 Is the property in a Radon Affected A<br>Health Protection Agency (HPA) and if so v<br>homes are above the Action Level?                            |                  |            | The property is not in a Radon Affected<br>Area, as less than 1% of properties are<br>above the Action Level |                |              |
|  | 1.4.2 Is the property in an area where Rado<br>are required for new properties or extensi<br>described in publication BR211 by the Buil<br>Establishment? | ons to existing  |            | No radon prot<br>necessary   | ective measure | es are       |
| Section 2:Ground W                       | /orkings  | On-site          | 0-50m      | 51-250   | 251-500        | 501-1000     |
| 2.1 Historical Surface Gr<br>Mapping     | ound Working Features from Small Scale  | 12               | 3          | 5  | Not Searched   | Not Searched |
| 2.2 Historical Undergrou                 | ind Workings from Small Scale Mapping   | 0                | 0          | 0  | 0              | 0            |
| 2.3 Current Ground Wor                   | kings   | 0                | 0          | 0  | 0              | 0            |
| Section 3:Mining, Ex                     | traction & Natural Cavities   | On-site          | 0-50m      | 51-250   | 251-500        | 501-1000     |
| 3.1 Historical Mining                    |   | 0                | 0          | 0  | 0              | 0            |



| Section 3:Mining, Extraction & Natural Cavities | On-site | 0-50m | 51-250 | 251-500      | 501-1000 |
|---|---------|-------|--------|--------------|----------|
| 3.2 Coal Mining                                 | 0       | 0     | 0      | 0            | 0        |
| 3.3 Johnson Poole and Bloomer Mining Area       | 0       | 0     | 0      | 0            | 0        |
| 3.4 Non-Coal Mining                             | 0       | 0     | 0      | 0            | 0        |
| 3.5 Non-Coal Mining Cavities                    | 0       | 0     | 0      | 0            | 0        |
| 3.6 Natural Cavities                            | 0       | 0     | 0      | 0            | 0        |
| 3.7 Brine Extraction                            | 0       | 0     | 0      | 0            | 0        |
| 3.8 Gypsum Extraction                           | 0       | 0     | 0      | 0            | 0        |
| 3.9 Tin Mining                                  | 0       | 0     | 0      | 0            | 0        |
| 3.10 Clay Mining                                | 0       | 0     | 0      | 0            | 0        |
| Section 4:Natural Ground Subsidence             | On-si   | te    |        |              |          |
| 4.1 Shrink Swell Clay                           | Low     |       |        |              |          |
| 4.2 Landslides                                  | Low     |       |        |              |          |
| 4.3 Ground Dissolution of Soluble Rocks         | Negligi | ble   |        |              |          |
| 4.4 Compressible Deposits                       | High    | 1     |        |              |          |
| 4.5 Collapsible Deposits                        | Very L  | W     |        |              |          |
| 4.6 Running Sand                                | Low     |       |        |              |          |
| Section 5:Borehole Records                      | On-site | 0-50m | 51-250 |              |          |
| 5 BGS Recorded Boreholes                        | 1       | 0     | 10     |              |          |
| Section 6:Estimated Background Soil Chemistry   | On-site | 0-50m | 51-250 |              |          |
| 6 Records of Background Soil Chemistry          | 48      | 2     | 17     |              |          |
| Section 7:Railways and Tunnels                  | On-site | 0-50m | 51-250 | 251-500      |          |
| 7.1 Tunnels                                     | 0       | 0     | 0      | Not Searched |          |
| 7.2 Historical Railway and Tunnel Features      | 0       | 0     | 0      | Not Searched |          |
| 7.3 Historical Railways                         | 2       | 0     | 0      | Not Searched |          |
| 7.4 Active Railways                             | 0       | 0     | 0      | Not Searched |          |

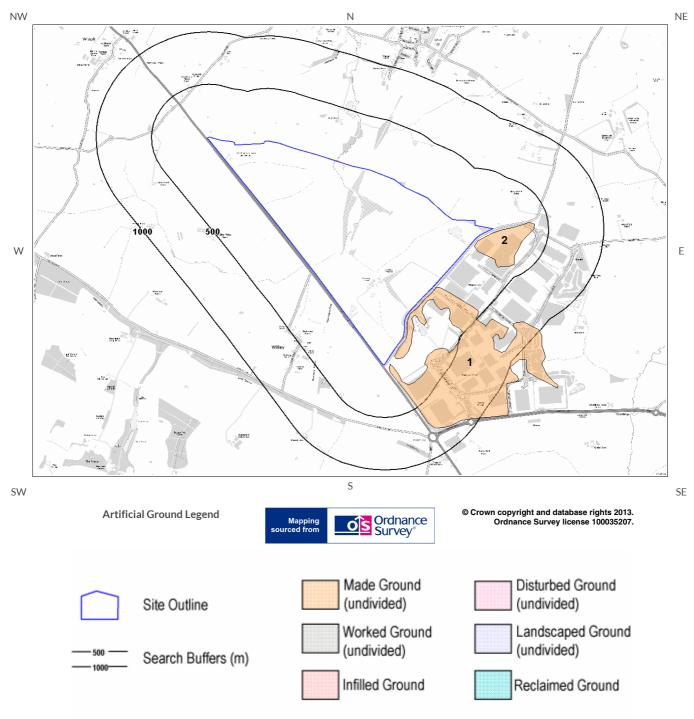
Report Reference: GS-1673447 Client Reference: 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH LE17 4JH



| Section 7:Railways and Tunnels | On-site | 0-50m | 51-250 | 251-500 |  |
|--------------------------------|---------|-------|--------|---------|--|
| 7.5 Railway Projects           | 0       | 0     | 0      | 0       |  |



# 1 Geology 1.1 Artificial Ground Map





# 1 Geology 1.1 Artificial Ground

1.1.1Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:169

Are there any records of Artificial/Made Ground within 500m of the study site boundary?

Yes

| ID | Distance<br>(m) | Direction | LEX Code | Description             | Rock Description   |
|----|-----------------|-----------|----------|-------------------------|--------------------|
| 1  | 12.0            | SE        | MGR-MGRD | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |
| 2  | 25.0            | SE        | MGR-MGRD | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |

### 1.1.2 Permeability of Artificial Ground

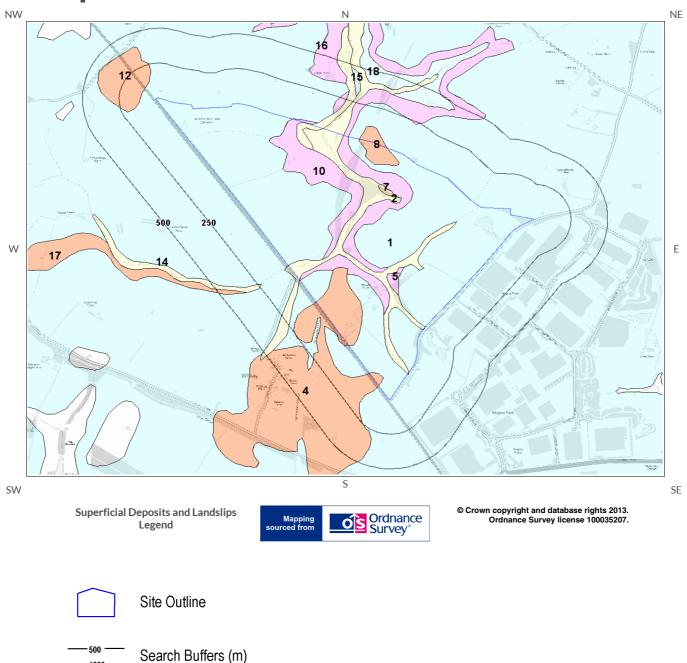
Are there any records relating to permeability of artificial ground within the study site boundary?

Yes

| Distance<br>(m) | Direction | Flow Type     | Maximum Permeability | Minimum Permeability |
|-----------------|-----------|---------------|----------------------|----------------------|
| 12.0            | SE        | Intergranular | Very High            | Very Low             |
| 21.0            | SE        | Intergranular | Very High            | Very Low             |
| 25.0            | SE        | Intergranular | Very High            | Very Low             |
| 34.0            | SE        | Intergranular | Very High            | Very Low             |



### 1.2 Superficial Deposits and Landslips Map



1000



### **1.2 Superficial Deposits and Landslips**

### 1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

| ID  | Distance<br>(m) | Direction | LEX Code  | Description             | Rock Description               |
|-----|-----------------|-----------|-----------|-------------------------|--------------------------------|
| 1   | 0.0             | On Site   | ODT-DMTN  | OADBY MEMBER            | DIAMICTON                      |
| 2   | 0.0             | On Site   | ALV-CSSG  | ALLUVIUM                | CLAY, SILT, SAND ANE<br>GRAVEL |
| 3   | 0.0             | On Site   | ODT-DMTN  | OADBY MEMBER            | DIAMICTON                      |
| 4   | 0.0             | On Site   | DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL                |
| 5   | 0.0             | On Site   | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 6   | 0.0             | On Site   | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 7   | 0.0             | On Site   | PEAT-P    | PEAT                    | PEAT                           |
| 8   | 0.0             | On Site   | DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL                |
| 9A  | 0.0             | On Site   | WOC-CLSI  | WOLSTON CLAY            | CLAY AND SILT                  |
| 10  | 0.0             | On Site   | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 11  | 0.0             | On Site   | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 12  | 105.0           | NW        | DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL                |
| 13A | 123.0           | N         | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 14  | 229.0           | SW        | ALV-CSSG  | ALLUVIUM                | CLAY, SILT, SAND AN<br>GRAVEL  |
| 15  | 293.0           | Ν         | THT-DMTN  | THRUSSINGTON MEMBER     | DIAMICTON                      |
| 16  | 337.0           | Ν         | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 17  | 344.0           | SW        | DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL                |
| 18  | 369.0           | N         | THT-DMTN  | THRUSSINGTON MEMBER     | DIAMICTON                      |

### 1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

| Distance (m) | Direction | Flow Type     | Maximum Permeability | Minimum Permeability |
|--------------|-----------|---------------|----------------------|----------------------|
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | High                 | Very Low             |
| 0.0          | On Site   | Mixed         | Low                  | Very Low             |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Low                  | Very Low             |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | High                 | Very Low             |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |



| Distance (m) | Direction | Flow Type     | Maximum Permeability | Minimum Permeability |
|--------------|-----------|---------------|----------------------|----------------------|
| 0.0          | On Site   | Intergranular | High                 | Very Low             |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 0.0          | On Site   | Intergranular | High                 | Very Low             |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 23.0         | SW        | Mixed         | Moderate             | Low                  |

### 1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary?

No

#### Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

#### 1.2.4 Landslip Permeability

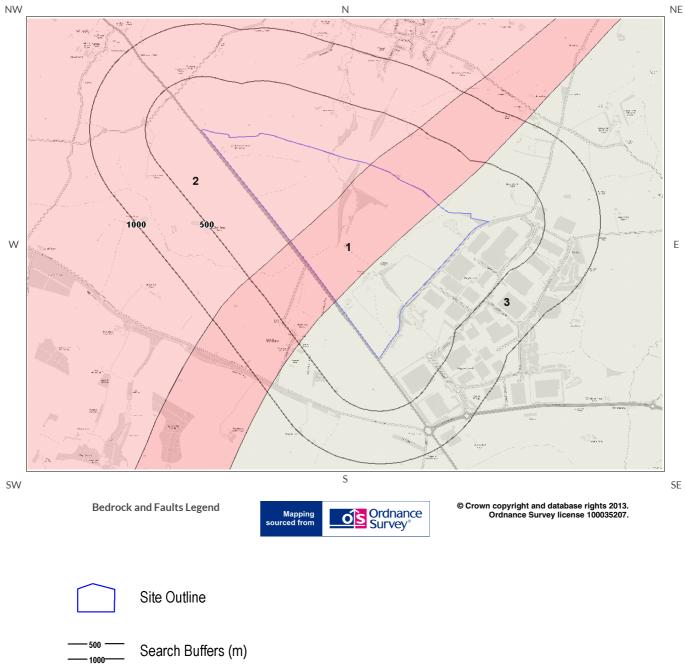
Are there any records relating to permeability of landslips within the study site<sup>\*\*</sup> boundary?

No

<sup>\*</sup> This includes an automatically generated 50m buffer zone around the site



### **1.3 Bedrock and Faults Map**





## 1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:169

#### 1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

| ID | Distance (m) | Direction | LEX Code | Description  | Rock Age              |
|----|--------------|-----------|----------|--|-----------------------|
| 1  | 0.0          | On Site   | PNG-MDST | Penarth Group - Mudstone                                     | Rhaetian              |
| 2  | 0.0          | On Site   | MMG-MDST | Mercia Mudstone Group - Mudstone                             | Rhaetian / Scythian   |
| 3  | 0.0          | On Site   | BLI-MDLM | Blue Lias Formation - Mudstone And Limestone,<br>Interbedded | Sinemurian / Rhaetian |

#### 1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site<sup>\*</sup> boundary? Yes

| Distance (m) | Direction | Flow Type | Maximum Permeability | Minimum Permeability |
|--------------|-----------|-----------|----------------------|----------------------|
| 0.0          | On Site   | Fracture  | High                 | Low                  |
| 0.0          | On Site   | Fracture  | High                 | Low                  |
| 0.0          | On Site   | Fracture  | Low                  | Low                  |
| 0.0          | On Site   | Fracture  | High                 | Low                  |
| 0.0          | On Site   | Fracture  | Low                  | Low                  |
| 0.0          | On Site   | Fracture  | Low                  | Low                  |
| 0.0          | On Site   | Fracture  | Low                  | Low                  |

#### 1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary?

No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

<sup>\*</sup> This includes an automatically generated 50m buffer zone around the site



## 1.4 Radon Data

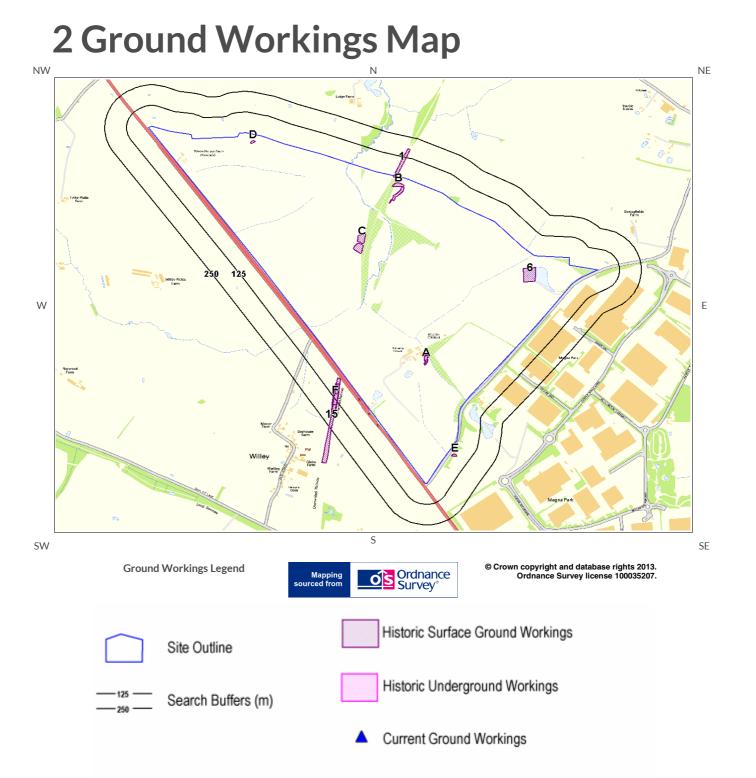
### 1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

### 1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary









#### 2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on GroundSure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

The following Historical Surface Ground Working Features are provided by GroundSure:

| ID  | Distance (m) | Direction | NGR              | Use                         | Date |
|-----|--------------|-----------|------------------|-----------------------------|------|
| 1   | 0.0          | On Site   | 450231<br>286568 | Cuttings                    | 1886 |
| 2A  | 0.0          | On Site   | 450373<br>285371 | Pond                        | 1950 |
| 3D  | 0.0          | On Site   | 449378<br>286697 | Unspecified Pit             | 1886 |
| 4A  | 0.0          | On Site   | 450373<br>285377 | Pond                        | 1904 |
| 5B  | 0.0          | On Site   | 450212<br>286439 | Unspecified Pit             | 1886 |
| 6   | 0.0          | On Site   | 450966<br>285891 | Sewage Farm                 | 1950 |
| 7A  | 0.0          | On Site   | 450373<br>285377 | Pond                        | 1886 |
| 8A  | 0.0          | On Site   | 450373<br>285371 | Pond                        | 1968 |
| 9B  | 0.0          | On Site   | 450203<br>286375 | Unspecified Ground Workings | 1886 |
| 10C | 0.0          | On Site   | 450002<br>286115 | Unspecified Pit             | 1886 |
| 11C | 0.0          | On Site   | 449982<br>286052 | Unspecified Pit             | 1886 |
| 12D | 0.0          | On Site   | 449378<br>286697 | Unspecified Pit             | 1886 |
| 13E | 26.0         | SE        | 450532<br>284796 | Unspecified Pit             | 1976 |
| 14E | 26.0         | SE        | 450532<br>284796 | Unspecified Pit             | 1968 |
| 15  | 28.0         | SW        | 449827<br>285006 | Cuttings                    | 1886 |
| 16F | 53.0         | SW        | 449851<br>285146 | Cuttings                    | 1904 |
| 17F | 56.0         | SW        | 449855<br>285144 | Cuttings                    | 1950 |
| 18F | 91.0         | SW        | 449850<br>285137 | Cuttings                    | 1986 |
| 19F | 91.0         | SW        | 449850<br>285137 | Cuttings                    | 1967 |
| 20F | 91.0         | SW        | 449850<br>285137 | Cuttings                    | 1990 |



#### 2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the GroundSure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

#### 2.3 Current Ground Workings

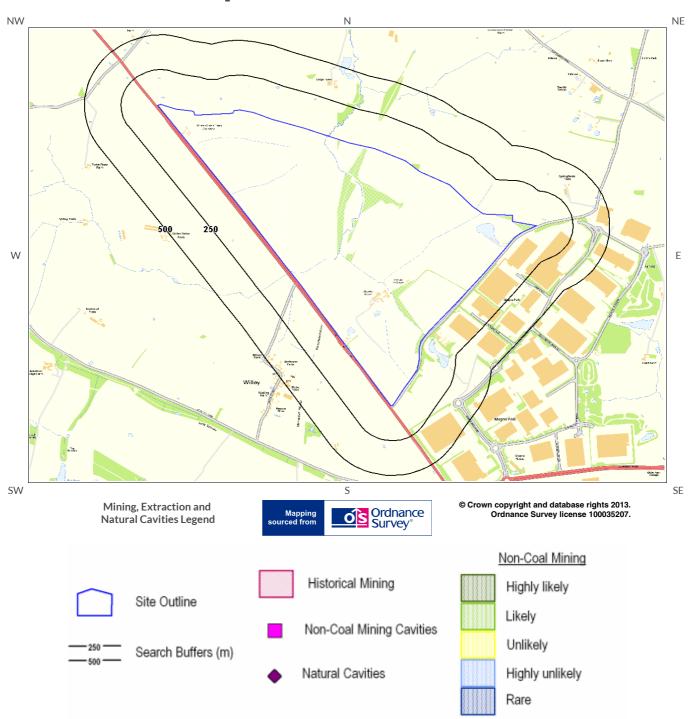
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary?

No



### 3 Mining, Extraction & Natural Cavities Map





### 3 Mining, Extraction & Natural Cavities

### 3.1 Historical Mining

This dataset is derived from GroundSure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

#### 3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

#### 3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary?

No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

#### 3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary?

No



### 3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

| Are there any Non-Coal Mining cavities within 1000m of the study site boundary?  | No    |
|--|-------|
| Database searched and no data found.   |       |
| 3.6 Natural Cavities   |       |
| This dataset provides information based on Peter Brett Associates natural cavities database.   |       |
| Are there any Natural Cavities within 1000m of the study site boundary?  | No    |
| Database searched and no data found.   |       |
| 3.7 Brine Extraction   |       |
| This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subside Compensation Board.                                    | nce   |
| Are there any Brine Extraction areas within 1000m of the study site boundary?  | No    |
| Database searched and no data found.   |       |
| 3.8 Gypsum Extraction  |       |
| This dataset provides information on Gypsum extraction from British Gypsum records.  |       |
| Are there any Gypsum Extraction areas within 1000m of the study site boundary?   | No    |
| Database searched and no data found.   |       |
| 3.9 Tin Mining   |       |
| This dataset provides information on tin mining areas and is derived from tin mining records. This searce based upon postcode information to a sector level. | :h is |
| Are there any Tin Mining areas within 1000m of the study site boundary?  | No    |



No

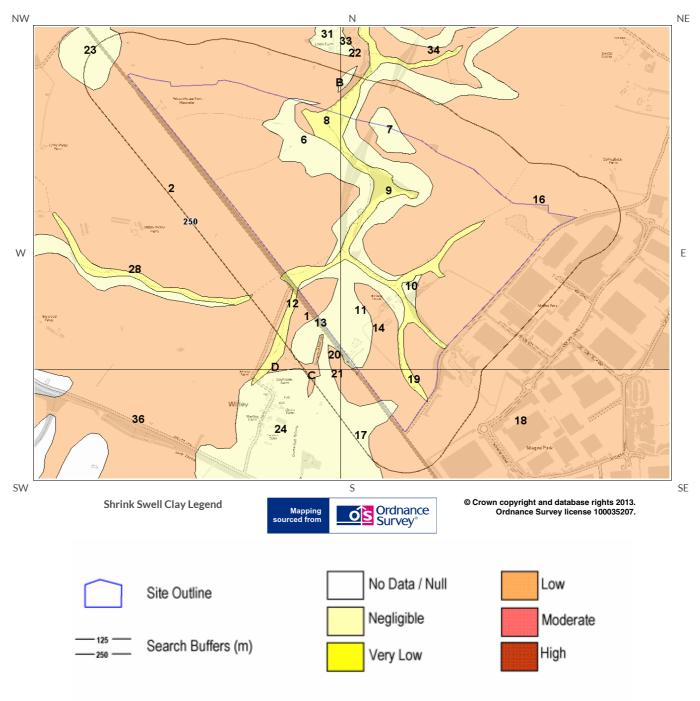
### 3.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary?

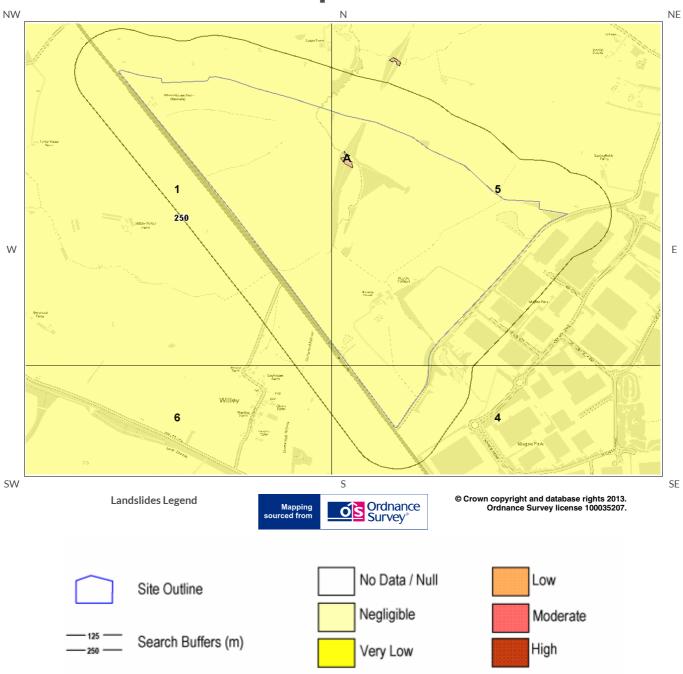


## 4 Natural Ground Subsidence 4.1 Shrink-Swell Clay Map



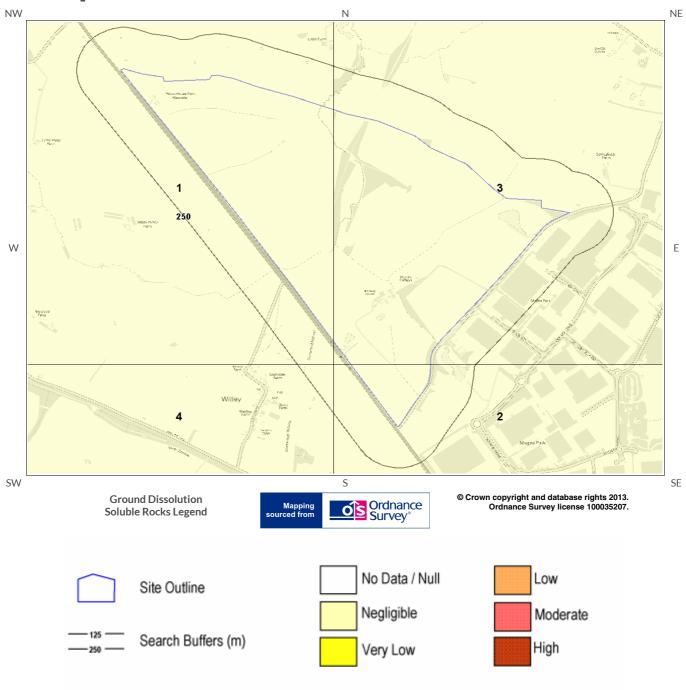


### 4.2 Landslides Map



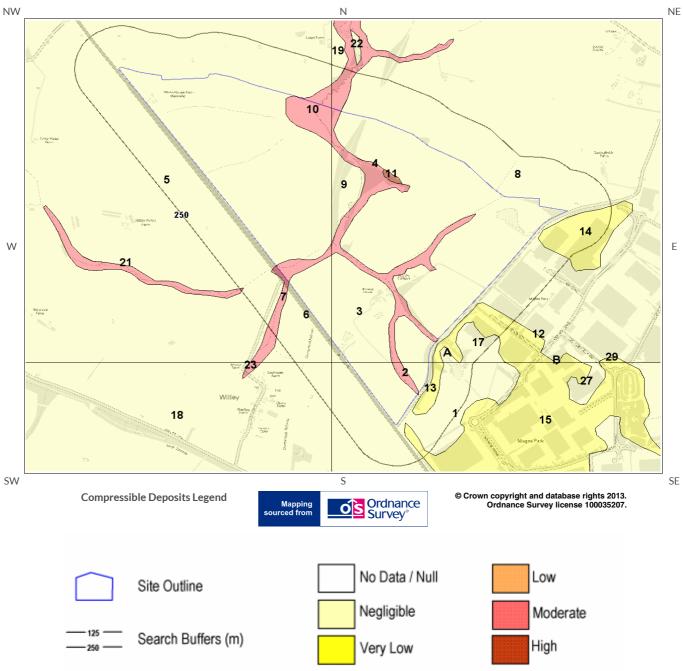


### 4.3 Ground Dissolution Soluble Rocks Map



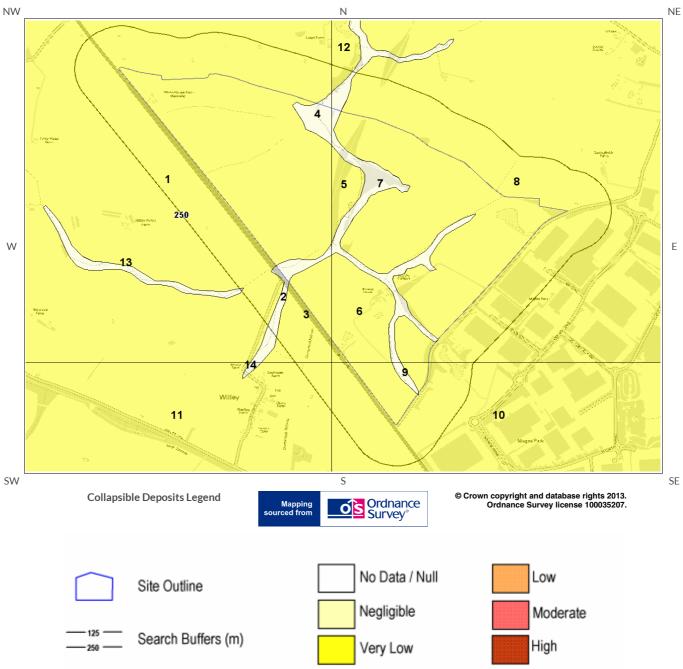


## 4.4 Compressible Deposits Map





### 4.5 Collapsible Deposits Map





### 4.6 Running Sand Map NW Ν NE 14316 4 8 6 9 2 250 W Е 15 Reals Inter 10 12 11 SW S SE © Crown copyright and database rights 2013. Ordnance Survey license 100035207. **Running Sand Legend** Ordnance Survey® Mapping sourced from No Data / Null Low Site Outline Negligible Moderate 125 Search Buffers (m) High Very Low 250





The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site<sup>\*\*</sup> boundary?

High

#### 4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

| ID | Distance (m) | Direction | Hazard Rating | Details  |
|----|--------------|-----------|---------------|--|
| 1  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 2  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 3  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 4  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 5A | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 6  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 7  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 8  | 0.0          | On Site   | Very Low      | Ground conditions predominantly low plasticity. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with shrink-swell clays.  |
| 9  | 0.0          | On Site   | Very Low      | Ground conditions predominantly low plasticity. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with shrink-swell clays.  |

\* This includes an automatically generated 50m buffer zone around the site



| ID  | Distance (m) | Direction | Hazard Rating | Details  |
|-----|--------------|-----------|---------------|--|
| 10  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.   |
| 11  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.   |
| 12  | 0.0          | On Site   | Very Low      | Ground conditions predominantly low plasticity. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with shrink-swell clays.  |
| 13  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.   |
| 14  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 15A | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 16  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 17  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.   |
| 18  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 19  | 0.0          | On Site   | Very Low      | Ground conditions predominantly low plasticity. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with shrink-swell clays.  |
| 20  | 23.0         | SW        | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |



### 4.2 Landslides

The following Landslides information provided by the British Geological Survey:

| ID | Distance (m) | Direction | Hazard Rating | Details  |  |  |
|----|--------------|-----------|---------------|--|--|--|
| 1  | 0.0          | On Site   | Very Low      | Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potentia problems with landslides.   |  |  |
| 2A | 0.0          | On Site   | Low           | Possibility of slope instability problems after major changes in ground conditions.<br>Consideration should be given to stability if changes to drainage or excavations take<br>place. Possible increase in construction cost to reduce potential slope stability<br>problems. Existing property - no significant increase in insurance risk due to natural<br>slope instability problems. |  |  |
| ЗA | 0.0          | On Site   | Low           | Possibility of slope instability problems after major changes in ground conditions.<br>Consideration should be given to stability if changes to drainage or excavations take<br>place. Possible increase in construction cost to reduce potential slope stability<br>problems. Existing property - no significant increase in insurance risk due to natural<br>slope instability problems. |  |  |
| 4  | 0.0          | On Site   | Very Low      | Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.  |  |  |
| 5  | 0.0          | On Site   | Very Low      | Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potentia problems with landslides.   |  |  |

### 4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

| ID | Distance<br>(m) | Direction | Hazard Rating | Details   |
|----|-----------------|-----------|---------------|---|
| 1  | 0.0             | On Site   | Negligible    | Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks. |
| 2  | 0.0             | On Site   | Negligible    | Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks. |
| 3  | 0.0             | On Site   | Negligible    | Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks. |

### 4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

| ID | Distance<br>(m) | Direction | Hazard Rating | Details  |
|----|-----------------|-----------|---------------|--|
| 1  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits. |



| ID | Distance<br>(m) | Direction | Hazard Rating | Details   |
|----|-----------------|-----------|---------------|---|
| 2  | 0.0             | On Site   | Moderate      | Significant potential for compressibility problems. Avoid large differential loadings of<br>ground. Do not drain or de-water ground near the property without technical advice.<br>For new build - consider possibility of compressible ground in ground investigation,<br>construction and building design. Consider effects of groundwater changes. Extra<br>construction costs are likely. For existing property - possible increase in insurance risk<br>from compressibility, especially if water conditions or loading of the ground change<br>significantly.                   |
| 3  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.   |
| 4  | 0.0             | On Site   | Moderate      | Significant potential for compressibility problems. Avoid large differential loadings of<br>ground. Do not drain or de-water ground near the property without technical advice.<br>For new build - consider possibility of compressible ground in ground investigation,<br>construction and building design. Consider effects of groundwater changes. Extra<br>construction costs are likely. For existing property - possible increase in insurance risk<br>from compressibility, especially if water conditions or loading of the ground change<br>significantly.                   |
| 5  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.   |
| 6  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.   |
| 7  | 0.0             | On Site   | Moderate      | Significant potential for compressibility problems. Avoid large differential loadings of<br>ground. Do not drain or de-water ground near the property without technical advice.<br>For new build - consider possibility of compressible ground in ground investigation,<br>construction and building design. Consider effects of groundwater changes. Extra<br>construction costs are likely. For existing property - possible increase in insurance risk<br>from compressibility, especially if water conditions or loading of the ground change<br>significantly.                   |
| 8  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.   |
| 9  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.  |
| 10 | 0.0             | On Site   | Moderate      | Significant potential for compressibility problems. Avoid large differential loadings of<br>ground. Do not drain or de-water ground near the property without technical advice.<br>For new build - consider possibility of compressible ground in ground investigation,<br>construction and building design. Consider effects of groundwater changes. Extra<br>construction costs are likely. For existing property - possible increase in insurance risk<br>from compressibility, especially if water conditions or loading of the ground change<br>significantly.                   |
| 11 | 0.0             | On Site   | High          | Very significant potential for compressibility problems. Avoid large differential<br>loadings of ground. Do not drain or de-water ground near the property without<br>technical advice. For new build - consider possibility of compressible ground in ground<br>investigation, construction and building design. Consider effects of groundwater<br>changes. Construction may not be possible at economic cost. For existing property -<br>probable increase in insurance risk from compressibility especially if water conditions<br>or loading of the ground change significantly. |
| 12 | 12.0            | SE        | Very Low      | Very low potential for compressible deposits to be present. No special actions required<br>to avoid problems due to compressible deposits. No special ground investigation<br>required, and increased construction costs or increased financial risks are unlikely due<br>to potential problems with compressible deposits.   |
| 13 | 21.0            | SE        | Very Low      | Very low potential for compressible deposits to be present. No special actions required<br>to avoid problems due to compressible deposits. No special ground investigation<br>required, and increased construction costs or increased financial risks are unlikely due<br>to potential problems with compressible deposits.   |



| ID  | Distance<br>(m) | Direction | Hazard Rating | Details   |
|-----|-----------------|-----------|---------------|---|
| 14  | 25.0            | SE        | Very Low      | Very low potential for compressible deposits to be present. No special actions required<br>to avoid problems due to compressible deposits. No special ground investigation<br>required, and increased construction costs or increased financial risks are unlikely due<br>to potential problems with compressible deposits. |
| 15  | 34.0            | SE        | Very Low      | Very low potential for compressible deposits to be present. No special actions required<br>to avoid problems due to compressible deposits. No special ground investigation<br>required, and increased construction costs or increased financial risks are unlikely due<br>to potential problems with compressible deposits. |
| 16A | 49.0            | SE        | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.         |

### 4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

| ID | ID Distance<br>(m) Direction |         | Hazard Rating | Details   |  |  |
|----|------------------------------|---------|---------------|---|--|--|
| 1  | 0.0                          | On Site | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |  |  |
| 2  | 0.0                          | On Site | Negligible    | No indicators for collapsible deposits identified. No actions required to avoid problems<br>due to collapsible deposits. No special ground investigation required, or increased<br>construction costs or increased financial risk due to potential problems with<br>collapsible deposits. |  |  |
| 3  | 0.0                          | On Site | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |  |  |
| 4  | 0.0                          | On Site | Negligible    | No indicators for collapsible deposits identified. No actions required to avoid problems<br>due to collapsible deposits. No special ground investigation required, or increased<br>construction costs or increased financial risk due to potential problems with<br>collapsible deposits. |  |  |
| 5  | 0.0                          | On Site | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |  |  |
| 6  | 0.0                          | On Site | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |  |  |
| 7  | 0.0                          | On Site | Negligible    | No indicators for collapsible deposits identified. No actions required to avoid problems<br>due to collapsible deposits. No special ground investigation required, or increased<br>construction costs or increased financial risk due to potential problems with<br>collapsible deposits. |  |  |
| 8  | 0.0                          | On Site | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |  |  |
| 9  | 0.0                          | On Site | Negligible    | No indicators for collapsible deposits identified. No actions required to avoid problems<br>due to collapsible deposits. No special ground investigation required, or increased<br>construction costs or increased financial risk due to potential problems with<br>collapsible deposits. |  |  |
| 10 | 0.0                          | On Site | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |  |  |



### 4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

| ID | Distance<br>(m) | Direction | Hazard Rating | Details   |
|----|-----------------|-----------|---------------|---|
| 1  | 0.0             | On Site   | Low           | Possibility of running sand problems after major changes in ground conditions. Normal<br>maintenance to avoid leakage of water-bearing services or water bodies (ponds,<br>swimming pools) should reduce likelihood of problems due to running sand. For new<br>build - consider possibility of running sand into trenches or excavations if water table is<br>high or sandy strata are exposed to water. Avoid concentrated water inputs to site.<br>Unlikely to be an increase in construction costs due to potential for running sand. For<br>existing property - no significant increase in insurance risk due to running sand<br>problems is likely. |
| 2  | 0.0             | On Site   | Low           | Possibility of running sand problems after major changes in ground conditions. Normal<br>maintenance to avoid leakage of water-bearing services or water bodies (ponds,<br>swimming pools) should reduce likelihood of problems due to running sand. For new<br>build - consider possibility of running sand into trenches or excavations if water table is<br>high or sandy strata are exposed to water. Avoid concentrated water inputs to site.<br>Unlikely to be an increase in construction costs due to potential for running sand. For<br>existing property - no significant increase in insurance risk due to running sand<br>problems is likely. |
| 3  | 0.0             | On Site   | Low           | Possibility of running sand problems after major changes in ground conditions. Normal<br>maintenance to avoid leakage of water-bearing services or water bodies (ponds,<br>swimming pools) should reduce likelihood of problems due to running sand. For new<br>build - consider possibility of running sand into trenches or excavations if water table is<br>high or sandy strata are exposed to water. Avoid concentrated water inputs to site.<br>Unlikely to be an increase in construction costs due to potential for running sand. For<br>existing property - no significant increase in insurance risk due to running sand<br>problems is likely. |
| 4  | 0.0             | On Site   | Low           | Possibility of running sand problems after major changes in ground conditions. Normal<br>maintenance to avoid leakage of water-bearing services or water bodies (ponds,<br>swimming pools) should reduce likelihood of problems due to running sand. For new<br>build - consider possibility of running sand into trenches or excavations if water table is<br>high or sandy strata are exposed to water. Avoid concentrated water inputs to site.<br>Unlikely to be an increase in construction costs due to potential for running sand. For<br>existing property - no significant increase in insurance risk due to running sand<br>problems is likely. |
| 5  | 0.0             | On Site   | Negligible    | No indicators for running sand identified. No special actions required to avoid<br>problems due to running sand. No special ground investigation required, and increased<br>construction costs or increased financial risks are unlikely due to potential problems<br>with running sand.  |
| 6  | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are<br>exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or<br>increased financial risks are unlikely due to potential problems with running sand.   |
| 7  | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.   |
| 8  | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are<br>exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or<br>increased financial risks are unlikely due to potential problems with running sand.   |
| 9  | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are<br>exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or<br>increased financial risks are unlikely due to potential problems with running sand.   |
| 10 | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.  |
| 11 | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are<br>exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or<br>increased financial risks are unlikely due to potential problems with running sand.   |











The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

11

| ID | Distance<br>(m) | Direction | NGR              | BGS Reference | Drilled Length | Borehole Name              |
|----|-----------------|-----------|------------------|---------------|----------------|----------------------------|
| 1  | 0.0             | On Site   | 449935<br>286227 | SP48NE21      | 31.5           | BITTESBY BBH1              |
| 2  | 74.0            | SE        | 450500<br>284680 | SP58SW63      | 15.0           | LUTTERWORTH BH3            |
| 3  | 75.0            | SE        | 451040<br>285510 | SP58NW28      | 15.0           | LUTTERWORTH 2              |
| 4  | 82.0            | SW        | 450000<br>285000 | SP58NW54      | 16.76          | BITTESWELL,<br>LUTTERWORTH |
| 5  | 85.0            | SE        | 450680<br>285090 | SP58NW27      | 15.0           | LUTTERWORTH 1              |
| 6  | 114.0           | SE        | 451190<br>285630 | SP58NW29      | 15.0           | LUTTERWORTH 4              |
| 7  | 141.0           | E         | 451490<br>285870 | SP58NW32      | 15.0           | LUTTERWORTH 9              |
| 8  | 145.0           | SE        | 450660<br>284790 | SP58SW65      | 15.0           | LUTTERWORTH BH7            |
| 9  | 154.0           | SE        | 450500<br>284530 | SP58SW64      | 15.0           | LUTTERWORTH BH5            |
| 10 | 210.0           | SE        | 450820<br>285060 | SP58NW30      | 15.0           | LUTTERWORTH 6              |
| 11 | 214.0           | SE        | 451120<br>285390 | SP58NW31      | 30.0           | LUTTERWORTH 8              |

Additional online information is available for the following boreholes listed above:

#1: scans.bgs.ac.uk/sobi\_scans/boreholes/333520
#2: scans.bgs.ac.uk/sobi scans/boreholes/339279

- #3: scans.bgs.ac.uk/sobi\_scans/boreholes/339172
- #4: scans.bgs.ac.uk/sobi\_scans/boreholes/12951314
- #5: scans.bgs.ac.uk/sobi\_scans/boreholes/339171
- #6: scans.bgs.ac.uk/sobi\_scans/boreholes/339173
- #7: scans.bgs.ac.uk/sobi\_scans/boreholes/339176
- #8: scans.bgs.ac.uk/sobi\_scans/boreholes/339281
- #9: scans.bgs.ac.uk/sobi\_scans/boreholes/339280
- #10: scans.bgs.ac.uk/sobi\_scans/boreholes/339174
- #11: scans.bgs.ac.uk/sobi\_scans/boreholes/339175



## 6 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

67

For further information on how this data is calculated and limitations upon its use, please see the GroundSure GeoInsight User Guide, available on request.

| Distance (m) | Direction | Sample Type | Arsenic (As)  | Cadmium (Cd) | Chromium (Cr) | Nickel (Ni)   | Lead (Pb) |
|--------------|-----------|-------------|---------------|--------------|---------------|---------------|-----------|
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |

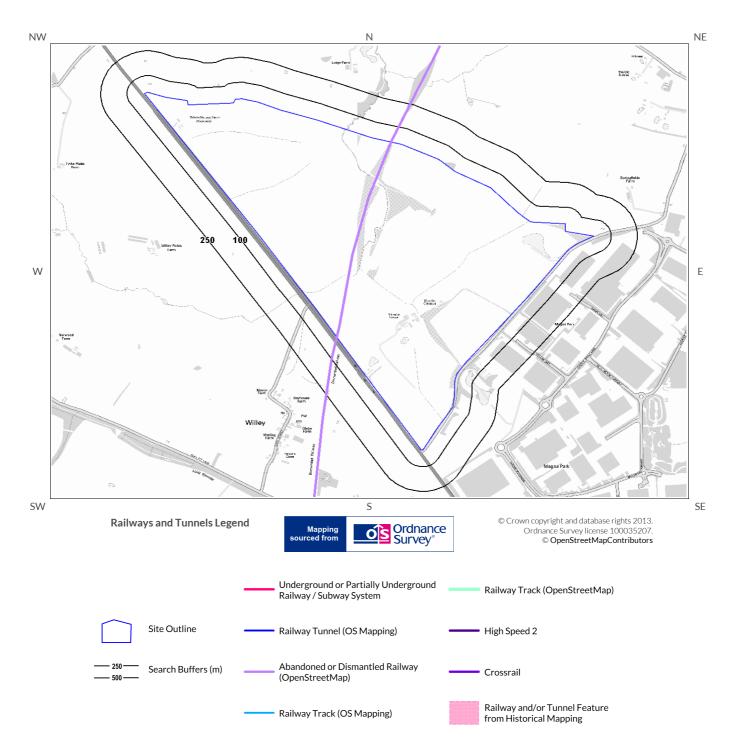


| Distance (m) | Direction | Sample Type | Arsenic (As)  | Cadmium (Cd) | Chromium (Cr) | Nickel (Ni)   | Lead (Pb) |
|--------------|-----------|-------------|---------------|--------------|---------------|---------------|-----------|
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 23.0         | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 40.0         | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 77.0         | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 82.0         | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 93.0         | Ν         | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 105.0        | NW        | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 123.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/ł |
| 123.0        | Ν         | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 130.0        | NE        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 139.0        | Ν         | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 162.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 182.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 205.0        | Ν         | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 210.0        | Ν         | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 213.0        | Ν         | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 223.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 229.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 234.0        | NE        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 245.0        | Ν         | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
|              |           |             |               |              |               |               |           |

\*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.



# 7 Railways and Tunnels Map







# 7 Railways and Tunnels

### 7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

| Have any underground railway lines been identified within the study site boundary? | No |
|--|----|
|--|----|

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

| Have any other railway tunnels been identified within the site boundary?         | No |
|--|----|
| Have any other railway tunnels been identified within 250m of the site boundary? | No |

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

### 7.2 Historical Railway and Tunnel Features

This data is derived from GroundSure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

| Have any historical railway or tunnel featu | res been identified within the study site boundary? | No |
|---|---|----|
|---|---|----|

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

### 7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

| Have any historical railway lines been identified within the study site boundary?         |     |  |  |
|---|-----|--|--|
| Have any historical railway lines been identified within 250m of the study site boundary? | Yes |  |  |

| Distance (m) | Direction | Status    |
|--------------|-----------|-----------|
| 0            | On Site   | Abandoned |
| 0            | On Site   | Abandoned |



Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

### 7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

| Have any active railway lines been identified within the study site boundary? No | No |
|--|----|
|--|----|

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above Any records that have been identified are represented on the Railways and Tunnels Map.

### 7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail.

| Is the study site within 5km of the route of the High Speed 2 rail project? | No |
|---|----|
| Is the study site within 500m of the route of the Crossrail rail project?   | No |

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a GroundSure HS2 and Crossrail Report.



GroundSure Helpline Telephone: 08444 159 000 info@groundsure.com



GroundSure Environmental Intelligence Solutions

**Geological Survey** 

NATURAL ENVIRONMENT RESEARCH COUNCIL

British Gypsum

British Geological Survey Enquiries Kingsley Dunham Centre Keyworth, Nottingham NG12 5GG Tel: 0115 936 3143. Fax: 0115 936 3276. Email:enquiries@bgs.ac.uk Web:www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries

British Gypsum Ltd British Gypsum Ltd East Leake Loughborough Leicestershire LE12 6HX

The Coal Authority 200 Lichfield Lane Mansfield Notts NG18 4RG Tel: 0345 7626 848 DX 716176 Mansfield 5 www.coal.gov.uk The Coal Authority

British

Public Health England Public information access office Public Health England, Wellington House 133-155 Waterloo Road, London, SE1 8UG https://www.gov.uk/government/organisations/public-health-england Email: enquiries@phe.gov.uk Main switchboard: 020 7654 8000

> Johnson Poole & Bloomer Limited Harris and Pearson Building, Brettel Lane Brierley Hill, West Midlands DY5 3LH Tel: +44 (0) 1384 262 000 Email:enquiries.gs@jbb.co.uk Website: www.jpb.co.uk

> > Ordnance Survey

Adanac Drive, Southampton SO16 0AS

Tel: 08456 050505 Website: http://www.ordnancesurvey.co.uk/

Getmapping PLC Virginia Villas, High Street, Hartley Witney, Hampshire RG27 8NW Tel: 01252 845444 Website:http://www1.getmapping.com/

Peter Brett Associates

Caversham Bridge House Waterman Place Reading Berkshire RG1 8DN Tel: +44 (0)118 950 0761 E-mail:**reading@pba.co.uk** Website:**http://www.peterbrett.com/home** 



| JOHNSON     |  |
|-------------|--|
| POOLE &     |  |
| BLOOMER     |  |
| CONSULTANTS |  |







Acknowledgements: Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

#### **1** Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

any information which is in the public domain (other than by (ii) virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 OAS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

### 2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order

shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

### 3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

procure that the Beneficiary or any third party relying on the (i) Services complies with and acts as if it is bound by the Contract and

be liable to GroundSure for the acts and omissions of the (ii) Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

### 4 Reliance

(iv)

(v)

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents; (i)

the Beneficiary,

the Beneficiary's professional advisers, (iii) any person (ii) providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

the first purchaser or first tenant of the Site, and

the professional advisers and lenders of the first purchaser or

tenant of the Site. 4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly

named in a Report and no other parties are entitled to rely on its contents. 4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or

Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

### **5** Fees and Disbursements

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

#### 6 Intellectual Property and Confidentiality

6.1 Subject to

full payment of all relevant Fees and

compliance with this Contract, the Client is granted (and is (ii) permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, nonassignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

not remove, suppress or modify any trade mark, copyright or (i) other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### 7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

> (i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or

subcontractors:

(ii) any use made of the Reports, Services, Materials or any part of them: and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for (i)

- loss of profits; (ii)
  - loss of business:

depletion of goodwill and/or similar losses; (iii)

- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract: loss of use:
- (vii)
- (viii) loss or corruption of data or information;
- (ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

loss or damage arising as a result of any error, omission or (xii) inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

#### 8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

the Client (being an individual) has a bankruptcy order made (ii) against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### 9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

the Reports and/or Mapping provided under this Contract are (a) supplied to the Client's specification(s) and in any event (b) by their nature cannot be returned.

#### 10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

GroundSure shall take steps to bring to an end the Services in (i) an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

### 11 Anti-Bribery

(ii)

11.1 The Client warrants that it shall:

comply with all applicable laws, statutes and regulations (i) relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010:

(ii) comply with such of GroundSure's anti-bribery and anticorruption policies as are notified to the Client from time to time; and

promptly report to GroundSure any request or demand for (iii) any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### 12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information:

- (ii) fire, storm, flood, tempest or epidemic;
- Acts of God or the public enemy; (iii)
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

(viii) changes in law; or

any other reason beyond GroundSure's reasonable control.

(ix) In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly

given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

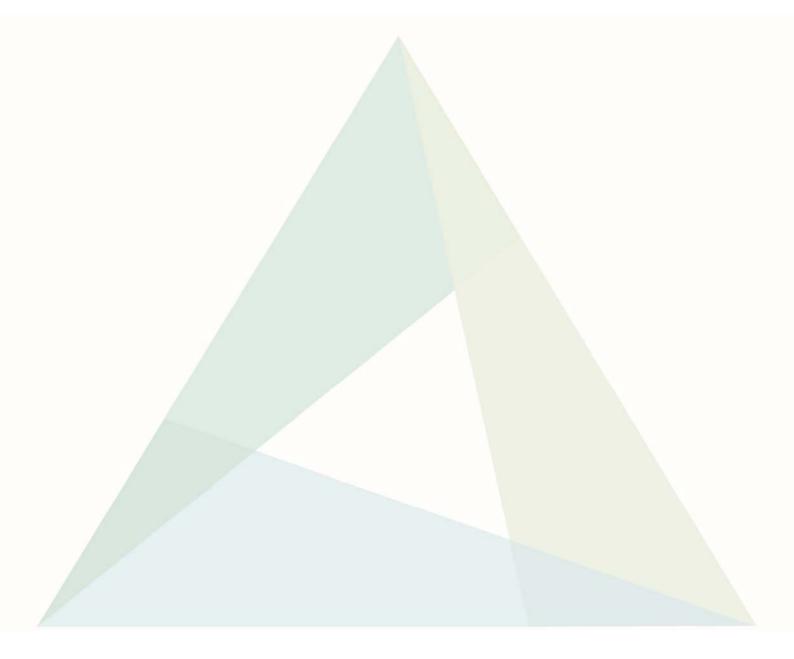
12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law

© GroundSure Limited June 2013

Appendix III

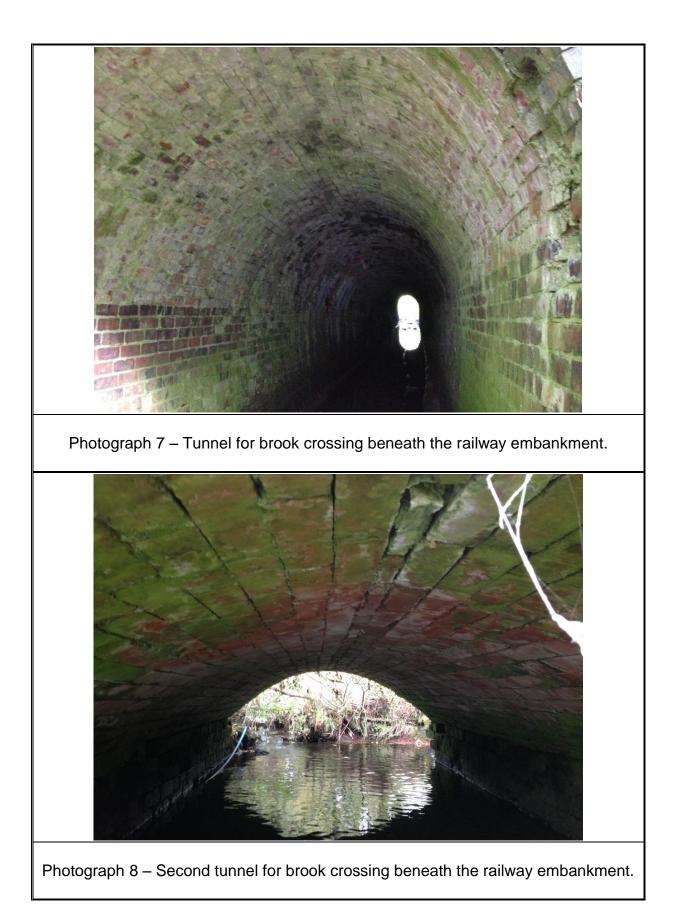






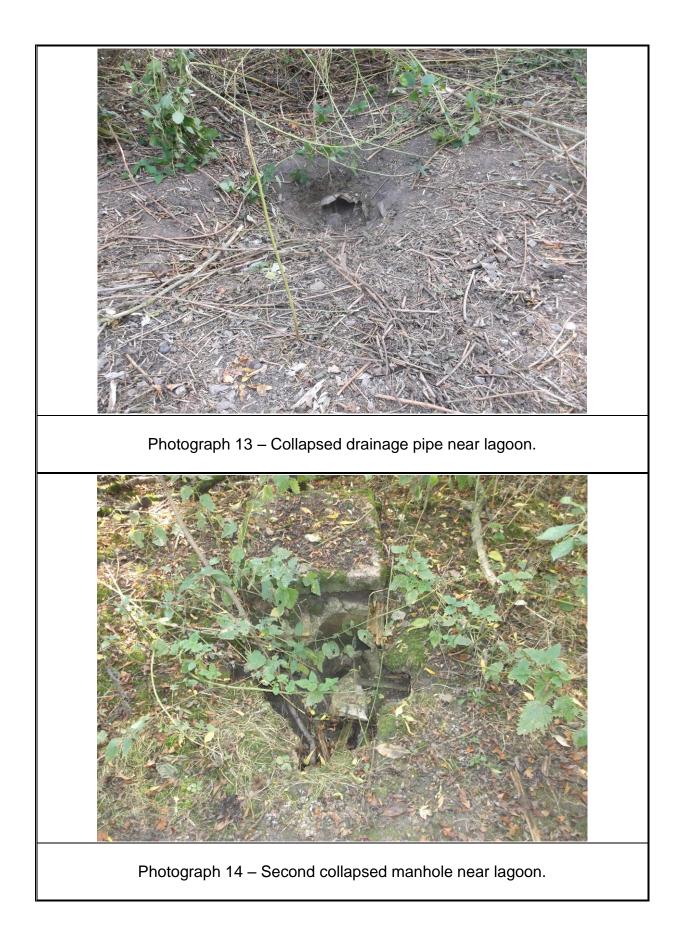


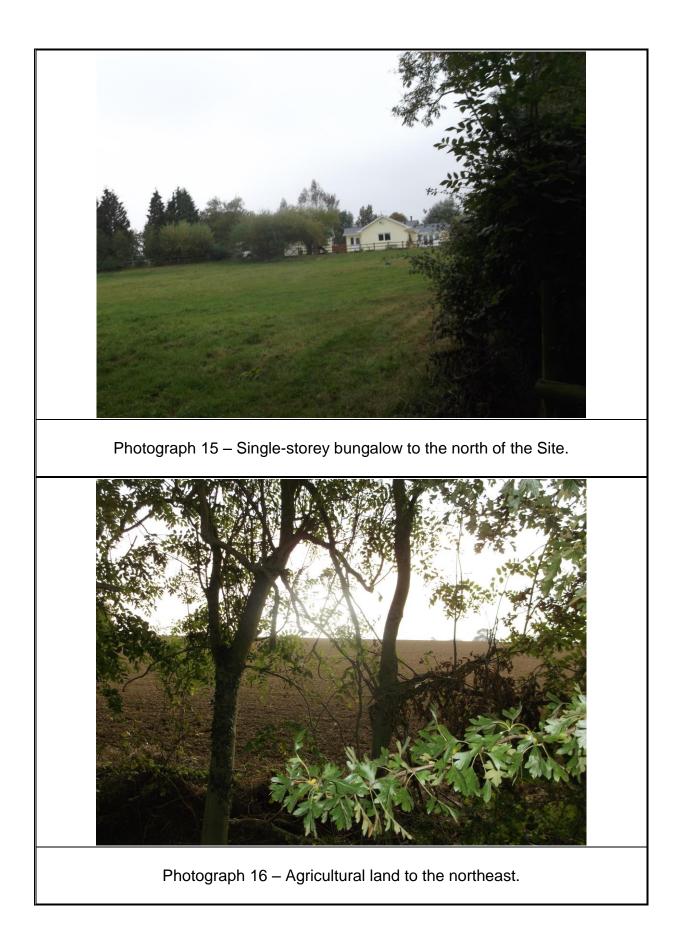














# CAPITA

# Magna Park Extension: Hybrid Application

Ground Investigation Factual Report 15 September 2015



We | Listen Create Deliver



# **Quality Management**

| Job No         | CS074680  |                      |   |  |  |
|----------------|---|----------------------|---|--|--|
| Project        | Magna Park Extension: Hybrid Application                                    |                      |   |  |  |
| Title          | Ground Investigation Factual Report   |                      |   |  |  |
| Client         | IDI Gazeley   |                      |   |  |  |
| Document Ref   | CS-074680-GEA-15-131-R  | Issue / Revision     | - |  |  |
| File reference | U:\CS-074680 - Project Atlantis\Geotech\Reports\CS-074680-GEA-15-131-R.docx |                      |   |  |  |
| Date           | 15/09/2014  |                      |   |  |  |
| Prepared by    | GEA   | Signature (for file) |   |  |  |
| Authorised by  | NRB   | Signature (for file) |   |  |  |

# **Revision Status / History**

| Rev | Date    | Issue / Purpose/ Comment | Prepared | Authorised |
|-----|---------|--------------------------|----------|------------|
| -   | 15/9/15 | First Issue              | GEA      | NRB        |
|     |         |                          |          |            |



# **Report Conditions**

This document has been prepared by Capita Property and Infrastructure Limited (Capita) for the titled project (or named part thereof) and should not be relied upon or used for any other project without prior written authorization being obtained from Capita. Capita accepts no responsibility or liability for the consequences of the use of this document, wholly or in part, for any other purpose than that for which it was commissioned. Any persons so using or relying upon this document for such other purpose do so at their own risk.

This report was prepared for the sole use of the named Client, and shall not be relied upon or transferred to any other party without the express written authorisation of Capita. It may contain material subject to copyright or obtained subject to license; unauthorised copying of this report will be in breach of copyright/license.

The findings and opinions provided in this document are given in good faith and are subject to the limitations and constraints imposed by the methods and information sources described in this report. Factual information, including, where stated, a visual inspection of the site, has been obtained from a variety of sources. Capita assumes the third party data to be reliable, but has not independently confirmed this; therefore, Capita cannot and does not guarantee the authenticity or reliability of third party information it has relied upon.

The findings and opinions presented in this report are relevant to the dates when the assessment was undertaken, but should not necessarily be relied upon to represent conditions at a substantially later date. Further information, ground investigation, construction activities, change of site use, or the passage of time may reveal conditions that were not indicated in the data presented and therefore could not have been considered in the preparation of the report. Where such information might impact upon stated opinions, Capita reserves the right to modify the opinions expressed in this report.

Where opinions expressed in this report are based on current available guidelines and legislation, no liability can be accepted by Capita for the effects of any future changes to such guidelines and legislation.

The limitations of liability of Capita for the contents of this document have been agreed with the Client, as set out in the terms and conditions of offer and related contract documentation.



# Contents

| 1.  | Introduction                                | 1 |
|-----|---|---|
| 1.1 | Report Purpose                              | 1 |
| 2.  | Site Details                                | 1 |
| 2.1 | Site Location                               | 1 |
| 2.2 | Site Description                            | 1 |
| 2.3 | Proposed Development                        | 1 |
| 3.  | Mapped Geology / Hydrogeology               | 2 |
| 3.1 | Geology                                     | 2 |
| 3.2 | Hydrogeology                                | 3 |
| 4.  | Ground Investigation                        | 3 |
| 4.1 | Fieldwork Scope                             | 3 |
| 5.  | Ground Conditions                           | 4 |
| 5.1 | Introduction                                | 4 |
| 5.2 | Encountered Geology                         | 4 |
| 5.3 | Groundwater                                 | 4 |
| 5.4 | Visual/ Olfactory Evidence of Contamination | 5 |
| 5.5 | Obstructions                                | 5 |



# **Appendices**

Appendix A - Figures Appendix B - Trial Pits Logs



# 1. Introduction

# 1.1 Report Purpose

- 1.1.1 This report is intended to provide a factual record of a two phases of two-day trial pitting exercises undertaken by Capita Property and Infrastructure Limited at the site known as Magna Park Extension: Hybrid Application near Lutterworth, Leicestershire.
  - Phase one took place on the 10<sup>th</sup> and 11<sup>th</sup> February 2015
  - Phase two took place on the 3<sup>rd</sup> and 9<sup>th</sup> September 2015
- 1.1.2 The report is subject to update and/or amendment following further, more detailed investigations.

# 2. Site Details

# 2.1 Site Location

2.1.1 The site is located approximately 22 km south-southwest of Leicester City Centre and 3.3 km west of Lutterworth and can be centred on approximate Ordnance Survey grid reference 450107E, 285938N with an indicative postcode of LE17 4JH. In total the site covers an area of about 222 hectares. The A5 highway can be found to the west and Magna Park industrial estate is located directly to the south east across Mere Lane. The nearest local settlement is Willey which is 0.85 km to the south west beyond the A5.

# 2.2 Site Description

- 2.2.1 The site is divided into agricultural fields of unequal size which are currently used for the production of crops (predominantly wheat and beans) with a minor proportion used for grazing sheep. In the centre of the south eastern portion of the site a small cluster of building are located including Bittesby House and Bittesby Farm, with Bittesby Cottage found further to the east. Along the A5 in the south east Emmanuel Cottages and to the north west White House Farm can be located.
- 2.2.2 In terms of landscape, the site slopes away from a topographical high of Mere Lane on the eastern boundary and is shown to be approximately 125 m AOD in the north east and falls to approximately 103 m AOD at the valley bottom through the centre of the site. From the central valley, the ground rises gently towards the north-west reaching 120 m AOD.
- 2.2.3 Located towards the northern eastern end of the site is an artificial pond used to store groundwater runoff from Magna Park. Water enters the pond through an underground pipe to the north-east.

# 2.3 Proposed Development

- 2.3.1 Details of the proposed development design are evolving, however the following development description and parameter information has been provided to consultees.
- 2.3.2 The development comprises the following uses and maximum quanta:

### Zone 1 (outline)

Distribution warehousing and ancillary office space (Use Classes B8 and B1a): up to 427,350 sq. m (including 100,844 sq. m for DHL Supply Chain that is also the subject of Application Reference 15/00919/FUL that was submitted in June 2015).

# CAPITA

- National Centre for Logistics Qualifications (Use Class D1): up to 3,700 sq. m together with its campus estate office, with heritage exhibition centre and conference facility (Use Class D1): up to 300 sq. m.
- Holovis expansion building (Use Class B1a, B1b): up to 7,000 sq. m.
- Innovation Centre: up to 2,325 sq. m.
- Public park and meadowland: c 70 ha.
- Access corridor, structural landscaping, SUDs systems.
- Demolition of existing buildings on the site.

### Zone 2 (detailed)

- Railfreight shuttle terminal.
- HGV Parking (140 spaces).
- HGV Driver Training Centre.
- LPG or GNP Fuel Island and Vehicle washing facility.
- 2.3.3 Zone 1 already benefits from planning consent to provide an area for HGV and car parking.
- 2.3.4 IDI Gazeley will be seeking planning permission for each parcel and its parameters, the means of access and the details of the railfreight shuttle. The demolition of Bittesby House is required to facilitate the development of the distribution warehousing.
- 2.3.5 A Parameter Plan covering every part of the site is provided in Appendix A.

# 3. Mapped Geology / Hydrogeology

# 3.1 Geology

- 3.1.1 With reference to the British Geological Survey (BGS) Geolndex online mapping and England and Wales Solid and Drift Editions of Sheet 169 "Coventry and Nuneaton" (at 1:50,000 Scale) the following lithologies have been identified on site.
- 3.1.2 The site is predominantly overlain by superficial glacial diamicton deposits of the Oadby Member, part of the Pleistocene Wolston Formation. This lithology is typically described as grey, weathering brown clay characterised by Cretaceous and Jurassic rock fragments (chalk and flint), subordinate lenses of sand and gravel, clay and silt.
- 3.1.3 A small area of superficial late glacial to post glacial Dunsmore Sand and Gravel deposit can be found to the south west of the site. This lithology is typically described as red, brown and yellow, commonly ochreous, matrix-supported poorly sorted flinty gravel with lenses of coarse sand.
- 3.1.4 Following the minor watercourses across the site, the Bosworth Clay Member, Wolston Sand and Gravel, and Alluvium are mapped.
- 3.1.5 The superficial geology is underlain by three bedrock units, firstly to the south east is the Blue Lias Formation (TP1-TP17 and TP116-TP119), described as thinly interbedded limestone and calcareous mudstone or siltstone.



- 3.1.6 To the north west of the Blue Lias Formation is the Penarth Group (TP109-TP115), described as grey to black mudstones with subordinate limestones and sandstones; predominantly marine in origin.
- 3.1.7 To the north west of the Penarth Group is the Mercia Mudstone Group (TP101-TP108), described as dominantly red, less commonly green-grey, mudstones and subordinate siltstones with thick halite-bearing units in some basinal areas.

# 3.2 Hydrogeology

- 3.2.1 Environment Agency (EA) records indicate the superficial deposits below the site to be categorised as follows;
  - Secondary Aquifer (Undifferentiated layers) Oadby Member. This unit was previously described as an unproductive stratum (non aquifer).
  - Secondary (A) Aquifer (Permeable Layers) Dunsmore Sand and Gravel, Wolston Sand and Gravel, and Alluvium.
- 3.2.2 The underlying 'bedrock' i.e. the Blue Lias Formation is indicted to be a Secondary A aquifer (minor aquifer). The EA usually applies this classification to "permeable layers capable of supporting water supplies at a local rather than a strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
- 3.2.3 The underlying bedrock layers are described as follows;
  - Secondary (A) Aquifer (permeable layers) Blue Lias Formation
  - Secondary (B) Aquifer (lower permeability layers) Mercia Mudstone Groups
  - Secondary Aquifer (Undifferentiated layers) Penarth Group
- 3.2.4 The site is not situated within a groundwater source protection zone.

# 4. Ground Investigation

### 4.1 Fieldwork Scope

- 4.1.1 In total 36 trial pits have been formed on site under the supervision of Capita.
- 4.1.2 Initially an intrusive ground investigation of 17 mechanically-excavated trail pits (TP1 to TP17) was formed under the supervision of Capita on 10<sup>th</sup> and 11<sup>th</sup> February 2015. Pit base depths ranged between 2.60 m (TP11) and 3.40 m (TP16) below ground level.
- 4.1.3 A further intrusive investigation of 19 mechanically-excavated trail pits (TP101 to TP119) was excavated under the supervision of Capita on 3<sup>rd</sup> and 9<sup>th</sup> September 2015. Pit base depths ranged between 2.55 m (TP119) and 3.40 m (TP104) below ground level.
- 4.1.4 The exploratory trial pit locations are shown in relation to the current site layout in Appendix A. Exploratory hole logs are provided in Appendix B.



# 5. Ground Conditions

# 5.1 Introduction

5.1.1 The 36 trial pits were excavated across the site with the intention of forming an indicative view of the near surface soil conditions for the whole site.

# 5.2 Encountered Geology

- 5.2.1 Across the site grass or crops overly a 0.25 m to 0.40 m thick layer of topsoil (average 0.30 m) consisting of soft brown silt/clay with some sand and rounded flint/chert gravel.
- 5.2.2 Across the majority of the site the topsoil layer is underlain by firm orange and yellowish brown gravelly clay, corresponding with the mapped Oadby Member glacial diamicton. The gravel fraction variously comprises poorly sorted limestone, red/yellow sandstone, chert, and chalk.
- 5.2.3 Bands and lenses of gravelly sand and sandy gravel up to 0.50 m thick are locally present within the top 2.0 m with occasional cobbles and boulder clasts.
- 5.2.4 Below 1.50 m to 2.0 m the Oadby Member grades to stiff grey clay, again with poorly sorted entrained clasts of limestone, sandstone and chert throughout.
- 5.2.5 To the south west of the site below the topsoil, the Dunsmore Sand and Gravel formation is observed in TP111, TP113, TP114 and TP104. This comprises orange-brown and yellow, matrix-supported, clay rich, poorly sorted flinty gravel with lenses of coarse sand.

# 5.3 Groundwater

5.3.1 Groundwater was observed during the phase one ground investigation as slow seepages in most of the trial pits, at depths of between about 1.00 and 2.50 mbgl. These mostly corresponded with bands of granular (sand and gravel) soil.

| 5.3.2 | Groundwater encountered during phase one trial pit formation is summarised in the table below: |  |
|-------|--|--|
|       |  |  |

| Location | Depth (mAOD) | Depth (mBGL) | Details                                     |
|----------|--------------|--------------|---|
| TP1      | 118.13       | 1.90         | Seepage from medium sand                    |
| TP2      | 118.93       | 2.20         | Seepage from clayey sandy gravel            |
| TP3      | 115.4        | 2.50         | Seepage from fine to medium sand            |
| TP4      | 115.62       | 1.70         | Seepage from limestone gravel and cobbles   |
| TP5      | 111.72       | 1.30         | Seepage from medium to coarse sand & gravel |
| TP6      | 114.65       | 1.80         | Seepage from limestone gravel and cobbles   |
| TP7      | 117.69       | 1.90         | Seepage from limestone gravel and cobbles   |
| TP10     | 123.24       | 1.30         | Seepage from medium to coarse sand          |
| TP11     | 113.73       | 1.40         | Seepage from limestone and flint gravel     |
| TP14     | 111.76       | 1.75         | Seepage from limestone gravel and cobbles   |
| TP15     | 110.06       | 1.55         | Seepage from chalk and sandstone gravel     |



| Location | Depth (mAOD) | Depth (mBGL) | Details                                       |
|----------|--------------|--------------|---|
| TP16     | 112.06       | 2.10         | Seepage from sand and, flint and chalk gravel |
| TP17     | 120.69       | 2.40         | Seepage from limestone gravel                 |

5.3.3 Groundwater was only encountered as a slow seep during the phase two investigation in trial pit TP113 at 115.75 m AOD (2.75 m BGL), observed in slightly clayey, gravelly sand.

# 5.4 Visual/ Olfactory Evidence of Contamination

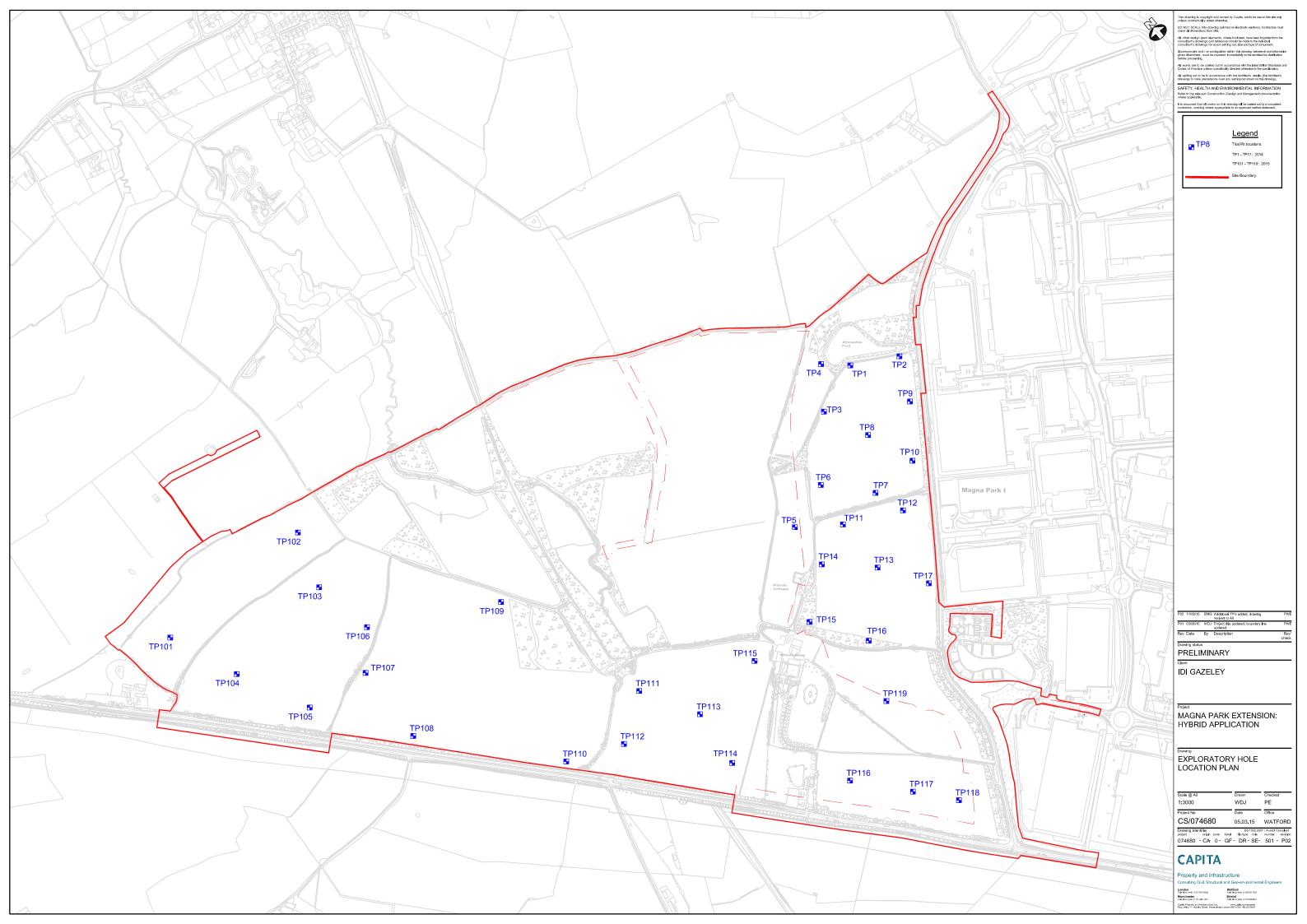
- 5.4.1 No visual or olfactory (odour) evidence of suspected ground contamination was observed or recorded during the recent investigation.
- 5.4.2 It should be noted that no chemical analysis of soil or groundwater samples was undertaken as part of this limited phase of work.

## 5.5 Obstructions

5.5.1 No buried obstructions were encountered during the investigation. Occasional ceramic land drains were observed in trial pits located on the edge of the fields at a depth of approximately 1.00 m bgl.



# Appendix A - Figures





Appendix B - Trial Pits Logs

|                             |  | Project Name: Ma   | gna Park II - Plot 1 |             | Trial Pit Number |
|-----------------------------|--|--------------------|----------------------|-------------|------------------|
| CA                          | PITA                                   |                    | TP1                  |             |                  |
|                             |  | Project Number:    | CS074680             |             |                  |
| Oak House<br>Reeds Crescent | Tel: 01923 817537<br>Fax: 01923 228516 | Client: IDI Gazele | Sheet 1 of 1         |             |                  |
| Watford<br>WD24 4QP         | www.capita.co.uk/property              | Easting: -         | Northing: -          | G.L. 120.03 | Logged By : GEA  |
| Scale: 1:50                 |  | Date: 10/02/2015   | Plant: JCB-3CX       |             | Checked By : PWE |
| CY.                         | -                                      | ALE                |                      | the set     | X                |



| SAMPLING           | DATA           | -                                  | STRATIO  | GRAPHIC I          | RECORD  |                   |      |
|--------------------|----------------|------------------------------------|--|--------------------|---|-------------------|------|
| Depth (m)          | Туре           | Test Results /<br>Remarks          | Legend   | Level<br>(mAOD)    | Description   | Depth (m          | Wate |
|                    |                |                                    |  | 119.68             | Grass over soft brown sandy CLAY TOPSO<br>requent roots and rootlets.<br>Stiff yellowish brown silty slightly sandy CLA<br>(OADBY TILL).  | 0.35              |      |
|                    |                |                                    |  | 118.83             | At 1.10 m orange medium sand lense.<br>Stiff light brown mottled grey gravelly CLAY<br>fine gravel of subangular to subrounded whit<br>and occasional rounded cobbles. (OADBY T<br>At 1.90 m orange medium sand lense | te flint          |      |
|                    |                |                                    | 8_0_X0<br>8_0_X0<br>8_0_X0<br>8_0_X0<br>8_0_X0<br>8_0_X0 | 117.58<br>117.03   | Very stiff dark brown silty CLAY with gravel a<br>cobbles of fissile mudstone and limestone. (<br>TILL).<br>End of Trial Pit at 3.00 m  | and 2.45<br>OADBY |      |
|                    |                |                                    |  |                    |   |                   |      |
|                    | W              | - Water Sample<br>Vane Test Result | Comments<br>Backfilled v                                 | :<br>vith arisings |   | Groundwater Rema  | rks  |
| 3 3 - CSS TP Log - | 16/05/2006 - I | PE                                 | Stability : F  | Pit walls rema     | ained stable  |                   |      |

|                             |  | Project Name: Ma   | agna Park II - Plot 1 | I           | Trial Pit Number |
|-----------------------------|--|--------------------|-----------------------|-------------|------------------|
| CA                          | PITA                                   |                    | TP2                   |             |                  |
|                             |  | Project Number: 0  |                       |             |                  |
| Oak House<br>Reeds Crescent | Tel: 01923 817537<br>Fax: 01923 228516 | Client: IDI Gazele | у                     |             | Sheet 1 of 1     |
| Watford<br>WD24 4QP         | www.capita.co.uk/property              | Easting: -         | Northing: -           | G.L. 121.53 | Logged By : GEA  |
| Scale: 1:50                 |  | Date: 10/02/2015   | Plant: JCB-3CX        | ×           | Checked By : PWE |
|                             |  |                    |                       |             |                  |



| Depth (m)         Type           0.80         D           1.20         D   | Test Results /<br>Remarks            | Legend                   | Level<br>(mAOD)<br>121.13<br>120.43<br>120.03 | Description         Grass over soft brown silty sandy CLAY TOPSOIL with frequent rootlets.         Stiff yellowish brown mottled grey slightly sandy CLAY with rare subrounded flint gravel. (OADBY TILL).         Medium dense orange medium SAND. (OADBY TILL).         Firm dark grey plastic CLAY with gravel of fine subrounded chalk. (OADBY TILL). | Depth (m)   | Water      |
|--|--------------------------------------|--------------------------|---|---|-------------|------------|
|  |                                      |                          | 120.43<br>120.03                              | frequent rootlets. Stiff yellowish brown mottled grey slightly sandy CLAY with rare subrounded flint gravel. (OADBY TILL). Medium dense orange medium SAND. (OADBY TILL). Firm dark grey plastic CLAY with gravel of fine   |             |            |
|  |                                      |                          | 119.13<br>- 118.53                            | Medium dense light yellowish brown clayey very sandy<br>GRAVEL of subrounded flint and limestone. (OADBY<br>TILL).<br>Stiff dark brown very silty fine sandy CLAY with<br>occasional thin siltstone and mudstone bands. (OADBY<br>TILL).<br>End of Trial Pit at 3.00 m  | 2.40        |            |
| SAMPLE/TEST KEY<br>B - Bulk Sample W<br>D - Small Disturbed Sample V -<br>✓ Water ¥ater<br>Strike ▼ Water<br>Level | - Water Sample<br>- Vane Test Result | Comments<br>Backfilled w |   | Groundw<br>Seepage at 2   | ater Remark | < <u>s</u> |

| Project Name: Ma   | Trial Pit Number                                    |   |   |
|--------------------|---|---|---|
|                    |   |   | TP3   |
| Project Number: 0  |   |   |   |
| Client: IDI Gazele | Sheet 1 of 1  |   |   |
| Easting: -         | Northing: -   | G.L. 117.90   | Logged By : GEA   |
| Date: 10/02/2015   | Plant: JCB-3CX                                      |   | Checked By : PWE  |
|                    | Project Number:<br>Client: IDI Gazele<br>Easting: - | Project Number: CS074680<br>Client: IDI Gazeley<br>Easting: - Northing: - | Client: IDI Gazeley<br>Easting: - Northing: - G.L. 117.90 |



| SAMPLING           | DATA           |                                    | STRATIO       | GRAPHIC F        | RECORD  |                  |        |
|--------------------|----------------|------------------------------------|---------------|------------------|---|------------------|--------|
| Depth (m)          | Туре           | Test Results /<br>Remarks          | Legend        | Level<br>(mAOD)  | Description   | Depth (n         | ) Wate |
|                    |                |                                    |               | 117.50           | Grass over soft brown sandy CLAY TOPSOIL wit<br>frequent rootlets.<br>Firm yellowish brown sandy CLAY with frequent<br>subrounded chalk gravel. (OADBY TILL). | .h0.40           |        |
|                    |                |                                    |               | <br>116.50       | Firm greyish brown mottled very sandy CLAY with angular vitreous black coal gravel. (OADBY TILL)  | h rare 1.40      |        |
|                    |                |                                    |               | 115.70           | Medium dense to dense orange clayey fine to me SAND. (OADBY TILL).  | dium 2.20        |        |
|                    |                |                                    | × * * * *     | 114.85<br>114.70 | Stiff dark grey silty sandy CLAY with occasional chalk gravel. (OADBY TILL).<br>End of Trial Pit at 3.20 m  | 3.05<br>3.20     |        |
|                    |                |                                    |               |                  |   |                  |        |
| AMPLE/TEST KE      | <u> </u>       |                                    | Comments      | -<br>-<br>-<br>: |   | Groundwater Rema | rks    |
|                    |                | - Water Sample<br>Vane Test Result |               | with arisings    | Se  | epage at 2.50 m  |        |
| 3 3 - CSS TP Log - | 16/05/2006 - F |                                    | Stability : F | it walls sligh   | tly collapsing after 2.50 m   |                  |        |

|                                       |   | Project Name: Ma   | Trial Pit Number |             |                  |
|---------------------------------------|---|--------------------|------------------|-------------|------------------|
| CAPITA                                |   |                    |                  |             | TP4              |
|                                       | [   | Project Number: 0  | _                |             |                  |
| Oak House                             | Tel: 01923 817537<br>Fax: 01923 228516<br>www.capita.co.uk/property | Client: IDI Gazele | Sheet 1 of 1     |             |                  |
| Reeds Crescent<br>Watford<br>WD24 4QP |   | Easting: -         | Northing: -      | G.L. 117.32 | Logged By : GEA  |
| Scale: 1:50                           |   | Date: 10/02/2015   | Plant: JCB-3CX   |             | Checked By : PWE |
|                                       |   |                    |                  |             |                  |



| SAMPLING DATA                     |                | STRATIC                   | BRAPHIC I                | RECORD   |   |   |         |
|-----------------------------------|----------------|---------------------------|--------------------------|--|---|---|---------|
| Depth (m)                         | Туре           | Test Results /<br>Remarks | Legend                   | Level<br>(mAOD)                                | Description   | Depth (m  | ) Water |
| 2.60-2.80                         | В              |                           |                          | 116.92<br>116.52<br>116.22<br>115.52<br>114.32 | Grass over soft light brown sandy CLAY TOPSOI<br>Firm dark brown mottled grey sandy CLAY with<br>frequent fine to medium chalk gravel. Terracotta<br>pipe fragment suggests reworked upper. (OADBY<br>Medium dense orange medium SAND. (OADBY <sup>-1</sup><br>Stiff orange mottled grey silty sandy gravelly CLA <sup>-1</sup><br>with rare cobbles of limestone. (OADBY TILL).<br>At 1.70 m water seeping from limestone gravel ar<br>cobble layer.<br>Very stiff dark grey gravelly CLAY with rare<br>cobbles. Gravel of rounded chert and subangular<br>limestone clasts. Clay is massive and plastic.<br>(OADBY TILL).<br>End of Trial Pit at 3.00 m | 0.40<br><u>Y TILL).</u><br>0.80<br><u>TILL).</u><br>1.10<br>Y |         |
| SAMPLE/TEST KE<br>B - Bulk Sample |                | - Water Sample            | Comments<br>Backfilled w |  |   | Groundwater Remar   | ks      |
| D - Small Disturbed               |                |                           | Backniied w              | nur ansings                                    | Se  | epage at 1.70 m   |         |
| -IB 3 - CSS TP Log -              | 16/05/2006 - 1 | DE                        | Stability : P            | it walls roma                                  | ained stable  |   |         |

| Project Name: M    | agna Park II - Plot 1  |   | Trial Pit Number  |
|--------------------|--|---|---|
|                    |  |   | TP5   |
| Project Number:    | CS074680   |   |   |
| Client: IDI Gazele | Sheet 1 of 1   |   |   |
| Easting: -         | Northing: -  | G.L. 113.02   | Logged By : GEA   |
| Date: 10/02/2015   | Plant: JCB-3CX   |   | Checked By : PWE  |
|                    | Project Number:<br>Client: IDI Gazele<br><sup>y</sup> Easting: - | Project Number: CS074680<br>Client: IDI Gazeley<br>Easting: - Northing: - | Client: IDI Gazeley<br>Y Easting: - Northing: - G.L. 113.02 |



| SAMPLING DATA  |              |                           | STRATIGRAPHIC RECORD   |                 |  |                     |        |
|--|--------------|---------------------------|--|-----------------|--|---------------------|--------|
| Depth (m)  | Туре         | Test Results /<br>Remarks | Legend   | Level<br>(mAOD) | Description  | Depth (m            | ) Wate |
| 1.35   | D            |                           |  | 112.67          | Sprouting crops over soft brown slightly sand<br>TOPSOIL with occasional rounded chert gra   |                     |        |
|  |              |                           |  |                 | Soft to firm orangish brown sandy CLAY with occasional flint gravel. (OADBY TILL).   |                     |        |
|  |              |                           |  | 112.12          | Medium dense orange medium to coarse SAND with frequent fine flint, chalk and coal gravel. Increasing clay content with depth. (OADBY TILL). |                     |        |
|  |              |                           |  |                 |  |                     |        |
|  |              |                           | ××   |                 | Firm to stiff light brown becoming grey silty CLAY   | LAY 1.50            |        |
|  |              |                           |  |                 | with fine quartz gravel and occasional limestone cobbles. (OADBY TILL).  |                     |        |
|  |              |                           |  |                 |  |                     |        |
|  |              |                           |  |                 |  |                     |        |
|  |              |                           |  |                 |  | -                   |        |
|  |              |                           | <u> </u>   | 110.02          | End of Trial Pit at 3.00 m   |                     |        |
|  |              |                           |  | _               |  |                     |        |
|  |              |                           |  | _               |  | _                   |        |
|  |              |                           |  |                 |  | -                   |        |
|  |              |                           |  | -               |  |                     |        |
|  |              |                           |  | _               |  |                     |        |
|  |              |                           |  | _               |  | -                   |        |
| SAMPLE/TEST KEY<br>B - Bulk Sample W - Water Sample                            |              |                           | Comments :<br>Backfilled with arisings                                   |                 |  | Groundwater Remarks |        |
| D - Small Disturbed Sample V - Vane Test Result Water Water Strike Water Level |              |                           | Daonmed V  | anonyo          |  | Seepage at 1.30 m   |        |
| B 3 - CSS TP Log ·   | 16/05/2006 5 |                           | Stability : Pit walls slightly collapsing in saturated sand below 1.30 m |                 |  |                     |        |

|                             |          |                           | Project  | Name: N   | /lagna Park II - Plot 1 |   | Trial Pit Num    | ber       |           |
|-----------------------------|----------|---------------------------|----------|-----------|-------------------------|---|------------------|-----------|-----------|
| CA                          | <b>P</b> | TA                        |          |           |                         |   | TP6              |           |           |
|                             |          |                           | Project  | Number:   | CS074680                |   | -                |           |           |
| Oak House<br>Reeds Crescent |          | 923 817537<br>923 228516  | Client:  | IDI Gazel |                         | Sheet 1 of 1  |                  |           |           |
| Watford<br>WD24 4QP         |          | apita.co.uk/property      | Easting: | -         | Northing: -             | G.L. 116.45   | Logged By : GEA  |           |           |
| Scale: 1:50                 |          |                           | Date: 10 | )/02/2015 | Plant: JCB-3CX          |   | Checked By : PWE |           |           |
|                             |          |                           |          |           |                         |   |                  |           |           |
| SAMPLING                    |          |                           | STRATIO  |           |                         |   |                  |           |           |
| Depth (m)                   | Туре     | Test Results /<br>Remarks | Legend   | (mAOD)    | Description             | andy CLAY TOPSOIL.  |                  | Depth (m) | Water     |
|                             |          |                           |          | 116.10    | Soft to firm orang      | e brown mottled grey sandy Cl<br>and rare subrounded black flin                                 | LAY              | 0.35      |           |
|                             |          |                           |          | 115.35    | Medium dense or         | CLAY. (OADBY TILL).<br>ange very clayey coarse GRA\<br>estone with occasional subang<br>'TILL). |                  | - 1.10    | $\square$ |

| 2.50                                   | D              |                                  | • • • • • • • • • • • • • • • • • • • | Firm to stiff dark grey plastic CLAY with red<br>brown ironstone gravel. (OADBY TILL). | ibangular                 | $\square$ |
|--|----------------|----------------------------------|---------------------------------------|--|---------------------------|-----------|
| SAMPLE/TEST KE                         |                |                                  | Comments :                            |  | Groundwater Remarks       |           |
| B - Bulk Sample<br>D - Small Disturbed |                | Water Sample<br>Vane Test Result | Backfilled with arising               | S  |                           |           |
| Water<br>Strike                        | Water<br>Level |                                  |                                       |  | Seepage at 1.80 to 2.10 m |           |
| HB 3 - CSS TP Log -                    | 16/05/2006 - P | E                                | Stability : Pit walls re              | mained stable  |                           |           |

|   |                           | Project Name: Ma                      | agna Park II - Plot 1                 |              | Trial Pit Number |
|---|---------------------------|---------------------------------------|---------------------------------------|--------------|------------------|
| CAPITA  |                           |                                       |                                       |              | TP7              |
|   |                           | Project Number: 0                     | _                                     |              |                  |
| Oak House   | Tel: 01923 817537         | Client: IDI Gazele                    | Sheet 1 of 1                          |              |                  |
| Reeds Crescent Fax: 01923 228516<br>Watford www.capita.co.uk/property<br>WD24 4QP | www.capita.co.uk/property | Easting: -                            | Northing: -                           | G.L. 119.59  | Logged By : GEA  |
| Scale: 1:50   |                           | Date: 10/02/2015                      | Plant: JCB-3CX                        |              | Checked By : PWE |
|   | ACTORNAL CONTRACTOR       | ····································· | A A A A A A A A A A A A A A A A A A A | a state when | a company of the |



| SAMPLING                          | DATA                             |                           | STRATIC                  | GRAPHIC I       | RECORD  |                 |        |
|-----------------------------------|----------------------------------|---------------------------|--------------------------|-----------------|---|-----------------|--------|
| Depth (m)                         | Туре                             | Test Results /<br>Remarks | Legend                   | Level<br>(mAOD) | Description   | Depth (m        | ) Wate |
|                                   |                                  |                           |                          | 119.34          | Sprouting crops over soft brown silty sandy CLAY<br>TOPSOIL with frequent round chert and occasional<br>brick fragments.<br>Soft to firm light brown mottled grey CLAY with<br>frequent subrounded fine to medium limestone grave<br>becoming darker grey with depth. (OADBY TILL).<br>Stiff grey very gravelly CLAY.<br>From 1.90 to 2.10 m cobble layer of subrounded to<br>subangular limestone.<br>End of Trial Pit at 2.80 m |                 |        |
| SAMPLE/TEST KE<br>B - Bulk Sample |                                  | - Water Sample            | Comments<br>Backfilled v |                 | G   | roundwater Rema | rks    |
| D - Small Disturbed               | I Sample V -<br>▼ Water<br>Level | Vane Test Result          |                          |                 | Seepa   | ge at 1.90 m    |        |
| IB 3 - CSS TP Log -               | 16/05/2006 - P                   | ΡE                        | Stability : P            | it walls rema   | ained stable  |                 |        |

|                  | TP8                   |                 |  |
|------------------|-----------------------|-----------------|--|
| Number: CS0746   |                       |                 |  |
| IDI Gazeley      |                       | Sheet 1 of 1    |  |
| - Northin        | g: - G                | G.L. 122.05     | Logged By : GEA                          |
| 0/02/2015 Plant: | JCB-3CX               |                 | Checked By: PWE                          |
| ,                | IDI Gazeley - Northin | - Northing: - C | IDI Gazeley<br>- Northing: - G.L. 122.05 |



| SAMPLING   | DATA           |                                    | STRATIO                  | GRAPHIC I                         | RECORD  |  |         |
|--|----------------|------------------------------------|--------------------------|-----------------------------------|---|--|---------|
| Depth (m)  | Туре           | Test Results /<br>Remarks          | Legend                   | Level<br>(mAOD)                   | Description   | Depth (m   | Wate    |
| Depth (m)  | В              |                                    | Legend                   |                                   | Description         Crops over soft brown CLAY TOPSOIL with trounded chert gravel and occasional cobbles.         Firm yellow brown sandy CLAY with fine sub gravel of chalk. (OADBY TILL).         Firm to stiff dark brown mottled grey gravelly of angular limestone with softer cream chalk, rounded chert and red friable sandstone. (OA TILL).         Medium dense chalk GRAVEL with frequent cobbles. (OADBY TILL).         Stiff dark orange brown very sandy CLAY. (C TILL).         End of Trial Pit at 3.00 m | frequent 0.20<br>rounded 0.65<br>CLAY 4<br>ADBY 2.30<br>Limestone 2.30 | )) Wate |
| SAMPLE/TEST KE'<br>B - Bulk Sample<br>D - Small Disturbed<br>Water<br>Strike | W              | - Water Sample<br>Vane Test Result | Comments<br>Backfilled v | ·<br>·<br>·<br>·<br>vith arisings |   | Groundwater Reman  |         |
| B 3 - CSS TP Log -   | 16/05/2006 - F | E                                  | Stability : F            | it walls rema                     | ained stable  |  |         |

|                                       |  |                    | agna Park II - Plot 1 |                       | Trial Pit Number |
|---------------------------------------|--|--------------------|-----------------------|-----------------------|------------------|
| CAPITA                                |  |                    |                       |                       | TP9              |
|                                       |  | Project Number:    | -                     |                       |                  |
| Oak House                             | Tel: 01923 817537                              | Client: IDI Gazele | Sheet 1 of 1          |                       |                  |
| Reeds Crescent<br>Watford<br>WD24 4QP | Fax: 01923 228516<br>www.capita.co.uk/property | Easting: -         | Northing: -           | G.L. 125.23           | Logged By : GEA  |
| Scale: 1:50                           |  | Date: 10/02/2015   | Plant: JCB-3CX        |                       | Checked By : PWE |
| ल <b>ा</b> २                          |  |                    |                       | a strate for a strate |                  |



| SAMPLING                    | DATA         |                           | SIRAIL                   | GRAPHIC          |  |                 | 1      |
|-----------------------------|--------------|---------------------------|--------------------------|------------------|--|-----------------|--------|
| Depth (m)                   | Туре         | Test Results /<br>Remarks | Legend                   | Level<br>(mAOD)  | Description  | Depth (m        | ) Wat  |
|                             |              |                           |                          | 124.98           | Grass over soft brown silty sandy CLAY TOPSOIL wi<br>frequent round chert gravel.  | h 0.25          |        |
|                             |              |                           |                          | •<br>•<br>•      | Soft to firm yellowish brown sandy CLAY with subangular to subrounded flint gravel. (OADBY TILL)   |                 |        |
|                             |              |                           |                          | 124.18<br>124.03 | Medium dense red silty medium SAND band occasior<br>clasts of friable sandstone. (OADBY TILL).   | al 1.05<br>1.20 |        |
|                             |              |                           |                          | -                | Firm dark brown mottled grey silty sandy gravelly<br>CLAY. Various clasts of limestone up to boulder size<br>and predominantly subrounded. (OADBY TILL). |                 |        |
|                             |              |                           |                          | - 122.23         | End of Trial Pit at 3.00 m   | 3.00            |        |
|                             |              |                           | -                        | -                |  |                 |        |
|                             |              |                           |                          | n<br>n<br>n<br>n |  |                 |        |
| MPLE/TEST KE<br>Bulk Sample |              | Water Sample              | Comments<br>Backfilled v |                  | Gr   | oundwater Remar | ks     |
|                             |              | Vane Test Result          | Buokiniod V              | anongo           | No Gro   | undwater Encour | nterec |
| 3 - CSS TP Log -            | 10/05/0000 0 | -                         | Stability · E            | it walls rema    | nod stable   |                 |        |

|   | Project Name: M                 | Project Name: Magna Park II - Plot 1 |             |                  |  |  |  |
|---|---------------------------------|--------------------------------------|-------------|------------------|--|--|--|
|   |                                 |                                      |             | TP10             |  |  |  |
|   | Project Number:                 | Project Number: CS074680             |             |                  |  |  |  |
| Oak House Tel: 01923 817537<br>Reeds Crescent Fax: 01923 228516 | Client: IDI Gazele              | Client: IDI Gazeley                  |             |                  |  |  |  |
| Watford www.capita.co.uk/proper<br>WD24 4QP                     | <sup>y</sup> Easting: -         | Northing: -                          | G.L. 124.54 | Logged By : GEA  |  |  |  |
| Scale: 1:50   | Date: 10/02/2015 Plant: JCB-3CX |                                      |             | Checked By : PWE |  |  |  |



| SAMPLING                          | DATA |                           | STRATIC                   | RAPHIC F                             | RECORD  |  |                      |      |
|-----------------------------------|------|---------------------------|---------------------------|--------------------------------------|---|--|----------------------|------|
| Depth (m)                         | Туре | Test Results /<br>Remarks | Legend                    | Level<br>(mAOD)                      | Description   | Dep  | th (m)               | Wate |
| 2.20                              | D    |                           |                           | 124.24<br>123.44<br>122.94<br>121.74 | Grass over soft brown CLAY TOPSOIL with<br>rootlets and rounded chert gravel.<br>Soft to firm brown sandy CLAY with occasis<br>of sandstone flint and chalk. (OADBY TILL)<br>Medium dense medium to coarse red SANI<br>TILL).<br>Dark brown mottled dark grey slightly sandy<br>with frequent fine to coarse rounded to sub<br>gravel and occasional cobbles. Clasts of va<br>lithology but predominantly shelly limestone<br>TILL).<br>From 1.90 to 2.40 layer of limestone cobble<br>boulders<br>End of Trial Pit at 2.80 m | 0 onal gravel<br>).<br>D. (OADBY<br>7 CLAY<br>7 cunded<br>rious<br>8. (OADBY<br>8. and | 30<br>10<br>60<br>80 |      |
| SAMPLE/TEST KE<br>B - Bulk Sample |      | - Water Sample            | Comments<br>Real/filled w |                                      |   | Groundwater R  | emarl                | s    |
| D - Small Disturbed               |      |                           | Backfilled w              | nun ansings                          |   | Seepage at 1.30 m  |                      |      |
| B 3 - CSS TP Log -                |      | _                         | Stability : P             | it walls roma                        | ainod stablo  |  |                      |      |

|                     |                                       | Project Name: M         | agna Park II - Plot | 1           | Trial Pit Number |
|---------------------|---------------------------------------|-------------------------|---------------------|-------------|------------------|
| CA                  | PITA                                  |                         |                     |             | TP11             |
|                     |                                       | Project Number:         |                     |             |                  |
| Oak House           | Tel: 01923 817537                     | Client: IDI Gazele      | Sheet 1 of 1        |             |                  |
| Watford<br>WD24 4QP | · · · · · · · · · · · · · · · · · · · | Easting: 0.00           | Northing: 0.00      | G.L. 115.13 | Logged By : GEA  |
| Scale: 1:50         |                                       | Date: 11/02/2015 Plant: |                     |             | Checked By : PWE |
| NON                 |                                       |                         |                     |             | XXXXXXX          |



| SAMPLING I  | DATA                             |                                    | STRATIC                  | GRAPHIC I       | RECORD   |                             |       |
|---|----------------------------------|------------------------------------|--------------------------|-----------------|--|-----------------------------|-------|
| Depth (m)   | Туре                             | Test Results /<br>Remarks          | Legend                   | Level<br>(mAOD) | Description  | Depth (m)                   | Water |
|   |                                  |                                    |                          | 114.83          | Soft to firm yellowish brown sandy CLAY with<br>occasional round flint and subrounded limestone<br>cobbles. Red tiles suggest reworked upper. (OADBY<br>TILL).<br>Dense light yellowish brown very clayey cobbly<br>GRAVEL of subangular limestone and subrounded flint<br>(OADBY TILL). |                             |       |
| SAMPLE/TEST KEY<br>B - Bulk Sample<br>D - Small Disturbed | W<br>Sample V -                  | - Water Sample<br>Vane Test Result | Comments<br>Backfilled w |                 |  | undwater Remar<br>at 1.40 m | ks    |
| Water<br>Strike   | Water<br>Level<br>16/05/2006 - F | PE                                 | Stability : P            | it walls colla  | apsing below 1.40 m  | at 1.40 m                   |       |

| CAI                         | PITA                                   | Project Name: M    | Trial Pit Number |             |                  |
|-----------------------------|--|--------------------|------------------|-------------|------------------|
| 0/ 1                        |  | Project Number:    |                  | -           |                  |
| Oak House<br>Reeds Crescent | Tel: 01923 817537<br>Fax: 01923 228516 | Client: IDI Gazele | Sheet 1 of 1     |             |                  |
| Watford<br>WD24 4QP         | www.capita.co.uk/property              | Easting: -         | Northing: -      | G.L. 120.29 | Logged By : GEA  |
| Scale: 1:50                 |  | Date: 11/02/2015   | Plant: JCB-3CX   |             | Checked By : PWE |
| The second                  |  |                    |                  |             |                  |



| SAMPLING   |      |                                  |                          | GRAPHIC I          |   |                                 |           |      |
|--|------|----------------------------------|--------------------------|--------------------|---|---------------------------------|-----------|------|
| Depth (m)  | Туре | Test Results /<br>Remarks        | Legend                   | Level<br>(mAOD)    | Description   | c                               | Depth (m) | Wate |
|  |      |                                  |                          | 119.99             | Grass over brown sandy CLAY TOPSOIL.<br>Soft becoming firm dark yellowish brown mo<br>silty CLAY with rare chalk gravel and subany<br>cobbles. (OADBY TILL).      | ottled grey 🛛 🗧                 | 0.30      |      |
|  |      |                                  |                          | 119.19             | Firm dark grey mottles brown sandy CLAY v<br>subrounded chalk and limestone gravel and<br>flint. Frequent flat limestone cobbles and oca<br>boulder (OADBY TILL). | vith -<br>rare [                | 1.10      |      |
| 2.75   | D    |                                  |                          | 118.29             | Stiff dark grey sandy plastic CLAY with occa<br>subrounded chert, chalk and friable sandstor<br>gravel. (OADBY TILL).   | isional –                       | -2.00     |      |
|  |      |                                  | <u> </u>                 | 117.39             | End of Trial Pit at 2.90 m  |                                 |           |      |
| GAMPLE/TEST KE<br>3 - Bulk Sample<br>0 - Small Disturbe<br>Water<br>Strike | W -  | Water Sample<br>Vane Test Result | Comments<br>Backfilled v | :<br>vith arisings |   | Groundwater<br>No Groundwater F |           |      |
| 3 3 - CSS TP Log   |      | _                                | Stability · E            | Pit walls rema     | ained stable  |                                 |           |      |

|                             |  | Project Name: Ma                |              | Trial Pit Number |                  |
|-----------------------------|--|---------------------------------|--------------|------------------|------------------|
| CA                          | PITA   |                                 | TP13         |                  |                  |
|                             |  | Project Number:                 |              |                  |                  |
| Oak House<br>Reeds Crescent | Tel: 01923 817537                              | Client: IDI Gazele              | Sheet 1 of 1 |                  |                  |
| Watford<br>WD24 4QP         | Fax: 01923 228516<br>www.capita.co.uk/property | Easting: -                      | Northing: -  | G.L. 119.63      | Logged By : GEA  |
| Scale: 1:50                 |  | Date: 11/02/2015 Plant: JCB-3CX |              |                  | Checked By : PWE |
|                             | Level & Martin & Martin                        |                                 |              |                  | A REAL PROPERTY  |



| SAMPLING  | DATA         |                                  | STRATIC       | GRAPHIC F       | RECORD  |                    |       |
|---|--------------|----------------------------------|---------------|-----------------|---|--------------------|-------|
| Depth (m)   | Туре         | Test Results /<br>Remarks        | Legend        | Level<br>(mAOD) | Description   | Depth (m)          | Wat   |
|   |              |                                  |               | 119.33          | Crops over soft brown CLAY TOPSOIL with frequent<br>round chert gravel.                     | 0.30               |       |
|   |              |                                  |               | -               | Soft becoming firm yellow brown very sandy CLAY with occasional chalk gravel. (OADBY TILL). |                    |       |
|   |              |                                  |               | 118.73          | Medium dense red medium SAND. (OADBY TILL).   | 0.90               |       |
|   |              |                                  |               |                 |   |                    |       |
|   |              |                                  | <u></u>       | - 116.53        | End of Trial Pit at 3.10 m  | 3.10               |       |
| AMPLE/TEST KE   |              | Watar Sampla                     | Comments      |                 | Ground  | ⊢<br>Iwater Remarl | ks    |
| - Bulk Sample<br>- Small Disturbeo<br>Z Water<br>Strike |              | Water Sample<br>Vane Test Result | Backfilled v  | vith arisings   | No Ground   | water Encoun       | tered |
| 3 - CSS TP Log -  | 40/05/0000 0 | -                                | Stability · F | it walls rema   | ained stable  |                    |       |

|   | Project Name: M                 | Trial Pit Number    |             |                  |  |
|---|---------------------------------|---------------------|-------------|------------------|--|
|   |                                 |                     |             | TP14             |  |
|   | Project Number:                 | CS074680            |             | -                |  |
| Oak House Tel: 01923 817537<br>Reeds Crescent Fax: 01923 228516 | Client: IDI Gazele              | Client: IDI Gazeley |             |                  |  |
| Watford www.capita.co.uk/property<br>WD24 4QP                   | Easting: -                      | Northing: -         | G.L. 113.51 | Logged By : GEA  |  |
| Scale: 1:50   | Date: 11/02/2015 Plant: JCB-3CX |                     |             | Checked By : PWE |  |



| SAMPLING           | DATA                           |                           | STRATIO       | GRAPHIC I       | RECORD   |                            |          |
|--------------------|--------------------------------|---------------------------|---------------|-----------------|--|----------------------------|----------|
| Depth (m)          | Туре                           | Test Results /<br>Remarks | Legend        | Level<br>(mAOD) | Description  | Depth                      | m) Water |
|                    |                                |                           | K K K         |                 | Grass over soft brown sandy CLAY TOPSC   | DIL.                       |          |
|                    |                                |                           |               | 113.26          | Soft light orangish brown very sandy CLAY TILL).   | . (OADBY                   |          |
| 1.10-1.30          | В                              |                           |               | 112.56          | Firm yellow brown mottled grey slightly san<br>with clasts of cream subrounded to rounded<br>gravel and rare cobbles. (OADBY TILL).  | dy CLAY0.95<br>d limestone |          |
|                    |                                |                           |               | -<br>           | Firm to stiff dark greyish brown silty fine sa<br>CLAY with infrequent fine to medium black<br>gravel. Clay is slightly crumbly due to high s<br>and sand content. (OADBY TILL). | coal                       |          |
|                    |                                |                           |               | 110.21          | After 3.00 m occasional rounded chalk cob  | bles.                      |          |
|                    |                                |                           |               |                 |  |                            |          |
| SAMPLE/TEST KE     |                                |                           | Comments      |                 |  | Groundwater Rem            | orko     |
| B - Bulk Sample    | W                              | - Water Sample            |               | vith arisings   |  | Groundwater Rem            | arks     |
| D - Small Disturbe | d Sample V -<br>Water<br>Level | Vane Test Result          |               |                 |  | Seeping at 1.75 m          |          |
| HB 3 - CSS TP Log  | - 16/05/2006 - F               | ΡE                        | Stability : F | it walls rema   | ained stable   |                            |          |

| CA  | DI.          | ТΛ                        | Project N                       | lame: N         | lagna Park II - Plot  | 1  | Trial Pit Nu                  |          |        |
|---|--------------|---------------------------|---------------------------------|-----------------|---|--|-------------------------------|----------|--------|
| UA  |              | IA                        | Project N                       | lumber:         | CS074680  |  | TP15                          | )        |        |
| Oak House   |              | 23 817537                 | Client:                         | IDI Gazel       | ey  |  | Sheet 1 of                    | 1        |        |
| Reeds Crescent Fax: 01923 228516<br>Watford www.capita.co.uk/property<br>WD24 4QP |              |                           | Easting: -                      |                 | Northing: -   | G.L. 111.61  | Logged By                     | : GEA    |        |
| Scale: 1:50   |              |                           | Date: 11/02/2015 Plant: JCB-3CX |                 |   | Checked B  | y: PWE                        |          |        |
|   |              |                           |                                 |                 |   |  |                               |          |        |
| $\leq$  | The State    | 8 JON                     |                                 | N.              |   |  |                               | 3        |        |
| SAMPLING  | DATA         |                           | STRATIG                         | RAPHIC R        | ECORD   |  |                               | 3        |        |
| SAMPLING<br>Depth (m)   | DATA<br>Type | Test Results /<br>Remarks | STRATIG                         | Level           | ECORD<br>Description  |  |                               | Depth (m | ) Wate |
|   |              | Test Results /<br>Remarks |                                 |                 | Description   | ly brown CLAY TOPSOIL v  | vith abundant                 | Depth (m | Wate   |
|   |              | Test Results /<br>Remarks |                                 | Level<br>(mAOD) | Description<br>Grass over sand<br>roots.<br>Soft becoming fi<br>with rare fine to<br>(OADBY TILL).<br>Firm dark brown | ly brown CLAY TOPSOIL w<br>rm dark yellowish brown sa<br>medium coal and chalk gra<br>mottled grey CLAY with fin<br>bal and coarse rounded cha | ndy CLAY<br>vel.<br>ne gravel | _        | Vate   |

 SAMPLE/TEST KEY
 Comments :

 B - Bulk Sample
 W - Water Sample

 D - Small Disturbed Sample
 V - Vane Test Result

 Water
 Water

 Water
 Water

 HB 3 - CSS TP Log - 16/05/2006 - PE
 Stability : Pit walls remained stable

|                                       |  | Project Name: M    | Trial Pit Number |             |                  |
|---------------------------------------|--|--------------------|------------------|-------------|------------------|
| CA                                    | PITA   |                    | TP16             |             |                  |
|                                       |  | Project Number:    | CS074680         |             |                  |
| Oak House                             | Tel: 01923 817537                              | Client: IDI Gazele | Sheet 1 of 1     |             |                  |
| Reeds Crescent<br>Watford<br>WD24 4QP | Fax: 01923 228516<br>www.capita.co.uk/property | Easting: -         | Northing: -      | G.L. 114.16 | Logged By : GEA  |
| Scale: 1:50                           |  | Date: 11/02/2015   | Plant: JCB-3CX   | •           | Checked By : PWE |
|                                       | A Harmon M                                     |                    |                  | 2 Carlos    |                  |



| SAMPLING DAT   | A                           | STRATI                 | GRAPHIC I                                      | RECORD  |                                      |      |
|--|-----------------------------|------------------------|--|---|--------------------------------------|------|
| Depth (m) Ty   | pe Test Results /<br>Remark | s Legend               | Level<br>(mAOD)                                | Description   | Depth (m)                            | Wate |
| 2.20 D   |                             |                        | 113.81<br>113.16<br>112.06<br>111.76<br>110.76 | Firm brown mottled grey sandy gravelly CLAY with<br>gravel of chalk and occasional red and yellow<br>friable sandstone clasts. (OADBY TILL).<br>Medium dense coarse orange SAND with rounded chert<br>and chalk fine to coarse gravel. (OADBY TILL).<br>Stiff dark grey silty CLAY with fine chalk gravel.<br>(OADBY TILL).<br>From 3.10 to 3.20 m predominantly limestone gravel | 0.35<br>1.00<br>2.10<br>2.40<br>3.40 |      |
| SAMPLE/TEST KEY<br>B - Bulk Sample<br>D - Small Disturbed Samp |                             | Comments<br>Backfilled | ⊢<br>∷<br>with arisings                        | Grounds<br>Seeping at 2   | water Remarl                         | ks   |
| Water Strike V   |                             | Otability of           | );;;;;;;;];;;;;;;;;;;;;;;;;;;;;;;;;;;;         | nbling below 2.10 in sand   |                                      |      |

|  | Project Name: Ma   | agna Park II - Plot 1 |                       | Trial Pit Number |  |  |
|--|--------------------|-----------------------|-----------------------|------------------|--|--|
| CAPITA   |                    |                       |                       |                  |  |  |
|  | Project Number:    | CS074680              |                       | -                |  |  |
| Oak House         Tel: 01923 817537           Reeds Crescent         Fax: 01923 228516 | Client: IDI Gazele | У                     |                       | Sheet 1 of 1     |  |  |
| Watford www.capita.co.uk/property<br>WD24 4QP  | Easting: -         | Northing: -           | G.L. 123.09           | Logged By : GEA  |  |  |
| Scale: 1:50  | Date: 11/02/2015   | Plant: JCB-3CX        |                       | Checked By : PWE |  |  |
|  |                    |                       |                       |                  |  |  |
|  |                    |                       |                       | A MAR            |  |  |
|  | La Regel           | STATES.               | and the second second |                  |  |  |
|  |                    | and the france        |                       |                  |  |  |
|  |                    |                       |                       |                  |  |  |
| 3  |                    |                       |                       |                  |  |  |
| TANK   |                    |                       |                       |                  |  |  |
| Se Contraction of a  | 225                |                       |                       |                  |  |  |
|  |                    |                       | A Providence          |                  |  |  |
| Contraction of the second  | A Carry            |                       |                       |                  |  |  |
| SAMPLING DATA  | STRATIGRAPHIC RE   |                       |                       |                  |  |  |

| SAMPLING  | SAMPLING DATA  |                           |               |   |  |                          |          |  |  |  |
|---|----------------|---------------------------|---------------|---|--|--------------------------|----------|--|--|--|
| Depth (m)   | Туре           | Test Results /<br>Remarks | Legend        | Level<br>(mAOD)   | Description  | Depth (                  | m) Water |  |  |  |
|   |                |                           |               | 122.79  | Grass over soft brown sandy CLAY TOPSO<br>frequent rootlets and occasional rounded gra                           | IL with                  |          |  |  |  |
|   |                |                           |               | -<br>-<br>-   | Soft yellowish brown sandy gravelly CLAY w<br>of rounded chert. subrounded chalk. and cru<br>coal. (OADBY TILL). | vith gravel -<br>umbly - |          |  |  |  |
|   |                |                           |               | - 122.09  | At 0.95 m limestone boulder  | -1.00                    |          |  |  |  |
|   |                |                           |               | -   | Soft becoming firm brown mottled grey plast<br>with subrounded medium to coarse limeston<br>(OADBY TILL).        |                          |          |  |  |  |
|   |                |                           |               | -<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>-<br>- | End of Trial Pit at 3.00 m   |                          |          |  |  |  |
|   |                |                           |               | -   |  |                          |          |  |  |  |
| SAMPLE/TEST KE  |                | Water Sample              | Comments      |   |  | Groundwater Rema         | arks     |  |  |  |
| B - Bulk Sample<br>D - Small Disturbed<br>Water<br>Strike |                |                           | Backfilled w  | viuri arisings  |  | Seeping at 2.40 m        |          |  |  |  |
| HB 3 - CSS TP Log -                                       | 16/05/2006 - P | E                         | Stability : P | it walls are s  | table  |                          |          |  |  |  |

| CAPITA  | Project Name: Ma<br>Ap | agna Park Extension<br>plication | : Hybrid    | Trial Pit Number |
|---|------------------------|----------------------------------|-------------|------------------|
|   | Project Number:        | CS074680-2                       |             |                  |
| Oak House Tel: 01923 817537<br>Reeds Crescent Fax: 01923 228516 | Client: IDI Gazele     | у                                |             | Sheet 1 of 1     |
| Watford www.capita.co.uk/property<br>WD24 4QP                   | Easting: -             | Northing: -                      | G.L. 117.09 | Logged By : GEA  |
| Scale: 1:50   | Date: 03/09/2015       | Plant: JCB-3CX                   |             | Checked By : PWE |
|   |                        |                                  |             |                  |

| SAMPLING            | DATA             |                                  | STRATIO                  | GRAPHIC I           | RECORD  |                             |     |
|---------------------|------------------|----------------------------------|--------------------------|---------------------|---|-----------------------------|-----|
| Depth (m)           | Туре             | Test Results /<br>Remarks        | Legend                   | Level<br>(mAOD)     | Description   | Depth (m)                   | Wat |
|                     |                  |                                  |                          | 116.89              | Wheat crop over soft dark brown slightly sandy CLAY (TOPSOIL).  | 0.20                        |     |
|                     |                  |                                  |                          | <br>116.44          | Soft becoming firm brown mottled grey gravelly CLAY.<br>Gravel of angular limestone and orange sandstone.<br>Rare black coal. (OADBY MEMBER). | 0.65                        |     |
|                     |                  |                                  |                          |                     | Firm dark brown gravelly CLAY. Gravel of rounded<br>flint and occasional grey limestone cobbles. (OADBY<br>MEMBER).                           |                             |     |
|                     |                  |                                  |                          | 114.99              | Stiff dark grey silty sandy slightly gravelly CLAY.<br>Gravel of limestone and orange/yellow friable<br>sandstone. (OADBY MEMBER).            | 2.10                        |     |
| AMPLE/TEST KE       |                  |                                  |                          | 114.19              | End of Trial Pit at 2.90 m  | 2.90                        |     |
| - Bulk Sample       | W -              | Water Sample<br>Vane Test Result | Comments<br>Backfilled w | :<br>vith arisings. |   | vater Remarl<br>ater Encoun | -   |
| 3 3 - Capita TP Log | g - 19/12/2014 - | PWE                              | Stability : P            | it walls rema       | ained stable.   |                             |     |

Sel and

C

33

| CA  | ΡΙ               | TA                                 | Project I      | Name: Ma<br>Ap | agna Park Extension:<br>plication  | Hybrid  | Trial Pit Nut                         |                 |
|---|------------------|------------------------------------|----------------|----------------|--|---|---------------------------------------|-----------------|
|   |                  |                                    | Project I      | Number: (      | CS074680-2   |   |                                       |                 |
| Oak House   |                  | 923 817537                         | Client:        | IDI Gazele     | у  |   | Sheet 1 of 2                          |                 |
| Reeds Crescent<br>Watford<br>WD24 4QP                     |                  | 923 228516<br>apita.co.uk/property | Easting:       | -              | Northing: -  | G.L. 107.29   | Logged By :                           | GEA             |
| Scale: 1:50   |                  |                                    | Date: 03       | /09/2015       | Plant: JCB-3CX   |   | Checked By                            | : PWE           |
|   |                  |                                    |                |                |  |   |                                       |                 |
|   | DATA             |                                    | OTDATIO        |                |  |   |                                       |                 |
| SAMPLING  |                  | Test Results /                     |                | ERAPHIC RE     |  |   |                                       |                 |
| Depth (m)   | Туре             | Remarks                            | Legend         |                | Description<br>Wheat crop over I   | prown slightly sandy CLA  | Y with rare                           | Depth (m) Water |
| 1.20  | D                |                                    |                | 107.04         | Firm to stiff brown<br>gravelly CLAY. Gr<br>sandstone and lig<br>cobbles and ferru<br>MEMBER). | wn slightly sandy gravelly<br>chalk. (OADBY MEMBE<br>n mottled grey slightly san<br>avel of rounded chalk, re<br>ht brown mudstone. Occa<br>ginous mudstone boulder | dy<br>d/yellow<br>asional<br>. (OADBY | 2.75            |
|   |                  |                                    |                |                |  |   |                                       |                 |
| SAMPLE/TEST KE  |                  |                                    | Comments       |                |  |   | Groundwa                              | er Remarks      |
| B - Bulk Sample<br>D - Small Disturber<br>Water<br>Strike |                  | · Water Sample<br>Vane Test Result | Backfilled w   | -              |  |   | No Groundwate                         | er Encountered  |
| HB 3 - Capita TP Log                                      | g - 19/12/2014 - | PWE                                | Stability : Pi | t walls remain | ed stable.   |   |                                       |                 |

| CAPITA   | Ар                 | agna Park Extension<br>plication | Hybrid      | Trial Pit Number |
|--|--------------------|----------------------------------|-------------|------------------|
|  | Project Number:    | CS074680-2                       |             | -                |
| Oak House         Tel: 01923 817537           Reeds Crescent         Fax: 01923 228516 | Client: IDI Gazele | У                                |             | Sheet 1 of 1     |
| Watford www.capita.co.uk/property<br>WD24 4QP  | Easting: -         | Northing: -                      | G.L. 107.62 | Logged By : GEA  |
| Scale: 1:50  | Date: 03/09/2015   | Plant: JCB-3CX                   |             | Checked By : PWE |
|  |                    |                                  |             |                  |

| SAMPLING   |      |                           | SINAIR        | GRAPHIC F       | RECORD   |             |       |
|--|------|---------------------------|---------------|-----------------|--|-------------|-------|
| Depth (m)  | Туре | Test Results /<br>Remarks | Legend        | Level<br>(mAOD) | Description  | Depth (m)   | Wate  |
|  |      |                           | XXX           | -               | Wheat crop over soft brown silty CLAY. (TOPSOIL).  | -           |       |
| 0.40   | D    |                           |               | - 107.32        | Soft orangish brown very sandy CLAY with orange sand lenses. (OADBY MEMBER).   | 0.30        |       |
|  |      |                           |               | 106.72          | Firm brown mottled grey slightly sandy very gravelly   | 0.90        |       |
|  |      |                           |               | -               | CLAY. Gravel of subangular to subrounded limestone,<br>and rounded chalk and flint. Occasional yellow<br>sandstone clasts. (OADBY MEMBER). |             |       |
|  |      |                           |               | 105.52          | Stiff dark brown mottled dark grey waxy CLAY with fine to coarse gravel of chalk, flint, and coal. (OADBY MEMBER).                         | 2.10        |       |
|  |      |                           | <u>`</u>      | 104.62          | End of Trial Pit at 3.00 m   | -3.00       |       |
|  |      |                           |               |                 |  |             |       |
| SAMPLE/TEST KE   |      | Water Sample              | Comments      |                 |  | vater Remar | ks    |
| 3 - Bulk Sample<br>9 - Small Disturbe<br>Water<br>Strike |      | Vane Test Result          |               | vith arisings.  | No Groundw   | ater Encoun | tered |
| 3 3 - Capita TP Lo                                       |      |                           | Stability · F | lit walls roma  | ained stable.  |             |       |

| CAP         | ΙΤΑ                          | Project Name: Ma<br>Ap | agna Park Extension<br>plication | : Hybrid    | Trial Pit Number<br>TP104 |
|-------------|------------------------------|------------------------|----------------------------------|-------------|---------------------------|
|             |                              | Project Number: 0      | CS074680-2                       |             |                           |
|             | 01923 817537<br>01923 228516 | Client: IDI Gazele     | у                                |             | Sheet 1 of 1              |
|             | w.capita.co.uk/property      | Easting: -             | Northing: -                      | G.L. 116.44 | Logged By : GEA           |
| Scale: 1:50 |                              | Date: 03/09/2015       | Plant: JCB-3CX                   |             | Checked By : PWE          |
|             |                              |                        |                                  |             |                           |

| SAMPLING                          | DATA |                           | STRATIO                  | GRAPHIC F                  | RECORD  |             |       |
|-----------------------------------|------|---------------------------|--------------------------|----------------------------|---|-------------|-------|
| Depth (m)                         | Туре | Test Results /<br>Remarks | Legend                   | Level<br>(mAOD)            | Description   | Depth (m)   | Water |
|                                   |      |                           |                          |                            | Wheat crop over soft brown sandy CLAY. (TOPSOIL).   | - 0.05      |       |
|                                   |      |                           |                          | 116.19                     | Loose orangish brown very clayey SAND. (DUNSMORE SAND AND GRAVEL).                                      | 0.25        |       |
|                                   |      |                           |                          | <br>115.34                 | Loose becoming medium dense yellowish brown coarse<br>SAND with occasional fine black coal gravel. Rare | 1.10        |       |
|                                   |      |                           |                          | -<br>-<br>-<br>-<br>-<br>- | friable mudstone cobbles with visible bedding.<br>(DUNSMORE SAND AND GRAVEL).                           |             |       |
|                                   |      |                           |                          |                            |   |             |       |
| 3.10                              | D    |                           |                          | 113.04                     | End of Trial Pit at 3.40 m  | 3.40        |       |
|                                   |      |                           |                          | -<br>-<br>-                |   |             |       |
|                                   |      |                           |                          |                            |   | -<br>-<br>- |       |
|                                   |      |                           |                          | -<br>-<br>-<br>-           |   | -           |       |
| SAMPLE/TEST KE<br>3 - Bulk Sample |      | - Water Sample            | Comments<br>Backfilled v | -<br>:<br>vith arisings.   | Groundv   | vater Remar | ks    |
|                                   |      | Vane Test Result          |                          | anonigo.                   | No Groundw  | ater Encoun | tered |
| B 3 - Capita TP Log               |      | DWE                       | Stability : F            | Pit walls rema             | vined stable  |             |       |

| CAPITA  |                    | agna Park Extension<br>oplication | : Hybrid    | Trial Pit Number |
|---|--------------------|-----------------------------------|-------------|------------------|
|   | Project Number:    | CS074680-2                        |             | -                |
| Oak House Tel: 01923 817537<br>Reeds Crescent Fax: 01923 228516 | Client: IDI Gazele | ey                                |             | Sheet 1 of 1     |
| Watford www.capita.co.uk/property<br>WD24 4QP                   | Easting: -         | Northing: -                       | G.L. 116.96 | Logged By : GEA  |
| Scale: 1:50   | Date: 03/09/2015   | Plant: JCB-3CX                    |             | Checked By : PWE |
|   |                    |                                   |             |                  |

| SAMPLING  | DATA |                                    | STRATIC                  | GRAPHIC I           | RECORD   |             |     |
|---|------|------------------------------------|--------------------------|---------------------|--|-------------|-----|
| Depth (m)   | Туре | Test Results /<br>Remarks          | Legend                   | Level<br>(mAOD)     | Description  | Depth (m)   | Wat |
| 1.00  | D    |                                    |                          | 116.66              | Wheat crop over greyish brown silty slightly sandy<br>CLAY with occasional round flint gravel. (TOPSOIL).         Soft yellowish brown silty sandy gravelly CLAY. Fine<br>to coarse gravel of rounded flint and occasional<br>limestone. (OADBY MEMBER).         Firm brown silty gravelly CLAY. Fine gravel of<br>rounded chalk, occasional coal, and orange sandstone<br>clasts. (OADBY MEMBER).         At 2.45 m coarse orange sand lense.         At 2.90 m limestone boulder.         End of Trial Pit at 3.00 m | 0.30        |     |
| SAMPLE/TEST KE<br>B - Bulk Sample<br>D - Small Disturber<br>Water<br>Strike | W ·  | · Water Sample<br>Vane Test Result | Comments<br>Backfilled v | :<br>vith arisings. |  | vater Remar | -   |
| B 3 - Capita TP Log   |      |                                    | Stability · P            | it walls rema       | ained stable   |             |     |

|                                       | ΡΙ           | TA                                 |          | Name: M<br>A    | Aagna Park Extension   | : Hybrid  | Trial Pit Number                     |          |
|---------------------------------------|--------------|------------------------------------|----------|-----------------|--|---|--------------------------------------|----------|
|                                       |              |                                    | Project  | Number:         | CS074680-2   |   | -                                    |          |
| Oak House                             |              | 923 817537                         | Client:  | IDI Gazel       | ley  |   | Sheet 1 of 1                         |          |
| Reeds Crescent<br>Watford<br>WD24 4QP |              | 923 228516<br>apita.co.uk/property | Easting: | -               | Northing: -  | G.L. 109.58   | Logged By : GEA                      |          |
| Scale: 1:50                           |              |                                    | Date: 03 | 3/09/2015       | Plant: JCB-3CX   |   | Checked By : PWE                     |          |
|                                       |              |                                    |          |                 |  |   |                                      |          |
| 14                                    | Th           |                                    | Prose    |                 |  |   |                                      |          |
| SAMPLING                              | DATA         | a data                             | STRATIO  | GRAPHIC F       | RECORD   |   |                                      |          |
| SAMPLING<br>Depth (m)                 | DATA<br>Type | Test Results /<br>Remarks          | STRATIC  | Level           | RECORD<br>Description  |   | Depth (n                             | n) Water |
|                                       |              | Test Results /<br>Remarks          |          |                 | Description  | soft dark brown sandy CLAY.   | Depth (n                             | n) Water |
|                                       |              |                                    |          | Level<br>(mAOD) | Description<br>Wheat crop over s<br>(TOPSOIL).<br>Firm light brown r<br>MEMBER).<br>Firm orangish bro<br>sandy gravelly wa<br>chalk, orange fria<br>sandy horizons. (r | nottled orange sandy CLAY. (<br>wm mottled grey silty slightly<br>xy CLAY. Coarse gravel of flin<br>ble sandstone, and limestone.<br>OADBY MEMBER). | 0.25<br>OADBY<br>0.75<br>tt,<br>Fine | n) Water |

 SAMPLE/TEST KEY
 Comments :

 B - Bulk Sample
 W - Water Sample

 D - Small Disturbed Sample
 V - Vane Test Result

 Water
 Water

 Water
 Water

 HB 3 - Capita TP Log - 19/12/2014 - PWE
 Stability : Pit walls remained stable.

|  | DI       | TA                                 | Project                  |  | agna Park Extension:<br>pplication  | : Hybrid  | Trial Pit Nur   |                |      |
|--|----------|------------------------------------|--------------------------|--|---|---|---|----------------|------|
|  |          |                                    | Project                  | Number:  | CS074680-2  |   |   |                |      |
| Oak House                              | Tel: 019 | 023 817537                         | Client:                  | IDI Gazele                                     | ٧   |   | Sheet 1 of 1  |                |      |
| Reeds Crescent<br>Watford<br>WD24 4QP  | Fax: 019 | 923 228516<br>apita.co.uk/property | Easting:                 |  | Northing: -   | G.L. 113.99   | Logged By :   |                |      |
| Scale: 1:50                            |          |                                    | Date: 03                 | 8/09/2015                                      | Plant: JCB-3CX  |   | Checked By  | : PWE          |      |
|  |          |                                    |                          |  |   |   |   |                |      |
| SAMPLING                               | DATA     |                                    | STRATIO                  |  | ECORD   |   |   |                |      |
| Depth (m)                              | Туре     | Test Results /<br>Remarks          | Legend                   | Level<br>(mAOD)                                | Description   | rown sandy CLAY. (TOPS  |   | Depth (m) Wat  | ıter |
| 0.45                                   | D        |                                    |                          | 113.69<br>113.44<br>112.99<br>111.89<br>111.39 | Soft dark brown s<br>occasional rootlet<br>Soft orangish brov<br>CLAY. Gravel of r<br>orange sandstone<br>Firm dark greyish<br>CLAY. Gravel of r<br>orange/yellow sar | lity very sandy gravelly CL<br>s. (OADBY MEMBER).<br>wn slightly sandy very gra<br>rounded flint limestone, ch<br>e clasts. (OADBY MEMBE<br>brown slightly sandy very<br>rounded flint limestone, ch<br>ndstone clasts. (OADBY M<br>ghtly gravelly waxy CLAY.<br>I of rounded flint and chall | AY with<br>velly<br>alk, and<br>R).<br>gravelly<br>alk, and<br>IEMBER). | 0.30           |      |
| SAMPLE/TEST KE<br>B - Bulk Sample      |          | Water Sample                       | Comments<br>Backfilled w |  |   |   | Groundwat   | er Remarks     |      |
| D - Small Disturbed<br>Water<br>Strike |          |                                    | Dackinieu W              | nai anonyo.                                    |   |   | No Groundwate   | er Encounterec | d    |
| HB 3 - Capita TP Loc                   |          | PWE                                | Stability : P            | it walls remain                                | ed stable.  |   |   |                |      |

| CA                                | ΡΙ     | TA                       | Project      | Name: Ma<br>Ap  | agna Park Extension<br>oplication   | : Hybrid   | Trial Pit Num                                    |                |       |
|-----------------------------------|--------|--------------------------|--------------|-----------------|---|--|--|----------------|-------|
|                                   |        |                          | Project      | Number:         | CS074680-2  |  |  |                |       |
| Oak House<br>Reeds Crescent       |        | 923 817537<br>923 228516 | Client:      | IDI Gazele      | ey  | 1  | Sheet 1 of 1                                     |                |       |
| Watford<br>WD24 4QP               | www.ca | pita.co.uk/property      | Easting:     | -               | Northing: -   | G.L. 118.44  | Logged By :                                      | GEA            |       |
| Scale: 1:50                       |        |                          | Date: 03     | 8/09/2015       | Plant: JCB-3CX  |  | Checked By                                       | PWE            |       |
|                                   |        |                          |              |                 |   |  |  |                |       |
| SAMPLING                          |        | The Arr                  | STRATIC      |                 | ECORD   | 1 1 1  |  |                |       |
| Depth (m)                         | Туре   | Test Results /           | Legend       | Level<br>(mAOD) | Description   |  |  | Depth (m)      | Water |
| 2.55                              | D      | Remarks                  |              | 118.09          | Soft yellowish bro<br>gravel of rounded<br>cobble suggests r<br>MEMBER).<br>Firm dark brown<br>CLAY. Various cl | brown sandy CLAY. (TOP<br>own sandy gravelly CLAY.<br>I flint and limestone. Red t<br>reworked upper surface. (<br>mottled dark grey gravelly<br>asts of limestone and san<br>s or coarse orange sand. | Occasional<br>tile<br>OADBY<br>cobbly<br>dstone. | 2.65           |       |
|                                   |        |                          | Comments     |                 |   |  | Groundwate                                       | ⊢<br>er Remarl | ks.   |
| SAMPLE/TEST KE<br>B - Bulk Sample |        | Water Sample             | Backfilled w | ith arisings.   |   |  |  |                |       |
|                                   |        |                          | Backfilled w | vith arisings.  |   |  | No Groundwater                                   | Encount        |       |

| CA                                    | ΡΙ           | TA                                | Project N         | Name: M<br>A    | lagna Park Extension<br>pplication   | : Hybrid   | Trial Pit Nu |                           |        |
|---------------------------------------|--------------|-----------------------------------|-------------------|-----------------|--|--|--------------|---------------------------|--------|
|                                       |              |                                   | Project N         | Number:         | CS074680-2   |  | Ī            |                           |        |
| Oak House                             |              | 23 817537                         | Client:           | IDI Gazel       | ey   |  | Sheet 1 of   | 1                         |        |
| Reeds Crescent<br>Watford<br>WD24 4QP |              | 923 228516<br>pita.co.uk/property | Easting: -        | -               | Northing: -  | G.L. 114.50  | Logged By    | : GEA                     |        |
| Scale: 1:50                           |              |                                   | Date: 09/         | /09/2015        | Plant: JCB-3CX   |  | Checked B    | y: PWE                    |        |
|                                       |              |                                   |                   |                 |  |  |              |                           |        |
|                                       |              |                                   |                   |                 |  |  |              |                           |        |
| SAMPLING                              | DATA         |                                   | STRATIG           | GRAPHIC R       | ECORD  |  |              |                           |        |
| SAMPLING<br>Depth (m)                 | DATA<br>Type | Test Results / Remarks            | STRATIG<br>Legend | Level           | ECORD<br>Description   |  |              | Depth (m)                 | Wate   |
|                                       |              | Test Results /<br>Remarks         |                   | Level<br>(mAOD) | Description<br>Grass over soft d   | lark brown slightly sandy CLA  | Y with       | -                         | Wate   |
|                                       |              |                                   |                   | Level           | Description<br>Grass over soft d<br>rare rounded coa<br>Soft yellowish bro | lark brown slightly sandy CLA<br>rse flint gravel. (TOPSOIL).<br>own silty sandy gravelly CLAY<br>he and flint. (OADBY MEMBE | 7. With      | Depth (m)<br>0.25<br>0.70 | ) Wate |

 SAMPLE/TEST KEY

 B - Bulk Sample
 W - Water Sample

 D - Small Disturbed Sample
 V - Vane Test Result

 Water
 Water

 Water
 Water

 HB 3 - Capita TP Log - 19/12/2014 - PWE
 Stability : Pit walls remained stable.

|   |        |  | Project Na      |                 | agna Park Extension:<br>oplication                            | Hybrid   | Trial Pit Num  | ber             |
|---|--------|--|-----------------|-----------------|---|--|----------------|-----------------|
| CA  | Ρ      | TA   |                 | -               |   |  | TP110          | C               |
|   |        |  | Project N       | umber:          | CS074680-2  |  |                |                 |
| Oak House<br>Reeds Crescent                               |        | 923 817537<br>923 228516   | Client: II      | DI Gazele       | èy  | Γ  | Sheet 1 of 1   |                 |
| Watford<br>WD24 4QP                                       |        | apita.co.uk/property   | Easting: -      |                 | Northing: -   | G.L. 112.62  | Logged By :    | GEA             |
| Scale: 1:50   |        |  | Date: 09/0      | 9/2015          | Plant: JCB-3CX  |  | Checked By     | PWE             |
|   |        |  |                 |                 |   |  |                |                 |
| SAMPLING  | DATA   |  | STRATIGR        |                 | ECORD   |  |                |                 |
| Depth (m)   | Туре   | Test Results /<br>Remarks  |                 | Level<br>(mAOD) | Description   |  |                | Depth (m) Water |
| 0.50  | D      |  |                 | 112.32          | Soft yellowish bro<br>lenses of coarse of<br>flint. (OADBY ME | wn slightly gravelly CLAY<br>orange sand. Gravel of ro<br>MBER). | with<br>unded  | 0.30            |
|   |        | ی<br>ی<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب<br>ب |                 |                 | subrounded fine t<br>sand lenses. (OA                         |  | d orange       |                 |
|   |        |  |                 | 109.77          | End of Trial Pit at   | 2.85 m   |                | - 2.00<br>      |
| SAMPLE/TEST KE  | I<br>Y |  | Comments :      | I               |   |  | Groundwate     | r Remarks       |
| B - Bulk Sample   |        | Water Sample   | Backfilled with | n arisings.     |   |  |                |                 |
| B - Bulk Sample<br>D - Small Disturber<br>Water<br>Strike |        |  | Backfilled with | n arisings.     |   |  | No Groundwater | Encountered     |

|                             |  | Project Name: Ma   | : Hybrid       | Trial Pit Number |                  |
|-----------------------------|--|--------------------|----------------|------------------|------------------|
| <b>ICA</b>                  | PITA                                   |                    | TP111          |                  |                  |
|                             |  | Project Number:    | -              |                  |                  |
| Oak House<br>Reeds Crescent | Tel: 01923 817537<br>Fax: 01923 228516 | Client: IDI Gazele | Sheet 1 of 1   |                  |                  |
| Watford<br>WD24 4QP         | www.capita.co.uk/property              | Easting: -         | Northing: -    | G.L. 112.30      | Logged By : GEA  |
| Scale: 1:50                 |  | Date: 09/09/2015   | Plant: JCB-3CX | ·                | Checked By : PWE |
|                             |  |                    |                | AND AND AND      |                  |



| SAMPLING DATA  |      |                                      | STRATIGRAPHIC RECORD     |                          |   |              |      |  |
|--|------|--------------------------------------|--------------------------|--------------------------|---|--------------|------|--|
| Depth (m)  | Туре | Test Results /<br>Remarks            | Legend                   | Level<br>(mAOD)          | Description   | Depth (m)    | Wate |  |
| 1.70   | D    |                                      |                          | 112.10                   | Wheat crop over soft dark brown CLAY. (TOPSOIL).         Soft dark brown mottled orange very sandy gravelly         CLAY. Occasional gravel of fine to coarse limestone         and ferruginous sandstone. Rare black organic         patches. (DUNSMORE SAND AND GRAVEL).         Medium dense grey with yellow bands clayey SAND with         occasional black organic patches. (DUNSMORE SAND         AND GRAVEL). |              |      |  |
| SAMPLE/TEST KE<br>B - Bulk Sample<br>D - Small Disturbe<br>Water<br>Strike | W -  | <br>Water Sample<br>Vane Test Result | Comments<br>Backfilled v | ·<br>:<br>vith arisings. | Groundw   | vater Remari |      |  |
| B 3 - Capita TP Lo   |      |                                      | Stability · F            | it walls rema            | ained stable  |              |      |  |

| CA                          | ΡΙ   | TA                      | Project             |                 | lagna Park Extension<br>pplication                                   | : Hybrid   | Trial Pit Numb   |                 |  |
|-----------------------------|------|-------------------------|---------------------|-----------------|--|--|------------------|-----------------|--|
|                             |      |                         | Project             | Number:         |  |  |                  |                 |  |
| Oak House<br>Reeds Crescent |      | 23 817537<br>923 228516 | Client: IDI Gazeley |                 |  |  | Sheet 1 of 1     |                 |  |
| Watford<br>WD24 4QP         |      | pita.co.uk/property     | Easting:            | -               | Northing: -  | G.L. 109.15  | Logged By : G    | βEA             |  |
| Scale: 1:50                 |      |                         | Date: 09            | /09/2015        | Plant: JCB-3CX   |  | Checked By : PWE |                 |  |
|                             |      |                         |                     |                 |  |  |                  |                 |  |
|                             |      |                         | STRATIC             | RAPHIC R        | FCORD  | A Contraction  |                  |                 |  |
| Depth (m)                   | Туре | Test Results /          | Legend              | Level<br>(mAOD) | Description  |  |                  | Depth (m) Water |  |
|                             |      | Remarks                 |                     | 108.85          | Wheat crop over  | soft brown sandy gravelly (<br>d flint and rare brick and tile<br>SOIL).   | CLAY.            | - 0.30          |  |
|                             |      | -                       |                     | 108.45          | Soft becoming firi<br>gravelly CLAY. G<br>(OADBY MEMBE               | m light brown mottled grey<br>ravel of rounded chalk and<br>R).  | sandy<br>flint.  | 0.70            |  |
|                             |      |                         |                     | 107.45 -        | Cobbles of suban<br>Chalk degraded ir<br>MEMBER).<br>Firm dark brown | brown sandy gravelly cobb<br>gular to subrounded limest<br>nto cream calcareous sand<br>mottled grey sandy gravelly<br>lenses. Rare black organic<br>R). | one.<br>. (OADBY | 1.70            |  |
|                             |      |                         |                     | 106.35          | End of Trial Pit at  |  |                  | 2.80            |  |
| SAMPLE/TEST KEY             | /    |                         | Comments            |                 |  |  | Groundwater      |                 |  |

|  | Project Name: Ma<br>Ap | Trial Pit Number |               |  |
|--|------------------------|------------------|---------------|--|
| CAPITA   |                        |                  | TP113         |  |
|  | Project Number:        | CS074680-2       |               |  |
| Oak House         Tel: 01923 817537           Reeds Crescent         Fax: 01923 228516 | Client: IDI Gazele     | у                |               | Sheet 1 of 1   |
| Watford www.capita.co.uk/property<br>WD24 4QP  | Easting: -             | Northing: -      | G.L. 118.50   | Logged By : GEA  |
| Scale: 1:50  | Date: 09/09/2015       | Plant: JCB-3CX   |               | Checked By : PWE   |
|  |                        |                  |               |  |
|  | The second second      |                  | ALC: NO       |  |
|  | A ANT                  |                  |               |  |
|  |                        |                  |               |  |
| the set of the set   |                        |                  |               |  |
|  | ST ALC                 | AT CER           |               |  |
| THE WAY THE  |                        | A CARLES         |               |  |
|  |                        | NAME OF          |               |  |
| the second second  | e and the second       |                  |               |  |
| Contraction and the  |                        |                  | in the second |  |
| the state of the   | 23 ( 1978 )            |                  | STE VERIL     | the state of the s |
|  |                        | - A we want      |               |  |
|  |                        |                  |               |  |

| SAMPLING  | SAMPLING DATA                       |                           |        | STRATIGRAPHIC RECORD                           |   |            |       |  |  |
|---|-------------------------------------|---------------------------|--------|--|---|------------|-------|--|--|
| Depth (m)   | Туре                                | Test Results /<br>Remarks | Legend | Level<br>(mAOD)                                | Description   | Depth (m)  | Water |  |  |
| 1.30  | D                                   |                           |        | 118.20<br>117.80<br>116.85<br>115.75<br>115.50 | SAND AND GRAVEL).<br>Medium dense orange very clayey gravelly SAND.<br>Gravel of poorly sorted flint and occasional<br>yellow/light grey coarse sandstone cobbles. Frequent<br>red ochre patches and iron staining. Rare black<br>organic patches. (DUNSMORE SAND AND GRAVEL).<br>Firm dark grey sandy gravelly cobbly CLAY. Gravel of<br>poorly sorted flint and occasional yellow/light<br>grey coarse sandstone cobbles. Rare black organic<br>patches. (DUNSMORE SAND AND GRAVEL).<br>Medium dense light orangish brown slightly clayey | 0.30       |       |  |  |
| SAMPLE/TEST KE<br>B - Bulk Sample<br>D - Small Disturbe<br>Water<br>Strike<br>HB 3 - Capita TP Lo | W<br>d Sample V -<br>Water<br>Level |                           |        | :<br>vith arisings.<br>Pit walls rema          | No Groundwa   | ater Remar | -     |  |  |

|   | Project Name: Ma<br>Ap | Trial Pit Number |             |                  |
|---|------------------------|------------------|-------------|------------------|
| CAPITA  |                        | TP114            |             |                  |
|   | Project Number: 0      | CS074680-2       |             | _                |
| Oak House Tel: 01923 817537<br>Reeds Crescent Fax: 01923 228516 | Client: IDI Gazele     | у                |             | Sheet 1 of 1     |
| Watford www.capita.co.uk/property<br>WD24 4QP                   | Easting: -             | Northing: -      | G.L. 120.29 | Logged By : GEA  |
| Scale: 1:50   | Date: 09/09/2015       | Plant: JCB-3CX   |             | Checked By : PWE |
|   |                        |                  |             |                  |
|   |                        |                  | Rec         |                  |

| SAMPLING DATA   |   |                               | GRAPHIC I  | RECORD   |   |  |  |  |  |  |
|---|---|-------------------------------|--|--|---|--|--|--|--|--|
| ype   | Test Results /<br>Remarks                 | Legend                        | Level<br>(mAOD)  | Description  | Depth (m)   | Water  |  |  |  |  |
| ype   | Remarks                                   |                               | (mAOD)<br>119.99<br>119.69<br>119.69<br>118.79<br>118.79<br>117.04 | Wheat crop over soft dark brown sandy CLAY.<br>(TOPSOIL).         Soft orangish brown sandy CLAY with occasional flint<br>gravel. (OADBY MEMBER).         Soft greyish brown sandy gravelly CLAY with orange<br>and yellow sand layers. Abundant round flint gravel.<br>(DUNSMORE SAND AND GRAVEL).         Medium dense greyish brown clayey gravelly SAND with<br>orange and yellow sand layers. Abundant round flint<br>gravel. (DUNSMORE SAND AND GRAVEL). | 0.30<br>0.60<br>1.50  | vv ater  |  |  |  |  |
| B - Bulk Sample W - Water Sample Ba<br>D - Small Disturbed Sample V - Vane Test Result<br>Water Water<br>Strike Water | Backfilled v                              | vith arisings.                | No Groundwa  |  |   |  |  |  |  |  |
|   | ype<br>W -<br>ple V - V<br>Water<br>Level | ype Test Results /<br>Remarks | ype Test Results / Legend  | ype     Test Results /<br>Remarks     Legend     Level<br>(mAOD)       119.99     119.69       118.79       118.79       118.79       117.04       W - Water Sample<br>ple V - Vane Test Result<br>Water<br>Level       Comments :<br>Backfilled with arisings.  | ype         Test Results /<br>Remarks         Legend         Level<br>(mAOD)         Description           119.99         119.99         Wheat crop over soft dark brown sandy CLAY.<br>(TOPSOIL).         Soft orangish brown sandy CLAY with occasional flint<br>gravel. (OADBY MEMBER).           Soft greyish brown sandy gravelly CLAY with orange<br>and yellow sand layers. Abundant round flint<br>gravel. (DUNSMORE SAND AND GRAVEL).         Itel.79           Wedium dense greyish brown clayey gravelly SAND with<br>orange and yellow sand layers. Abundant round flint<br>gravel. (DUNSMORE SAND AND GRAVEL).         Itel.79           W - Water Sample<br>Per V - Vane Test Result<br>Weder<br>Level         Comments :<br>Backfilled with arisings.         Groundwe | ype         Test Results /<br>Remarks         Legend         Level<br>(mAOD)         Description         Depth (m)           119.99         119.99         Soft orangish brown sandy CLAY with occasional flint<br>gravel. (OADBY MEMBER).         0.30           119.89         Soft orangish brown sandy gravelly CLAY with orange<br>and yellow sand layers. Abundant round flint gravel.<br>(DUNSMORE SAND AND GRAVEL).         0.60           118.79         Medium dense greyish brown claye gravelly SAND with<br>orange and yellow sand layers. Abundant round flint<br>gravel. (DUNSMORE SAND AND GRAVEL).         1.50           117.04         End of Trial Pit at 3.25 m         3.25           W - Water Sample<br>Per V - Vane Test Result<br>Weter<br>Level         Comments :<br>Backfilled with arisings.         Groundwater Encount |  |  |  |  |

| CAPITA  | Project Name: Ma<br>Ap | Trial Pit Number |   |                  |
|---|------------------------|------------------|---|------------------|
| CALITA  | Project Number:        |                  |   |                  |
| Oak House Tel: 01923 817537<br>Reeds Crescent Fax: 01923 228516 | Client: IDI Gazele     | у                |   | Sheet 1 of 1     |
| Watford www.capita.co.uk/property<br>WD24 4QP                   | Easting: -             | Northing: -      | G.L. 112.33   | Logged By : GEA  |
| Scale: 1:50   | Date: 09/09/2015       | Plant: JCB-3CX   |   | Checked By : PWE |
|   |                        |                  |   |                  |
|   |                        |                  | Poster Matter and All Market And All All All All All All All All All Al |                  |

| SAMPLING DATA  |                |                                    | STRATIGRAPHIC RECORD                   |                        |  |                      |          |  |
|--|----------------|------------------------------------|--|------------------------|--|----------------------|----------|--|
| Depth (m)  | Туре           | Test Results /<br>Remarks          | Legend                                 | Level<br>(mAOD)        | Description  | Depth (r             | m) Water |  |
|  |                |                                    |  | - 112.03               | Wheat crop over dark brown sandy CLAY v round coarse flint gravel. (TOPSOIL).  | vith rare 0.30       |          |  |
|  |                |                                    | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | 111.73                 | Soft light brown mottled grey sandy CLAY. occasional rounded flint gravel. (OADBY M  | With<br>EMBER).      |          |  |
| 0.90   | D              |                                    |  | -                      | Firm dark greyish brown sandy gravelly CL.<br>of chalk, flint, sandstone and coal. Rare<br>fossiliferous limestone cobbles and boulder<br>MEMBER). | s (OADBY             |          |  |
|  |                |                                    |  | 110.63                 | Firm dark grey mottled dark brown gravelly CLAY. Gravel of limestone, sandstone and (OADBY MEMBER).  | cobbly<br>flint.     |          |  |
|  |                |                                    |  | - 109.33               | End of Trial Pit at 3.00 m   |                      |          |  |
|  |                |                                    |  |                        |  |                      |          |  |
| SAMPLE/TEST KE   |                |                                    | Comments                               |                        |  | Groundwater Rema     | arks     |  |
| B - Bulk Sample<br>D - Small Disturbe<br>Water<br>Strike |                | - Water Sample<br>Vane Test Result | Backfilled w                           | <i>v</i> ith arisings. |  | No Groundwater Encou | intered  |  |
| HB 3 - Capita TP Lo                                      | g - 19/12/2014 | - PWE                              | Stability : P                          | it walls rema          | ained stable.  |                      |          |  |

| CAPITA  |                    | agna Park Extension:<br>plication | Hybrid      | Trial Pit Number<br>TP116 |
|---|--------------------|-----------------------------------|-------------|---------------------------|
|   | Project Number:    | CS074680-2                        |             | -                         |
| Oak House Tel: 01923 817537<br>Reeds Crescent Fax: 01923 228516 | Client: IDI Gazele | У                                 |             | Sheet 1 of 1              |
| Watford www.capita.co.uk/property<br>WD24 4QP                   | Easting: -         | Northing: -                       | G.L. 123.00 | Logged By : GEA           |
| Scale: 1:50   | Date: 09/09/2015   | Plant: JCB-3CX                    |             | Checked By : PWE          |
|   |                    |                                   |             |                           |

| SAMPLING   | DATA           |                           | STRATIO                  | GRAPHIC I           | RECORD  |              |       |
|--|----------------|---------------------------|--------------------------|---------------------|---|--------------|-------|
| Depth (m)  | Туре           | Test Results /<br>Remarks | Legend                   | Level<br>(mAOD)     | Description   | Depth (m)    | Wat   |
|  |                |                           |                          | 122.65              | Wheat crop over soft dark brown sandy CLAY.<br>(TOPSOIL).         Soft becoming firm light grey sandy gravelly CLAY.<br>Bands of coarse orange sand and gravel of limestone,<br>sandstone and rounded flint. (OADBY MEMBER).         Firm dark grey sandy gravelly CLAY with iron<br>staining. (OADBY MEMBER).         End of Trial Pit at 2.85 m | 2.85         |       |
| SAMPLE/TEST KE<br>3 - Bulk Sample<br>9 - Small Disturbed | W -            | Water Sample              | Comments<br>Backfilled v | :<br>vith arisings. |   | water Remarl |       |
|  | Water<br>Level | VANE LEST KESUIL          |                          |                     | No Ground   | water Encoun | tered |
| B 3 - Capita TP Log                                      | - 19/12/2014 - | PWE                       | Stability : F            | it walls rema       | ained stable.   |              |       |

| CΔ  | ΡΙΤΑ                                   |  | agna Park Extension<br>plication | : Hybrid    | Trial Pit Number |
|---|--|--|----------------------------------|-------------|------------------|
|   |  | Project Number: 0                        | CS074680-2                       |             | -                |
| Oak House<br>Reeds Crescent                   | Tel: 01923 817537<br>Fax: 01923 228516 | Client: IDI Gazeley                      |                                  |             | Sheet 1 of 1     |
| Watford www.capita.co.uk/property<br>WD24 4QP |  | Easting: -                               | Northing: -                      | G.L. 119.79 | Logged By : GEA  |
| Scale: 1:50                                   |  | Date: 09/09/2015                         | Plant: JCB-3CX                   |             | Checked By : PWE |
|   | K                                      | 12 12 12 12 12 12 12 12 12 12 12 12 12 1 |                                  |             |                  |

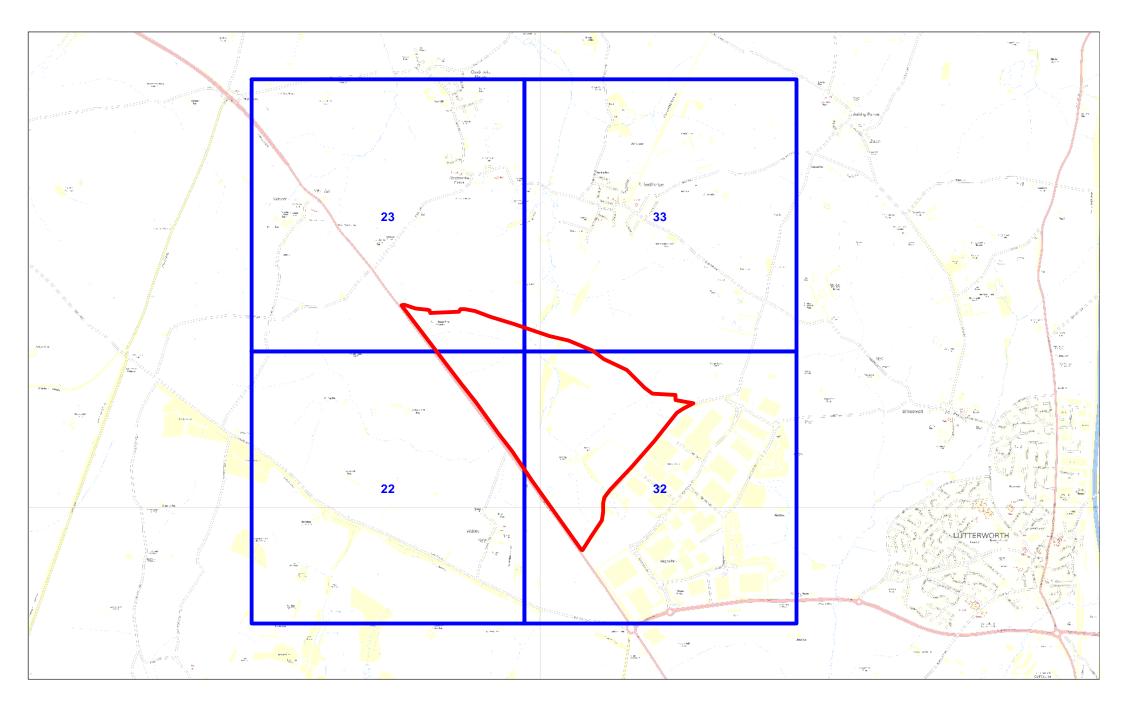


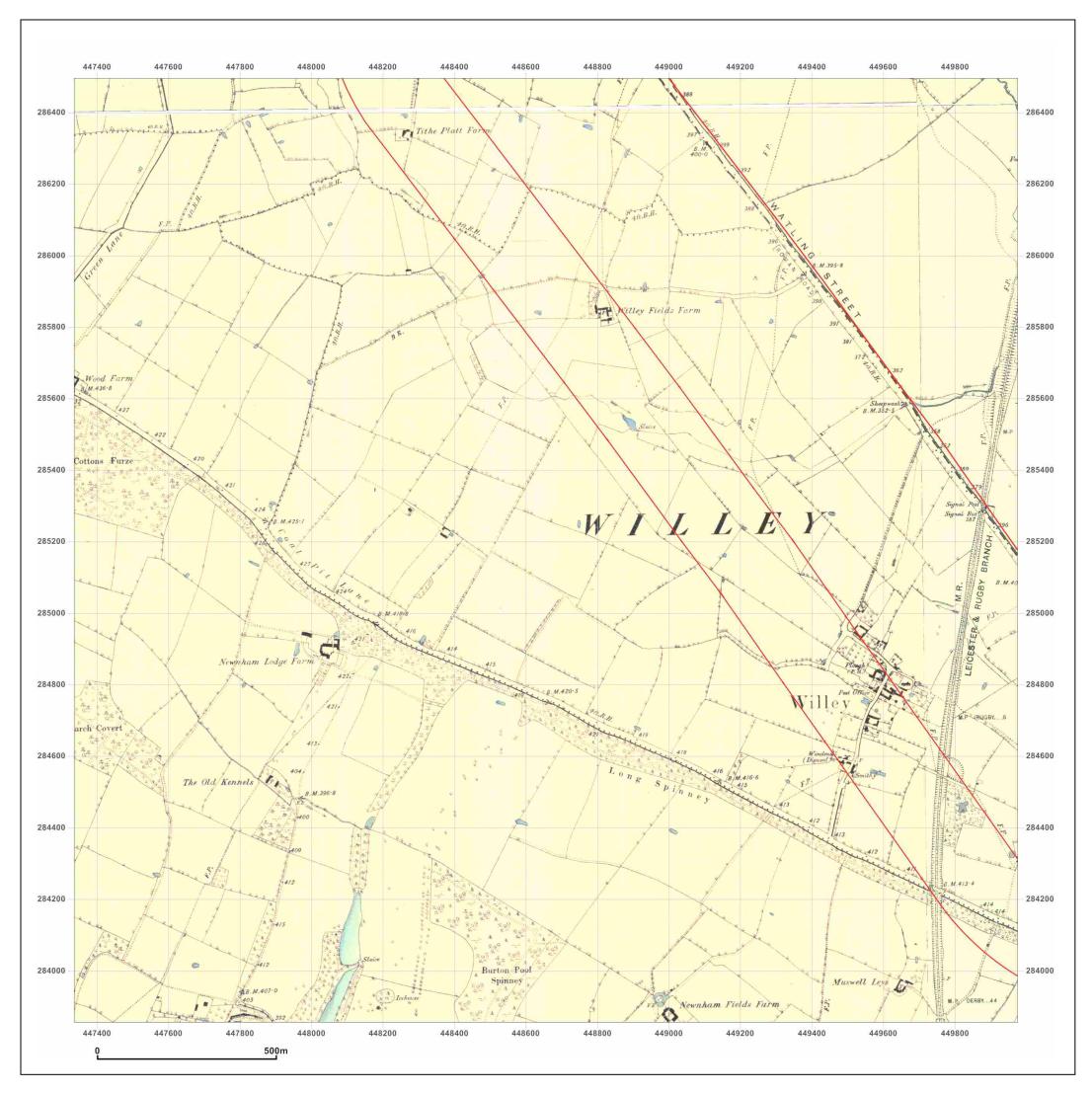
| SAMPLING DATA  |                | STRATIGRAPHIC RECORD      |                          |                     |  |  |      |
|--|----------------|---------------------------|--------------------------|---------------------|--|--|------|
| Depth (m)  | Туре           | Test Results /<br>Remarks | Legend                   | Level<br>(mAOD)     | Description  | Depth (m                                 | Wate |
| 0.60   | D              |                           |                          | 119.49              | Wheat crop over soft dark brown sandy CLAY.<br>(TOPSOIL).         Soft becoming firm light brown mottled grey gra<br>CLAY. Gravel of poorly sorted fine to coarse chi-<br>limestone, sandstone and flint. Occasional<br>limestone cobbles and coarse orange sand band<br>(OADBY MEMBER).         Firm dark grey mottled brown gravelly cobbly CI<br>Gravel of rounded chalk with rare red ochreous<br>sandstone clasts. (OADBY MEMBER).         End of Trial Pit at 2.85 m | alk,                                     |      |
| SAMPLE/TEST KEY<br>B - Bulk Sample W - Water Sample<br>D - Small Disturbed Sample V - Vane Test Result |                |                           | Comments<br>Backfilled v | :<br>vith arisings. | N  | Groundwater Remain No Groundwater Encour |      |
| Water<br>Strike<br>B 3 - Capita TP Log   | Water<br>Level | DW/E                      | Stability : F            | Pit walls rema      | ained stable.  |  |      |

| Project Number: CS074680-2           Oak House<br>Watkroam         Tel: (1028 81737<br>Fex: (1232 8216)         Sheet 1 of 1           Scale: 1.50         Date: 09/09/2015         Plant: JCB-3CX         Checked By: PWE           Scale: 1.50         Date: 09/09/2015         Plant: JCB-3CX         Checked By: PWE           Scale: 1.50         Date: 09/09/2015         Plant: JCB-3CX         Checked By: PWE           Scale: 1.50         Date: 09/09/2015         Plant: JCB-3CX         Checked By: PWE           NO Photograph         No Photograph         Checked By: PWE         Checked By: PWE           SAMPLING DATA         STRATIGRAPHIC RECORD         Checked By: PWE         Checked By: PWE           Depth (n)         Type         Test Reading:<br>Remarks         Logend         Logend         Memory<br>(mAOD)         Description           121.04         Stratigraphic register and ronge sand bands. (ADBY<br>MEMBER).         Saft yellowish brown sandy GLAY. (TOPSOIL).         0.25           2.45         D         D         Saft yellowish brown mathetic dronge said bands. (ADBY<br>MEMBER).         0.90         Test register and ronge said bands. (ADBY<br>MEMBER).         0.90  | CAPITA                                   |                    | agna Park Extension:<br>oplication   | Hybrid  | Trial Pit Numb   |             |       |
|--|--|--------------------|--|---|--|-------------|-------|
| Reeds Crescent<br>Waterd<br>W294 40p       Fast 1923 2283 f6<br>www.capita.co.uk/property       Easting: -       Northing: -       G.L. 121.29       Logged By : GEA         Scale: 1:50       Date: 09/09/2015       Plant: JCB-3CX       Checked By : PWE         NO Photograph       Northing: -       G.L. 121.29       Logged By : GEA         Scale: 1:50       Date: 09/09/2015       Plant: JCB-3CX       Checked By : PWE         No Photograph       Northing: -       G.L. 121.29       Logged By : GEA         Scale: 1:50       Date: 09/09/2015       Plant: JCB-3CX       Checked By : PWE         No Photograph       Stampling       Legend       Level         Scale: 1:50       StrATIGRAPHIC RECORD       Depth (m)       Type       Test Results /<br>Remarks       Legend         Level       Isoph (m)       Type       Test Results /<br>Remarks       Legend       Level<br>(mADD)       Description       Depth (m)         Upph (m)       Type       Test Results /<br>Remarks       Logged By : GLA       Soft yellowish brown sandy CLAY. (TOPSOL).       Soft yellowish brown sandy gravelly CLAY. Occasional<br>model and ravel and orange sand banks. (0ADBY       0.30         Charles of thirds and red concreas and yellow sandstone. (GADBY<br>MEMBER).       Plant and red concreas and yellow sandstone. (OADBY       0.30         Cadd       D       D  |  | Project Number:    | CS074680-2   |   |  |             |       |
| Water of Water of Window Windowskie (OADBY)         Easting: -         Northing: -         G.L. 121.29         Logged By ; GEA           Scale: 1:50         Date: 09/09/2015         Plant: JCB-3CX         Checked By : PWE           NO Photograph         No Photograph         Checked By : PWE           SAMPLING DATA         STRATIGRAPHIC RECORD         Checked By : PWE           SAMPLING DATA         STRATIGRAPHIC RECORD         Checked By : PWE           Logent (m)         Type         Test Results / Remarks         Logend (mAOD)           Logend (m)         Type         Test Results / Remarks         Logend (mAOD)           121.04         Wheat crops over soft brown sandy CLAY. (TOPSOIL).         0.25           Time greyte hrown sandy CLAY. (Checked filt) gravel of crops and gravely CLAY. Occasional round gravel and gravel   | Oak House Tel: 01923 817537              | Client: IDI Gazele | ey   |   | Sheet 1 of 1   |             |       |
| Scale: 1:50     Date:     09/09/2015     Plant:     JCB-3CX     Checked By:     PWE       No Photograph       SAMPLING DATA       STRATIGRAPHIC RECORD       Depth (m)     Type     Test Results/<br>Remarks     Legend     Level<br>(mAOD)     Description     Open (m)     Viewel and orange sandy gravely CLAY. (TOPSOIL).       121.04     Soft yellowish brown sandy CLAY. (TOPSOIL).     0.25       Viewel and orange sandy gravely CLAY. Occasional<br>resource and orange sandy gravely CLAY. Occasional<br>resource and orange sandy gravely CLAY. Occasional<br>resource and orange sandy actively of<br>first and ferruginous mudstone. Gravel of friable<br>chain and recolutions and yellow sandstone. (OADBY       2.45     D  | Watford www.capita.co.uk/property        | ' Easting: -       | Northing: -  | G.L. 121.29   | Logged By : G  | ΕA          |       |
| SAMPLING DATA     STRATIGRAPHIC RECORD       Depth (m)     Type     Test Results /<br>Remarks     Level<br>(mAOD)     Description     Depth (m)     V/a       121.04     Soft yellowish brown sandy CLAY. (TOPSOIL).     0.25     0.25       121.04     Soft yellowish brown sandy gravelly CLAY. Occasional<br>rounded filing gravel and orange sand bands. (OADBY     0.90       120.39     Firm greyish brown motiled orange sandy gravelly<br>cobbly CLAY. Abundant round gravel and ocbbles of<br>filint and feruginous mutued and cobbles of<br>filint and feruginous mutued orange sandy sandstone. (OADBY<br>MEMBER).     0.90       2.45     D     D     D  |  | Date: 09/09/2015   | Plant: JCB-3CX   |   | Checked By :   | PWE         |       |
| Depth (m)     Type     Test Results /<br>Remarks     Legend     Level<br>(mAOD)     Description     Depth (m)     Wa       V     V     V     V     V     V     V     V     V     0.25     0.25       V     V     V     V     V     V     V     V     0.25     0.25       V     V     V     V     V     V     V     0.25     0.25       V     V     V     V     V     V     0.25     0.25       V     V     V     V     V     V     0.25     0.90       V     V     V     V     V     V     0.25     0.90       V     V     V     V     V     V     0.25     0.90       V     V     V     V     V     V     0.90     0.90       V     V     V   |  | No Pł              | hotograpł  | ٦   |  |             |       |
| Depth (m)     Type     Test Results / Remarks     Legend     (mAOD)     Description     Depth (m)     Wa       Image: Construction of the state of the | SAMPLING DATA                            | STRATIGRAPHIC RE   | ECORD  |   |  |             |       |
| 2.45 D   | Depth (m) Type Test Results /<br>Remarks |                    | Description  |   |  | Depth (m)   | Water |
| 2.75   | 2.45 D                                   | 121.04             | Soft yellowish bro<br>rounded flint grave<br>MEMBER).<br>Firm greyish brow<br>cobbly CLAY. Abu<br>flint and ferrugino<br>chalk and red och<br>MEMBER). | wn sandy gravelly CLAY.<br>el and orange sand bands<br>m mottled orange sandy g<br>undant round gravel and c<br>us mudstone. Gravel of fi<br>reous and yellow sandsto | Occasional<br>s. (OADBY<br>gravelly<br>cobbles of<br>riable<br>one. (OADBY | -<br>-<br>- |       |
| SAMPLE/TEST KEY     Comments :     Groundwater Remarks       B - Bulk Sample     W - Water Sample     Backfilled with arisings.  |  |                    |  |   |  | -           |       |
| D - Small Disturbed Sample       V - Vane Test Result         ✓       Water         ✓       Water         Level       Kability: Pit walls remained stable.   | B - Bulk Sample W - Water Sample         |                    |  |   | Groundwater  | Remarks     | 5     |

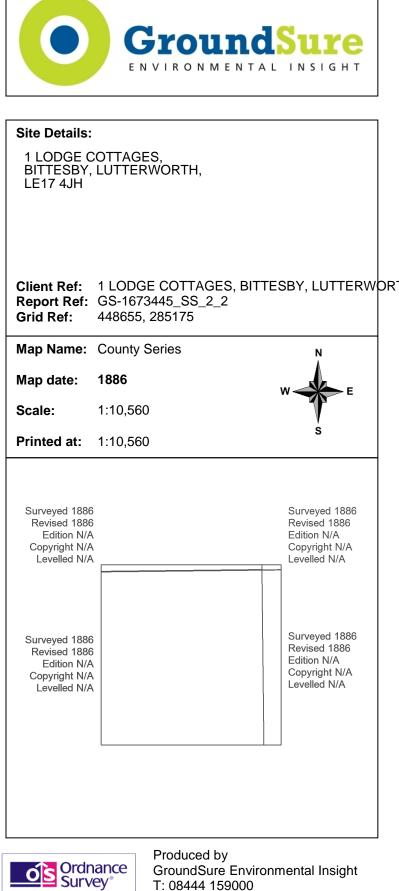
| CAPITA   | Project Name: Magna Park Extension: Hybrid<br>Application |                |             | Trial Pit Number |  |
|--|---|----------------|-------------|------------------|--|
|  | Project Number:   | CS074680-2     |             |                  |  |
| Oak House         Tel: 01923 817537           Reeds Crescent         Fax: 01923 228516 | Client: IDI Gazele  | У              |             | Sheet 1 of 1     |  |
| Watford www.capita.co.uk/property<br>WD24 4QP  | Easting: -  | Northing: -    | G.L. 120.07 | Logged By : GEA  |  |
| Scale: 1:50  | Date: 09/09/2015  | Plant: JCB-3CX |             | Checked By : PWE |  |
|  |   |                |             |                  |  |

| SAMPLING DATA  |      | STRATIGRAPHIC RECORD      |   |                 |   |                   |         |
|--|------|---------------------------|---|-----------------|---|-------------------|---------|
| Depth (m)  | Туре | Test Results /<br>Remarks | Legend  | Level<br>(mAOD) | Description   | Depth (m          | ) Water |
|  |      |                           |   | 119.72          | Wheat crop over soft brown sandy gravelly CLAY w occasional rounded flint gravel. (TOPSOIL).  | 0.35              |         |
|  |      |                           |   | - 119.17        | Soft orangish brown sandy gravelly CLAY. Frequen<br>subrounded to rounded flint gravel. (OADBY MEMB   | t<br>ER).<br>0.90 |         |
|  |      |                           |   |                 | Firm brown mottled light grey sandy gravelly cobbly<br>CLAY. Gravel and cobbles of chalk, limestone and<br>ferruginous sandstone. (OADBY MEMBER). |                   |         |
| 2.55 D   |      | 117.82                    | Stiff dark grey gravelly waxy CLAY. (OADBY MEMBER). |                 |   |                   |         |
|  |      | 117.52                    | End of Trial Pit at 2.55 m                          | 2.55            |   |                   |         |
| SAMPLE/TEST KEY<br>B - Bulk Sample W - Water Sample<br>D - Small Disturbed Sample V - Vane Test Result<br>Water<br>Strike Water<br>Level |      | Comments<br>Backfilled v  | :<br>vith arisings.                                 |                 | Groundwater Remainstructure   |                   |         |
|  |      | PWF                       | Stability : F                                       | Pit walls rema  | ained stable.   | -                 |         |





Licensed Partner

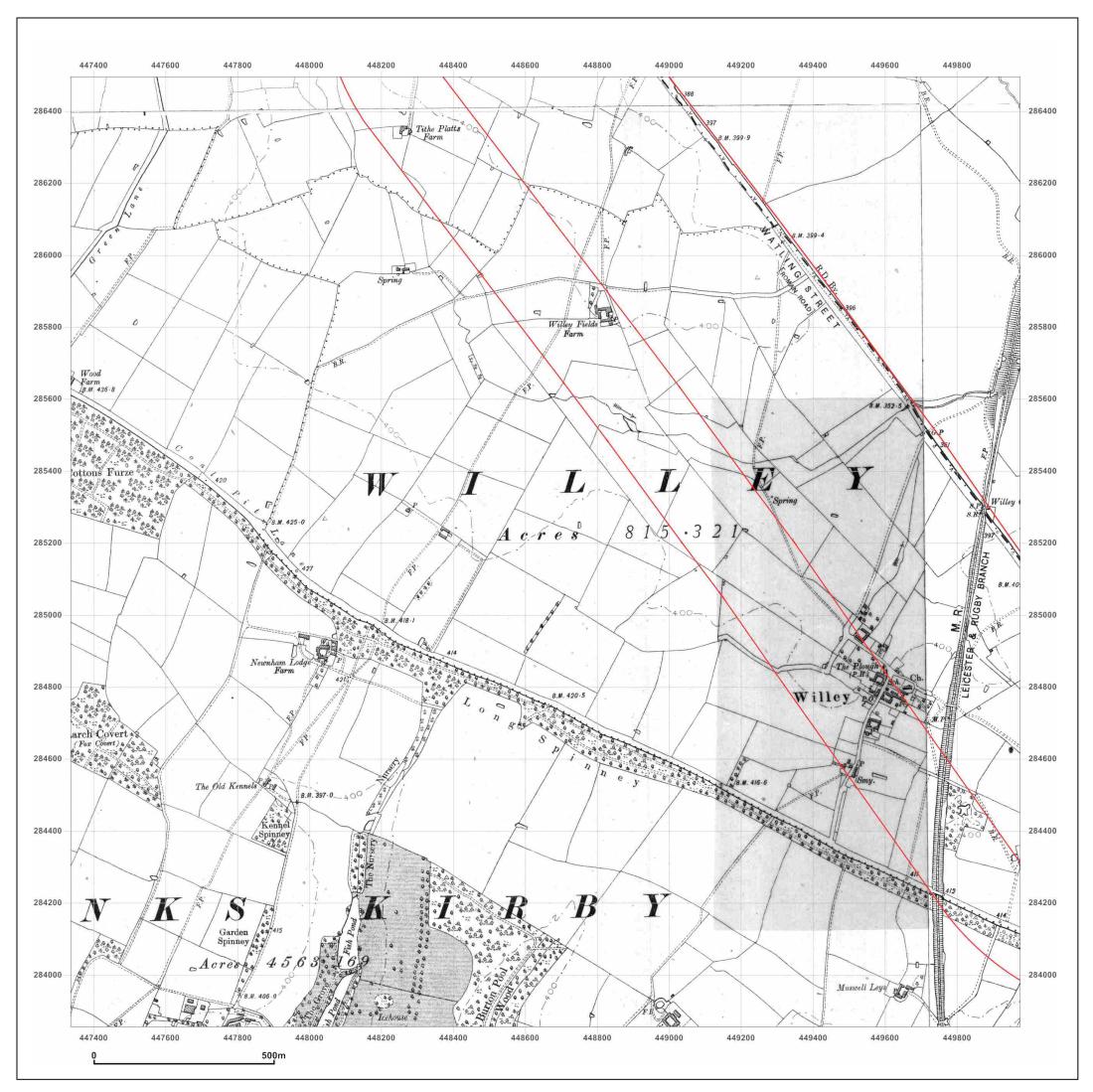


T: 08444 159000 E: info@groundsure.com

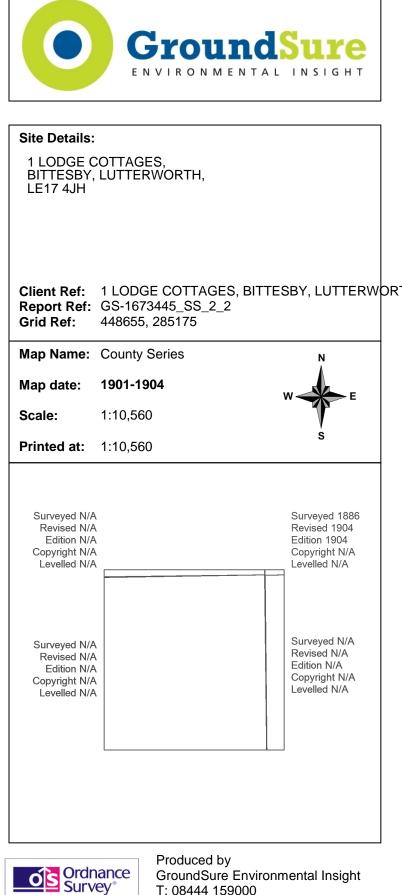
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



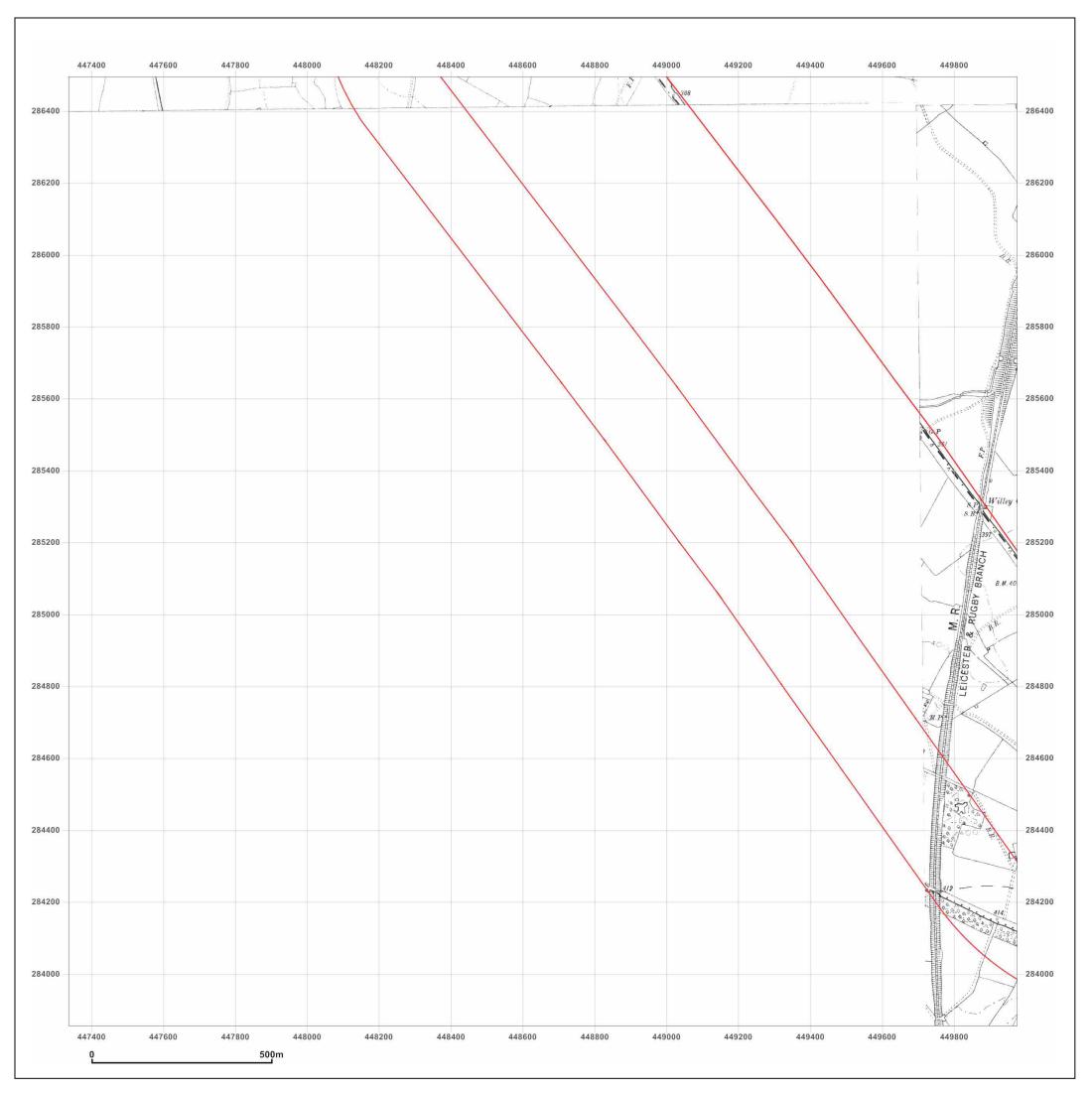
Licensed Partner

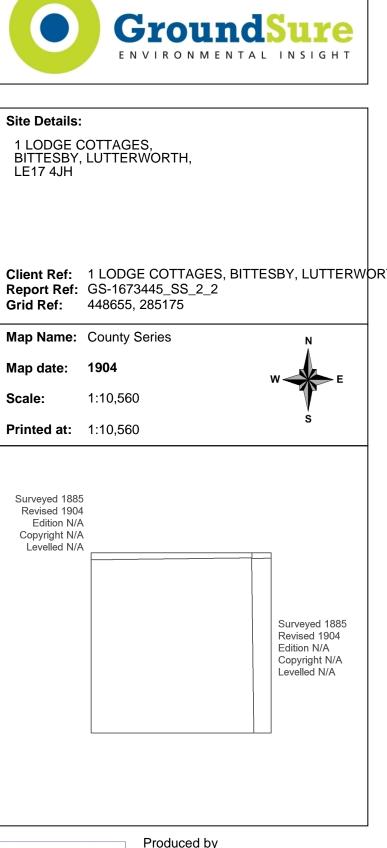


T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



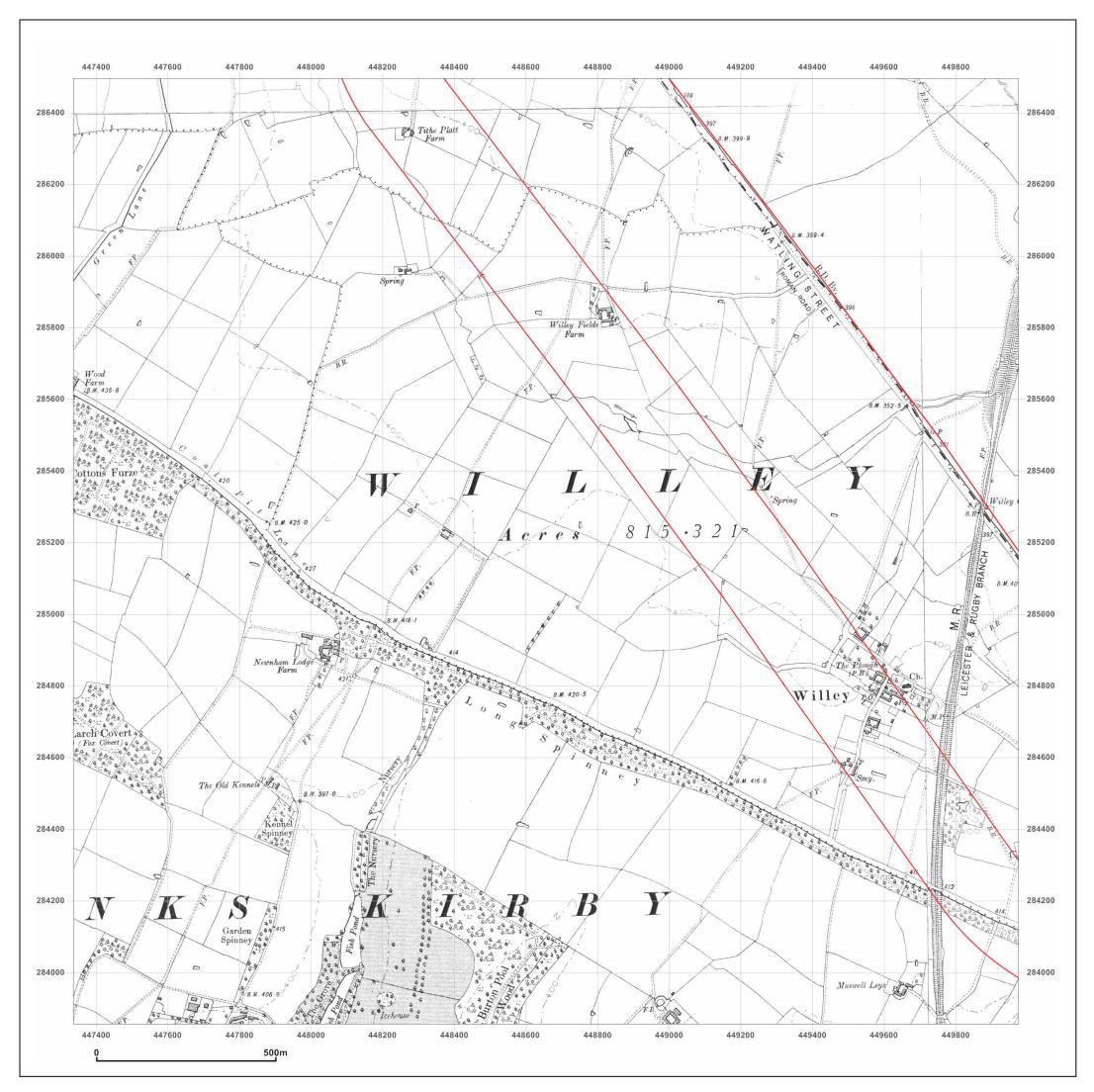


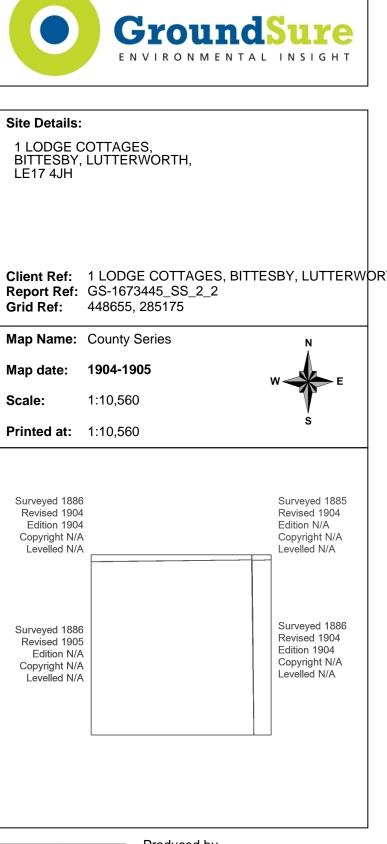


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



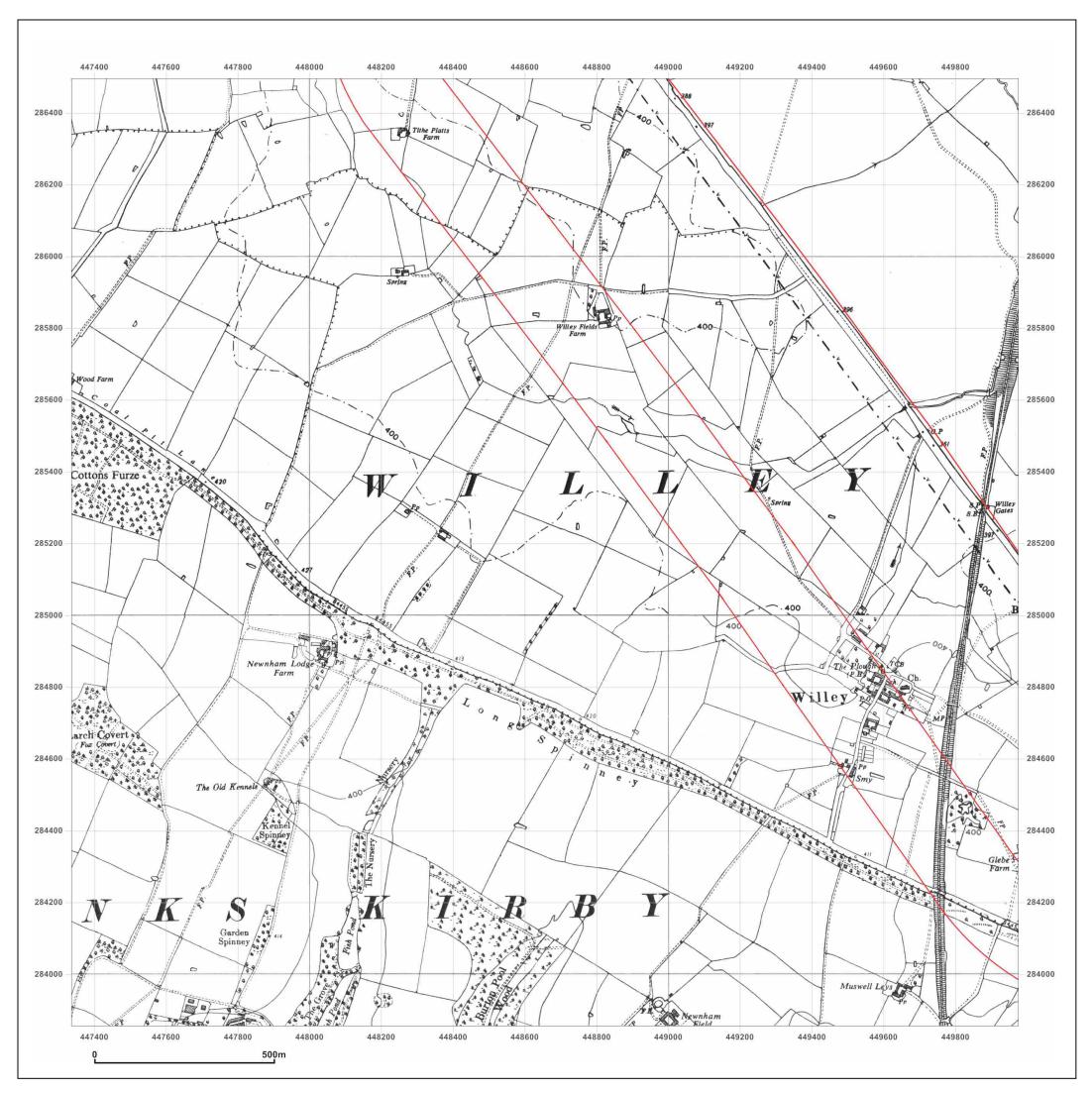


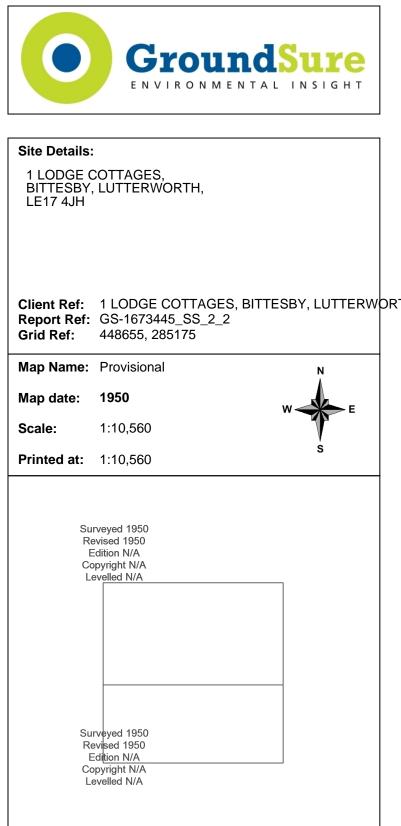
**Ordnance** Survey<sup>®</sup> Licensed Partner

Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

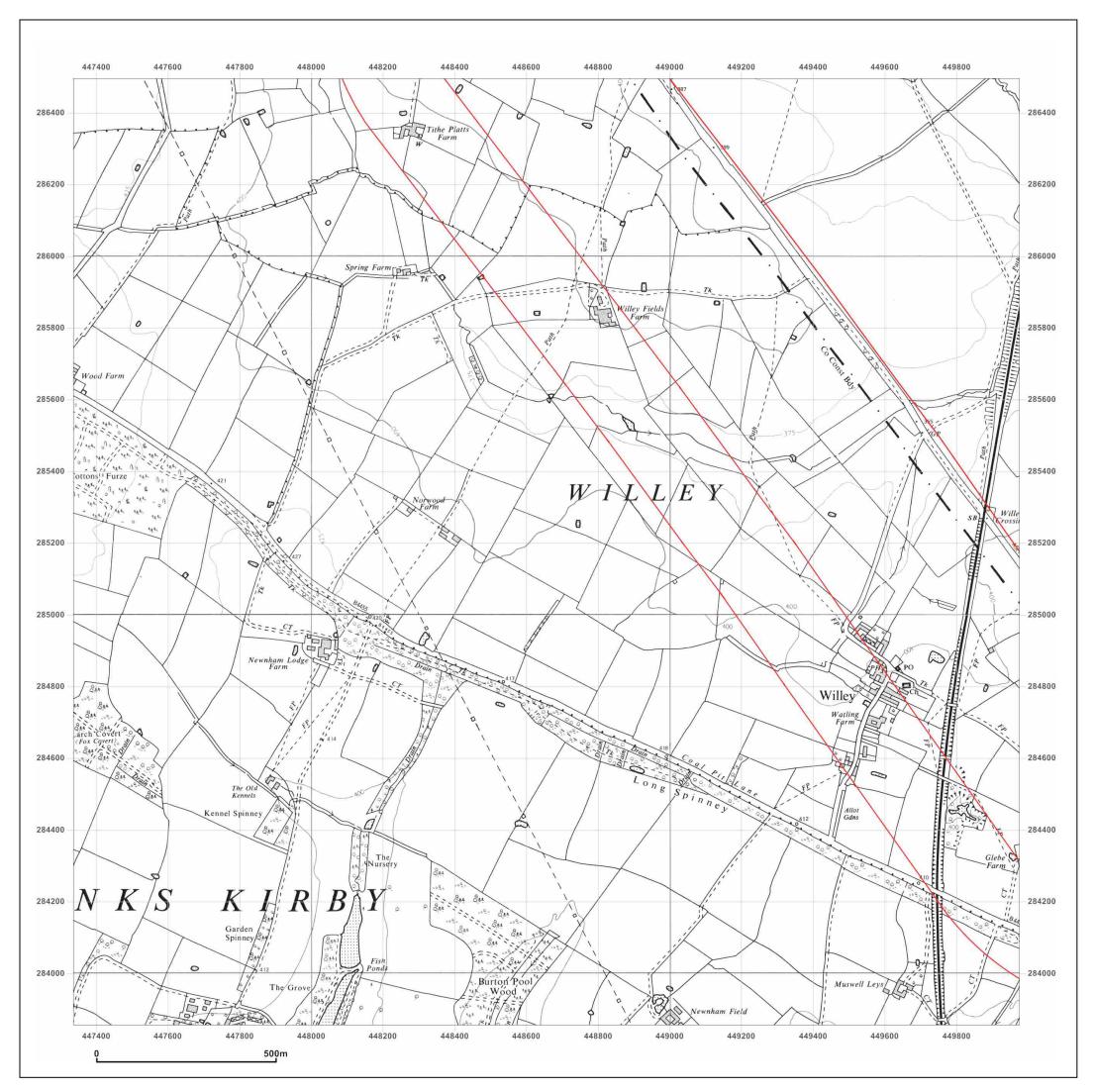


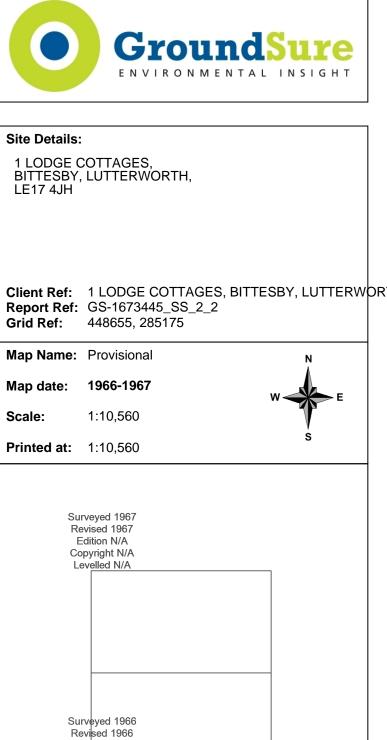




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





Edition N/A Copyright N/A

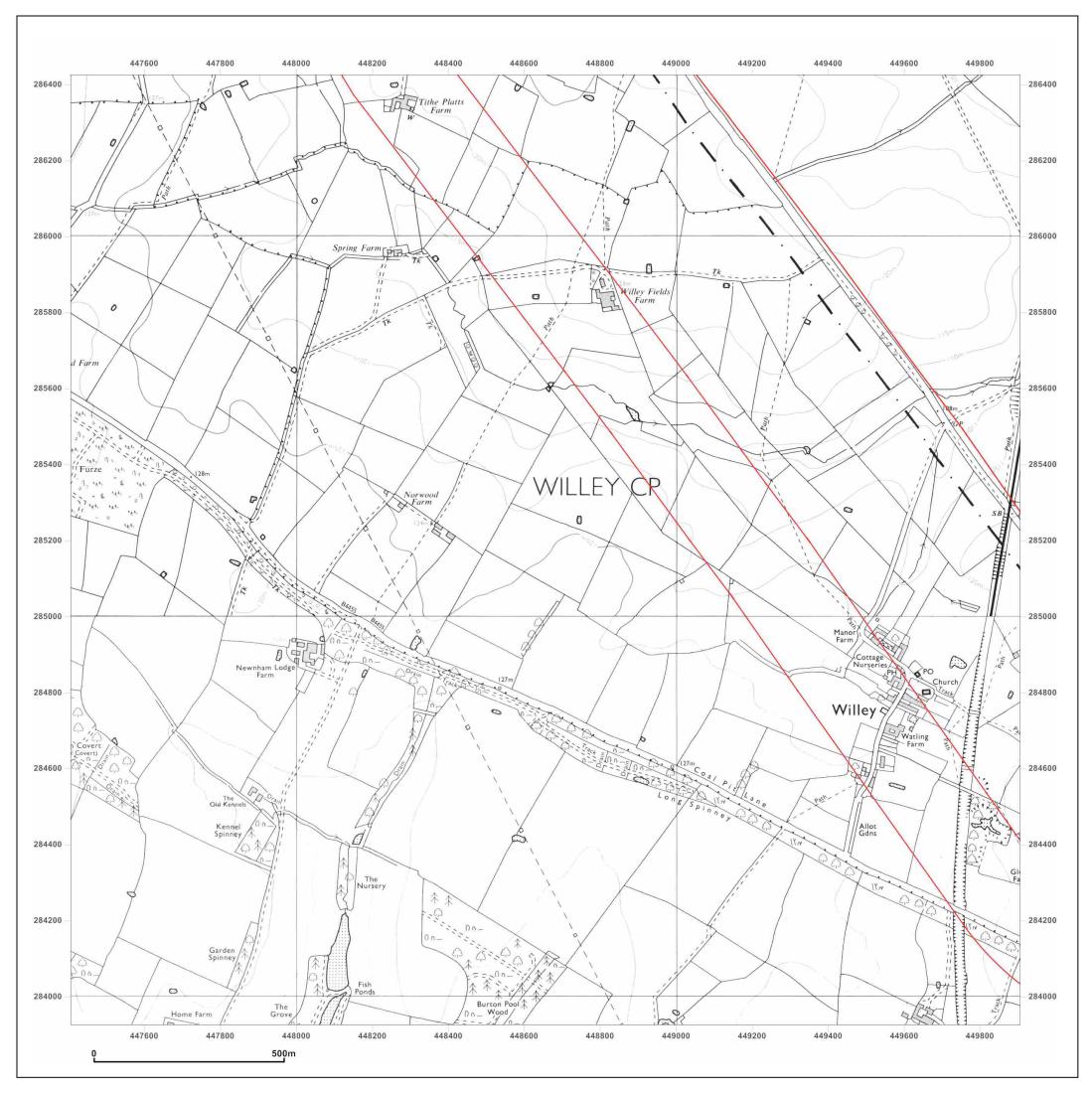
Levelled N/A

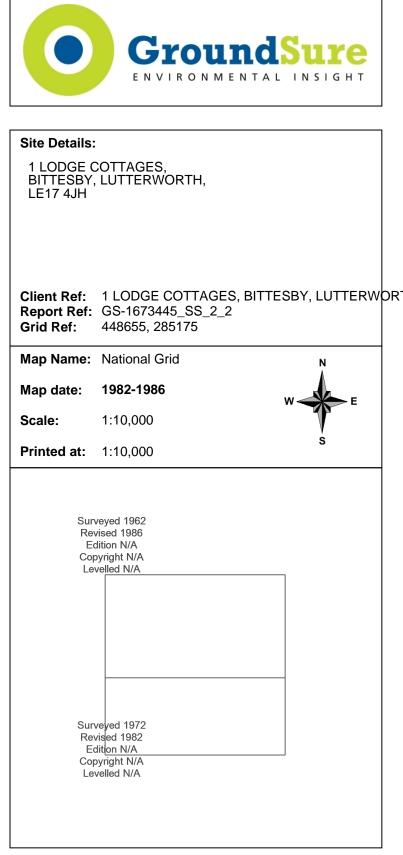


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

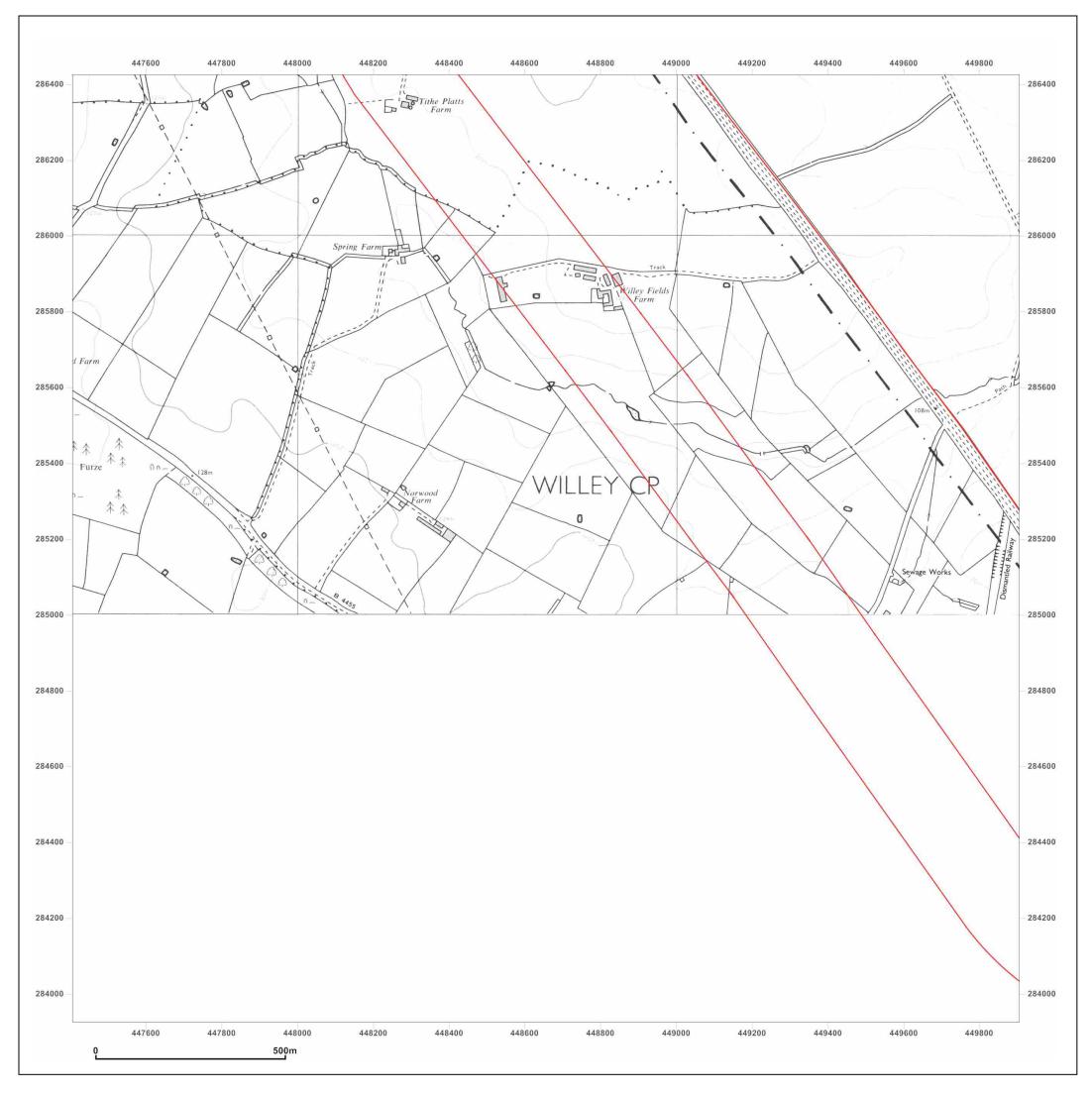


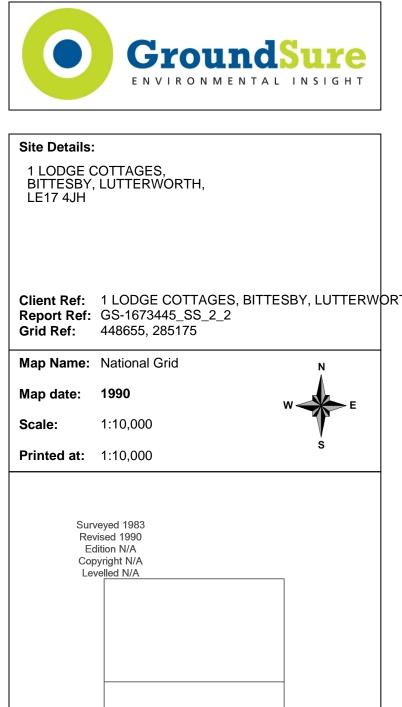




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

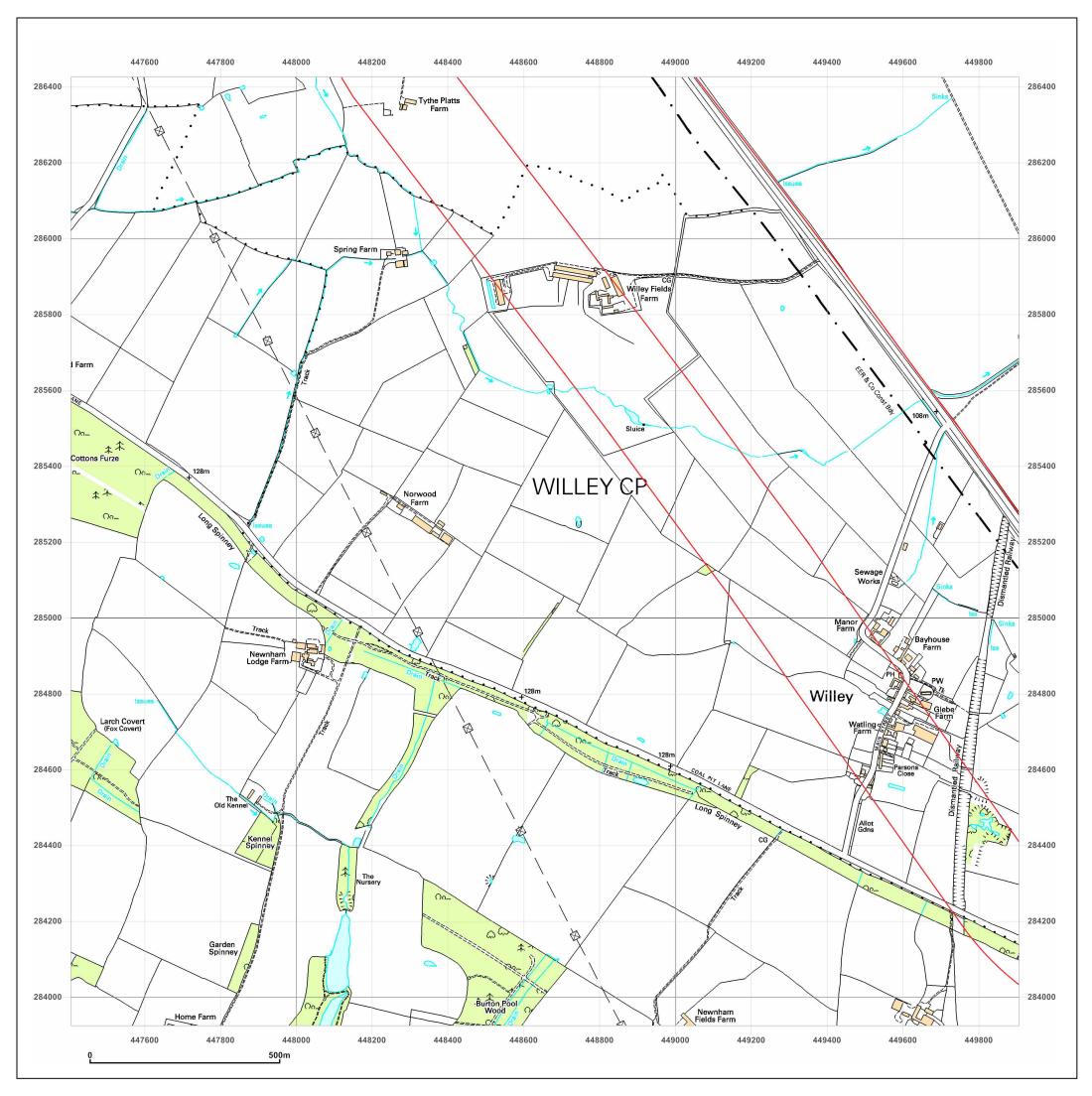






© Crown copyright and database rights 2013 Ordnance Survey 100035207

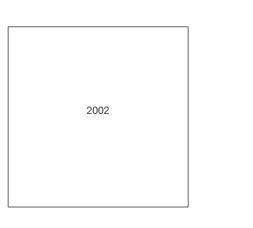
Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BITTESBY, LUTTERW<br>GS-1673445_SS_2_2<br>448655, 285175 | OR |
|-------------|--|----|
|             |  |    |

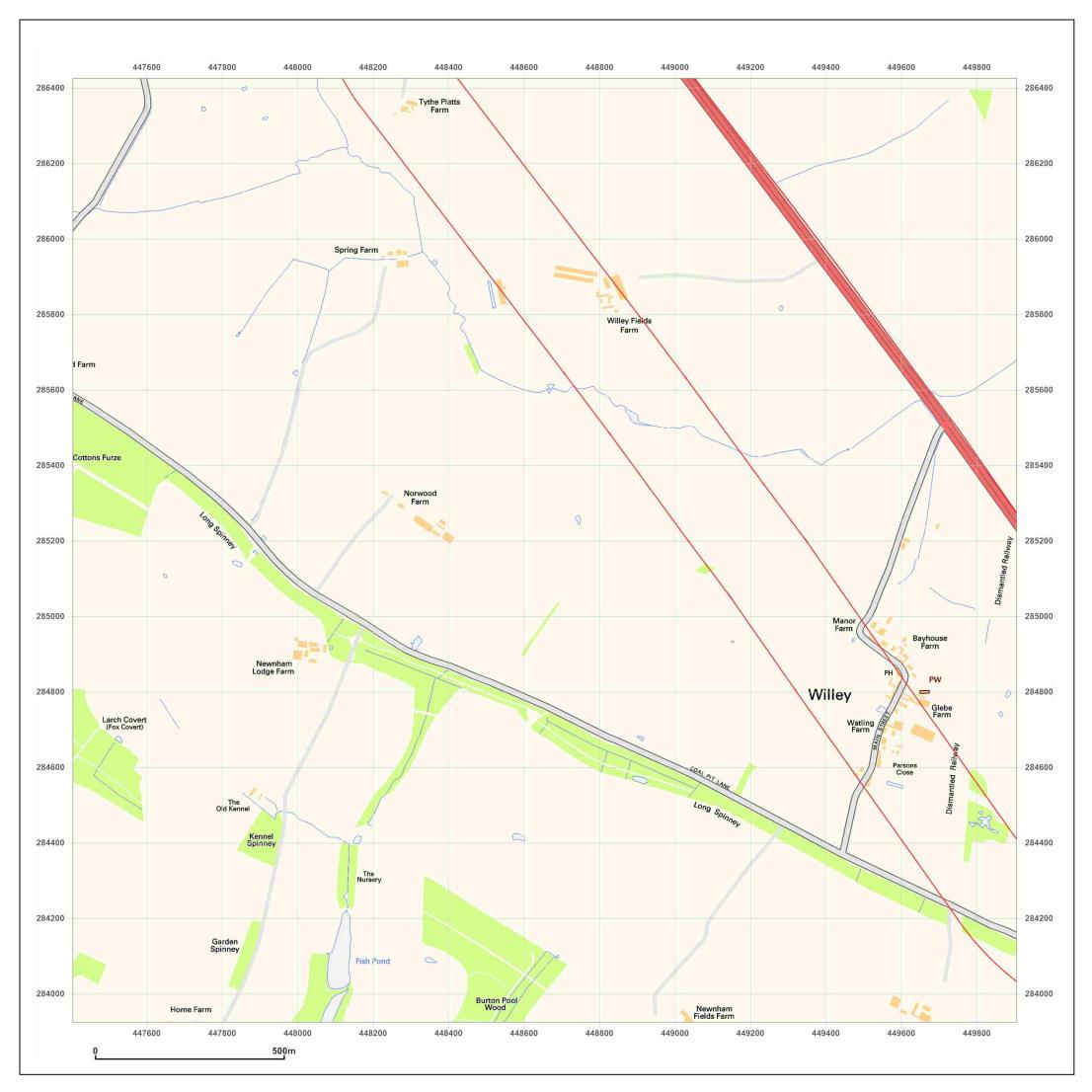
- Map Name: 1:10,000 Raster
- Map date: 2002
- 1:10,000 Scale:
- **Printed at:** 1:10,000





© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





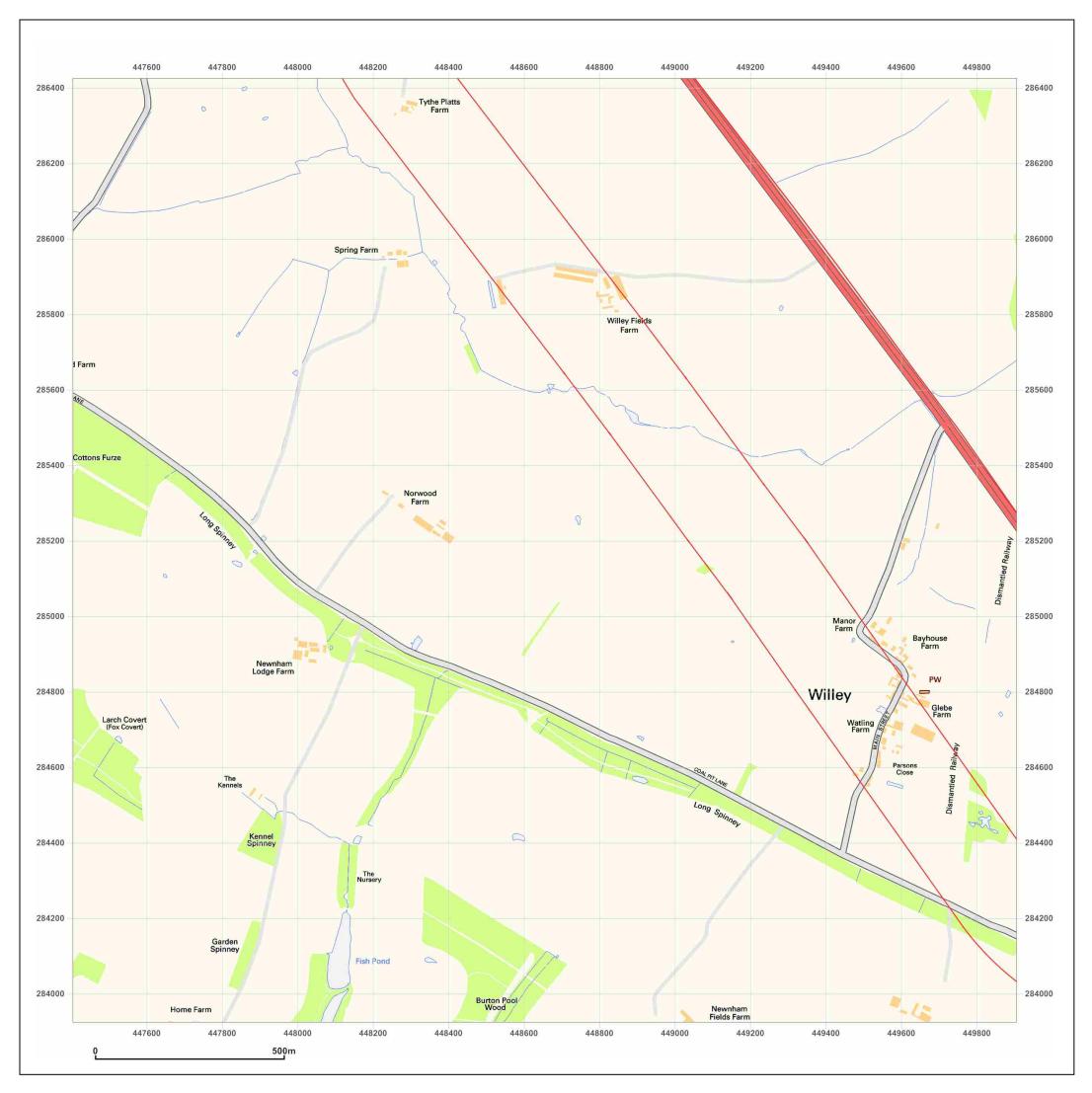
| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_SS_2_2<br>448655, 285175 | TESBY, LUTTERWC | DR. |
|-------------|--|-----------------|-----|
| Map Name:   | National Grid  | N               |     |
| Map date:   | 2010   | W               |     |
| Scale:      | 1:10,000   |                 |     |
| Printed at: | 1:10,000   | S               |     |

|--|



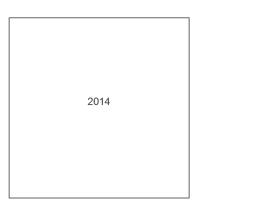
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BITT<br>GS-1673445_SS_2_2<br>448655, 285175 | ESBY, LUTTERWO | DR- |
|-------------|---|----------------|-----|
| Map Name:   | National Grid   | N              |     |
| Map date:   | 2014  | W              |     |
| Scale:      | 1:10,000  |                |     |
| Printed at: | 1:10,000  | S              |     |

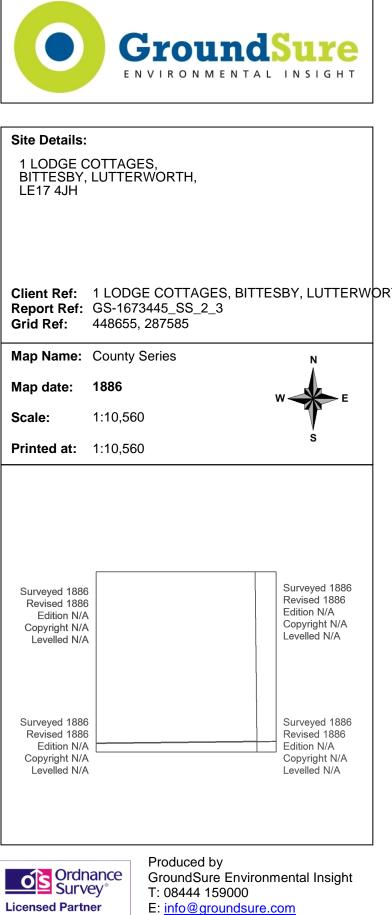




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

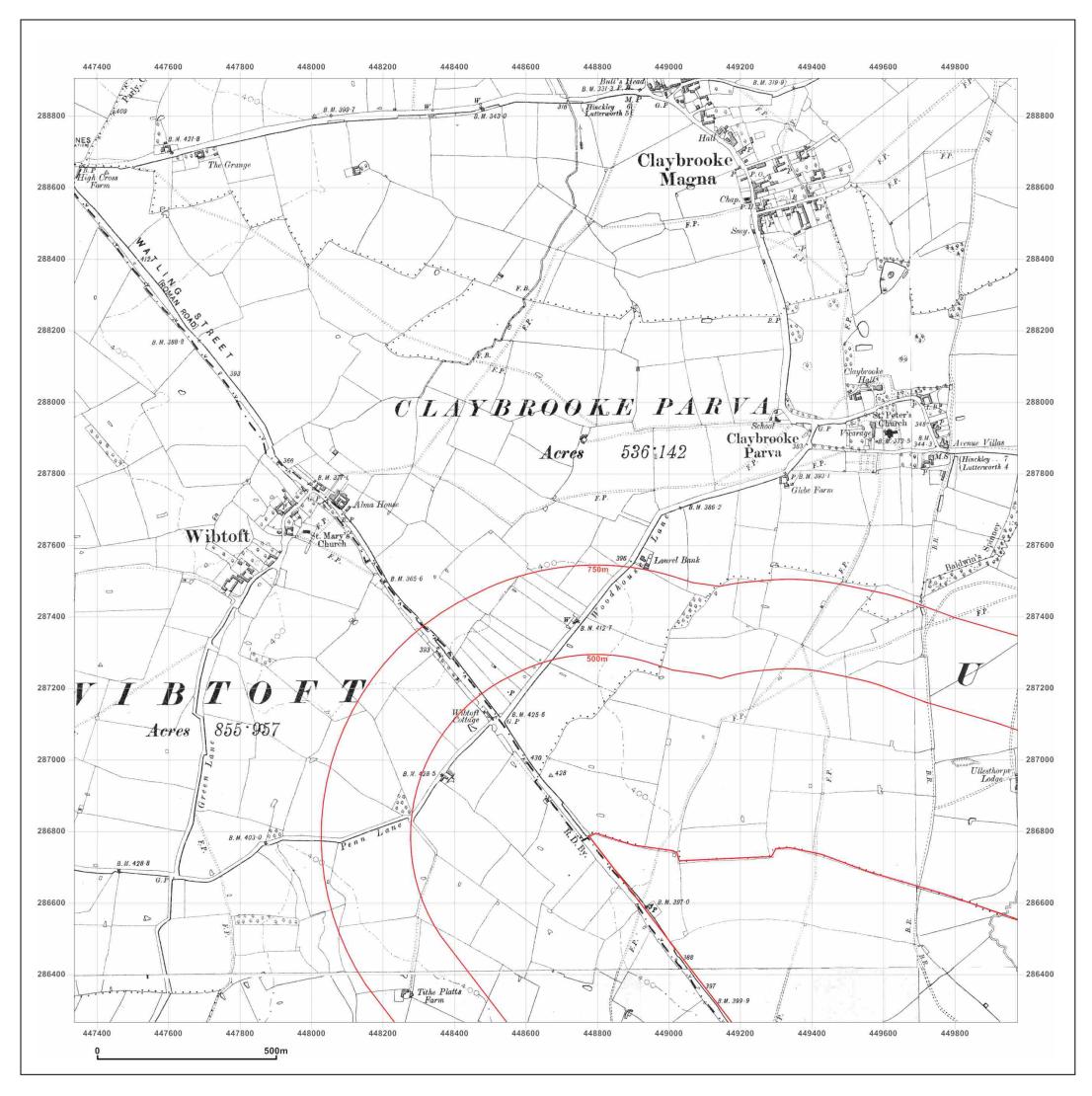


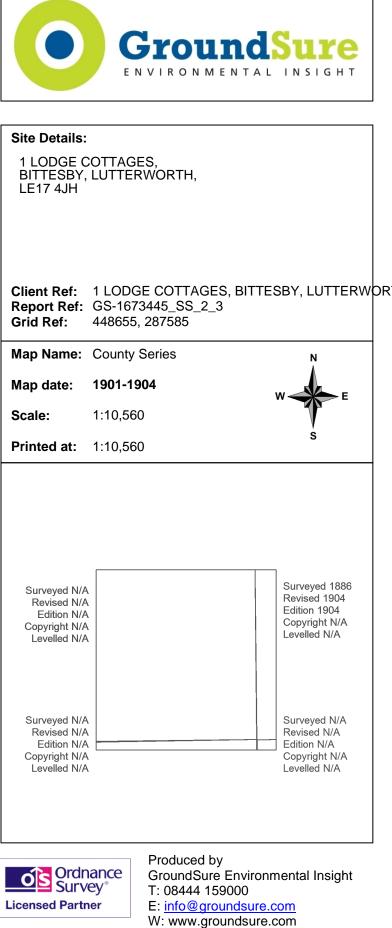


W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

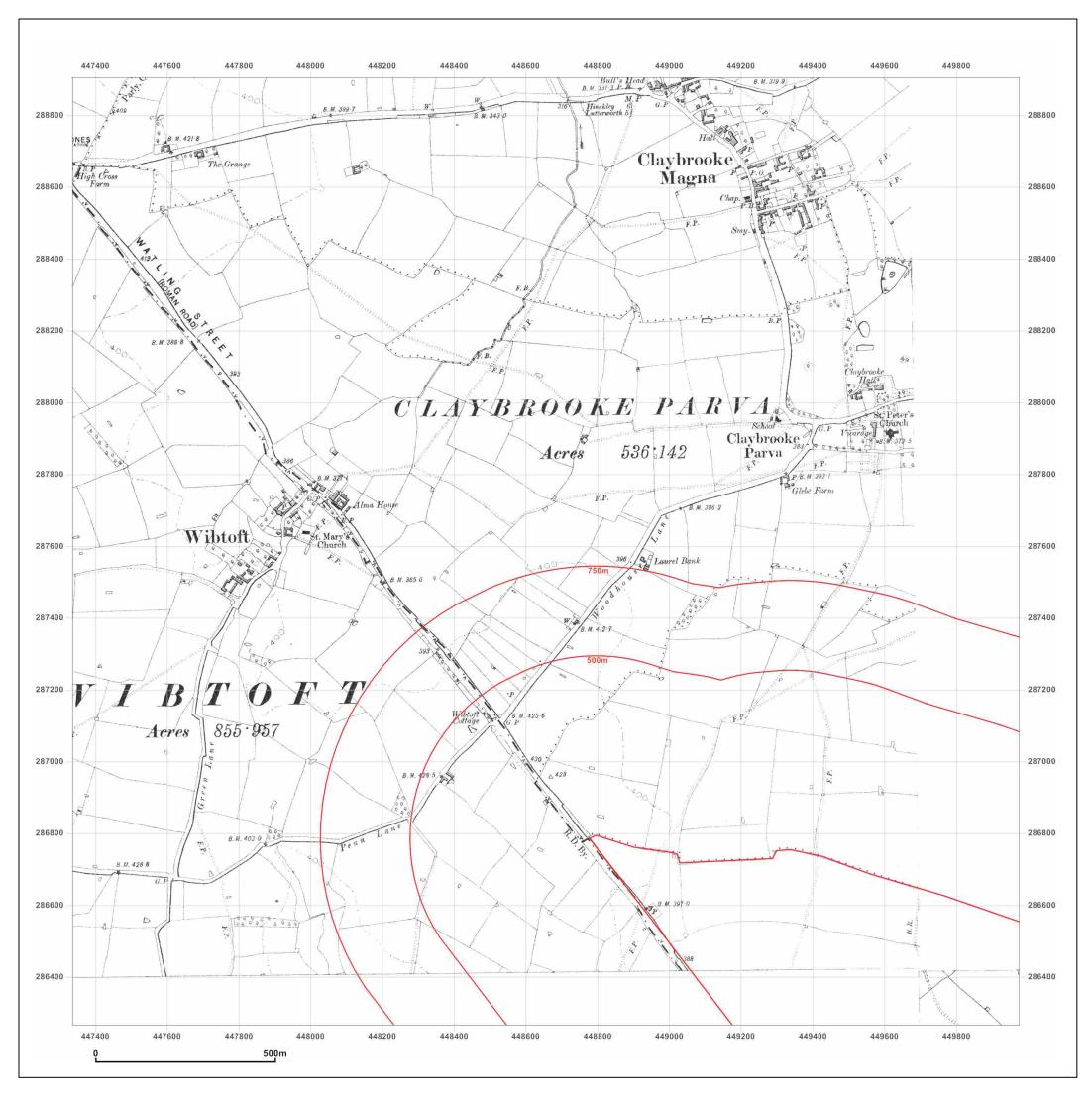
Production date: 22 September 2014



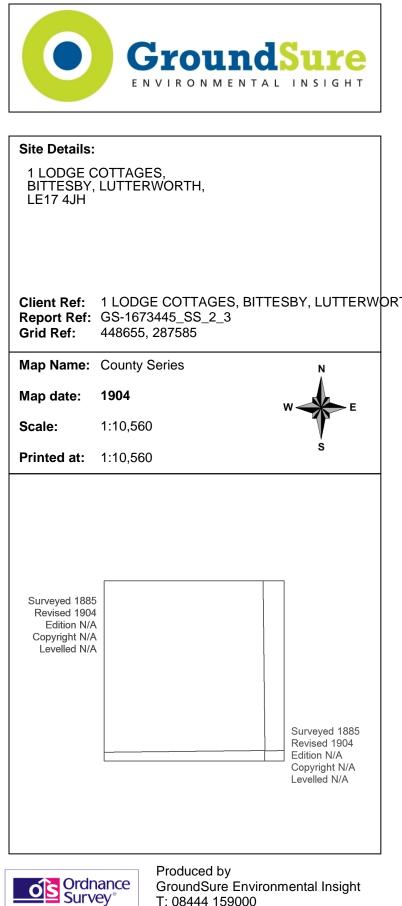


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

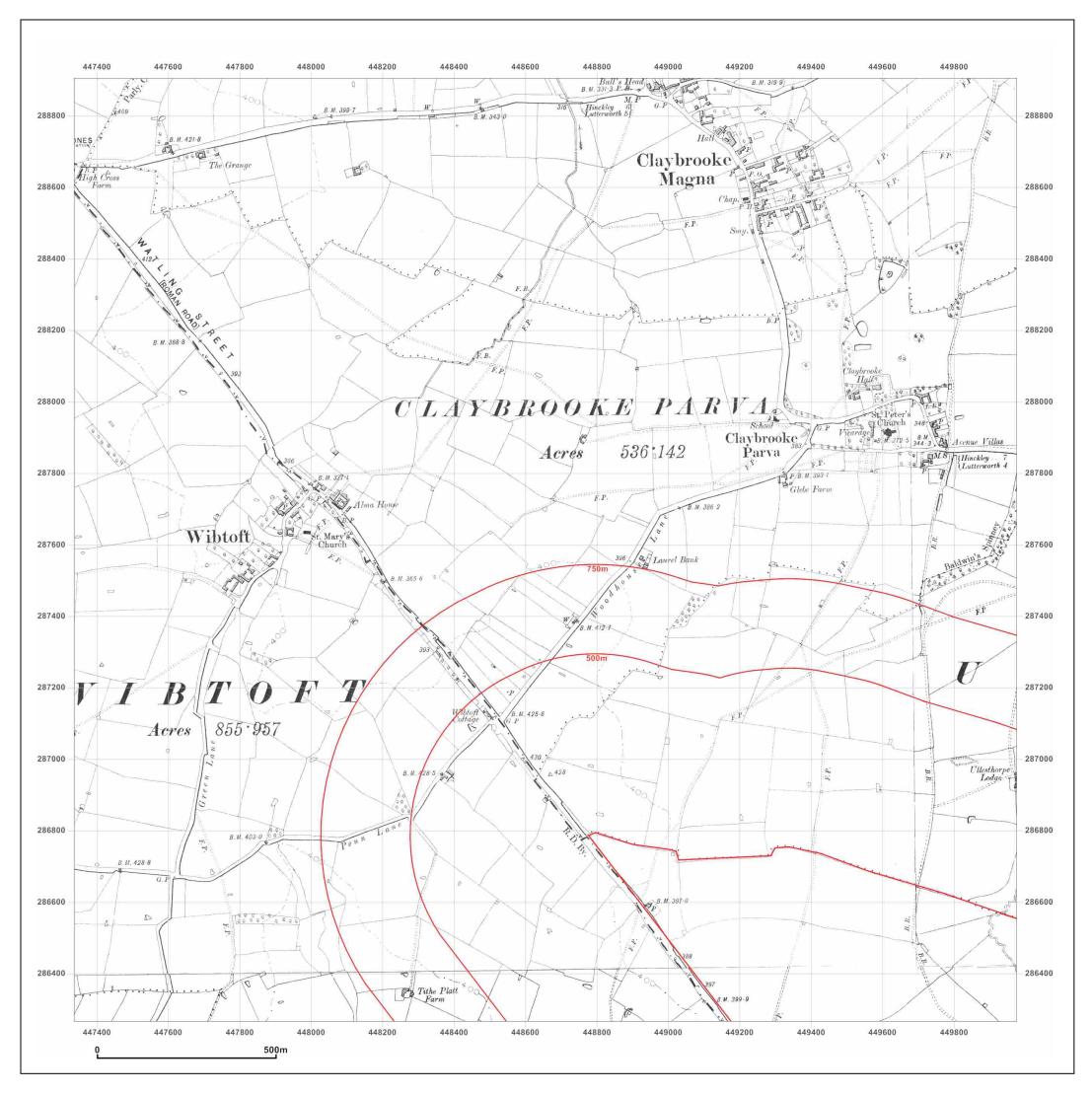


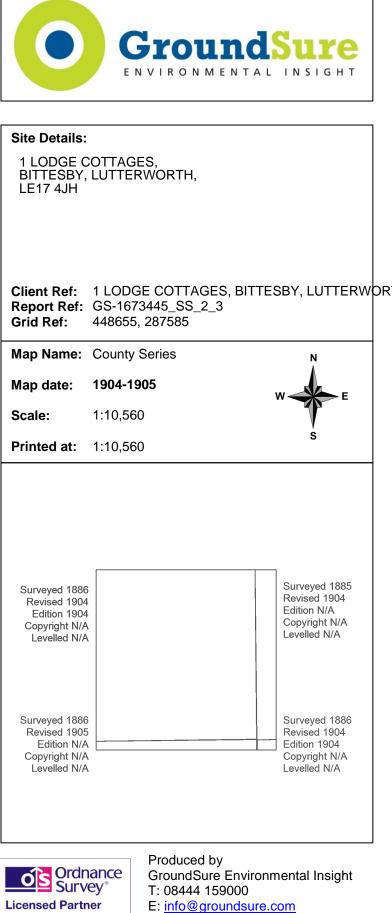
T: 08444 159000 E: info@groundsure.com

W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

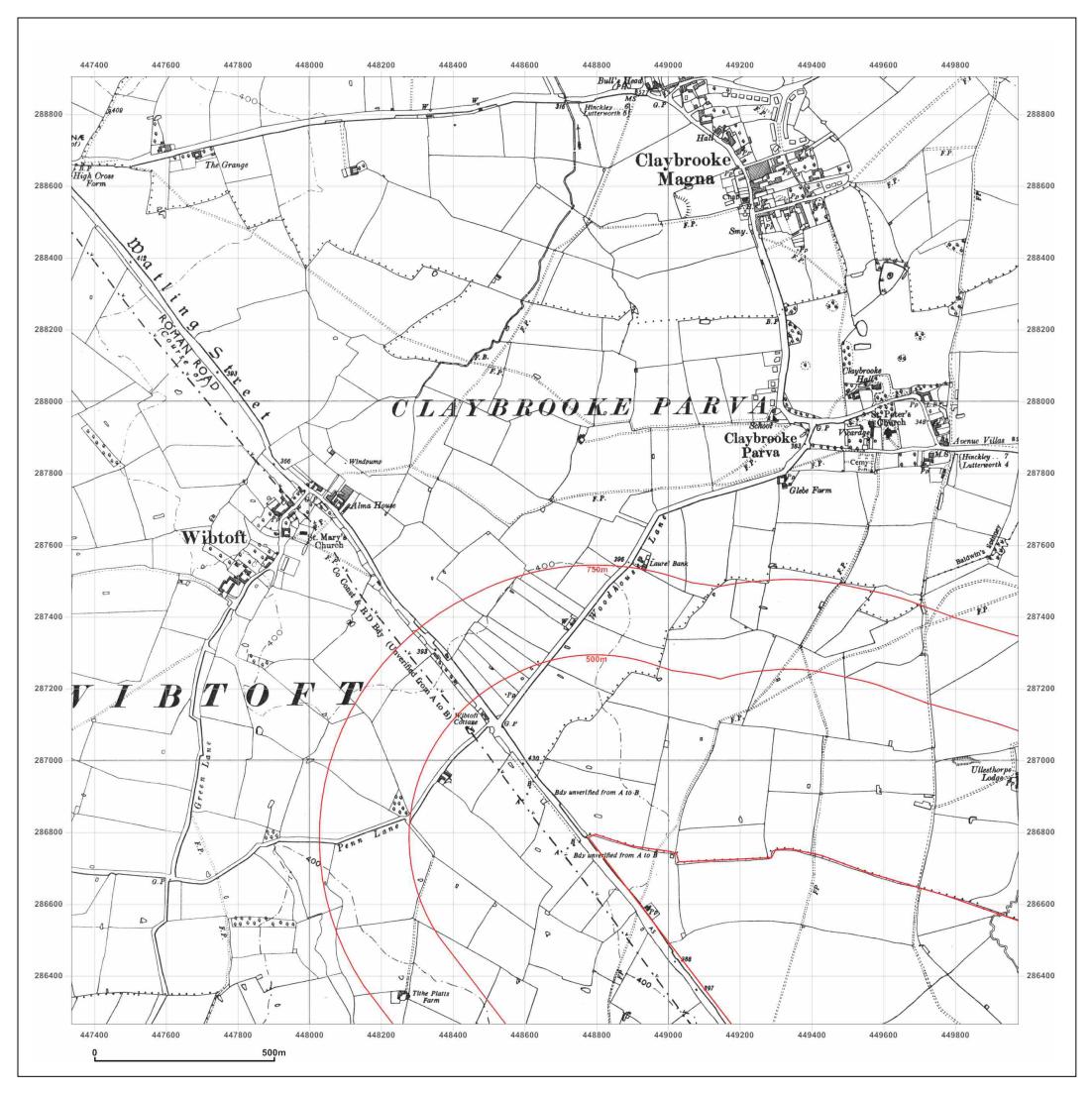


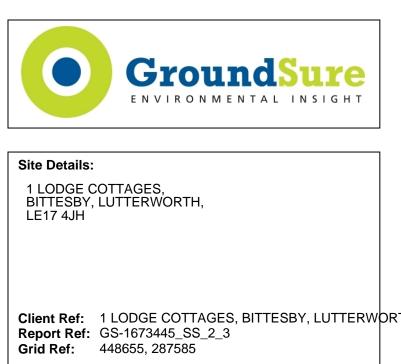


W: www.groundsure.com

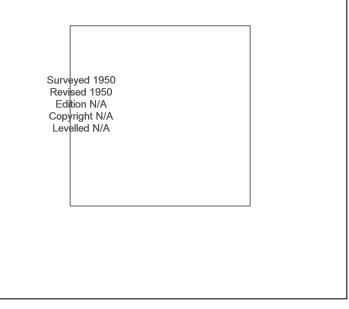
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





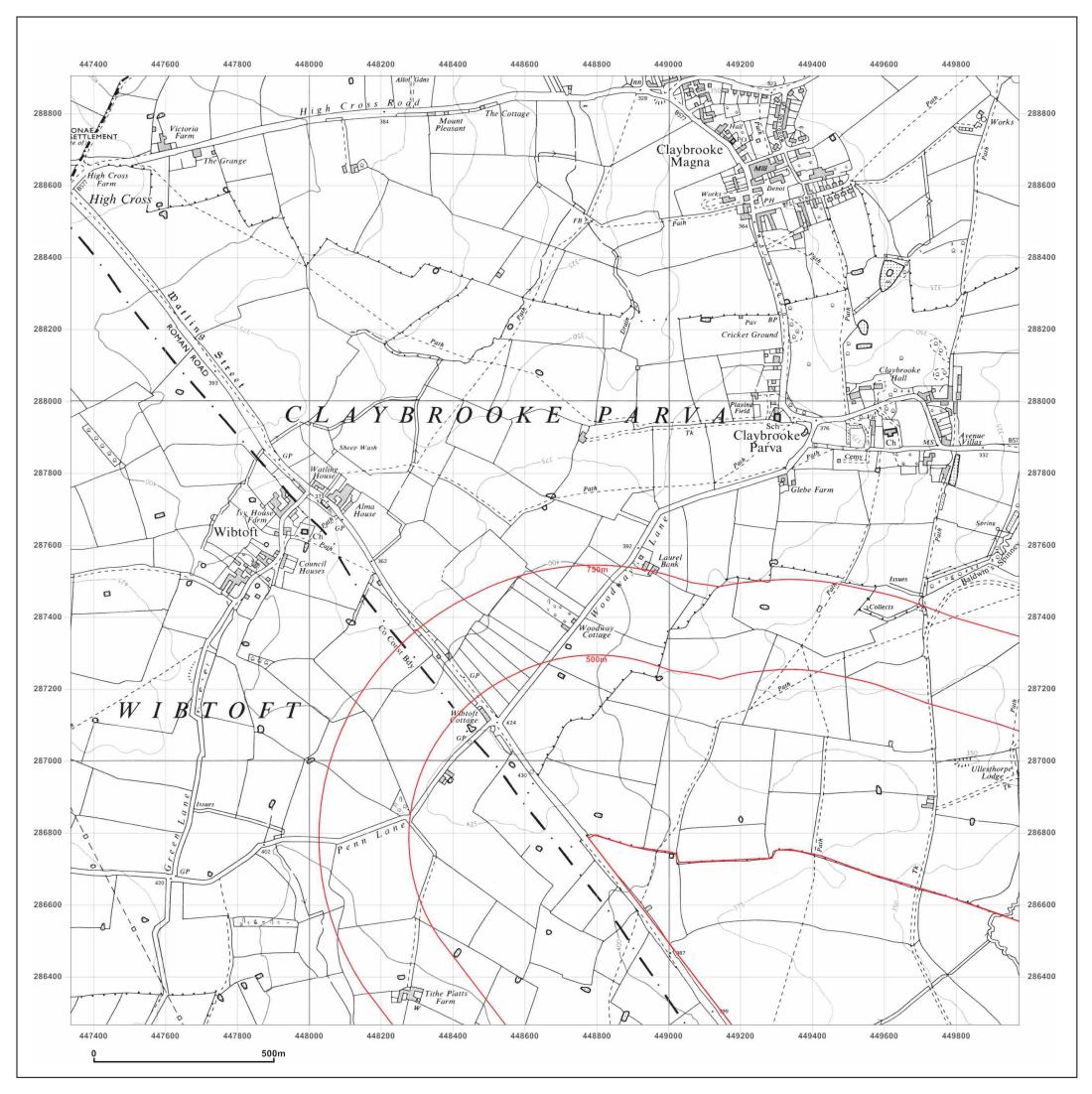
| Map Name:   | Provisional | N |
|-------------|-------------|---|
| Map date:   | 1950        | W |
| Scale:      | 1:10,560    | Y |
| Printed at: | 1:10,560    | S |





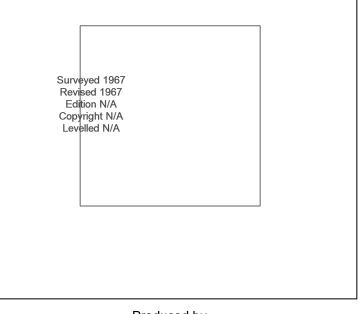
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





| Map Name:   | Provisional | N |
|-------------|-------------|---|
| Map date:   | 1967        | W |
| Scale:      | 1:10,560    |   |
| Printed at: | 1:10,560    | S |

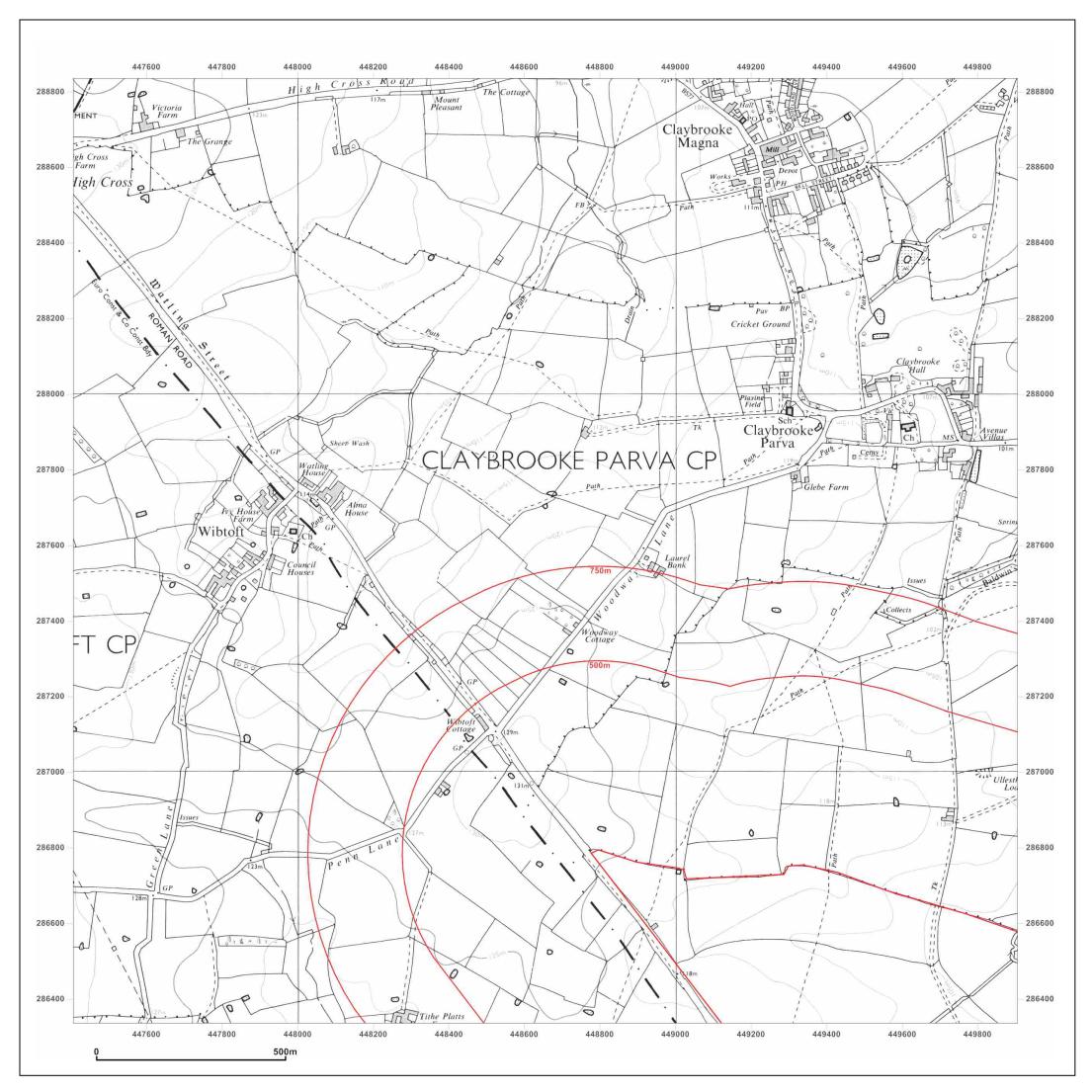


Ordnance Survey® Licensed Partner

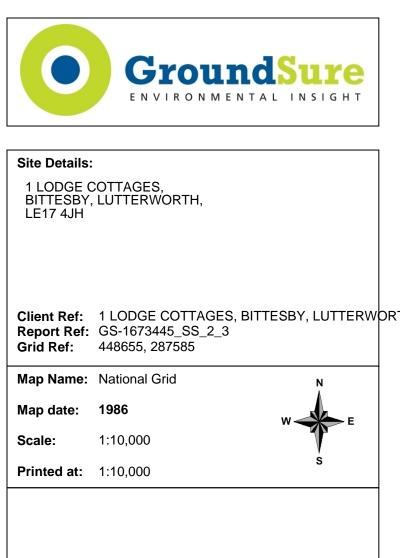
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

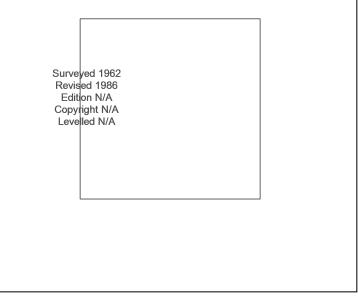
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



-



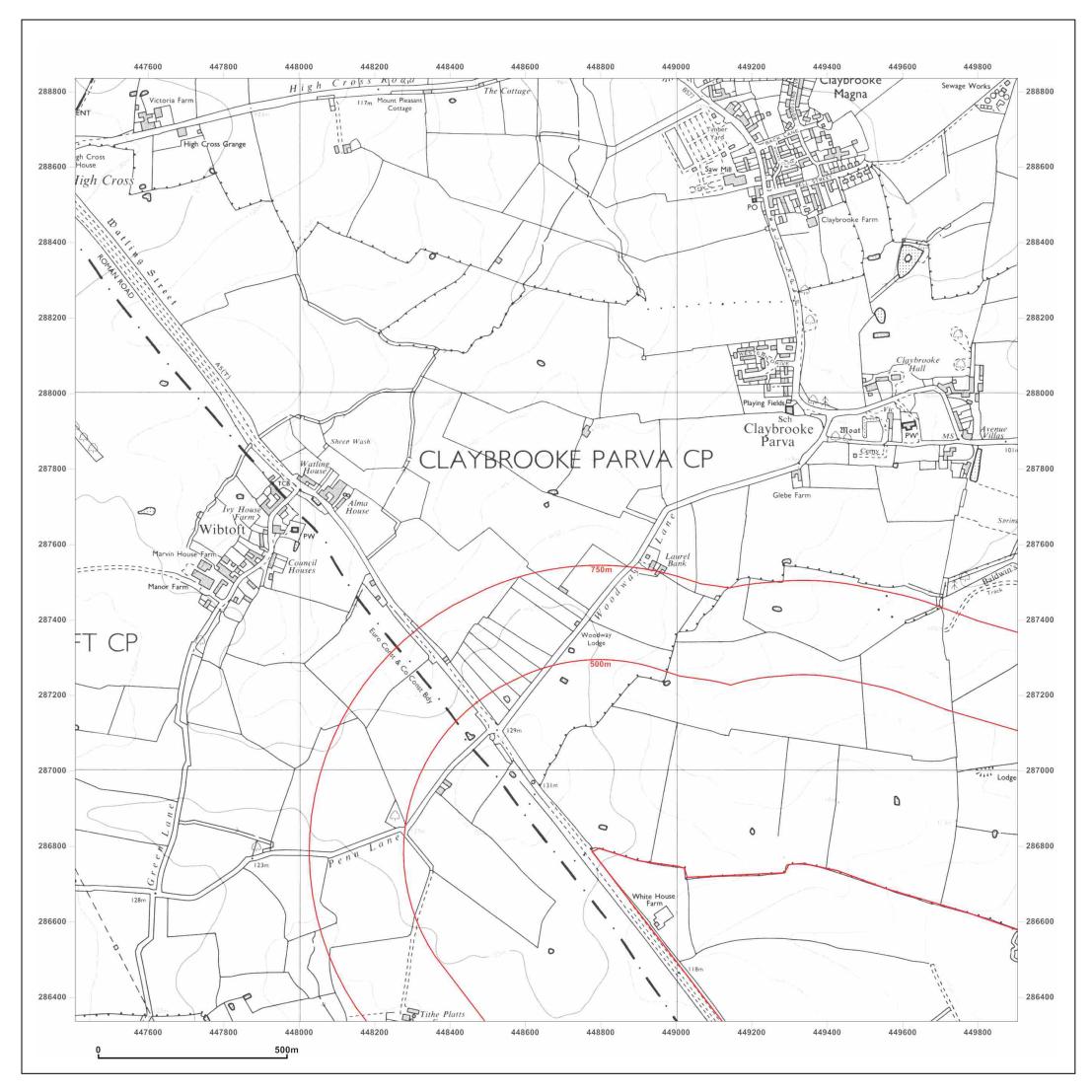


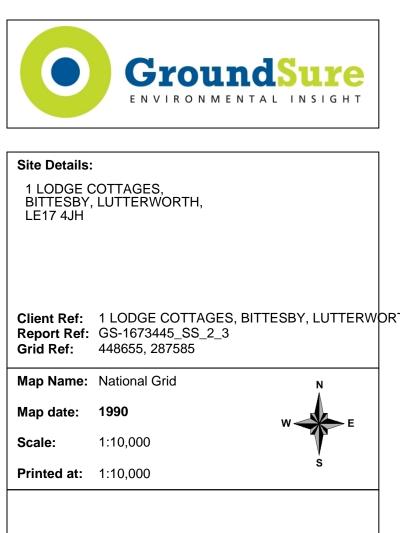


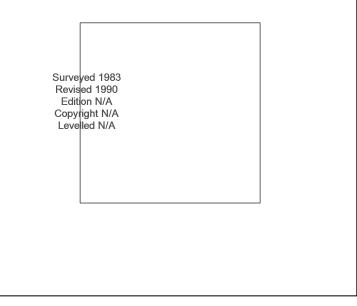
Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



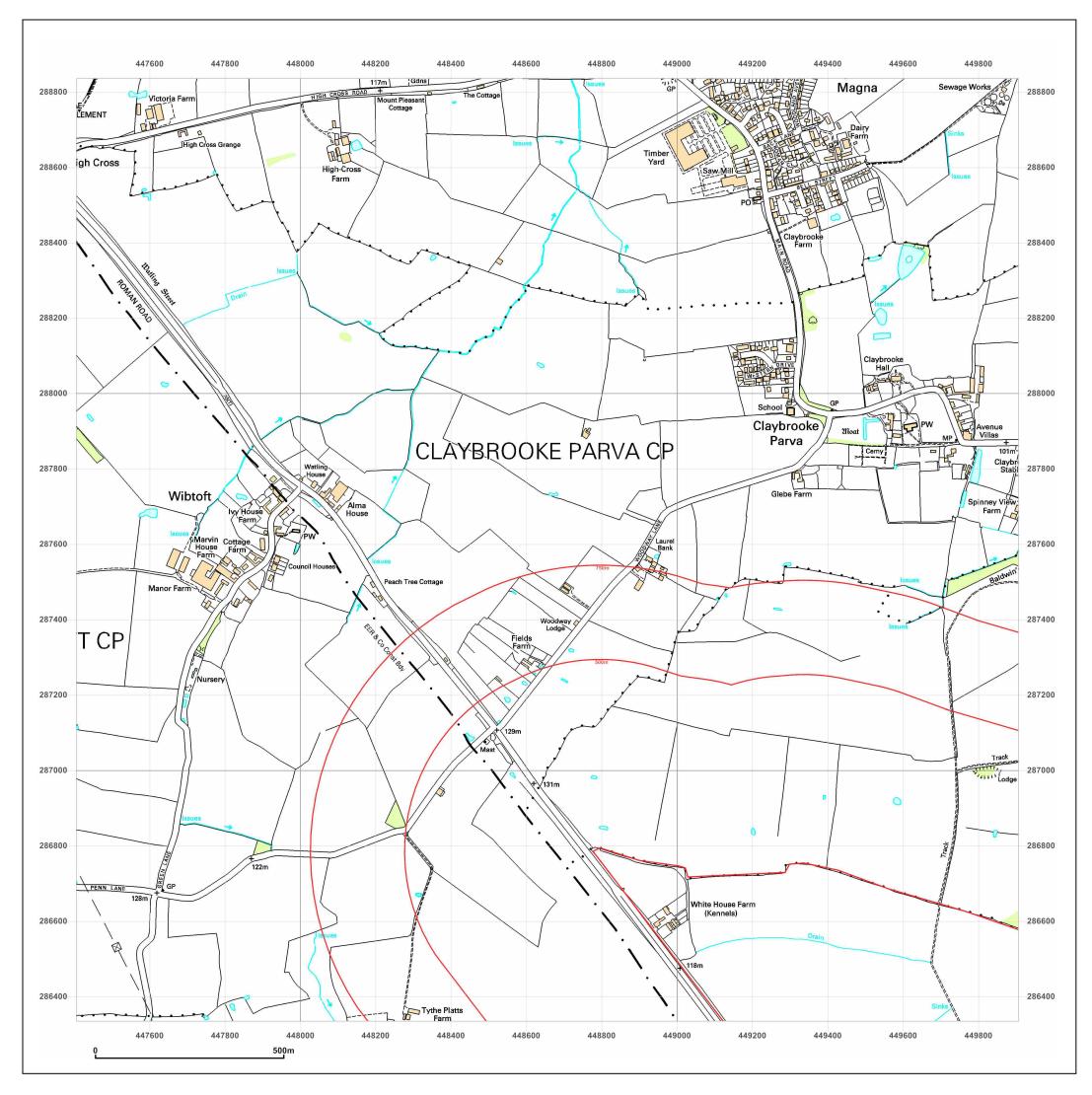






© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





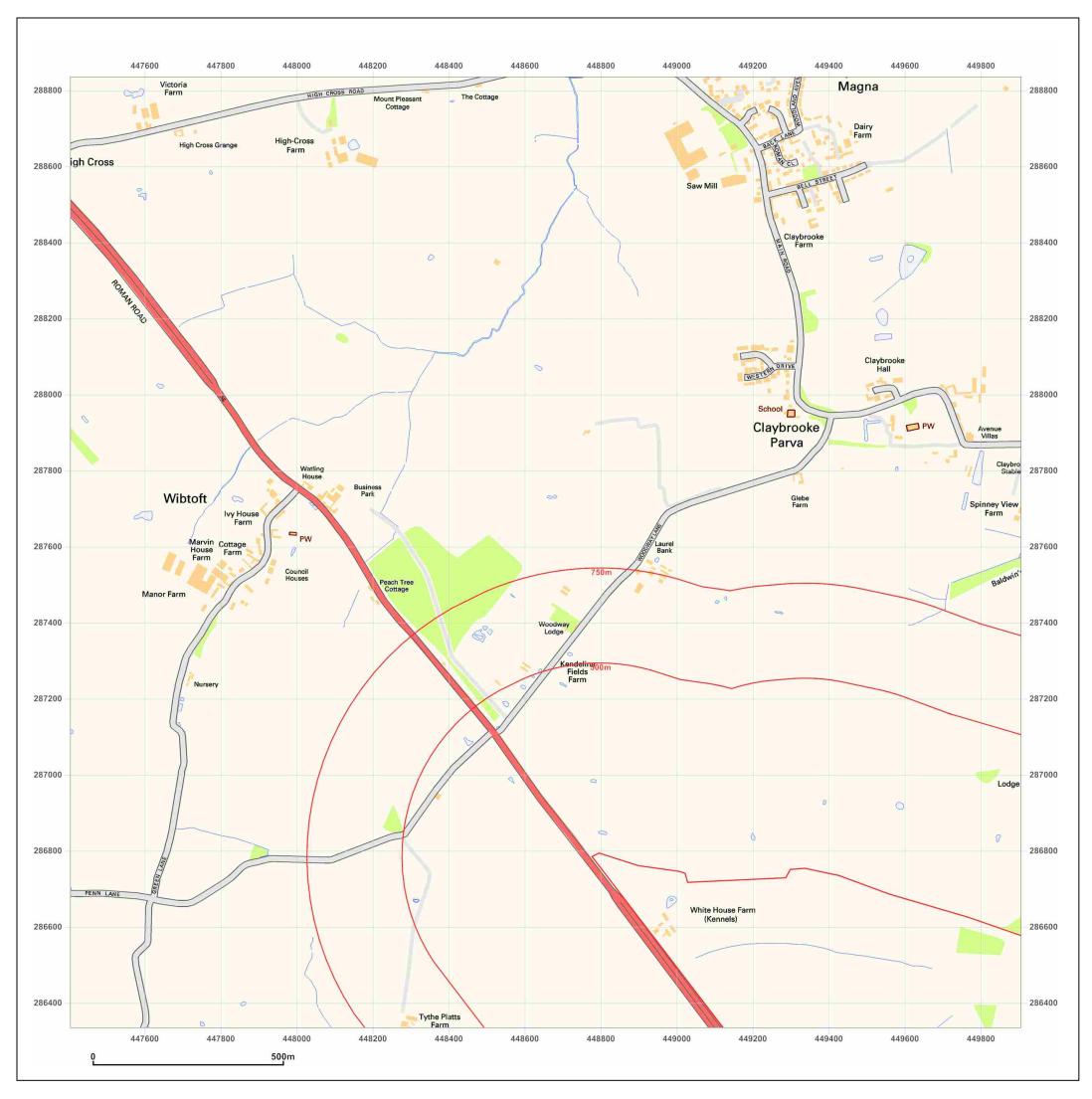
|             | GS-1673445_SS_2_3<br>448655, 287585 |  |
|-------------|-------------------------------------|--|
| Map Name:   | 1:10,000 Raster                     | N  |
| Map date:   | 2002                                | W  |
| Scale:      | 1:10,000                            | The second secon |
| Printed at: | 1:10,000                            | S  |

| 2002 |  |  |
|------|--|--|
|      |  |  |



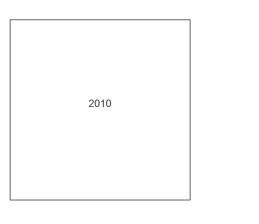
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





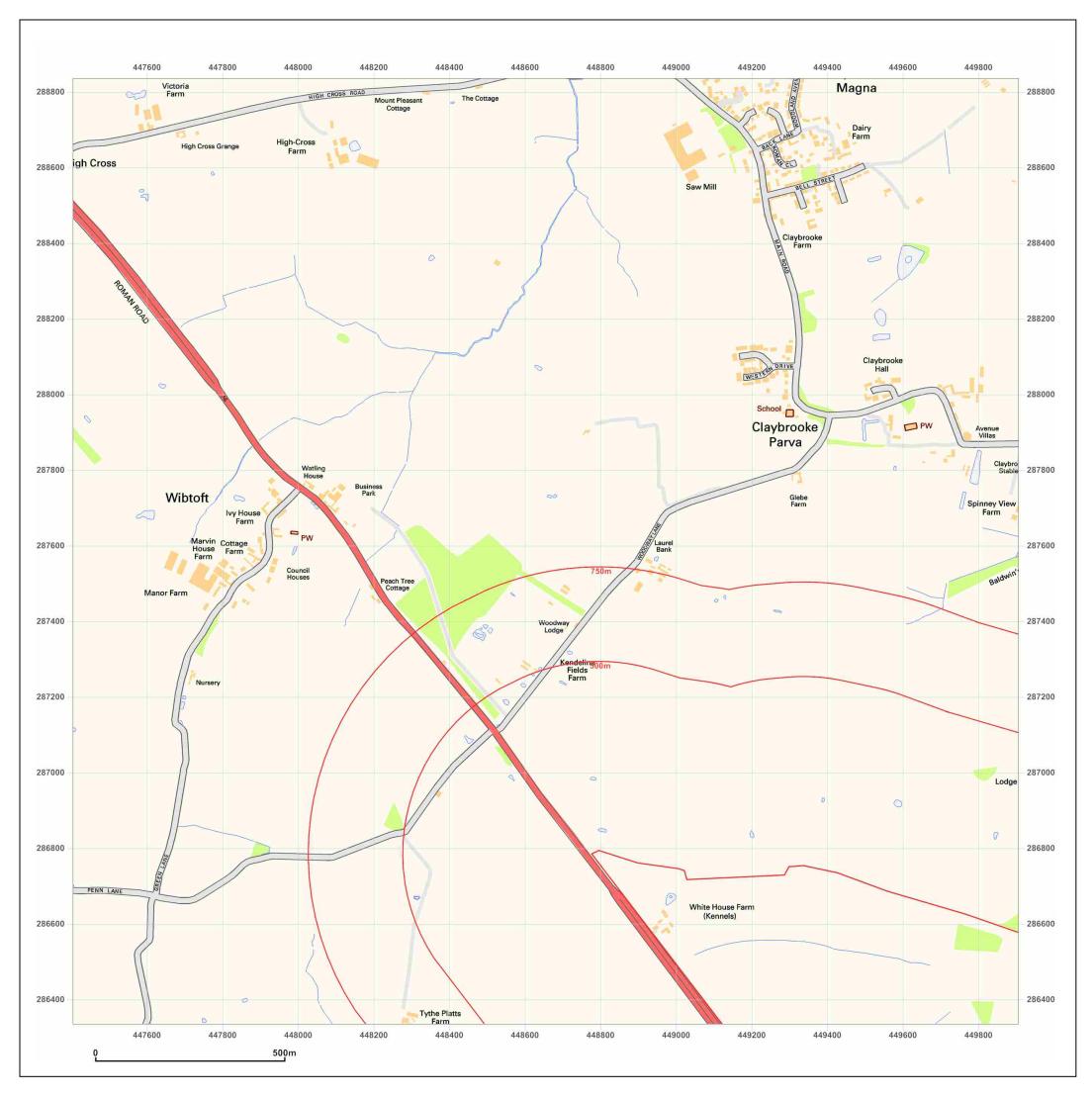
| Report Ref: | 1 LODGE COTTAGES, BITT<br>GS-1673445_SS_2_3<br>448655, 287585 | ESBY, LUTTERWC | DR <sup>-</sup> |
|-------------|---|----------------|-----------------|
| Map Name:   | National Grid   | N              |                 |
| Map date:   | 2010  | W              |                 |
| Scale:      | 1:10,000  | <b>Y</b>       |                 |
| Printed at: | 1:10,000  | S              |                 |





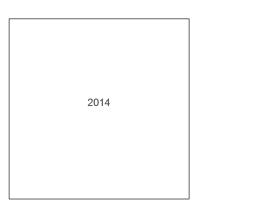
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





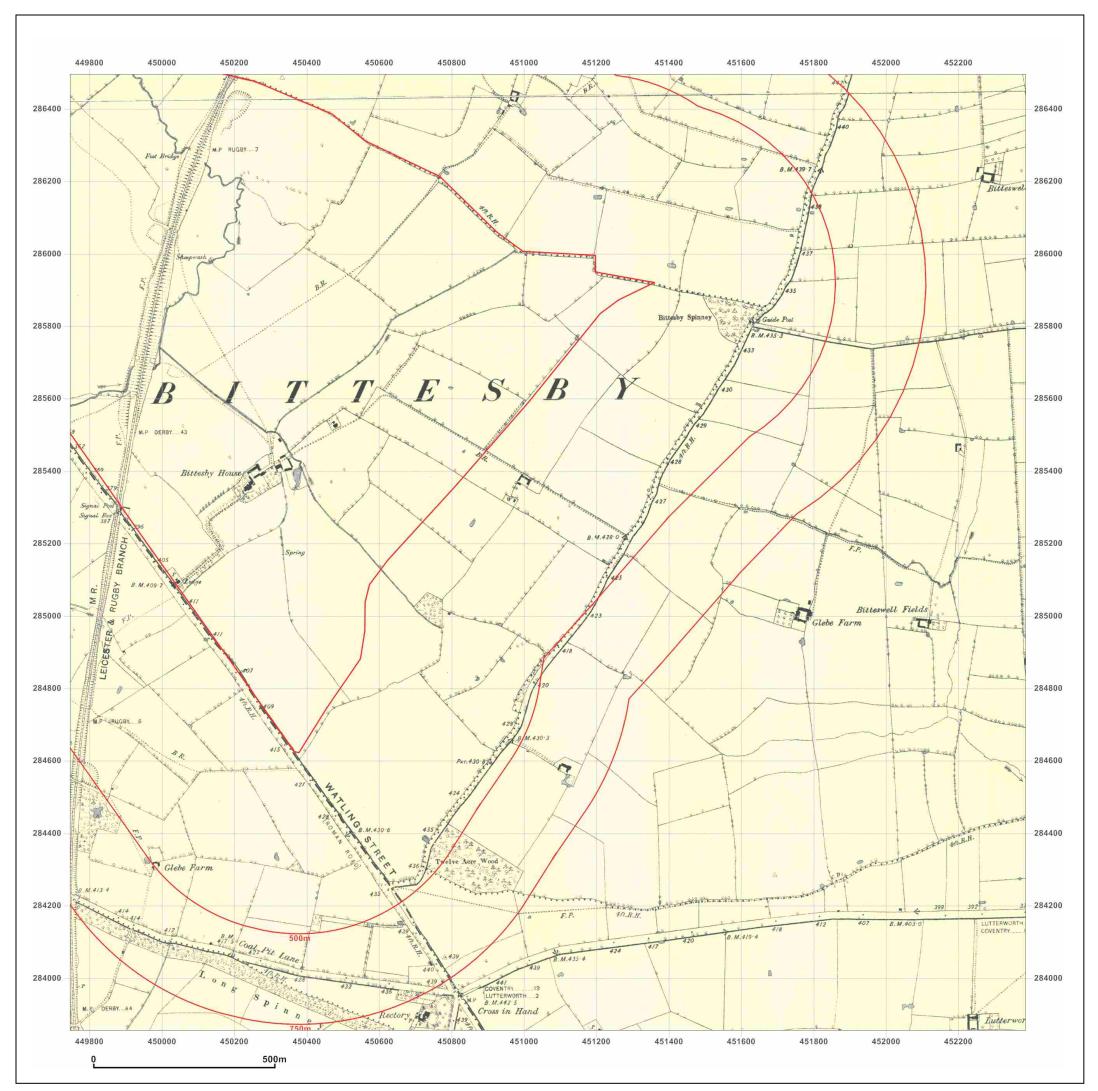
| Report Ref: | 1 LODGE COTTAGES, BITT<br>GS-1673445_SS_2_3<br>448655, 287585 | ESBY, LUTTERWC | DR <sup>-</sup> |
|-------------|---|----------------|-----------------|
| Map Name:   | National Grid   | N              |                 |
| Map date:   | 2014  | W              |                 |
| Scale:      | 1:10,000  | Y              |                 |
| Printed at: | 1:10,000  | S              |                 |

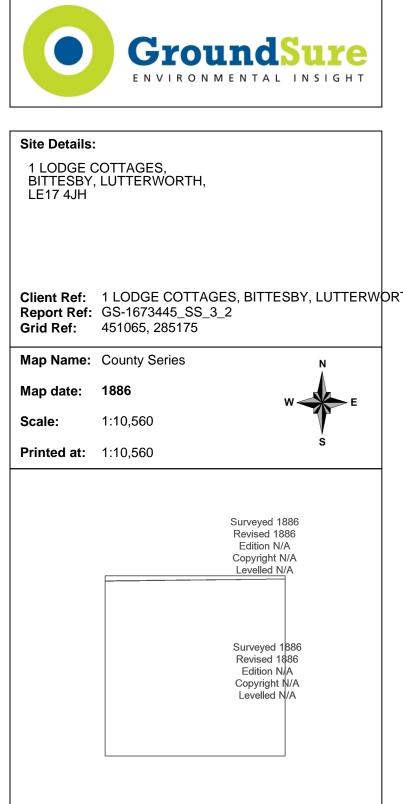




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

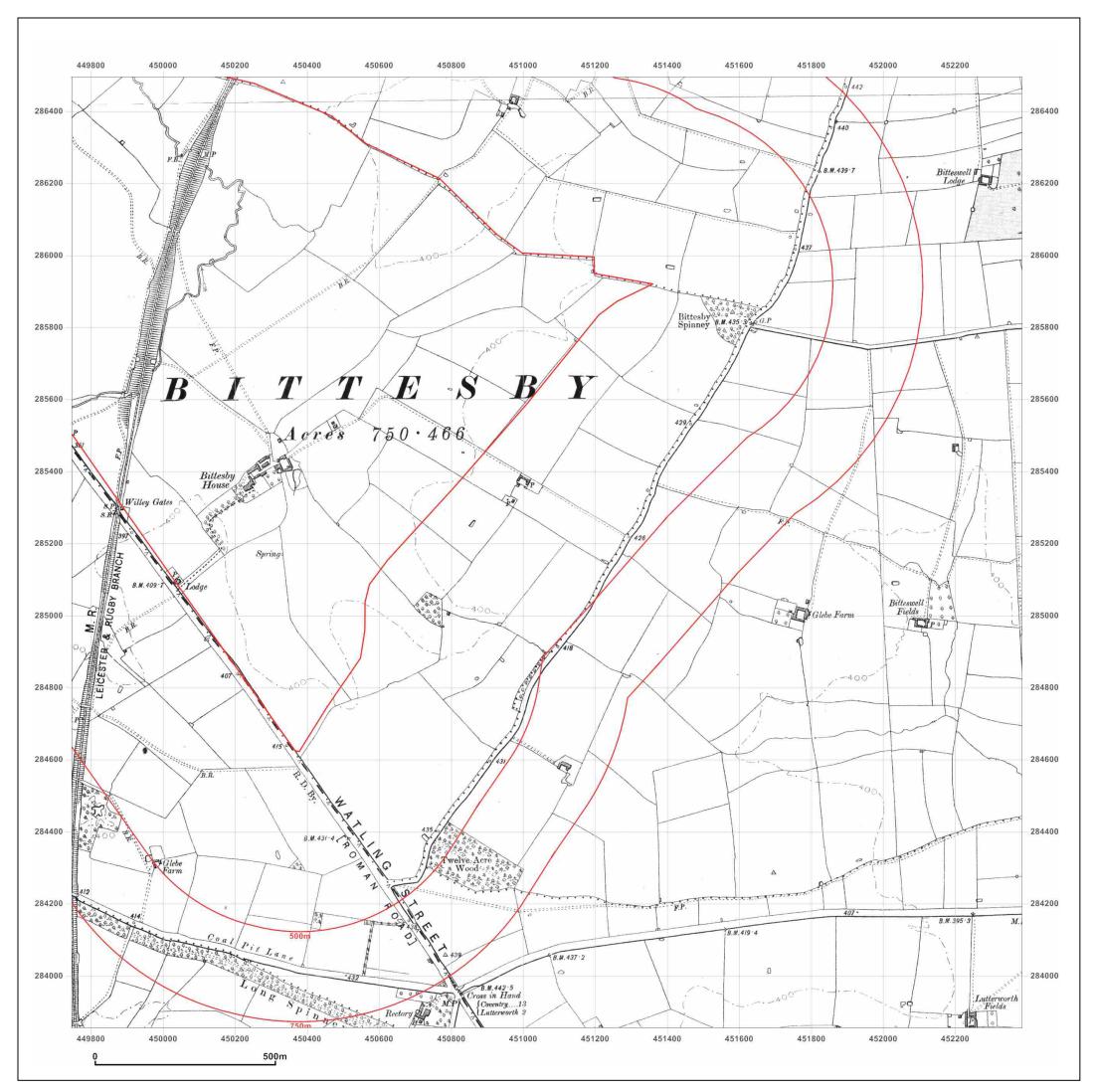


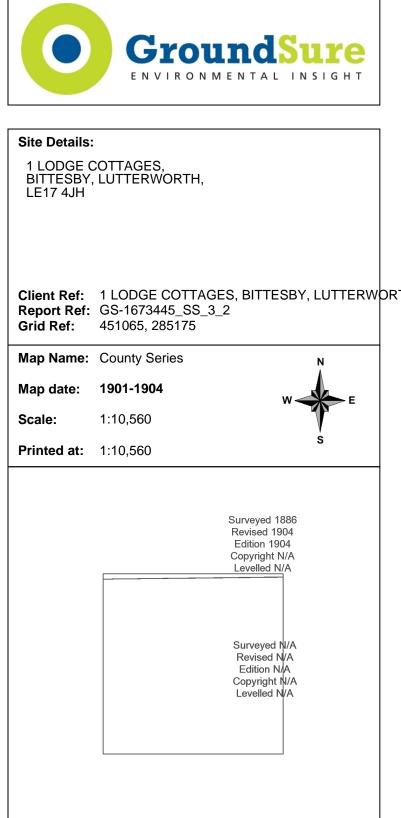




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

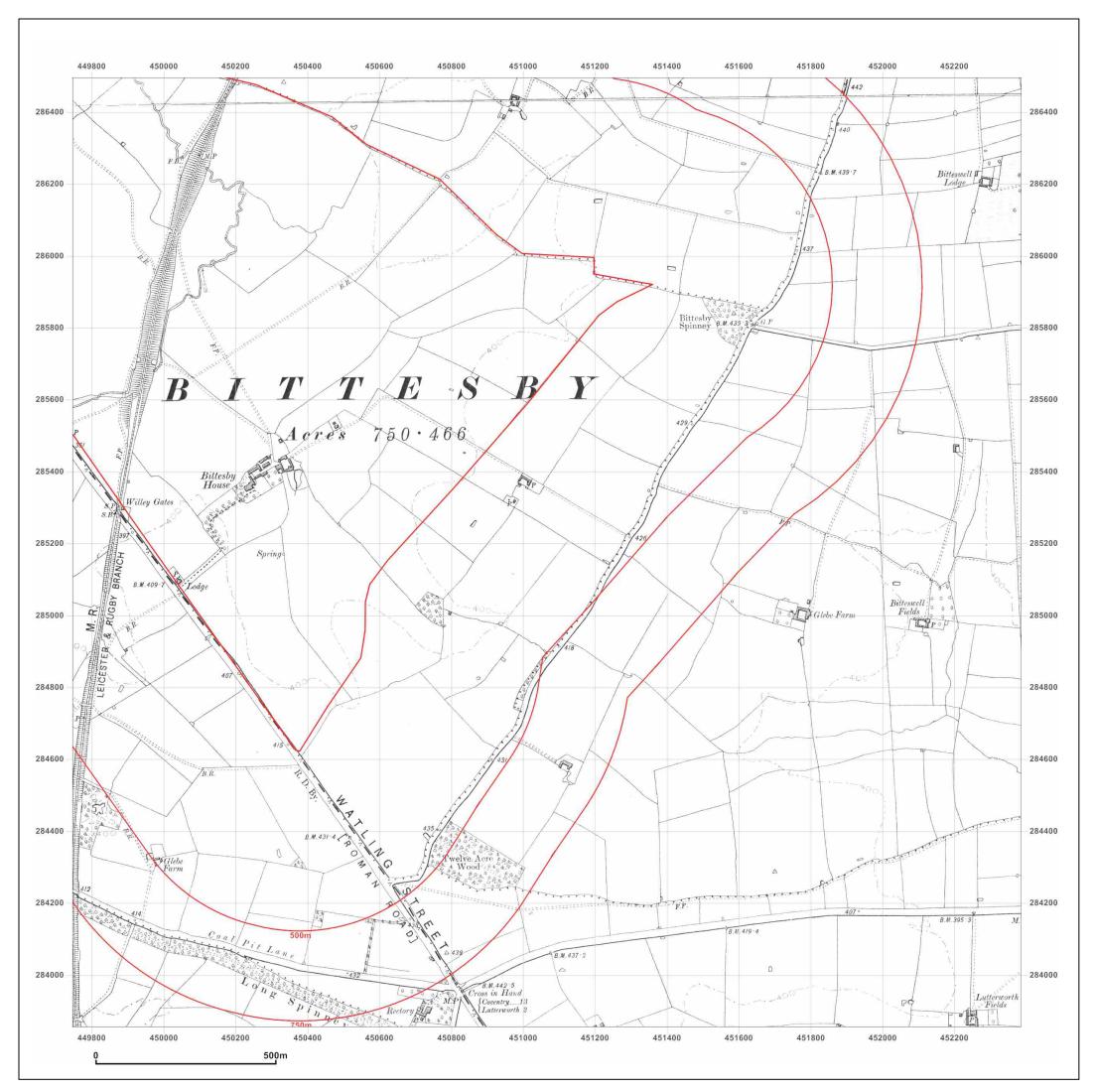


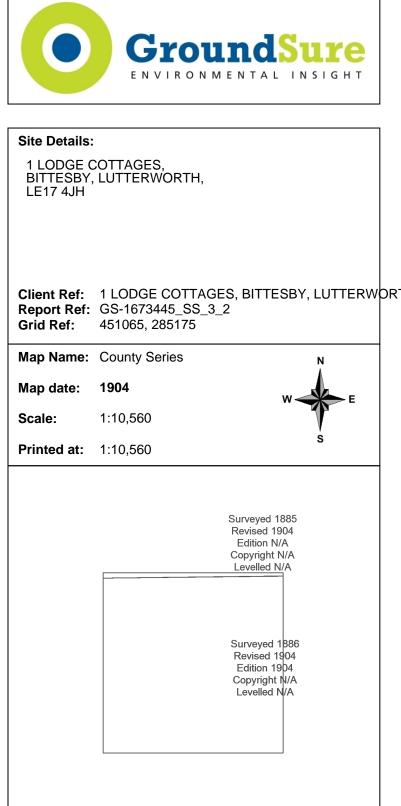




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

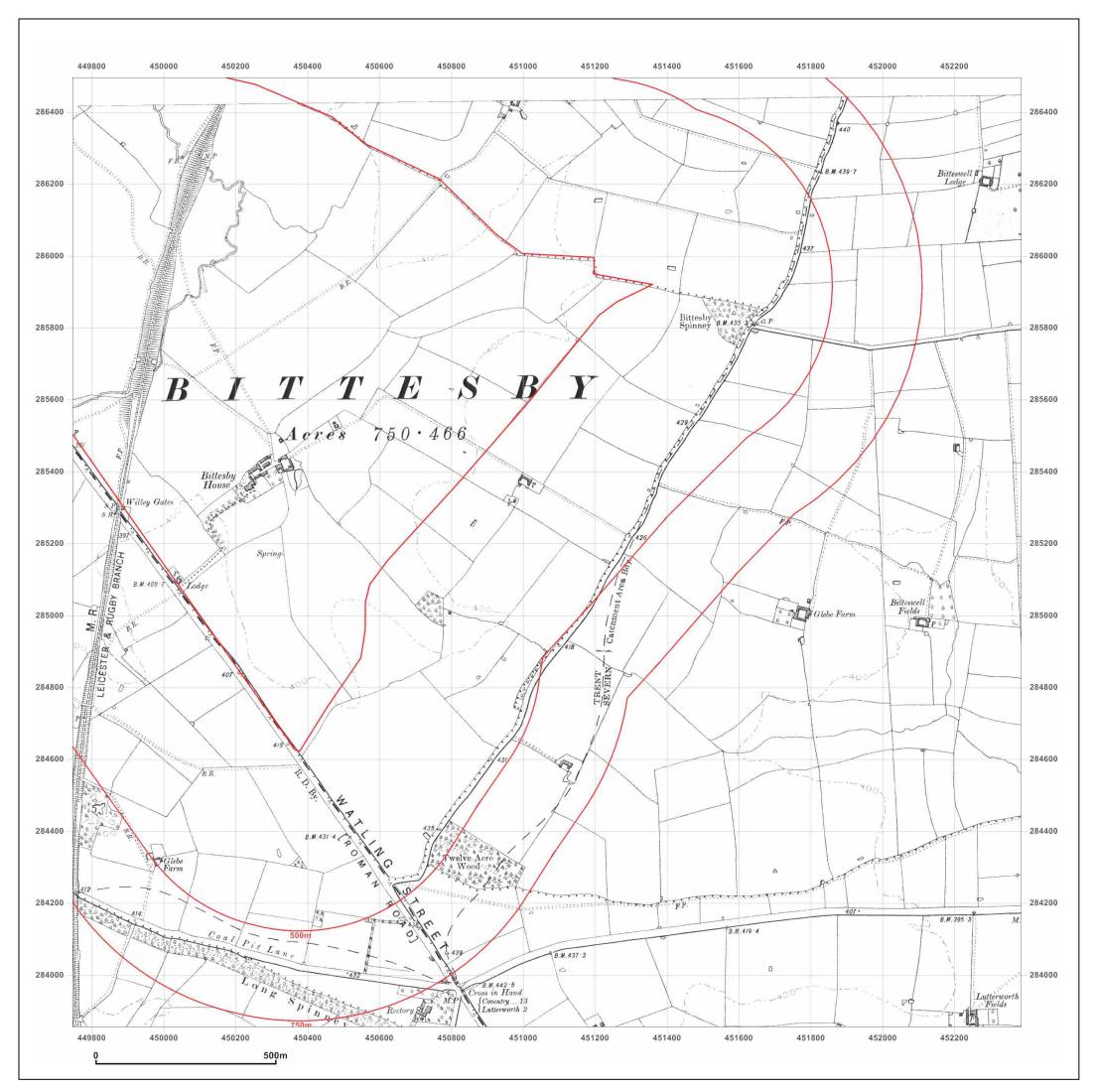






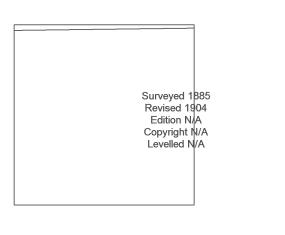
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





Printed at: 1:10,560

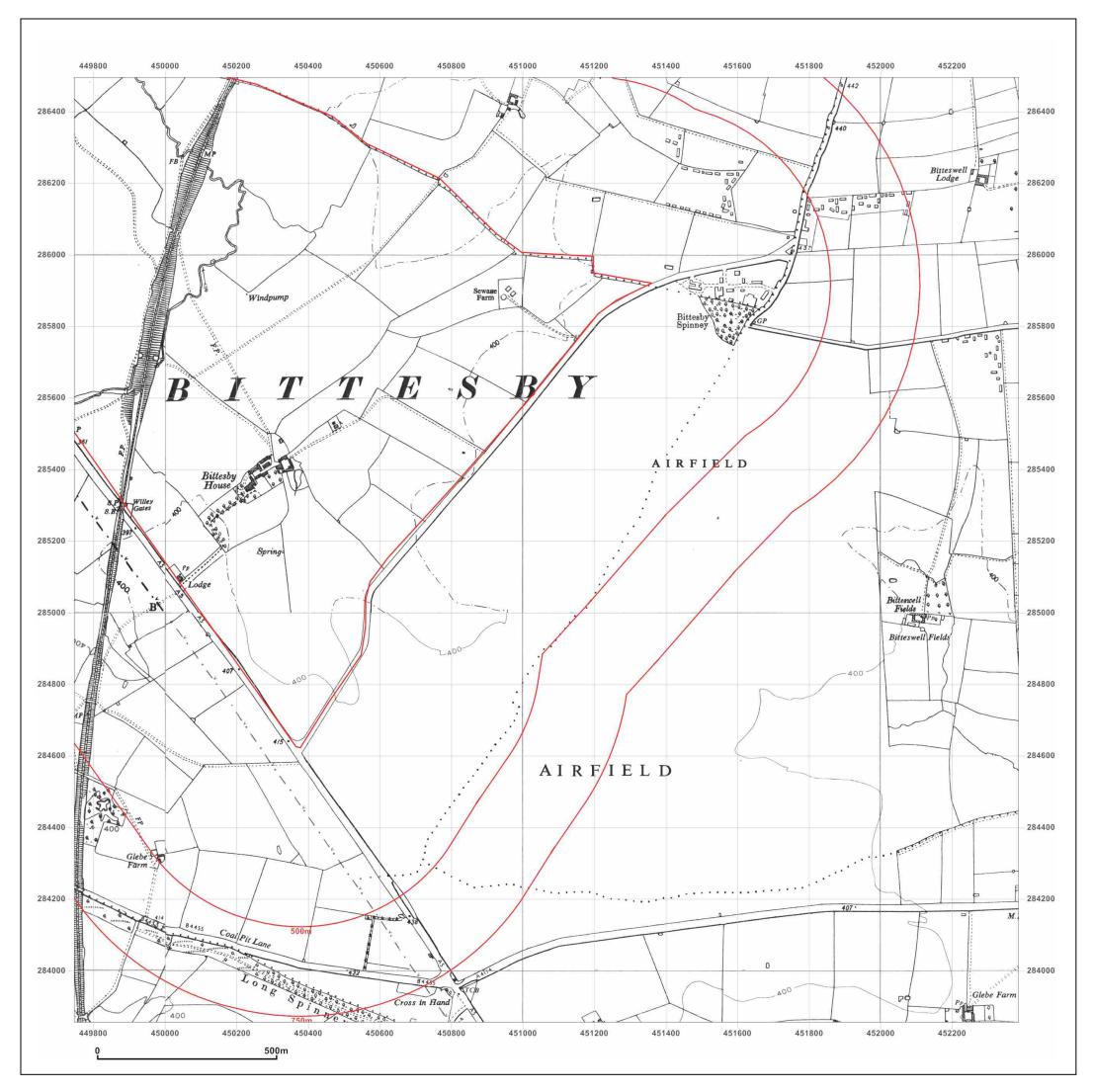




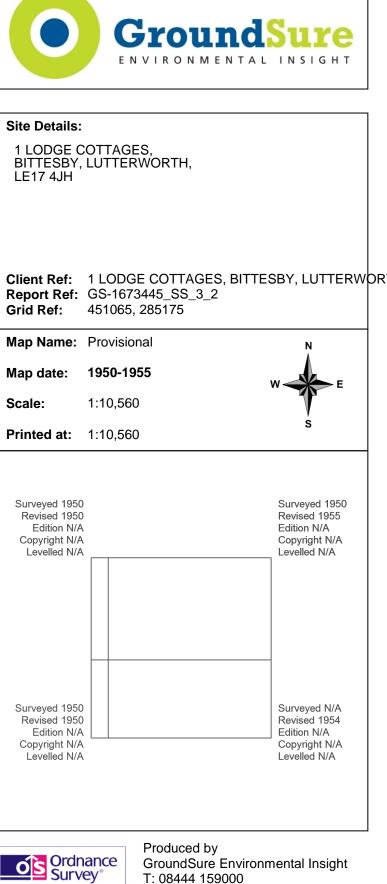
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner



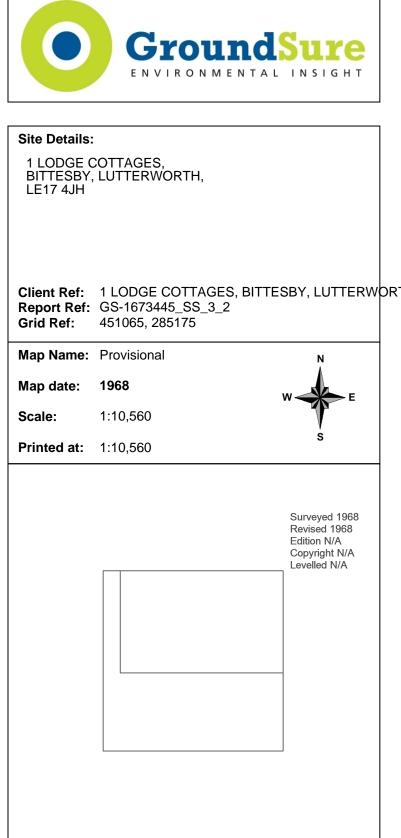
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com

W: www.groundsure.com

Production date: 22 September 2014

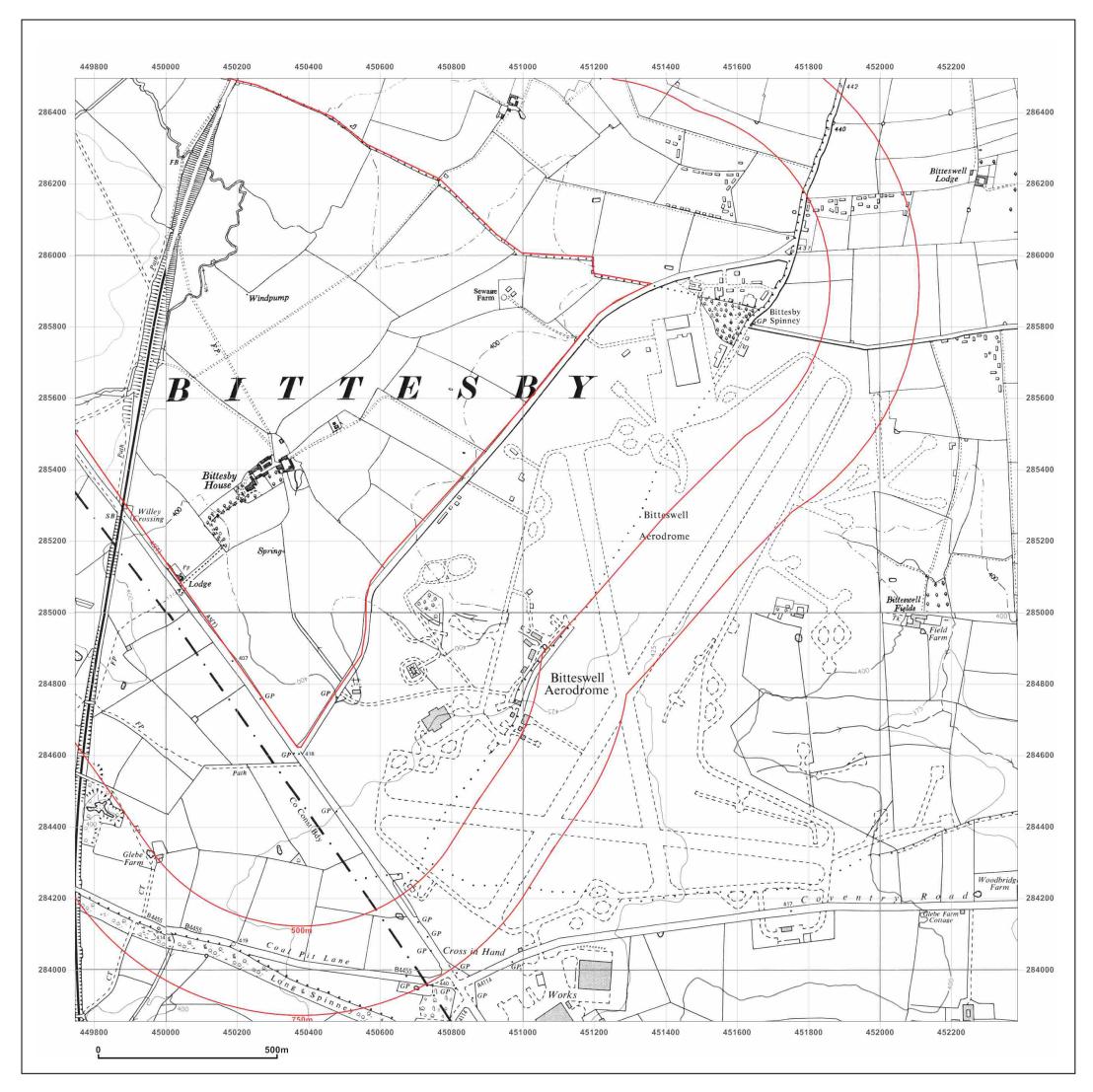




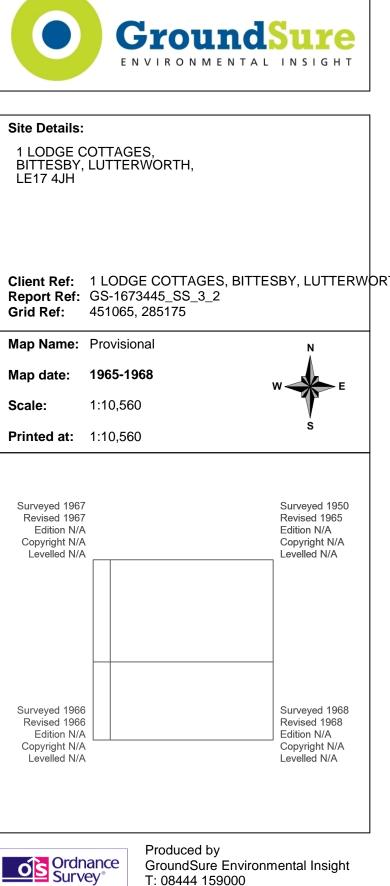


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

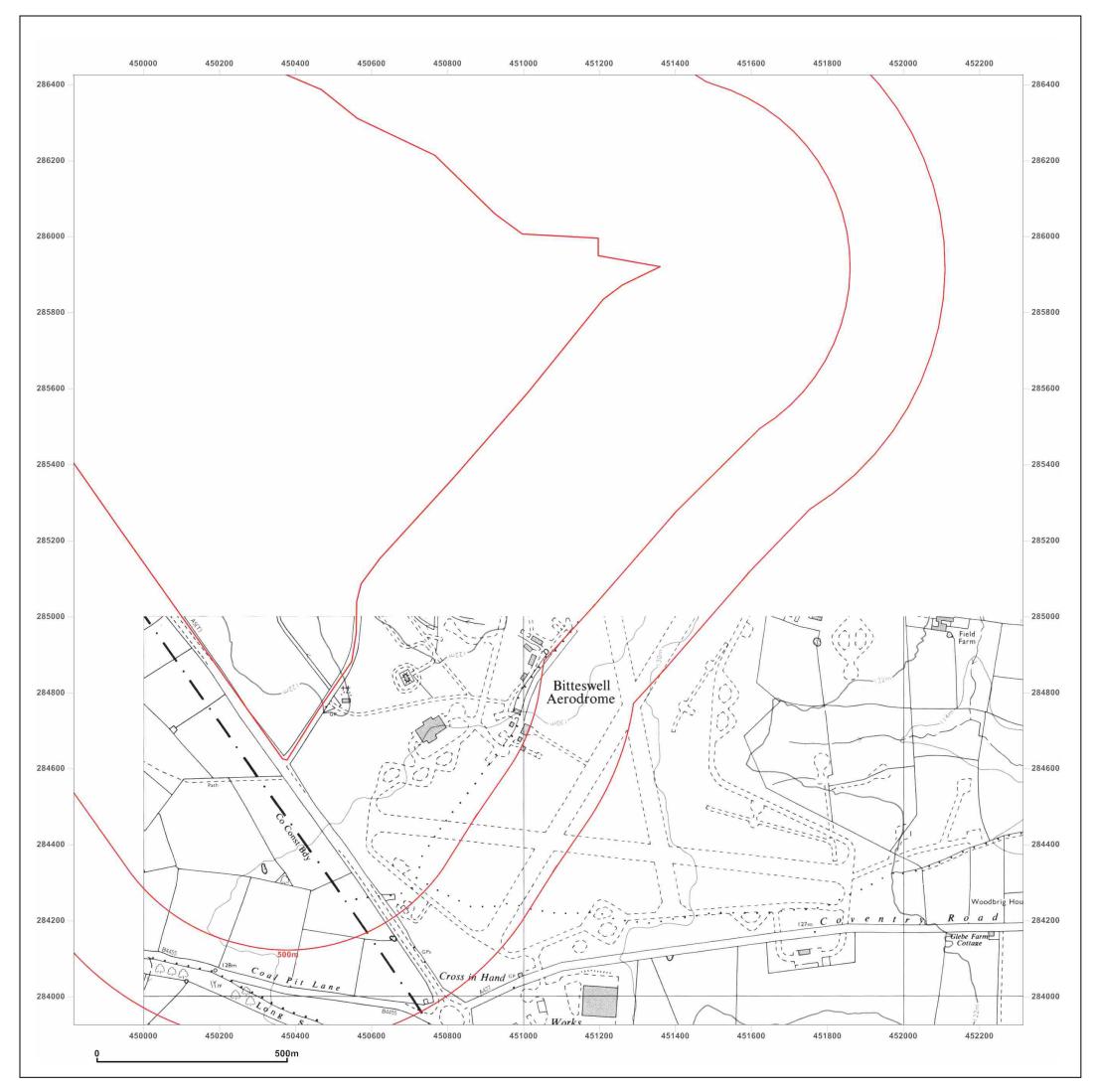


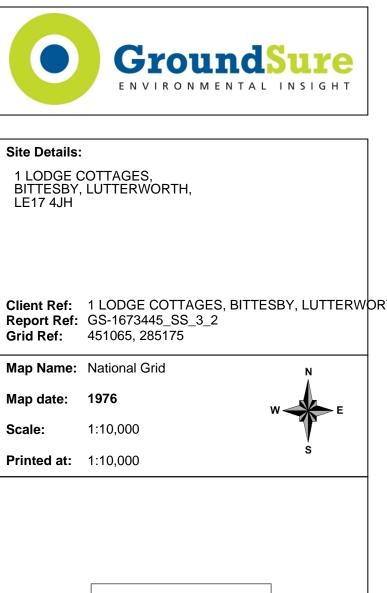
© Crown copyright and database rights 2013 Ordnance Survey 100035207

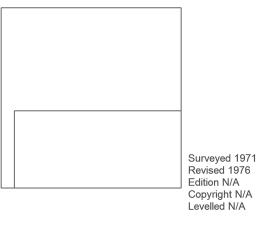
E: info@groundsure.com

W: www.groundsure.com

Production date: 22 September 2014



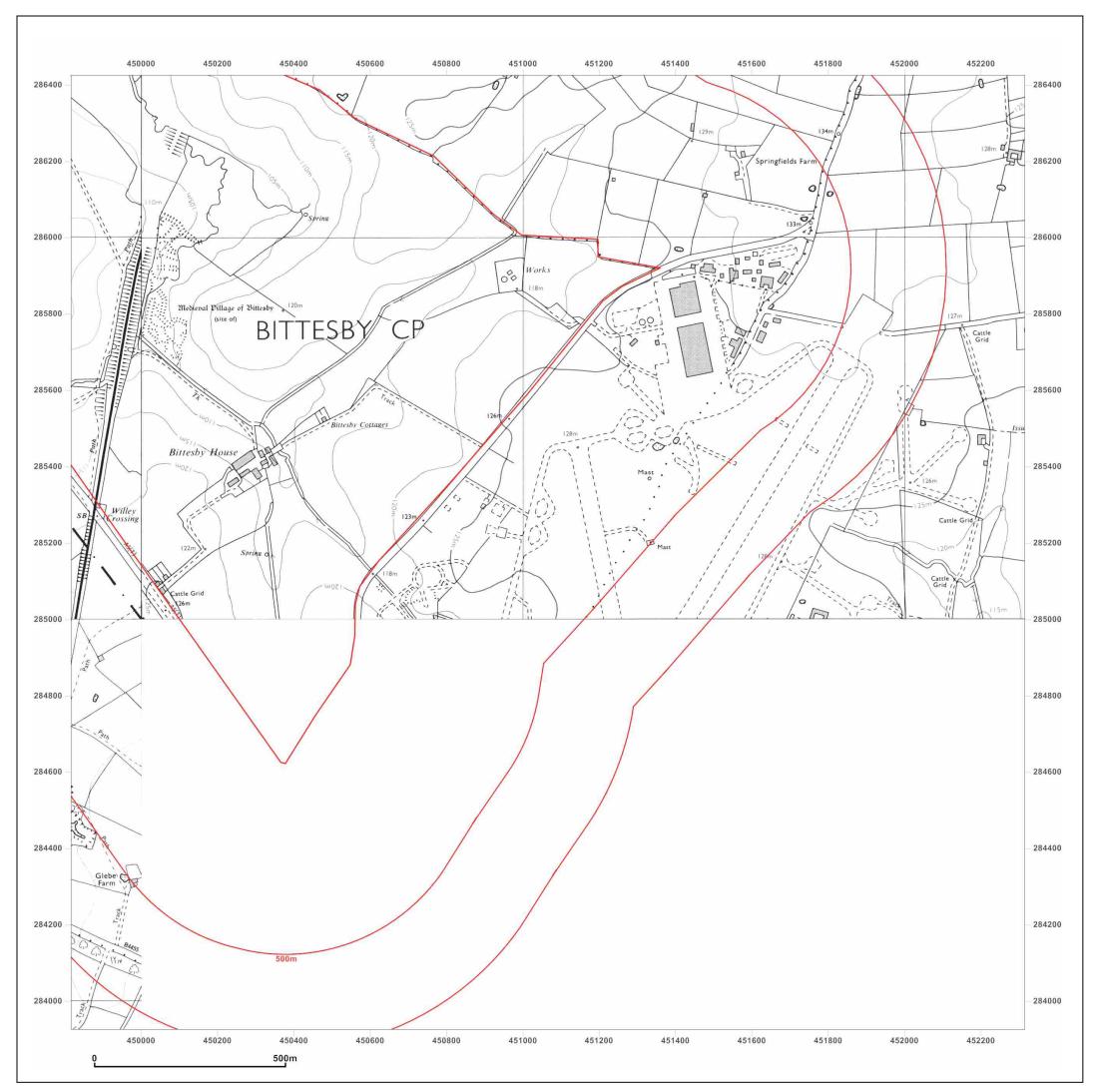




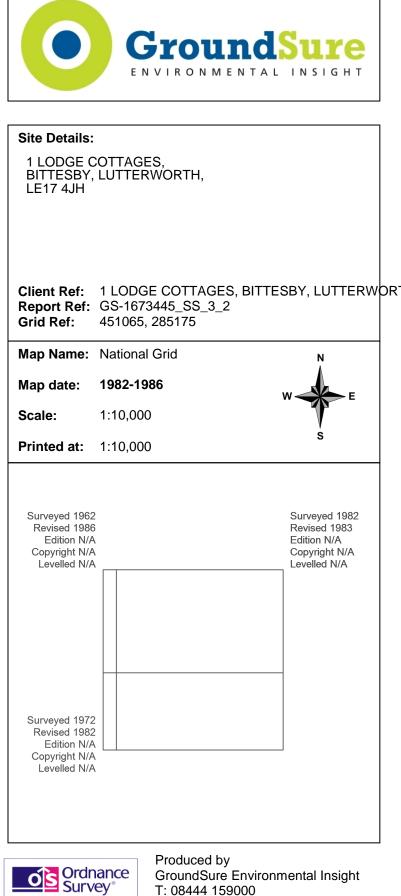


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner



E: info@groundsure.com

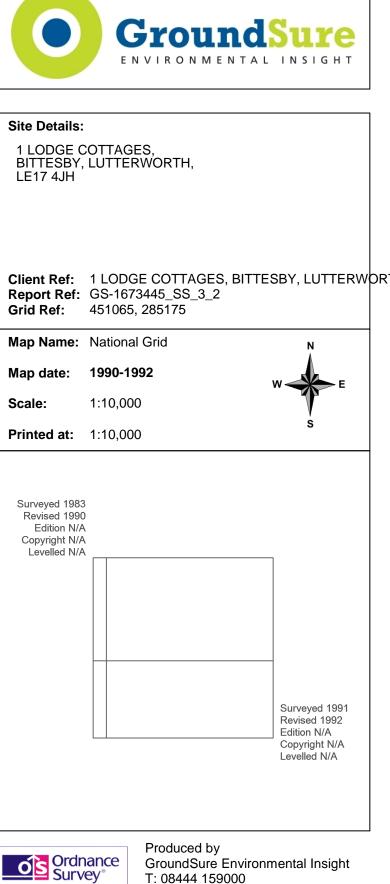
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

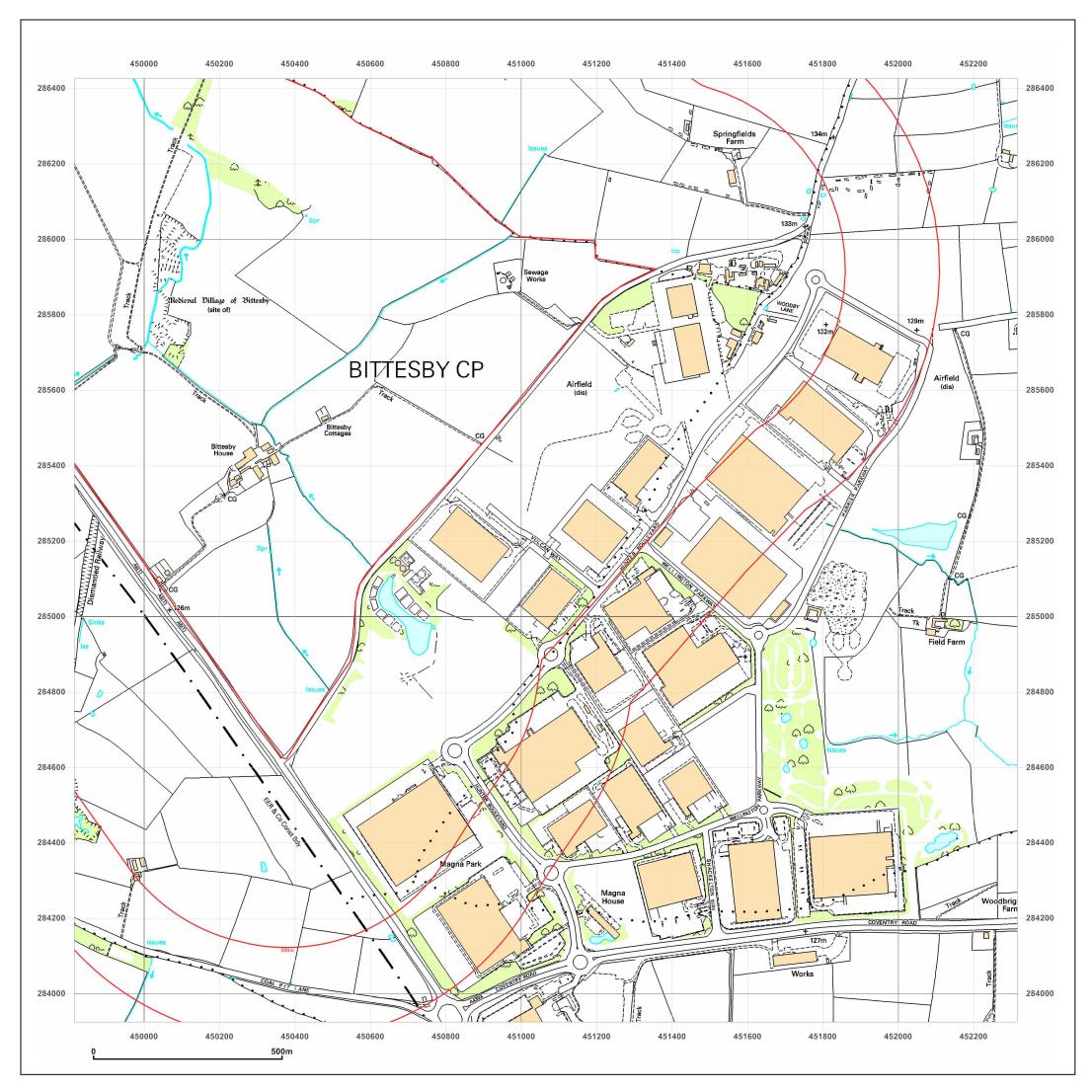


T: 08444 159000 E: info@groundsure.com

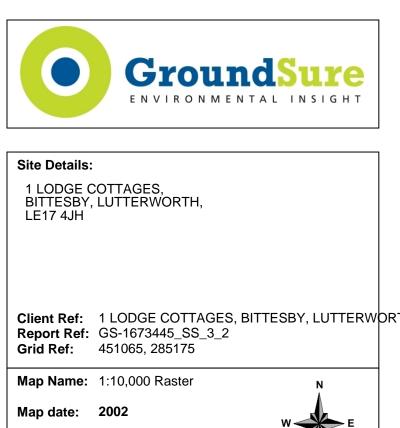
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

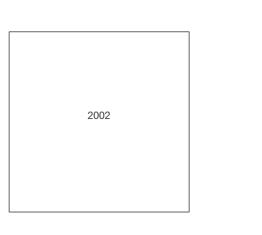


To view map legend click here Legend



Scale: 1:10,000

Printed at: 1:10,000

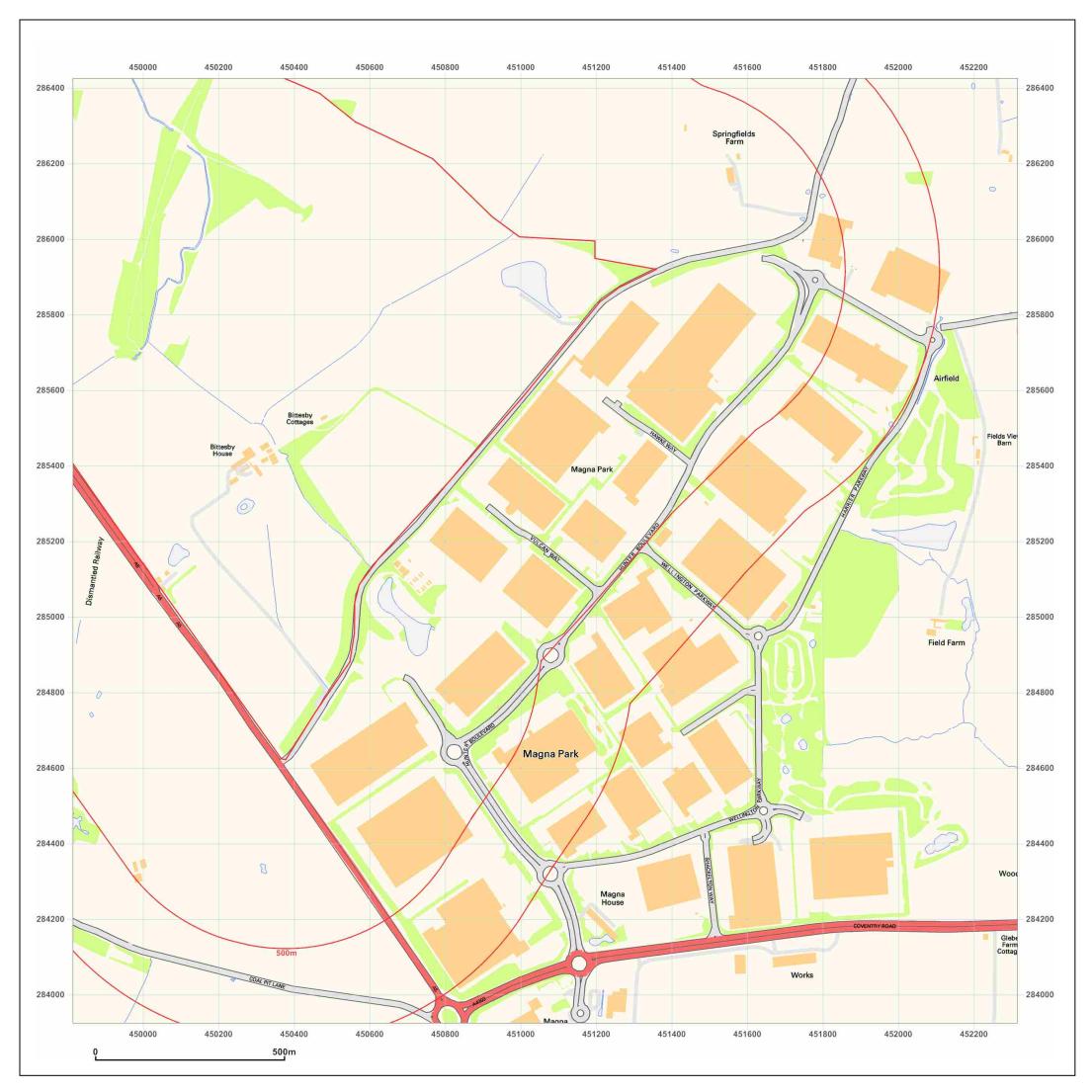




Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

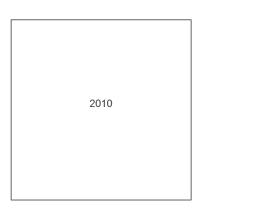
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





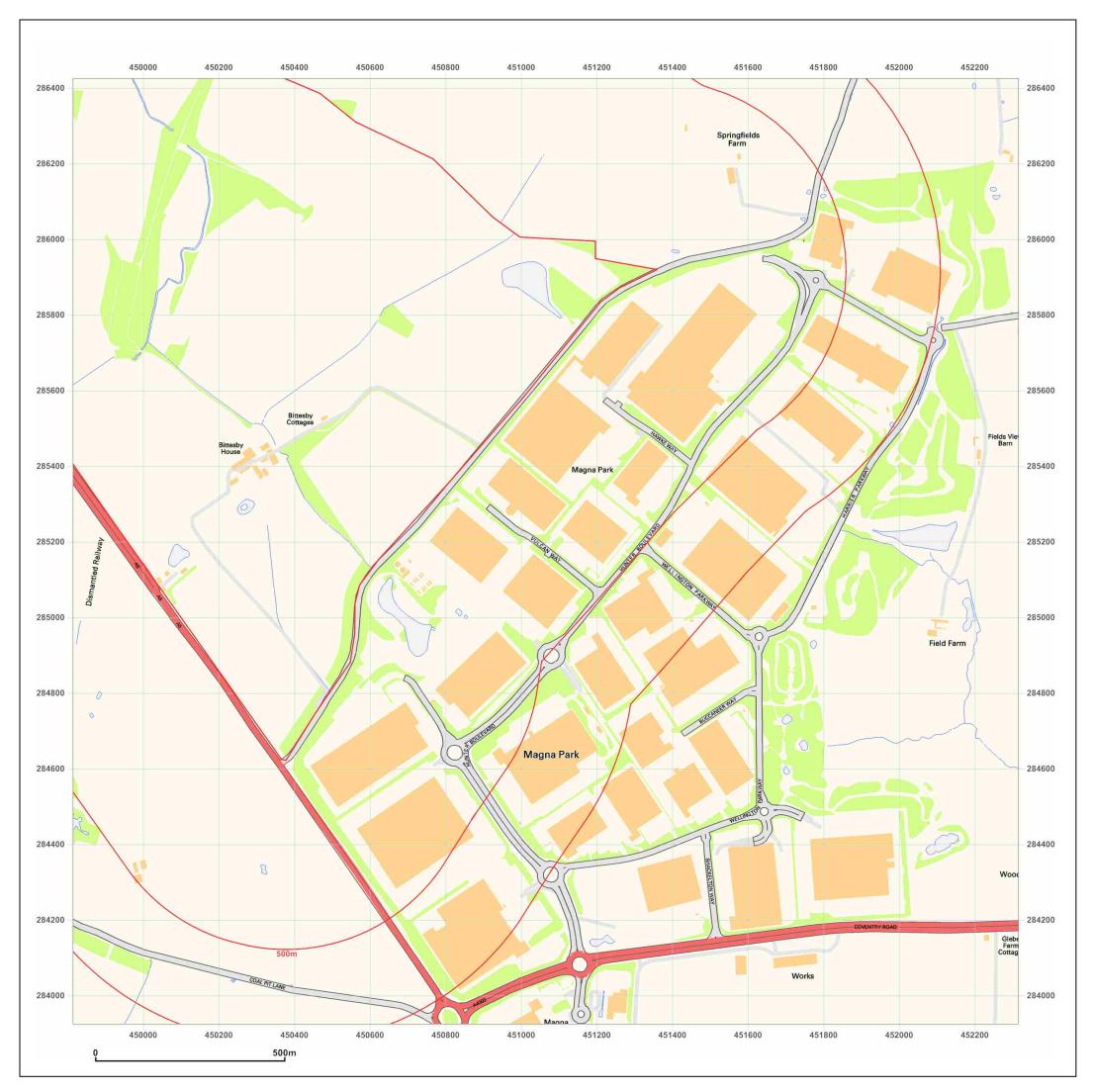
| Report Ref: | 1 LODGE COTTAGES, BITTESBY, LUTTERV<br>GS-1673445_SS_3_2<br>451065, 285175 | VOR |
|-------------|--|-----|
| Map Name:   | National Grid N  |     |
| Map date:   | 2010 W   |     |
| Scale:      | 1:10,000   |     |
| Printed at: | s<br>1:10,000  |     |





© Crown copyright and database rights 2013 Ordnance Survey 100035207

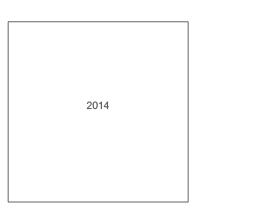
Production date: 22 September 2014



т



| LE17 4JH    |   |
|-------------|---|
|             |   |
| Report Ref: | 1 LODGE COTTAGES, BITTESBY, LUTT<br>GS-1673445_SS_3_2<br>451065, 285175 |
| Map Name:   | National Grid   |
| Map date:   | 2014 w  |
| Scale:      | 1:10,000  |
| Printed at: | 1:10,000 s  |



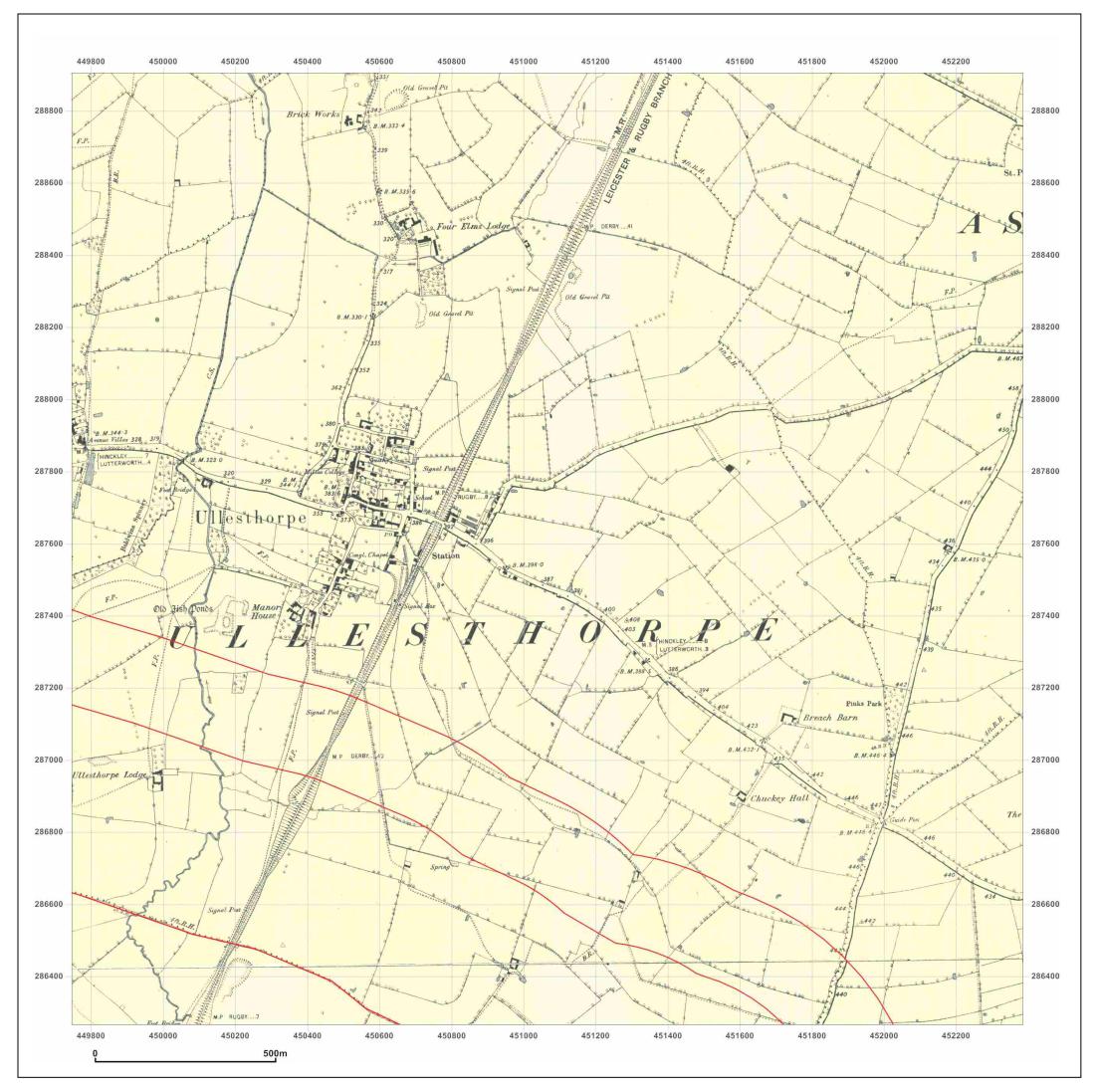
Е

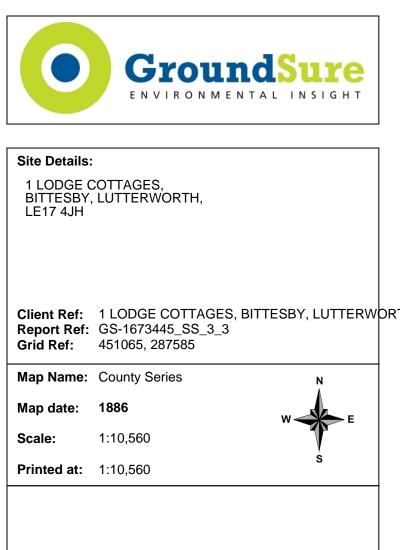


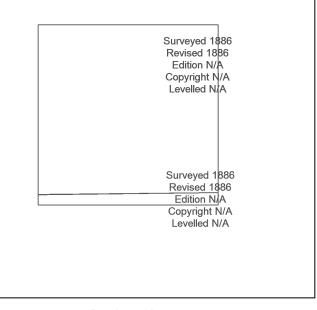
Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



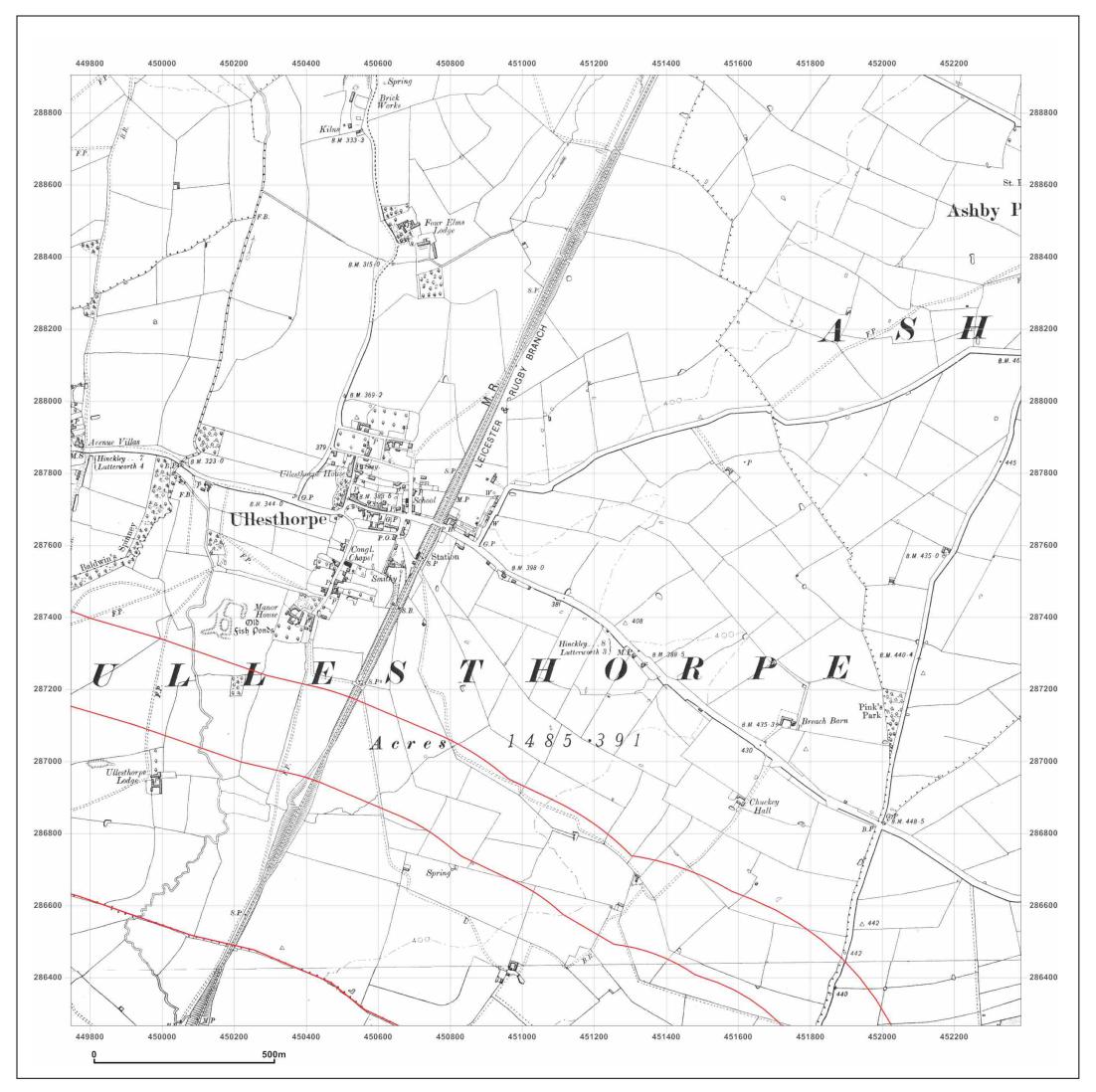


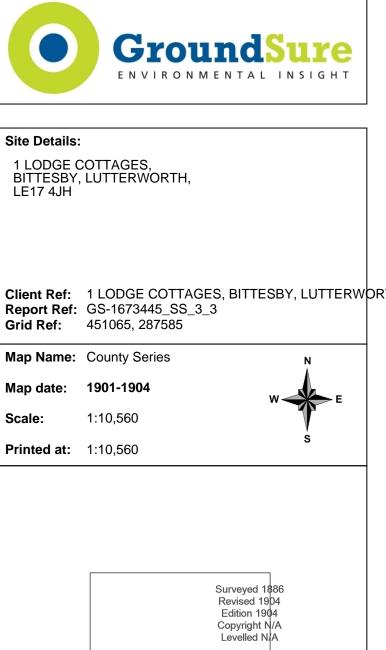


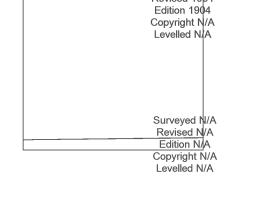


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



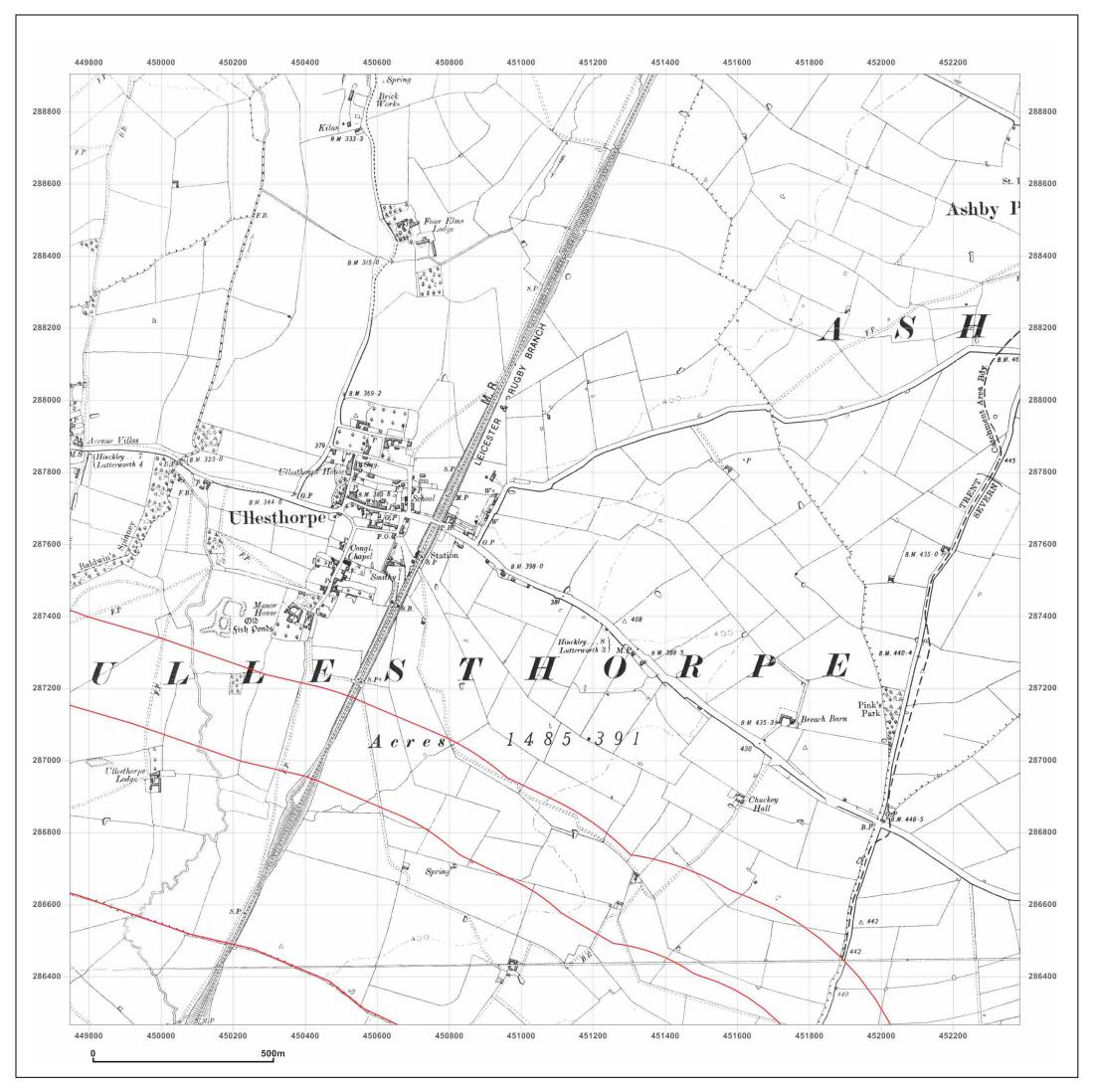


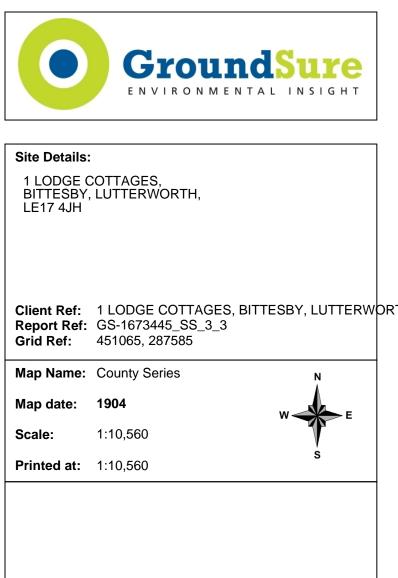


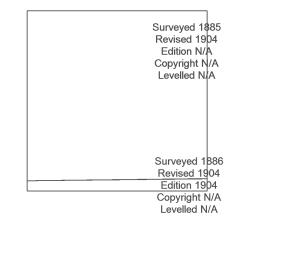


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



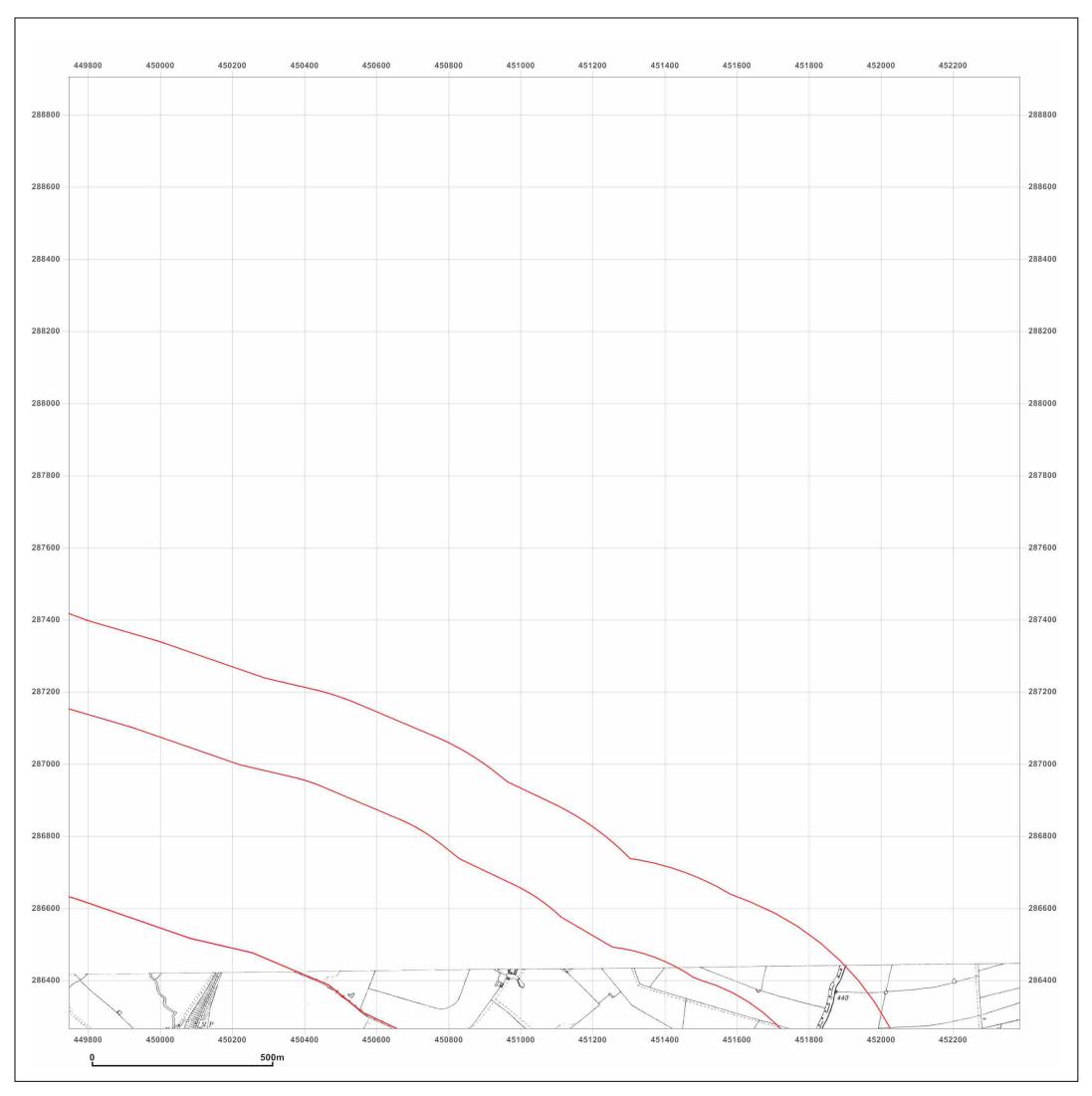


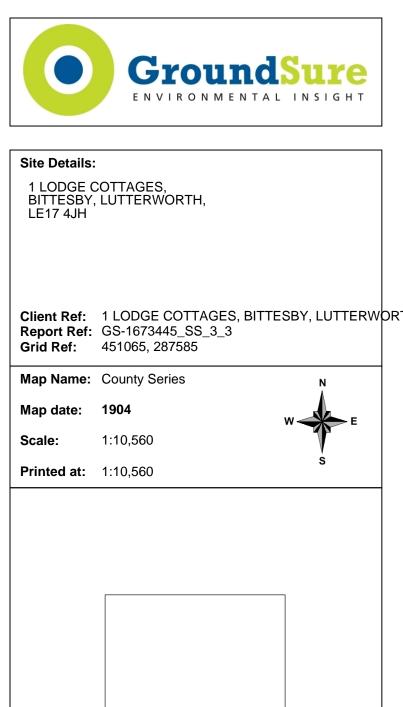




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





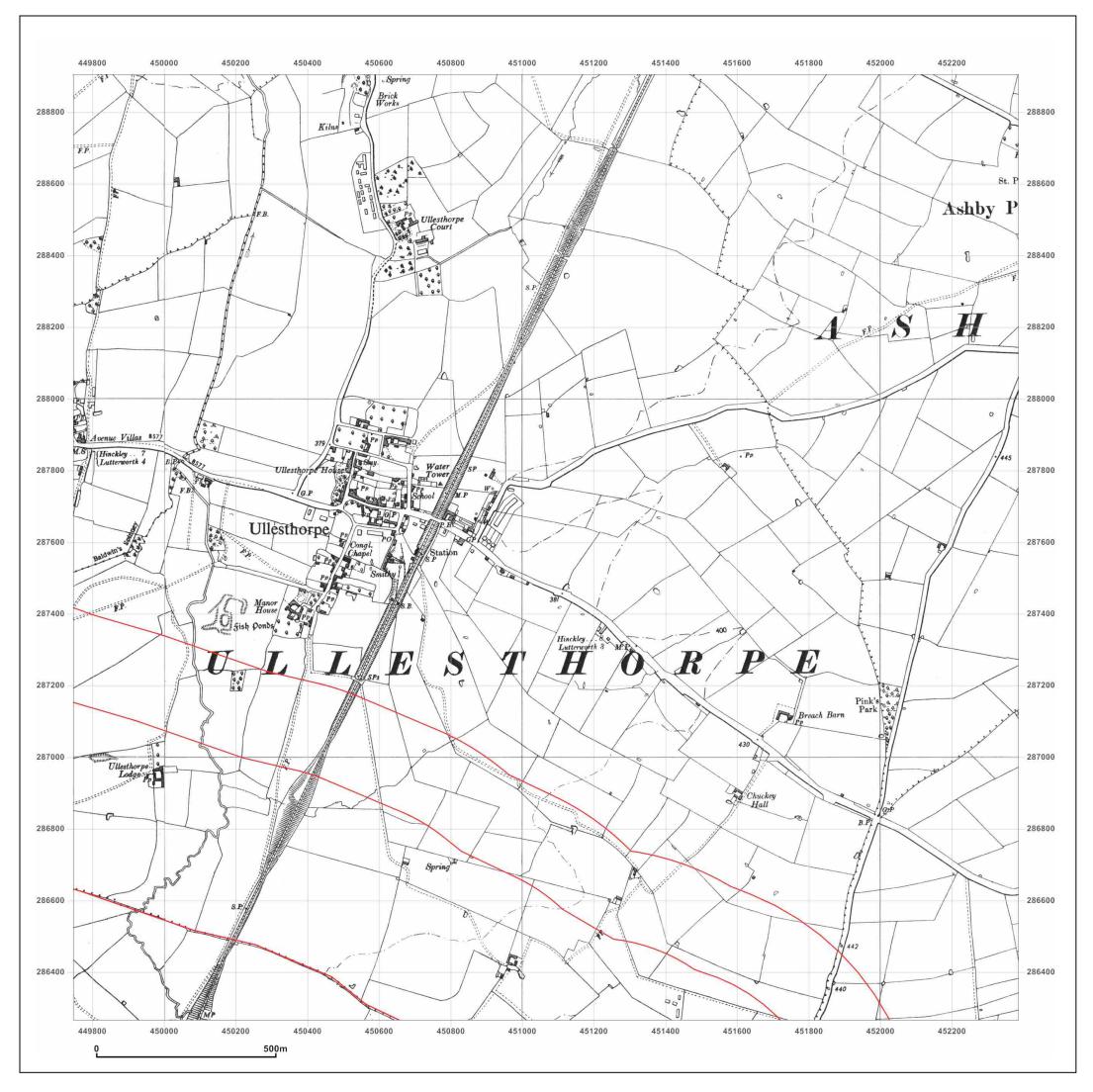
Surveyed 1885 Revised 1904 Edition N/A Copyright N/A Levelled N/A

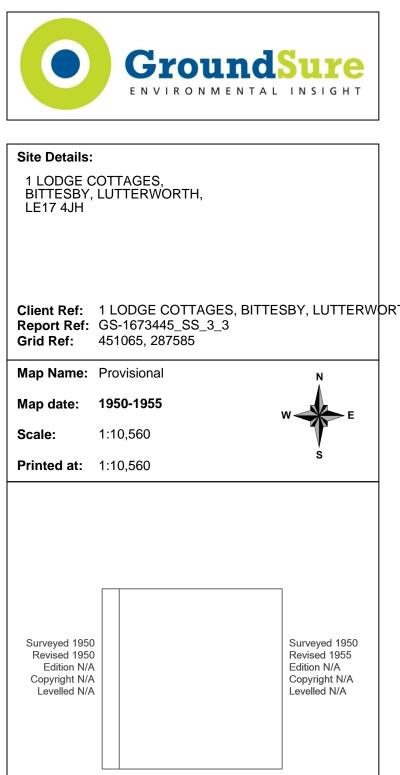


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

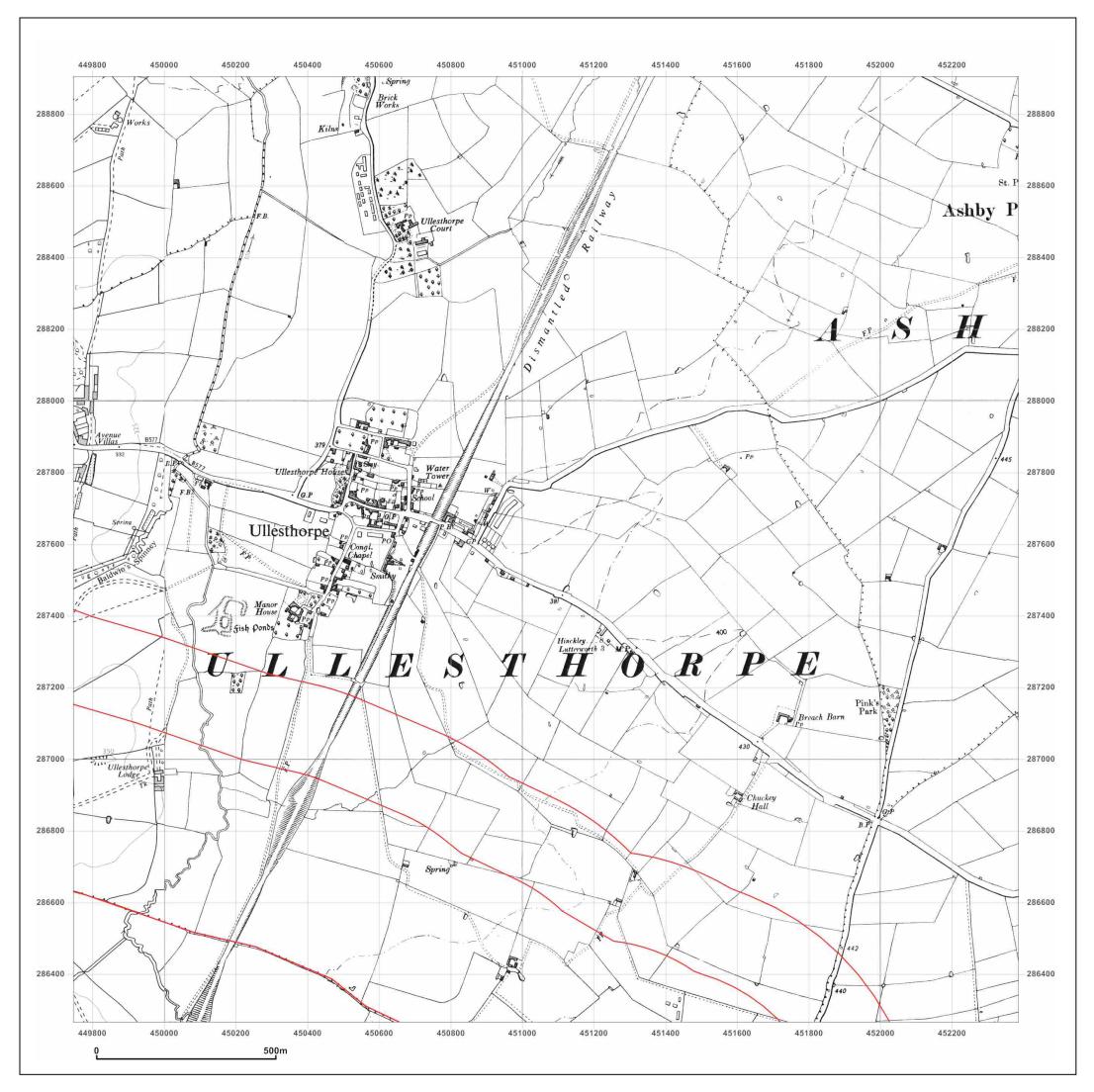


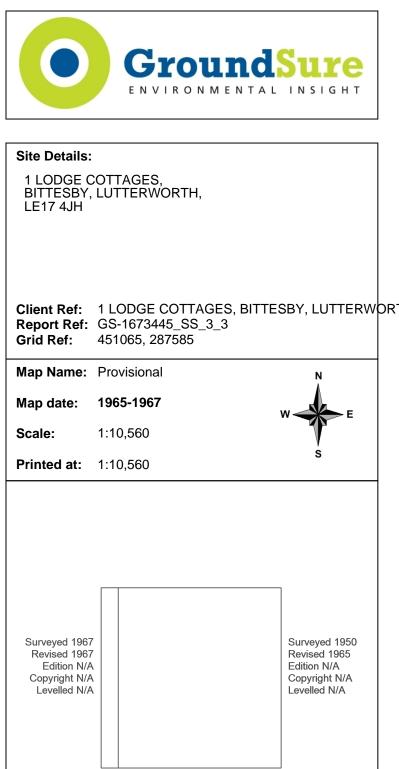




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



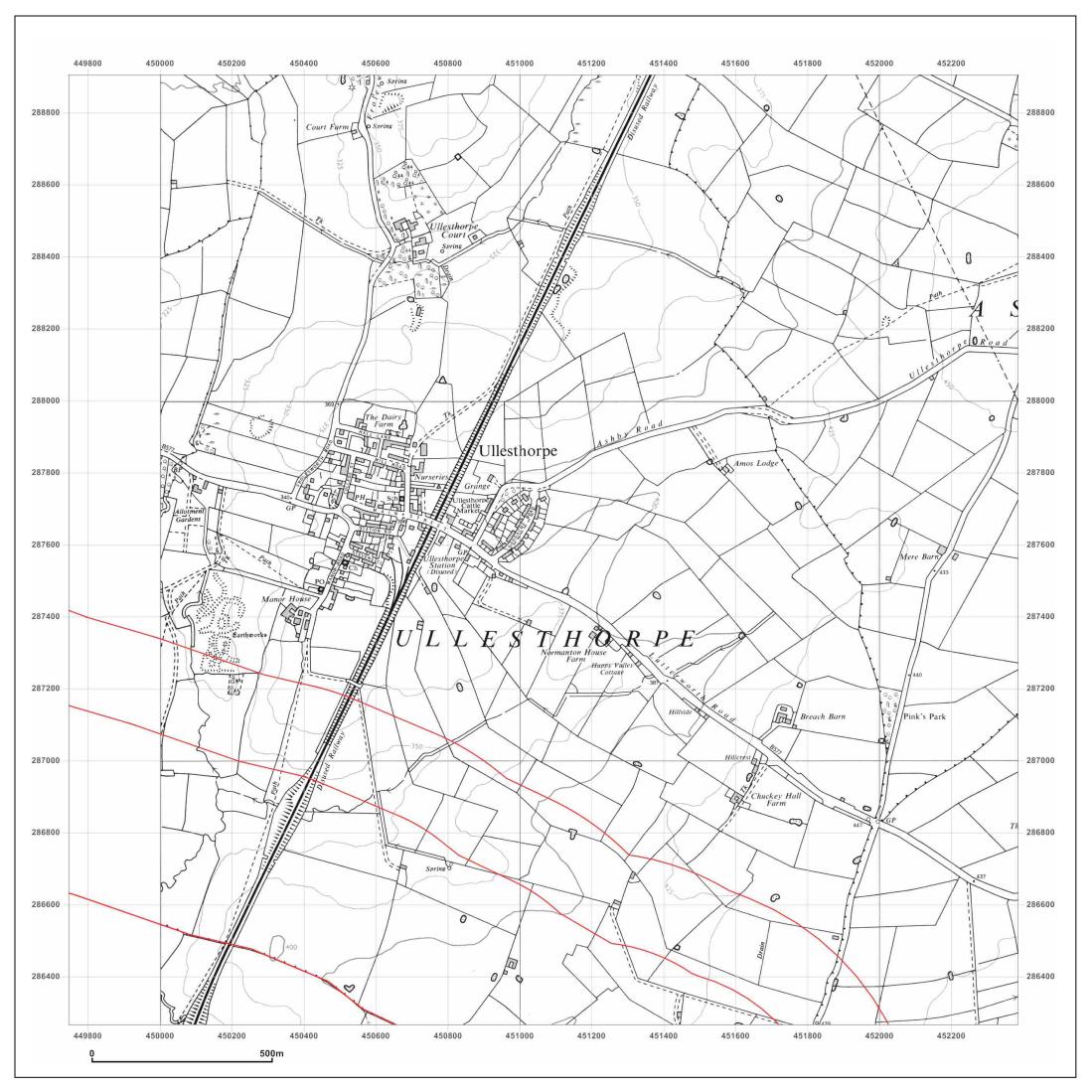




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

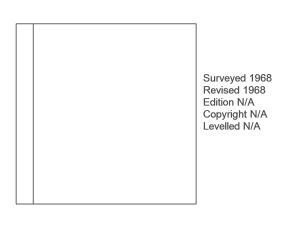
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_SS_3_3<br>451065, 287585 | TESBY, LUTTERW | OR' |
|-------------|--|----------------|-----|
| Map Name:   | Provisional  | N              |     |
| Map date:   | 1968   | W              |     |
| Scale:      | 1:10,560   | Y              |     |
| Printed at: | 1:10,560   | S              |     |
|             |  |                |     |



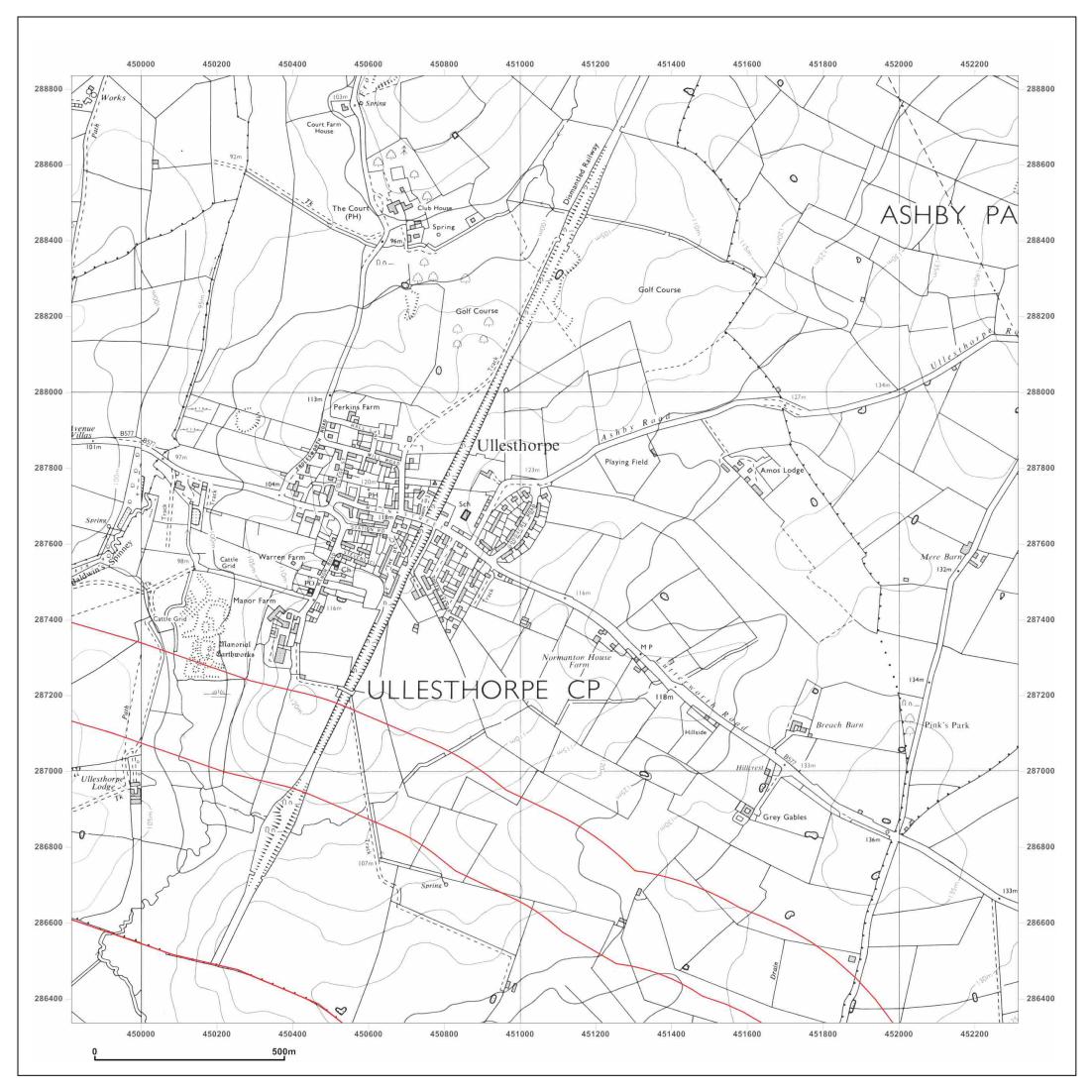


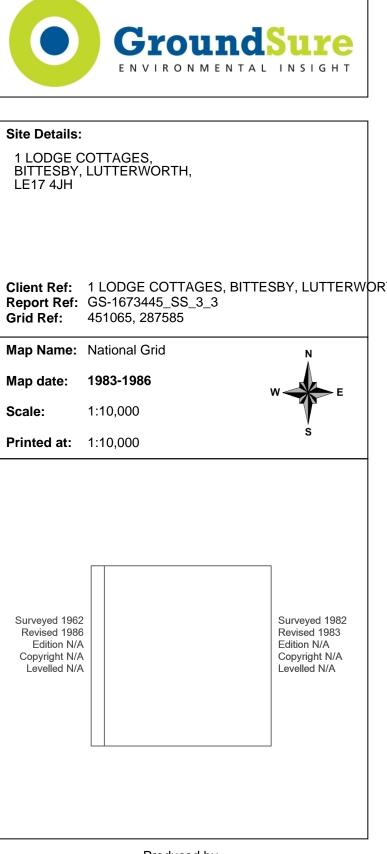
LE17 4JH

Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



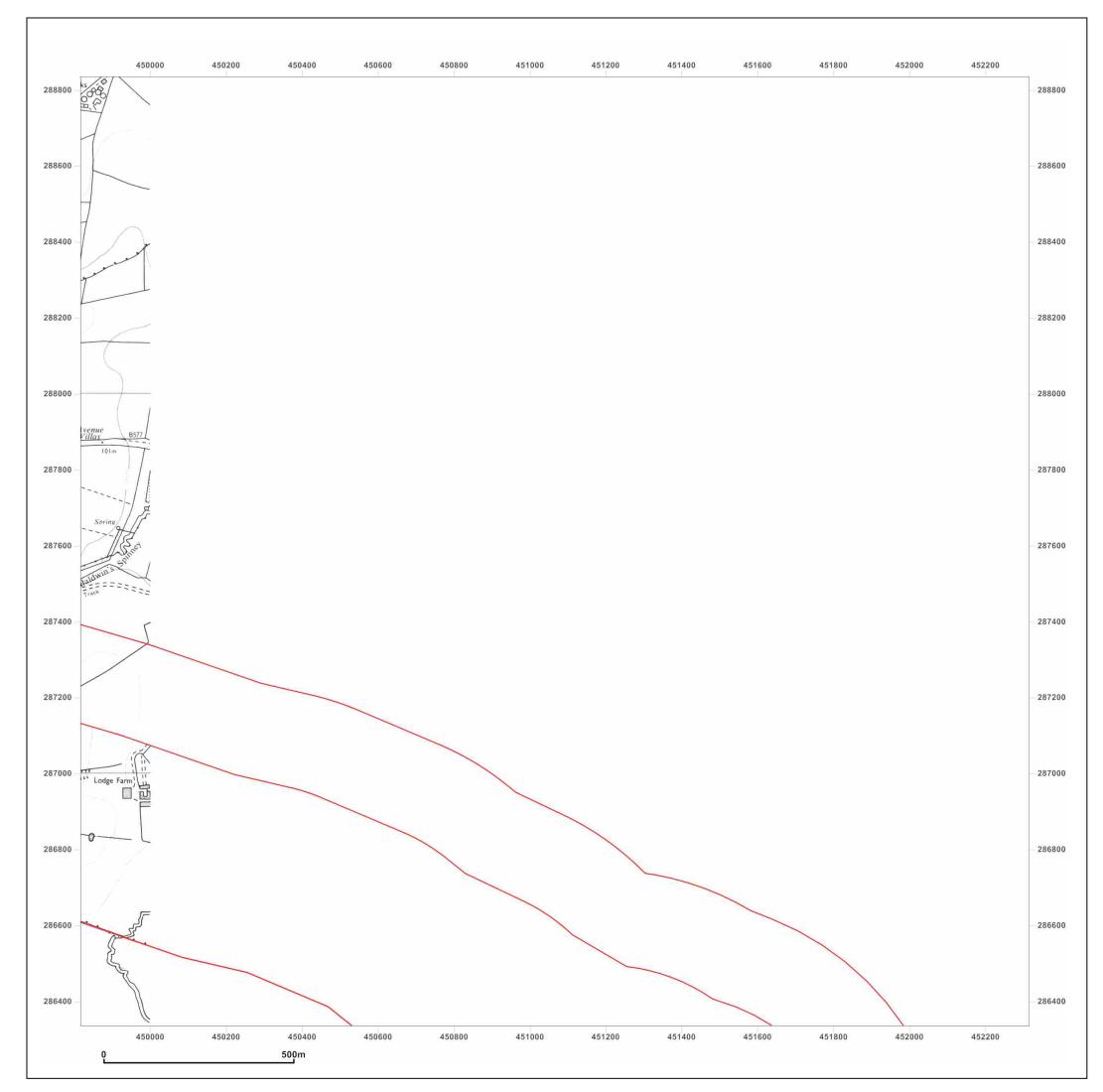


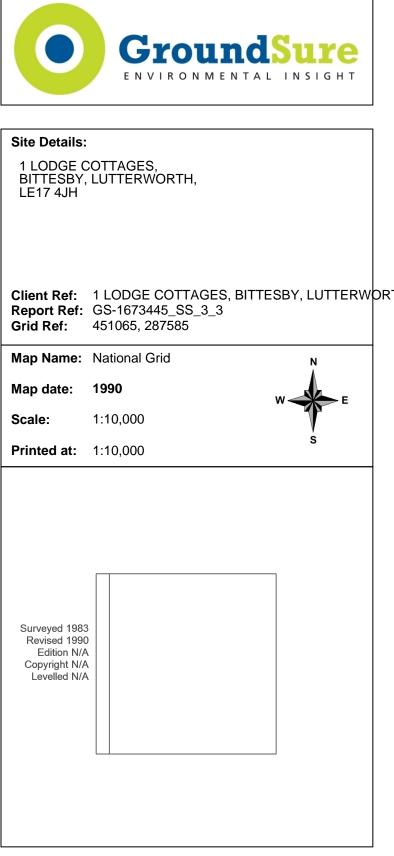


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



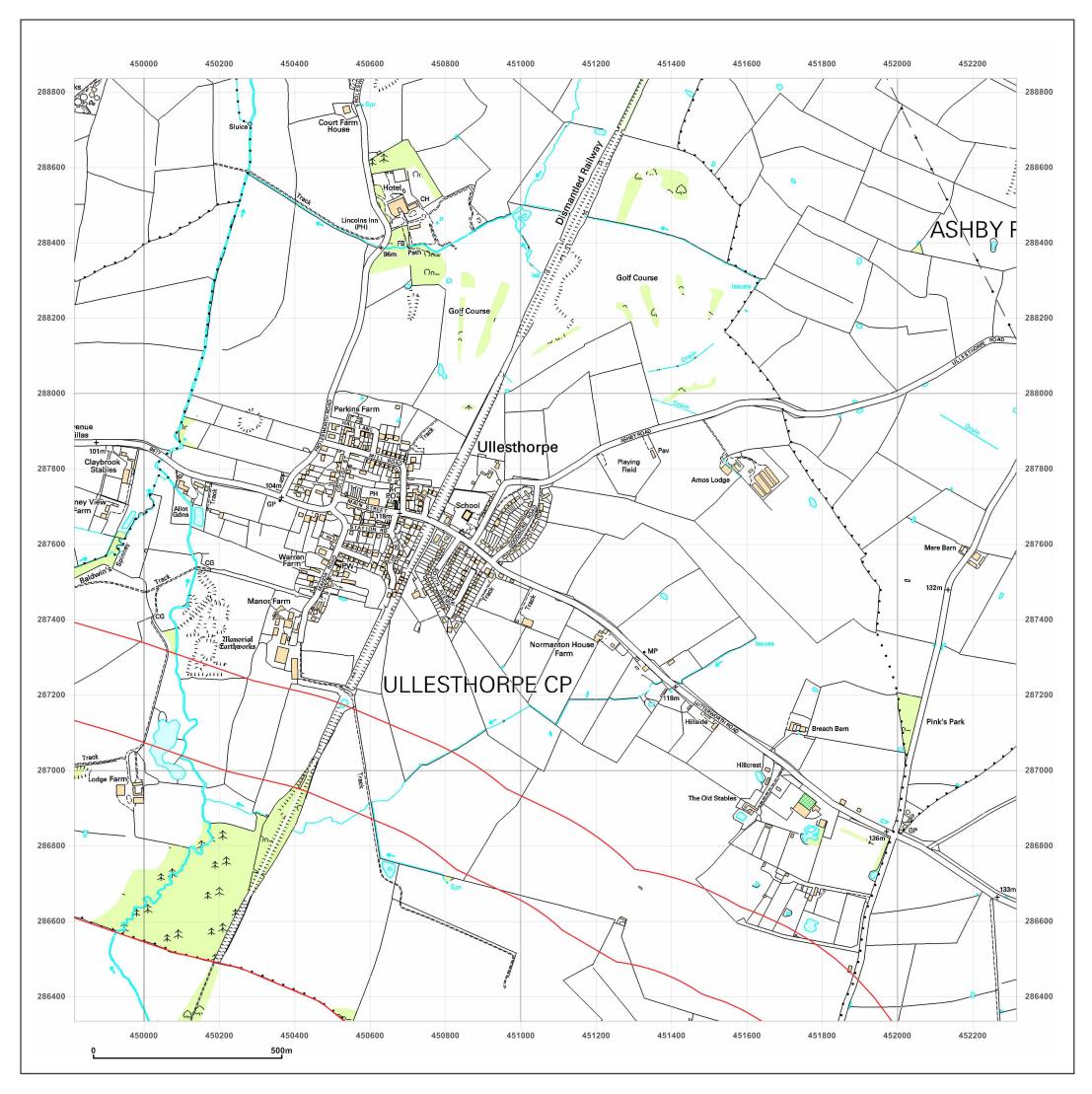


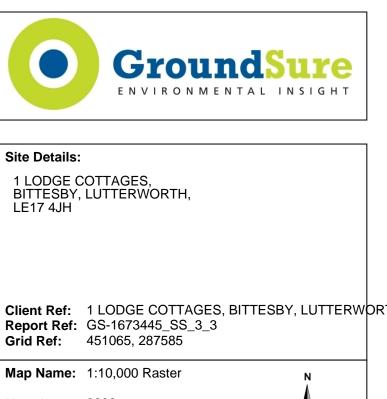


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

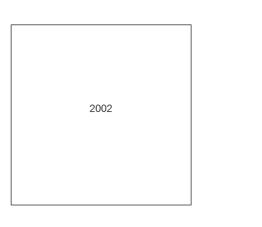




Map date: 2002

1:10,000 Scale:

Printed at: 1:10,000

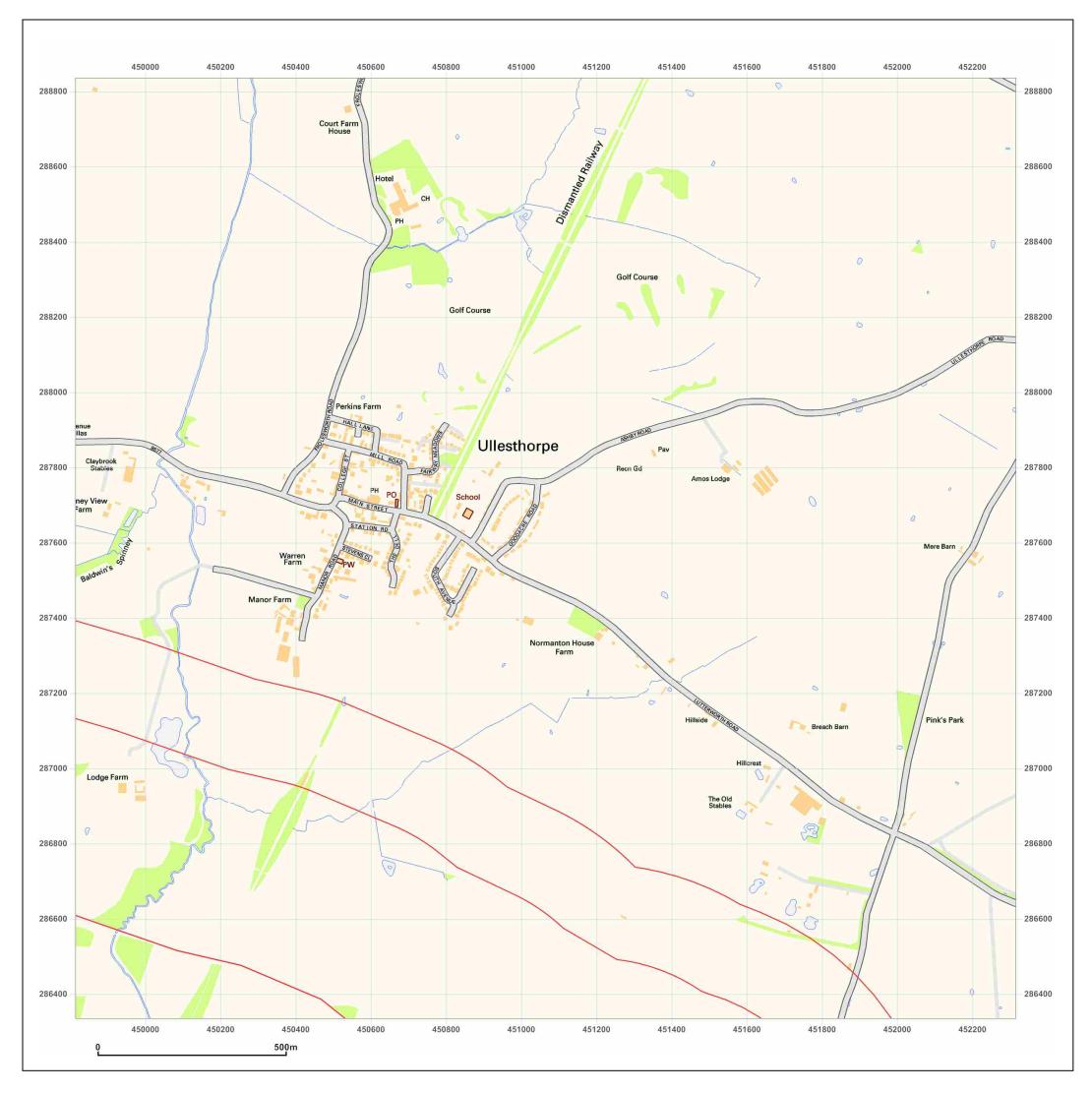




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BITTESBY, LUTTERW<br>GS-1673445_SS_3_3<br>451065, 287585 | OR |
|-------------|--|----|

Map Name: National Grid Map date: 2010 1:10,000 Scale: **Printed at:** 1:10,000

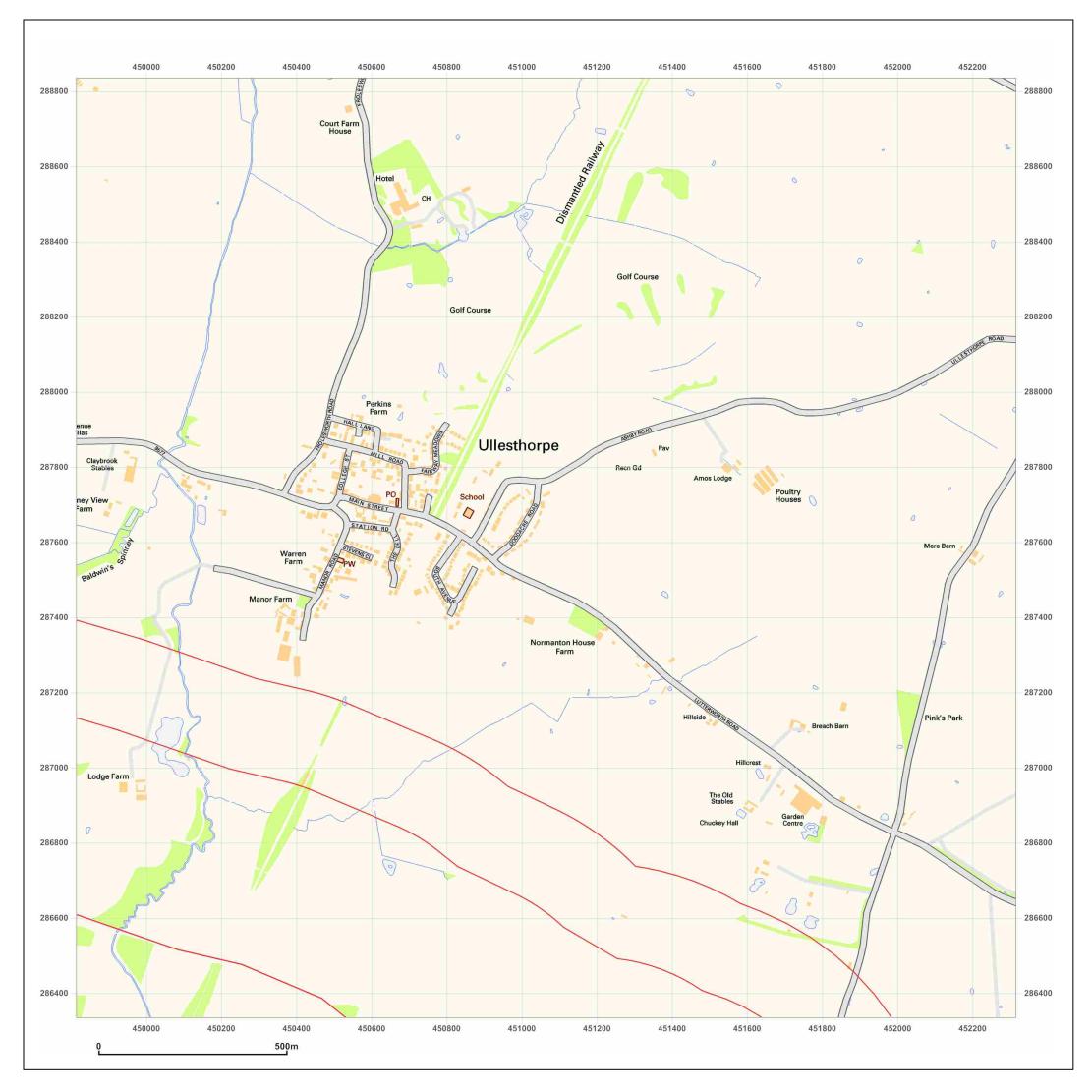




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

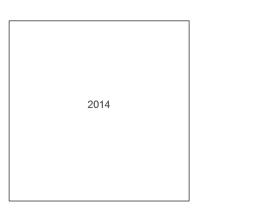
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





| 1 LODGE C<br>BITTESBY,<br>LE17 4JH | COTTAGES,<br>LUTTERWORTH,   |    |
|------------------------------------|---|----|
|                                    | 1 LODGE COTTAGES, BITTESBY, LUTTERWO<br>GS-1673445_SS_3_3<br>451065, 287585 | R' |
| Map Name:                          | National Grid   |    |
| Map date:                          | 2014 W  |    |
| Scale:                             | 1:10,000  |    |
| Printed at:                        | 1:10,000 s  |    |

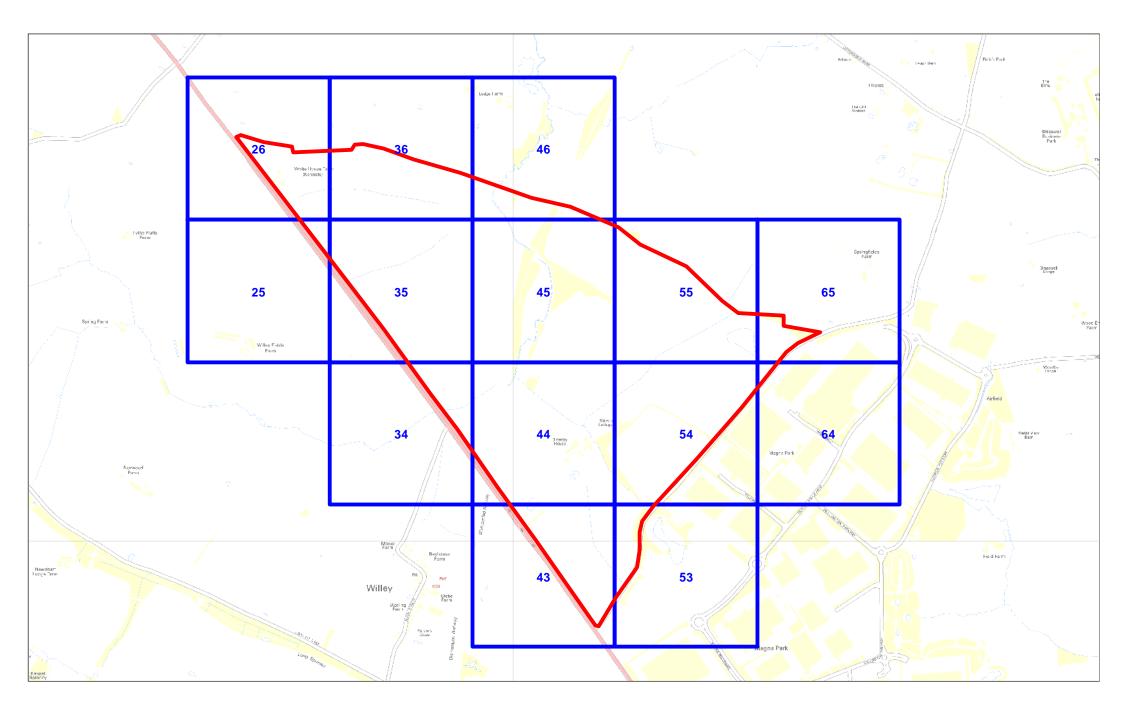


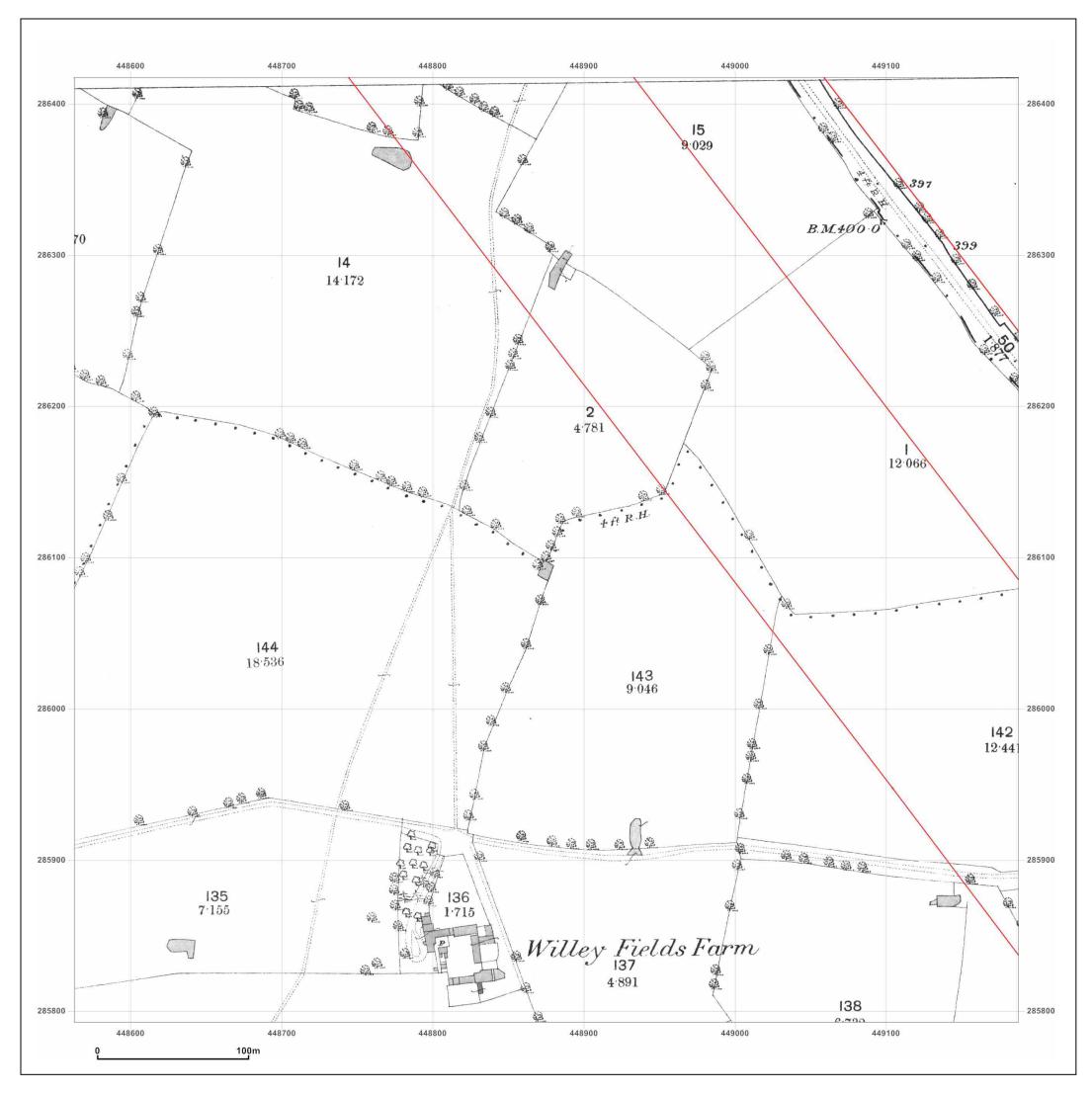


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

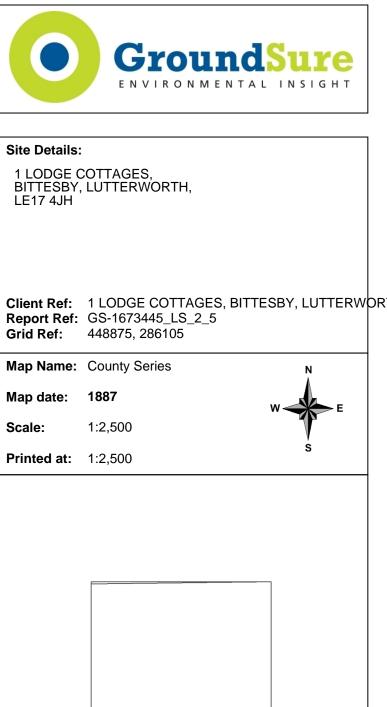
© Crown copyright and database rights 2013 Ordnance Survey 100035207

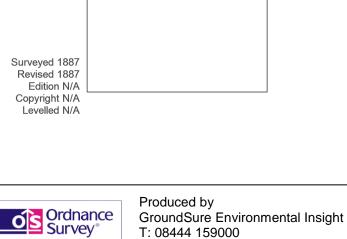
Production date: 22 September 2014





Licensed Partner



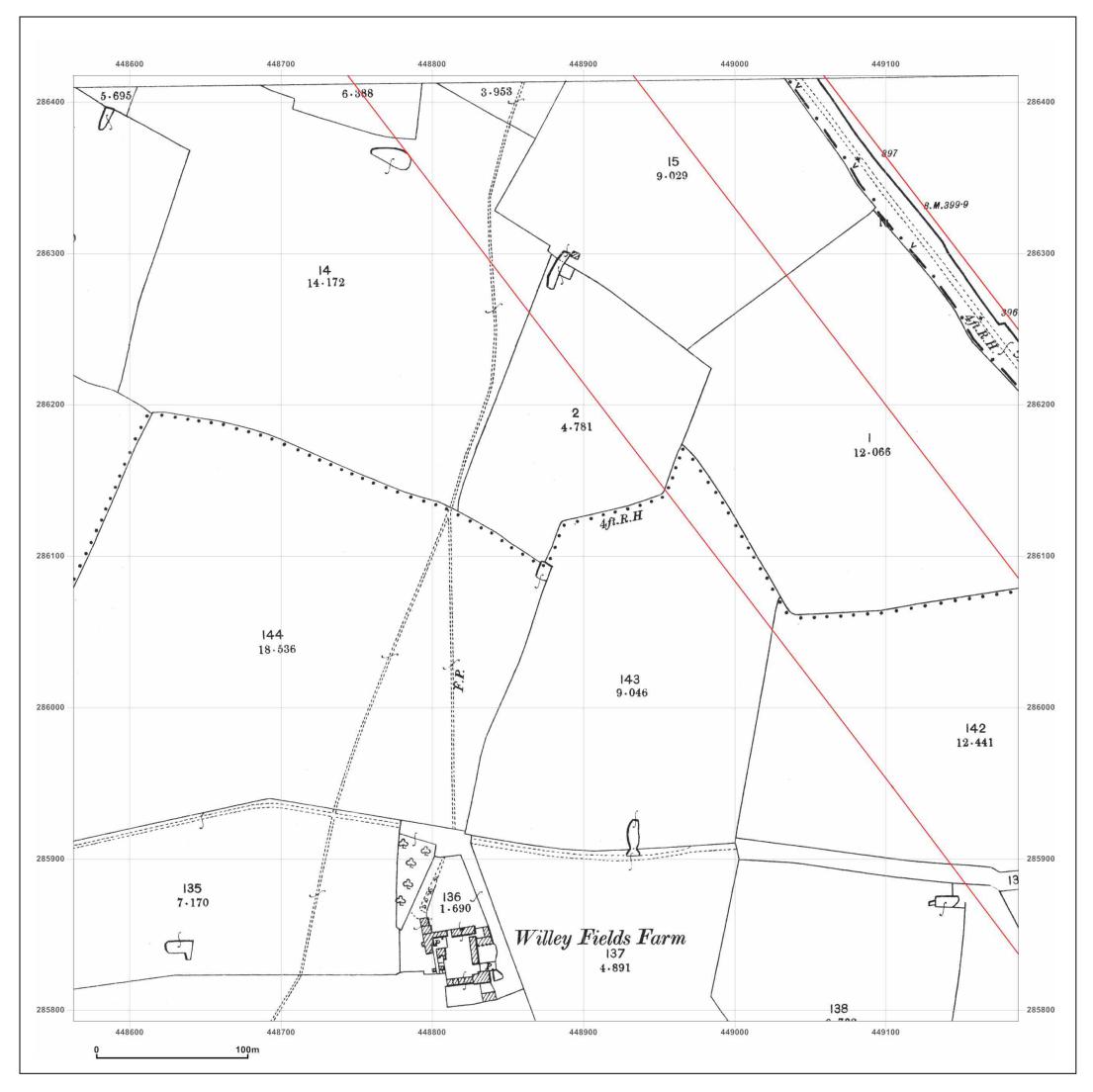


© Crown copyright and database rights 2013 Ordnance Survey 100035207

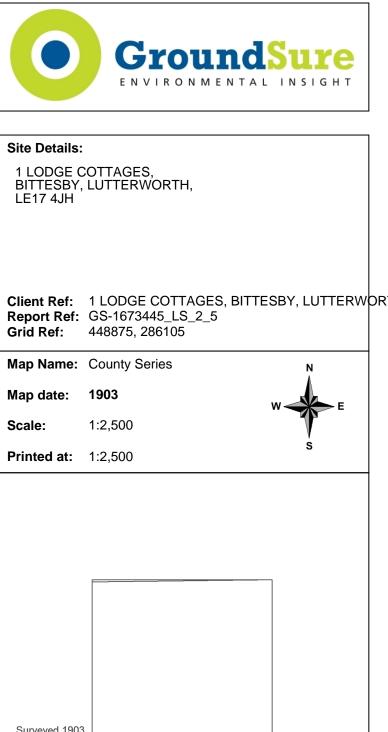
E: info@groundsure.com

W: www.groundsure.com

Production date: 22 September 2014



т



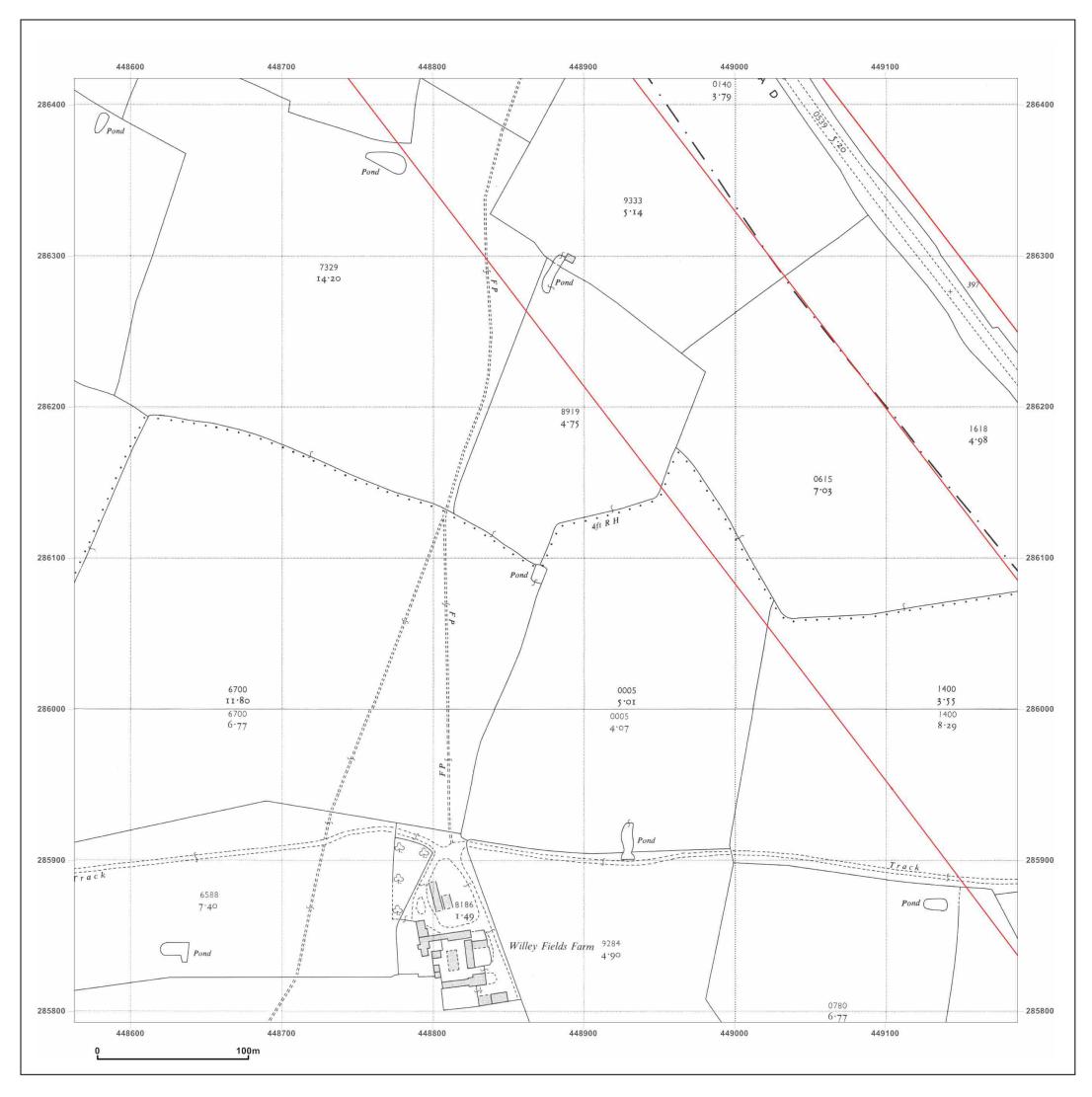
Surveyed 1903 Revised 1903 Edition N/A Copyright N/A Levelled N/A



Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

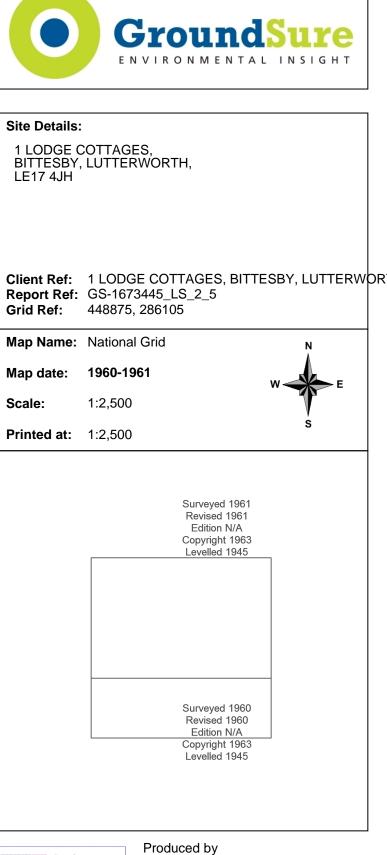
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



C

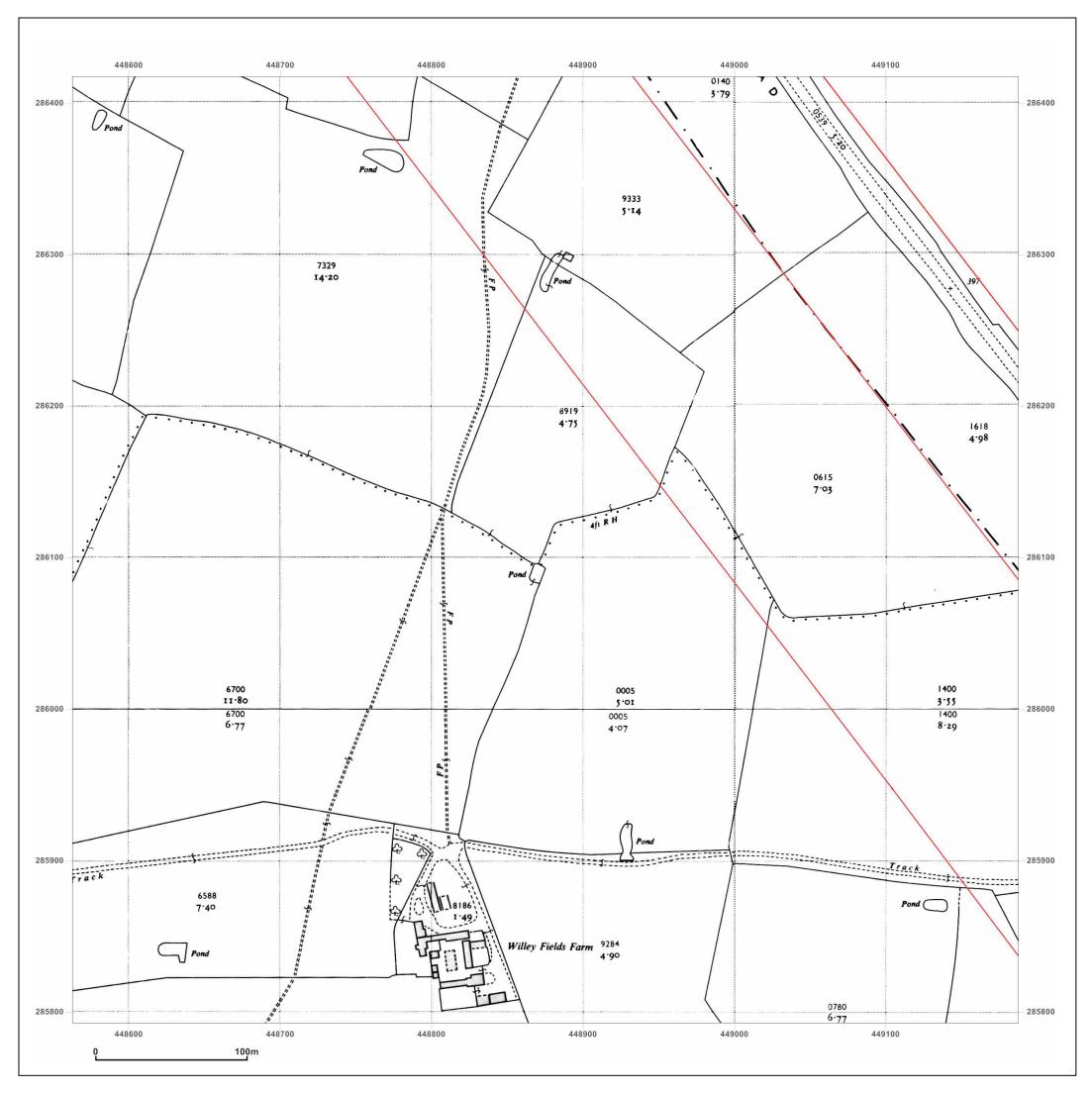
To view map legend click here <u>Legend</u>

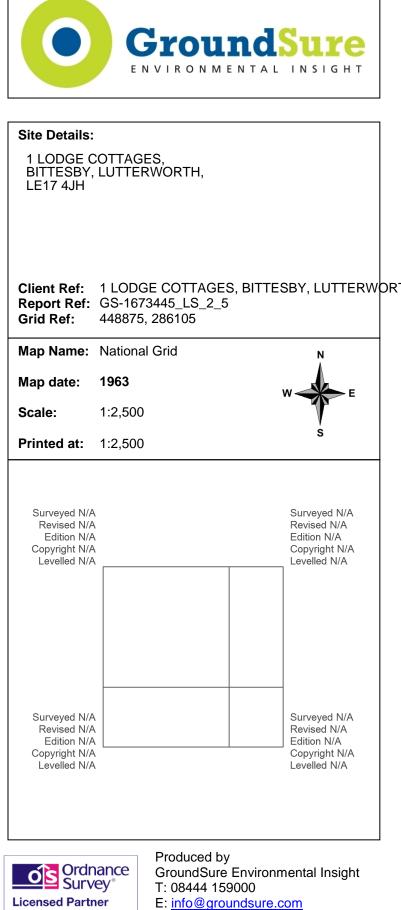


Cordnance Survey<sup>®</sup> Licensed Partner Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

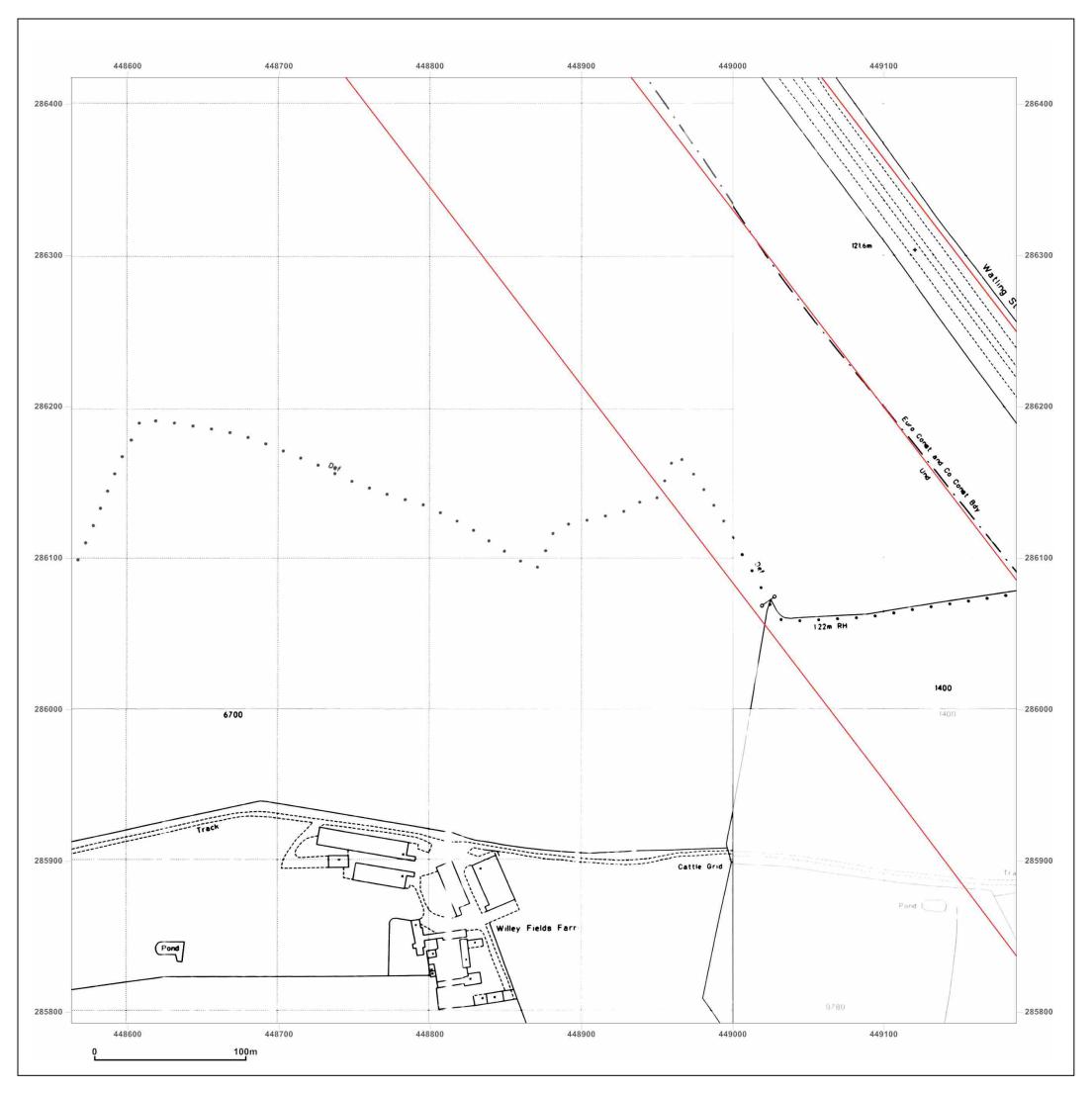


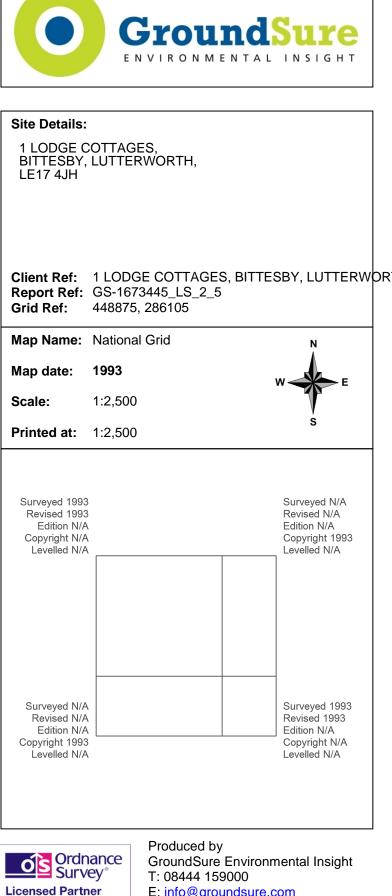


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014

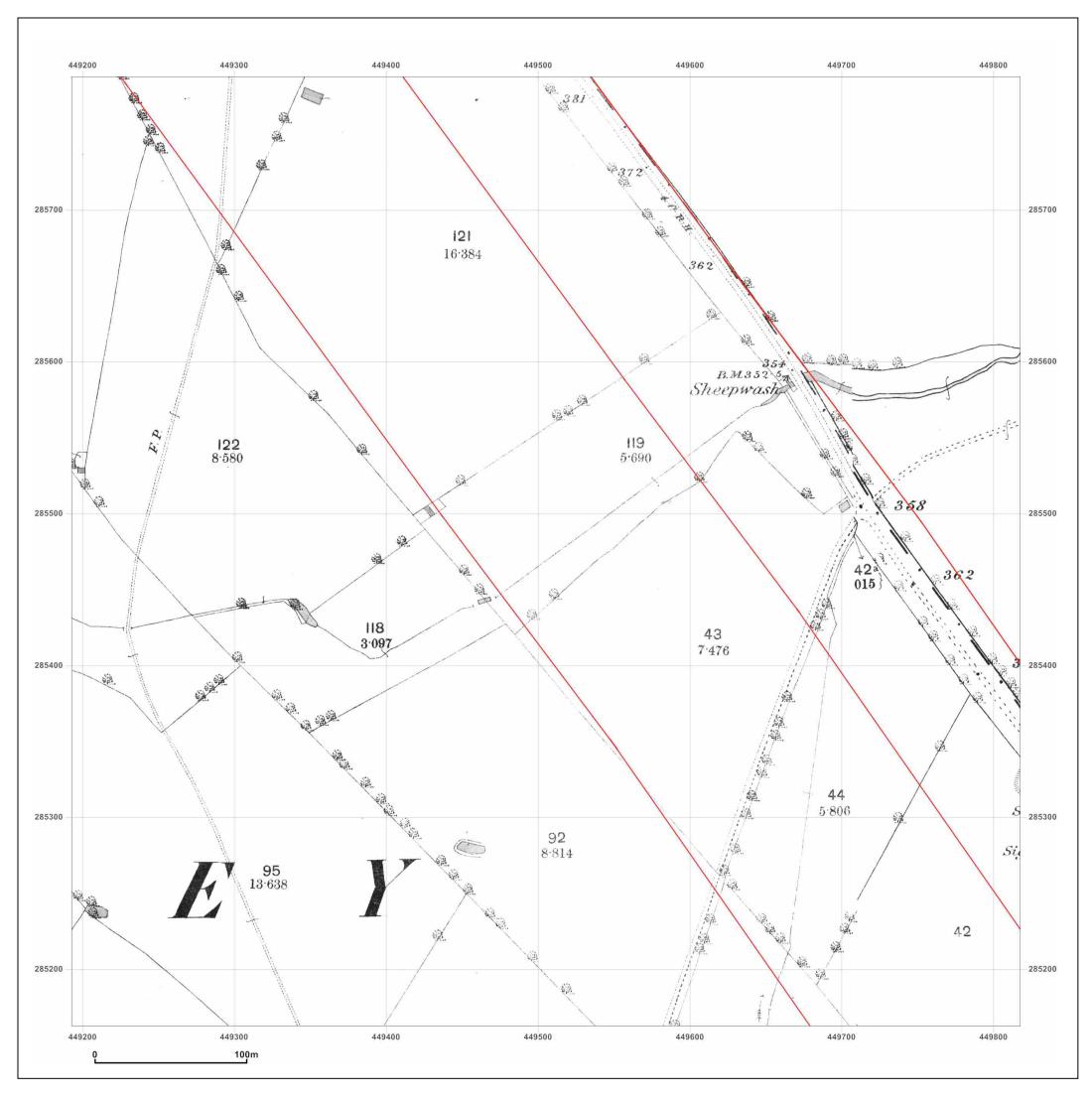




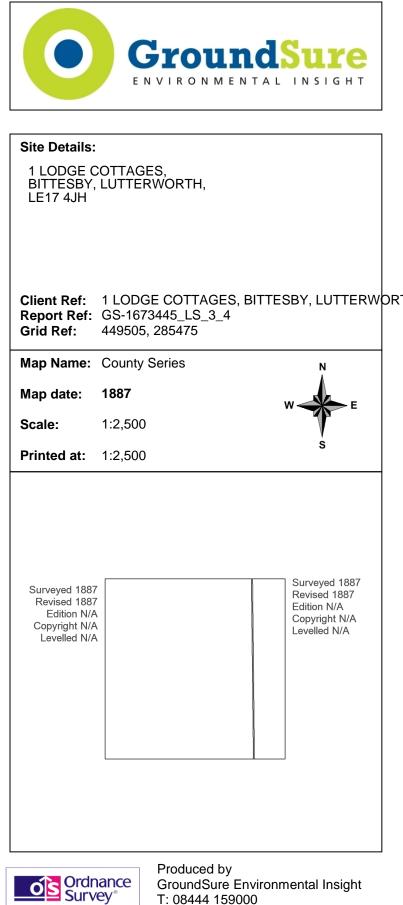
E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



т

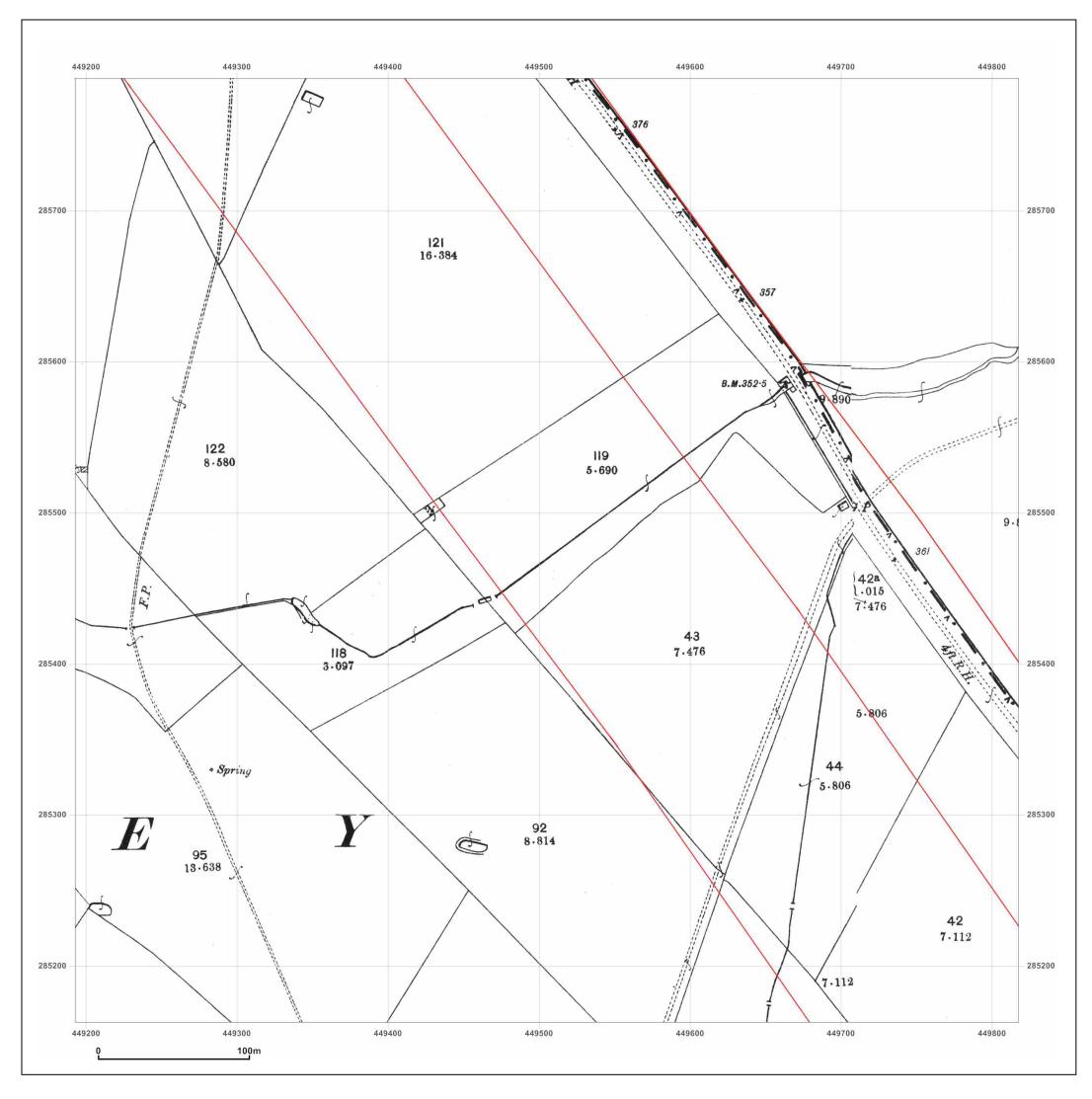


T: 08444 159000 E: info@groundsure.com

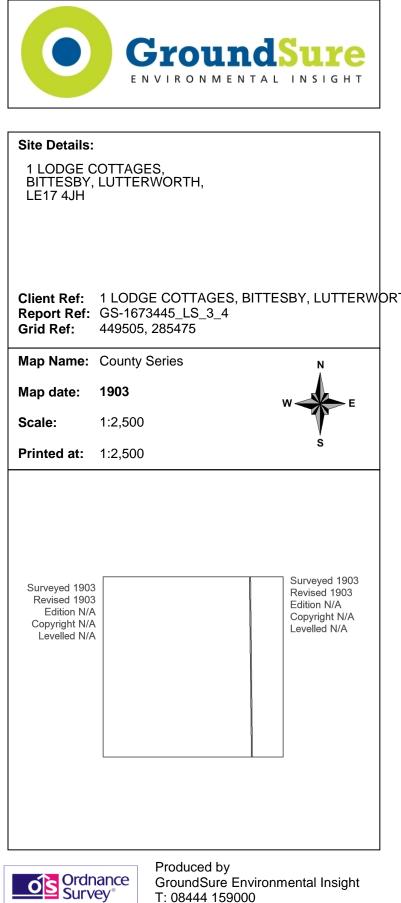
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



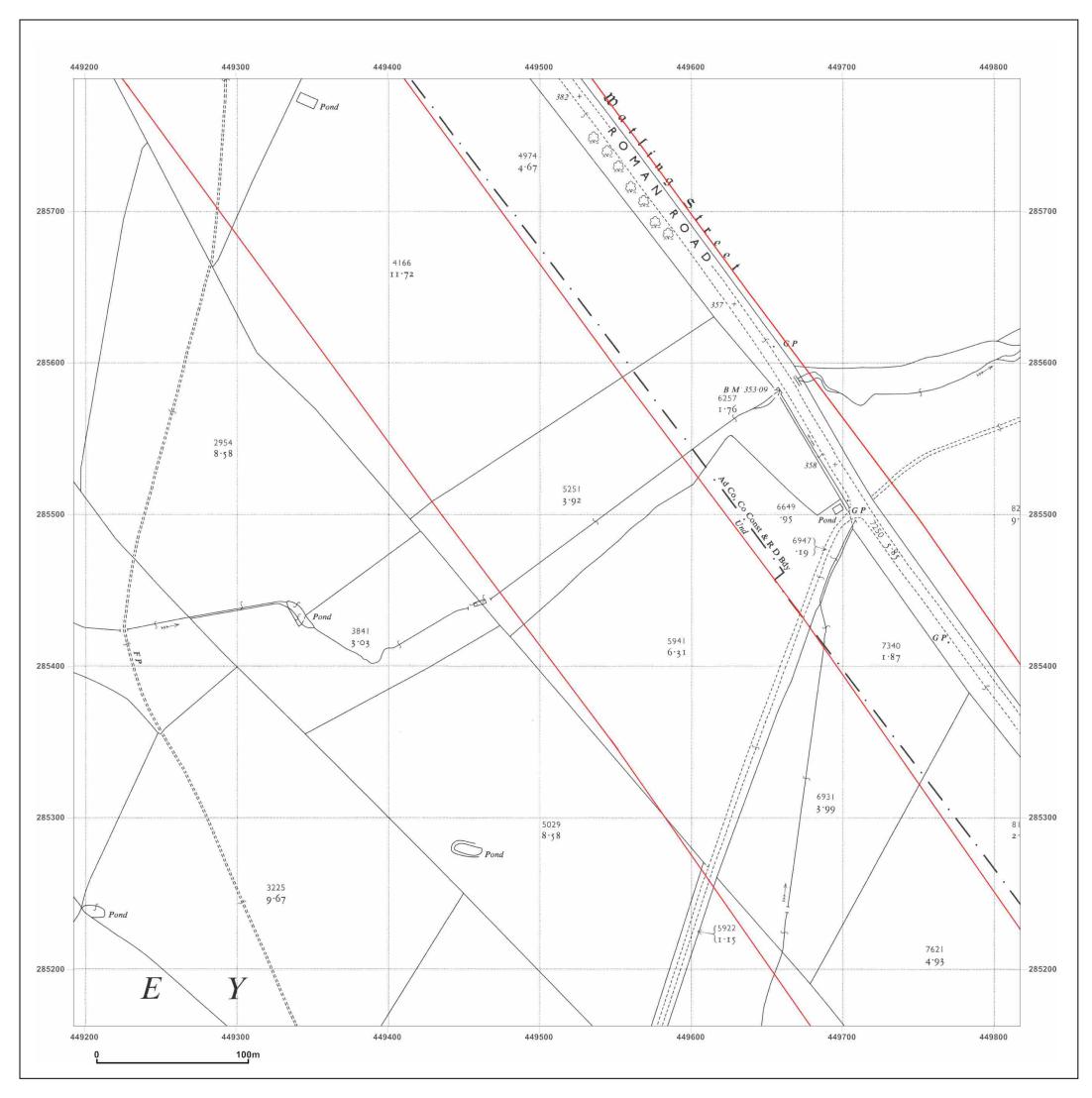
Licensed Partner

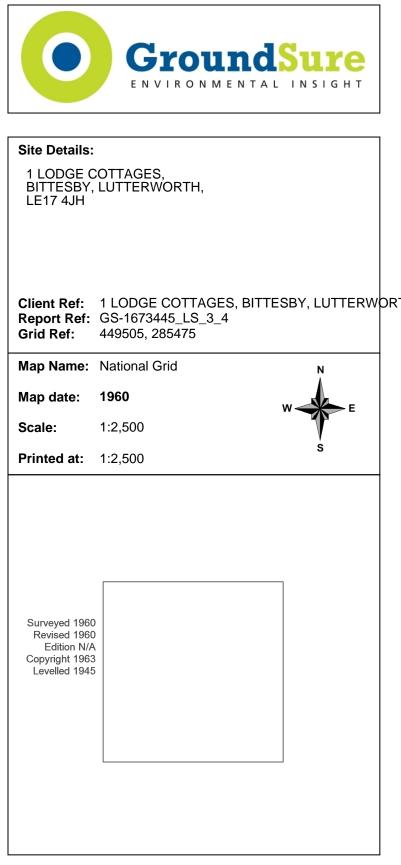


T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



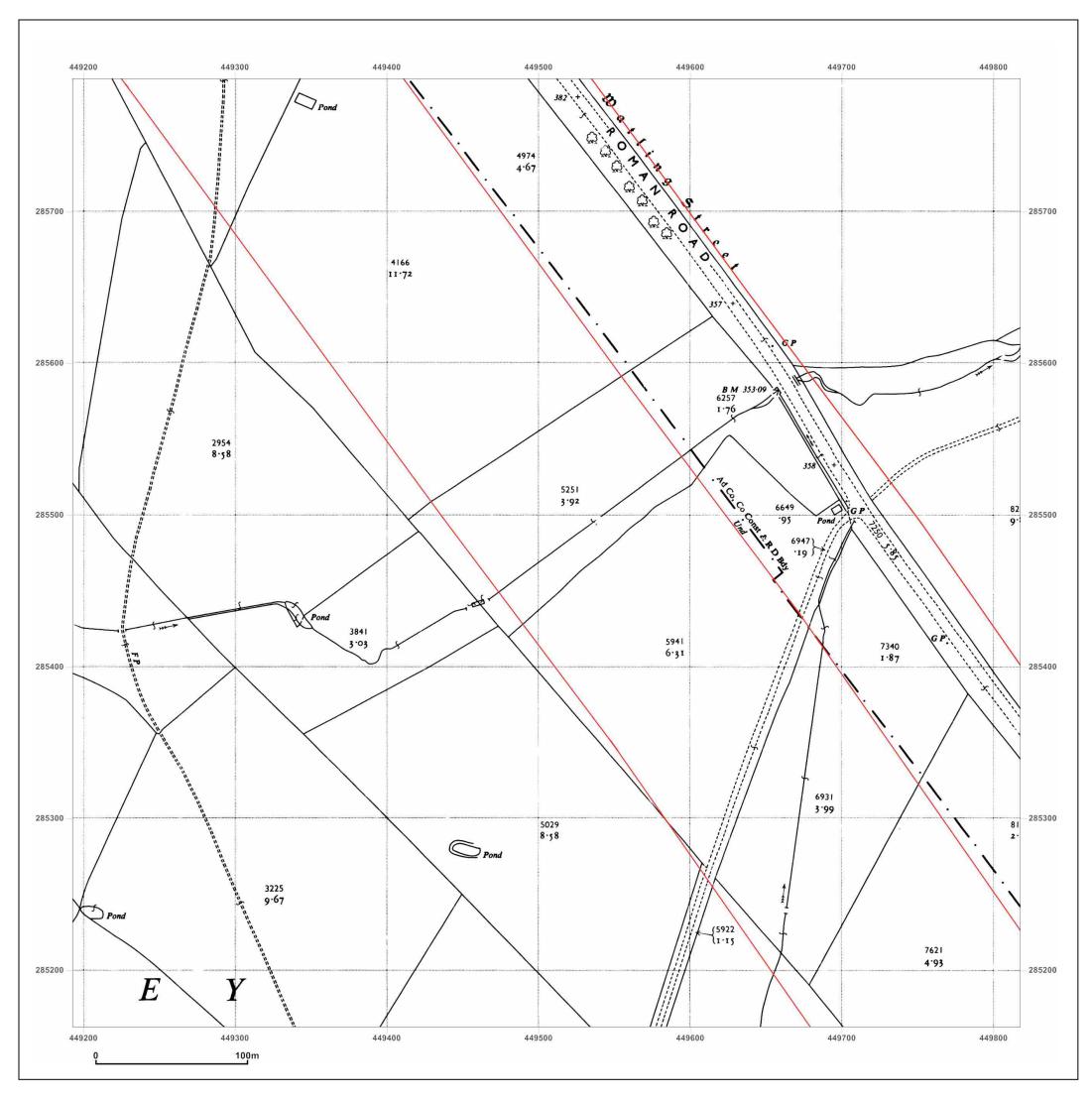




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

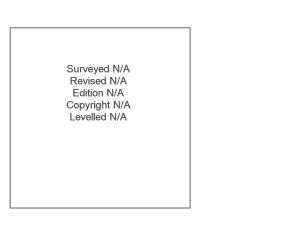
Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_LS_3_4<br>449505, 285475 | TESBY, LUTTERW | OR⁻ |
|-------------|--|----------------|-----|
| Map Name:   | National Grid  | N              |     |
| Map date:   | 1963   | W              |     |
| Scale:      | 1:2,500  |                |     |
|             | 4 0 500  | S              |     |

**Printed at:** 1:2,500

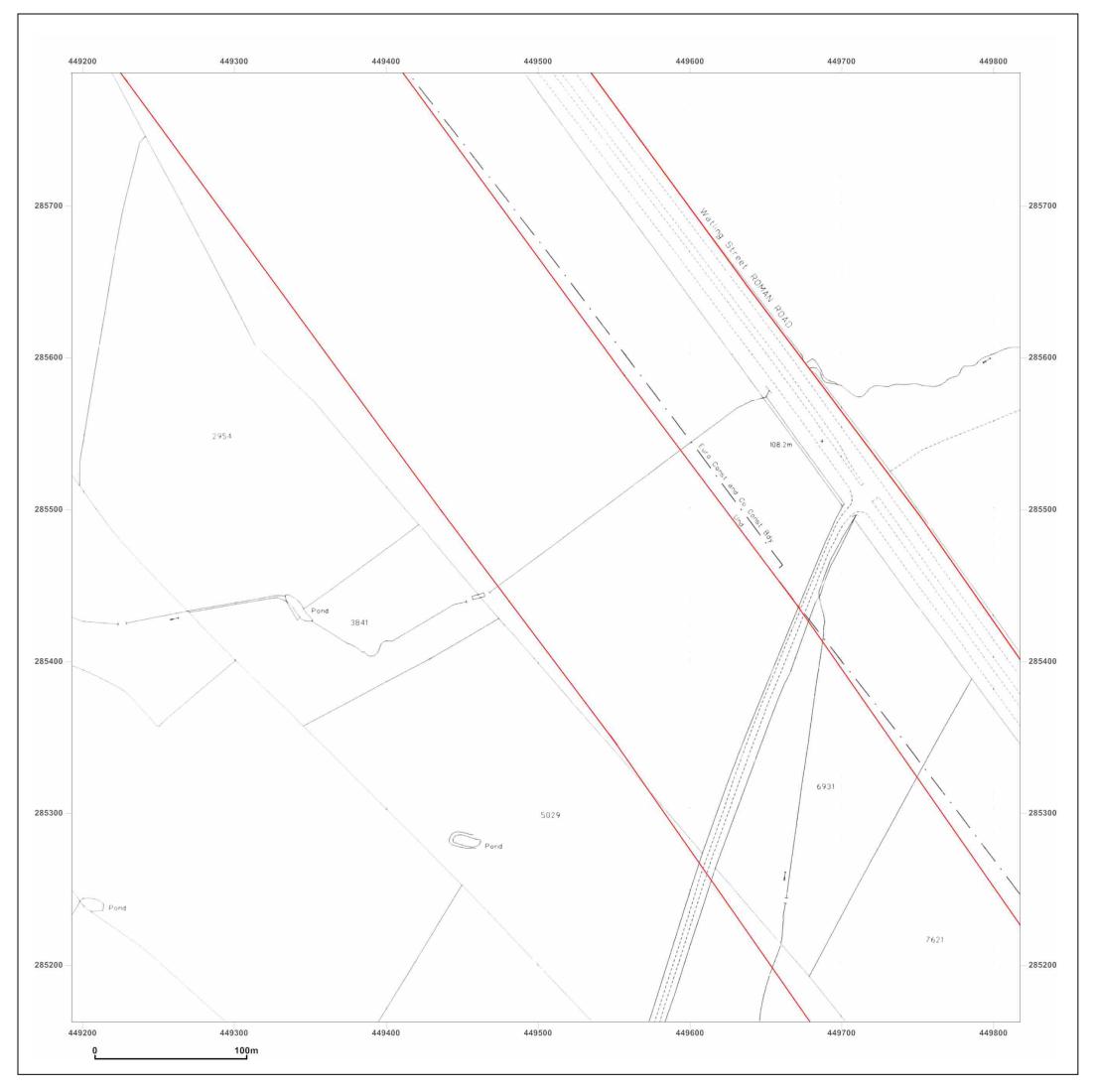




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

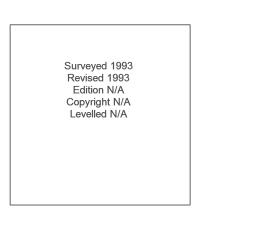






| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_LS_3_4<br>449505, 285475 | TESBY, LUTTERWO | R |
|-------------|--|-----------------|---|
| Map Name:   | National Grid  | N               |   |
| Map date:   | 1993   | W               |   |
| Scale:      | 1:2,500  |                 |   |
|             |  | s               |   |

**Printed at:** 1:2,500

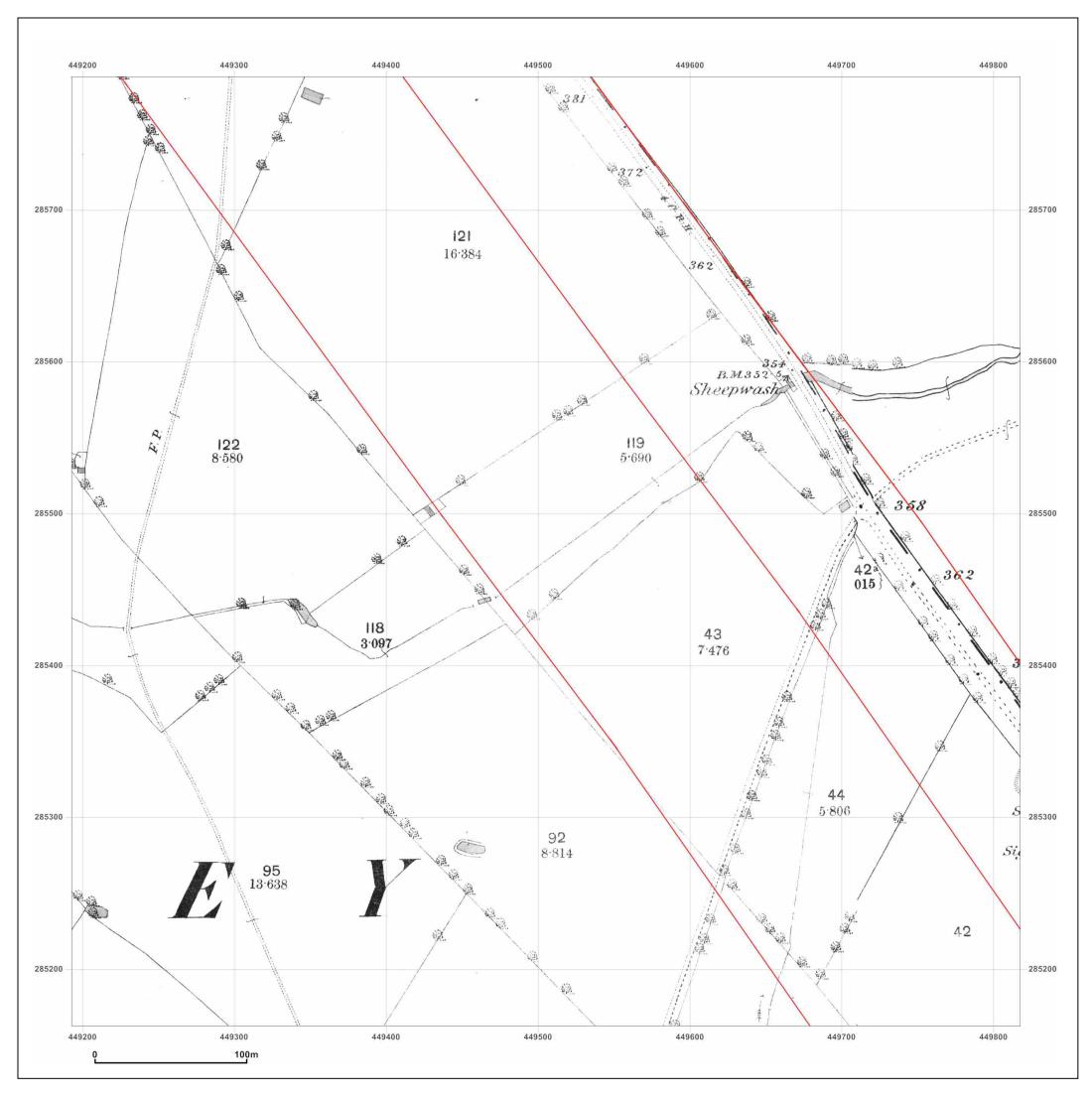




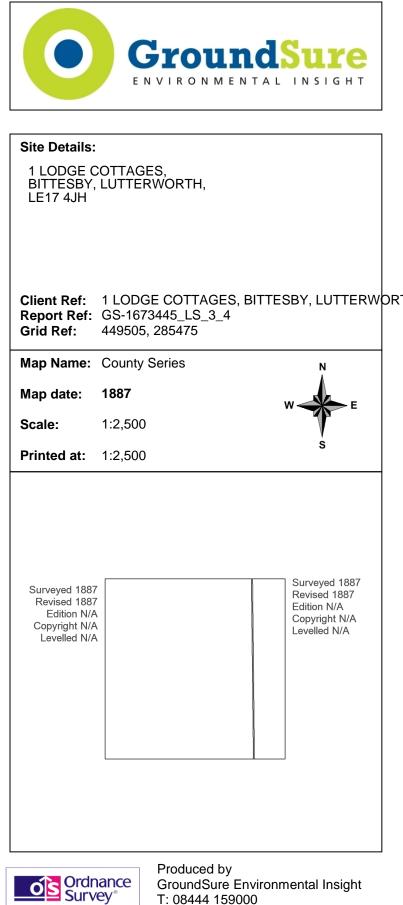
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



т

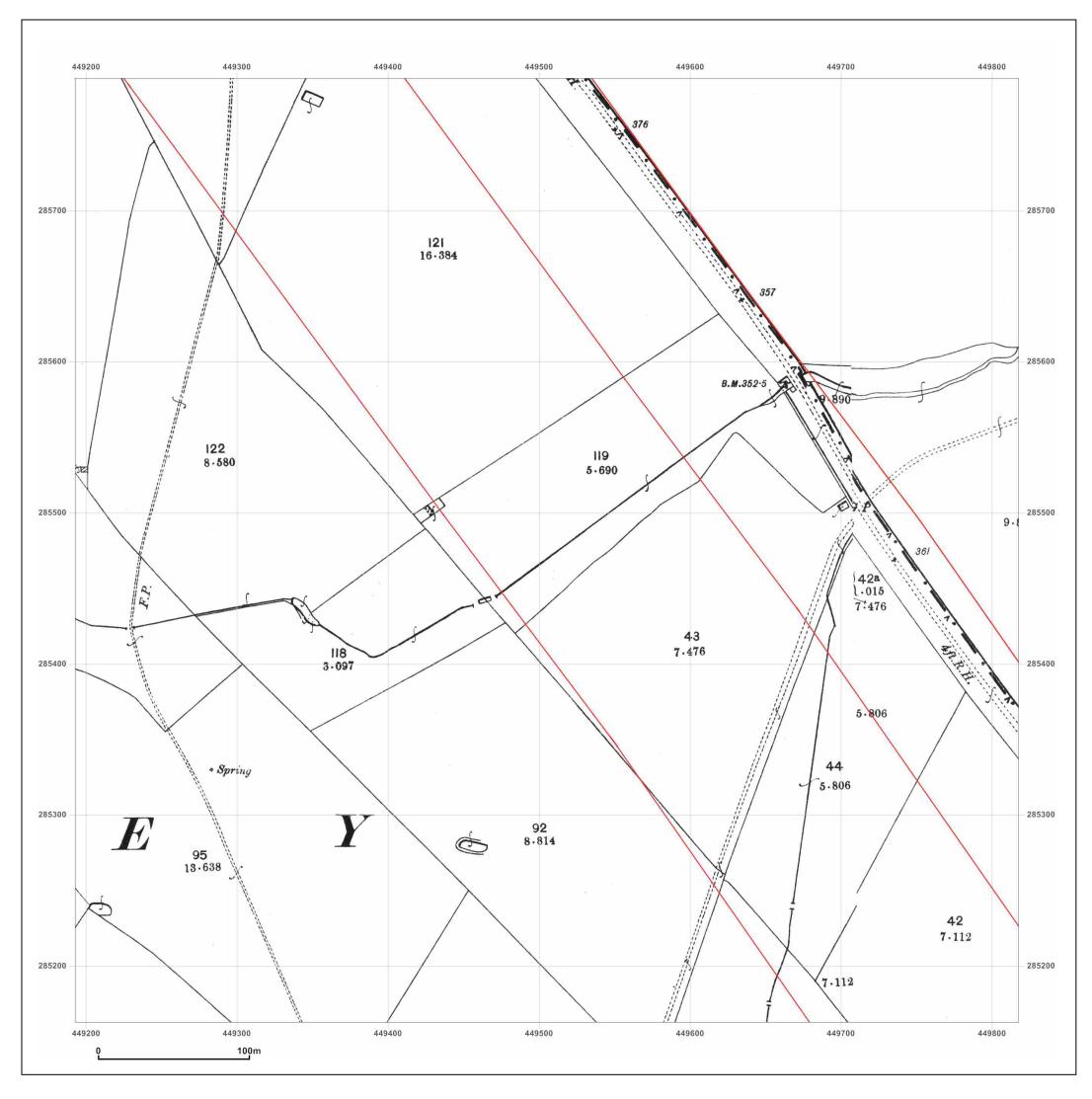


T: 08444 159000 E: info@groundsure.com

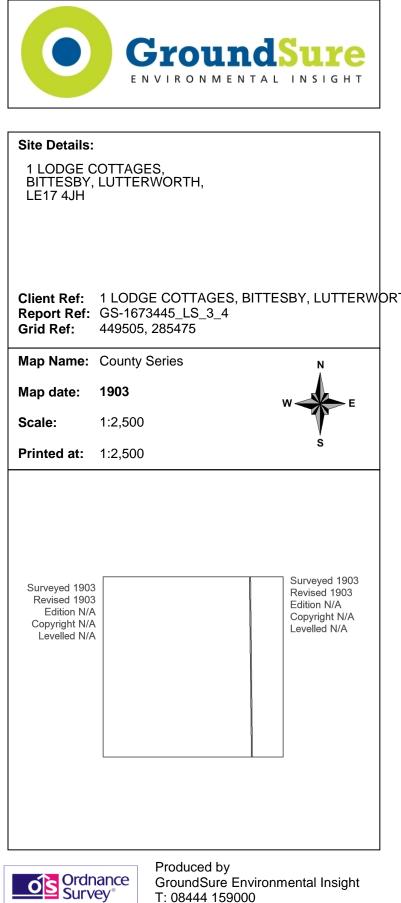
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



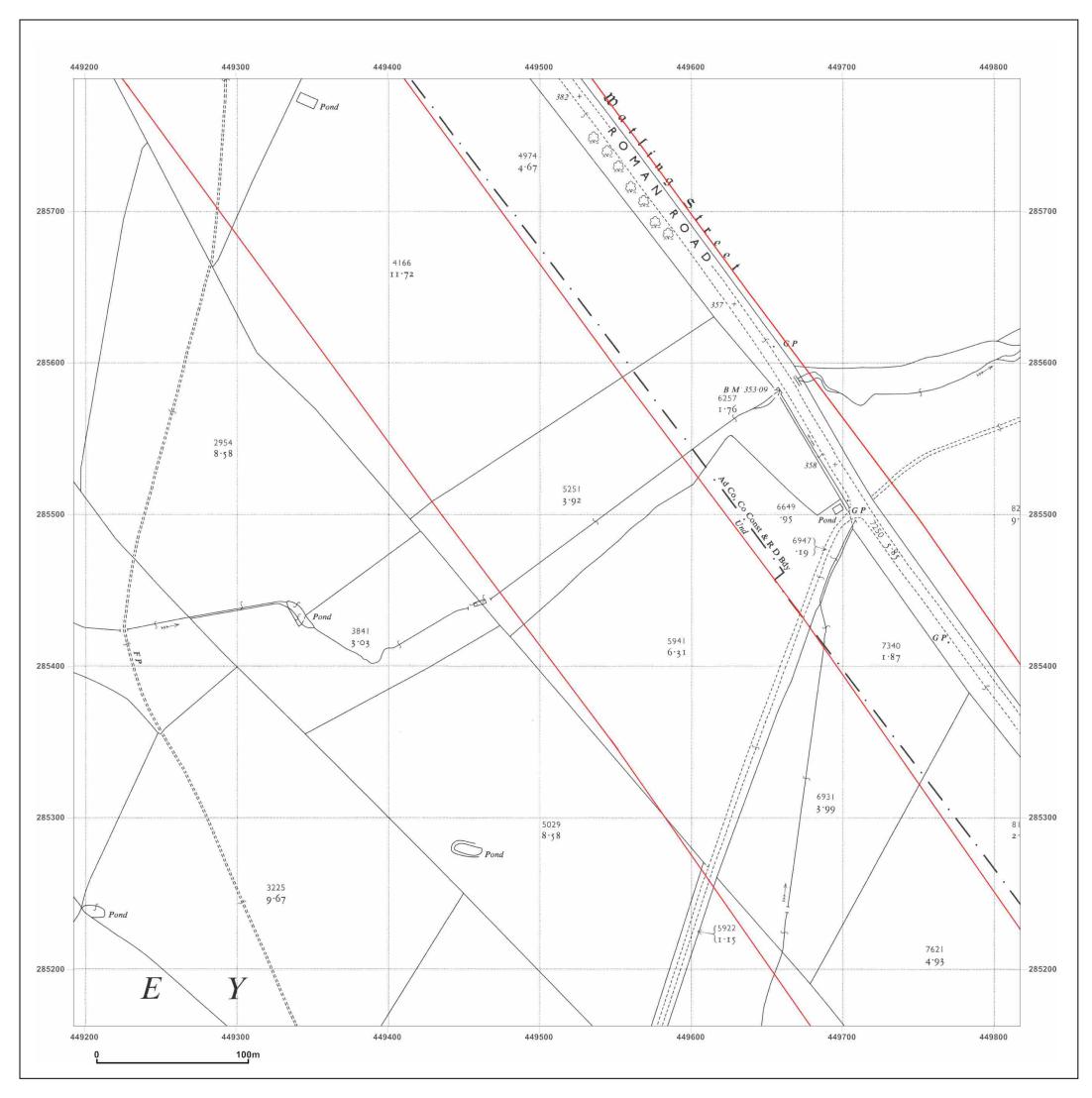
Licensed Partner

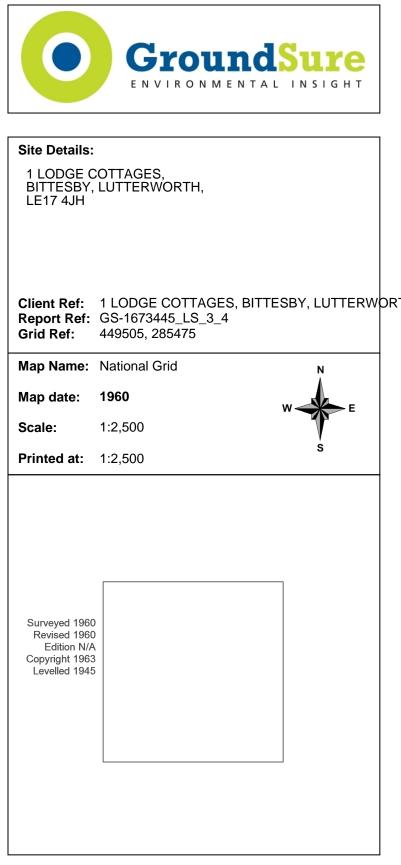


T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



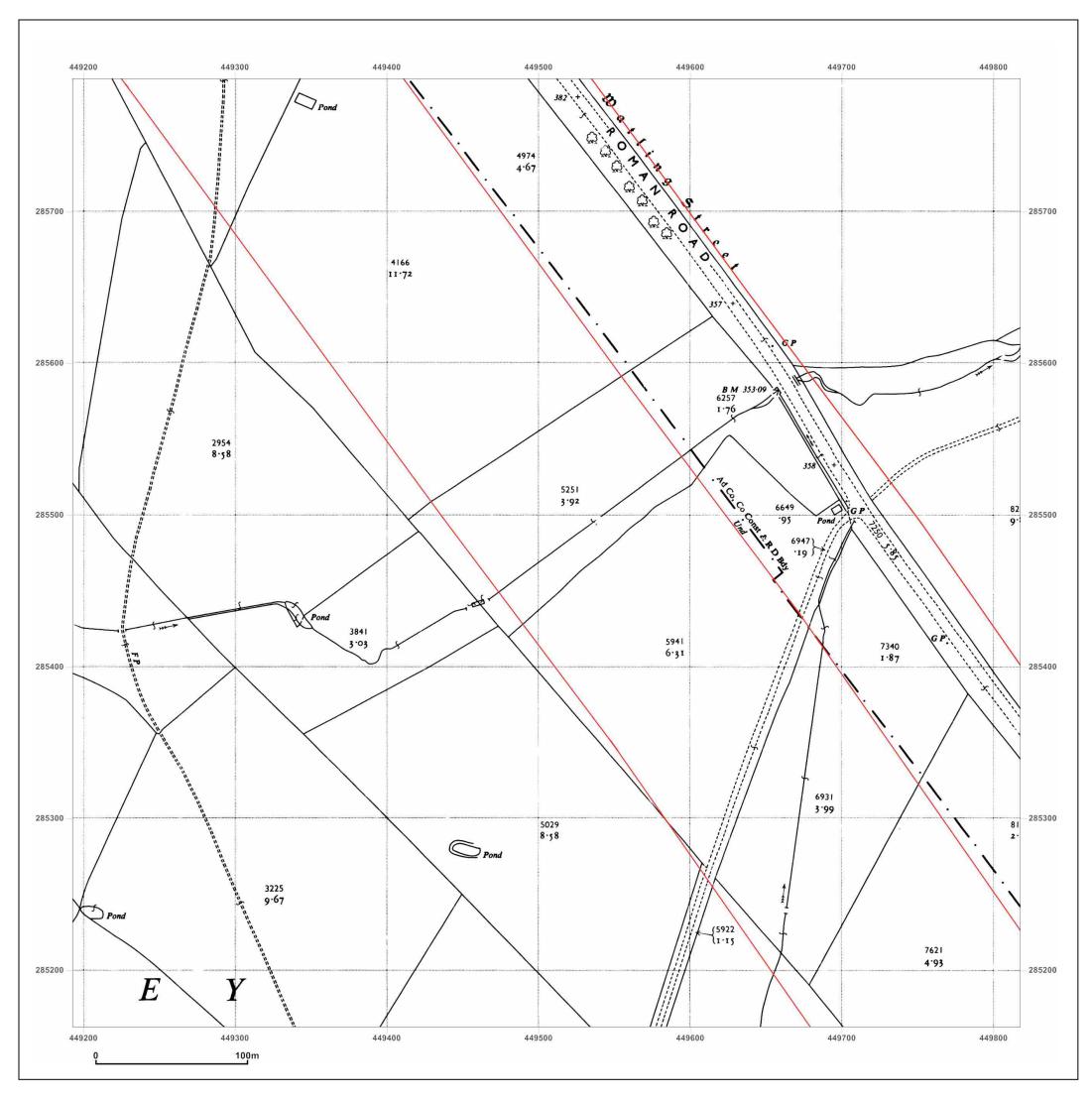




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

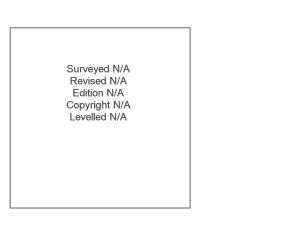
Production date: 22 September 2014





| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_LS_3_4<br>449505, 285475 | TESBY, LUTTERW | OR⁻ |
|-------------|--|----------------|-----|
| Map Name:   | National Grid  | N              |     |
| Map date:   | 1963   | W              |     |
| Scale:      | 1:2,500  |                |     |
|             | 4 0 500  | S              |     |

**Printed at:** 1:2,500

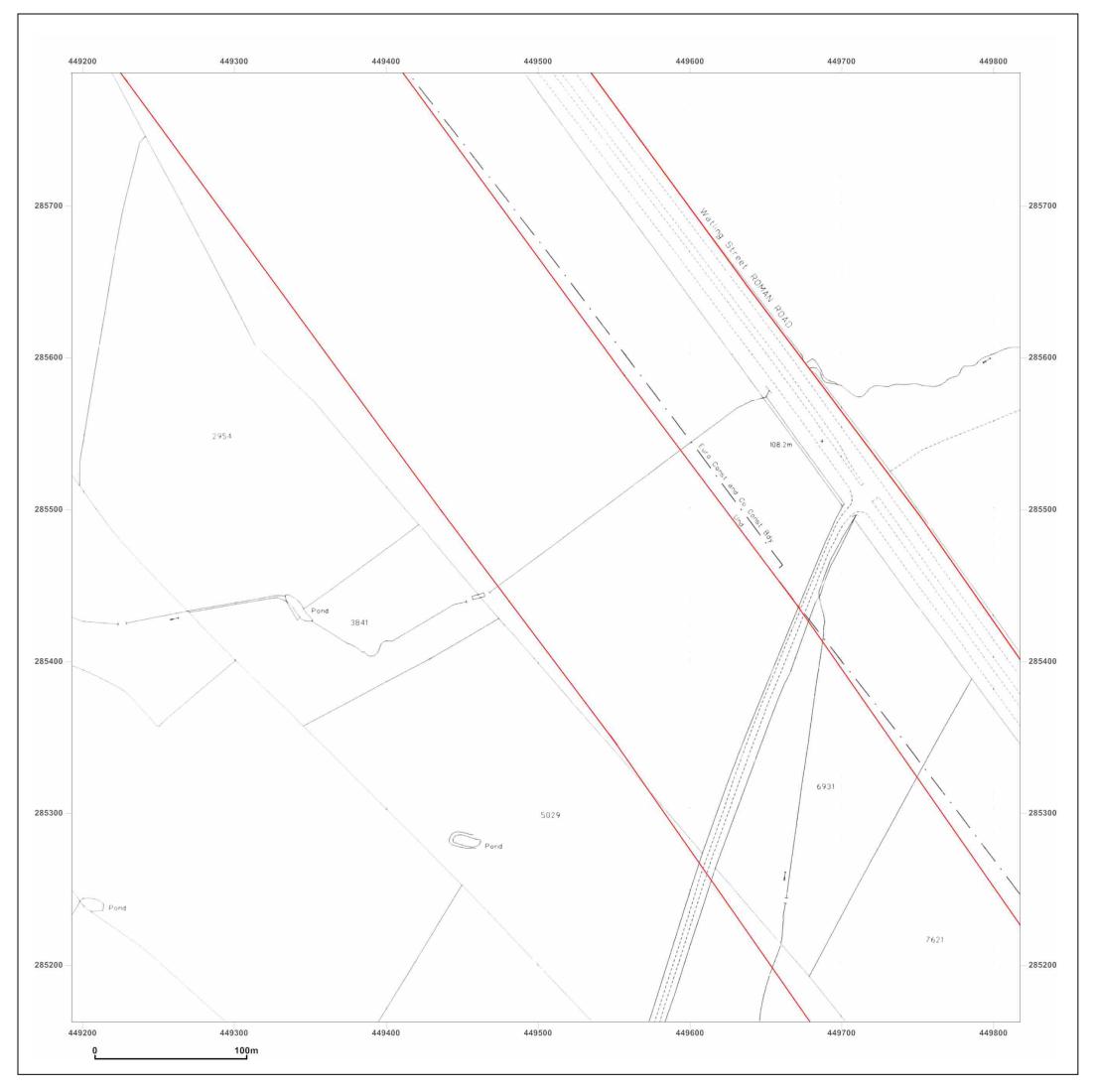




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

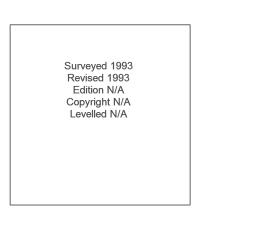






| Report Ref: | 1 LODGE COTTAGES, BIT<br>GS-1673445_LS_3_4<br>449505, 285475 | TESBY, LUTTERWO | R |
|-------------|--|-----------------|---|
| Map Name:   | National Grid  | N               |   |
| Map date:   | 1993   | W               |   |
| Scale:      | 1:2,500  |                 |   |
|             |  | s               |   |

**Printed at:** 1:2,500





Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



| Delta-Simons<br>3 Henley Office Park, Doddington Road, | GroundSure<br>Reference:   | GS-1673446  |
|--|----------------------------|---|
| LINCOLN, LN6 3QR                                       | Your Reference:            | 1 LODGE COTTAGES, BITTESBY,<br>LUTTERWORTH LE17 4JH |
|  | Report Date                | 22 Sep 2014   |
|  | Report Delivery<br>Method: | Email - pdf   |

### GroundSure EnviroInsight

Address: 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH, LE17 4JH

Dear Sir/Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure Enviroinsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,

¥0.

Managing Director Groundsure Limited

Enc. GroundSure EnviroInsight



# GroundSure EnviroInsight

| Address:   | 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH, LE17 4JH |
|------------|---|
| Date:      | 22 Sep 2014                                       |
| Reference: | GS-1673446  |
| Client:    | Delta-Simons                                      |

NW



W

SW

Aerial Photograph Capture date:03-Jun-2010Grid Reference:450107,285938Site Size:222.54ha

S

SE

NE

Е

### **Contents Page**

| Contents Page  | 3  |
|--|----|
| Overview of Findings   | 5  |
| Using this report  | 9  |
| 1. Environmental Permits, Incidents and Registers Map  | 10 |
| 1. Environmental Permits, Incidents and Registers  |    |
| 1.1 Industrial Sites Holding Licences and/or Authorisations  |    |
| 1.1.1 Records of historic IPC Authorisations within 500m of the study site:  | 11 |
| 1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:   |    |
| 1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:  |    |
| 1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:<br>1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site: |    |
| 1.1.6 Records of List 2 Dangerous Substances Inventory Sites within 500m of the study site:  |    |
| 1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:   |    |
| 1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:  |    |
| 1.1.9 Records of Licensed Discharge Consents within 500m of the study site:  |    |
| 1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:  |    |
| 1.2 Dangerous or Hazardous Sites<br>1.3 Environment Agency Recorded Pollution Incidents  |    |
| 1.3 Environment Agency Recorded Pondtion incluents   |    |
| 1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:  |    |
| 1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990   |    |
| 2. Landfill and Other Waste Sites Map  | 15 |
| 2. Landfill and Other Waste Sites  |    |
| 2.1 Landfill Sites   |    |
| 2.1 Lanorm Sites   |    |
| 2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:  |    |
| 2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:  |    |
| 2.1.4 Records of Local Authority landfill sites within 1500m of the study site:  |    |
| 2.2 Other Waste Sites  |    |
| 2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:  |    |
| 3. Current Land Use Map  |    |
| 3. Current Land Uses   |    |
| 3.1 Current Industrial Data  |    |
| 3.2 Petrol and Fuel Sites  |    |
| 3.3 Underground High Pressure Oil and Gas Pipelines  |    |
| 4. Geology   |    |
|  |    |
| 4.1 Artificial Ground and Made Ground  |    |
| 4.2 Superficial Ground and Drift Geology<br>4.3 Bedrock and Solid Geology  |    |
| 5. Hydrogeology and Hydrology  |    |
| 5a. Aquifer Within Superficial Geology   |    |
|  |    |
| 5b. Aquifer Within Bedrock Geology and Abstraction Licenses  |    |
| 5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses  |    |
| 5d. Hydrology – Detailed River Network and River Quality   |    |
| 5. Hydrogeology and Hydrology  |    |
| 5.1 Aquifer within Superficial Deposits  |    |
| 5.2 Aquifer within Bedrock Deposits  |    |
| 5.3 Groundwater Abstraction Licences   |    |
| 5.4 Surface Water Abstraction Licences   |    |

| 5.5 Potable Water Abstraction Licences   | 29         |
|--|------------|
| 5.6 Source Protection Zones  | 29         |
| 5.7 Groundwater Vulnerability and Soil Leaching Potential  |            |
| 5.8 River Quality  |            |
| 5.8.1 Biological Quality:  |            |
| 5.8.2 Chemical Quality:  |            |
| 5.9 Detailed River Network   | 31         |
| 5.10 Surface Water Features  | 34         |
| 6. Environment Agency Flood Map for planning (from rivers and the sea)   | 35         |
| 6. Flooding  | 36         |
| 6.1 Zone 2 Flooding  |            |
| 6.2 Zone 3 Flooding  |            |
| 6.3 Flood Defences   |            |
| 6.4 Areas benefiting from Flood Defences   | 37         |
| 6.5 Areas benefiting from Flood Storage  |            |
| 6.6 Groundwater Flooding Susceptibility Areas  |            |
| 6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the stud   | ly site?37 |
| 6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological condition | าร?37      |
| 6.7 Groundwater Flooding Confidence Areas  |            |
| 7. Designated Environmentally Sensitive Sites Map  |            |
| 7. Designated Environmentally Sensitive Sites  | 40         |
| 7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:                                       | 40         |
| 7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:  |            |
| 7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:   |            |
| 7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:  |            |
| 7.5 Records of Ramsar sites within 2000m of the study site:  |            |
| 7.6 Records of Ancient Woodland within 2000m of the study site:  |            |
| 7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:   | 41         |
| 7.8 Records of World Heritage Sites within 2000m of the study site:  |            |
| 7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:   | 41         |
| 7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:                                       | 41         |
| 7.11 Records of National Parks (NP) within 2000m of the study site:  | 41         |
| 7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:  |            |
| 7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:   | 41         |
| 8. Natural   | Hazards    |
| Findings   | 43         |
| 8.1 Detailed BGS GeoSure Data  |            |
| 8.1.1 Shrink Swell   |            |
| 8.1.2 Landslides   |            |
| 8.1.3 Soluble Rocks  |            |
| 8.1.4 Compressible Ground  |            |
| 8.1.5 Collapsible Rocks  |            |
| 8.1.6 Running Sand   |            |
| 9. Mining  |            |
| 9.1 Coal Mining  |            |
| 9.2 Shallow Mining   |            |
| 9.3 Brine Affected Areas   |            |
| Contact Details  |            |
| Standard Terms and Conditions  |            |
|  |            |

## **Overview of Findings**

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

| Section 1: Environmental Permits,<br>Incidents and Registers                                       | On-site | 0-50m | 51-250 | 251-500 |
|--|---------|-------|--------|---------|
| 1.1 Industrial Sites Holding Environmental Permits and/or<br>Authorisations                        |         |       |        |         |
| 1.1.1 Records of historic IPC Authorisations   | 0       | 0     | 0      | 0       |
| 1.1.2 Records of Part A(1) and IPPC Authorised Activities  | 0       | 0     | 0      | 0       |
| 1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer)     | 0       | 0     | 0      | 0       |
| 1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) | 0       | 0     | 0      | 0       |
| 1.1.5 Records of List 1 Dangerous Substances Inventory sites                                       | 0       | 0     | 0      | 0       |
| 1.1.6 Records of List 2 Dangerous Substances Inventory sites                                       | 0       | 0     | 0      | 0       |
| 1.1.7 Records of Part A(2) and Part B Activities and Enforcements                                  | 0       | 0     | 0      | 0       |
| 1.1.8 Records of Category 3 or 4 Radioactive Substances<br>Authorisations                          | 0       | 0     | 0      | 0       |
| 1.1.9 Records of Licensed Discharge Consents   | 3       | 2     | 0      | 3       |
| 1.1.10 Records of Planning Hazardous Substance Consents and Enforcements                           | 0       | 0     | 1      | 0       |
| 1.2 Records of COMAH and NIHHS sites   | 0       | 0     | 0      | 1       |
| 1.3 Environment Agency Recorded Pollution Incidents  |         |       |        |         |
| 1.3.1 National Incidents Recording System, List 2  | 0       | 0     | 0      | 1       |
| 1.3.2 National Incidents Recording System, List 1  | 0       | 0     | 0      | 0       |
| 1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990                                   | 0       | 0     | 0      | 0       |

| Section 2: Landfill and Other Waste Sites  | On-site | 0-50m | 51-250 | 251-500 | 501-1000     | 1000-<br>5000 |
|--|---------|-------|--------|---------|--------------|---------------|
| 2.1 Landfill Sites   |         |       |        |         |              |               |
| 2.1.1 Environment Agency Registered Landfill Sites                                 | 0       | 0     | 0      | 0       | 0            | Not searched  |
| 2.1.2 Environment Agency Historic Landfill Sites                                   | 0       | 0     | 1      | 0       | 1            | 0             |
| 2.1.3 BGS/DoE Landfill Site Survey   | 0       | 0     | 0      | 0       | 0            | 1             |
| 2.1.4 GroundSure Local Authority Landfill Sites Data                               | 0       | 0     | 1      | 0       | 0            | 0             |
| 2.2 Landfill and Other Waste Sites Findings  |         |       |        |         |              |               |
| 2.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites | 0       | 0     | 0      | 0       | Not searched | Not searched  |
| 2.2.2 Environment Agency Licensed Waste Sites                                      | 0       | 0     | 1      | 0       | 0            | 0             |

| Section 3: Current Land Use                         | On-site | 0-50m | 51-250 | 251-500      |
|---|---------|-------|--------|--------------|
| 3.1 Current Industrial Sites Data                   | 2       | 0     | 10     | Not searched |
| 3.2 Records of Petrol and Fuel Sites                | 0       | 0     | 0      | 0            |
| 3.3 Underground High Pressure Oil and Gas Pipelines | 0       | 0     | 0      | 0            |

| Section 4: Geology   |     |
|--|-----|
| 4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?         | Yes |
| 4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?      | Yes |
| 4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section. |     |

| Section 5: Hydrogeology and Hydrology  |         |       | 0-5       | 00m          |              |               |
|--|---------|-------|-----------|--------------|--------------|---------------|
| 5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site? |         |       | Ŷ         | ′es          |              |               |
| 5.2 Are there any records of Strata Classification in the Bedrock<br>Geology within 500m of the study site?  |         |       | Y         | ′es          |              |               |
|  | On-site | 0-50m | 51-250    | 251-500      | 501-1000     | 1000-<br>2000 |
| 5.3 Groundwater Abstraction Licences (within 2000m of the study site)  | 0       | 0     | 0         | 1            | 0            | 1             |
| 5.4 Surface Water Abstraction Licences (within 2000m of the study site)                                      | 0       | 0     | 0         | 0            | 0            | 0             |
| 5.5 Potable Water Abstraction Licences (within 2000m of the study site)                                      | 0       | 0     | 0         | 0            | 0            | 0             |
| 5.6 Source Protection Zones (within 500m of the study site)  | 0       | 0     | 0         | 0            | Not searched | Not searche   |
| 5.7 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)                    | 3       | 0     | 0         | 2            | Not searched | Not searche   |
|  | On-site | 0-50m | 51-250    | 251-500      | 501-1000     | 1000-<br>1500 |
| 5.8 Is there any Environment Agency information on river quality within 1500m of the study site?             | No      | No    | No        | No           | No           | No            |
| 5.9 Detailed River Network entries within 500m of the site   | 16      | 2     | 1         | 11           | Not searched | Not searche   |
| 5.10 Surface water features within 250m of the study site  | Yes     | Yes   | Yes       | Not searched | Not searched | Not searche   |
| Section 6: Flooding  |         |       |           |              |              |               |
| 6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?                       |         | Yes   |           |              |              |               |
| 6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?                       |         |       | Ŷ         | ′es          |              |               |
| 6.3 Are there any Flood Defences within 250m of the study site?  |         |       | 1         | No           |              |               |
| 6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?                        |         |       | 1         | No           |              |               |
| 6.5 Are there any areas used for Flood Storage within 250m of the study site?                                |         |       | 1         | No           |              |               |
| 6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?                |         |       | Potential | at Surface   |              |               |
| 6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?                     |         |       | Н         | igh          |              |               |

| Section 7: Designated Environmentally<br>Sensitive Sites   | On-site | 0-50m | 51-250 | 251-500 | 501-1000 | 1000-<br>2000 |
|--|---------|-------|--------|---------|----------|---------------|
| 7.1 Records of Sites of Special Scientific Interest (SSSI) | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.2 Records of National Nature Reserves (NNR)              | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.3 Records of Special Areas of Conservation (SAC)         | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.4 Records of Special Protection Areas (SPA)              | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.5 Records of Ramsar sites                                | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.6 Records of Ancient Woodlands                           | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.7 Records of Local Nature Reserves (LNR)                 | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.8 Records of World Heritage Sites                        | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.9 Records of Environmentally Sensitive Areas             | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.10 Records of Areas of Outstanding Natural Beauty (AONB) | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.11 Records of National Parks                             | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.12 Records of Nitrate Sensitive Areas                    | 0       | 0     | 0      | 0       | 0        | 0             |
| 7.13 Records of Nitrate Vulnerable Zones                   | 2       | 0     | 0      | 0       | 0        | 0             |

### Section 8: Natural Hazards

| 8.1 What is the maximum risk of natural ground subsidence?                                | High       |
|---|------------|
| 8.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?        | Low        |
| 8.1.2 What is the maximum Landslides hazard rating identified on the study site?          | Low        |
| 8.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?       | Negligible |
| 8.1.4 What is the maximum Compressible Ground hazard rating identified on the study site? | High       |
| 8.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?   | Very Low   |
| 8.1.6 What is the maximum Running Sand hazard rating identified on the study site?        | Low        |

| Section 9: Mining  |            |
|--|------------|
| 9.1 Are there any coal mining areas within 75m of the study site?                            | No         |
| 9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site? | Negligible |
| 9.3 Are there any brine affected areas within 75m of the study site?                         | No         |

## Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between GroundSure and the Client. The document contains the following sections:

#### 1. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

#### 2. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

#### 3. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

#### 4. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

#### 5. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

#### 6. Flooding

Provides information on surface water flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

#### 7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

#### 8. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence.

#### 9. Mining

Provides information on areas of coal and shallow mining.

#### 10. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, GroundSure provide a free Technical Helpline (08444 159000) for further information and guidance.

#### Note: Maps

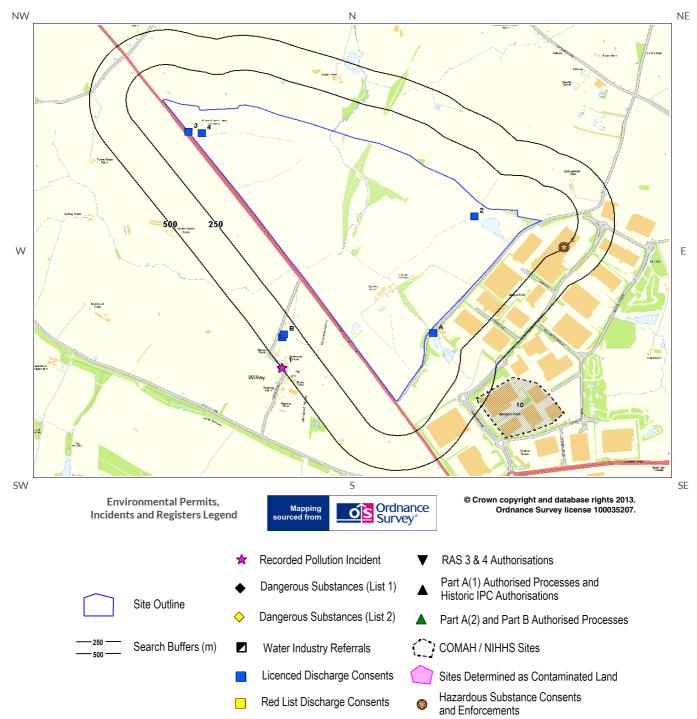
Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier "A" on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as "Not Shown".

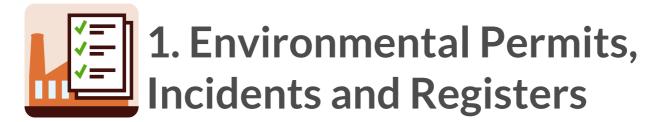
All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.



### **1. Environmental Permits, Incidents and Registers Map**







1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

1.1.1 Records of historic IPC Authorisations within 500m of the study site:

Database searched and no data found.

1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

Database searched and no data found.

1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

Database searched and no data found.

1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

Database searched and no data found.

1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

0

0

0

0

Database searched and no data found.



1.1.6 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

0

Database searched and no data found.

1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

Database searched and no data found.

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

Database searched and no data found.

1.1.9 Records of Licensed Discharge Consents within 500m of the study site:

8

0

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

| ID | Distance | Direction  | NGR              | Det  | ails  |
|----|----------|------------|------------------|--|---|
| 2  | 0.0      | On<br>Site | 450900<br>285950 | Address: Magna Park, Lutterworth,<br>Leicestershire, LE17 4XN<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Not Water Company<br>Permit Number: T/50/11005/S<br>Permit Version: 1  | Receiving Water: Trib Of Soar Brook<br>Status: Revoked (wra 91, S88 & Sched 10 As<br>Amended By Env Act 1995)<br>Issue date: 18/2/1988<br>Effective Date: 18/2/1988<br>Revocation Date: 1/10/2001   |
| 3  | 0.0      | On<br>Site | 448950<br>286560 | Address: White House Farmhouse And Bittesby,<br>Watling Street, Claybrooke Parva, Lutterworth,<br>Leicestershire, LE17 5BQ<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Not Water Company<br>Permit Number: T/50/46150/S<br>Permit Version: 1 | Receiving Water: Unnamed Trib River Soar<br>Status: New Consent (wra 91, S88 & Sched 10<br>As Amended By Env Act 1995)<br>Issue date: 14/6/2005<br>Effective Date: 14/6/2005<br>Revocation Date: -  |
| 4  | 0.0      | On<br>Site | 449040<br>286550 | Address: An Stp Serving Stable Cottage, White<br>House Farm, Watling Street, Claybrooke Parva,<br>Leicestershire, LE17 5BQ<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Not Water Company<br>Permit Number: T/50/46396/S<br>Permit Version: 1 | Receiving Water: A Trib Of The River Soar<br>Status: New Consent (wra 91, S88 & Sched 10<br>As Amended By Env Act 1995)<br>Issue date: 25/7/2007<br>Effective Date: 25/7/2007<br>Revocation Date: - |
| 5A | 25.0     | SE         | 450620<br>285110 | Address: Magna Park, Lutterworth,<br>Leicestershire, LE17 4XN<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Not Water Company<br>Permit Number: T/50/20847/S<br>Permit Version: 1  | Receiving Water: Trib Of Ullesthorpe<br>Status: Post Nra Legislation Where Issue Date<br>> 31-aug-89 (historic Only)<br>Issue date: 11/1/1992<br>Effective Date: 11/1/1992<br>Revocation Date: -    |



| ID | Distance | Direction | NGR              | Details  |  |  |  |  |
|----|----------|-----------|------------------|--|--|--|--|--|
| 6A | 25.0     | SE        | 450620<br>285110 | Address: Magna Park, Lutterworth,<br>Leicestershire, LE17 4XN<br>Effluent Type: Trade Discharges - Site Drainage<br>Permit Number: T/50/20847/S<br>Permit Version: 1   | Receiving Water: Trib Of Ullesthorpe<br>Status: Post Nra Legislation Where Issue Date<br>> 31-aug-89 (historic Only)<br>Issue date: 11/1/1992<br>Effective Date: 11/1/1992<br>Revocation Date: - |  |  |  |
| 7B | 351.0    | SW        | 449600<br>285100 | Address: Willey Stw - Obselete Site, Main<br>Street, Willey, Rugby, Warwickshire<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Water Company<br>Permit Number: T/50/07435/R<br>Permit Version: 1 | Receiving Water: Trib Of River Soar<br>Status: Revoked (wra 91, S88 & Sched 10 As<br>Amended By Env Act 1995)<br>Issue date: 30/9/1977<br>Effective Date: 30/9/1977<br>Revocation Date: -        |  |  |  |
| 8B | 370.0    | SW        | 449590<br>285080 | Address: Willey Stw, Willey Stw, Main Street,<br>Willey, Warwickshire, CV23 0SJ<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Water Company<br>Permit Number: T/50/45880/R<br>Permit Version: 1  | Receiving Water: Trib Of River Soar<br>Status: New Consent (wra 91, S88 & Sched 10<br>As Amended By Env Act 1995)<br>Issue date: -<br>Effective Date: -<br>Revocation Date: -                    |  |  |  |
| 9B | 370.0    | SW        | 449590<br>285080 | Address: Willey Stw, Willey Stw, Main Street,<br>Willey, Warwickshire, CV23 0SJ<br>Effluent Type: Sewage Discharges -<br>Final/treated Effluent - Water Company<br>Permit Number: T/50/45880/R<br>Permit Version: 2  | Receiving Water: Trib Of River Soar<br>Status: New Consent (wra 91, S88 & Sched 10<br>As Amended By Env Act 1995)<br>Issue date: 24/9/2009<br>Effective Date: 1/1/2010<br>Revocation Date: -     |  |  |  |

1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

1

The following records are represented as points on the Environmental Permits, Incidents and Registers Map:

| ID  | Distance I | Direction | Application<br>Reference<br>Number | NGR              | Application<br>Status | Application<br>Date | Address   | Details   | Details of Enforcement<br>Action  |
|-----|------------|-----------|------------------------------------|------------------|-----------------------|---------------------|---|---|---|
| 12C | 243.0      | SE        | 05/00126/HA<br>Z                   | 451509<br>285730 | Approved              | 26/01/2005          | Asda IDC 7438,<br>Hunter Boulevard,<br>Magna Park,<br>Lutterworth,<br>Leicestershire,<br>LE17 4XN | Application for<br>hazardous substances<br>consent. | Enforcement: No<br>Enforcement Notified<br>Date of Enforcement: No<br>Enforcement Notified<br>Comment: No<br>Enforcement Notified |

#### 1.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site:

1

The following COMAH & NIHHS Authorisation records provided by the Health and Safety Executive are represented as polygons or buffered points on the Environmental Permits, Incidents and Registers Map:

| ID | Distance | Direction | Company          | Address   | Operational Status    | Tier |
|----|----------|-----------|------------------|---|-----------------------|------|
| 10 | 442.0    | SE        | Tibbet & Britain | Tibbet And Britain, Wellington Park Way, Magna<br>Park, Lutterworth, Le17 4xw | Historical NIHHS Site | -    |



### 1.3 Environment Agency Recorded Pollution Incidents

1.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

1

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

| ID | Distance | Direction | NGR              | De   | tails   |
|----|----------|-----------|------------------|--|---|
| 1  | 499.0    | SW        | 449585<br>284863 | Incident Date: 06/09/2002<br>Incident Identification: 105966<br>Pollutant: Contaminated Water<br>Pollutant Description: Firefighting Run-Off | Water Impact: Category 3 (Minor)<br>Land Impact: Category 4 (No Impact)<br>Air Impact: Category 4 (No Impact) |

1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

0

Database searched and no data found.

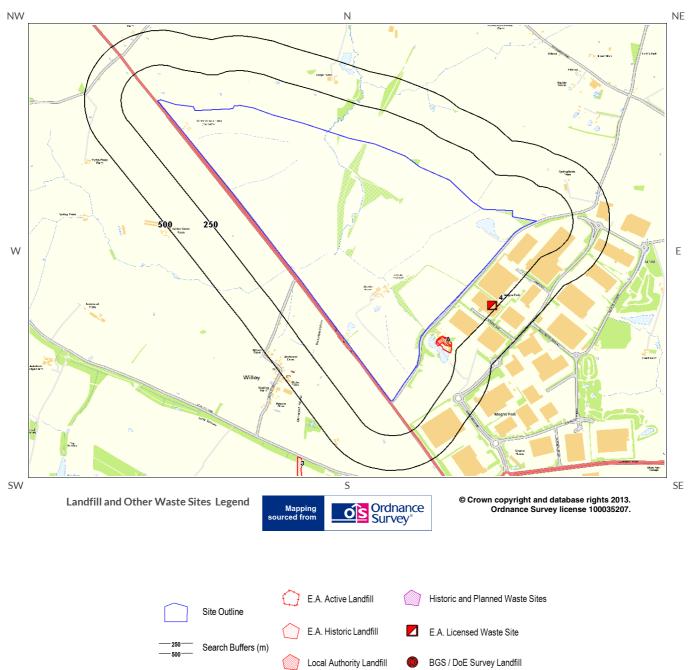
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site?

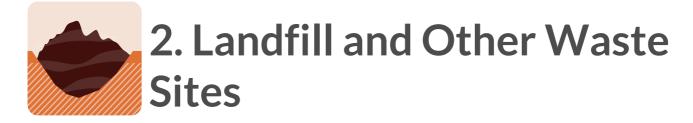
Database searched and no data found.



# 2. Landfill and Other Waste Sites Map







### 2.1 Landfill Sites

2.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

2

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

| ID | Distance (m) | Direction | NGR              | Details   |  |
|----|--------------|-----------|------------------|---|--|
| 2A | 103.0        | SE        | 450700<br>285000 | Site Address: Bitteswell Aerodrome,<br>Bitteswell Aerodrome, Lutterworth,<br>Leicestershire<br>Waste Licence: Yes<br>Site Reference: GDO 71, 0057<br>Waste Type: Industrial,<br>Environmental Permitting Regulations<br>(Waste) Reference: -                                | Licence Issue: 06-May-1977<br>Licence Surrendered: 27-Jan-1992<br>Licence Hold Address: -<br>Operator: -   |
| 3  | 737.0        | SW        | 449800<br>283300 | Site Address: Willey Tip, Off Coal Pit Lane,<br>Willey, Warwickshire<br>Waste Licence: Yes<br>Site Reference: WDL149, WDL071,<br>3700/0071<br>Waste Type: Commercial, Household, Special,<br>Liquid sludge,<br>Environmental Permitting Regulations<br>(Waste) Reference: - | Licence Issue: 14-Jun-1977<br>Licence Surrendered:<br>Licence Hold Address: PO Box 45, Shire Hall<br>Warwick<br>Operator: Rugby Rural District Council |

2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

1

The following landfill records are represented as points on the Landfill and Other Waste Sites map:

| ID           | Distance (m) | Direction | NGR                          |   | Details                                     |
|--------------|--------------|-----------|------------------------------|---|---|
| Not<br>shown | 1350.0       | SW        | 44980<br>0.0<br>28340<br>0.0 | Address: Willey Tip, off Coal Pit Lane,<br>Willey, Warwicks<br>BGS Number: 2155.0 | Risk: No risk to aquifer<br>Waste Type: N/A |



### 2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

0

1

### The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

| ID | Distance<br>(m) | Direction NGR | Site Address | Source       | Data Type |
|----|-----------------|---------------|--------------|--------------|-----------|
| 5A | 100.0           | SE            | Refuse Tip   | 1962 mapping | Polygon   |

### 2.2 Other Waste Sites

2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

Database searched and no data found.

2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

| ID | Distance<br>(m) | Direction | NGR              | D  | etails   |
|----|-----------------|-----------|------------------|--|--|
| 4  | 215.0           | SE        | 451055<br>285314 | Site Address: Magna Park, Vulcan Way,<br>Magna Park, Lutterworth, Leics, LE17 4XR<br>Type: WEEE treatment facility<br>Size: < 25000 tonnes<br>Environmental Permitting Regulations<br>(Waste) Licence Number: UNI559<br>EPR reference: EA/EPR/HB3731AL/A001<br>Operator: Unipart Group Limited<br>Waste Management licence No: 104359<br>Annual Tonnage: 74999.0 | Issue Date: 29/06/2012<br>Effective Date: -<br>Modified: -<br>Surrendered Date: -<br>Expiry Date: -<br>Cancelled Date: -<br>Status: Issued<br>Site Name: Unipart Technology Ltd, Magna<br>Park<br>Correspondence Address: -, - |



# 3. Current Land Use Map







3. Current Land Uses

### 3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site:

12

The following records are represented as points on the Current Land Uses map.

| ID | Distance<br>(m) | Direction | Company                      | NGR              | Address   | Activity                                  | Category                        |
|----|-----------------|-----------|------------------------------|------------------|---|---|---------------------------------|
| 1  | 0.0             | On Site   | Sewage<br>Works              | 450980<br>285907 | LE17  | Waste Storage, Processing and<br>Disposal | Infrastructure and Facilities   |
| 2  | 0.0             | On Site   | Holovis<br>Internationa<br>I | 450336<br>285439 | The Brick Barn, Bittesby,<br>Lutterworth, LE17 4JH                | Educational Equipment and<br>Supplies     | Industrial Products             |
| 3  | 76.0            | SE        | Mast                         | 450708<br>285135 | LE17  | Telecommunications Features               | Infrastructure and Facilities   |
| 4  | 88.0            | E         | Filter Beds                  | 450647<br>284994 | LE17  | Waste Storage, Processing and<br>Disposal | Infrastructure and Facilities   |
| 5  | 156.0           | SE        | C M L Plc                    | 450867<br>285191 | Vulcan Way, Magna Park,<br>Lutterworth, LE17 4XR                  | Container and Storage                     | Transport, Storage and Delivery |
| 6A | 162.0           | SE        | Tank                         | 451449<br>285786 | LE17  | Tanks (Generic)                           | Industrial Features             |
| 7A | 167.0           | SE        | Tank                         | 451464<br>285791 | LE17  | Tanks (Generic)                           | Industrial Features             |
| 8  | 180.0           | E         | Filter Beds                  | 450739<br>284997 | LE17  | Waste Storage, Processing and<br>Disposal | Infrastructure and Facilities   |
| 9  | 191.0           | SE        | Warehouse                    | 450613<br>284641 | LE17  | Container and Storage                     | Transport, Storage and Delivery |
| 10 | 214.0           | E         | Tank                         | 451572<br>285897 | LE17  | Tanks (Generic)                           | Industrial Features             |
| 11 | 216.0           | SE        | Unipart<br>Logistics         | 451055<br>285312 | Vulcan Point, Vulcan Way,<br>Magna Park, Lutterworth,<br>LE17 4XR | Distribution and Haulage                  | Transport, Storage and Delivery |
| 12 | 248.0           | SE        | Electricity<br>Sub Station   | 450732<br>284713 | LE17  | Electrical Features                       | Infrastructure and Facilities   |

### 3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site:

0

Database searched and no data found.



0

## 3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site:

Database searched and no data found.





### 4.1 Artificial Ground and Made Ground

The database has been searched on site, including a 50m buffer.

| Lex Code | Description             | Rock Type          |
|----------|-------------------------|--------------------|
| MGR-MGRD | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |
| MGR-MGRD | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |

### 4.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

| Lex Code  | Description             | Rock Type                   |
|-----------|-------------------------|-----------------------------|
| ODT-DMTN  | OADBY MEMBER            | DIAMICTON                   |
| ALV-CSSG  | ALLUVIUM                | CLAY, SILT, SAND AND GRAVEL |
| ODT-DMTN  | OADBY MEMBER            | DIAMICTON                   |
| DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL             |
| WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL             |
| WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL             |
| PEAT-P    | PEAT                    | PEAT                        |
| DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL             |
| WOC-CLSI  | WOLSTON CLAY            | CLAY AND SILT               |
| WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL             |
| WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL             |

### 4.3 Bedrock and Solid Geology

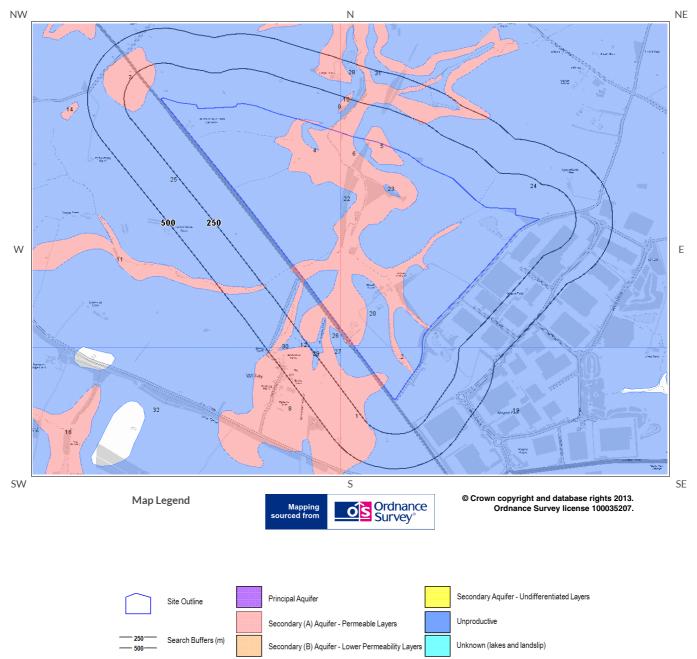
The database has been searched on site, including a 50m buffer.

| Lex Code | Description                | Rock Type                           |
|----------|----------------------------|-------------------------------------|
| PNG-MDST | PENARTH GROUP              | MUDSTONE                            |
| MMG-MDST | MERCIA MUDSTONE GROUP      | MUDSTONE                            |
| BLI-MDLM | <b>BLUE LIAS FORMATION</b> | MUDSTONE AND LIMESTONE, INTERBEDDED |

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

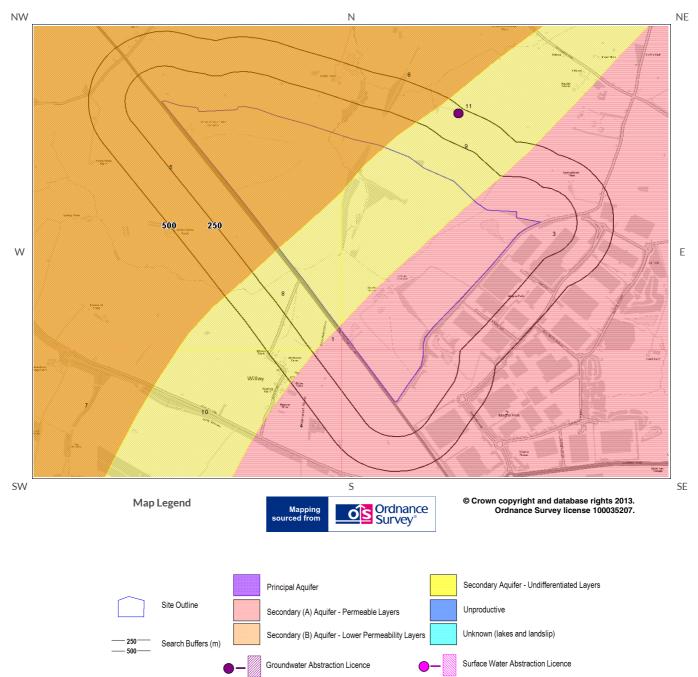


# 5. Hydrogeology and Hydrology5a. Aquifer Within Superficial Geology



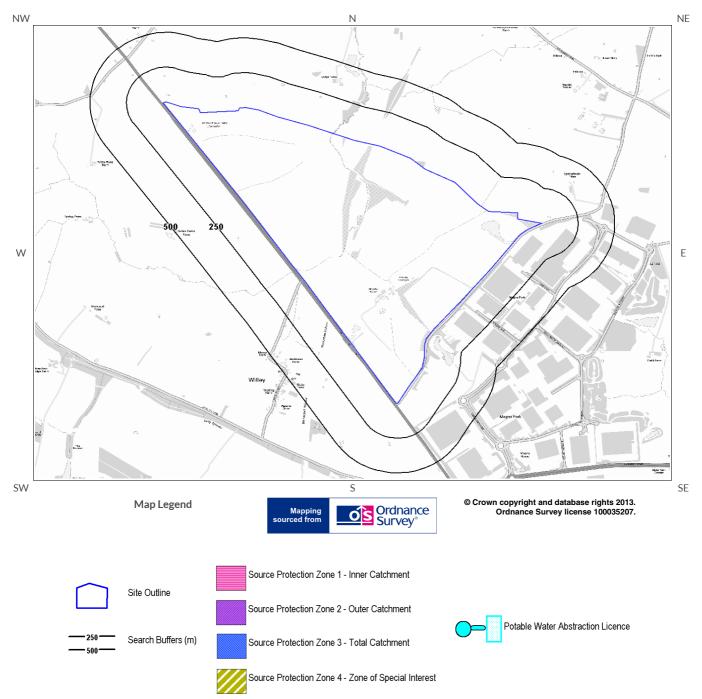


# 5b. Aquifer Within Bedrock Geology and Abstraction Licenses



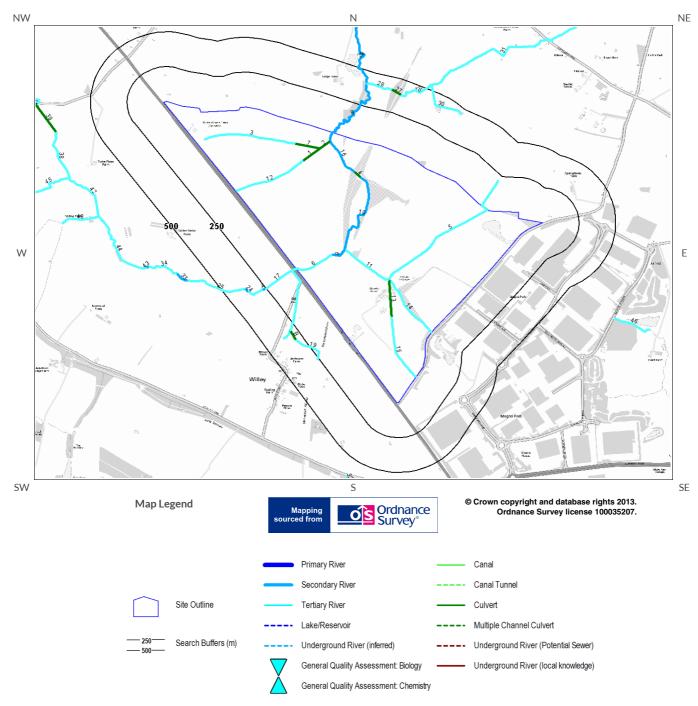


# 5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses





# 5d. Hydrology – Detailed River Network and River Quality



Report Reference: GS-1673446 Client Reference: 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH LE17 4JH





### 5.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Environsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

| ID  | Distance<br>(m) | Direction | Designation  | Description  |
|-----|-----------------|-----------|--------------|--|
| 1   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 2   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 3A  | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 4   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 5   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 6   | 0.0             | On Site   | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers |
| 19  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 20  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 21A | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 22  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 23  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 24  | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |



| ID | Distance<br>(m) | Direction | Designation  | Description  |
|----|-----------------|-----------|--------------|--|
| 25 | 0.0             | On Site   | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 26 | 23.0            | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 27 | 82.0            | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 28 | 93.0            | Ν         | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 7  | 105.0           | NW        | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 8  | 123.0           | SW        | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 9  | 123.0           | Ν         | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 10 | 139.0           | Ν         | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 29 | 182.0           | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 11 | 229.0           | SW        | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers       |
| 12 | 258.0           | SW        | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers       |
| 30 | 325.0           | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 13 | 337.0           | Ν         | Secondary A  | Permeable layers capable of supporting water supplies at a local rather than<br>strategic scale, and in some cases forming an important source of base flow to<br>rivers. These are generally aquifers formerly classified as minor aquifers |
| 31 | 369.0           | Ν         | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |
| 32 | 463.0           | SW        | Unproductive | These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow  |



### 5.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Environsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

| ID | Distance<br>(m) | Direction | Designation                         | Description   |
|----|-----------------|-----------|-------------------------------------|---|
| 1  | 0.0             | On Site   | Secondary A                         | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and<br>in some cases forming an important source of base flow to rivers. These are generally aquifers<br>formerly classified as minor aquifers              |
| 2  | 0.0             | On Site   | Secondary A                         | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers                    |
| 3  | 0.0             | On Site   | Secondary A                         | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and<br>in some cases forming an important source of base flow to rivers. These are generally aquifers<br>formerly classified as minor aquifers              |
| 5  | 0.0             | On Site   | Secondary B                         | Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering.<br>These are generally the water-bearing parts of the former non-aquifers |
| 6  | 0.0             | On Site   | Secondary B                         | Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering.<br>These are generally the water-bearing parts of the former non-aquifers |
| 8  | 0.0             | On Site   | Secondary<br>(undifferentiated<br>) | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type   |
| 9  | 0.0             | On Site   | Secondary<br>(undifferentiated<br>) | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type   |
| 4  | 82.0            | SW        | Secondary A                         | Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers                    |
| 10 | 223.0           | SW        | Secondary<br>(undifferentiated<br>) | Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type   |

### 5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site?

Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

| ID | Distance<br>(m) | Direction | NGR              | Details   |   |
|----|-----------------|-----------|------------------|---|---|
| 11 | 452.0           | NE        | 450800<br>286700 | Licence No: 03/28/50/0076<br>Details: General Farming & Domestic<br>Direct Source: Groundwater Midlands Region<br>Point: Manor Farm<br>Data Type: Point | Annual Volume (m <sup>3</sup> ): -<br>Max Daily Volume (m <sup>3</sup> ): -<br>Original Application No: -<br>Original Start Date: 24/2/1966<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 1/4/2000<br>Version End Date: |



| )            | Distance<br>(m) | Direction   | NGR              | Details  |  |  |
|--------------|-----------------|-------------|------------------|--|--|--|
| Not<br>shown | 1934.0          | Ν           | 448100<br>288600 | Licence No: 03/28/50/0010<br>Details: General Farming & Domestic<br>Direct Source: Groundwater Midlands Region<br>Point: The Laurels<br>Data Type: Point | Annual Volume (r<br>Max Daily Volume<br>Original Application<br>Original Start Date: 5/<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 1,<br>Version End Date | (m <sup>3</sup> ): -<br>n No: -<br>(11/1965<br>-<br>)<br>/4/2000 |
|              |                 |             |                  | ion Licences<br>traction Licences within 2000m of the study site?  |  | No   |
|              |                 |             |                  | Database searched and no data found.   |  |  |
| 5.5          | Potable         | e Water     | Abstract         | ion Licences   |  |  |
| Are          | there an        | y Potable ' | Water Abs        | traction Licences within 2000m of the study site?  |  | No   |
|              |                 |             |                  | Database searched and no data found.   |  |  |
| 5.6          | Source          | Protect     | ion Zone:        | S  |  |  |
| Are          | there an        | y Source P  | Protection       | Zones within 500m of the study site?   |  | No   |
|              |                 |             |                  |  |  |  |



### 5.7 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? Yes

| Distance (m) | Direction | Classification                           | Soil Vulnerability Category | Description  |
|--------------|-----------|--|-----------------------------|--|
| 0            | On Site   | Minor Aquifer/Low Leaching<br>Potential  | L                           | Soils in which pollutants are<br>unlikely to penetrate the soil layer<br>because either water movement is<br>largely horizontal, or they have the<br>ability to attenuate diffuse<br>pollutants. |
| 0            | On Site   | Minor Aquifer/Low Leaching<br>Potential  | L                           | Soils in which pollutants are<br>unlikely to penetrate the soil layer<br>because either water movement is<br>largely horizontal, or they have the<br>ability to attenuate diffuse<br>pollutants. |
| 0            | On Site   | Minor Aquifer/Low Leaching<br>Potential  | L                           | Soils in which pollutants are<br>unlikely to penetrate the soil layer<br>because either water movement is<br>largely horizontal, or they have the<br>ability to attenuate diffuse<br>pollutants. |
| 322          | SW        | Minor Aquifer/High Leaching<br>Potential | H2                          | Deep, permeable, coarse textured<br>soils which readily transmit a wide<br>range of pollutants because of<br>their rapid drainage and low<br>attenuation potential.                              |
| 456          | SW        | Minor Aquifer/Low Leaching<br>Potential  | L                           | Soils in which pollutants are<br>unlikely to penetrate the soil layer<br>because either water movement is<br>largely horizontal, or they have the<br>ability to attenuate diffuse<br>pollutants. |

5.8 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site?

No

5.8.1 Biological Quality:

Database searched and no data found.

5.8.2 Chemical Quality:

Database searched and no data found.



### 5.9 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?

Yes

The following Detailed River Network records are represented on the Hydrology Map (5d):



| ID      | Distance (m) | Direction | Det   | tails   |
|---------|--------------|-----------|---|---|
| 1       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 2       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 3       | 0.0          | On Site   | River Name: Drain<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 4       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 5       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 6       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 7       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 8       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 9       | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 10      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 11      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 12      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 13      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 14      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 15      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 16      | 0.0          | On Site   | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 17      | 33.0         | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 18      | 33.0         | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 19      | 222.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 20<br>A | 257.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 21<br>A | 273.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: -     | River Type: Tertiary River<br>Main River Status: Currently Undefined  |



| ID      | Distance (m) | Direction | ſ   | Details   |
|---------|--------------|-----------|---|---|
| 22<br>B | 294.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 23<br>B | 294.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 24      | 362.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 25      | 366.0        | SW        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 26      | 388.0        | NE        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 27      | 390.0        | Ν         | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Culvert<br>Main River Status: Currently Undefined         |
| 28      | 403.0        | Ν         | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |
| 29      | 408.0        | Ν         | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Secondary River<br>Main River Status: Currently Undefined |
| 30      | 413.0        | NE        | River Name: -<br>Welsh River Name: -<br>Alternative Name: - | River Type: Tertiary River<br>Main River Status: Currently Undefined  |



### 5.10 Surface Water Features

### Are there any surface water features within 250m of the study site?

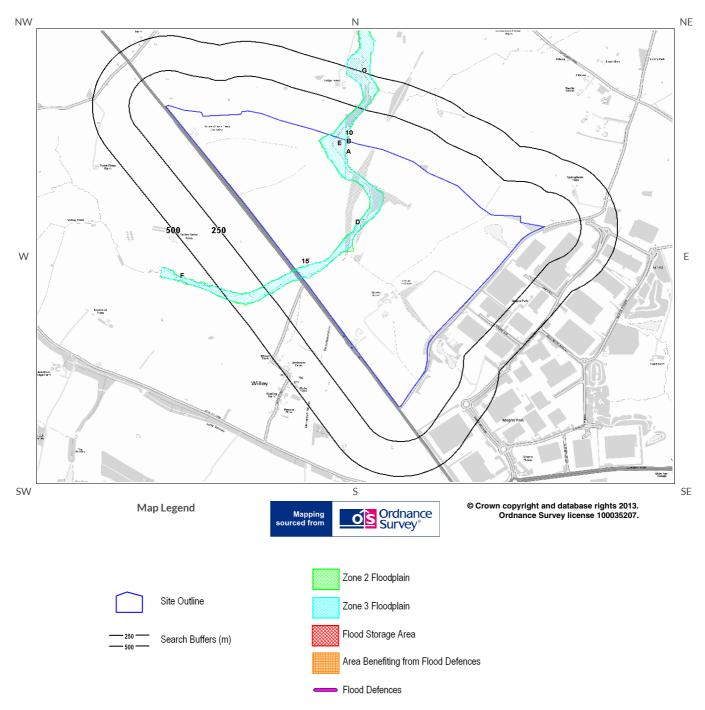
Yes

### The following surface water records are not represented on mapping:

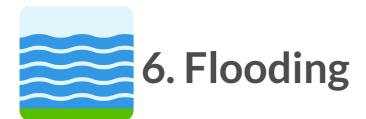
| Distance (m) | Direction |
|--------------|-----------|
| 0.0          | On Site   |
| 33.0         | SW        |
| 33.0         | SW        |
| 33.0         | SW        |
| 51.0         | SE        |
| 83.0         | Ν         |
| 202.0        | E         |
| 203.0        | E         |
| 220.0        | SW        |
| 222.0        | SW        |
| 236.0        | SW        |



# 6. Environment Agency Flood Map for planning (from rivers and the sea)







6.1 Zone 2 Flooding

Environment Agency Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning:

Is the site within 250m of an Environment Agency Zone 2 floodplain?

Yes

The following floodplain records are represented as green shading on the Flood Map:

| ID | Distance (m) | Direction | Update      | Туре                       |
|----|--------------|-----------|-------------|----------------------------|
| 1C | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 2A | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 3A | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 4B | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 5G | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 6F | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
| 7E | 0.0          | On Site   | 10-Sep-2014 | Zone 2 - (Fluvial Models ) |
|    |              |           |             |                            |

### 6.2 Zone 3 Flooding

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning.

Is the site within 250m of an Environment Agency Zone 3 floodplain?

Yes

The following floodplain records are represented as blue shading on the Flood Map:

| ID  | Distance (m) | Direction | Update      | Туре                       |
|-----|--------------|-----------|-------------|----------------------------|
| 8B  | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 9C  | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 10  | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 11D | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 12D | 0.0          | On Site   | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |



| D Distan | ce (m) Direction | Update      | Туре                       |
|----------|------------------|-------------|----------------------------|
| 13E 0.0  | 0 On Site        | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 14F 0.0  | 0 On Site        | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 15 0.0   | 0 On Site        | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |
| 16G 47   | .0 N             | 11-Sep-2014 | Zone 3 - (Fluvial Models ) |

### 6.3 Flood Defences

| Are there any Flood Defences within 250m of the study site?<br>Database searched and no data found.  | No         |
|--|------------|
| 6.4 Areas benefiting from Flood Defences   |            |
| Are there any areas benefiting from Flood Defences within 250m of the study site?  | No         |
| 6.5 Areas benefiting from Flood Storage  | -          |
| Are there any areas used for Flood Storage within 250m of the study site?  | No         |
| 6.6 Groundwater Flooding Susceptibility Areas  |            |
| 6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of boundary of the study site?  | the        |
|  | Yes        |
| Does this relate to Clearwater Flooding or Superficial Deposits Flooding? Clearwate  | r Flooding |
| Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentar<br>which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (C<br>Flooding). |            |

6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.



### 6.7 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result?

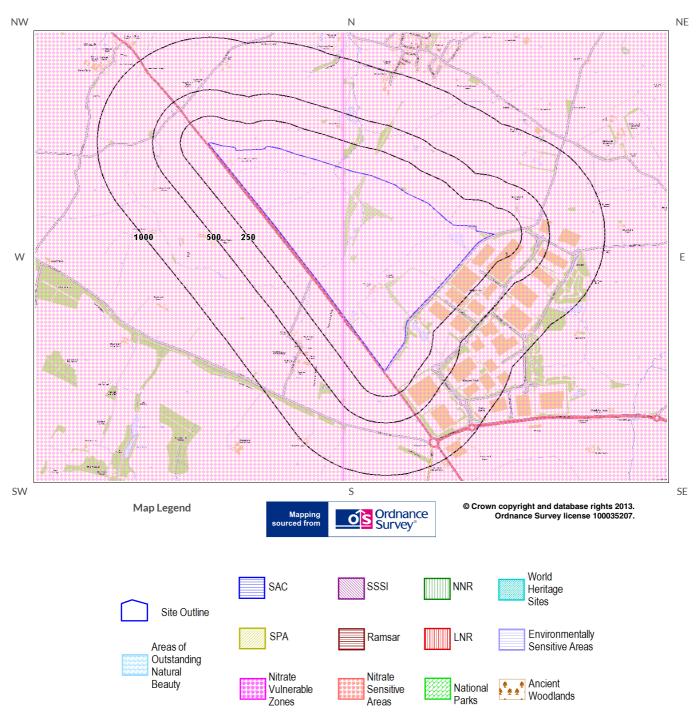
High

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.



# 7. Designated Environmentally Sensitive Sites Map







| Presence of Designated Environmentally Sensitive Sites within 2000m of the study site?     | Yes |
|--|-----|
| 7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site: | 0   |
| Database searched and no data found.   |     |
| 7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:              | 0   |
| Database searched and no data found.   |     |
| 7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:         | 0   |
| Database searched and no data found.   |     |
| 7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:              | 0   |
| Database searched and no data found.   |     |
| 7.5 Records of Ramsar sites within 2000m of the study site:                                | 0   |
| Database searched and no data found.   |     |
| 7.6 Records of Ancient Woodland within 2000m of the study site:                            | 0   |
| Database searched and no data found.   |     |



| 7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:   | 0 |
|--|---|
| Database searched and no data found.   | 0 |
|  |   |
| 7.8 Records of World Heritage Sites within 2000m of the study site:  | 0 |
| Database searched and no data found.   |   |
| 7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:   | 0 |
| Database searched and no data found.   | 0 |
| 7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:   | 0 |
| Database searched and no data found.   |   |
| 7.11 Records of National Parks (NP) within 2000m of the study site:  | 0 |
| Database searched and no data found.   | 0 |
| 7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:  | 0 |
| Database searched and no data found.   | 0 |
| 7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:   | 2 |
| The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygo<br>Designated Environmentally Sensitive Sites Map: |   |

| ID | Distance<br>(m) | Direction | NVZ Name | Data Source |
|----|-----------------|-----------|----------|-------------|
| 1  | 0.0             | On Site   | NVZ Area | DEFRA       |



| ID | Distance<br>(m) | Direction | NVZ Name | Data Source |
|----|-----------------|-----------|----------|-------------|
| 2  | 0.0             | On Site   | NVZ Area | DEFRA       |





### 8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a GroundSure GeoInsight, available from our website. The following information has been found:

### 8.1.1 Shrink Swell

What is the maximum Shrink-Swell\*\* hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

### 8.1.2 Landslides

What is the maximum Landslide\* hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property no significant increase in insurance risk due to natural slope instability problems.

<sup>\*</sup> This indicates an automatically generated 50m buffer and site.

## 8.1.3 Soluble Rocks

What is the maximum Soluble Rocks\* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

Hazard

# 8.1.4 Compressible Ground

What is the maximum Compressible Ground\* hazard rating identified on the study site?

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Very significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Construction may not be possible at economic cost. For existing property probable increase in insurance risk from compressibility especially if water conditions or loading of the ground change significantly.

Hazard

# 8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks\* hazard rating identified on the study site?

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.



High

Very Low



### 8.1.6 Running Sand

What is the maximum Running Sand<sup>\*\*</sup> hazard rating identified on the study site?

Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard

Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property no significant increase in insurance risk due to running sand problems is likely.

<sup>\*</sup> This indicates an automatically generated 50m buffer and site.





### 9.1 Coal Mining

Are there any coal mining areas within 75m of the study site?

Database searched and no data found.

### 9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site\*?

\*Please note this data is searched with a 150m buffer.

### 9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? Guidance: No Guidance Required. Negligible

No

No



# **Contact Details**

GroundSure Helpline Telephone: 08444 159 000 info@groundsure.com



British Geological Survey Enquiries

Kingsley Dunham Centre Keyworth, Nottingham NG12 5GG Tel: 0115 936 3143. Fax: 0115 936 3276. Email: enquiries@bgs.ac.uk Web:www.bgs.ac.uk BGS Geological Hazards Reports and general geological enquiries

Environment Agency

National Customer Contact Centre, PO Box 544 Rotherham, S60 1BY Tel: 08708 506 506 Web:www.environment-agency.gov.uk Email:enquiries@environment-agency.gov.uk

**Public Health England** 

Public information access office Public Health England, Wellington House 133-155 Waterloo Road, London, SE1 8UG https://www.gov.uk/government/organisations/public-healthengland Email:enquiries@phe.gov.uk Main switchboard: 020 7654 8000

The Coal Authority

200 Lichfield Lane Mansfield Notts NG18 4RG Tel: 0345 7626 848 DX 716176 Mansfield 5 www.coal.gov.uk

Ordnance Survey

Adanac Drive, Southampton SO16 0AS Tel: 08456 050505

Local Authority Authority: Harborough District Council Phone: 01858 828282 Web: www.harborough.gov.uk Address: Council Offices, Adam and Eve Street, Market Harborough, Leicestershire. I F16 7AG Gemapping PLC

> Virginia Villas, High Street, Hartley Witney, Hampshire RG27 8NW Tel: 01252 845444



British Geological Survey











Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, English Nature who retain the Copyright and Intellectual Property Rights for the data. PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

### **Standard Terms and Conditions**

### **1** Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

**"Confidential Information"** means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

**"Support Services"** means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

**"GroundSure Materials**" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

**"Ordnance Survey"** means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

**"Risk Screening Report"** means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

**"Third Party Content"** means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

# 2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions

implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

### 3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

#### 4 Reliance

(iv)

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

the first purchaser or first tenant of the Site, and

 $(\mathsf{v})$  the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

#### **5** Fees and Disbursements

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

### 6 Intellectual Property and Confidentiality

6.1 Subject to

#### (i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### 7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

 any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

 $(\mbox{ii})$  any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death

or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

| (i)   | loss of profits;                             |
|-------|--|
| (ii)  | loss of business;                            |
| (iii) | depletion of goodwill and/or similar losses; |
| (iv)  | loss of anticipated savings;                 |
| (v)   | loss of goods;                               |
| (vi)  | loss of contract;                            |

- (vii) loss of use:
- (viii) loss or corruption of data or information;
- (ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

 $({\rm xiii})$   $$\rm loss \, or \, damage \, to \, a \, computer, \, software, \, modem, \, telephone \, or \, other \, property; \, and$ 

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to  $\pm 10$  million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

#### 8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### 9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

- the Reports and/or Mapping provided under this Contract are
- (a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

#### 10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(ii)

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

#### GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

#### 11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anticorruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### 12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

- (ii) fire, storm, flood, tempest or epidemic;
- (iii) Acts of God or the public enemy;
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

- (viii) changes in law; or
- (ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English

law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. © GroundSure Limited June 2013



Delta-Simons 3 Henley Office Park, Doddington Road, LINCOLN, LN6 3QR Report Date Report Delivery Method: GroundSure Reference: GS-1673447 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH LE17 4JH Report Delivery Method:

### **GroundSure Geoinsight**

Address: 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH, LE17 4JH

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure GeoInsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above GroundSure reference number.

Yours faithfully,

, O

Managing Director Groundsure Limited

Enc. GroundSure GeoInsight



# GroundSure GeoInsight

| Address:   | 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH, LE17 4JH |
|------------|---|
| Date:      | 22 Sep 2014                                       |
| Reference: | GS-1673447  |
| Client:    | Delta-Simons                                      |

Ν

NW

NE



SW

Aerial Photograph Capture date:03-Jun-2010Grid Reference:450107,285938Site Size:222.54ha

S

SE

### **Contents Page**

| Overview of Findings  | 5  |
|---|----|
| 1 Geology   | 8  |
| 1.1 Artificial Ground Map   | 8  |
| 1 Geology   |    |
| 1.1 Artificial Ground   |    |
| 1.1.1Artificial/ Made Ground  |    |
| 1.1.2 Permeability of Artificial Ground   |    |
| 1.2 Superficial Deposits and Landslips Map  |    |
| 1.2 Superficial Deposits and Landslips  |    |
| 1.2.1 Superficial Deposits/ Drift Geology<br>1.2.2 Permeability of Superficial Ground |    |
| 1.2.3 Landslip  |    |
| 1.2.4 Landslip Permeability   |    |
| 1.3 Bedrock and Faults Map  |    |
| 1.3 Bedrock, Solid Geology & Faults   | 14 |
| 1.3.1 Bedrock/ Solid Geology  |    |
| 1.3.2 Permeability of Bedrock Ground<br>1.3.3 Faults                                  |    |
| 1.4 Radon Data  |    |
| 1.4.1 Radon Affected Areas  |    |
| 1.4.2 Radon Protection  |    |
| 2 Ground Workings Map   | 16 |
| 2 Ground Workings   |    |
| 2.1 Historical Surface Ground Working Features derived from Historical Mapping        |    |
| 2.2 Historical Underground Working Features derived from Historical Mapping           |    |
| 2.3 Current Ground Workings   |    |
| 3 Mining, Extraction & Natural Cavities Map   |    |
| 3 Mining, Extraction & Natural Cavities   |    |
| 3.1 Historical Mining   |    |
| 3.2 Coal Mining   |    |
| 3.3 Johnson Poole and Bloomer   |    |
| 3.4 Non-Coal Mining   |    |
| 3.5 Non-Coal Mining Cavities  | 21 |
| 3.6 Natural Cavities  |    |
| 3.7 Brine Extraction  |    |
| 3.8 Gypsum Extraction   |    |
| 3.9 Tin Mining  |    |
| 3.10 Clay Mining  |    |
| 4 Natural Ground Subsidence   |    |
| 4.1 Shrink-Swell Clay Map   |    |
| 4.2 Landslides Map  | 24 |
| 4.3 Ground Dissolution Soluble Rocks Map  |    |
| 4.4 Compressible Deposits Map   |    |
| 4.5 Collapsible Deposits Map  |    |
| 4.6 Running Sand Map  |    |
| 4 Natural Ground Subsidence   |    |
| 4.1 Shrink-Swell Clays  |    |
| 4.2 Landslides  |    |
| 4.3 Ground Dissolution of Soluble Rocks   |    |
| 4.4 Compressible Deposits   |    |
| 4.5 Collapsible Deposits  |    |
| 4.6 Running Sands   |    |
| 5 Borehole Records Map  |    |
| 5 Borehole Records  |    |
|   |    |



| 6 Estimated Background Soil Chemistry      | 38 |
|--|----|
| 7 Railways and Tunnels Map                 | 40 |
| 7 Railways and Tunnels                     |    |
| 7.1 Tunnels                                |    |
| 7.2 Historical Railway and Tunnel Features | 41 |
| 7.3 Historical Railways                    | 41 |
| 7.4 Active Railways                        | 42 |
| 7.5 Railway Projects                       | 42 |



### **Overview of Findings**

The GroundSure GeoInsight provides high quality geo-environmental information that allows geoenvironmental professionals and their clients to make informed decisions and be forewarned of potential ground instability problems that may affect the ground investigation, foundation design and possibly remediation options that could lead to possible additional costs.

The report is based on the BGS 1:50,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Shallow Mining data and Borehole Records, Coal Authority data including brine extraction areas, PBA non-coal mining and natural cavities database, Johnson Poole and Bloomer mining data and GroundSure's unique database including historical surface ground and underground workings.

For further details on each dataset, please refer to each individual section in the report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

| Section 1:Geology                        |   |                  |           |  |                |              |  |
|--|---|------------------|-----------|--|----------------|--------------|--|
| 1.1 Artificial Ground                    | 1.1.1 Is there any Artificial Ground/ Made the study site?  | Yes              |           |  |                |              |  |
|  | 1.1.2 Are there any records relating to per<br>ground within the study site* boundary?  | meability of art | ificial   | Yes  |                |              |  |
| 1.2 Superficial<br>Geology and Landslips | 1.2.1 Is there any Superficial Ground/Drift beneath the study site?   | Geology prese    | ent       | Yes  |                |              |  |
|  | 1.2.2 Are there any records relating to per geology within the study site boundary?   | meability of su  | perficial | Yes  |                |              |  |
|  | 1.2.3 Are there any records of landslip with site boundary?   | nin 500m of the  | e study   | No   |                |              |  |
|  | 1.2.4 Are there any records relating to per within the study site boundary?   | meability of lar | ndslips   | No   |                |              |  |
| 1.3 Bedrock, Solid<br>Geology & Faults   | 1.3.1 For records of Bedrock and Solid Geo<br>site* see the detailed findings section.  | ology beneath t  | he study  |  |                |              |  |
|  | 1.3.2 Are there any records relating to per within the study site boundary?   | meability of be  | drock     | Yes  |                |              |  |
|  | 1.3.3 Are there any records of faults withir boundary?  | n 500m of the s  | tudy site | No   |                |              |  |
| 1.4 Radon data                           | 1.4.1 Is the property in a Radon Affected A<br>Health Protection Agency (HPA) and if so v<br>homes are above the Action Level?                            |                  |           | The property is not in a Radon Affected<br>Area, as less than 1% of properties are<br>above the Action Level |                |              |  |
|  | 1.4.2 Is the property in an area where Rado<br>are required for new properties or extensi<br>described in publication BR211 by the Buil<br>Establishment? | ons to existing  |           | No radon prot<br>necessary   | ective measure | es are       |  |
| Section 2:Ground W                       | /orkings  | On-site          | 0-50m     | 51-250   | 251-500        | 501-1000     |  |
| 2.1 Historical Surface Gr<br>Mapping     | ound Working Features from Small Scale  | 12               | 3         | 5  | Not Searched   | Not Searched |  |
| 2.2 Historical Undergrou                 | ind Workings from Small Scale Mapping   | 0                | 0         | 0  | 0              | 0            |  |
| 2.3 Current Ground Wor                   | kings   | 0                | 0         | 0  | 0              | 0            |  |
| Section 3:Mining, Ex                     | traction & Natural Cavities   | On-site          | 0-50m     | 51-250   | 251-500        | 501-1000     |  |
| 3.1 Historical Mining                    |   | 0                | 0         | 0  | 0              | 0            |  |



| Section 3:Mining, Extraction & Natural Cavities | On-site    | 0-50m | 51-250 | 251-500      | 501-1000 |
|---|------------|-------|--------|--------------|----------|
| 3.2 Coal Mining                                 | 0          | 0     | 0      | 0            | 0        |
| 3.3 Johnson Poole and Bloomer Mining Area       | 0          | 0     | 0      | 0            | 0        |
| 3.4 Non-Coal Mining                             | 0          | 0     | 0      | 0            | 0        |
| 3.5 Non-Coal Mining Cavities                    | 0          | 0     | 0      | 0            | 0        |
| 3.6 Natural Cavities                            | 0          | 0     | 0      | 0            | 0        |
| 3.7 Brine Extraction                            | 0          | 0     | 0      | 0            | 0        |
| 3.8 Gypsum Extraction                           | 0          | 0     | 0      | 0            | 0        |
| 3.9 Tin Mining                                  | 0          | 0     | 0      | 0            | 0        |
| 3.10 Clay Mining                                | 0          | 0     | 0      | 0            | 0        |
| Section 4:Natural Ground Subsidence             | On-si      | te    |        |              |          |
| 4.1 Shrink Swell Clay                           | Low        |       |        |              |          |
| 4.2 Landslides                                  | Low        |       |        |              |          |
| 4.3 Ground Dissolution of Soluble Rocks         | Negligible |       |        |              |          |
| 4.4 Compressible Deposits                       | High       |       |        |              |          |
| 4.5 Collapsible Deposits                        | Very Low   |       |        |              |          |
| 4.6 Running Sand                                | Low        |       |        |              |          |
| Section 5:Borehole Records                      | On-site    | 0-50m | 51-250 |              |          |
| 5 BGS Recorded Boreholes                        | 1          | 0     | 10     |              |          |
| Section 6:Estimated Background Soil Chemistry   | On-site    | 0-50m | 51-250 |              |          |
| 6 Records of Background Soil Chemistry          | 48         | 2     | 17     |              |          |
| Section 7:Railways and Tunnels                  | On-site    | 0-50m | 51-250 | 251-500      |          |
| 7.1 Tunnels                                     | 0          | 0     | 0      | Not Searched |          |
| 7.2 Historical Railway and Tunnel Features      | 0          | 0     | 0      | Not Searched |          |
| 7.3 Historical Railways                         | 2          | 0     | 0      | Not Searched |          |
| 7.4 Active Railways                             | 0          | 0     | 0      | Not Searched |          |

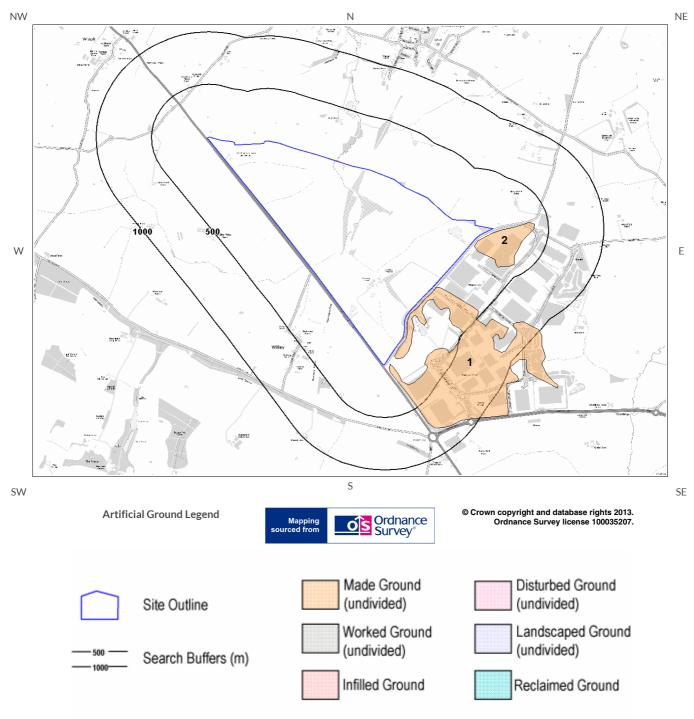
Report Reference: GS-1673447 Client Reference: 1 LODGE COTTAGES, BITTESBY, LUTTERWORTH LE17 4JH



| Section 7:Railways and Tunnels | On-site | 0-50m | 51-250 | 251-500 |  |
|--------------------------------|---------|-------|--------|---------|--|
| 7.5 Railway Projects           | 0       | 0     | 0      | 0       |  |



# 1 Geology 1.1 Artificial Ground Map





# 1 Geology 1.1 Artificial Ground

1.1.1Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:169

Are there any records of Artificial/Made Ground within 500m of the study site boundary?

Yes

| ID | Distance<br>(m) | Direction | LEX Code | Description             | Rock Description   |
|----|-----------------|-----------|----------|-------------------------|--------------------|
| 1  | 12.0            | SE        | MGR-MGRD | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |
| 2  | 25.0            | SE        | MGR-MGRD | MADE GROUND (UNDIVIDED) | ARTIFICIAL DEPOSIT |

#### 1.1.2 Permeability of Artificial Ground

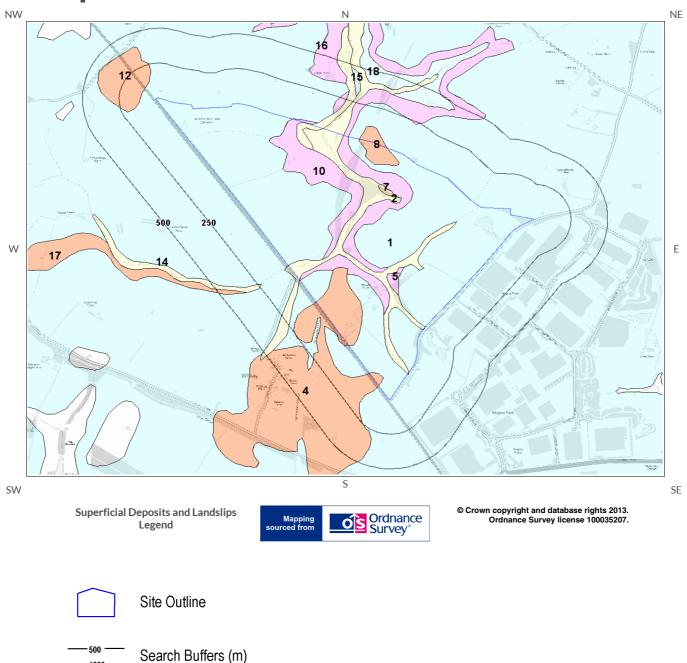
Are there any records relating to permeability of artificial ground within the study site boundary?

Yes

| Distance<br>(m) | Direction | Flow Type     | Maximum Permeability | Minimum Permeability |
|-----------------|-----------|---------------|----------------------|----------------------|
| 12.0            | SE        | Intergranular | Very High            | Very Low             |
| 21.0            | SE        | Intergranular | Very High            | Very Low             |
| 25.0            | SE        | Intergranular | Very High            | Very Low             |
| 34.0            | SE        | Intergranular | Very High            | Very Low             |



### 1.2 Superficial Deposits and Landslips Map



1000



### **1.2 Superficial Deposits and Landslips**

#### 1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary? Yes

| ID  | Distance<br>(m) | Direction | LEX Code  | Description             | Rock Description               |
|-----|-----------------|-----------|-----------|-------------------------|--------------------------------|
| 1   | 0.0             | On Site   | ODT-DMTN  | OADBY MEMBER            | DIAMICTON                      |
| 2   | 0.0             | On Site   | ALV-CSSG  | ALLUVIUM                | CLAY, SILT, SAND ANE<br>GRAVEL |
| 3   | 0.0             | On Site   | ODT-DMTN  | OADBY MEMBER            | DIAMICTON                      |
| 4   | 0.0             | On Site   | DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL                |
| 5   | 0.0             | On Site   | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 6   | 0.0             | On Site   | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 7   | 0.0             | On Site   | PEAT-P    | PEAT                    | PEAT                           |
| 8   | 0.0             | On Site   | DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL                |
| 9A  | 0.0             | On Site   | WOC-CLSI  | WOLSTON CLAY            | CLAY AND SILT                  |
| 10  | 0.0             | On Site   | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 11  | 0.0             | On Site   | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 12  | 105.0           | NW        | DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL                |
| 13A | 123.0           | N         | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 14  | 229.0           | SW        | ALV-CSSG  | ALLUVIUM                | CLAY, SILT, SAND AN<br>GRAVEL  |
| 15  | 293.0           | Ν         | THT-DMTN  | THRUSSINGTON MEMBER     | DIAMICTON                      |
| 16  | 337.0           | Ν         | WOSG-SAGR | WOLSTON SAND AND GRAVEL | SAND AND GRAVEL                |
| 17  | 344.0           | SW        | DMG-SAGR  | DUNSMORE GRAVEL         | SAND AND GRAVEL                |
| 18  | 369.0           | N         | THT-DMTN  | THRUSSINGTON MEMBER     | DIAMICTON                      |

#### 1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

| Distance (m) | Direction | Flow Type     | Maximum Permeability | Minimum Permeability |
|--------------|-----------|---------------|----------------------|----------------------|
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | High                 | Very Low             |
| 0.0          | On Site   | Mixed         | Low                  | Very Low             |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Low                  | Very Low             |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | High                 | Very Low             |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |



| Distance (m) | Direction | Flow Type     | Maximum Permeability | Minimum Permeability |
|--------------|-----------|---------------|----------------------|----------------------|
| 0.0          | On Site   | Intergranular | High                 | Very Low             |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 0.0          | On Site   | Intergranular | High                 | Very Low             |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 0.0          | On Site   | Intergranular | Very High            | High                 |
| 0.0          | On Site   | Mixed         | Moderate             | Low                  |
| 23.0         | SW        | Mixed         | Moderate             | Low                  |

#### 1.2.3 Landslip

Are there any records of Landslip within 500m of the study site boundary?

No

#### Database searched and no data found.

This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

#### 1.2.4 Landslip Permeability

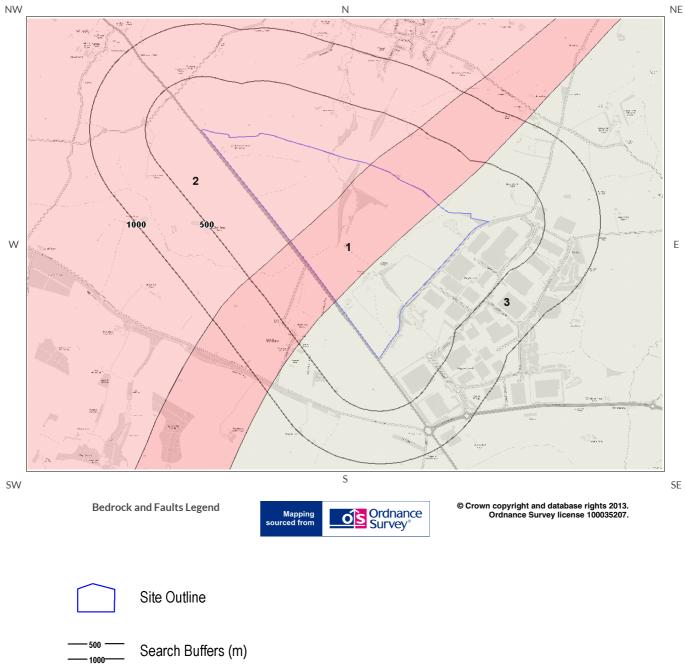
Are there any records relating to permeability of landslips within the study site<sup>\*\*</sup> boundary?

No

<sup>\*</sup> This includes an automatically generated 50m buffer zone around the site



### **1.3 Bedrock and Faults Map**





### 1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:169

#### 1.3.1 Bedrock/ Solid Geology

Records of Bedrock/ Solid Geology within 500m of the study site boundary:

| ID | Distance (m) | Direction | LEX Code | Description  | Rock Age              |
|----|--------------|-----------|----------|--|-----------------------|
| 1  | 0.0          | On Site   | PNG-MDST | Penarth Group - Mudstone                                     | Rhaetian              |
| 2  | 0.0          | On Site   | MMG-MDST | Mercia Mudstone Group - Mudstone                             | Rhaetian / Scythian   |
| 3  | 0.0          | On Site   | BLI-MDLM | Blue Lias Formation - Mudstone And Limestone,<br>Interbedded | Sinemurian / Rhaetian |

#### 1.3.2 Permeability of Bedrock Ground

Are there any records relating to permeability of bedrock ground within the study site<sup>\*</sup> boundary? Yes

| Distance (m) | Direction | Flow Type | Maximum Permeability | Minimum Permeability |
|--------------|-----------|-----------|----------------------|----------------------|
| 0.0          | On Site   | Fracture  | High                 | Low                  |
| 0.0          | On Site   | Fracture  | High                 | Low                  |
| 0.0          | On Site   | Fracture  | Low                  | Low                  |
| 0.0          | On Site   | Fracture  | High                 | Low                  |
| 0.0          | On Site   | Fracture  | Low                  | Low                  |
| 0.0          | On Site   | Fracture  | Low                  | Low                  |
| 0.0          | On Site   | Fracture  | Low                  | Low                  |

#### 1.3.3 Faults

Are there any records of Faults within 500m of the study site boundary?

No

Database searched and no data found.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of Great Britain at 1:50,000 scale.

This Geology shows the main components as discrete layers, these are: Bedrock/ Solid Geology and linear features such as Faults. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

<sup>\*</sup> This includes an automatically generated 50m buffer zone around the site



### 1.4 Radon Data

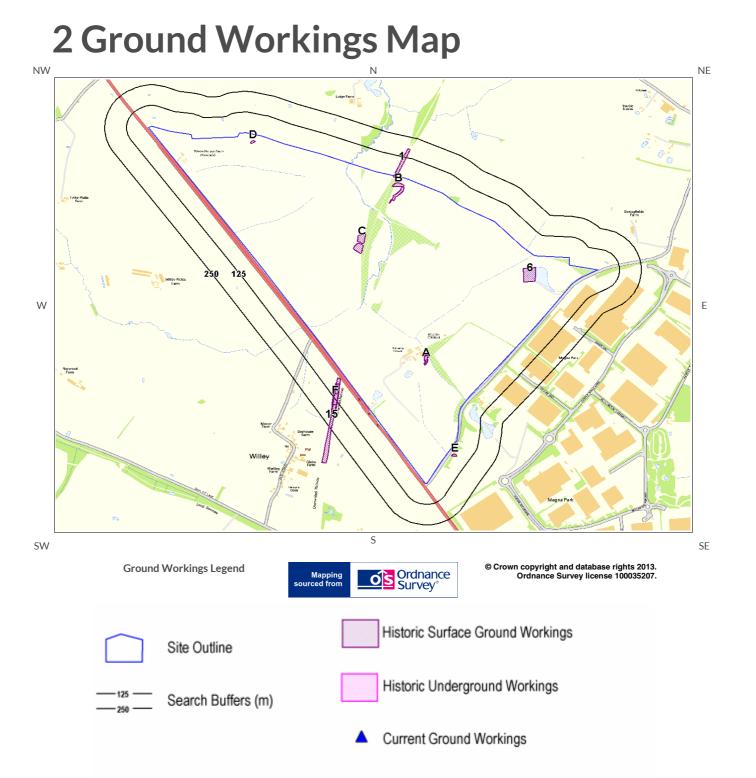
#### 1.4.1 Radon Affected Areas

Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level? The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level

#### 1.4.2 Radon Protection

Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment? No radon protective measures are necessary









#### 2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on GroundSure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? Yes

The following Historical Surface Ground Working Features are provided by GroundSure:

| ID  | Distance (m) | Direction | NGR              | Use                         | Date |
|-----|--------------|-----------|------------------|-----------------------------|------|
| 1   | 0.0          | On Site   | 450231<br>286568 | Cuttings                    | 1886 |
| 2A  | 0.0          | On Site   | 450373<br>285371 | Pond                        | 1950 |
| 3D  | 0.0          | On Site   | 449378<br>286697 | Unspecified Pit             | 1886 |
| 4A  | 0.0          | On Site   | 450373<br>285377 | Pond                        | 1904 |
| 5B  | 0.0          | On Site   | 450212<br>286439 | Unspecified Pit             | 1886 |
| 6   | 0.0          | On Site   | 450966<br>285891 | Sewage Farm                 | 1950 |
| 7A  | 0.0          | On Site   | 450373<br>285377 | Pond                        | 1886 |
| 8A  | 0.0          | On Site   | 450373<br>285371 | Pond                        | 1968 |
| 9B  | 0.0          | On Site   | 450203<br>286375 | Unspecified Ground Workings | 1886 |
| 10C | 0.0          | On Site   | 450002<br>286115 | Unspecified Pit             | 1886 |
| 11C | 0.0          | On Site   | 449982<br>286052 | Unspecified Pit             | 1886 |
| 12D | 0.0          | On Site   | 449378<br>286697 | Unspecified Pit             | 1886 |
| 13E | 26.0         | SE        | 450532<br>284796 | Unspecified Pit             | 1976 |
| 14E | 26.0         | SE        | 450532<br>284796 | Unspecified Pit             | 1968 |
| 15  | 28.0         | SW        | 449827<br>285006 | Cuttings                    | 1886 |
| 16F | 53.0         | SW        | 449851<br>285146 | Cuttings                    | 1904 |
| 17F | 56.0         | SW        | 449855<br>285144 | Cuttings                    | 1950 |
| 18F | 91.0         | SW        | 449850<br>285137 | Cuttings                    | 1986 |
| 19F | 91.0         | SW        | 449850<br>285137 | Cuttings                    | 1967 |
| 20F | 91.0         | SW        | 449850<br>285137 | Cuttings                    | 1990 |



#### 2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the GroundSure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? No

Database searched and no data found.

#### 2.3 Current Ground Workings

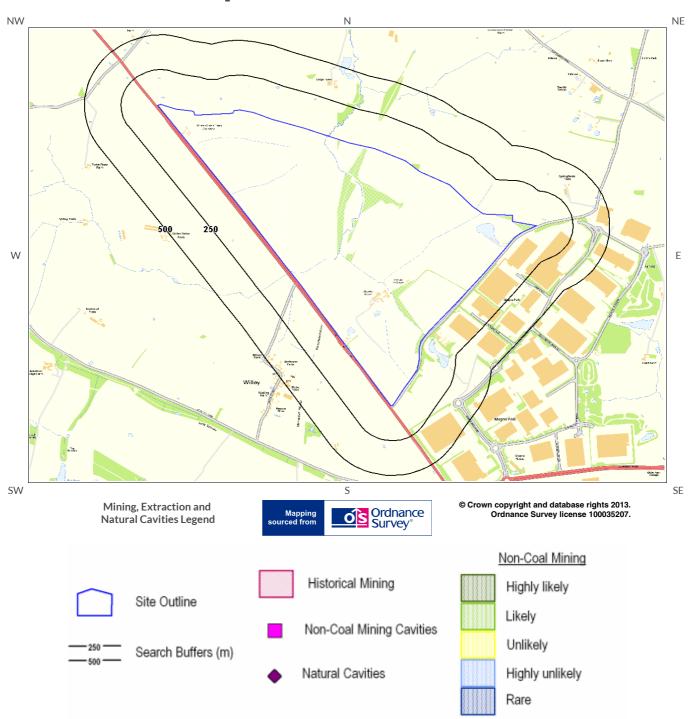
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary?

No



### 3 Mining, Extraction & Natural Cavities Map





### 3 Mining, Extraction & Natural Cavities

#### 3.1 Historical Mining

This dataset is derived from GroundSure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

#### 3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

#### 3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary?

No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

#### 3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary?

No



#### 3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

| Are there any Non-Coal Mining cavities within 1000m of the study site boundary?  | No    |
|--|-------|
| Database searched and no data found.   |       |
| 3.6 Natural Cavities   |       |
| This dataset provides information based on Peter Brett Associates natural cavities database.   |       |
| Are there any Natural Cavities within 1000m of the study site boundary?  | No    |
| Database searched and no data found.   |       |
| 3.7 Brine Extraction   |       |
| This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subside Compensation Board.                                    | nce   |
| Are there any Brine Extraction areas within 1000m of the study site boundary?  | No    |
| Database searched and no data found.   |       |
| 3.8 Gypsum Extraction  |       |
| This dataset provides information on Gypsum extraction from British Gypsum records.  |       |
| Are there any Gypsum Extraction areas within 1000m of the study site boundary?   | No    |
| Database searched and no data found.   |       |
| 3.9 Tin Mining   |       |
| This dataset provides information on tin mining areas and is derived from tin mining records. This searce based upon postcode information to a sector level. | :h is |
| Are there any Tin Mining areas within 1000m of the study site boundary?  | No    |



No

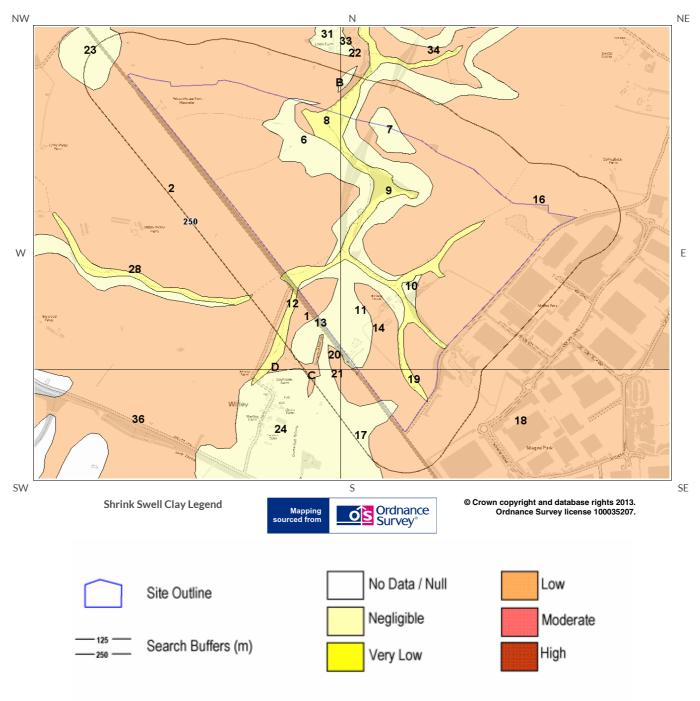
### 3.10 Clay Mining

This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary?

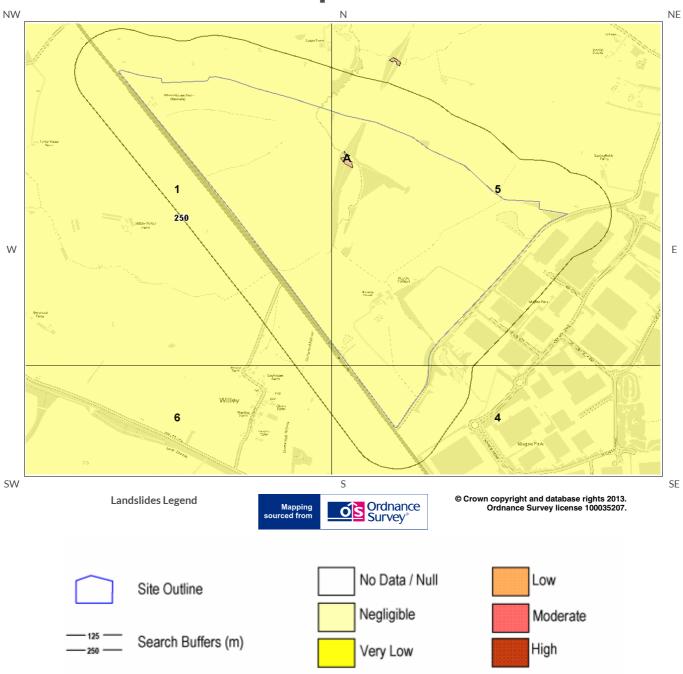


# 4 Natural Ground Subsidence 4.1 Shrink-Swell Clay Map



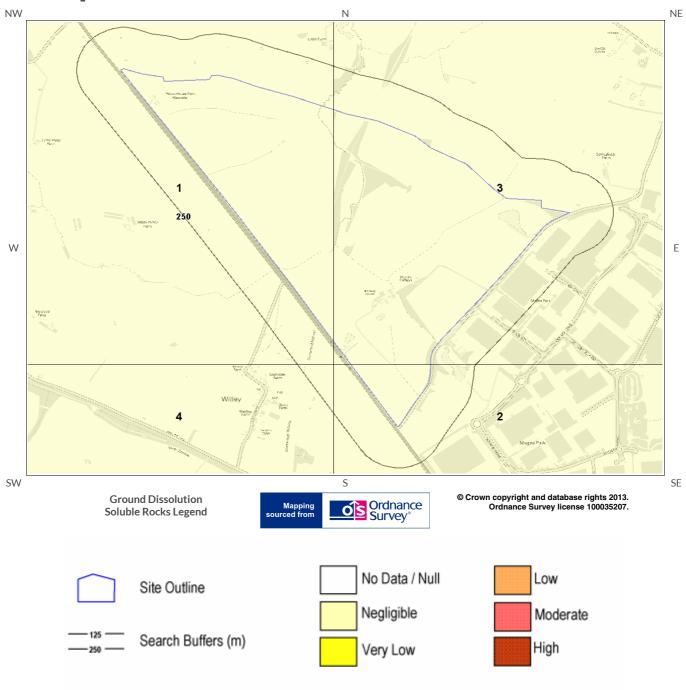


### 4.2 Landslides Map



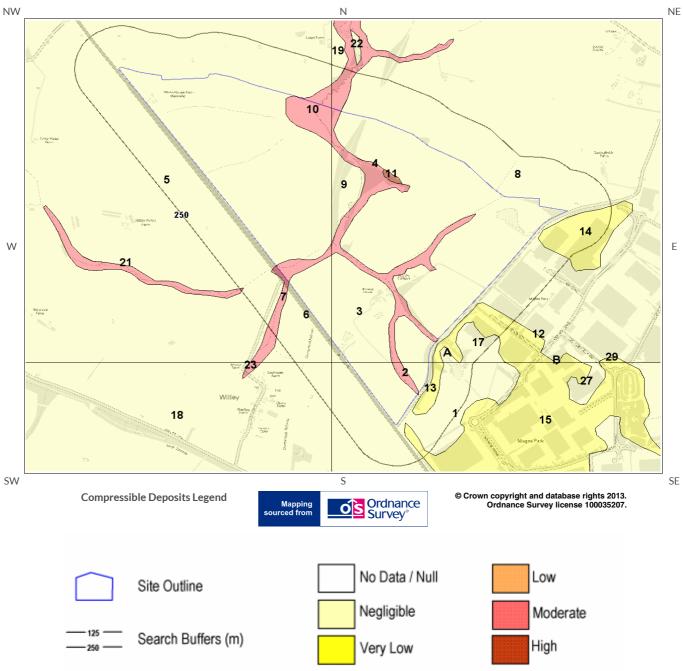


### 4.3 Ground Dissolution Soluble Rocks Map



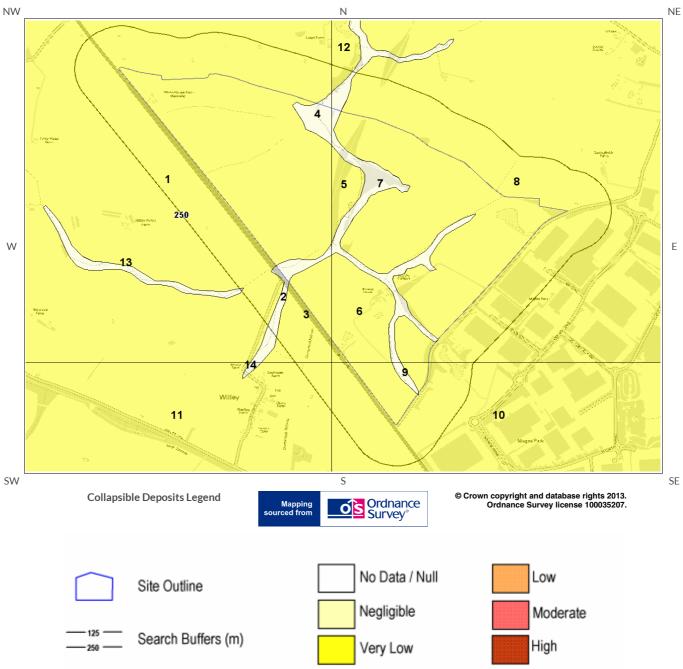


### 4.4 Compressible Deposits Map





### 4.5 Collapsible Deposits Map





#### 4.6 Running Sand Map NW Ν NE 12/316 4 8 6 9 2 250 W Е 15 Reals Inter 10 12 11 SW S SE © Crown copyright and database rights 2013. Ordnance Survey license 100035207. **Running Sand Legend** Ordnance Survey® Mapping sourced from No Data / Null Low Site Outline Negligible Moderate 125 Search Buffers (m) High Very Low 250





The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

The following GeoSure data represented on the mapping is derived from the BGS Digital Geological map of Great Britain at 1:50,000 scale.

What is the maximum hazard rating of natural subsidence within the study site<sup>\*\*</sup> boundary?

High

#### 4.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

| ID | Distance (m) | Direction | Hazard Rating | Details  |
|----|--------------|-----------|---------------|--|
| 1  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 2  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 3  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 4  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 5A | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 6  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 7  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely likely due to<br>potential problems with shrink-swell clays.  |
| 8  | 0.0          | On Site   | Very Low      | Ground conditions predominantly low plasticity. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with shrink-swell clays.  |
| 9  | 0.0          | On Site   | Very Low      | Ground conditions predominantly low plasticity. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with shrink-swell clays.  |

\* This includes an automatically generated 50m buffer zone around the site



| ID  | Distance (m) | Direction | Hazard Rating | Details  |
|-----|--------------|-----------|---------------|--|
| 10  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.   |
| 11  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.   |
| 12  | 0.0          | On Site   | Very Low      | Ground conditions predominantly low plasticity. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with shrink-swell clays.  |
| 13  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.   |
| 14  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 15A | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 16  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 17  | 0.0          | On Site   | Negligible    | Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.   |
| 18  | 0.0          | On Site   | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |
| 19  | 0.0          | On Site   | Very Low      | Ground conditions predominantly low plasticity. No special actions required to avoid<br>problems due to shrink-swell clays. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with shrink-swell clays.  |
| 20  | 23.0         | SW        | Low           | Ground conditions predominantly medium plasticity. Do not plant trees with high soil<br>moisture demands near to buildings. For new build, consideration should be given to<br>advice published by the National House Building Council (NHBC) and the Building<br>Research Establishment (BRE). There is a possible increase in construction cost to<br>reduce potential shrink-swell problems. For existing property, there is a possible<br>increase in insurance risk, especially during droughts or where vegetation with high<br>moisture demands is present. |



#### 4.2 Landslides

The following Landslides information provided by the British Geological Survey:

| ID | Distance (m) | Direction | Hazard Rating | Details  |
|----|--------------|-----------|---------------|--|
| 1  | 0.0          | On Site   | Very Low      | Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potentia problems with landslides.   |
| 2A | 0.0          | On Site   | Low           | Possibility of slope instability problems after major changes in ground conditions.<br>Consideration should be given to stability if changes to drainage or excavations take<br>place. Possible increase in construction cost to reduce potential slope stability<br>problems. Existing property - no significant increase in insurance risk due to natural<br>slope instability problems. |
| ЗA | 0.0          | On Site   | Low           | Possibility of slope instability problems after major changes in ground conditions.<br>Consideration should be given to stability if changes to drainage or excavations take<br>place. Possible increase in construction cost to reduce potential slope stability<br>problems. Existing property - no significant increase in insurance risk due to natural<br>slope instability problems. |
| 4  | 0.0          | On Site   | Very Low      | Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.  |
| 5  | 0.0          | On Site   | Very Low      | Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potentia problems with landslides.   |

#### 4.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

| ID | Distance<br>(m) | Direction | Hazard Rating | Details   |
|----|-----------------|-----------|---------------|---|
| 1  | 0.0             | On Site   | Negligible    | Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks. |
| 2  | 0.0             | On Site   | Negligible    | Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks. |
| 3  | 0.0             | On Site   | Negligible    | Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks. |

#### 4.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

| ID | Distance<br>(m) | Direction | Hazard Rating | Details  |
|----|-----------------|-----------|---------------|--|
| 1  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits. |



| ID | Distance<br>(m) | Direction | Hazard Rating | Details   |
|----|-----------------|-----------|---------------|---|
| 2  | 0.0             | On Site   | Moderate      | Significant potential for compressibility problems. Avoid large differential loadings of<br>ground. Do not drain or de-water ground near the property without technical advice.<br>For new build - consider possibility of compressible ground in ground investigation,<br>construction and building design. Consider effects of groundwater changes. Extra<br>construction costs are likely. For existing property - possible increase in insurance risk<br>from compressibility, especially if water conditions or loading of the ground change<br>significantly.                   |
| 3  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.   |
| 4  | 0.0             | On Site   | Moderate      | Significant potential for compressibility problems. Avoid large differential loadings of<br>ground. Do not drain or de-water ground near the property without technical advice.<br>For new build - consider possibility of compressible ground in ground investigation,<br>construction and building design. Consider effects of groundwater changes. Extra<br>construction costs are likely. For existing property - possible increase in insurance risk<br>from compressibility, especially if water conditions or loading of the ground change<br>significantly.                   |
| 5  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.   |
| 6  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.   |
| 7  | 0.0             | On Site   | Moderate      | Significant potential for compressibility problems. Avoid large differential loadings of<br>ground. Do not drain or de-water ground near the property without technical advice.<br>For new build - consider possibility of compressible ground in ground investigation,<br>construction and building design. Consider effects of groundwater changes. Extra<br>construction costs are likely. For existing property - possible increase in insurance risk<br>from compressibility, especially if water conditions or loading of the ground change<br>significantly.                   |
| 8  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.   |
| 9  | 0.0             | On Site   | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.   |
| 10 | 0.0             | On Site   | Moderate      | Significant potential for compressibility problems. Avoid large differential loadings of<br>ground. Do not drain or de-water ground near the property without technical advice.<br>For new build - consider possibility of compressible ground in ground investigation,<br>construction and building design. Consider effects of groundwater changes. Extra<br>construction costs are likely. For existing property - possible increase in insurance risk<br>from compressibility, especially if water conditions or loading of the ground change<br>significantly.                   |
| 11 | 0.0             | On Site   | High          | Very significant potential for compressibility problems. Avoid large differential<br>loadings of ground. Do not drain or de-water ground near the property without<br>technical advice. For new build - consider possibility of compressible ground in ground<br>investigation, construction and building design. Consider effects of groundwater<br>changes. Construction may not be possible at economic cost. For existing property -<br>probable increase in insurance risk from compressibility especially if water conditions<br>or loading of the ground change significantly. |
| 12 | 12.0            | SE        | Very Low      | Very low potential for compressible deposits to be present. No special actions required<br>to avoid problems due to compressible deposits. No special ground investigation<br>required, and increased construction costs or increased financial risks are unlikely due<br>to potential problems with compressible deposits.   |
| 13 | 21.0            | SE        | Very Low      | Very low potential for compressible deposits to be present. No special actions required<br>to avoid problems due to compressible deposits. No special ground investigation<br>required, and increased construction costs or increased financial risks are unlikely due<br>to potential problems with compressible deposits.   |



| ID  | Distance<br>(m) | Direction | Hazard Rating | Details   |
|-----|-----------------|-----------|---------------|---|
| 14  | 25.0            | SE        | Very Low      | Very low potential for compressible deposits to be present. No special actions required<br>to avoid problems due to compressible deposits. No special ground investigation<br>required, and increased construction costs or increased financial risks are unlikely due<br>to potential problems with compressible deposits. |
| 15  | 34.0            | SE        | Very Low      | Very low potential for compressible deposits to be present. No special actions required<br>to avoid problems due to compressible deposits. No special ground investigation<br>required, and increased construction costs or increased financial risks are unlikely due<br>to potential problems with compressible deposits. |
| 16A | 49.0            | SE        | Negligible    | No indicators for compressible deposits identified. No special actions required to avoid<br>problems due to compressible deposits. No special ground investigation required, and<br>increased construction costs or increased financial risks are unlikely due to potential<br>problems with compressible deposits.         |

#### 4.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

| ID | Distance<br>(m) | Direction | Hazard Rating | Details   |
|----|-----------------|-----------|---------------|---|
| 1  | 0.0             | On Site   | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |
| 2  | 0.0             | On Site   | Negligible    | No indicators for collapsible deposits identified. No actions required to avoid problems<br>due to collapsible deposits. No special ground investigation required, or increased<br>construction costs or increased financial risk due to potential problems with<br>collapsible deposits. |
| 3  | 0.0             | On Site   | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |
| 4  | 0.0             | On Site   | Negligible    | No indicators for collapsible deposits identified. No actions required to avoid problems<br>due to collapsible deposits. No special ground investigation required, or increased<br>construction costs or increased financial risk due to potential problems with<br>collapsible deposits. |
| 5  | 0.0             | On Site   | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |
| 6  | 0.0             | On Site   | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |
| 7  | 0.0             | On Site   | Negligible    | No indicators for collapsible deposits identified. No actions required to avoid problems<br>due to collapsible deposits. No special ground investigation required, or increased<br>construction costs or increased financial risk due to potential problems with<br>collapsible deposits. |
| 8  | 0.0             | On Site   | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |
| 9  | 0.0             | On Site   | Negligible    | No indicators for collapsible deposits identified. No actions required to avoid problems<br>due to collapsible deposits. No special ground investigation required, or increased<br>construction costs or increased financial risk due to potential problems with<br>collapsible deposits. |
| 10 | 0.0             | On Site   | Very Low      | Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.                                       |



### 4.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

| ID | Distance<br>(m) | Direction | Hazard Rating | Details   |
|----|-----------------|-----------|---------------|---|
| 1  | 0.0             | On Site   | Low           | Possibility of running sand problems after major changes in ground conditions. Normal<br>maintenance to avoid leakage of water-bearing services or water bodies (ponds,<br>swimming pools) should reduce likelihood of problems due to running sand. For new<br>build - consider possibility of running sand into trenches or excavations if water table is<br>high or sandy strata are exposed to water. Avoid concentrated water inputs to site.<br>Unlikely to be an increase in construction costs due to potential for running sand. For<br>existing property - no significant increase in insurance risk due to running sand<br>problems is likely. |
| 2  | 0.0             | On Site   | Low           | Possibility of running sand problems after major changes in ground conditions. Normal<br>maintenance to avoid leakage of water-bearing services or water bodies (ponds,<br>swimming pools) should reduce likelihood of problems due to running sand. For new<br>build - consider possibility of running sand into trenches or excavations if water table is<br>high or sandy strata are exposed to water. Avoid concentrated water inputs to site.<br>Unlikely to be an increase in construction costs due to potential for running sand. For<br>existing property - no significant increase in insurance risk due to running sand<br>problems is likely. |
| 3  | 0.0             | On Site   | Low           | Possibility of running sand problems after major changes in ground conditions. Normal<br>maintenance to avoid leakage of water-bearing services or water bodies (ponds,<br>swimming pools) should reduce likelihood of problems due to running sand. For new<br>build - consider possibility of running sand into trenches or excavations if water table is<br>high or sandy strata are exposed to water. Avoid concentrated water inputs to site.<br>Unlikely to be an increase in construction costs due to potential for running sand. For<br>existing property - no significant increase in insurance risk due to running sand<br>problems is likely. |
| 4  | 0.0             | On Site   | Low           | Possibility of running sand problems after major changes in ground conditions. Normal<br>maintenance to avoid leakage of water-bearing services or water bodies (ponds,<br>swimming pools) should reduce likelihood of problems due to running sand. For new<br>build - consider possibility of running sand into trenches or excavations if water table is<br>high or sandy strata are exposed to water. Avoid concentrated water inputs to site.<br>Unlikely to be an increase in construction costs due to potential for running sand. For<br>existing property - no significant increase in insurance risk due to running sand<br>problems is likely. |
| 5  | 0.0             | On Site   | Negligible    | No indicators for running sand identified. No special actions required to avoid<br>problems due to running sand. No special ground investigation required, and increased<br>construction costs or increased financial risks are unlikely due to potential problems<br>with running sand.  |
| 6  | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are<br>exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or<br>increased financial risks are unlikely due to potential problems with running sand.   |
| 7  | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are<br>exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or<br>increased financial risks are unlikely due to potential problems with running sand.   |
| 8  | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are<br>exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or<br>increased financial risks are unlikely due to potential problems with running sand.   |
| 9  | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are<br>exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or<br>increased financial risks are unlikely due to potential problems with running sand.   |
| 10 | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. No special actions required, to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.  |
| 11 | 0.0             | On Site   | Very Low      | Very low potential for running sand problems if water table rises or if sandy strata are<br>exposed to water. No special actions required, to avoid problems due to running sand.<br>No special ground investigation required, and increased construction costs or<br>increased financial risks are unlikely due to potential problems with running sand.   |











The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary:

11

| ID | Distance<br>(m) | Direction | NGR              | BGS Reference | Drilled Length | Borehole Name              |
|----|-----------------|-----------|------------------|---------------|----------------|----------------------------|
| 1  | 0.0             | On Site   | 449935<br>286227 | SP48NE21      | 31.5           | BITTESBY BBH1              |
| 2  | 74.0            | SE        | 450500<br>284680 | SP58SW63      | 15.0           | LUTTERWORTH BH3            |
| 3  | 75.0            | SE        | 451040<br>285510 | SP58NW28      | 15.0           | LUTTERWORTH 2              |
| 4  | 82.0            | SW        | 450000<br>285000 | SP58NW54      | 16.76          | BITTESWELL,<br>LUTTERWORTH |
| 5  | 85.0            | SE        | 450680<br>285090 | SP58NW27      | 15.0           | LUTTERWORTH 1              |
| 6  | 114.0           | SE        | 451190<br>285630 | SP58NW29      | 15.0           | LUTTERWORTH 4              |
| 7  | 141.0           | E         | 451490<br>285870 | SP58NW32      | 15.0           | LUTTERWORTH 9              |
| 8  | 145.0           | SE        | 450660<br>284790 | SP58SW65      | 15.0           | LUTTERWORTH BH7            |
| 9  | 154.0           | SE        | 450500<br>284530 | SP58SW64      | 15.0           | LUTTERWORTH BH5            |
| 10 | 210.0           | SE        | 450820<br>285060 | SP58NW30      | 15.0           | LUTTERWORTH 6              |
| 11 | 214.0           | SE        | 451120<br>285390 | SP58NW31      | 30.0           | LUTTERWORTH 8              |

Additional online information is available for the following boreholes listed above:

#1: scans.bgs.ac.uk/sobi\_scans/boreholes/333520
#2: scans.bgs.ac.uk/sobi scans/boreholes/339279

- #3: scans.bgs.ac.uk/sobi\_scans/boreholes/339172
- #4: scans.bgs.ac.uk/sobi\_scans/boreholes/12951314
- #5: scans.bgs.ac.uk/sobi\_scans/boreholes/339171
- #6: scans.bgs.ac.uk/sobi\_scans/boreholes/339173
- #7: scans.bgs.ac.uk/sobi\_scans/boreholes/339176
- #8: scans.bgs.ac.uk/sobi\_scans/boreholes/339281
- #9: scans.bgs.ac.uk/sobi\_scans/boreholes/339280
- #10: scans.bgs.ac.uk/sobi\_scans/boreholes/339174
- #11: scans.bgs.ac.uk/sobi\_scans/boreholes/339175



# 6 Estimated Background Soil Chemistry

Records of background estimated soil chemistry within 250m of the study site boundary:

67

For further information on how this data is calculated and limitations upon its use, please see the GroundSure GeoInsight User Guide, available on request.

| Distance (m) | Direction | Sample Type | Arsenic (As)  | Cadmium (Cd) | Chromium (Cr) | Nickel (Ni)   | Lead (Pb) |
|--------------|-----------|-------------|---------------|--------------|---------------|---------------|-----------|
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/  |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/ł |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |

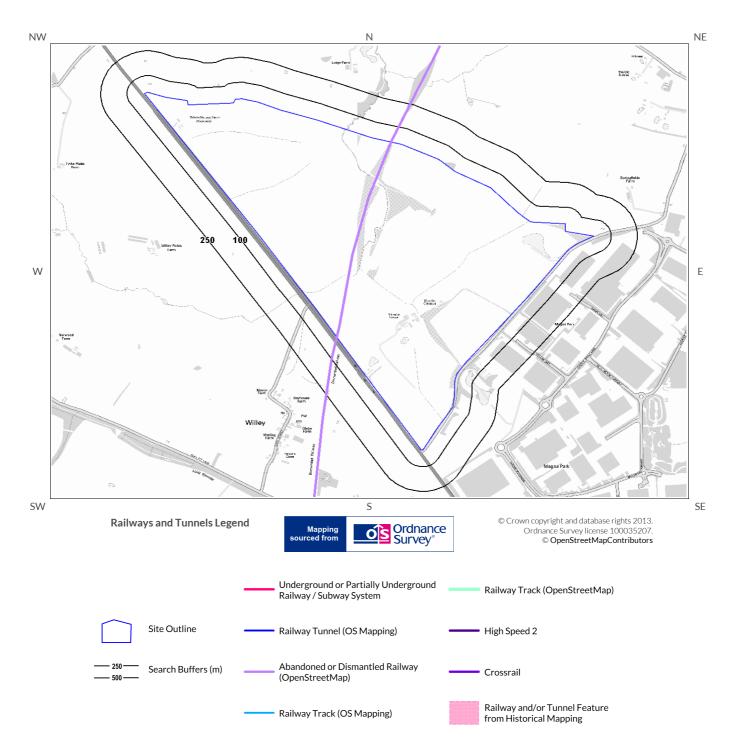


| Distance (m) | Direction | Sample Type | Arsenic (As)  | Cadmium (Cd) | Chromium (Cr) | Nickel (Ni)   | Lead (Pb) |
|--------------|-----------|-------------|---------------|--------------|---------------|---------------|-----------|
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 0.0          | On Site   | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 23.0         | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 40.0         | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 77.0         | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 82.0         | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 93.0         | Ν         | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 105.0        | NW        | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 123.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/ł |
| 123.0        | Ν         | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 130.0        | NE        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 139.0        | Ν         | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 162.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/ł |
| 182.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 205.0        | Ν         | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 210.0        | Ν         | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 213.0        | Ν         | RuralSoil   | 15 - 25 mg/kg | <1.8 mg/kg   | 40 - 60 mg/kg | 15 - 30 mg/kg | <150 mg/l |
| 223.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 229.0        | SW        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 234.0        | NE        | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
| 245.0        | Ν         | RuralSoil   | <15 mg/kg     | <1.8 mg/kg   | 60 - 90 mg/kg | 15 - 30 mg/kg | <150 mg/k |
|              |           |             |               |              |               |               |           |

\*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.



## 7 Railways and Tunnels Map







# 7 Railways and Tunnels

## 7.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

| Have any underground railway lines been identified within the study site boundary? | No |
|--|----|
|--|----|

Have any underground railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

| Have any other railway tunnels been identified within the site boundary?         | No |
|--|----|
| Have any other railway tunnels been identified within 250m of the site boundary? | No |

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

## 7.2 Historical Railway and Tunnel Features

This data is derived from GroundSure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

| Have any historical railway or tunnel featur | es been identified within the study site boundary? | No |
|--|--|----|
|--|--|----|

Have any historical railway or tunnel features been identified within 250m of the study site boundary? No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels Map.

## 7.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

| Have any historical railway lines been identified within the study site boundary?         | Yes |
|---|-----|
| Have any historical railway lines been identified within 250m of the study site boundary? | Yes |

| Distance (m) | Direction | Status    |
|--------------|-----------|-----------|
| 0            | On Site   | Abandoned |
| 0            | On Site   | Abandoned |



Note: multiple sections of the same track may be listed in the detail above

Any records that have been identified are represented on the Railways and Tunnels Map.

### 7.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

| Have any active railway lines been identified within the study site boundary? No |
|--|
|--|

Have any active railway lines been identified within 250m of the study site boundary? No

Database searched and no data found.

Note: multiple sections of the same track may be listed in the detail above Any records that have been identified are represented on the Railways and Tunnels Map.

## 7.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail.

| Is the study site within 5km of the route of the High Speed 2 rail project? | No |
|---|----|
| Is the study site within 500m of the route of the Crossrail rail project?   | No |

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a GroundSure HS2 and Crossrail Report.



GroundSure Helpline Telephone: 08444 159 000 info@groundsure.com



GroundSure Environmental Intelligence Solutions

**Geological Survey** 

NATURAL ENVIRONMENT RESEARCH COUNCIL

**British Gypsum** 

British Geological Survey Enquiries Kingsley Dunham Centre Keyworth, Nottingham NG12 5GG Tel: 0115 936 3143. Fax: 0115 936 3276. Email:enquiries@bgs.ac.uk Web:www.bgs.ac.uk

BGS Geological Hazards Reports and general geological enquiries

British Gypsum Ltd British Gypsum Ltd East Leake Loughborough Leicestershire LE12 6HX

The Coal Authority 200 Lichfield Lane Mansfield Notts NG18 4RG Tel: 0345 7626 848 DX 716176 Mansfield 5 www.coal.gov.uk The Coal Authority

British

Public Health England Public information access office Public Health England, Wellington House 133-155 Waterloo Road, London, SE1 8UG https://www.gov.uk/government/organisations/public-health-england Email: enquiries@phe.gov.uk Main switchboard: 020 7654 8000

> Johnson Poole & Bloomer Limited Harris and Pearson Building, Brettel Lane Brierley Hill, West Midlands DY5 3LH Tel: +44 (0) 1384 262 000 Email:enquiries.gs@jbb.co.uk Website: www.jpb.co.uk

> > Ordnance Survey

Adanac Drive, Southampton SO16 0AS

Tel: 08456 050505 Website: http://www.ordnancesurvey.co.uk/

Getmapping PLC Virginia Villas, High Street, Hartley Witney, Hampshire RG27 8NW Tel: 01252 845444 Website:http://www1.getmapping.com/

Peter Brett Associates

Caversham Bridge House Waterman Place Reading Berkshire RG1 8DN Tel: +44 (0)118 950 0761 E-mail:**reading@pba.co.uk** Website:**http://www.peterbrett.com/home** 



| JOHNSON     |  |
|-------------|--|
| POOLE &     |  |
| BLOOMER     |  |
| CONSULTANTS |  |







Acknowledgements: Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028]. This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

#### **1** Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

any information which is in the public domain (other than by (ii) virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 OAS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

#### 2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order

shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

#### 3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

procure that the Beneficiary or any third party relying on the (i) Services complies with and acts as if it is bound by the Contract and

be liable to GroundSure for the acts and omissions of the (ii) Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

#### 4 Reliance

(iv)

(v)

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents; (i)

the Beneficiary,

the Beneficiary's professional advisers, (iii) any person (ii) providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

the first purchaser or first tenant of the Site, and

the professional advisers and lenders of the first purchaser or

tenant of the Site. 4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly

named in a Report and no other parties are entitled to rely on its contents. 4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or

Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

#### **5** Fees and Disbursements

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

#### 6 Intellectual Property and Confidentiality

6.1 Subject to

full payment of all relevant Fees and

compliance with this Contract, the Client is granted (and is (ii) permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, nonassignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

not remove, suppress or modify any trade mark, copyright or (i) other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

#### 7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

> (i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or

subcontractors:

(ii) any use made of the Reports, Services, Materials or any part of them: and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for (i)

- loss of profits; (ii)
  - loss of business:

depletion of goodwill and/or similar losses; (iii)

- (iv) loss of anticipated savings;
- (v) loss of goods;
- (vi) loss of contract: loss of use:
- (vii)
- (viii) loss or corruption of data or information;
- (ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

loss or damage arising as a result of any error, omission or (xii) inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

#### 8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

the Client (being an individual) has a bankruptcy order made (ii) against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

#### 9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

the Reports and/or Mapping provided under this Contract are (a) supplied to the Client's specification(s) and in any event (b) by their nature cannot be returned.

#### 10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

GroundSure shall take steps to bring to an end the Services in (i) an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

#### 11 Anti-Bribery

(ii)

11.1 The Client warrants that it shall:

comply with all applicable laws, statutes and regulations (i) relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010:

(ii) comply with such of GroundSure's anti-bribery and anticorruption policies as are notified to the Client from time to time; and

promptly report to GroundSure any request or demand for (iii) any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

#### 12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information:

- (ii) fire, storm, flood, tempest or epidemic;
- Acts of God or the public enemy; (iii)
- (iv) riot, civil commotion or war;
- (v) strikes, labour disputes or industrial action;
- (vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

(viii) changes in law; or

any other reason beyond GroundSure's reasonable control.

(ix) In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly

given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

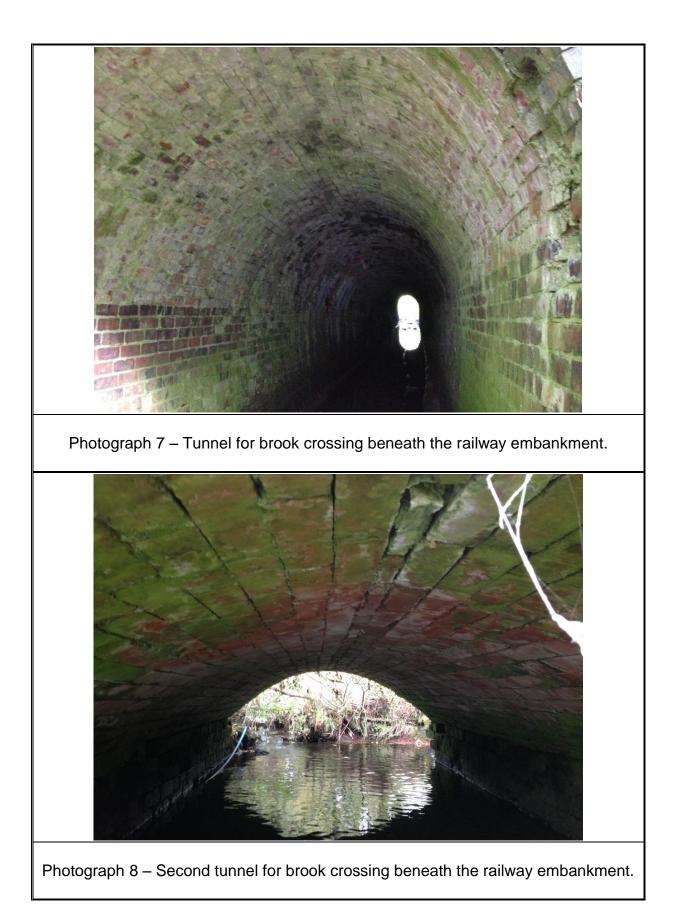
12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law

© GroundSure Limited June 2013



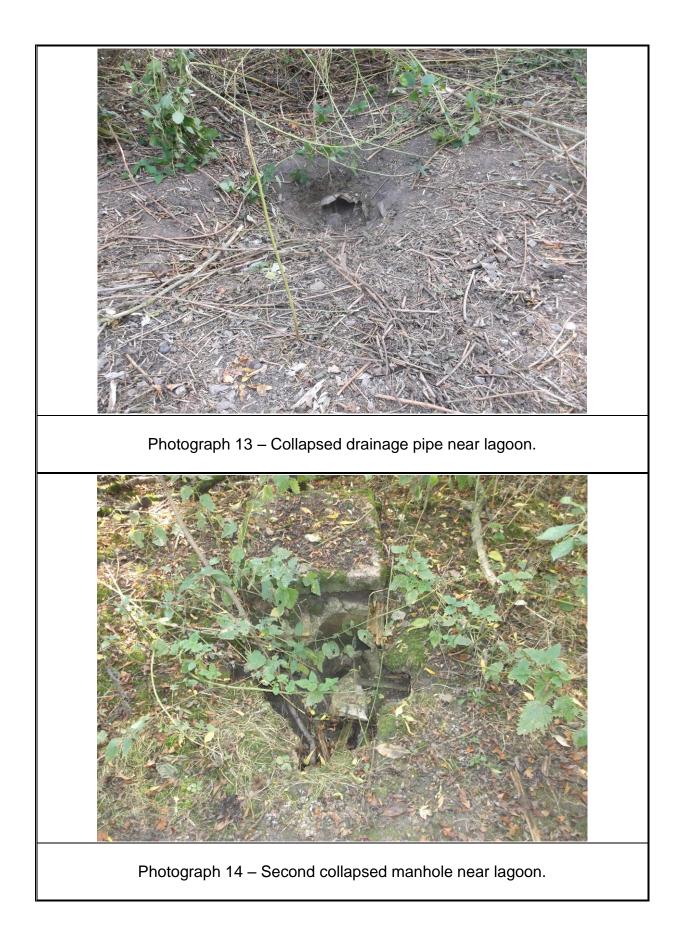


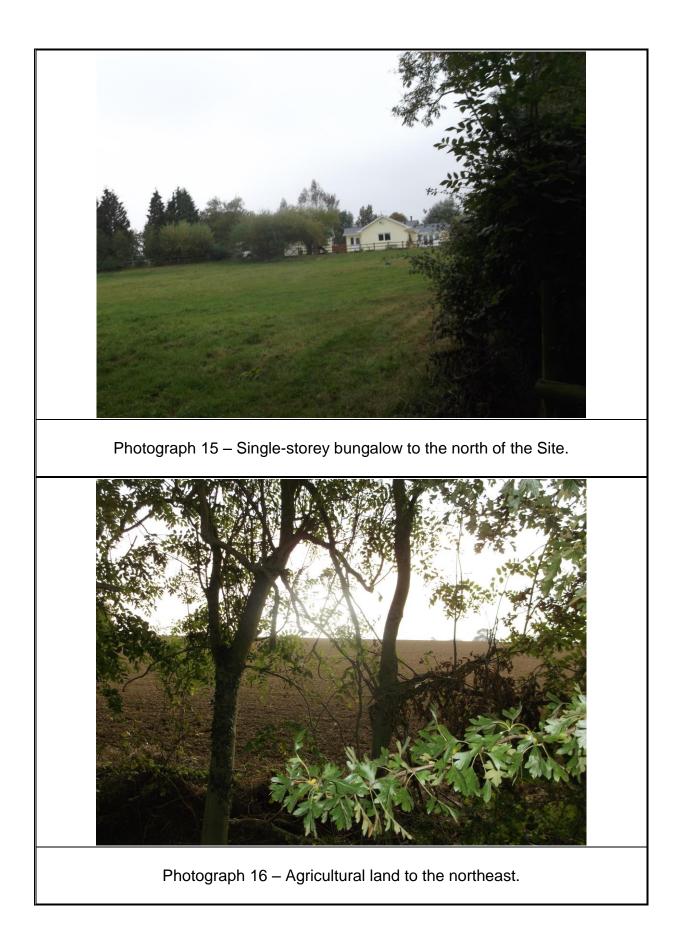




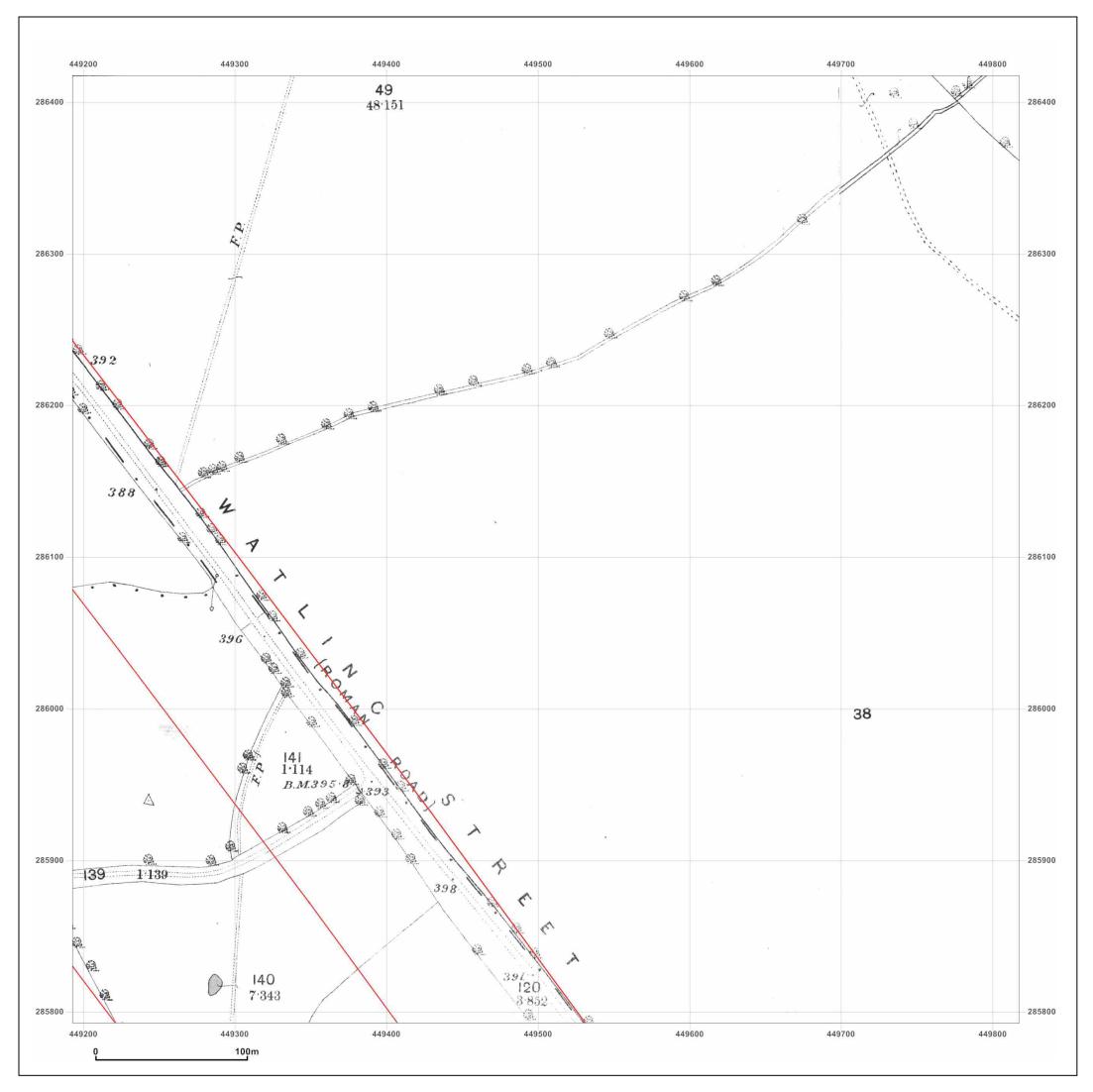


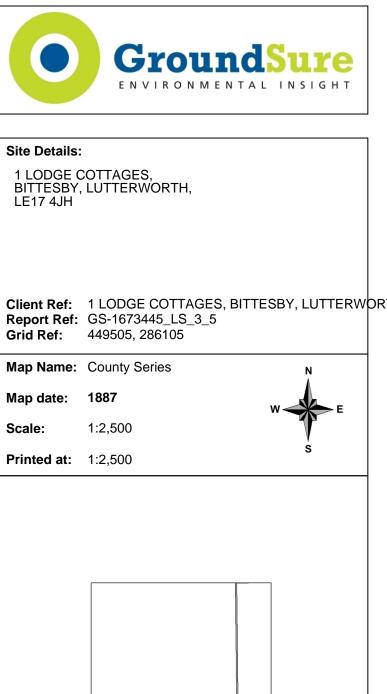








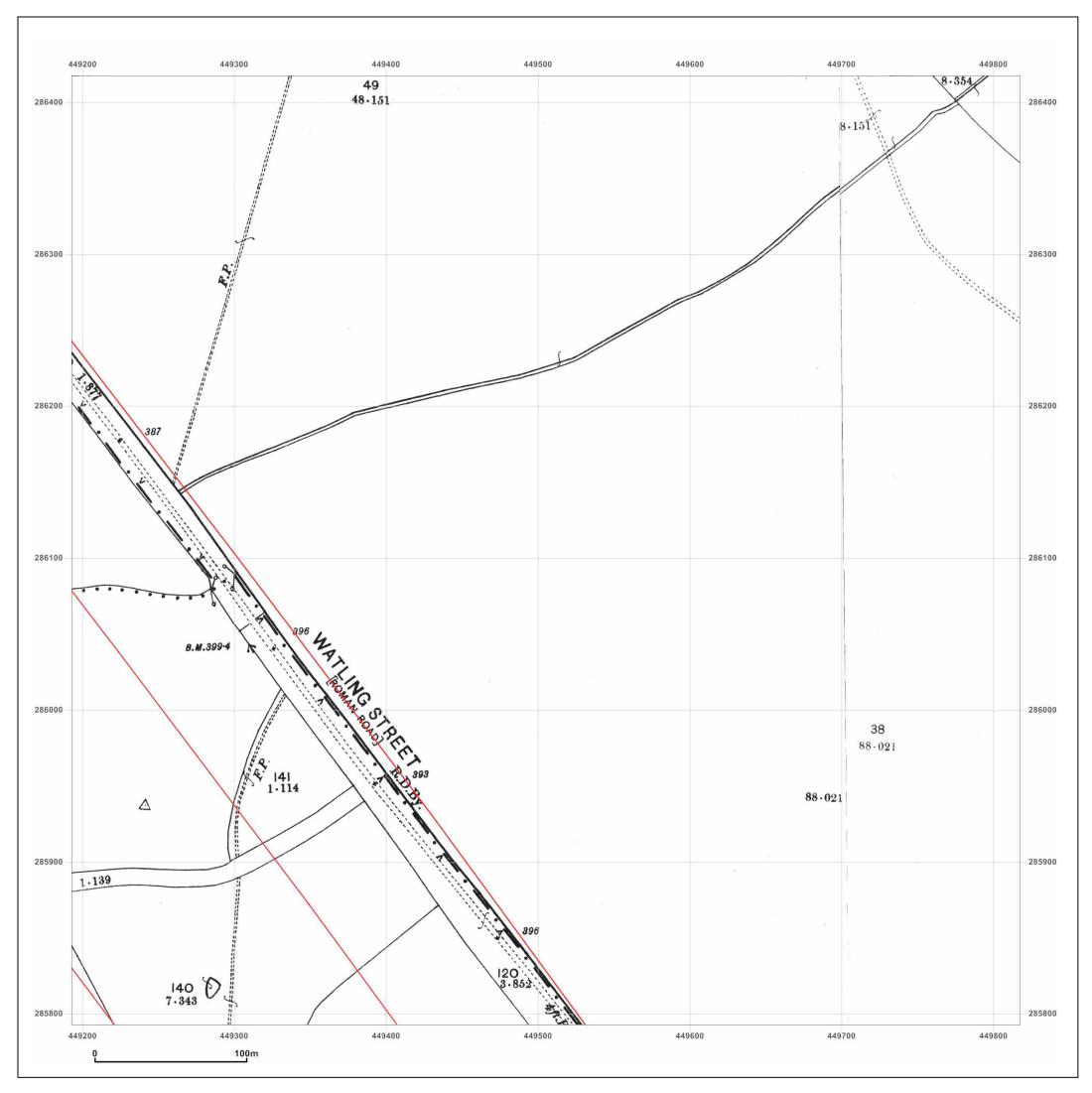




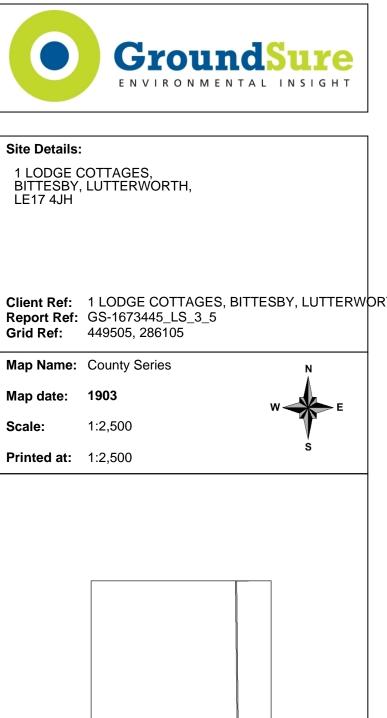
Surveyed 1887 Revised 1887 Surveyed 1887 Revised 1887 Edition N/A Edition N/A Copyright N/A Levelled N/A Copyright N/A Levelled N/A Produced by GroundSure Environmental Insight **Ordnance** Survey<sup>®</sup> T: 08444 159000 Licensed Partner E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



To view map legend click here <u>Legend</u>



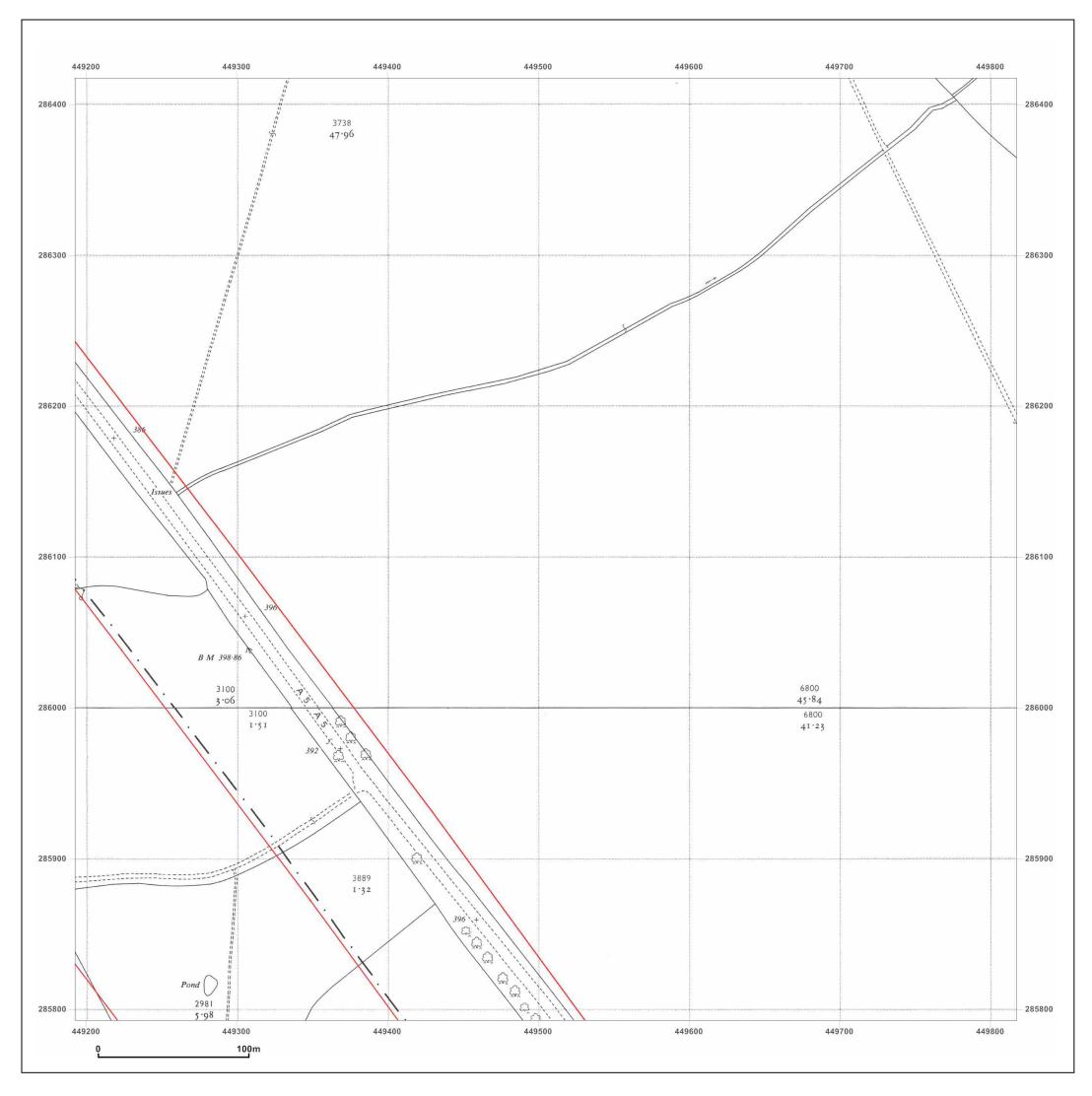
Surveyed 1903 Revised 1903 Edition N/A Copyright N/A Levelled N/A Surveyed 1903 Revised 1903 Edition N/A Copyright N/A Levelled N/A



Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

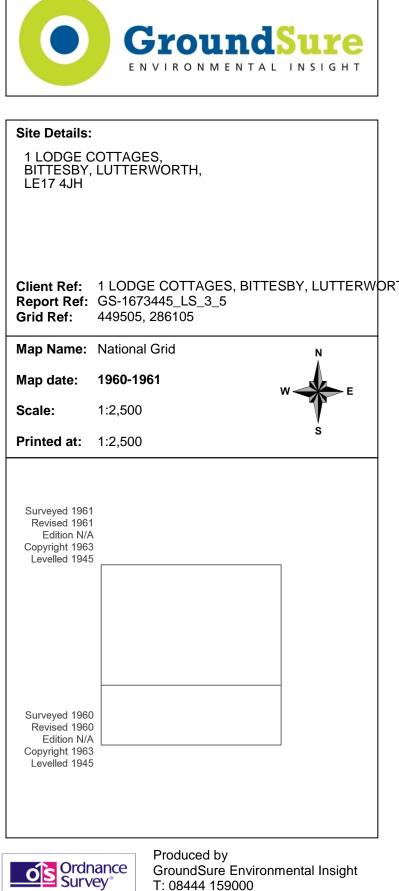
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

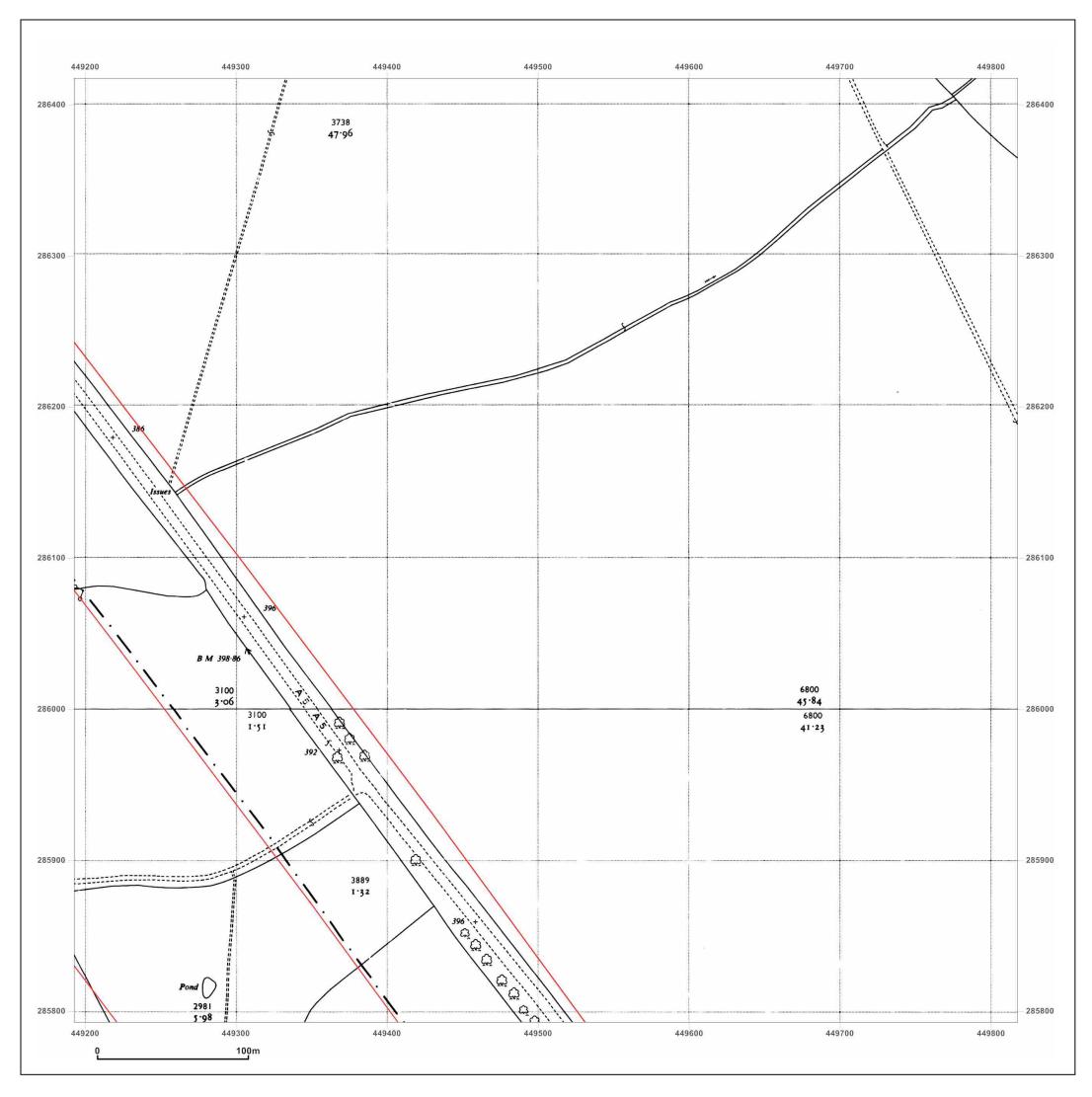
To view map legend click here <u>Legend</u>

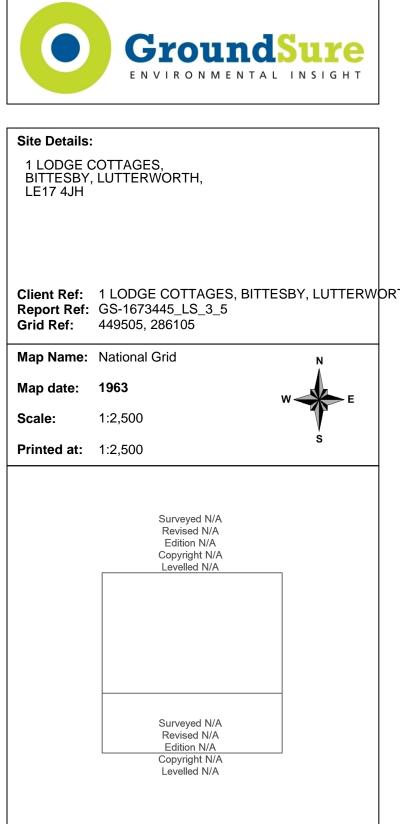


© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com W: www.groundsure.com

Production date: 22 September 2014



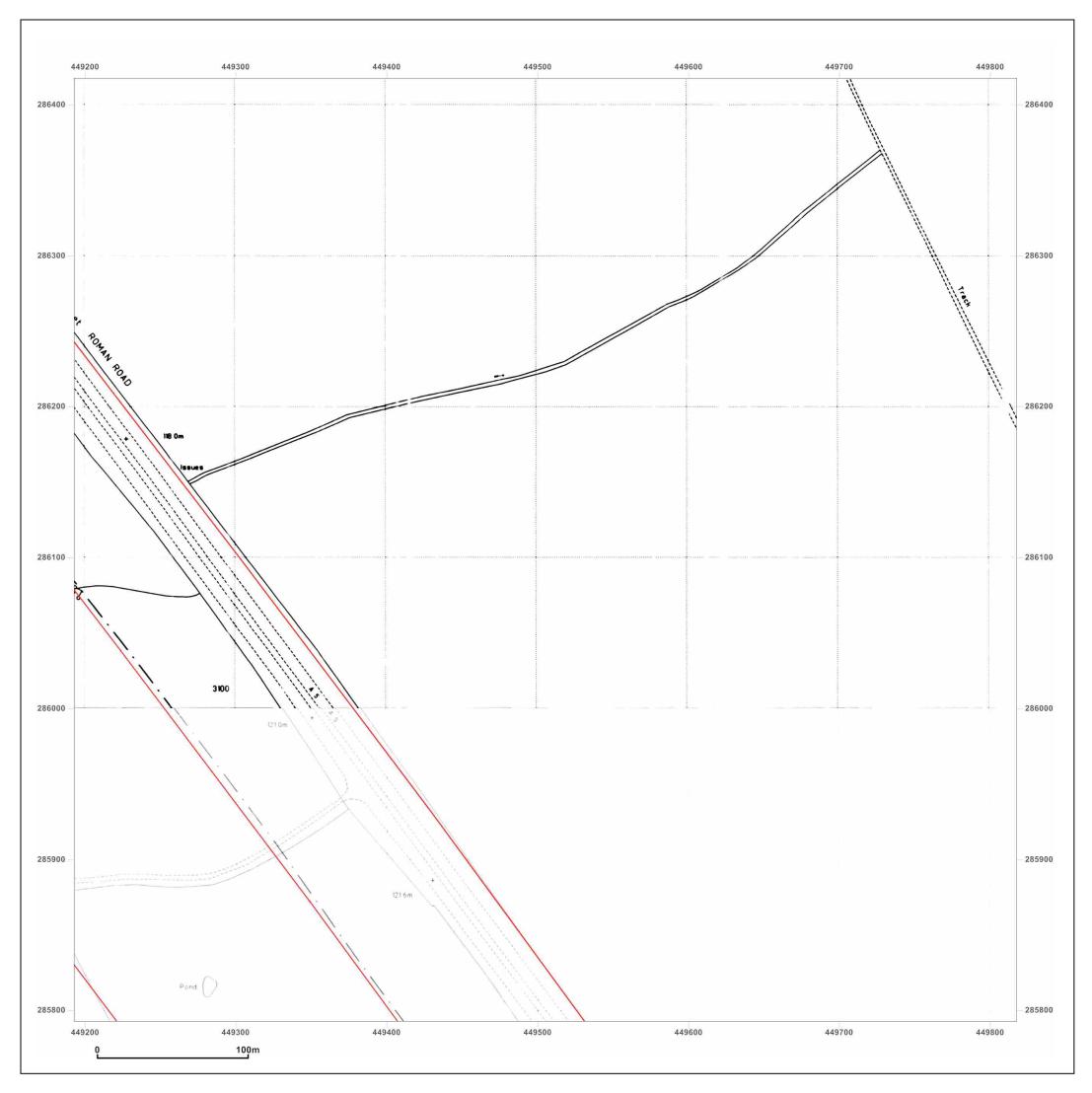


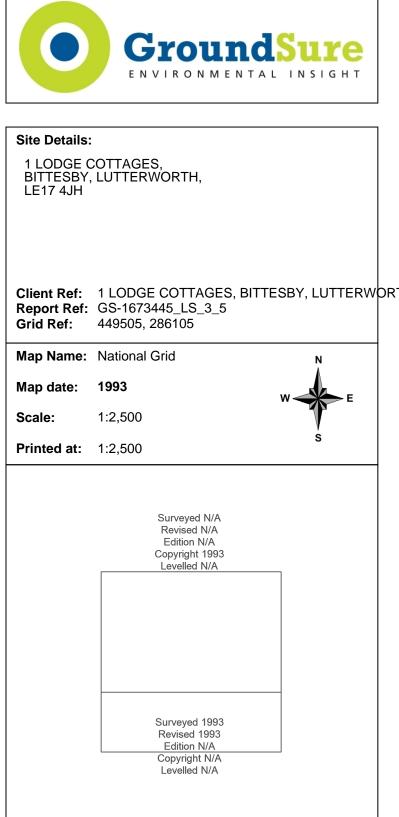


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



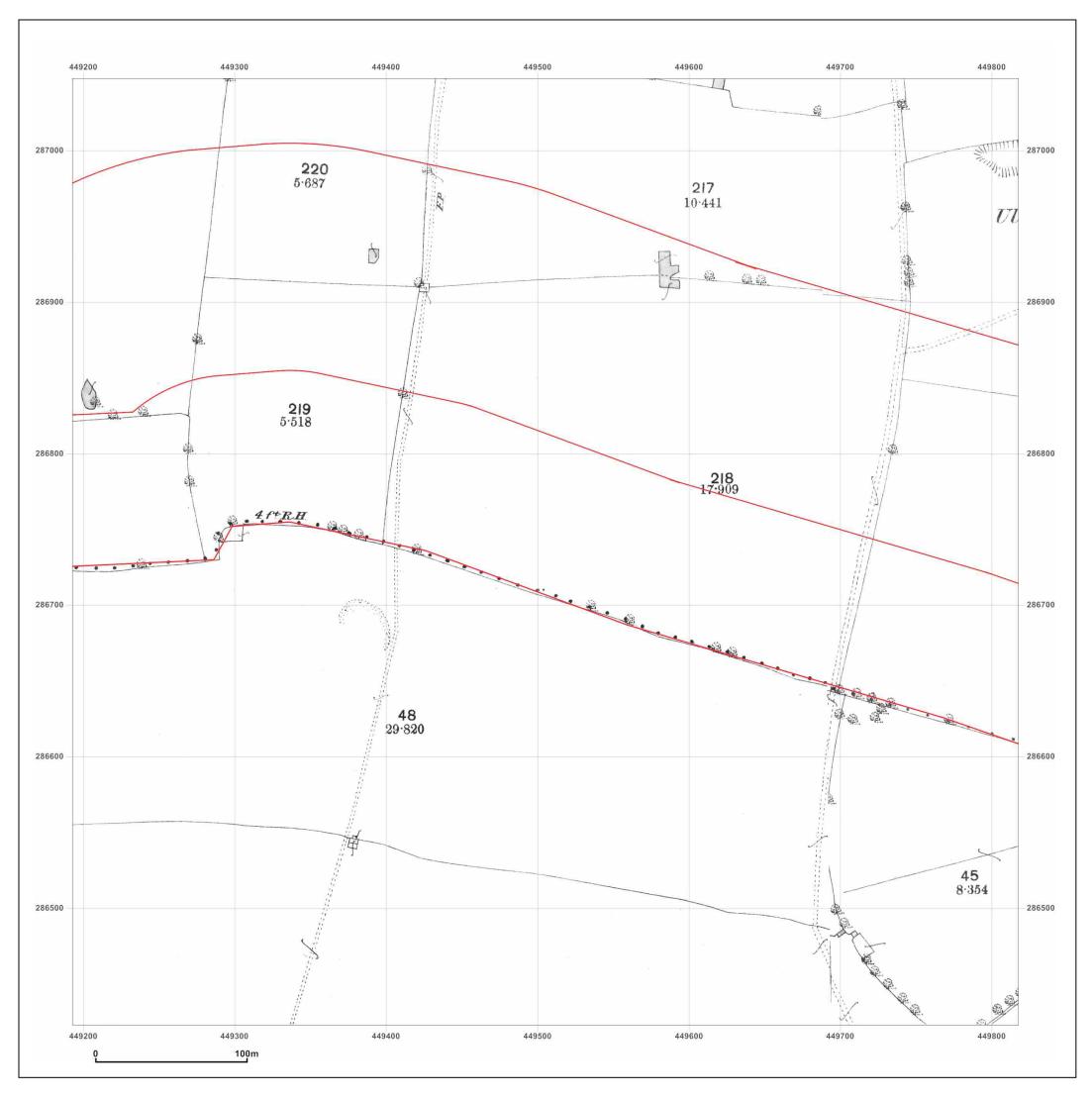




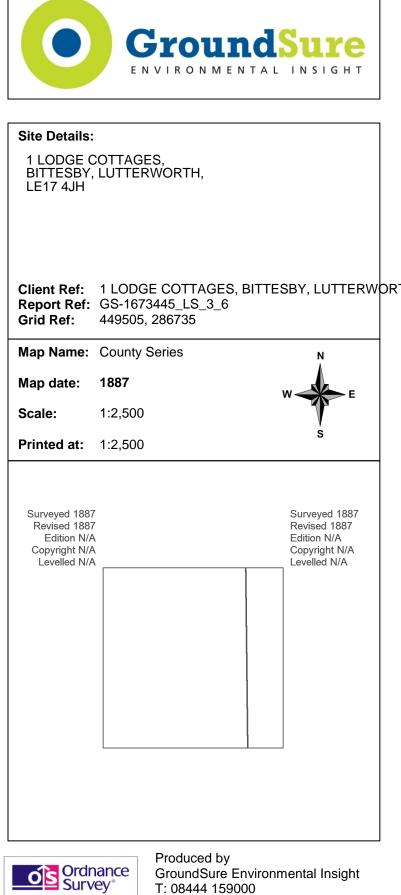
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

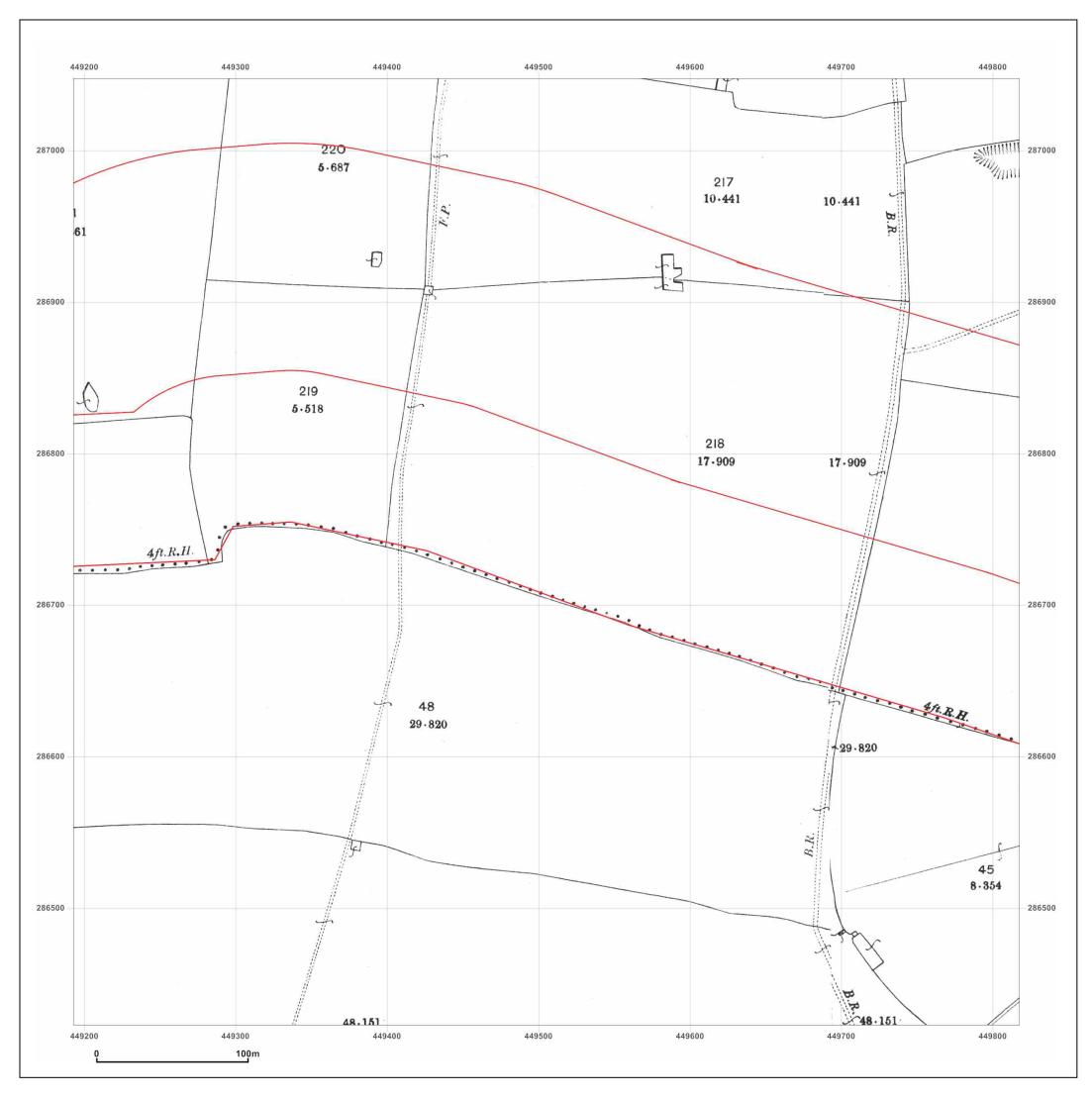


T: 08444 159000 E: info@groundsure.com

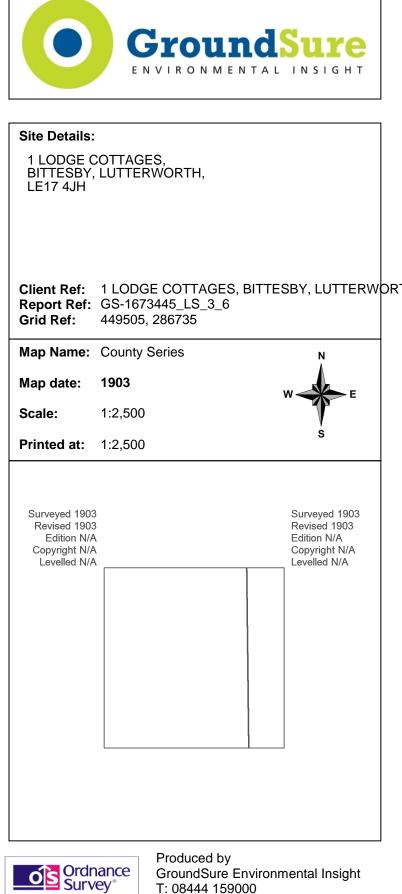
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

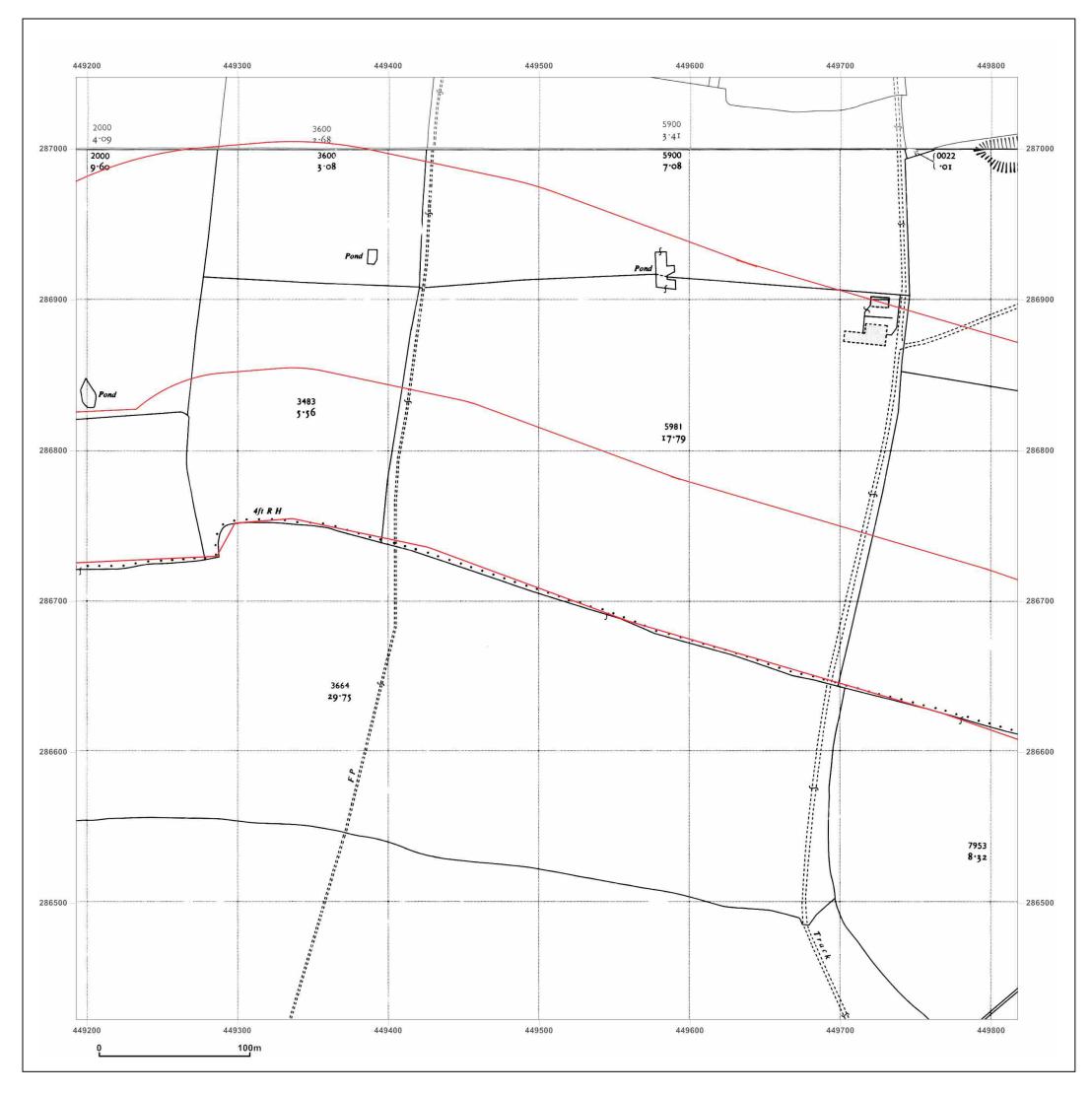


T: 08444 159000 E: info@groundsure.com

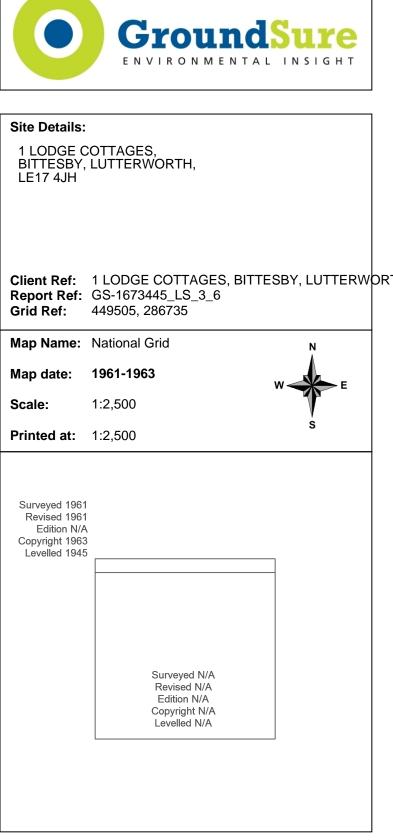
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



To view map legend click here Legend

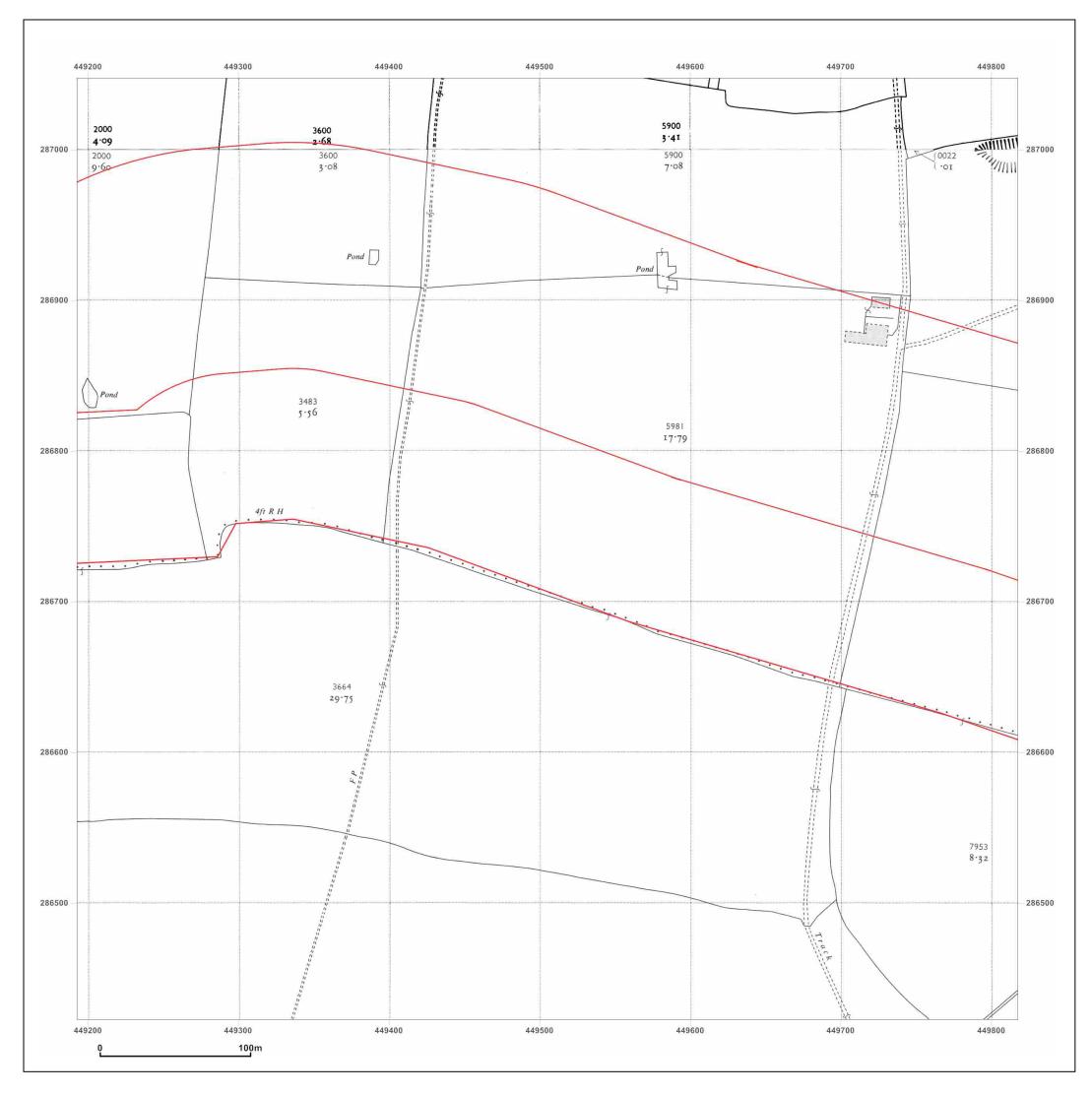


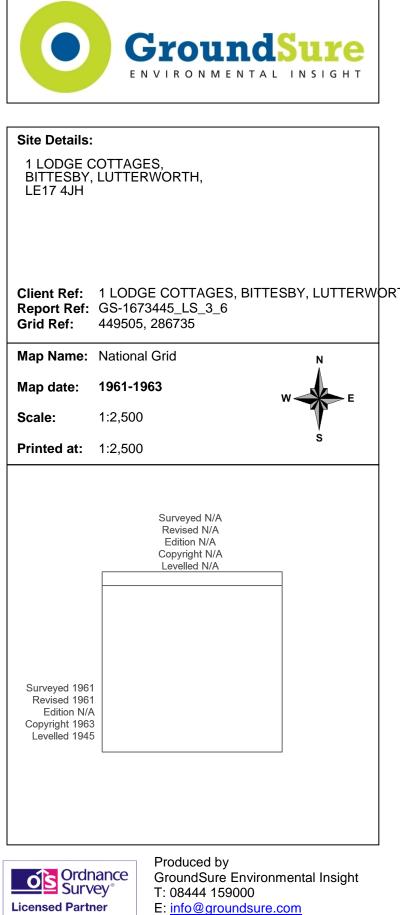


Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

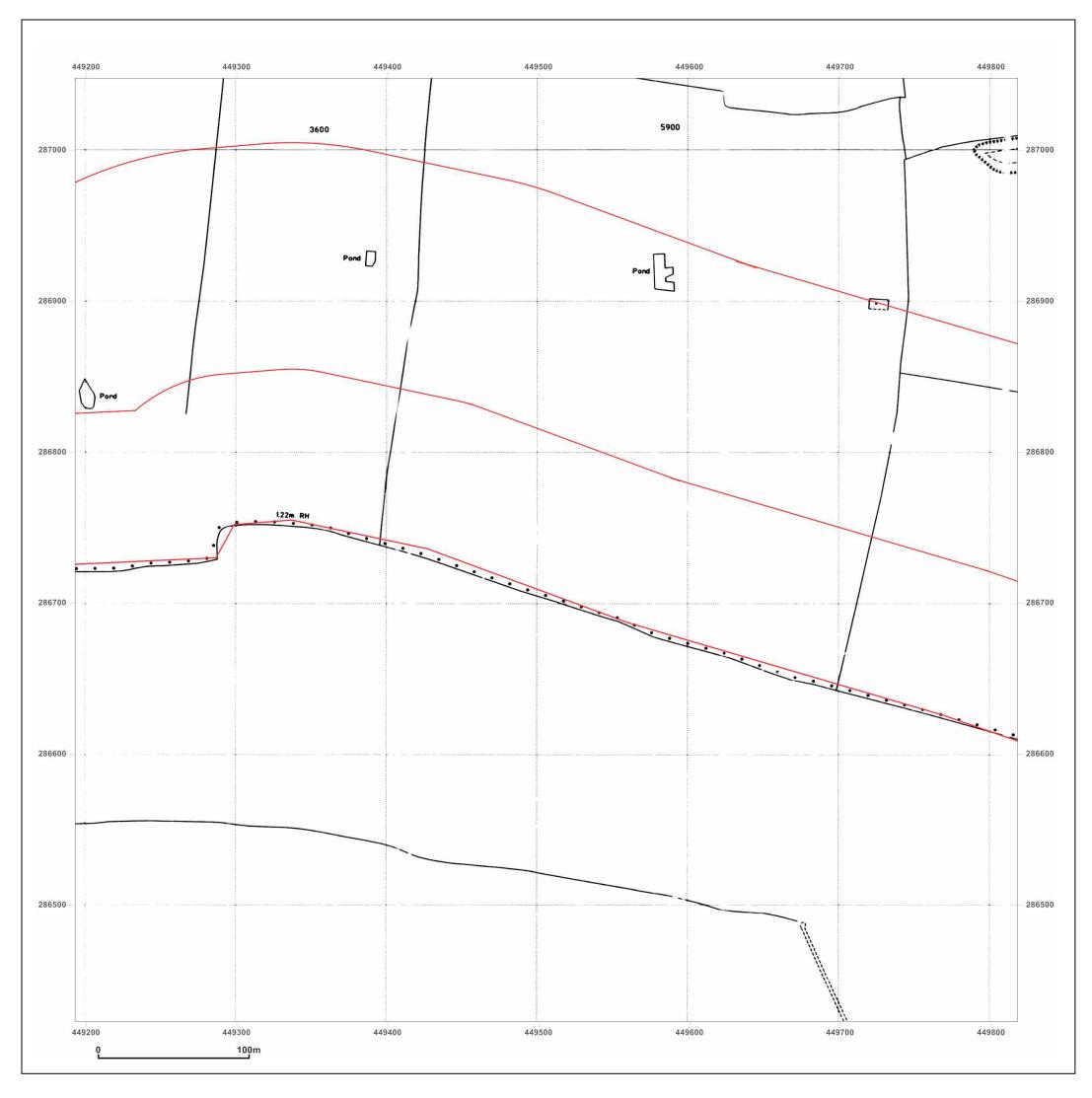


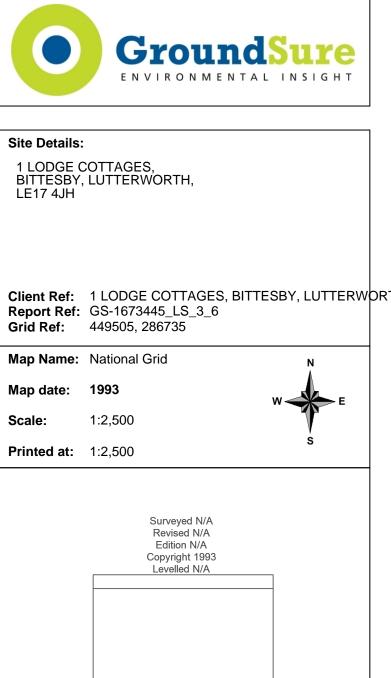


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014





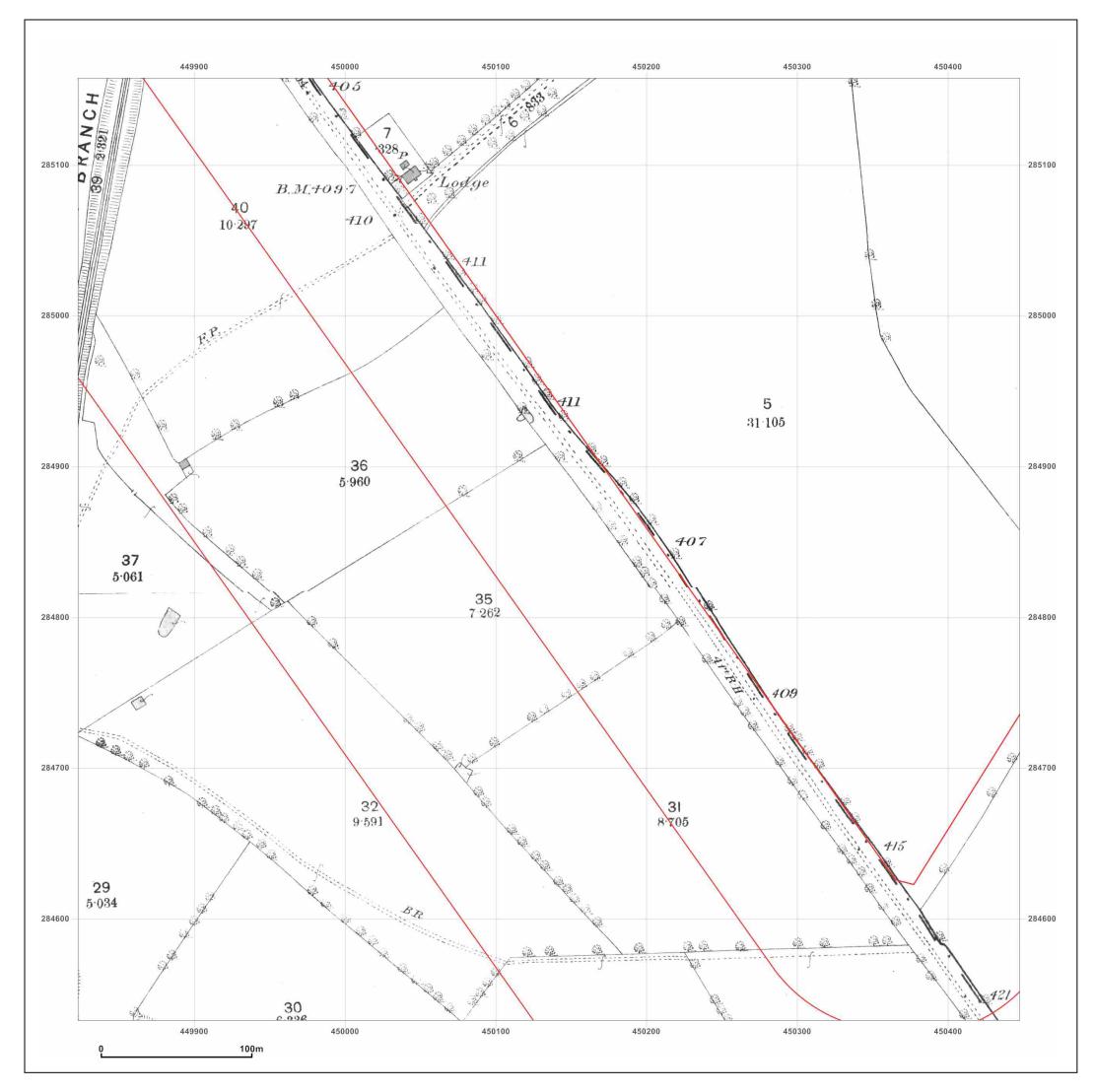
Surveyed N/A Revised N/A Edition N/A Copyright 1993 Levelled N/A



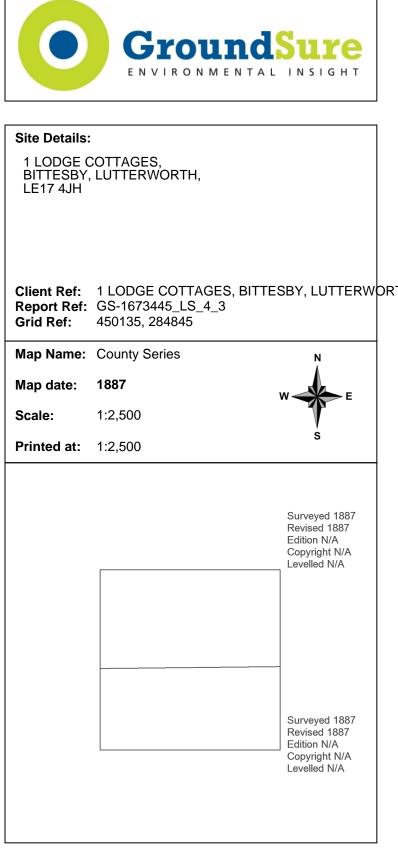
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



To view map legend click here Legend

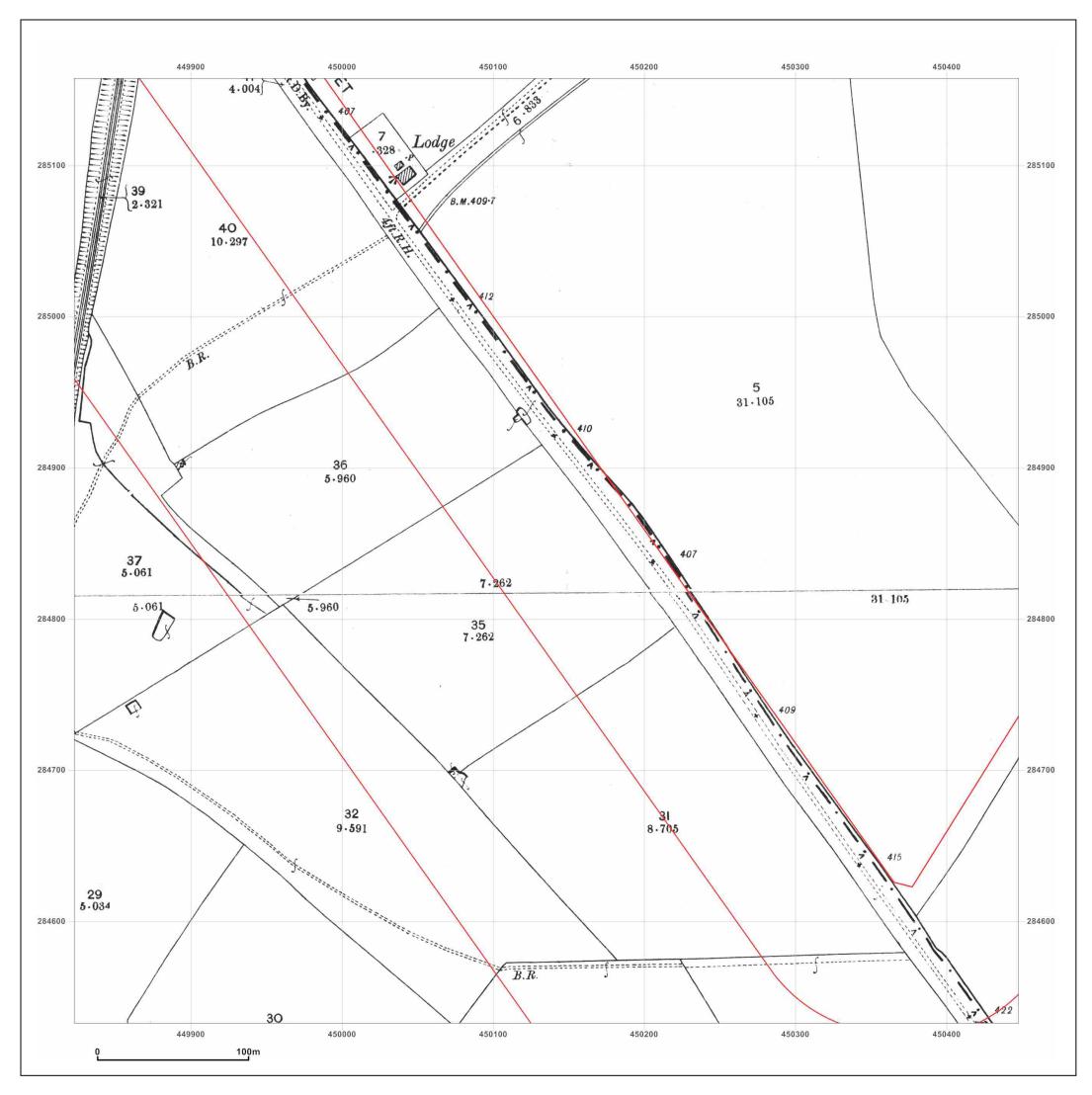


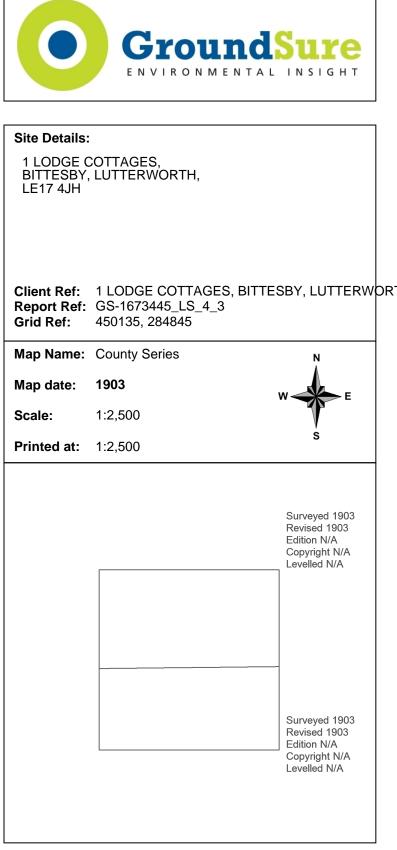


Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



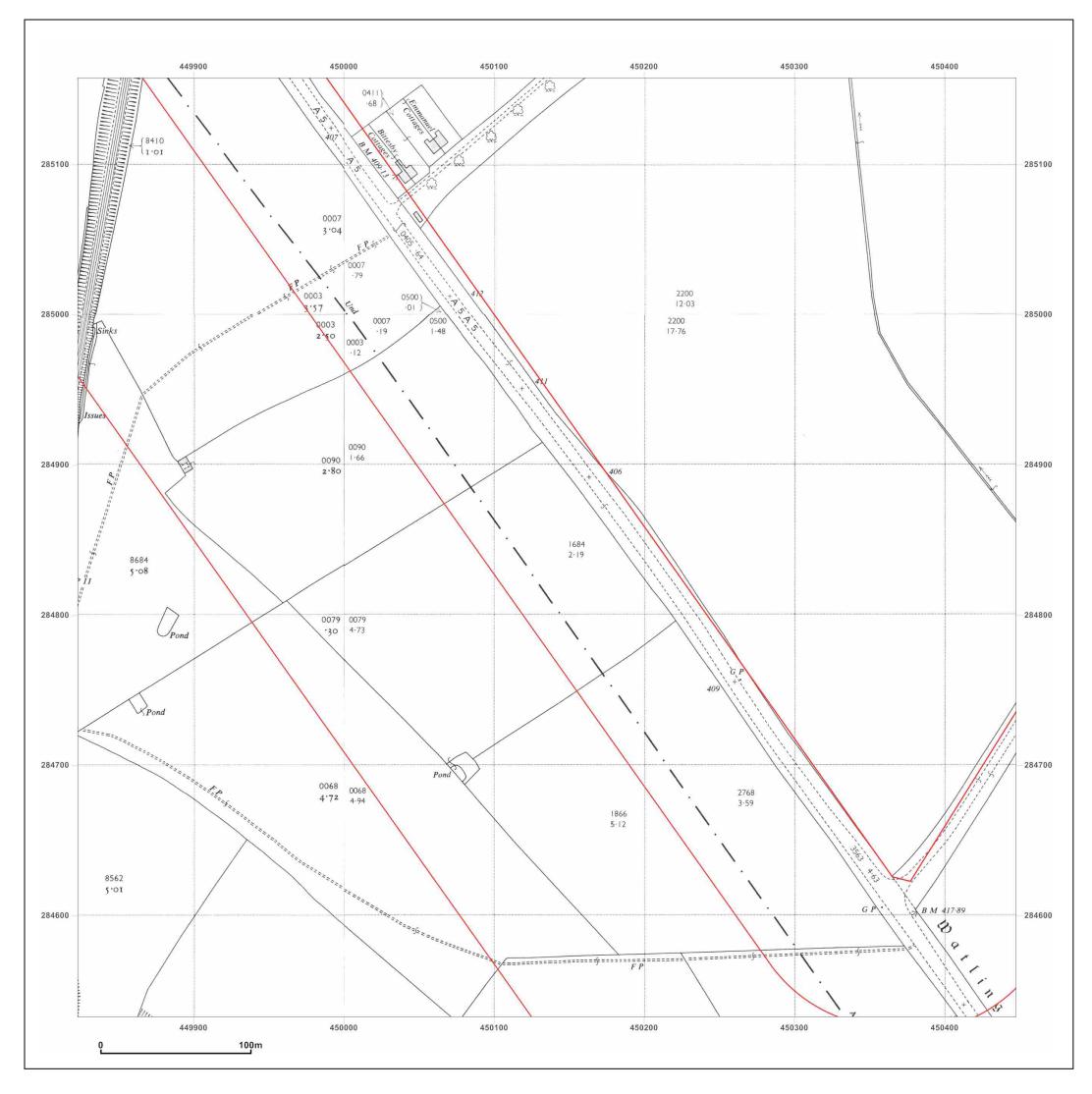


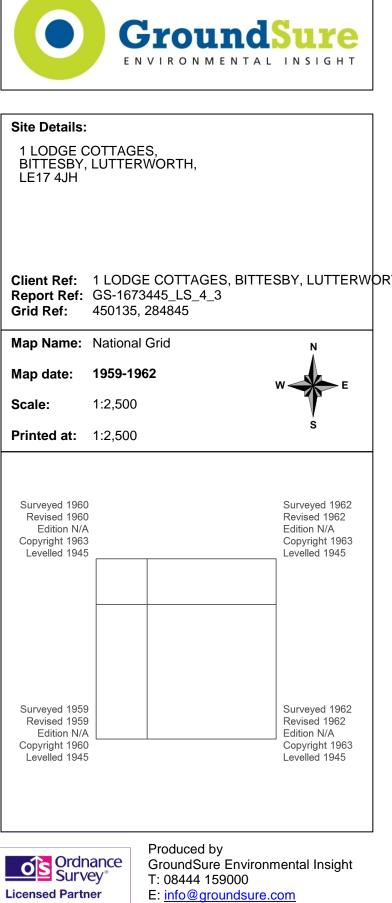


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

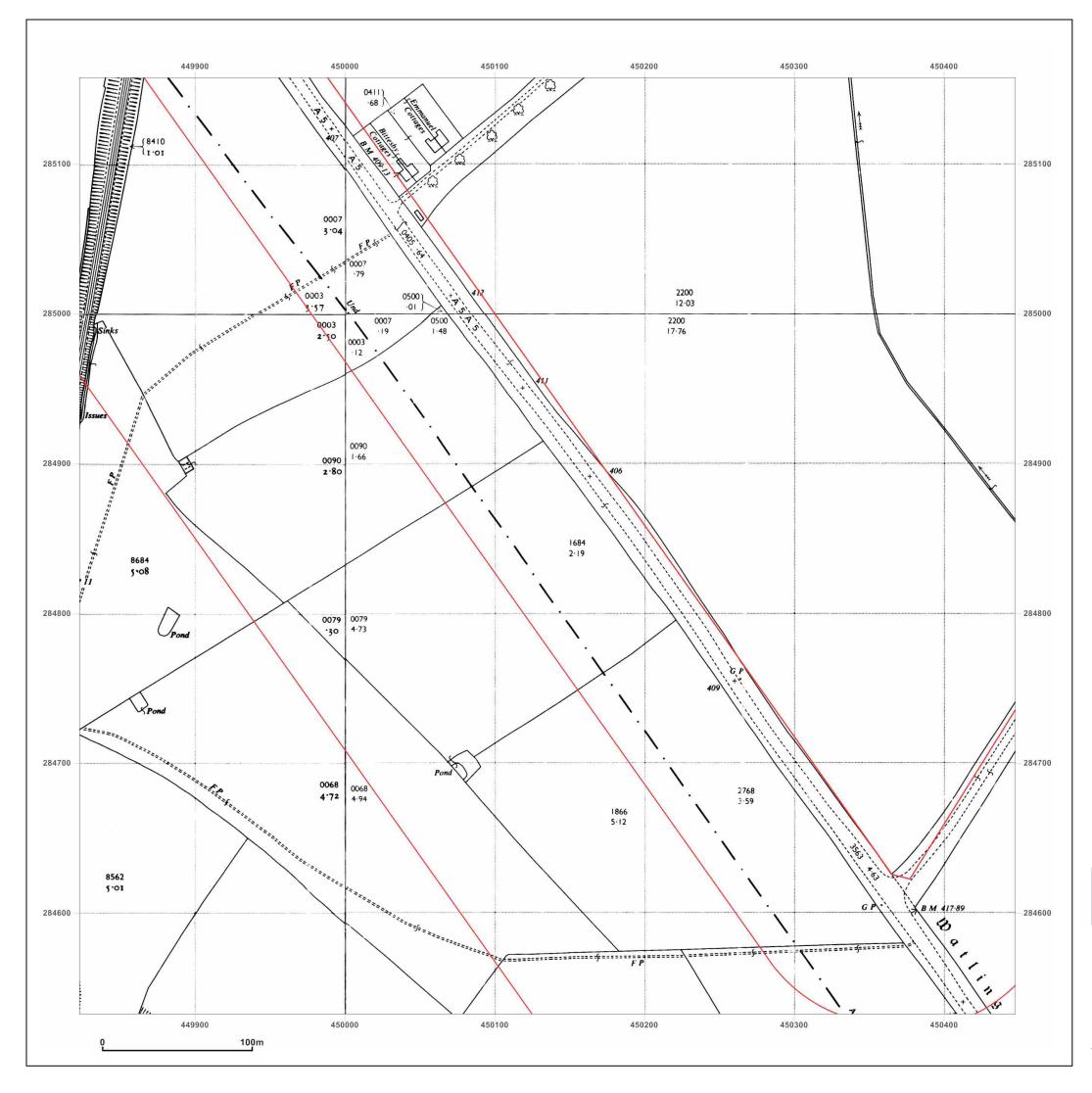


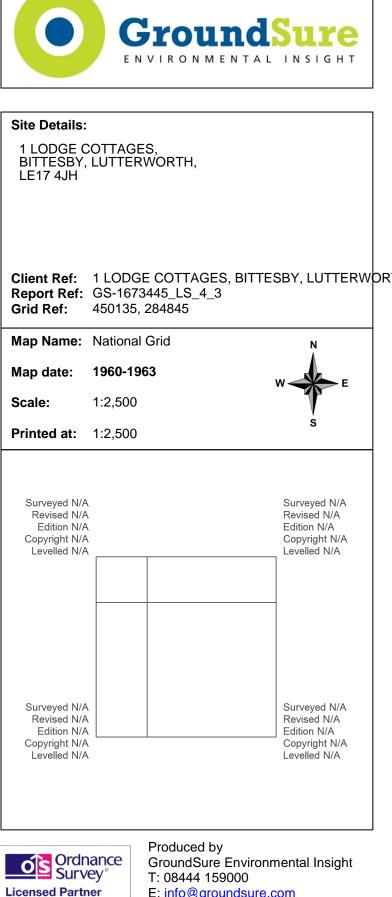


W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

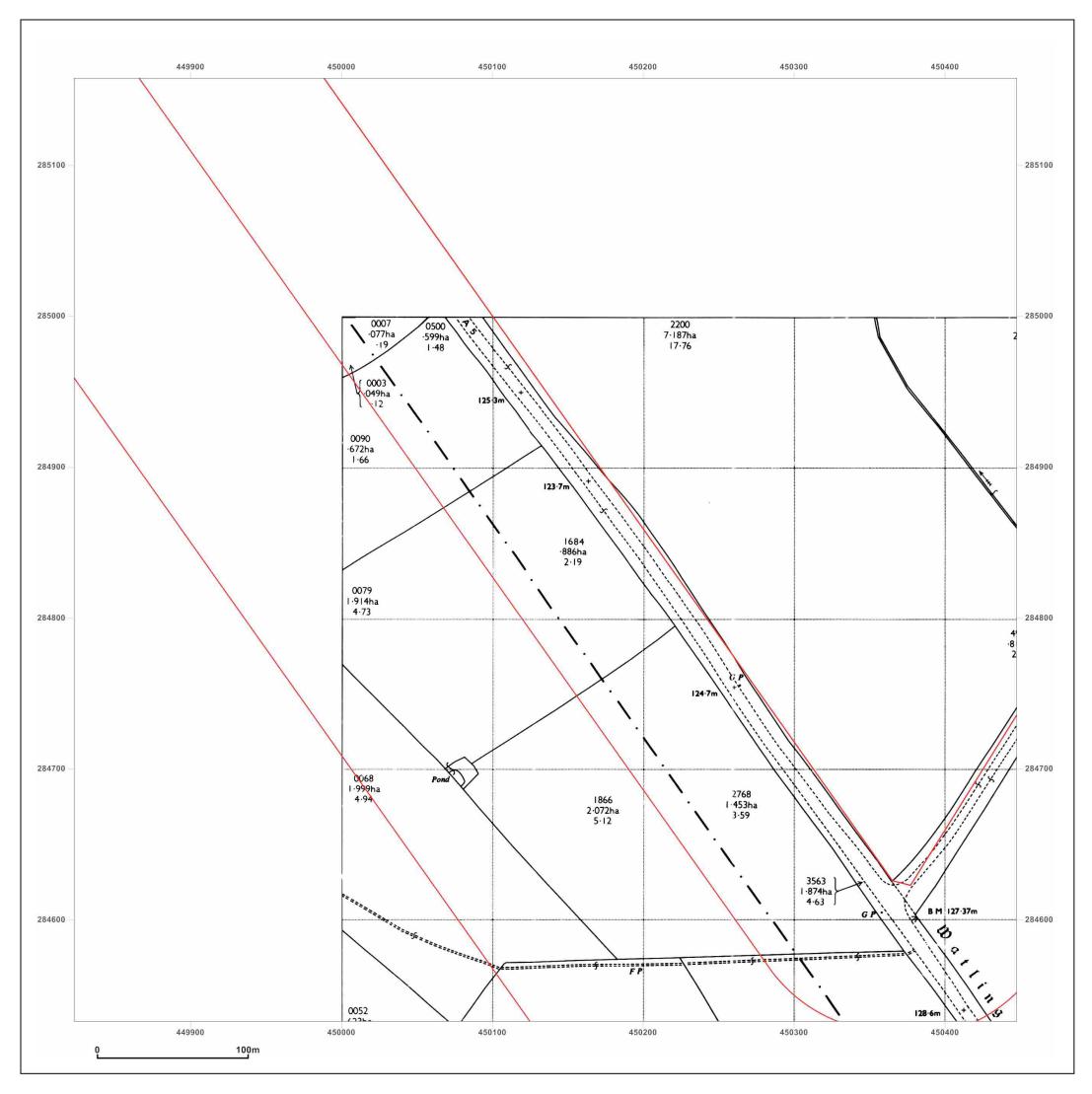


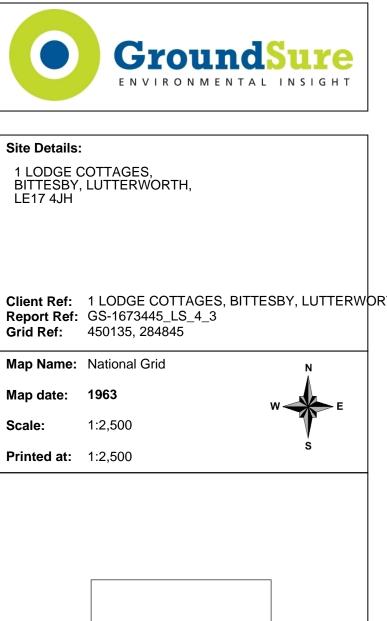


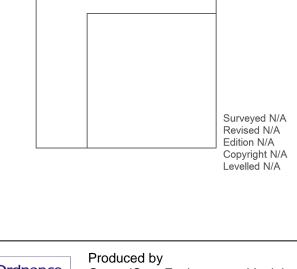
E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





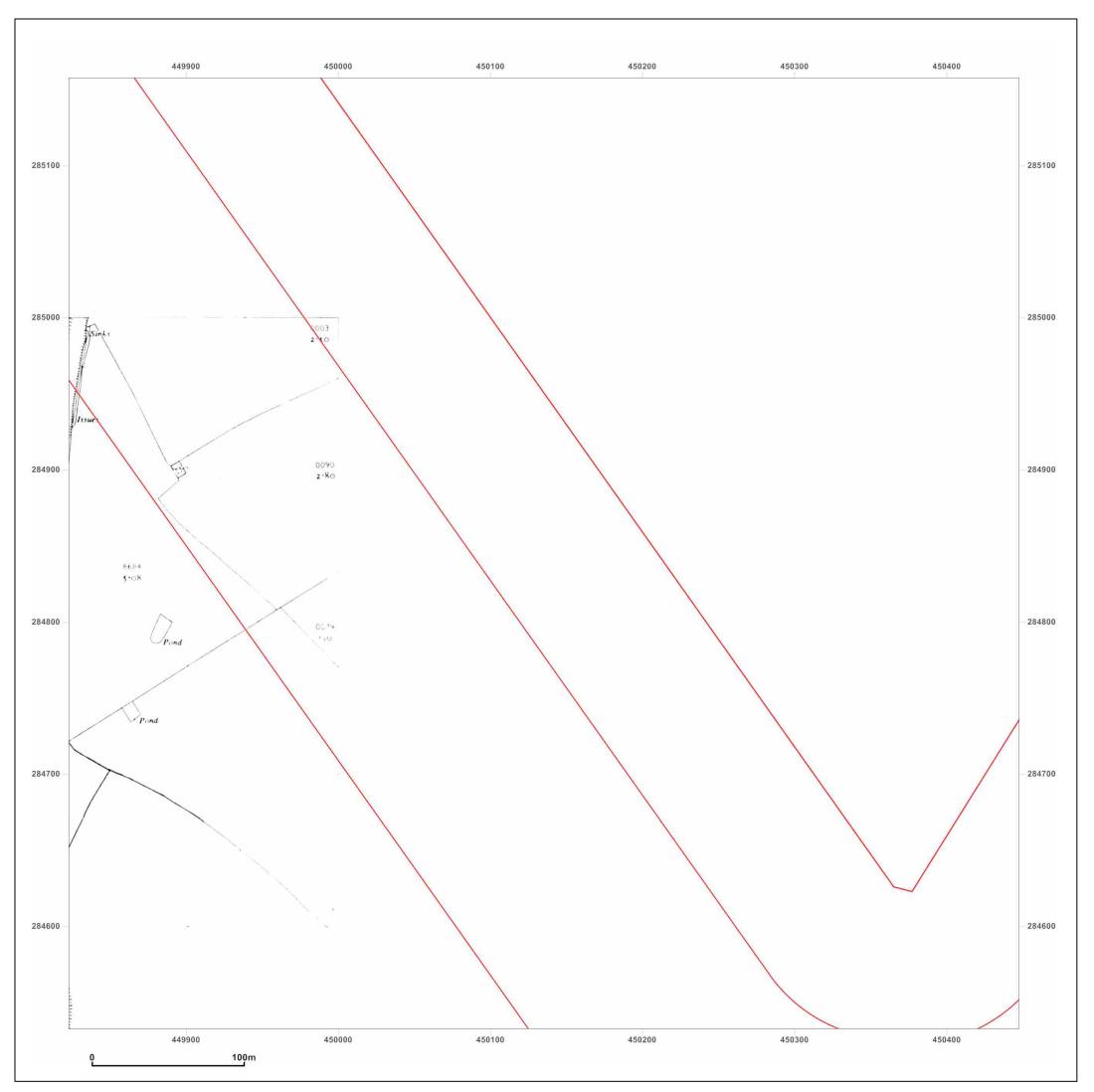


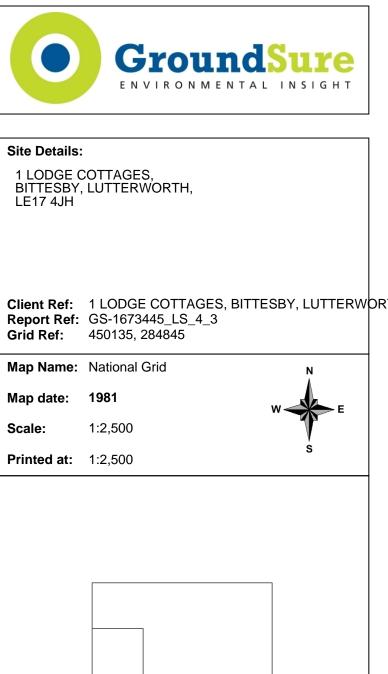


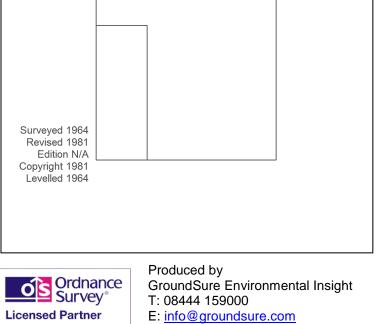
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



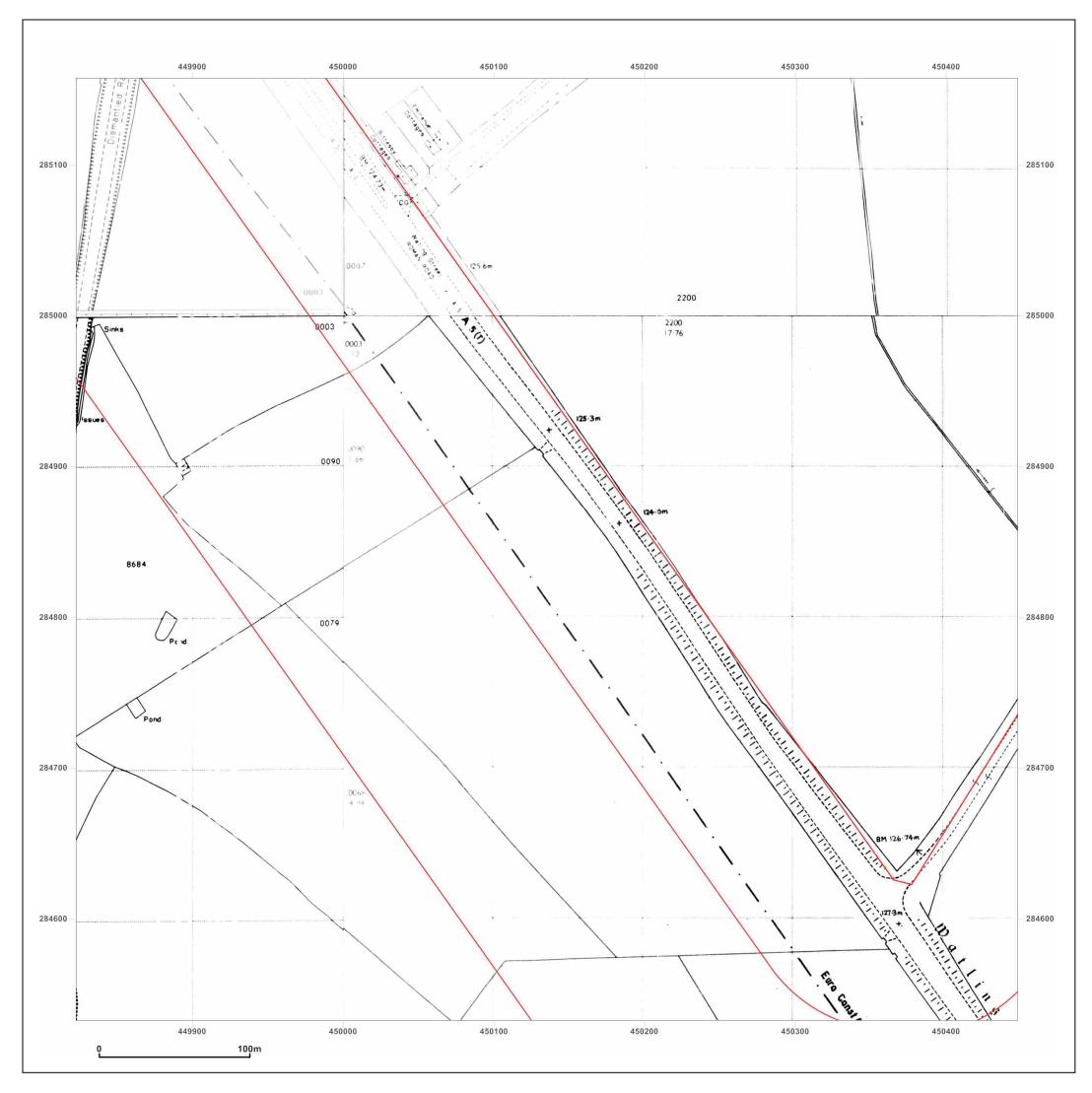


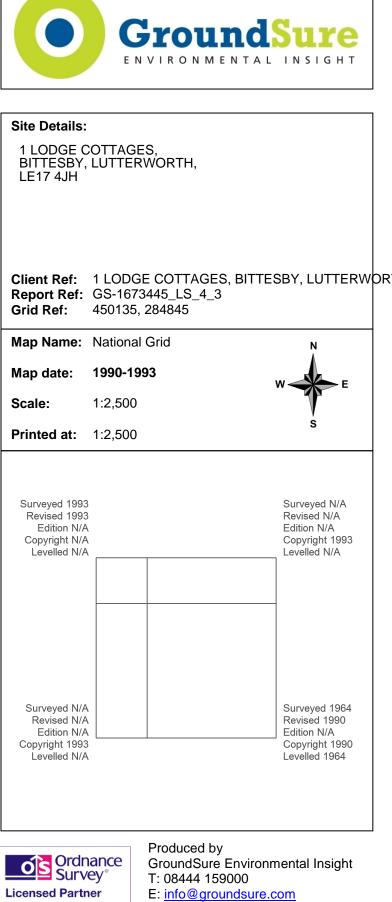


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014

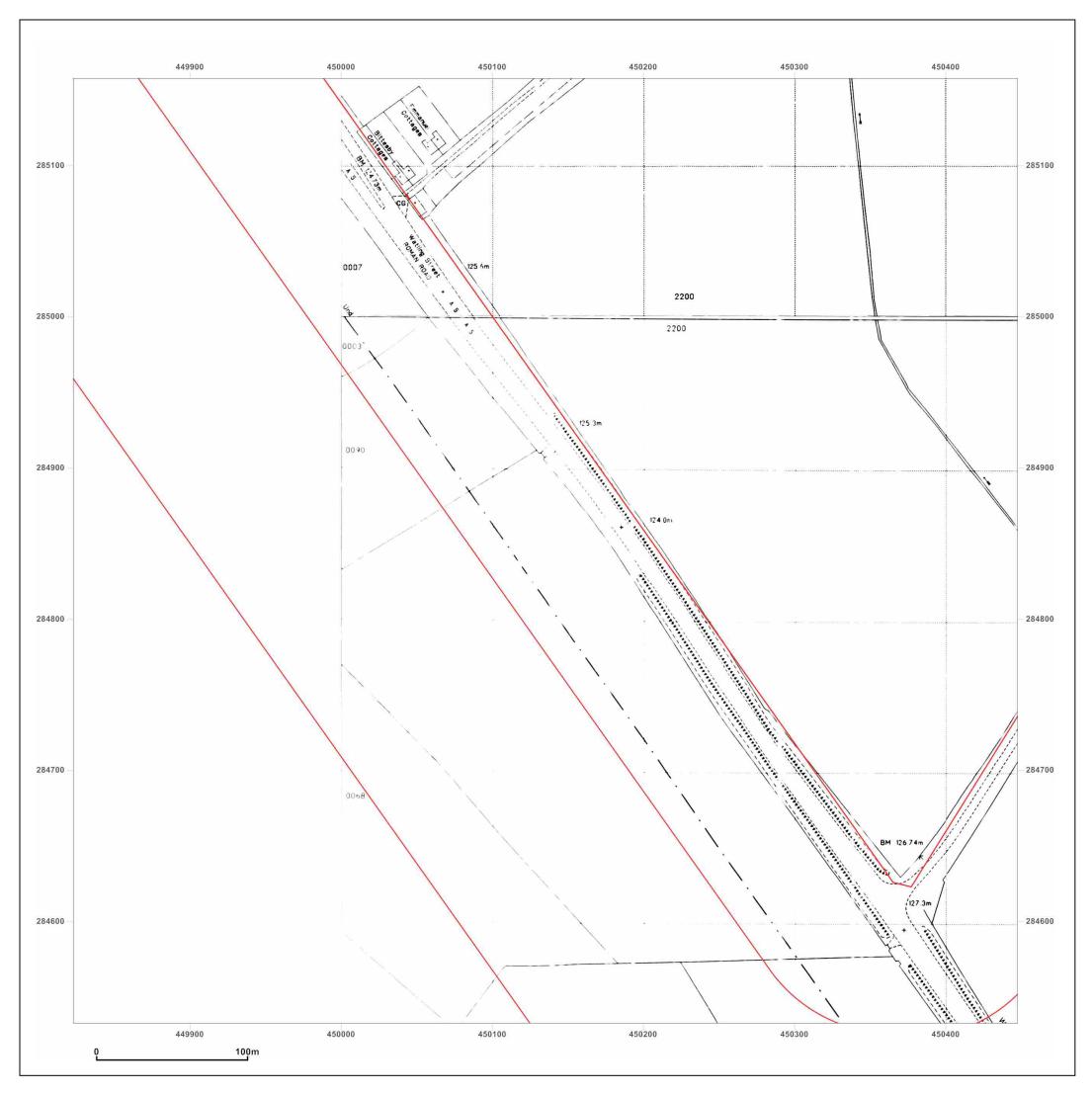


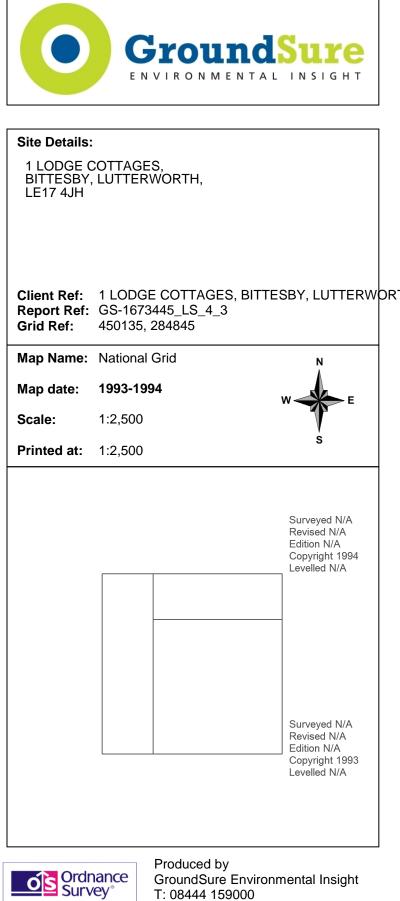


W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

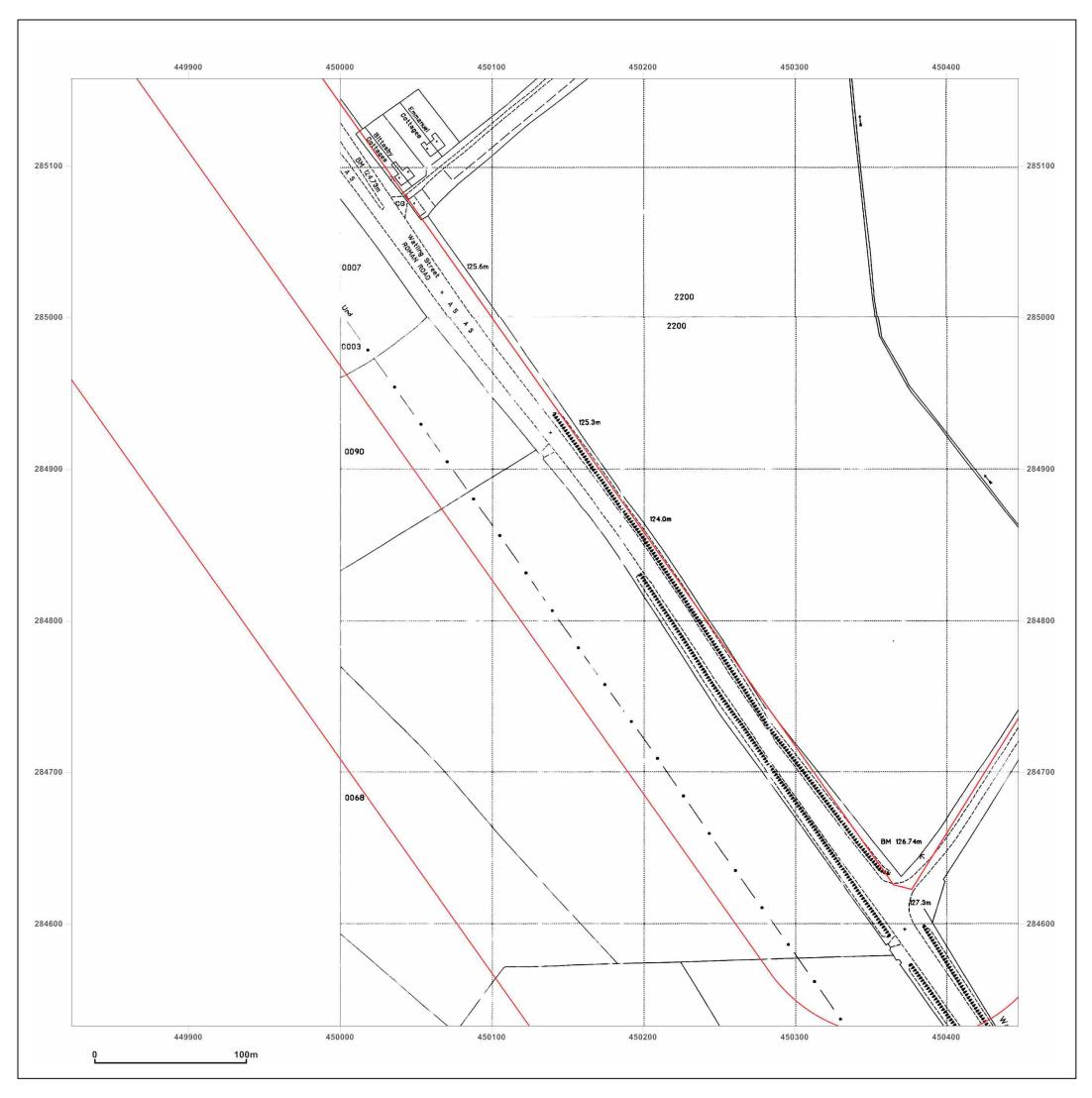


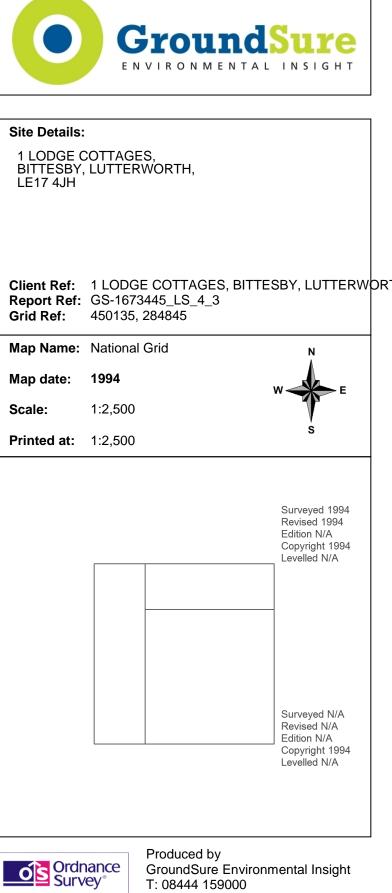


T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



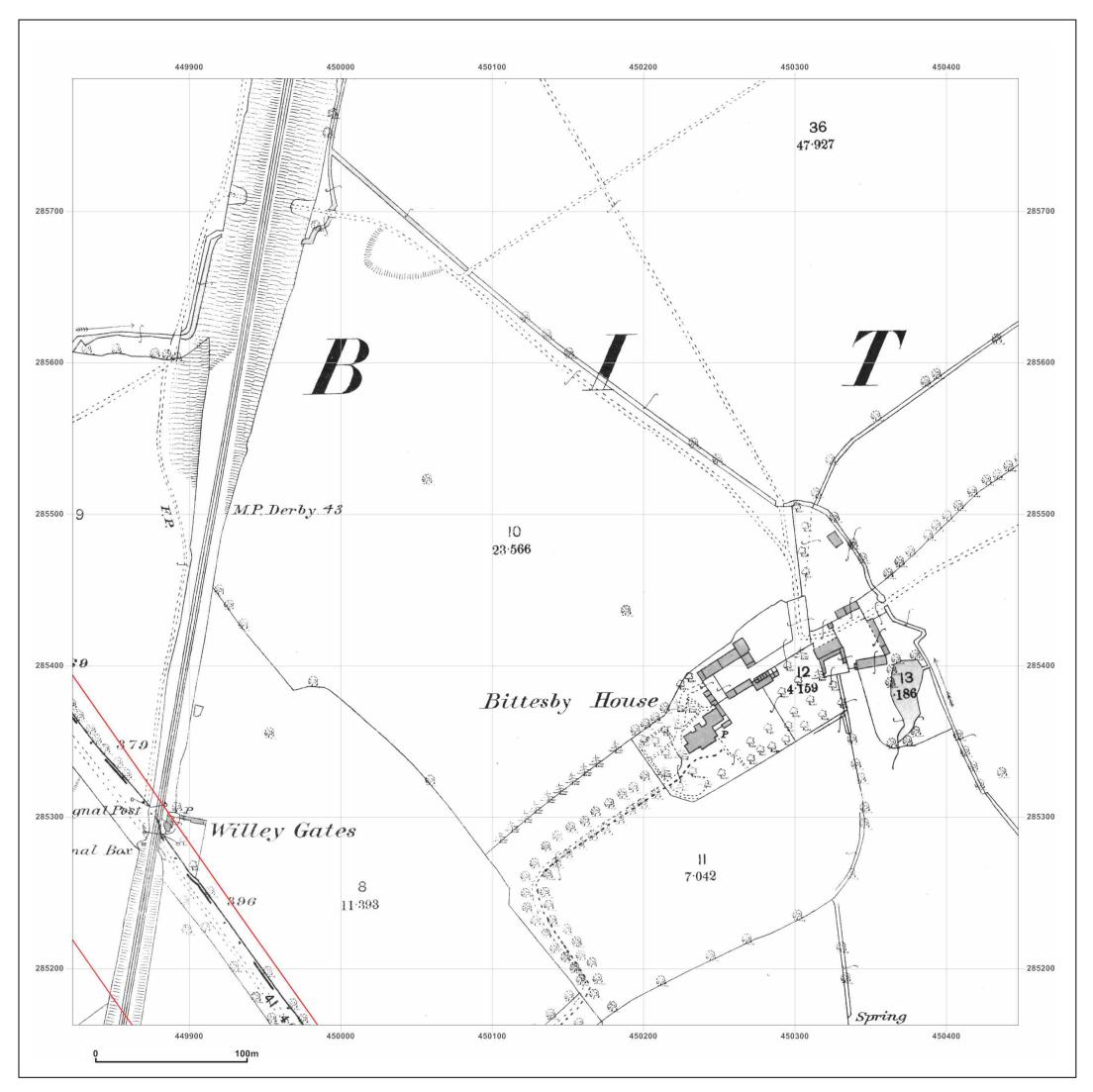


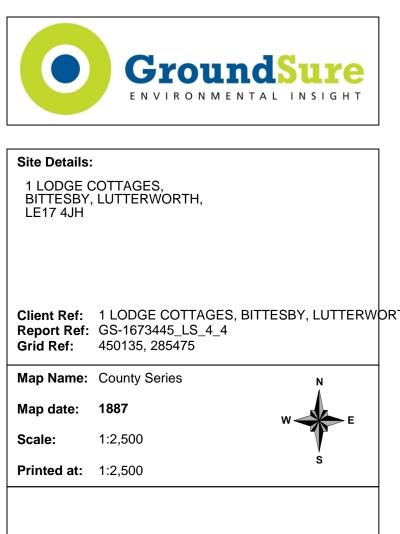
E: info@groundsure.com

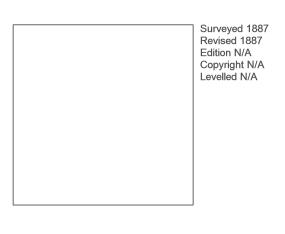
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



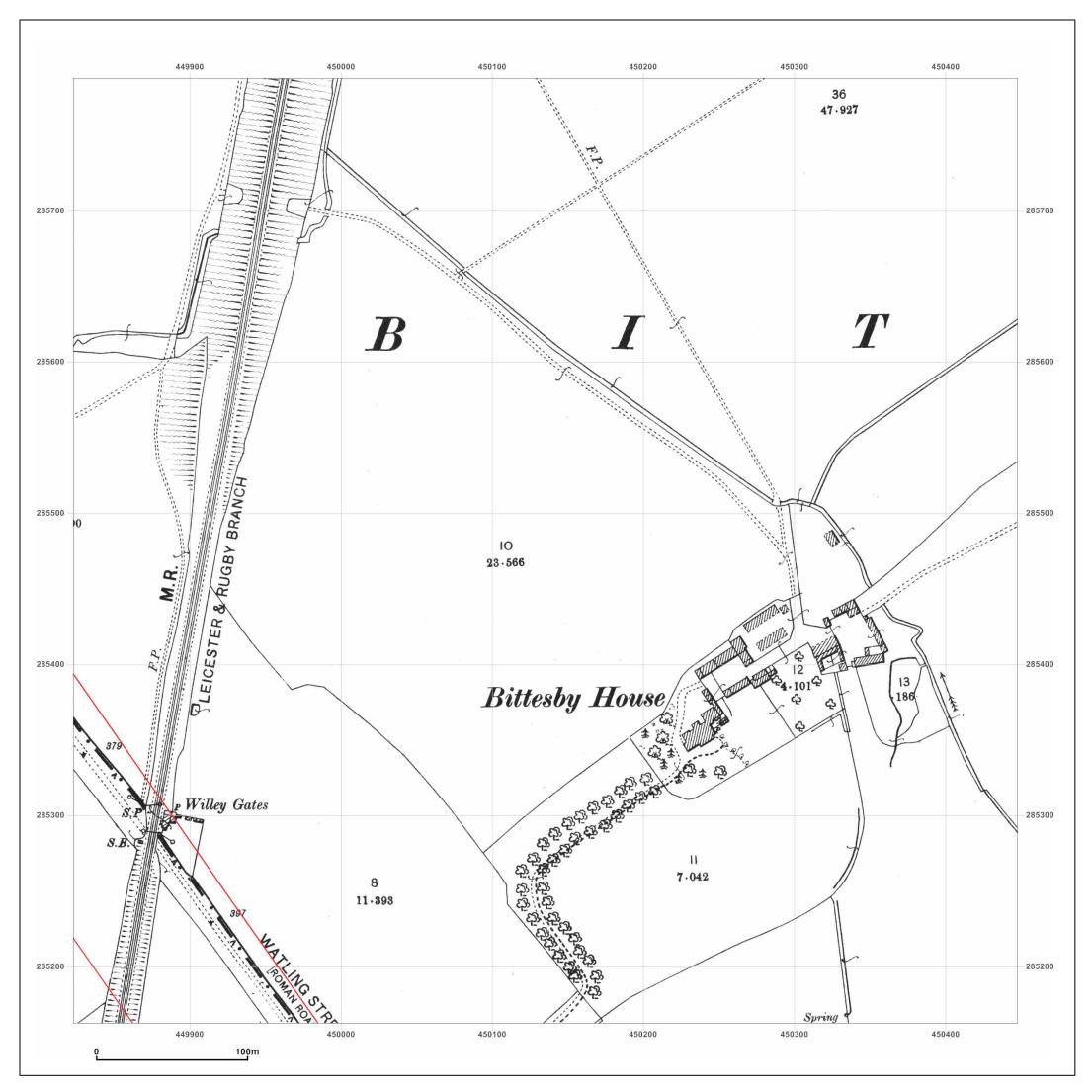


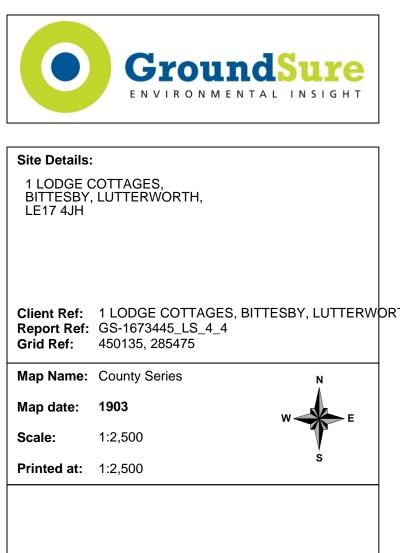


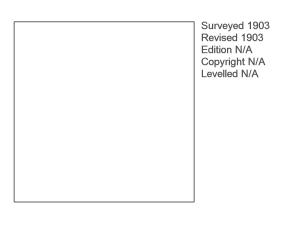


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



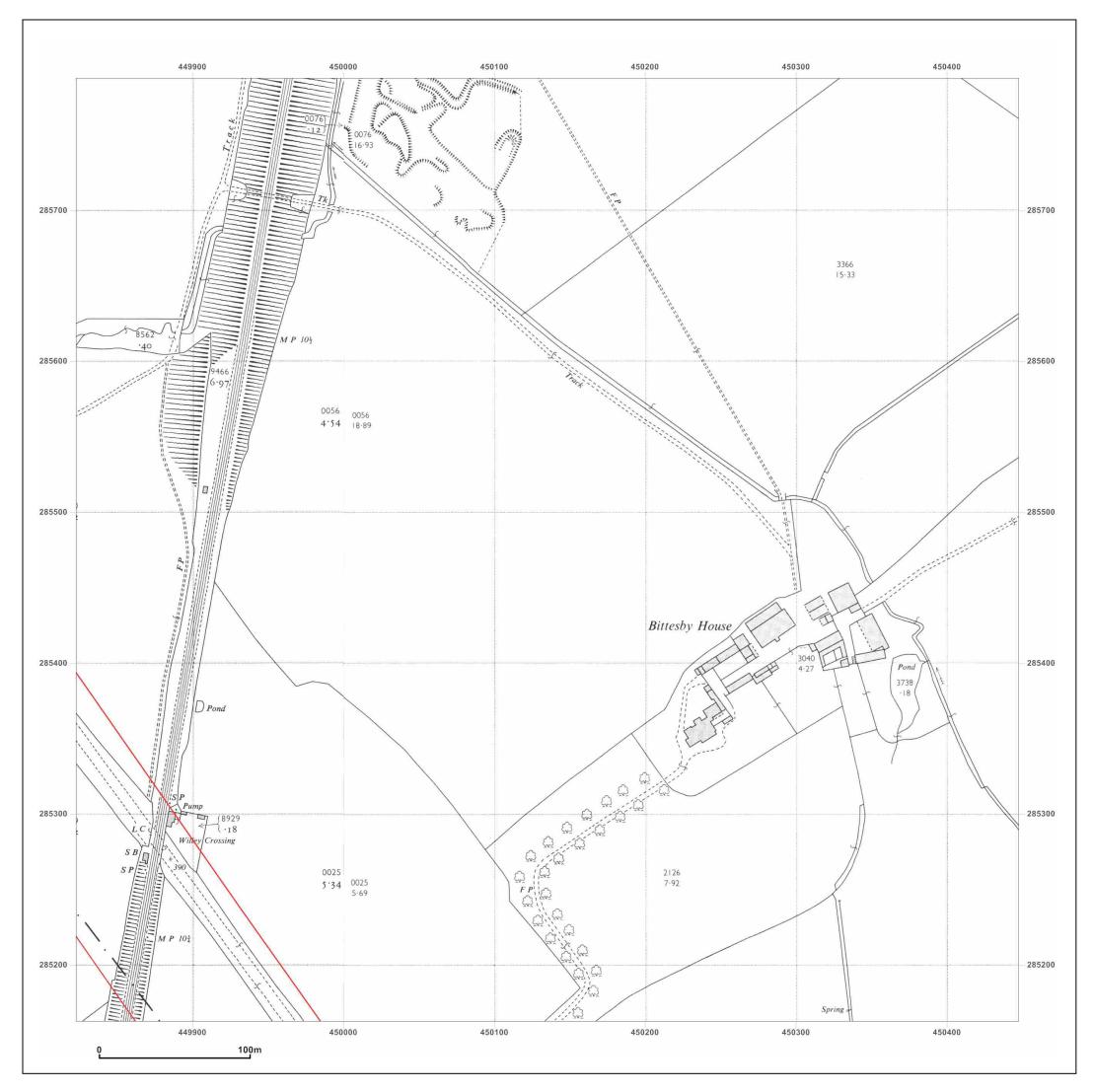


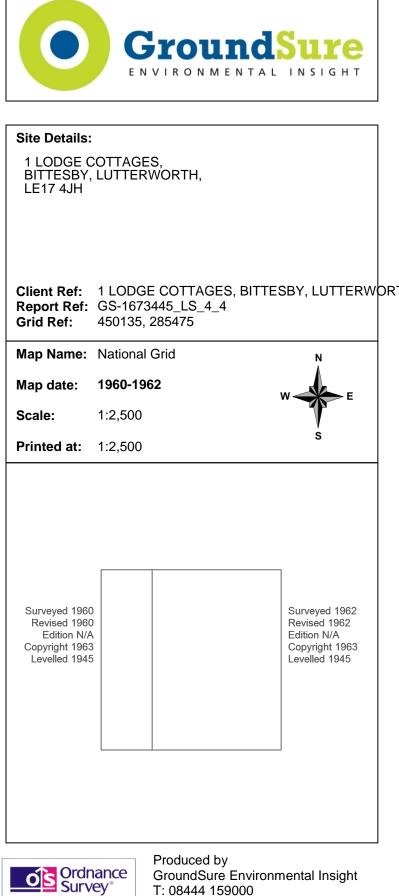




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



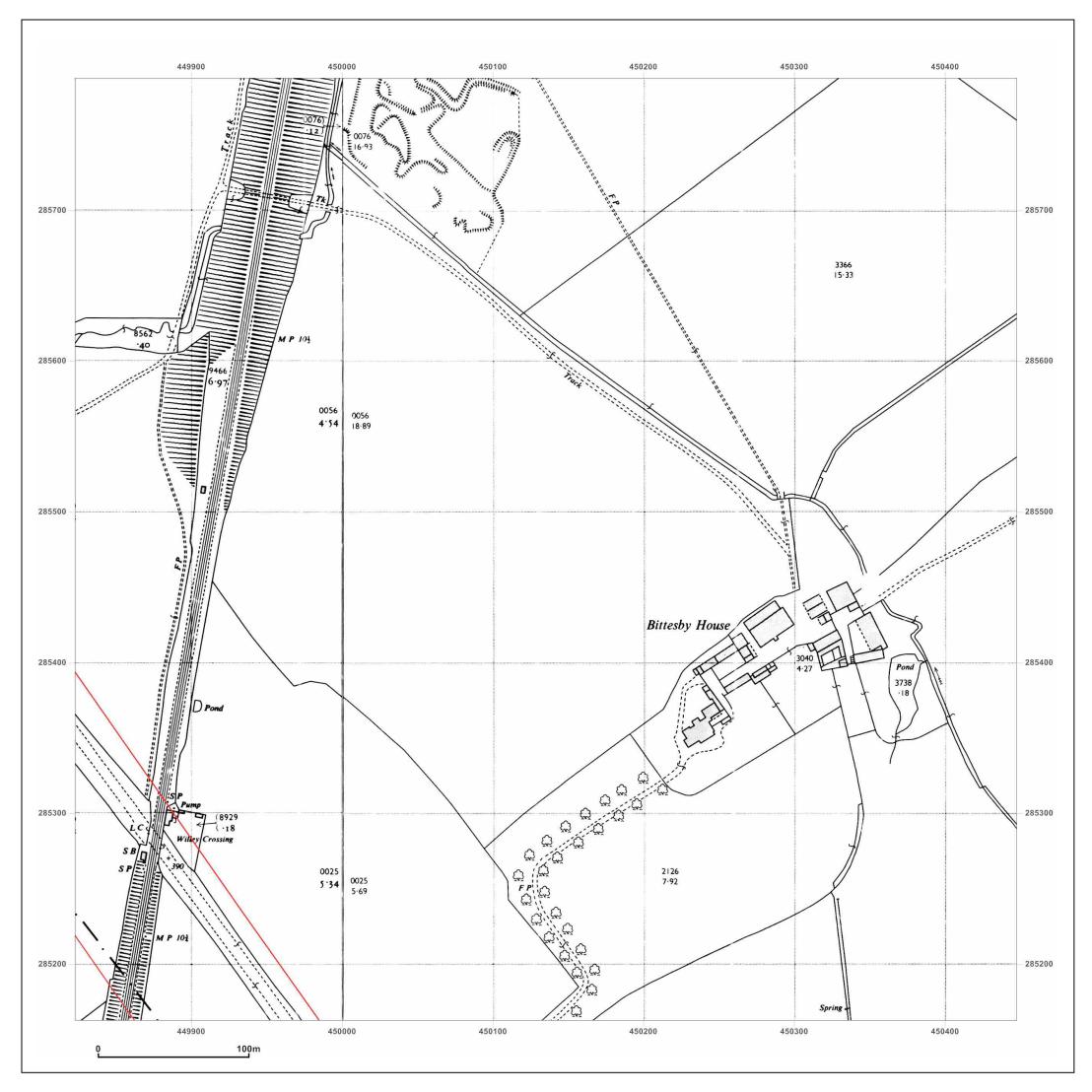


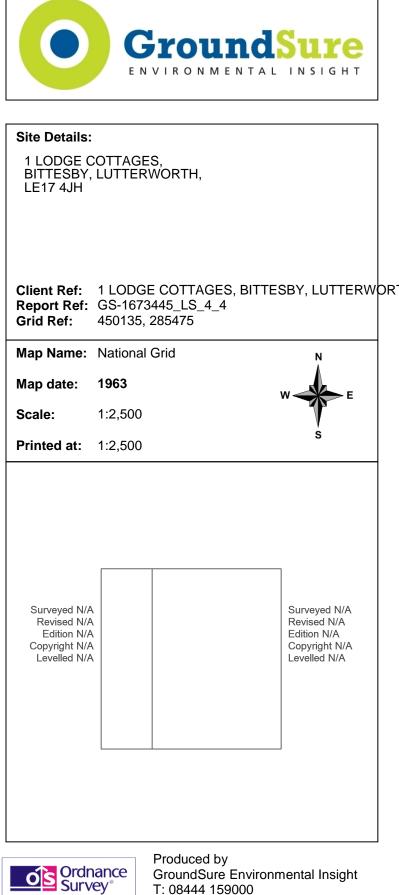
T: 08444 159000 E: info@groundsure.com

W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



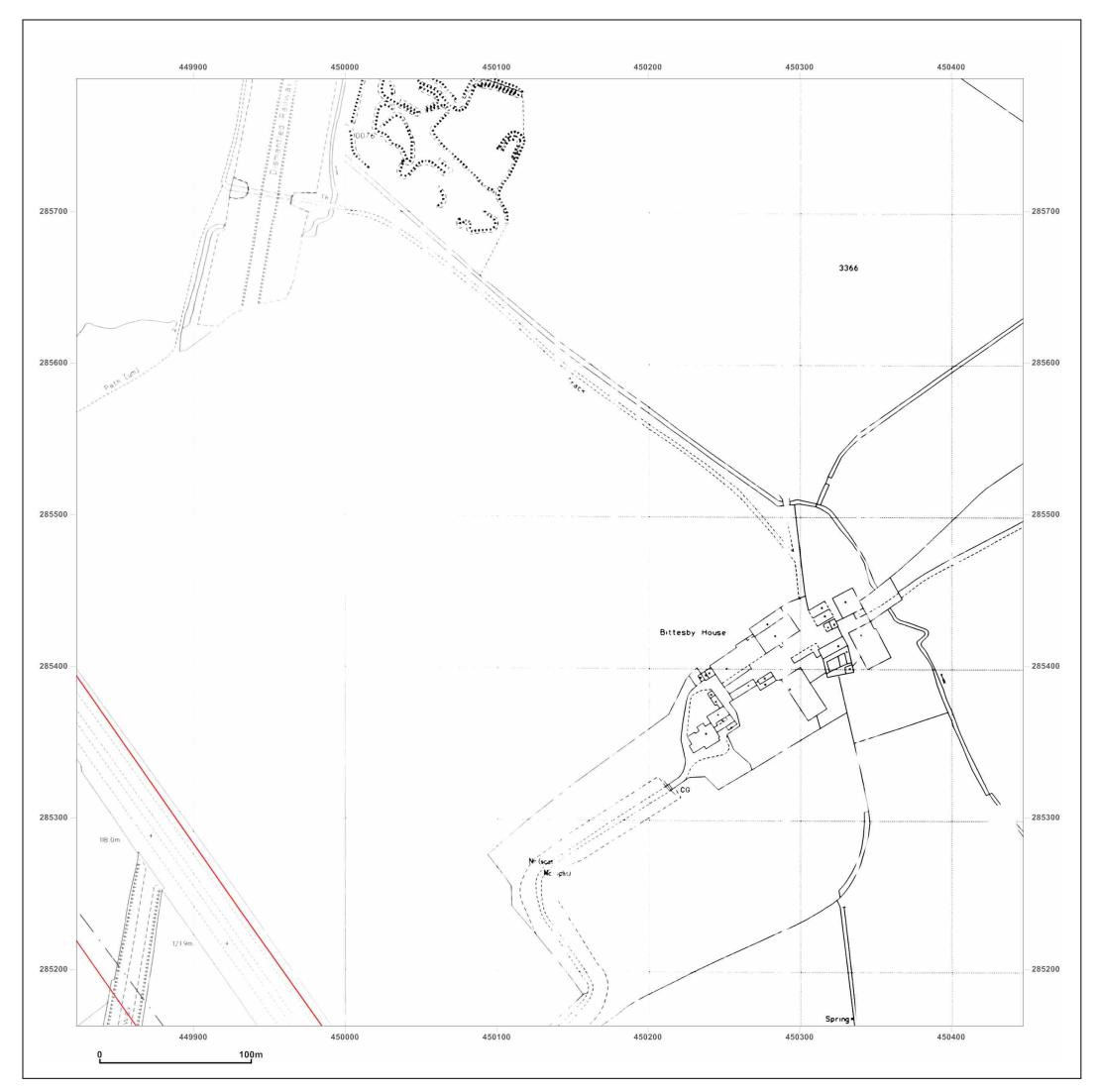


T: 08444 159000 E: info@groundsure.com

W: www.groundsure.com

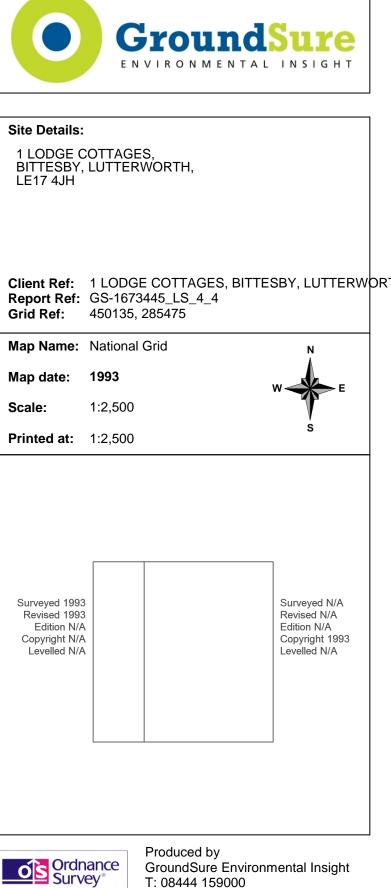
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



**–** 

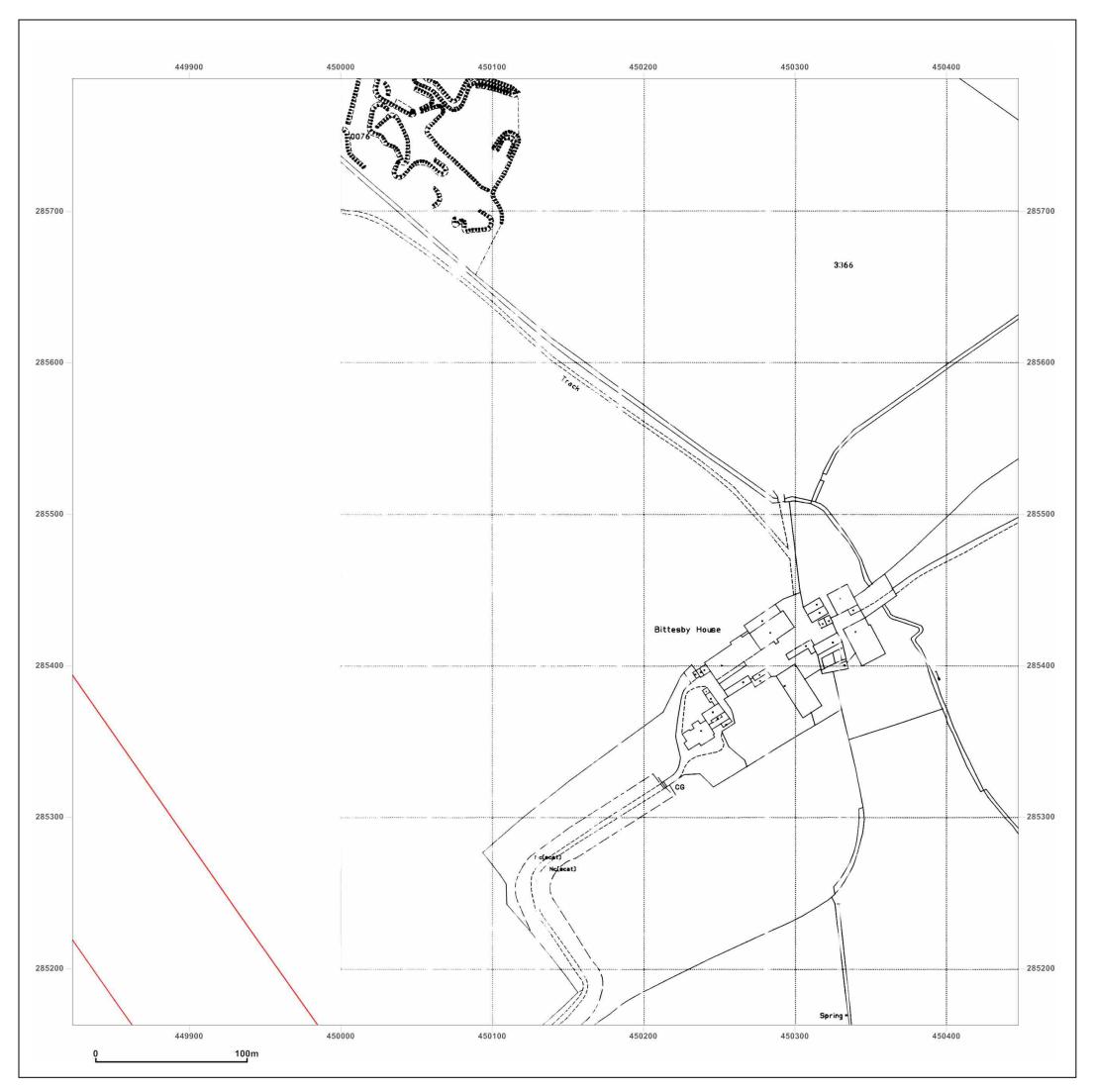
Licensed Partner

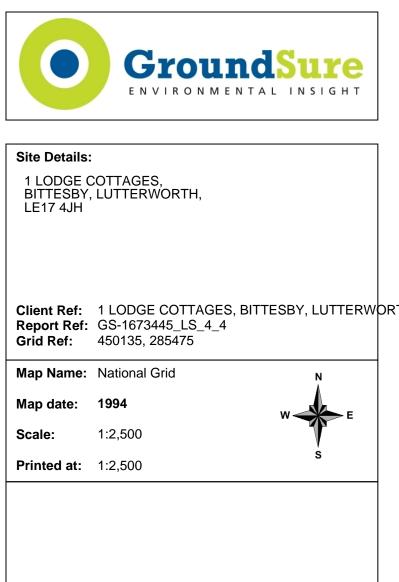


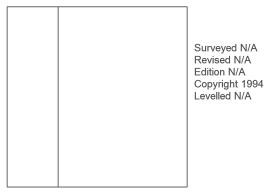
T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



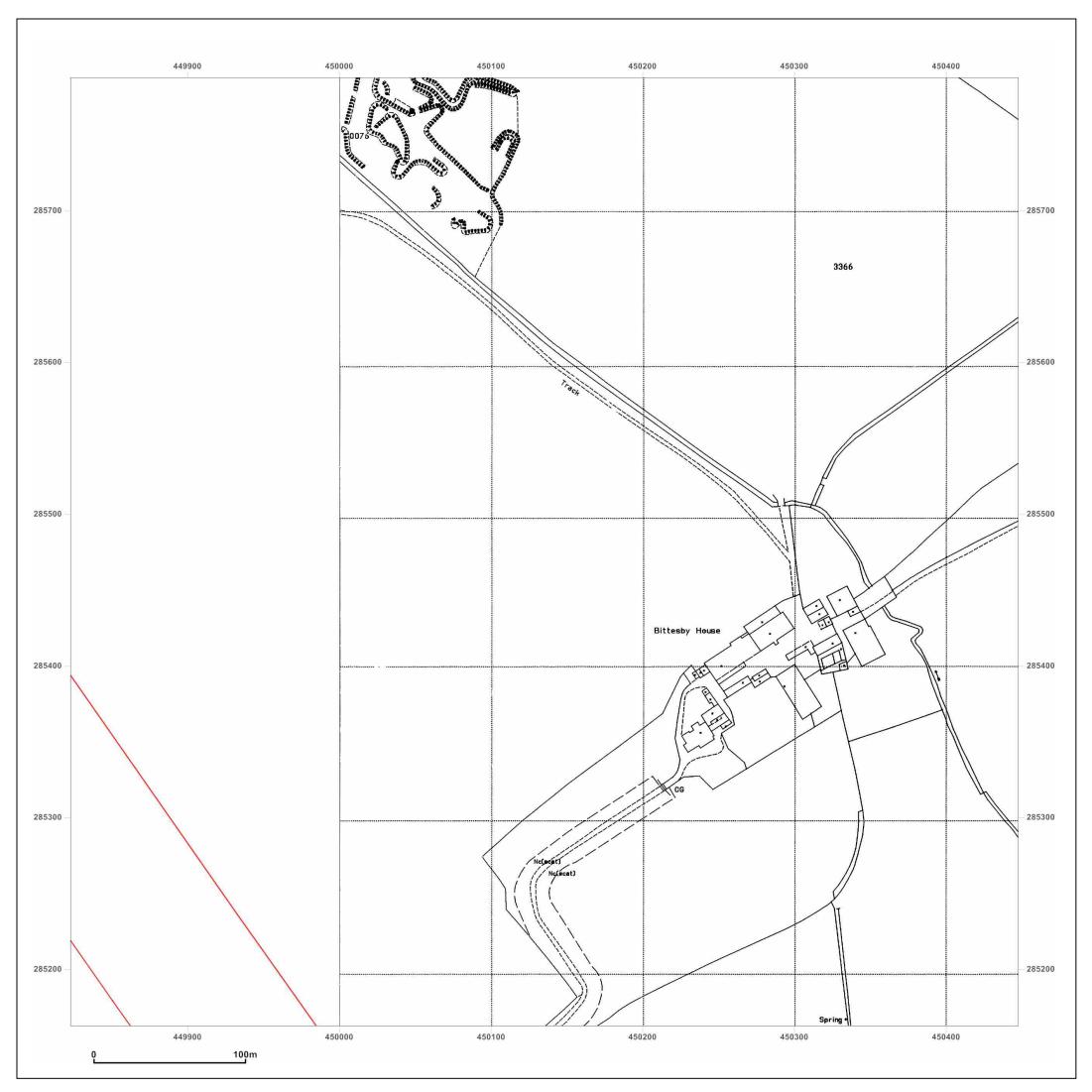


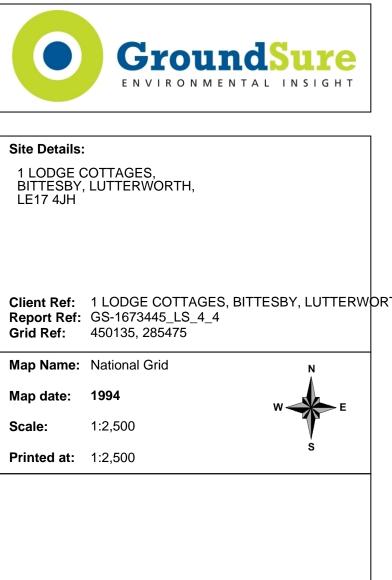


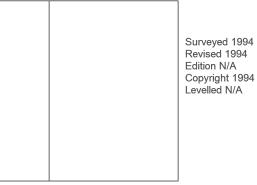


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



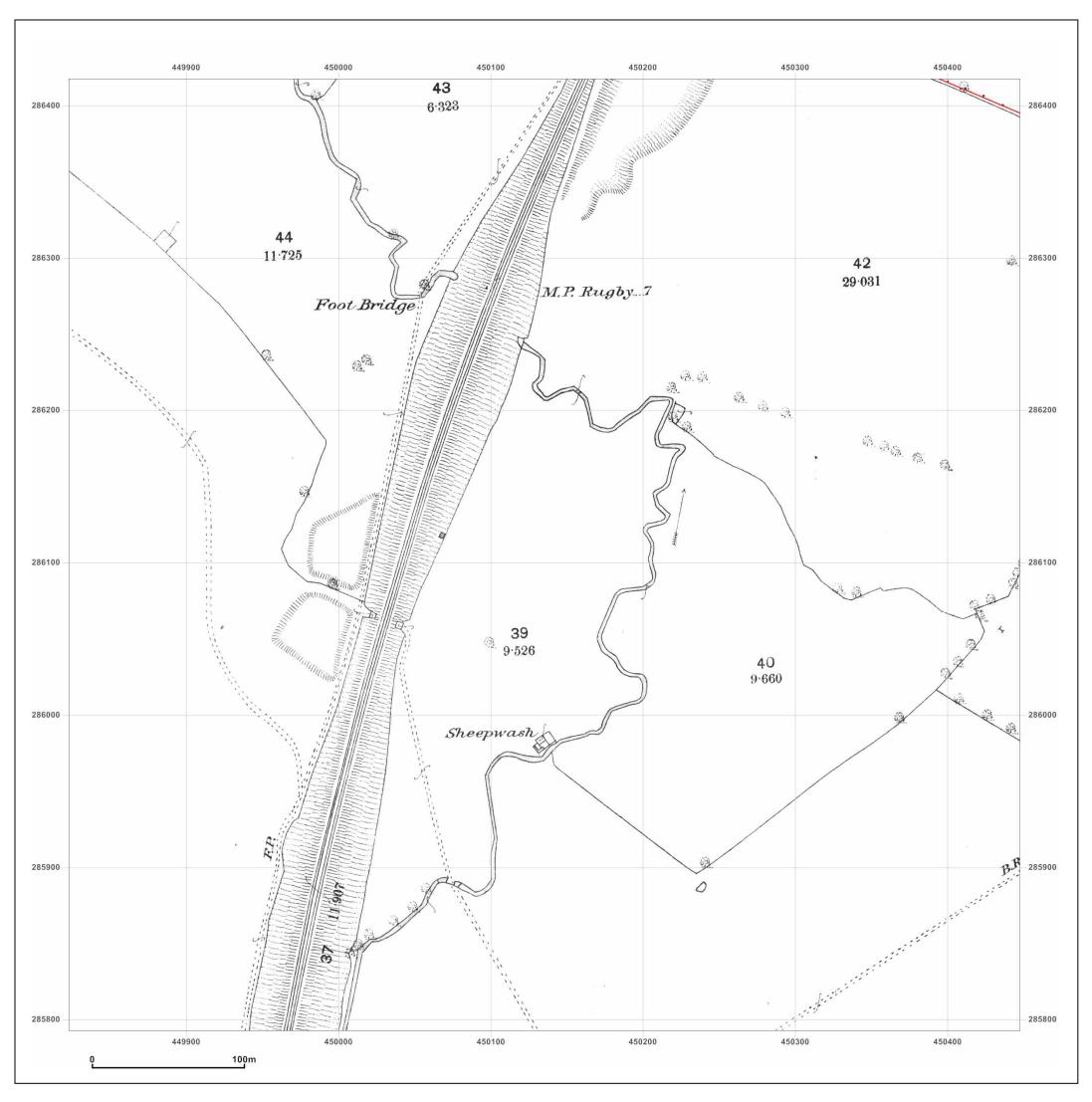


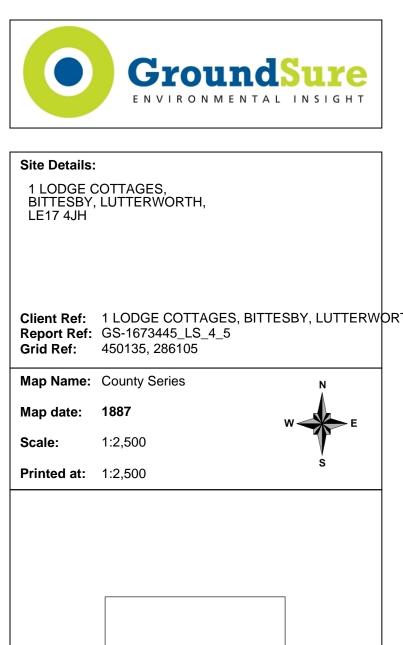




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





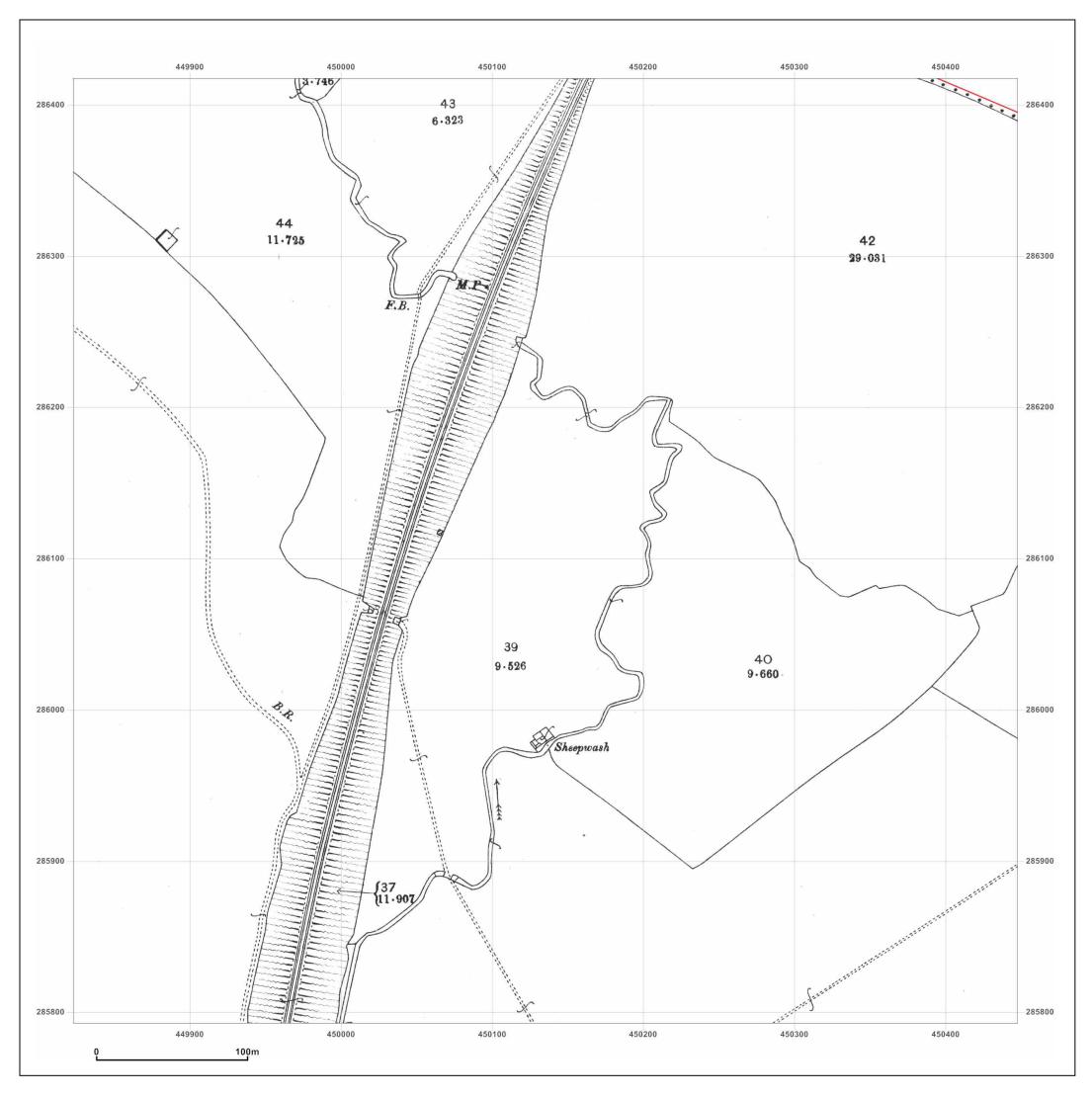


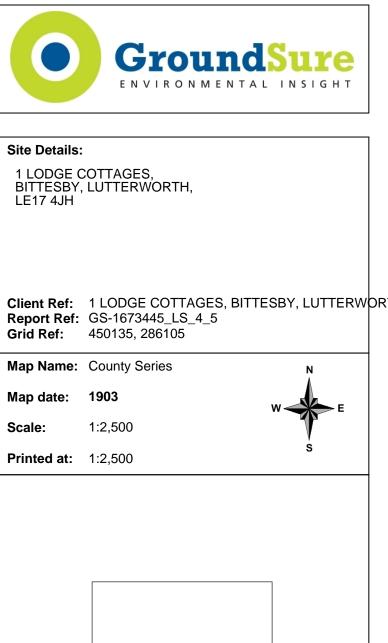
W: www.groundsure.com

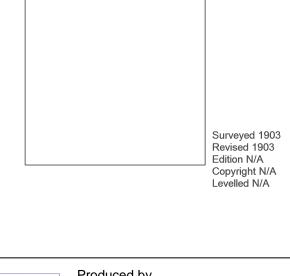
Surveyed 1887 Revised 1887 Edition N/A Copyright N/A Levelled N/A

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



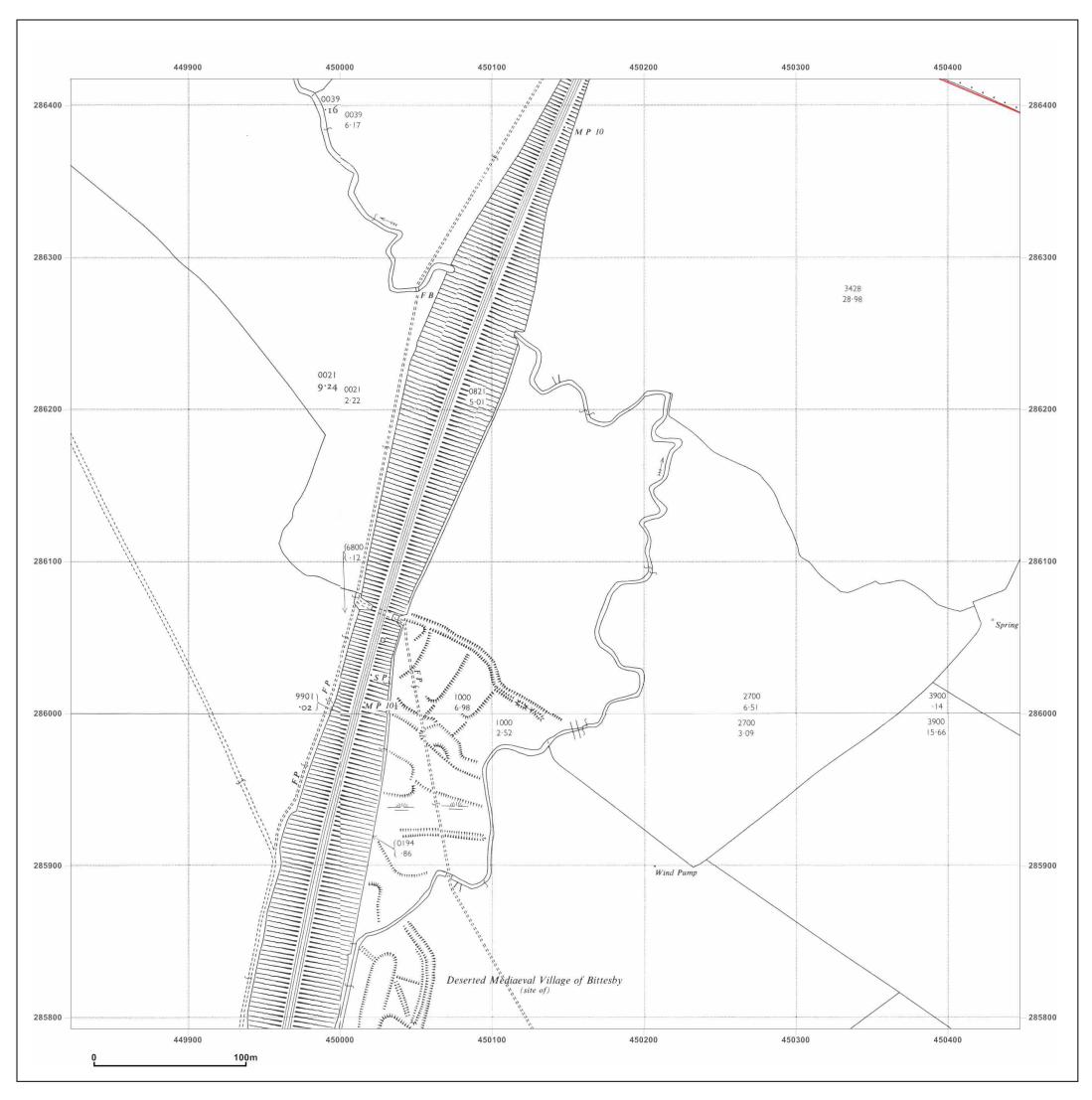


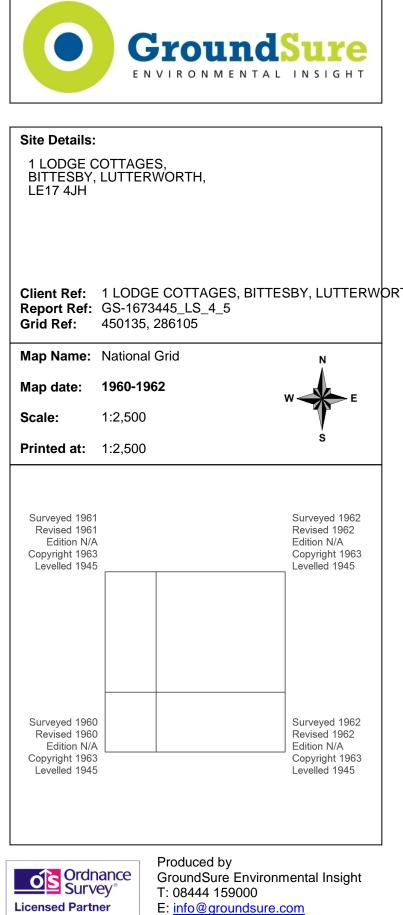




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

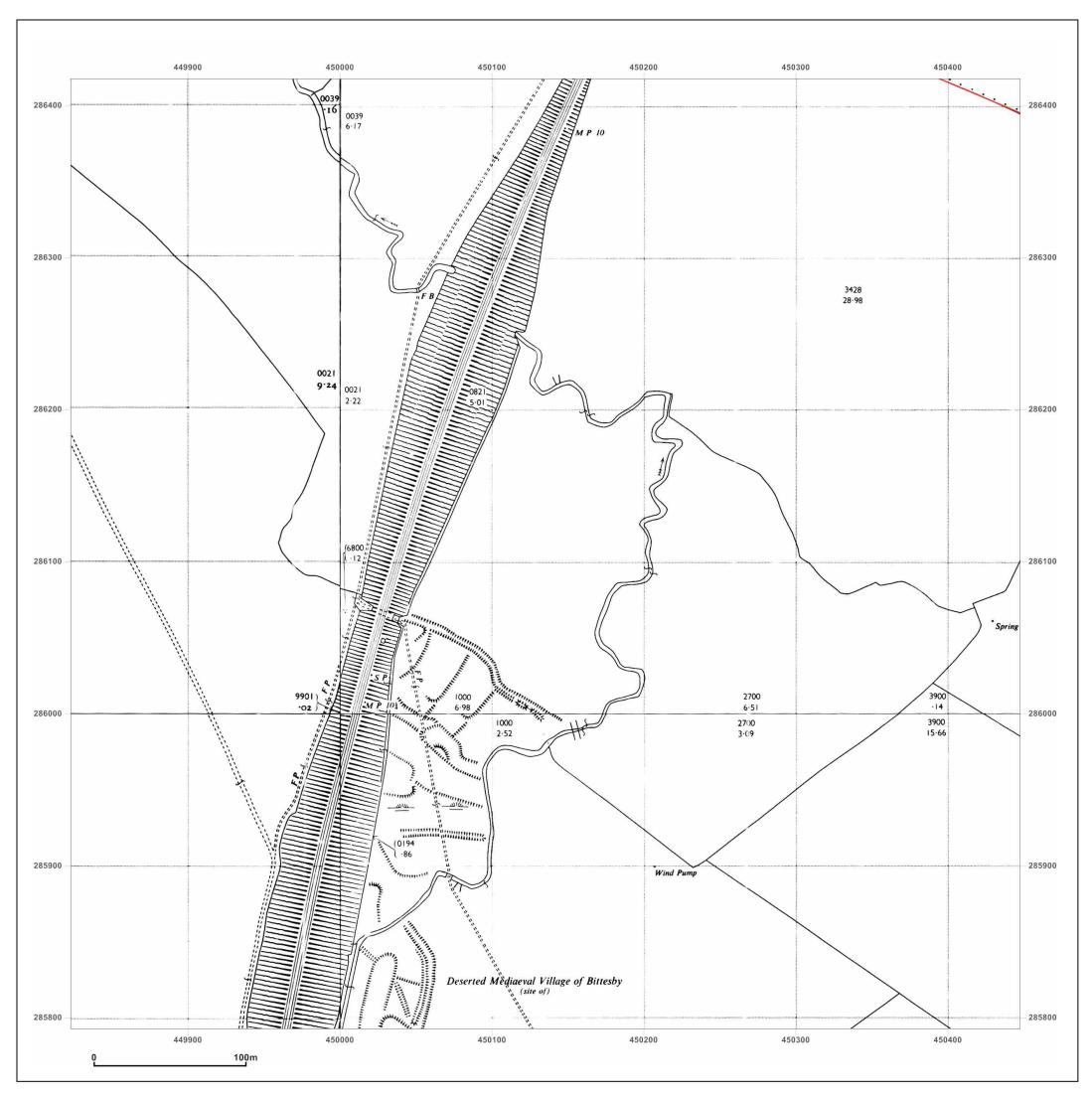


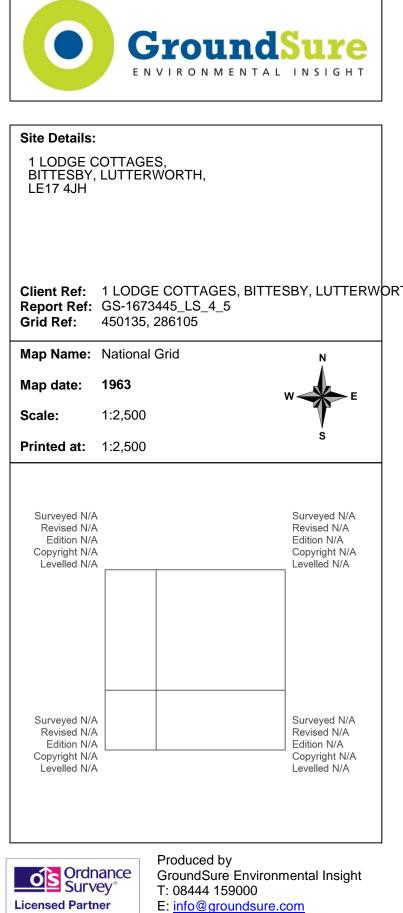


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014

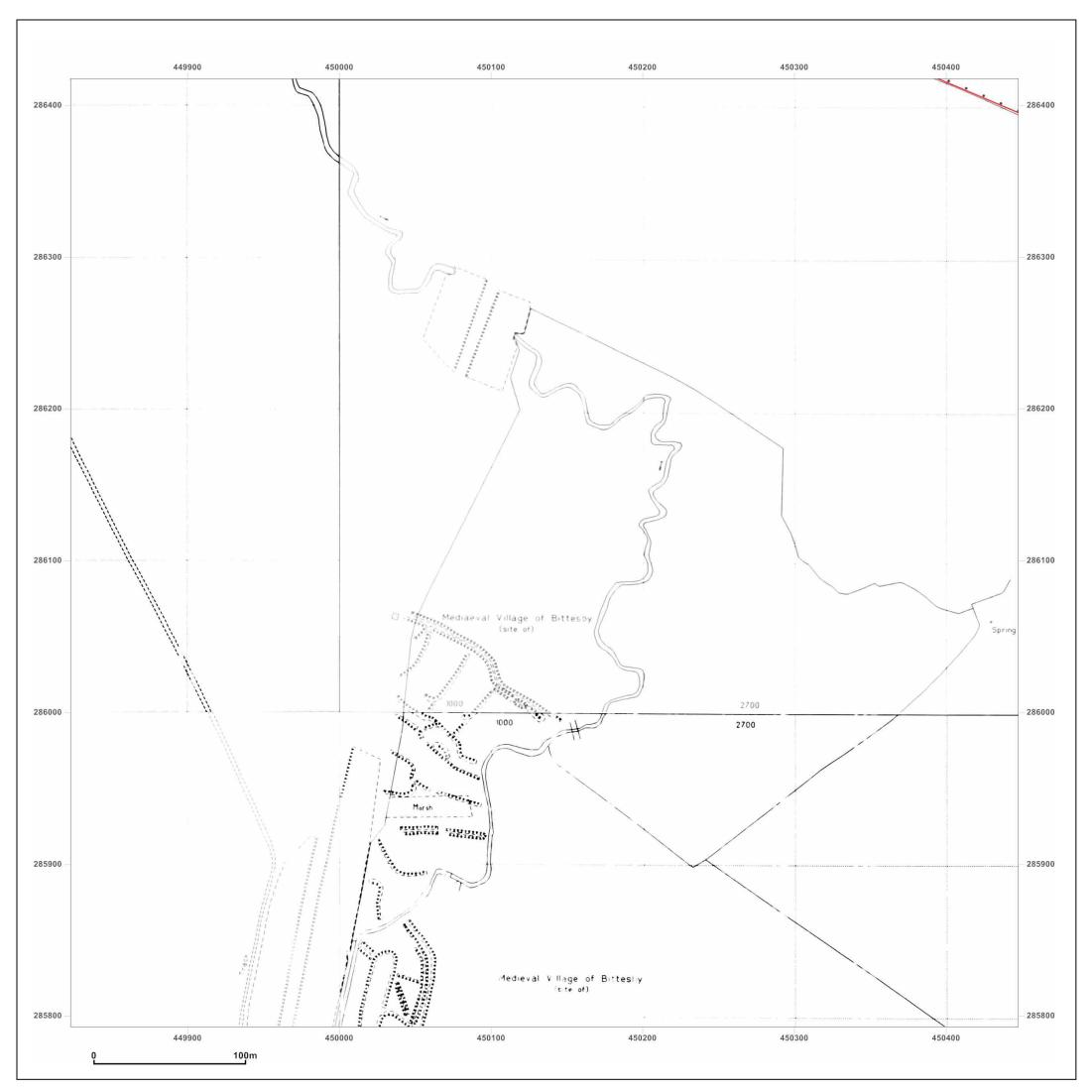


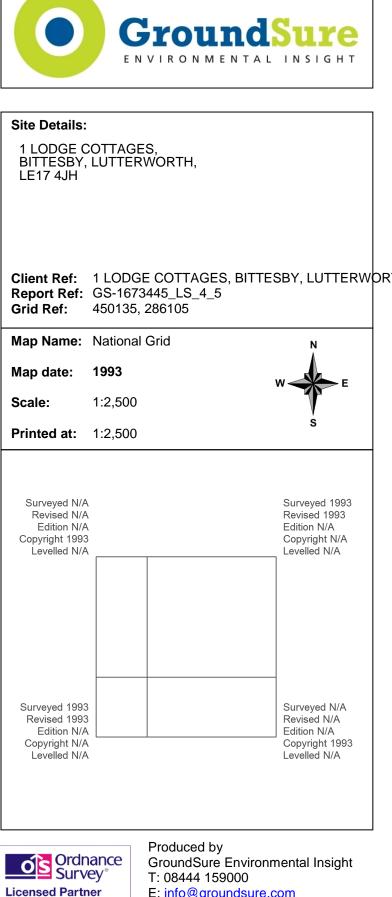


© Crown copyright and database rights 2013 Ordnance Survey 100035207

W: www.groundsure.com

Production date: 22 September 2014



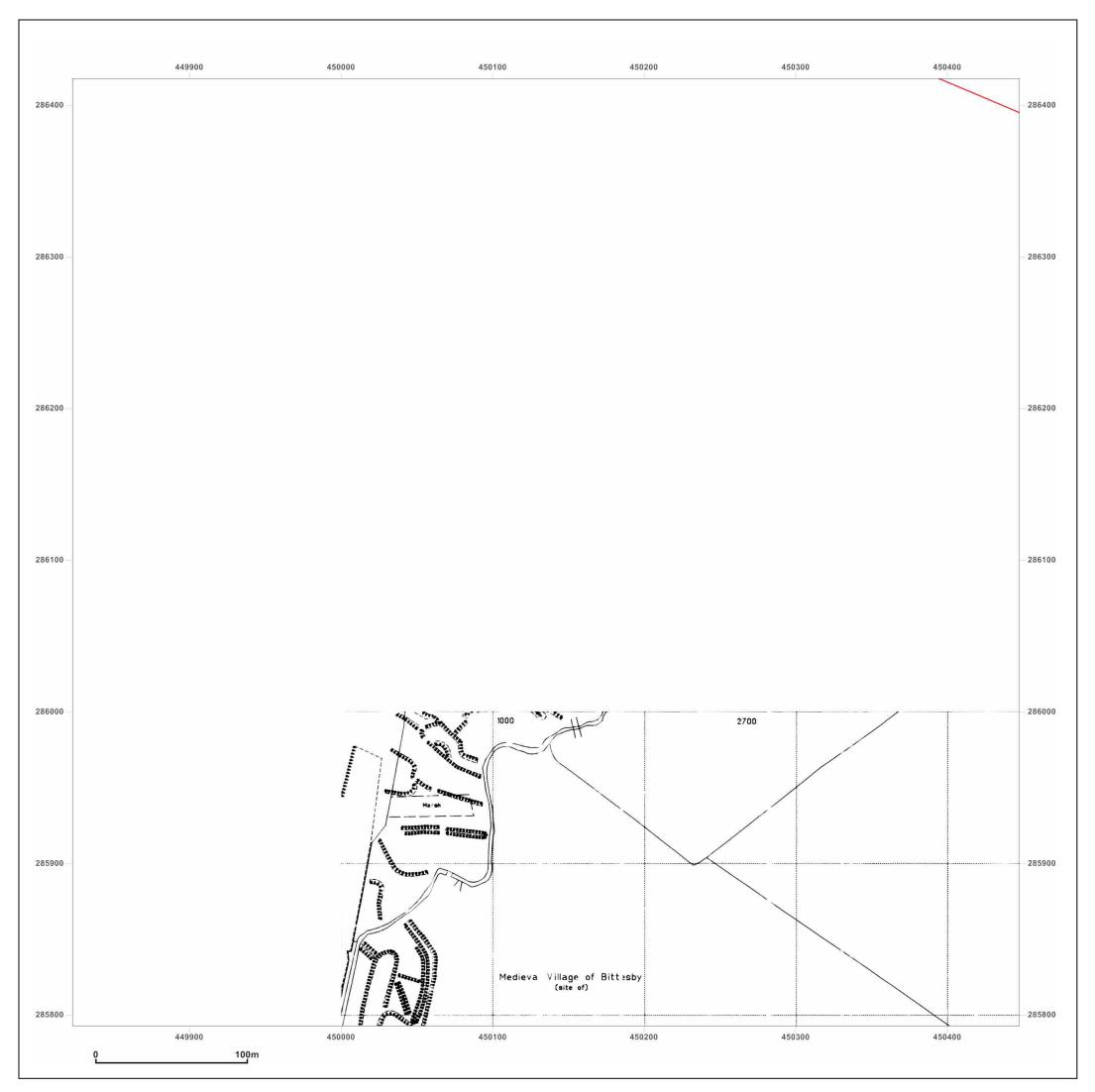


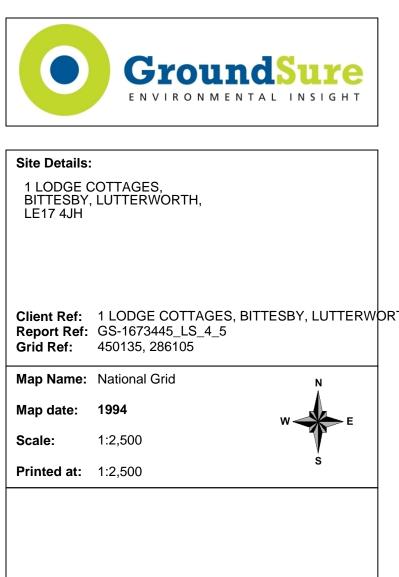
E: info@groundsure.com

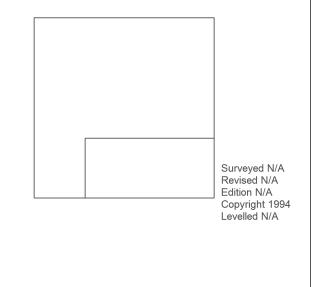
W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



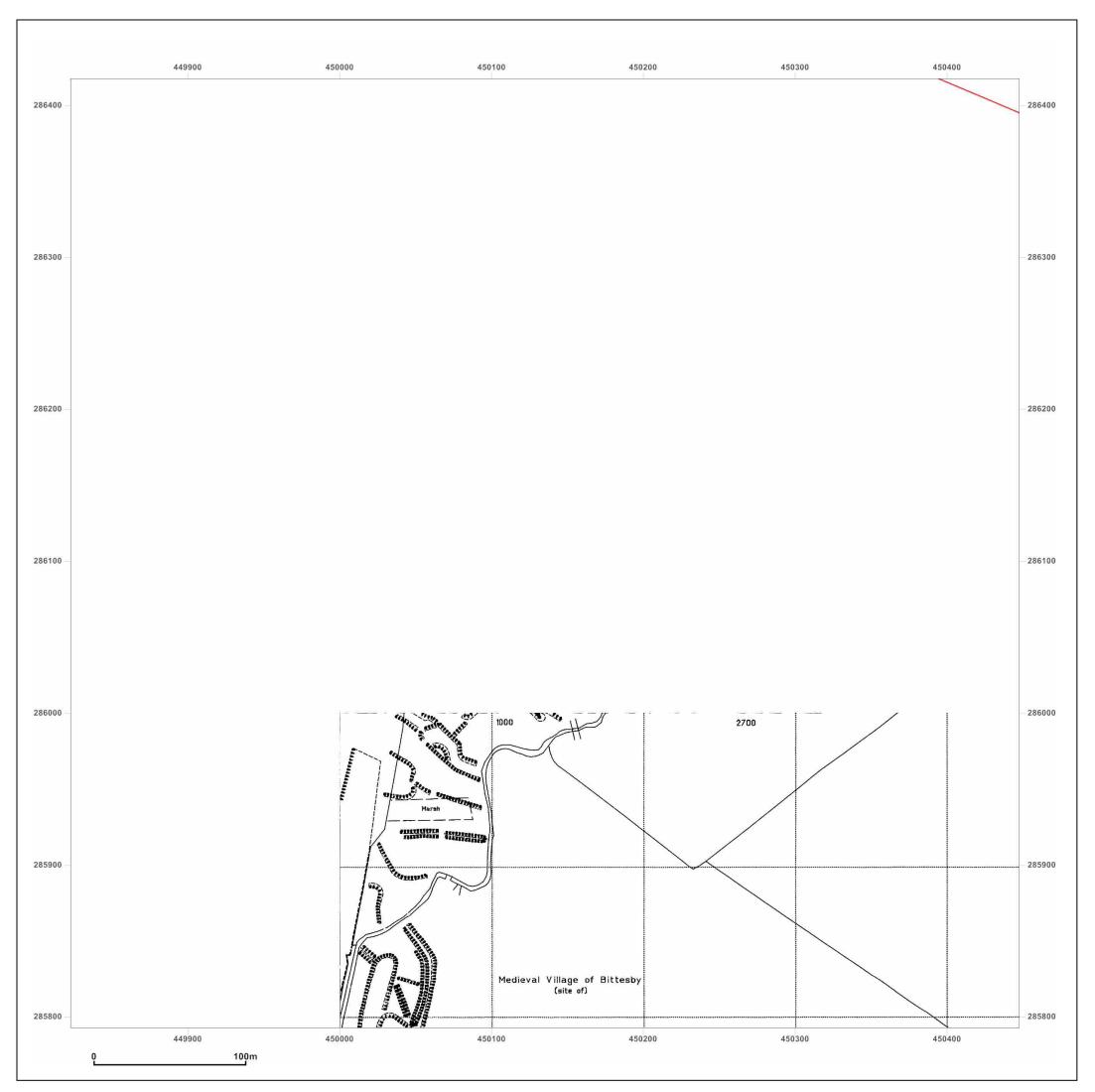


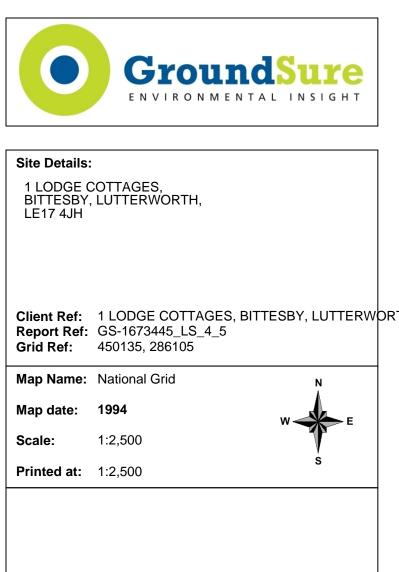


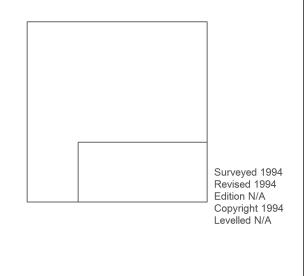


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



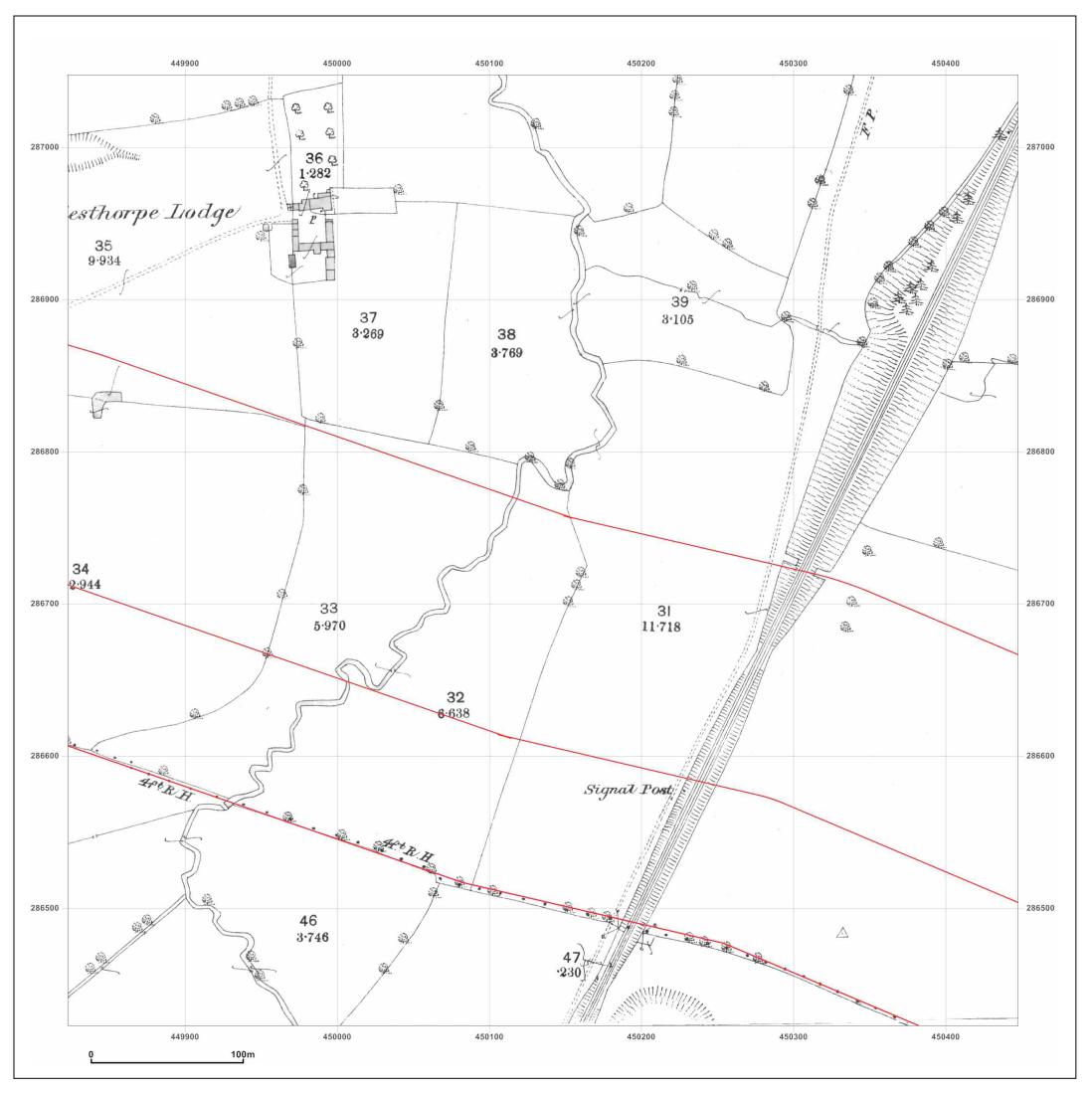


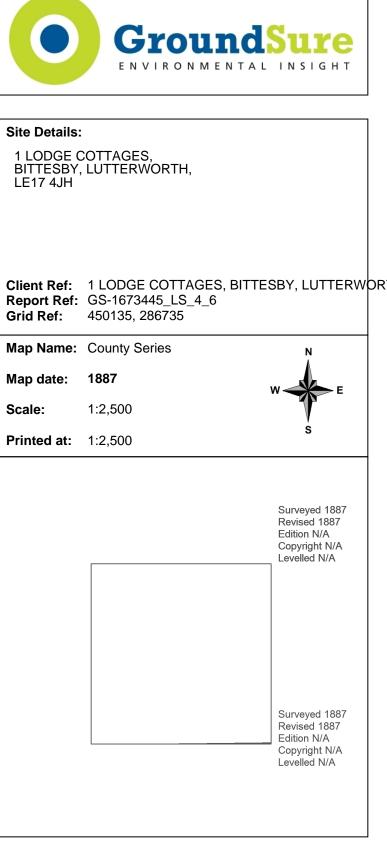




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

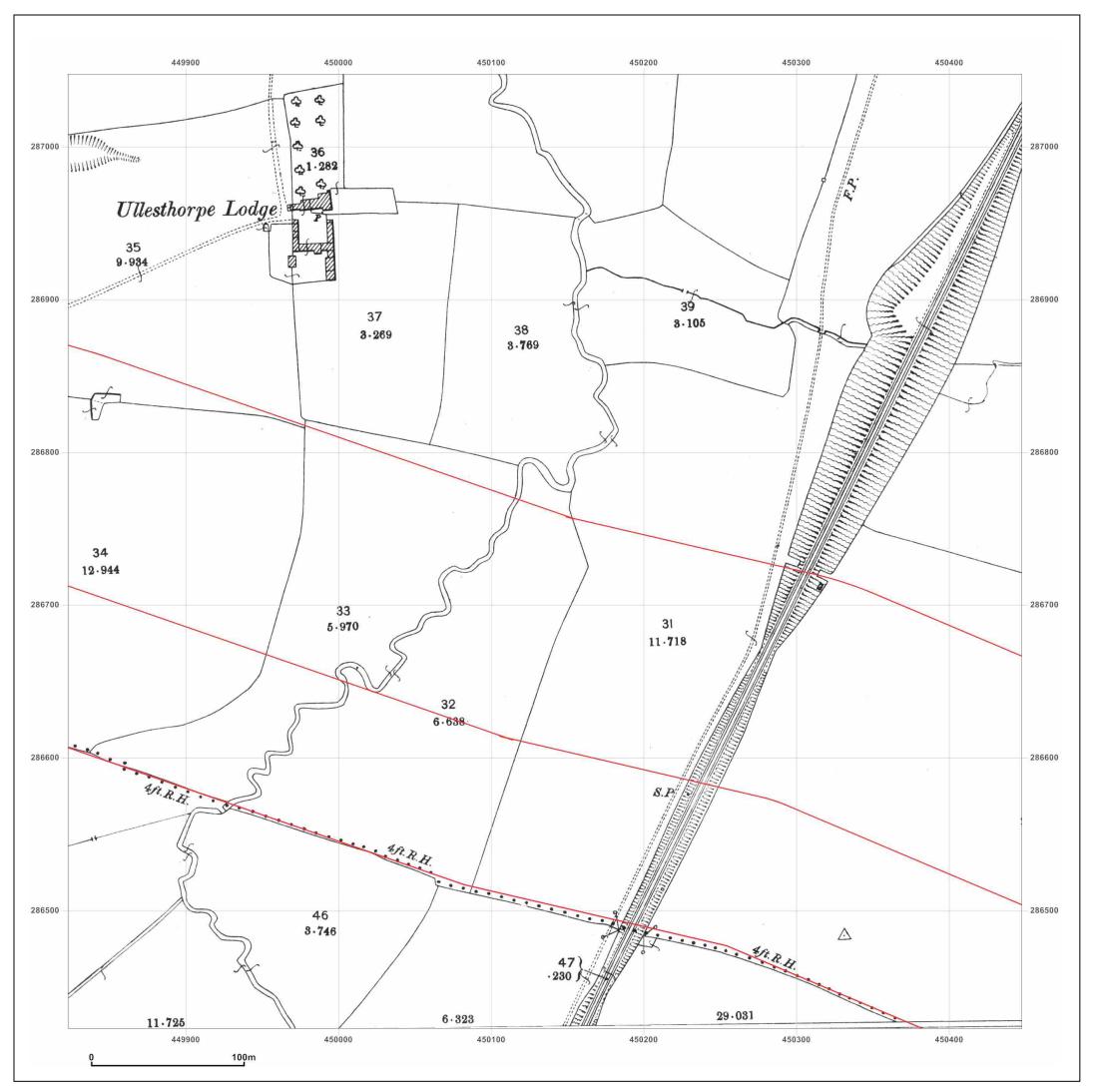


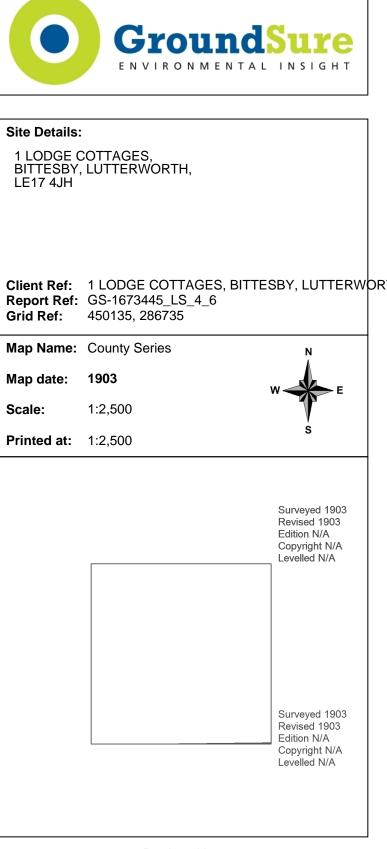




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

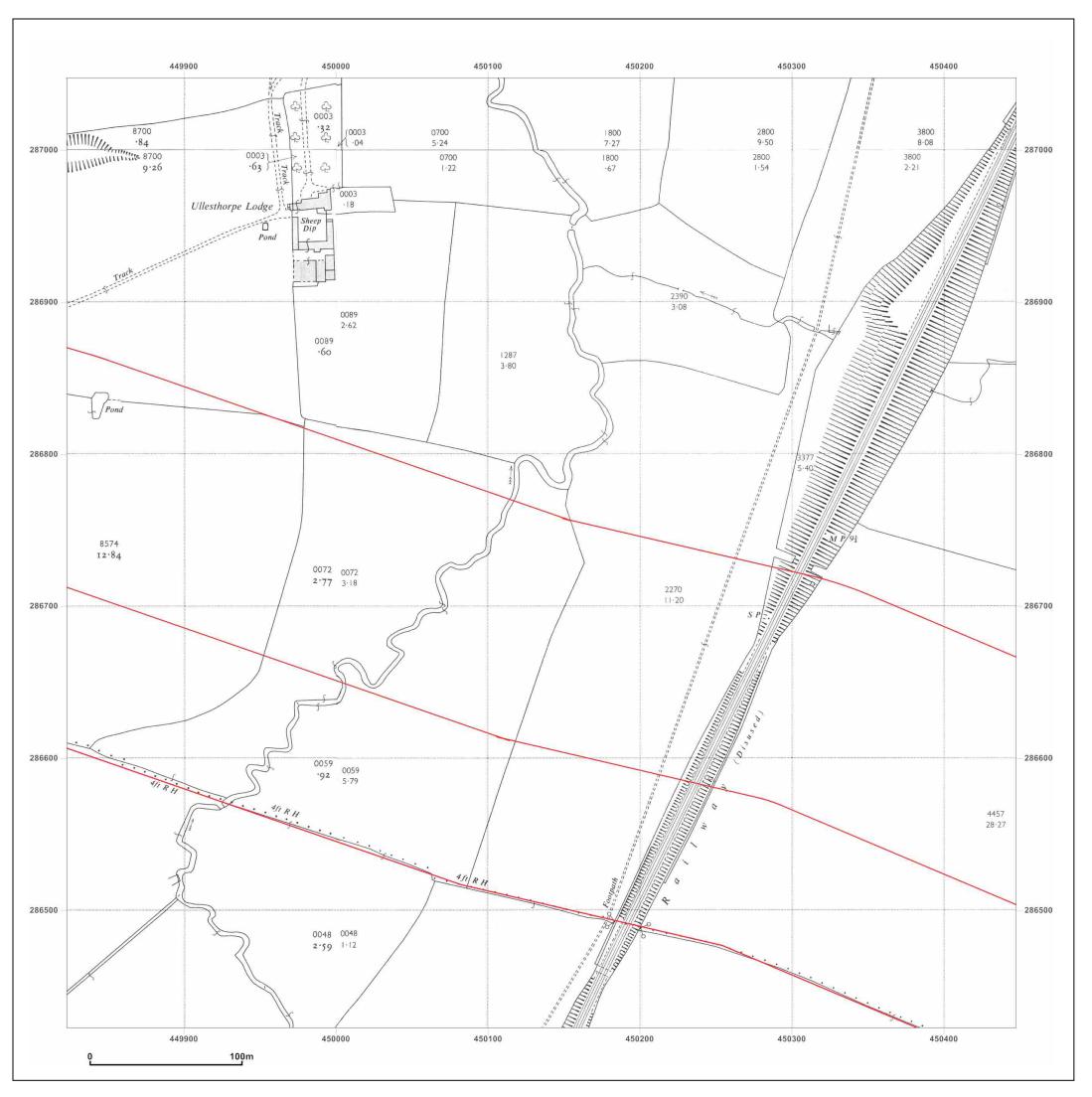


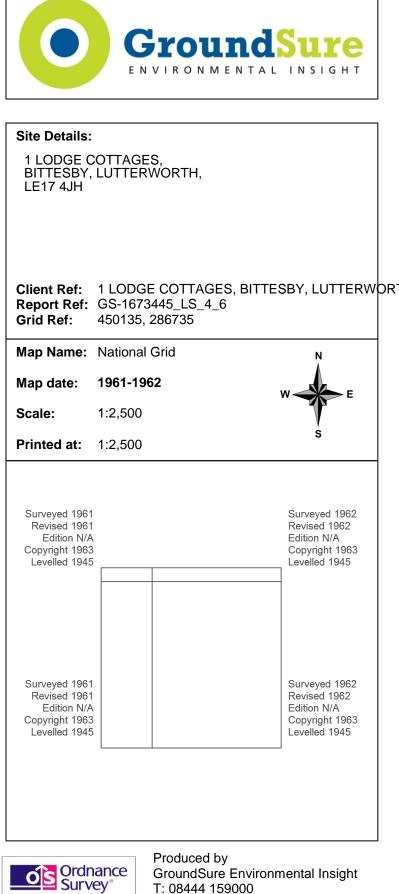




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



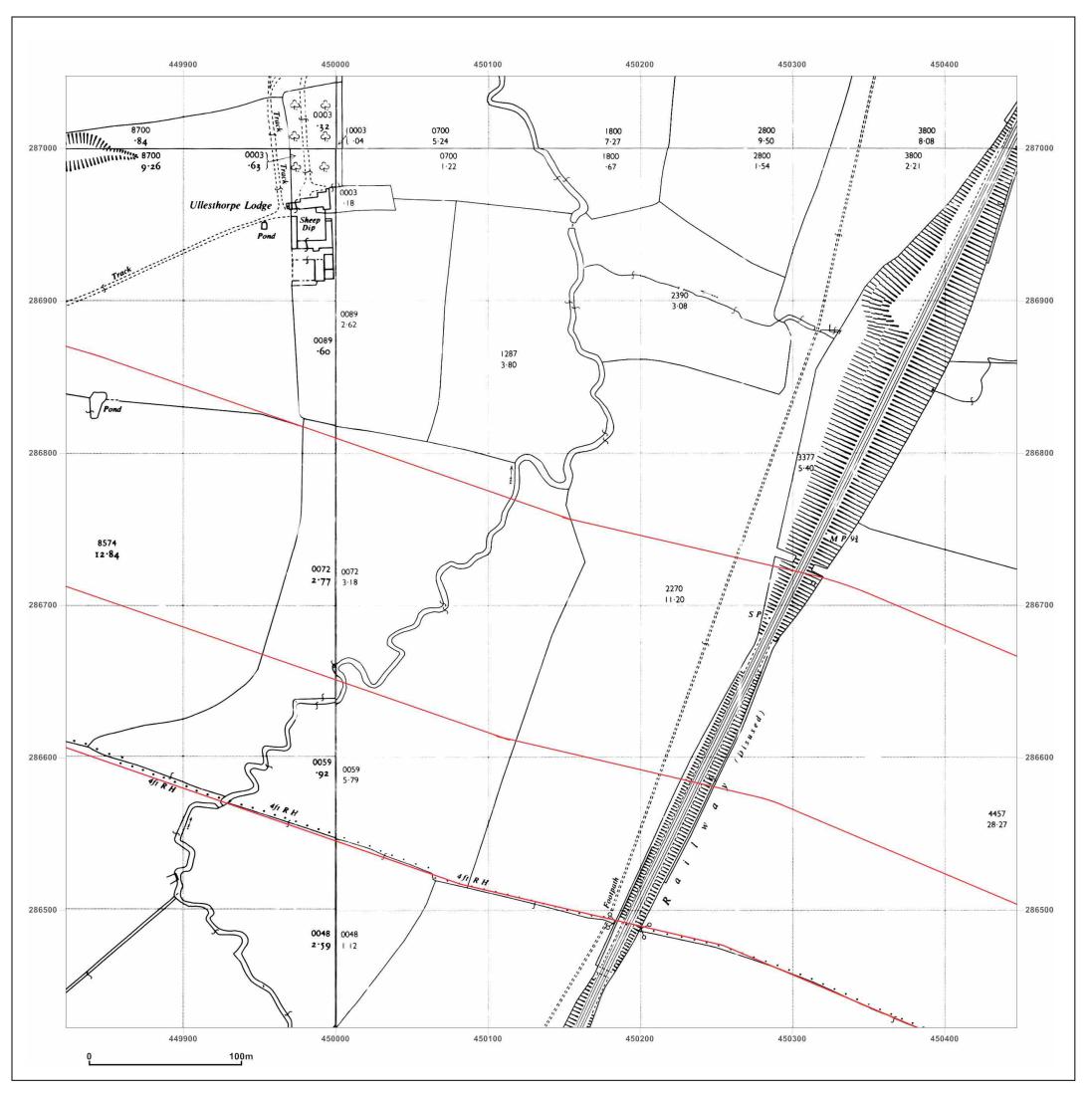


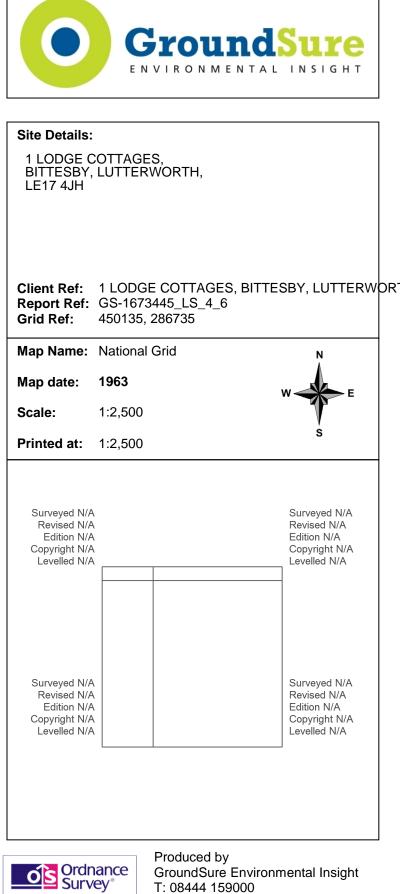
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com

W: www.groundsure.com

Production date: 22 September 2014



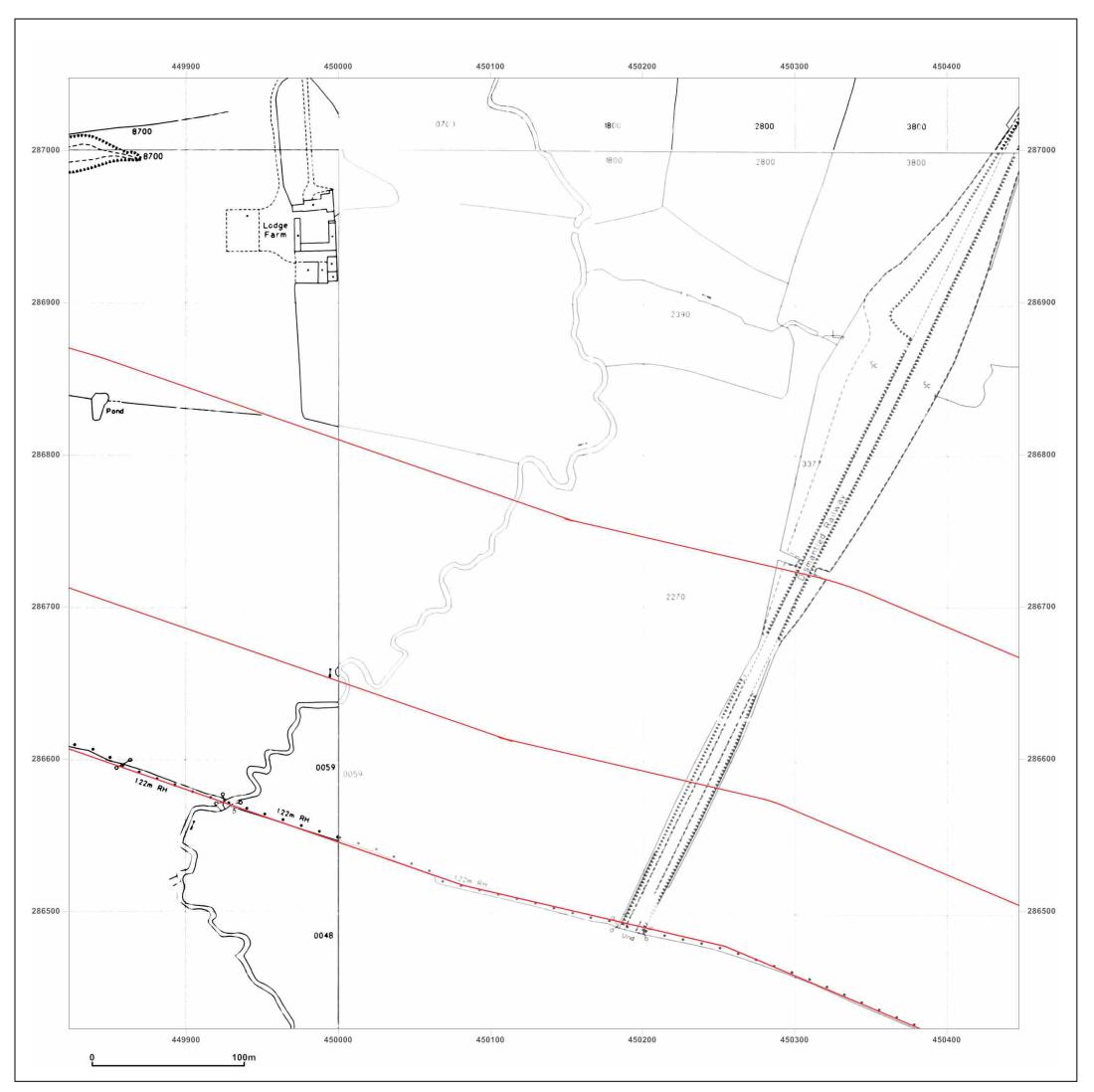


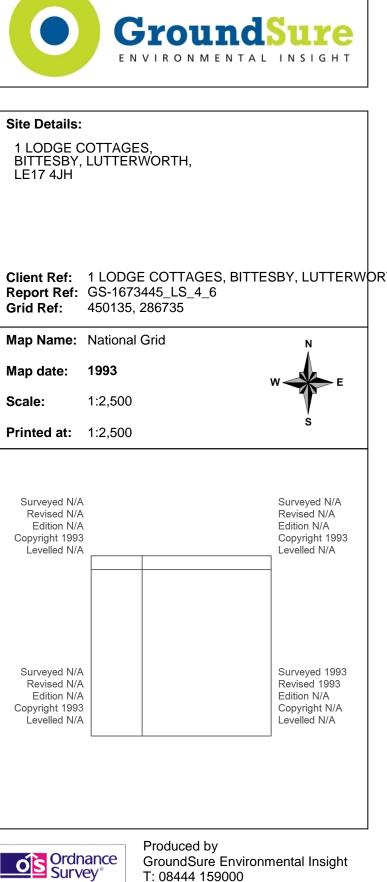
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com

W: www.groundsure.com

Production date: 22 September 2014

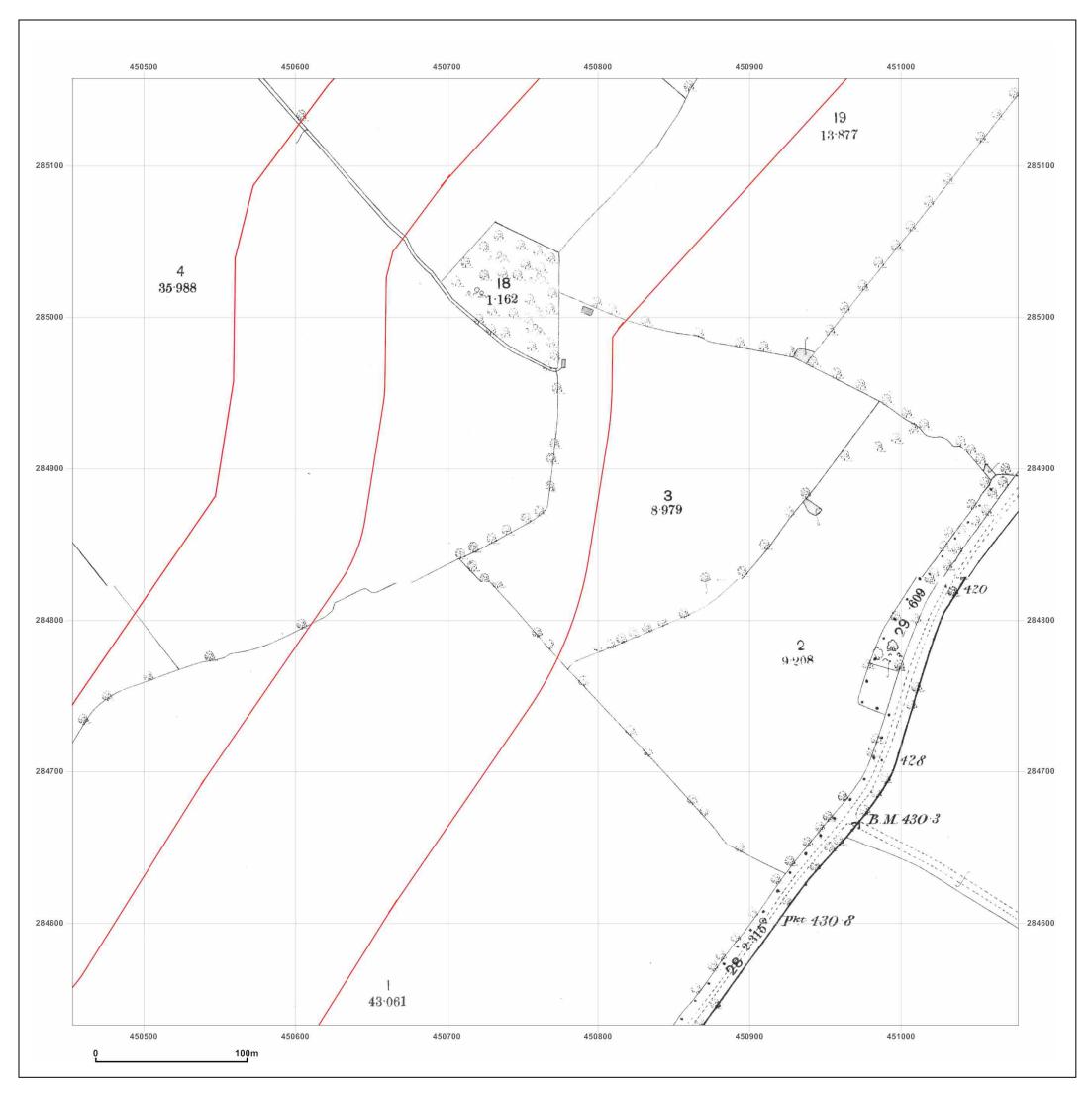


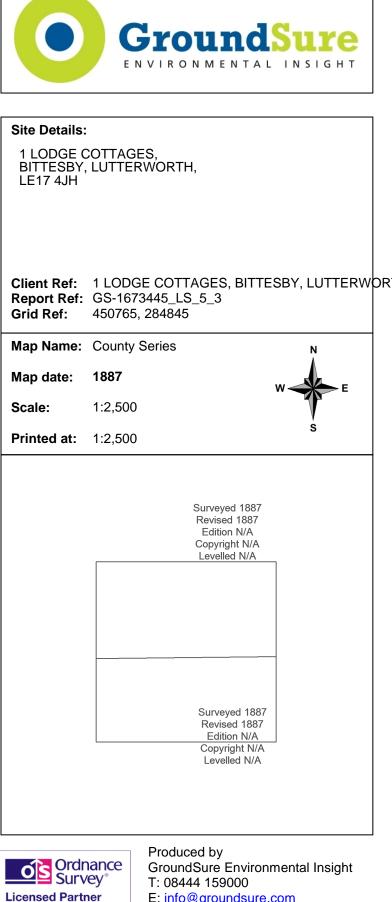


E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

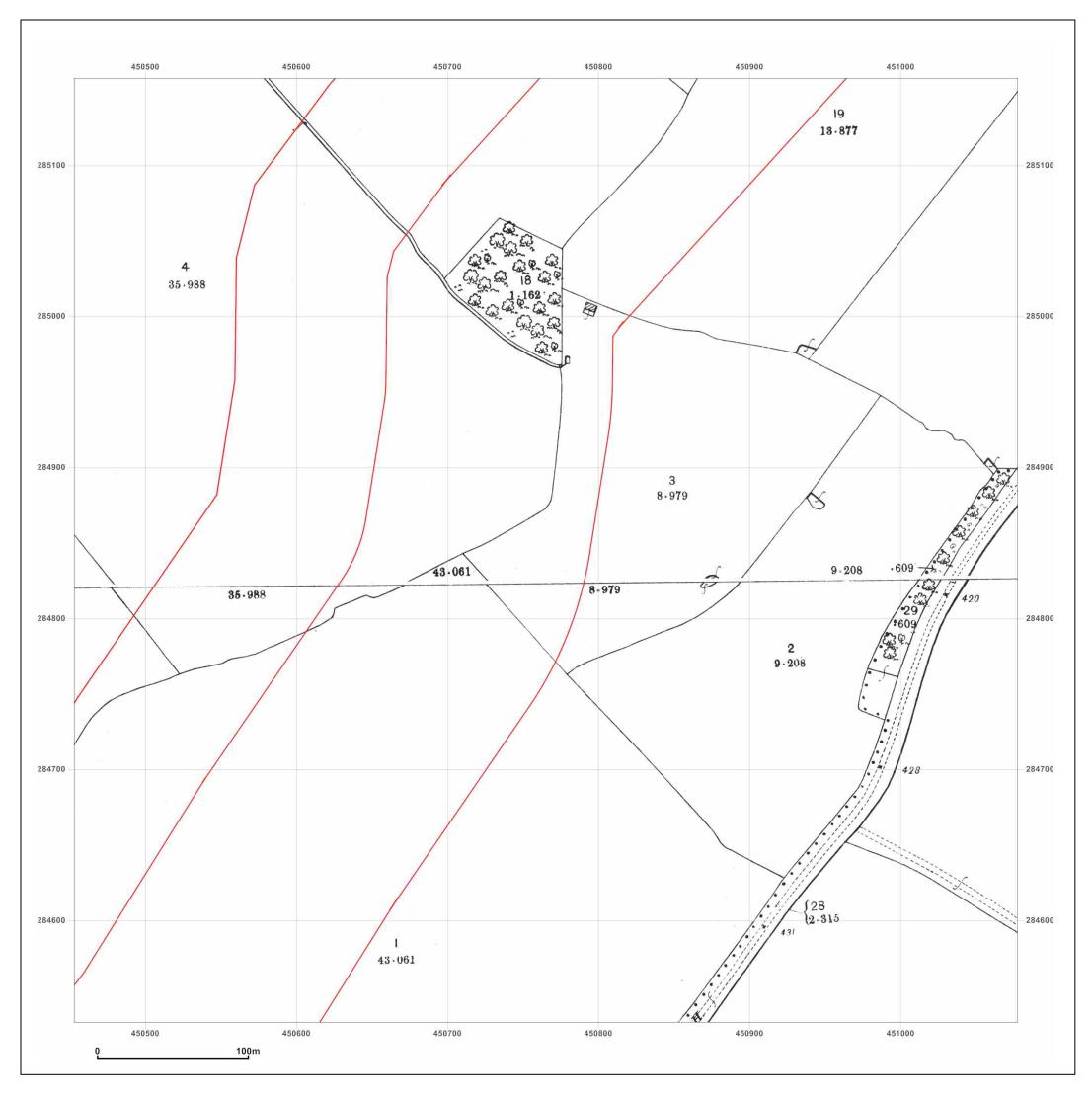


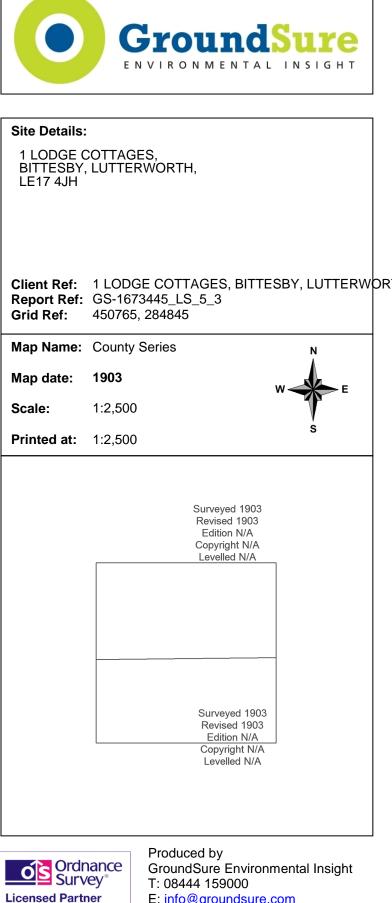


E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

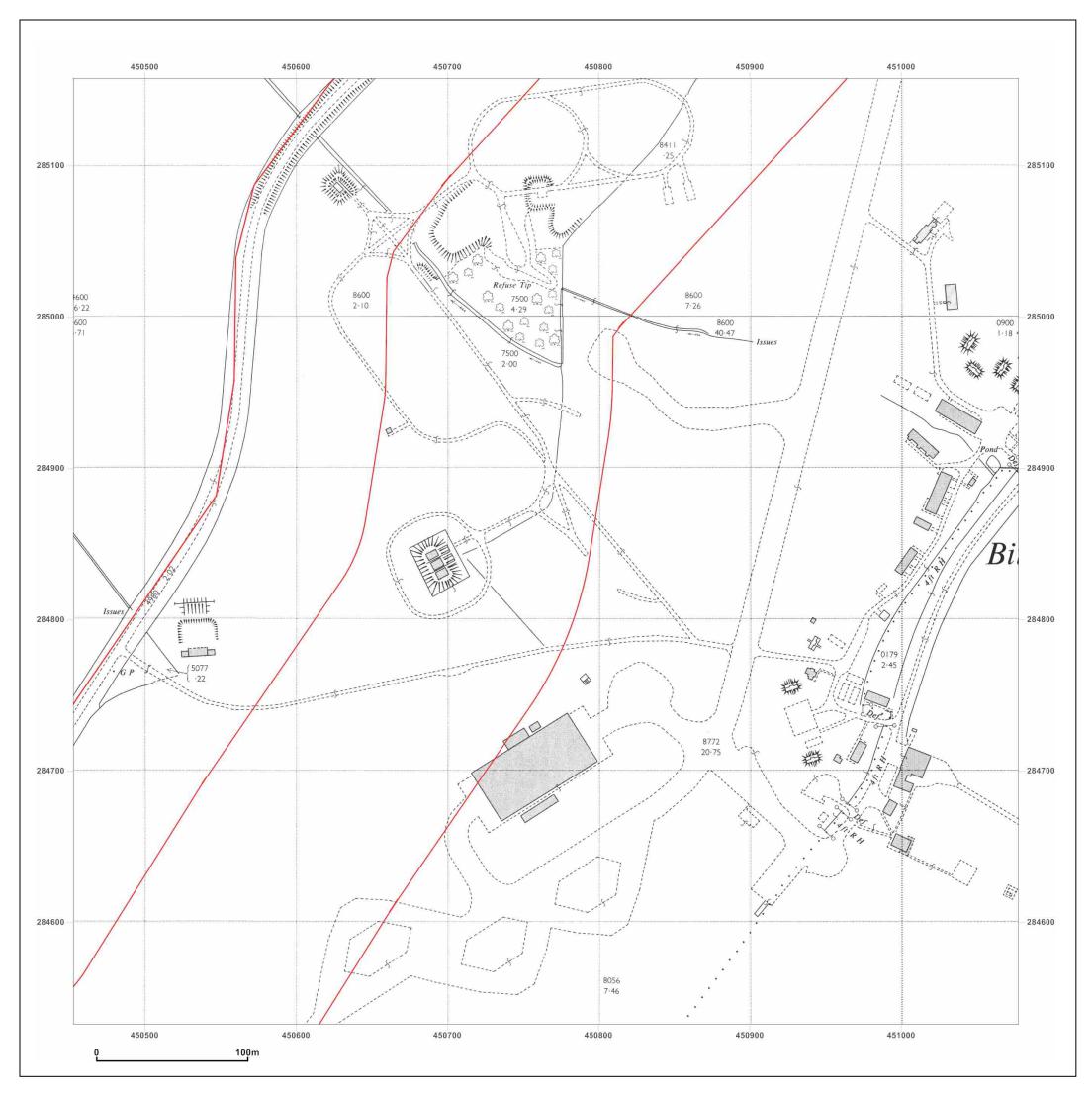


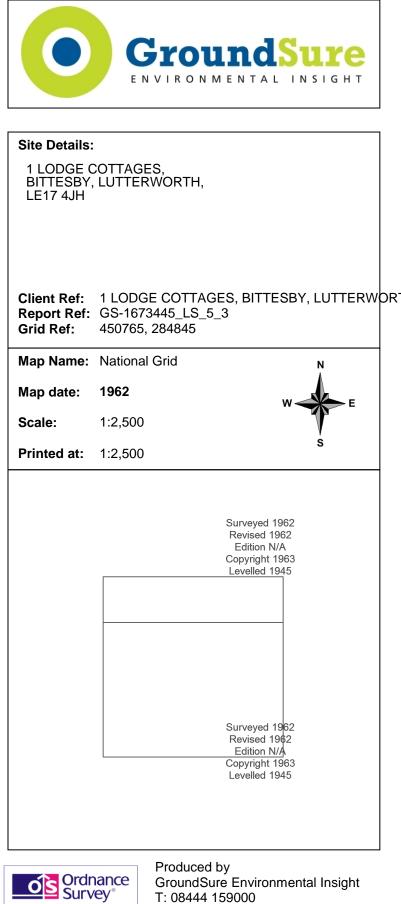


E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

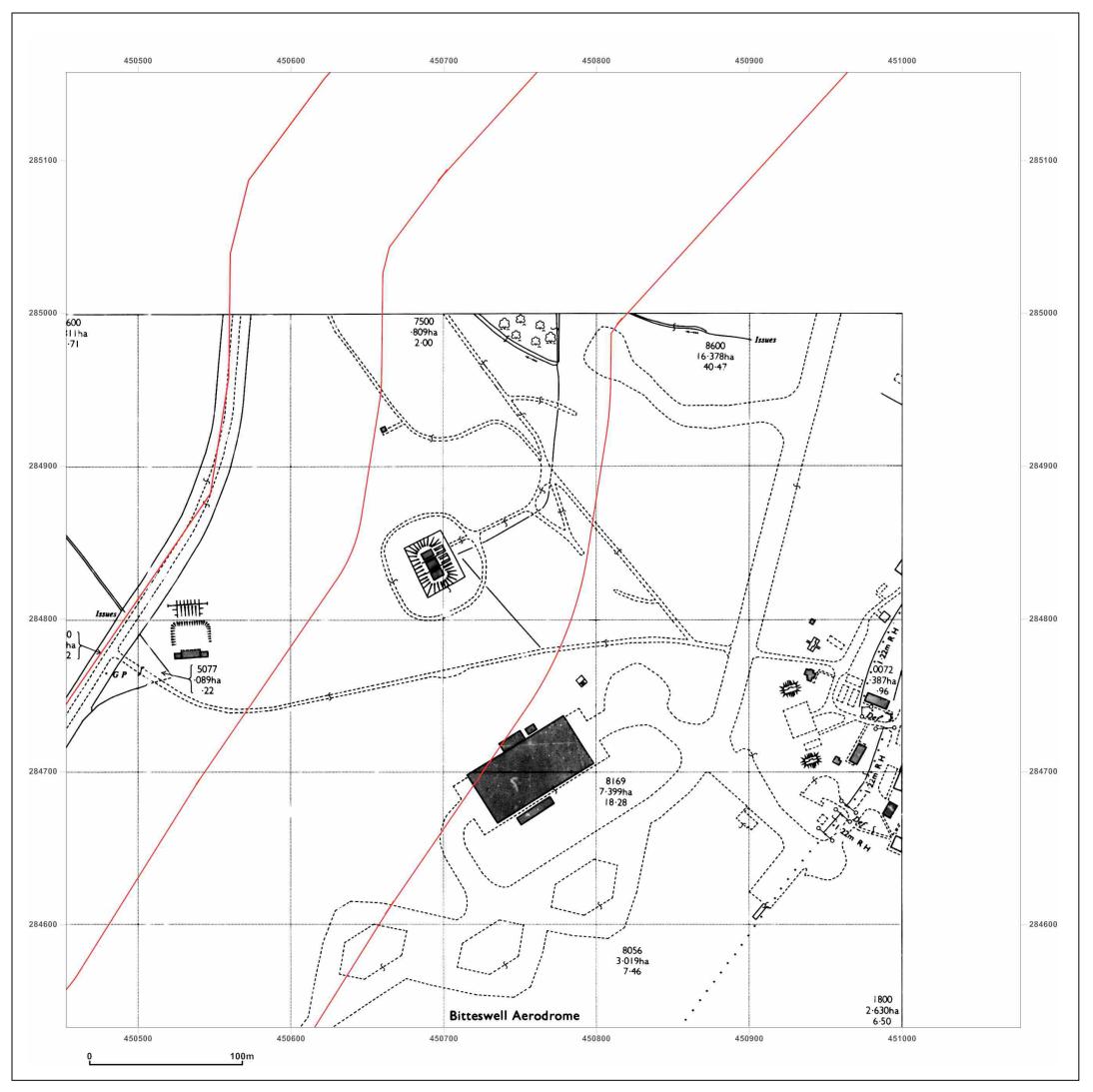


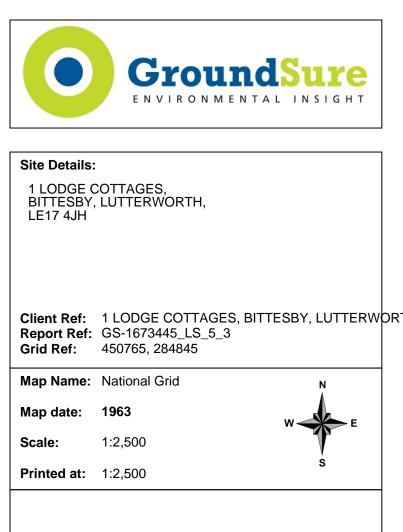


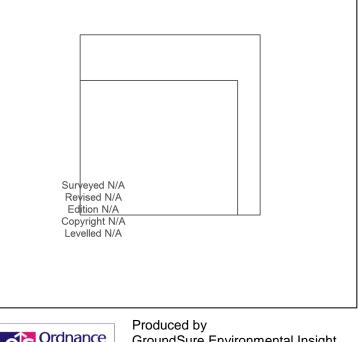
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com W: www.groundsure.com

Production date: 22 September 2014





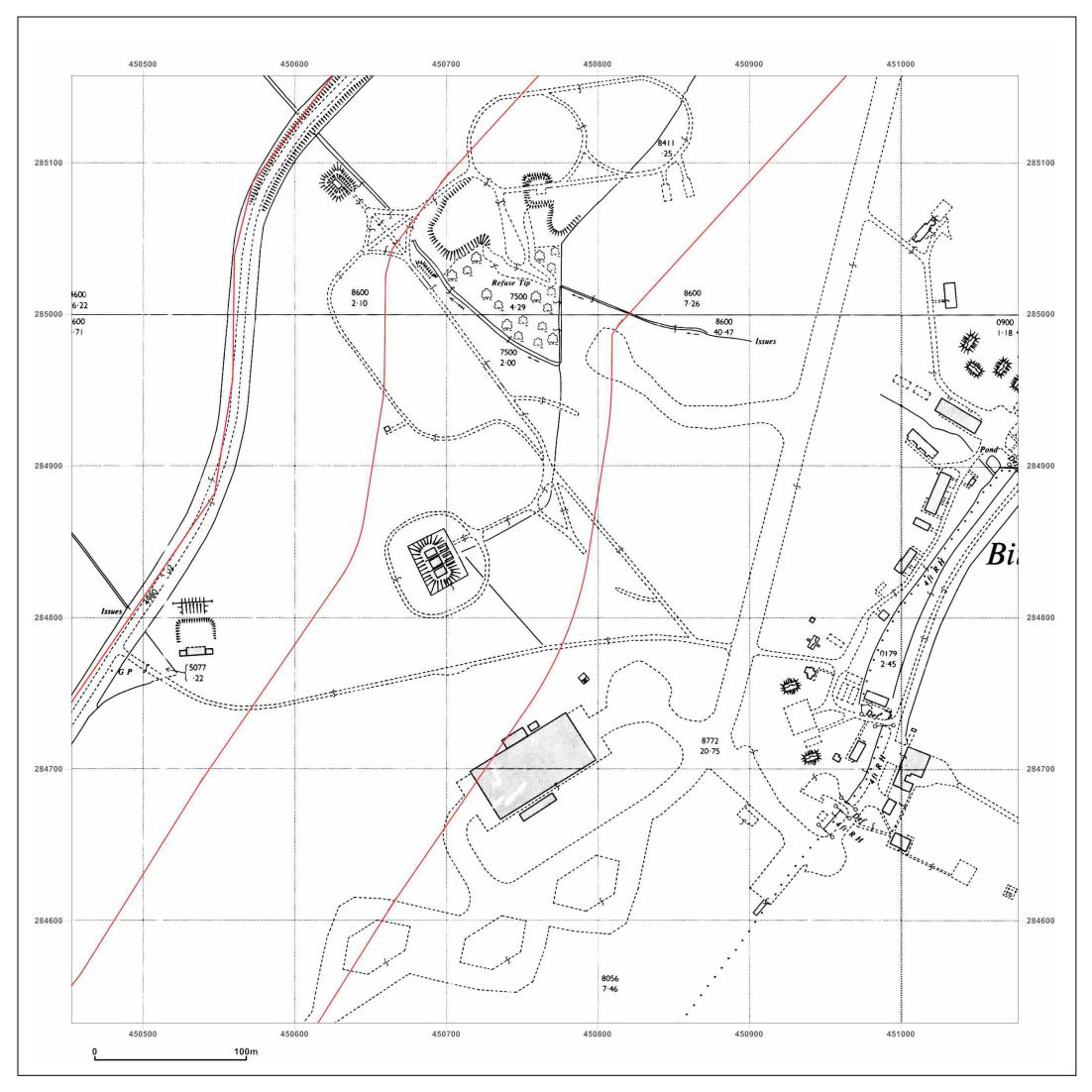


**Ordnance** Survey<sup>®</sup> Licensed Partner

Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

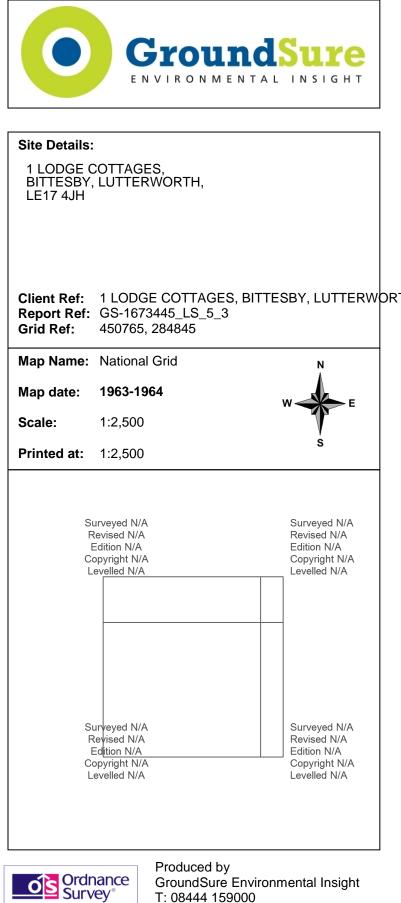
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



т

Licensed Partner

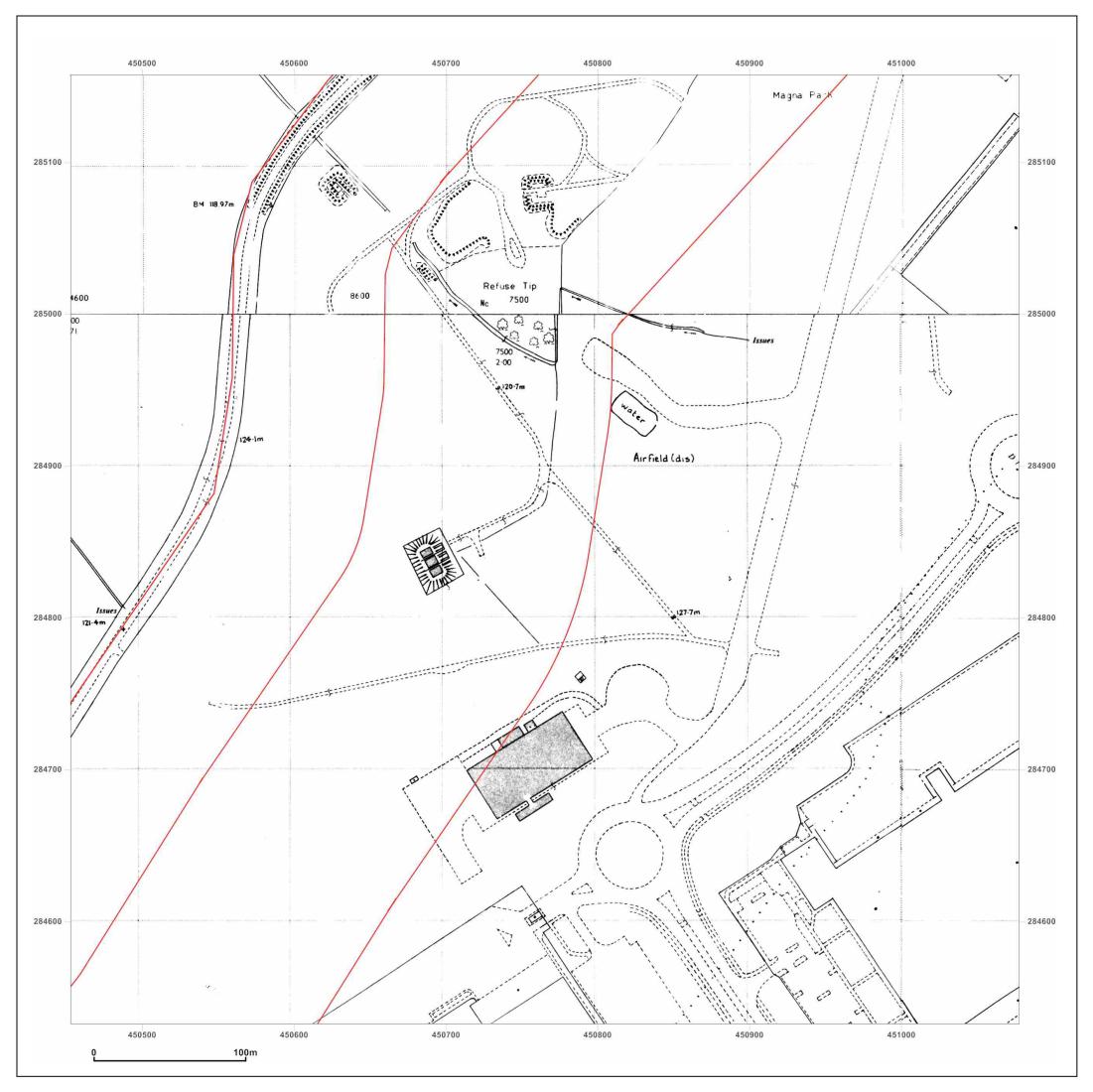


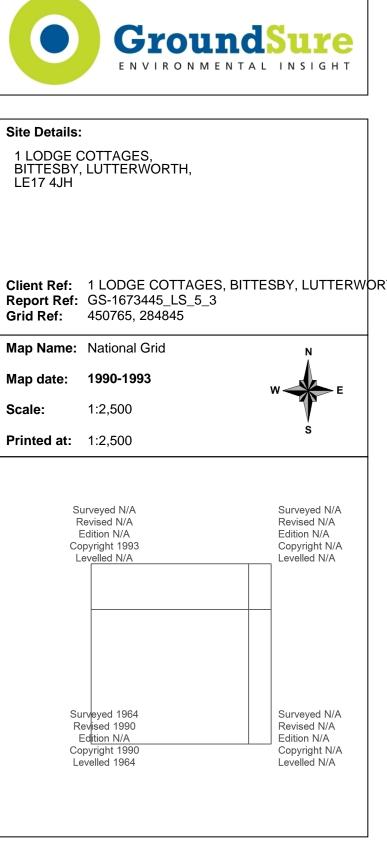
T: 08444 159000 E: <u>info@groundsure.com</u>

W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

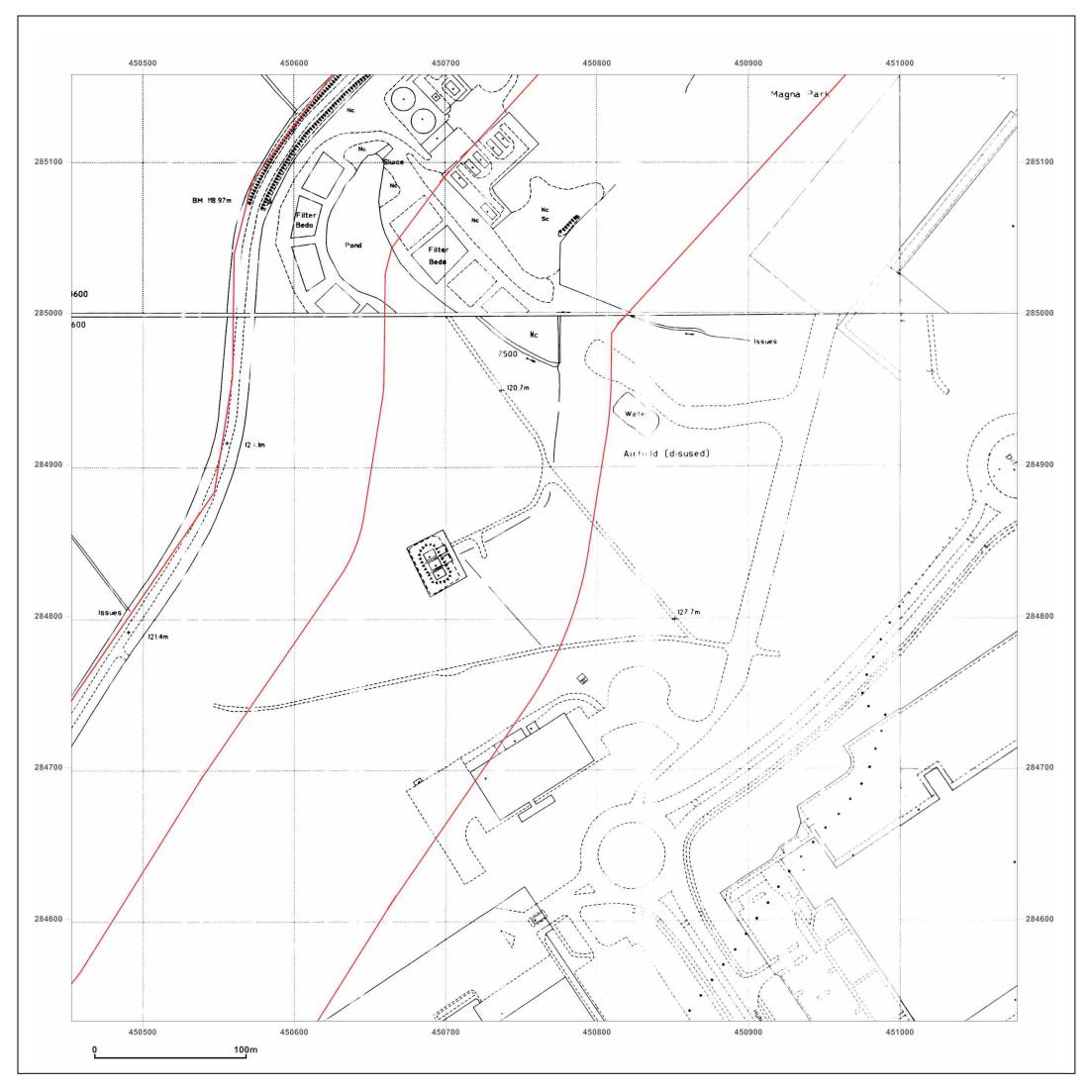


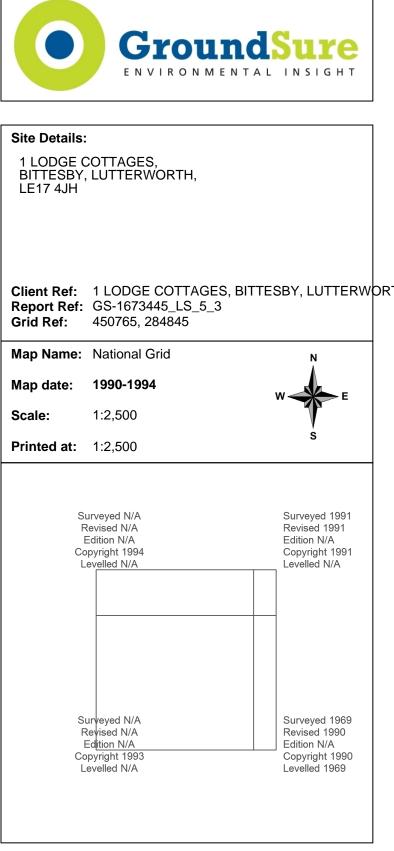




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

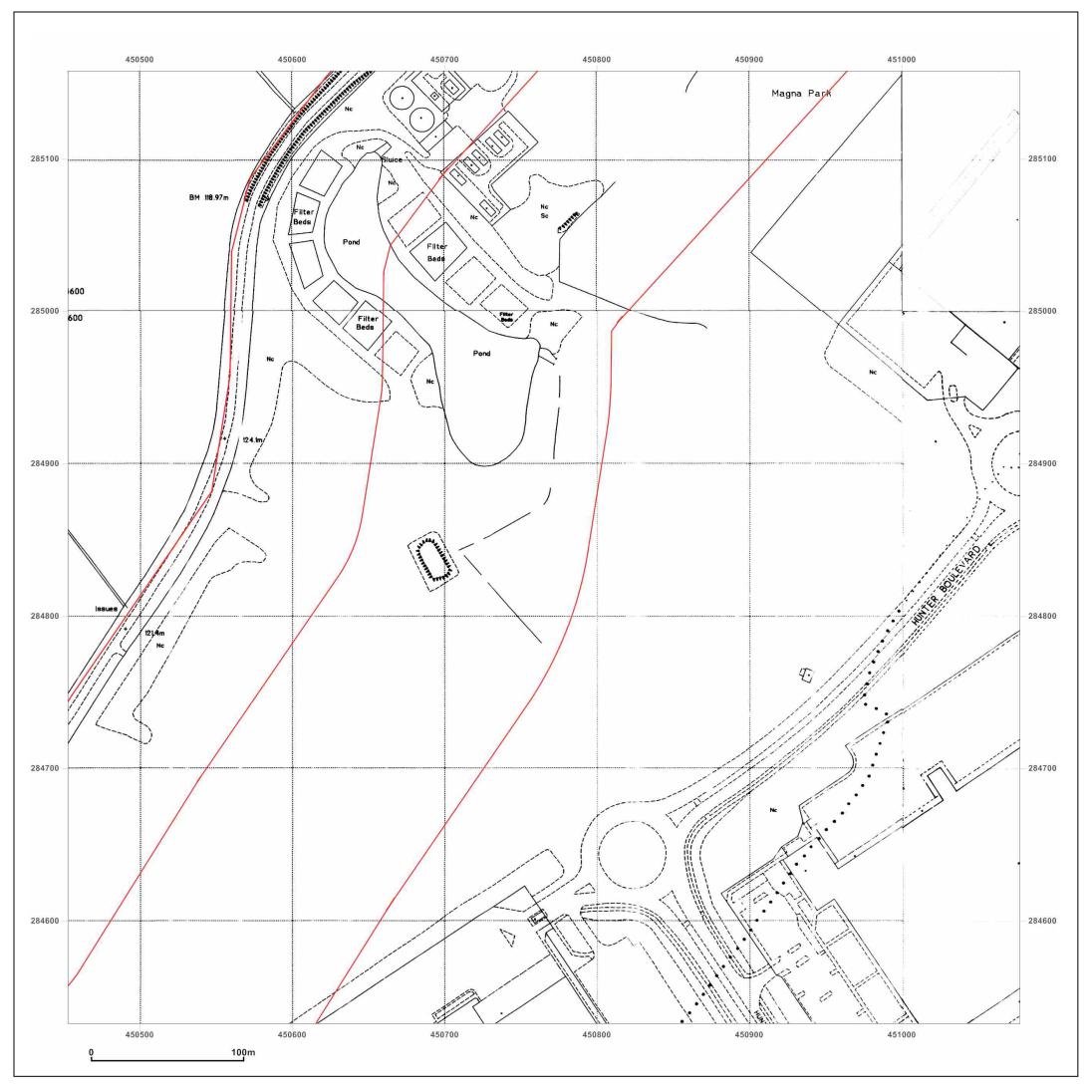


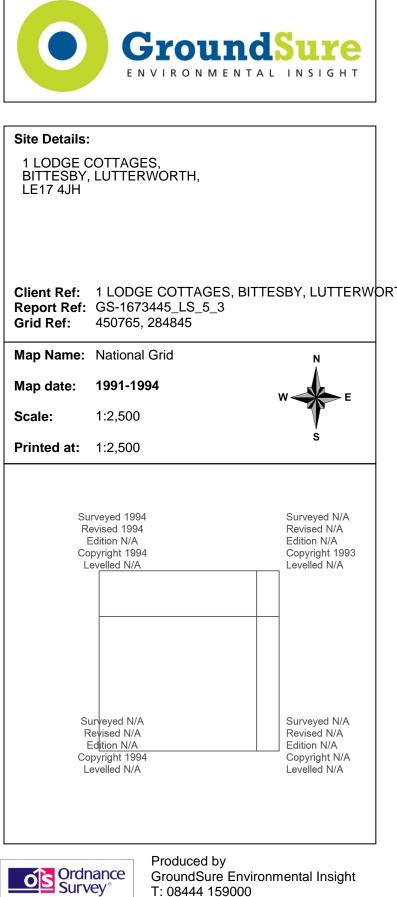




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

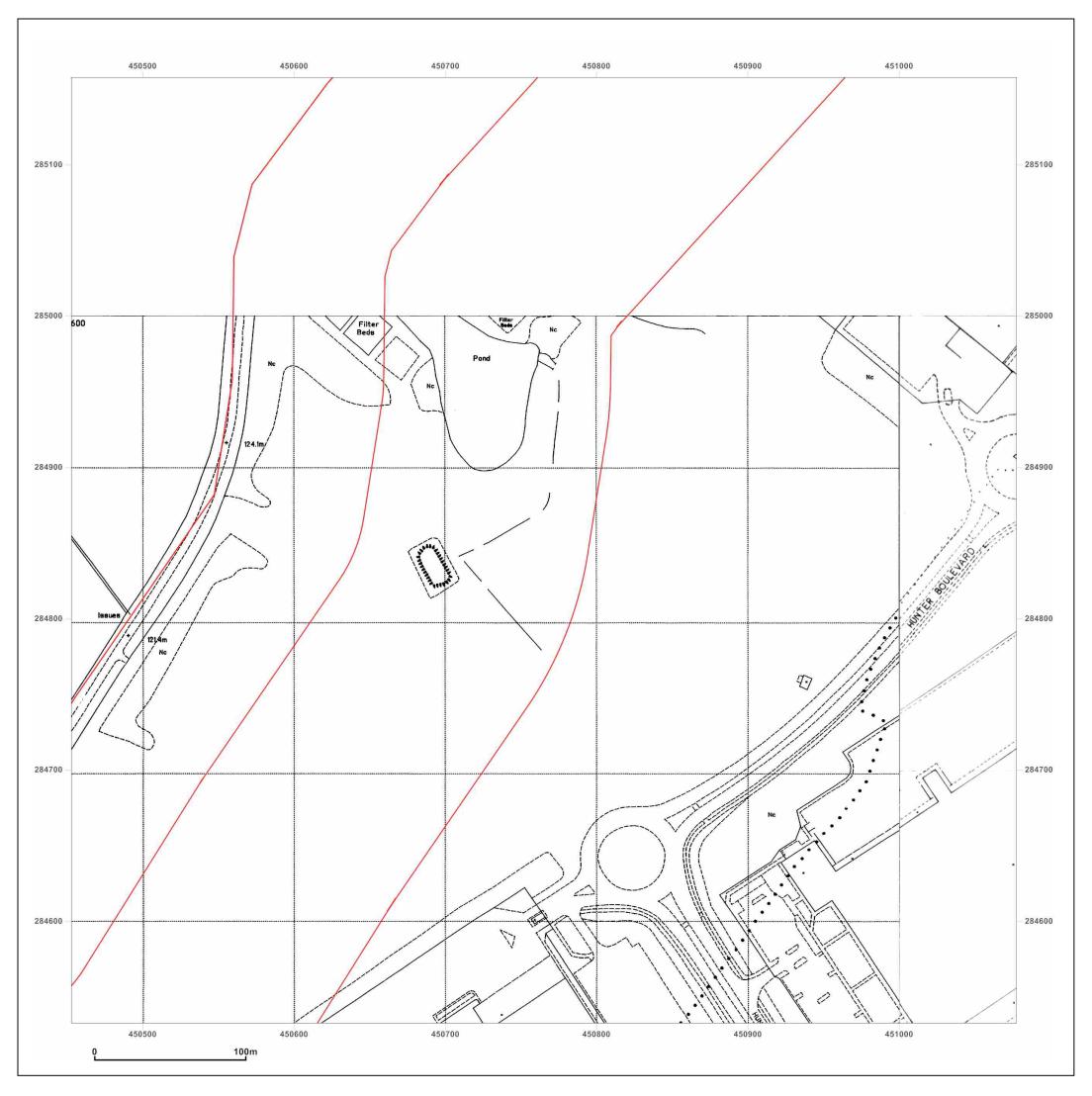


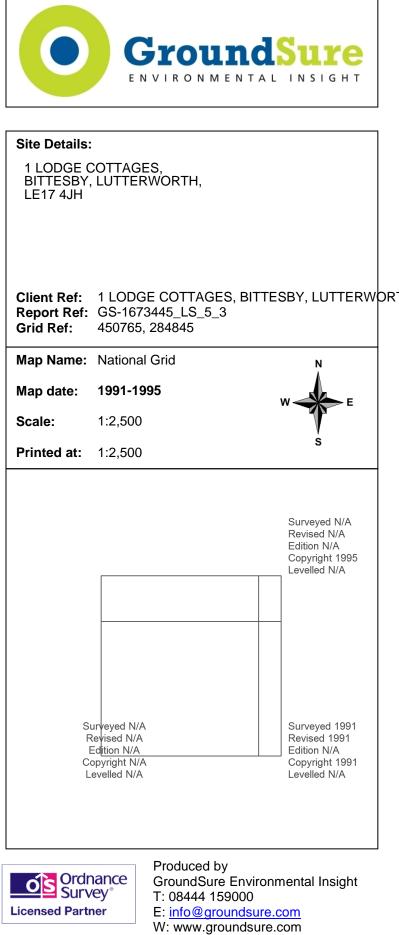


T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

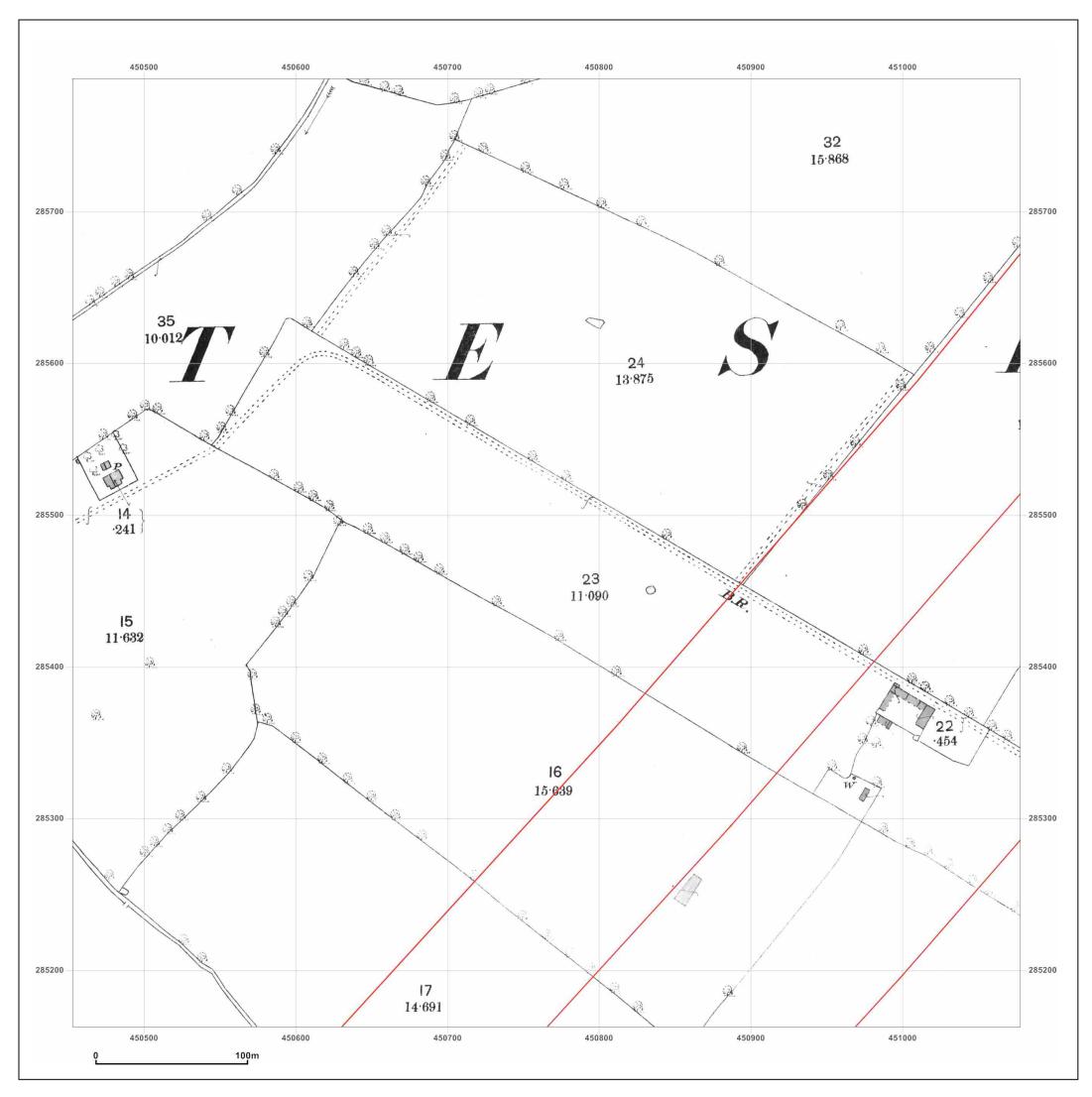
Production date: 22 September 2014

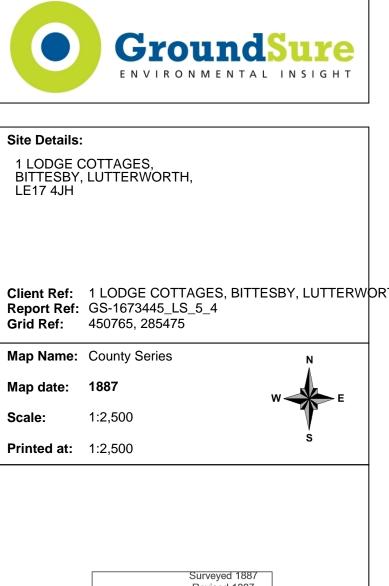




© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





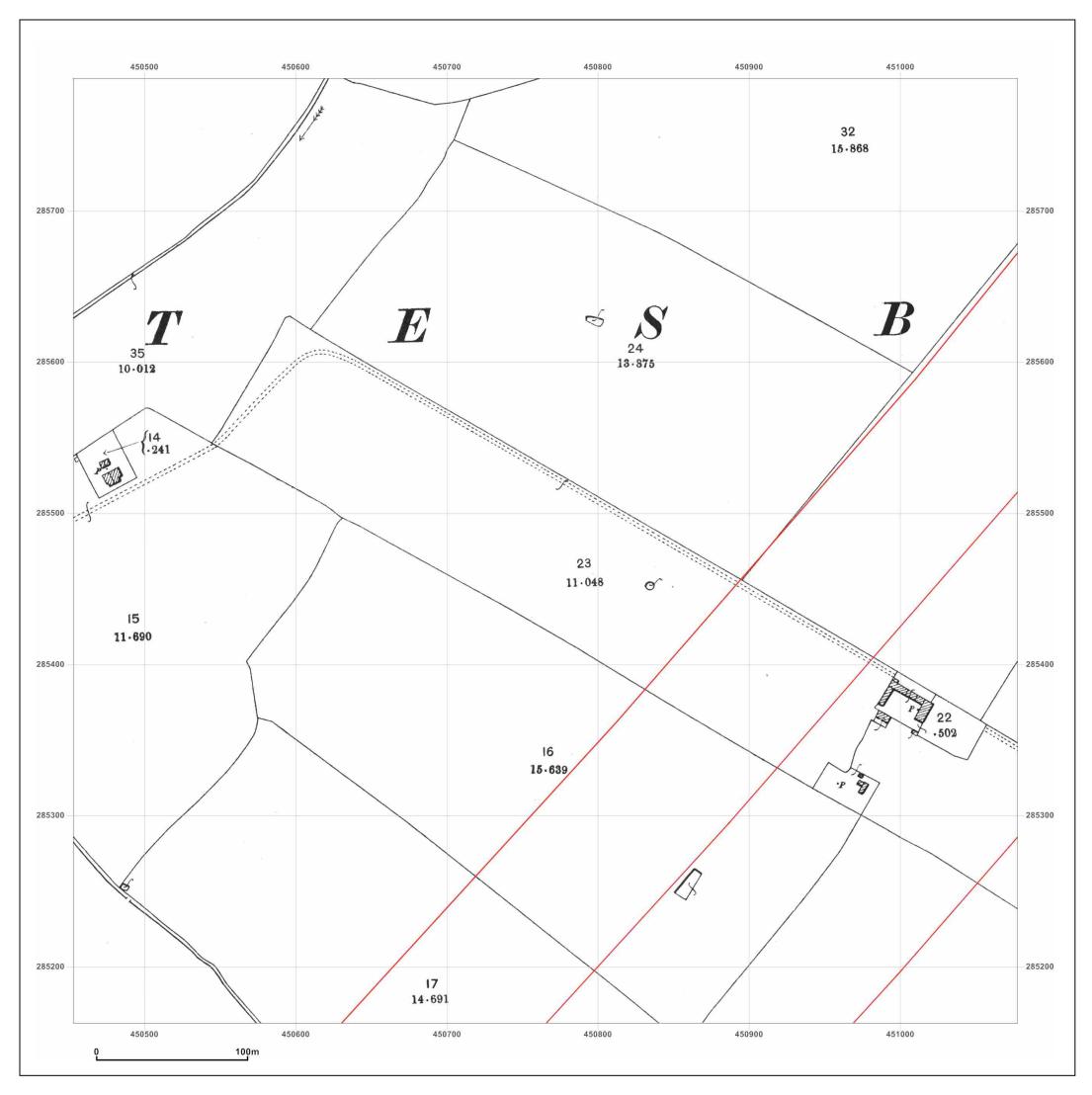
Surveyed 1887 Revised 1887 Edition N/A Copyright N/A Levelled N/A

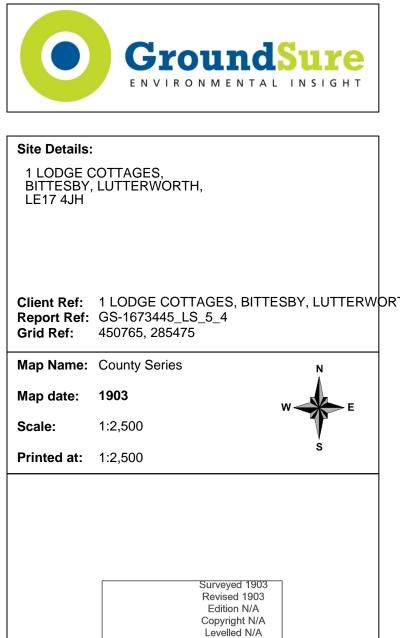


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014

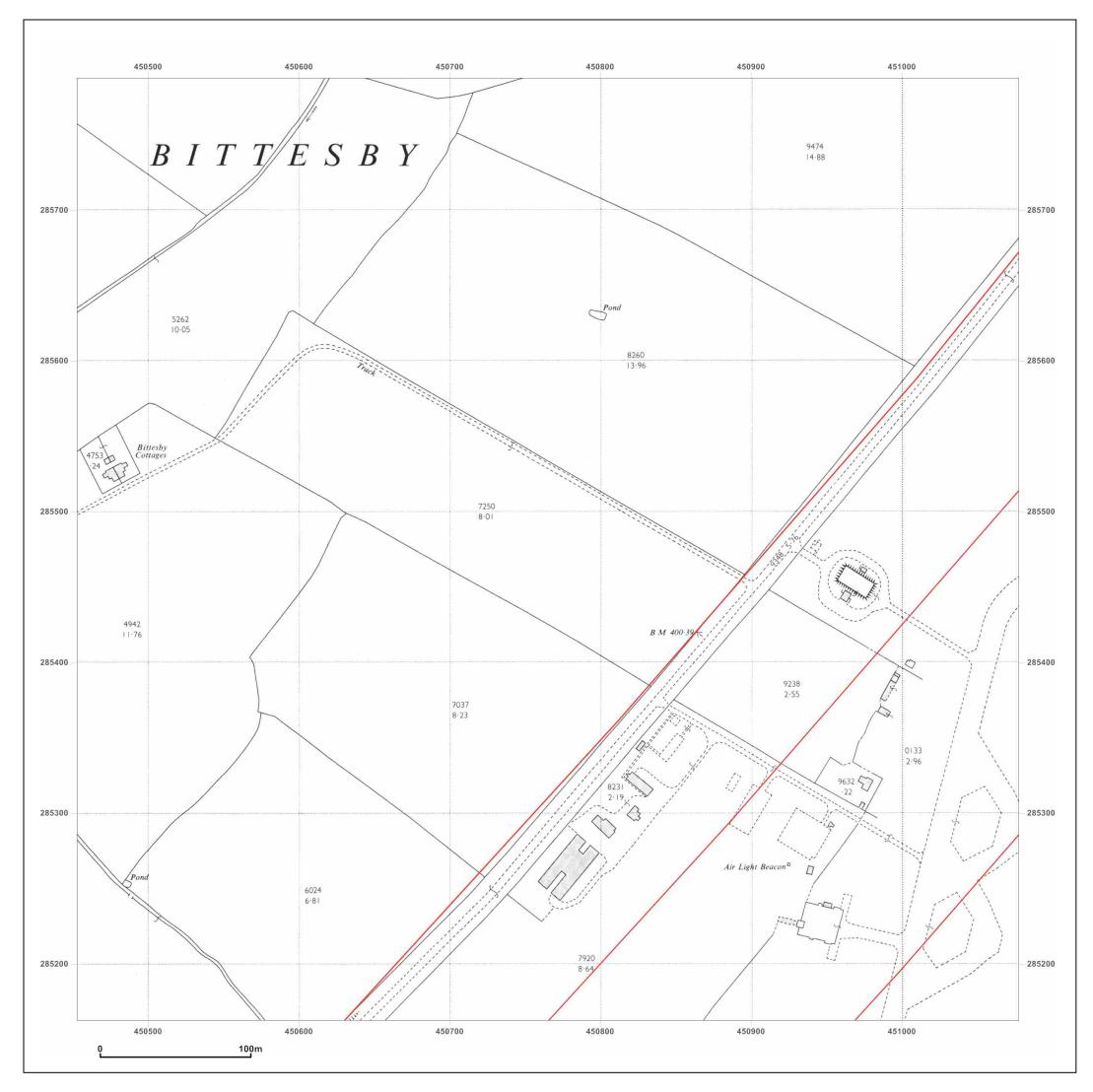






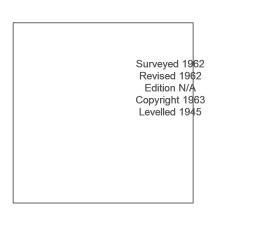
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





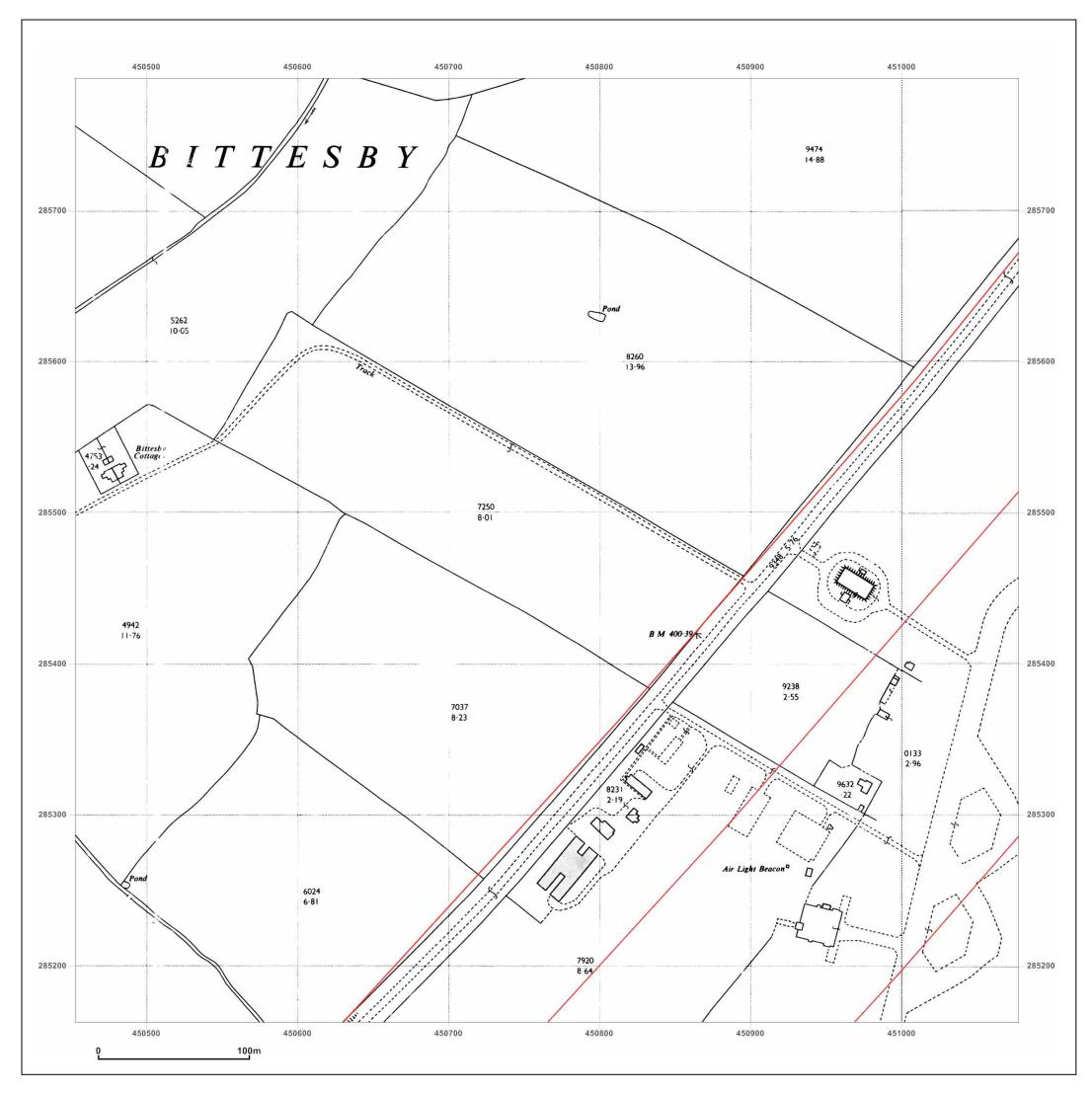
| Map Name:   | National Grid | N        |
|-------------|---------------|----------|
| Map date:   | 1962          | W        |
| Scale:      | 1:2,500       | <b>W</b> |
| Printed at: | 1:2,500       | S        |
|             |               |          |

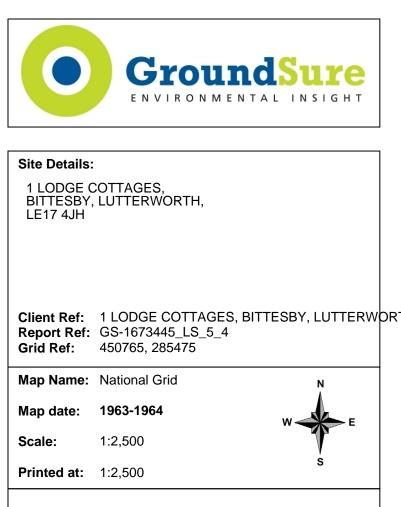


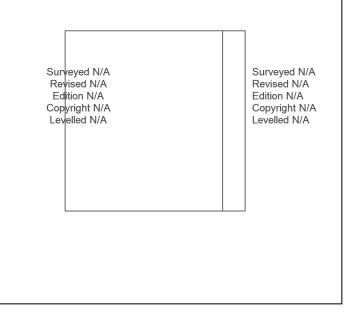


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



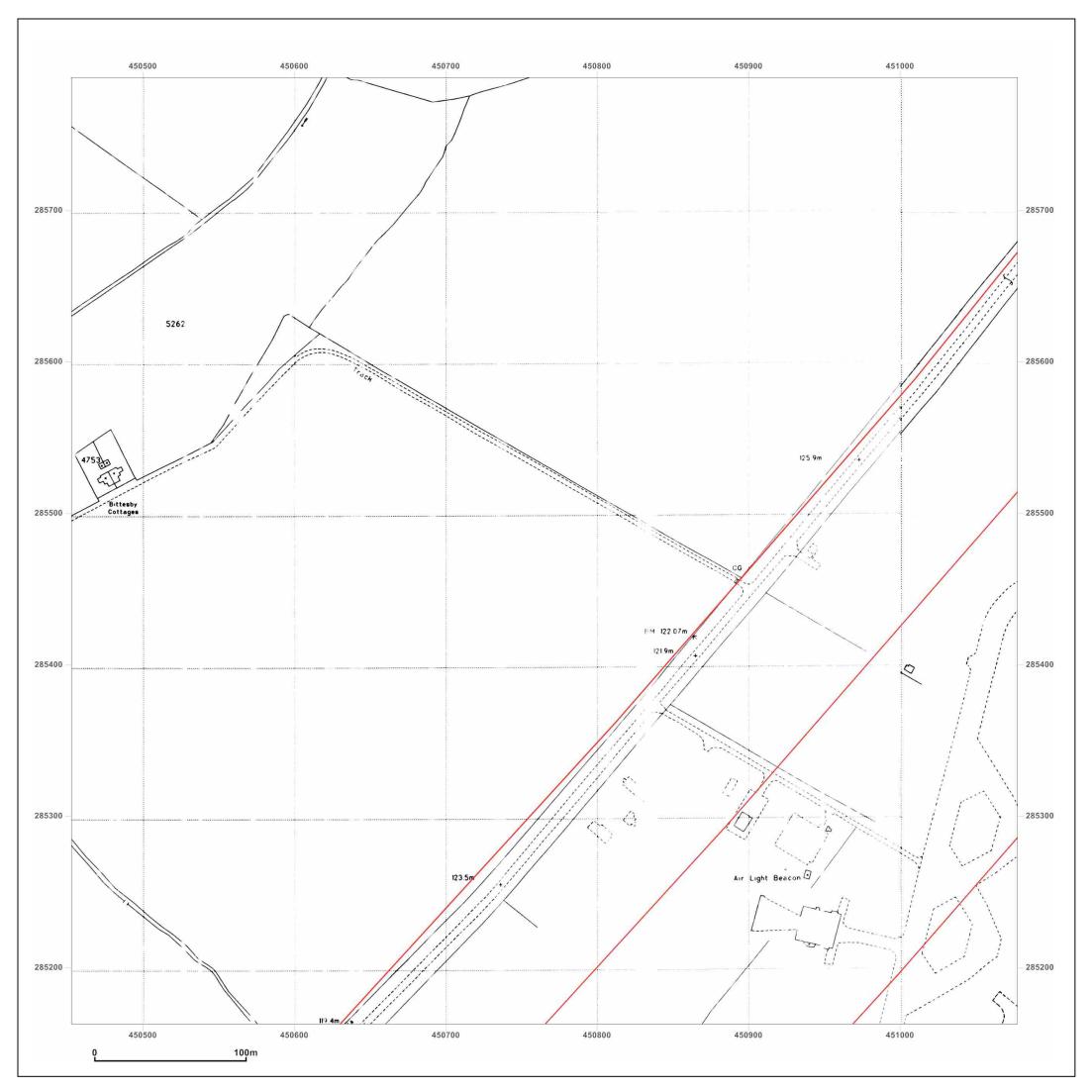


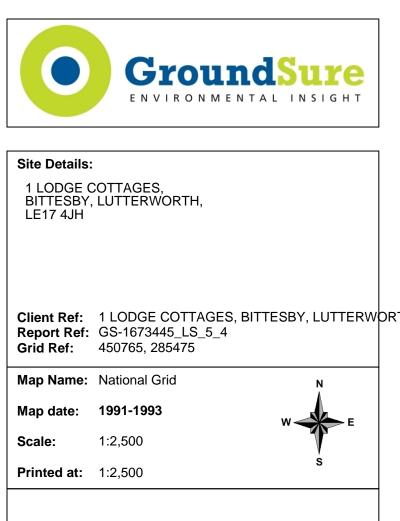


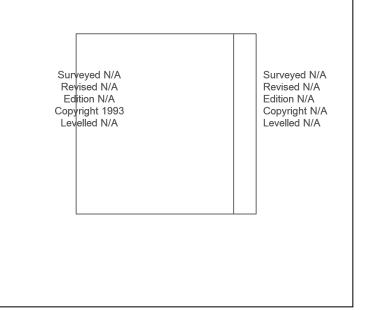


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



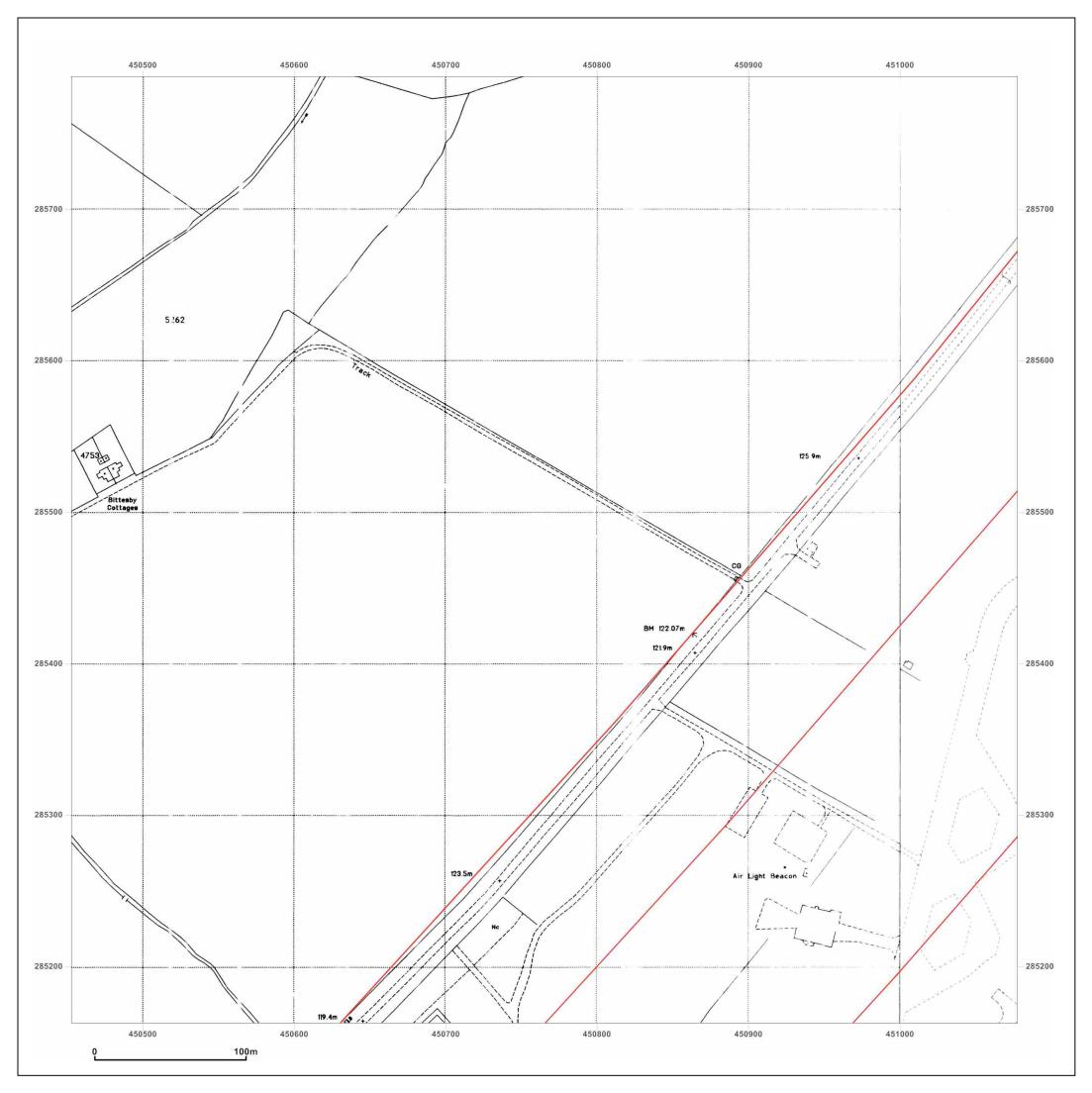


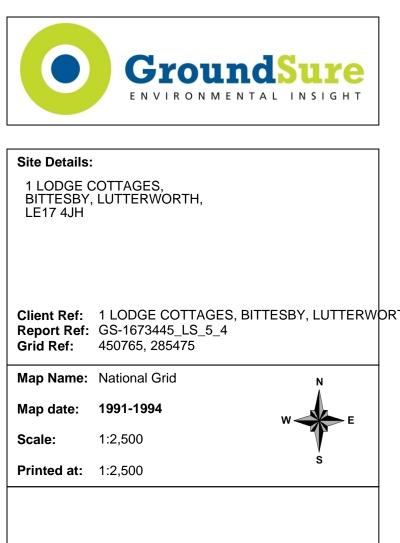


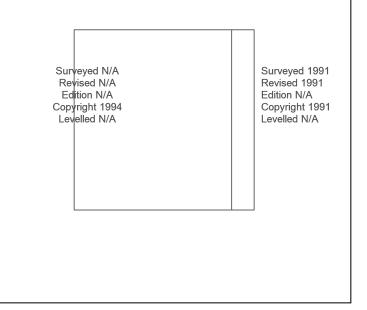


© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





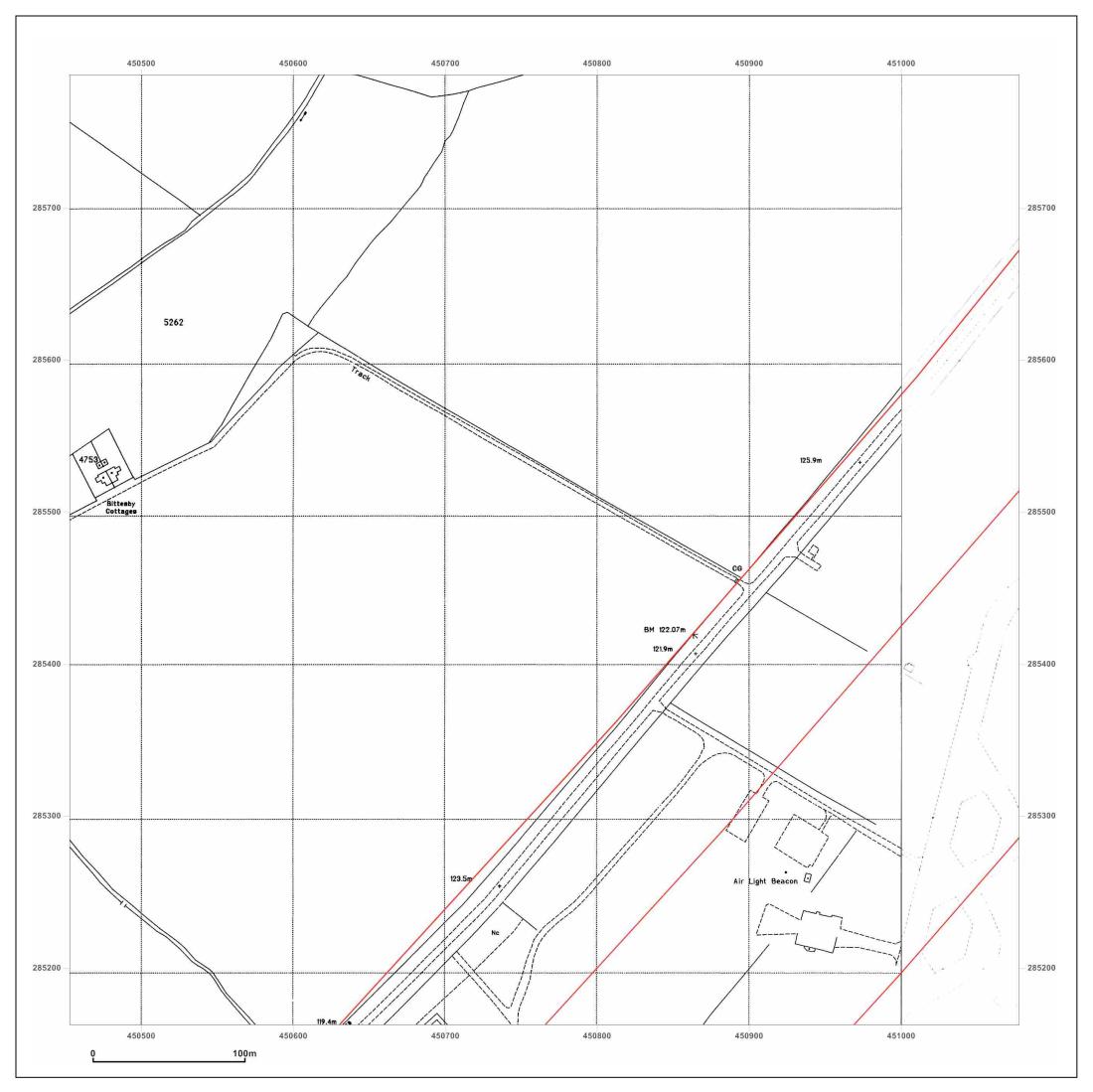


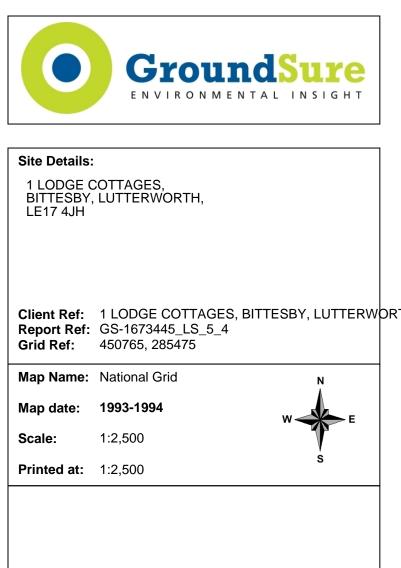


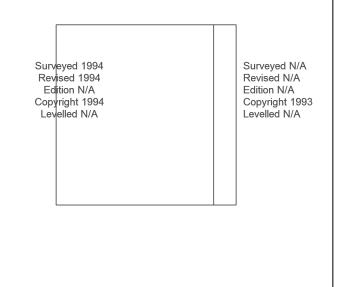
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





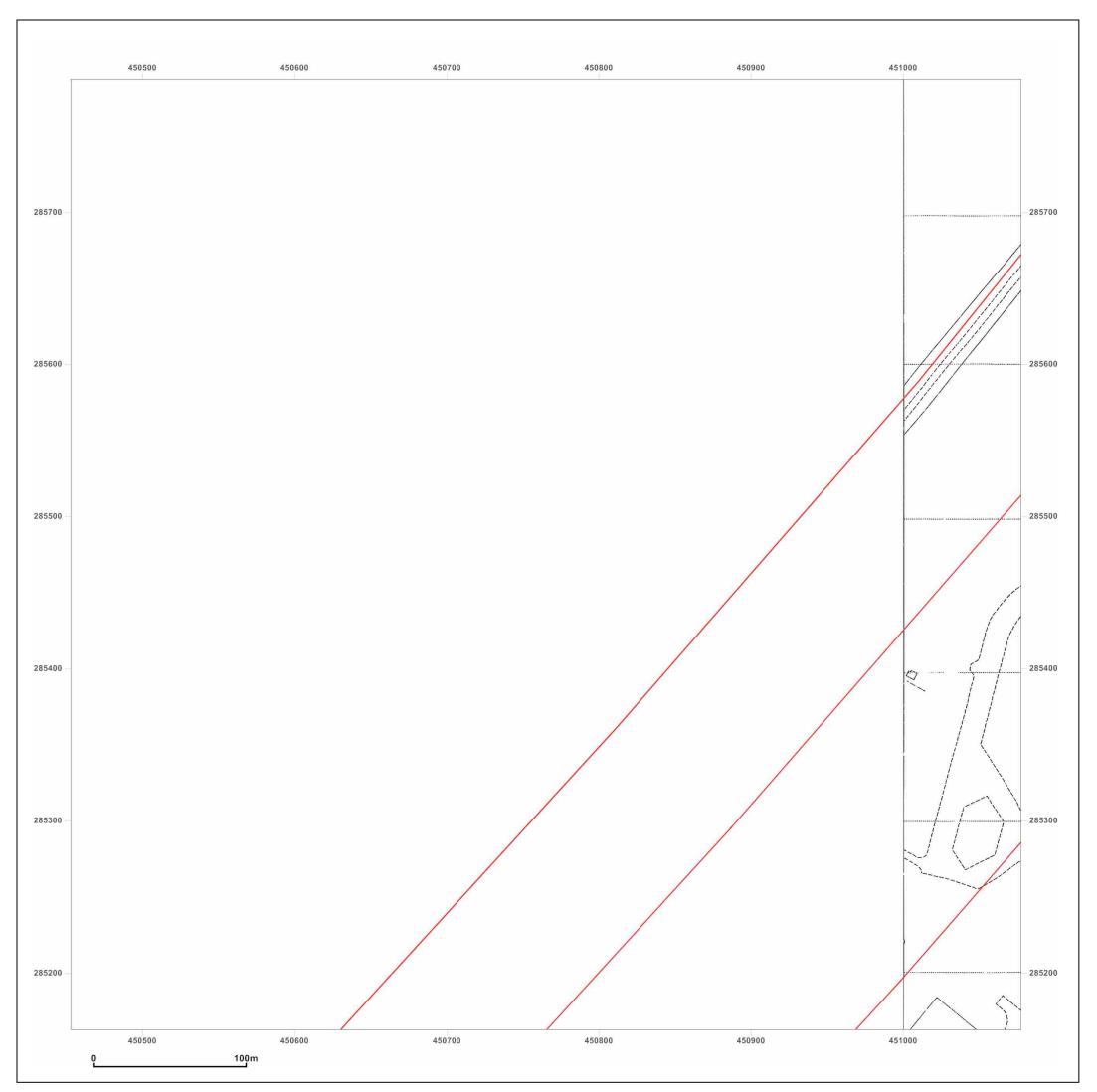




Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

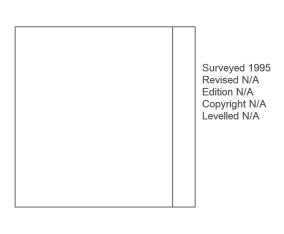
Production date: 22 September 2014



To view map legend click here Legend



| Report Ref: | 1 LODGE COTTAGES, BITTESBY, LUTTERWO<br>GS-1673445_LS_5_4<br>450765, 285475 |   | OR <sup>.</sup> |
|-------------|---|---|-----------------|
| Map Name:   | National Grid   | N |                 |
| Map date:   | 1995  | W |                 |
| Scale:      | 1:2,500   |   |                 |
| Printed at: | 1:2,500   | S |                 |

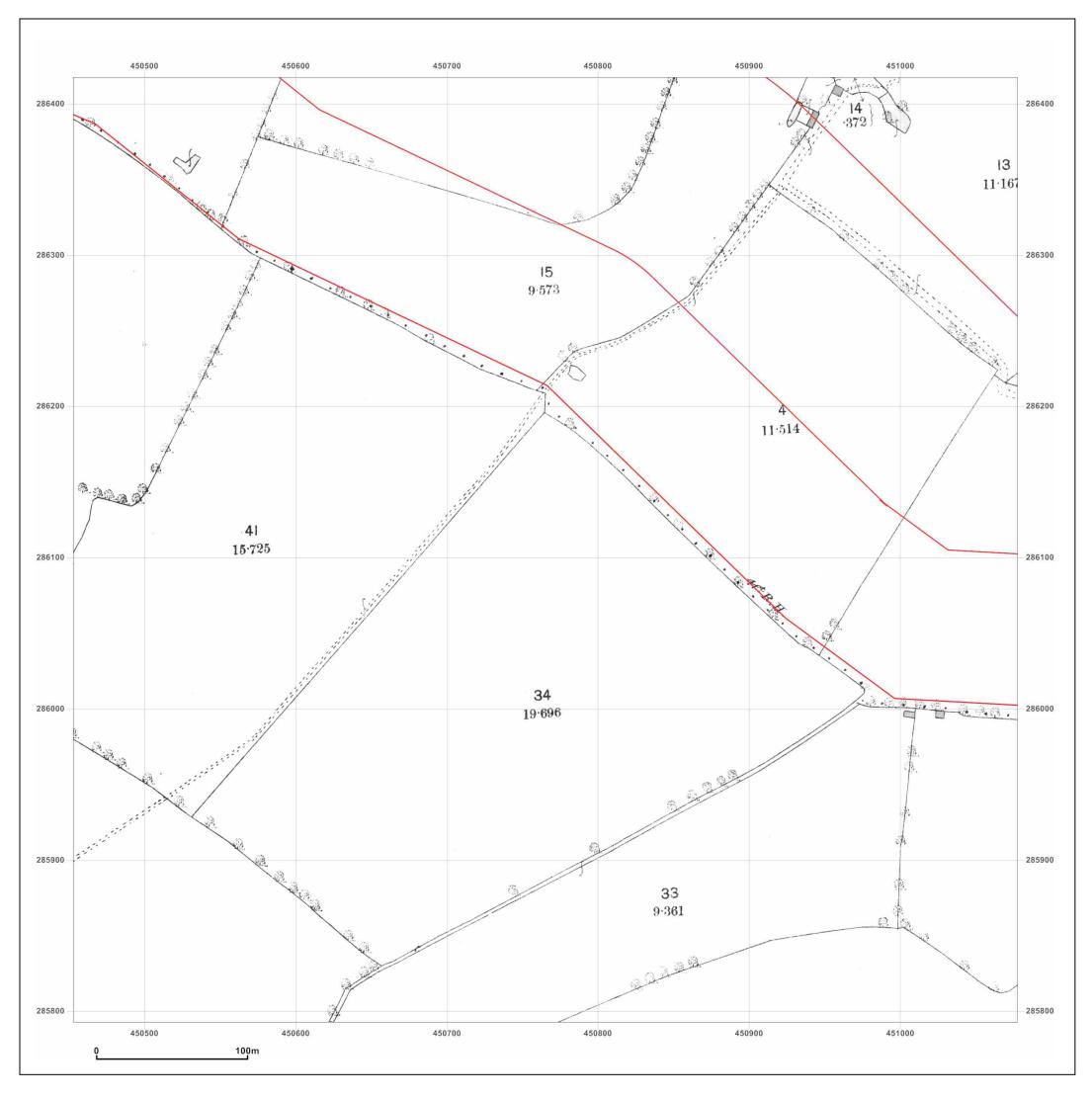


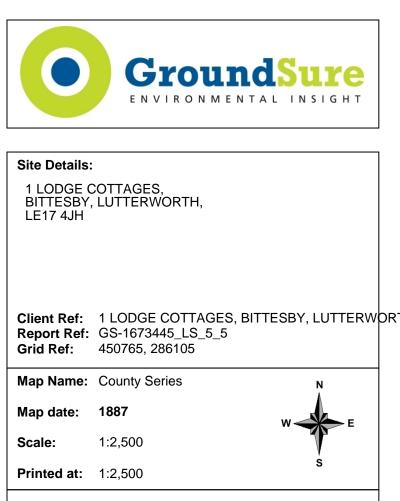


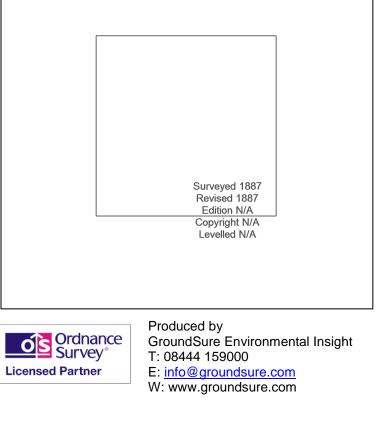
Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

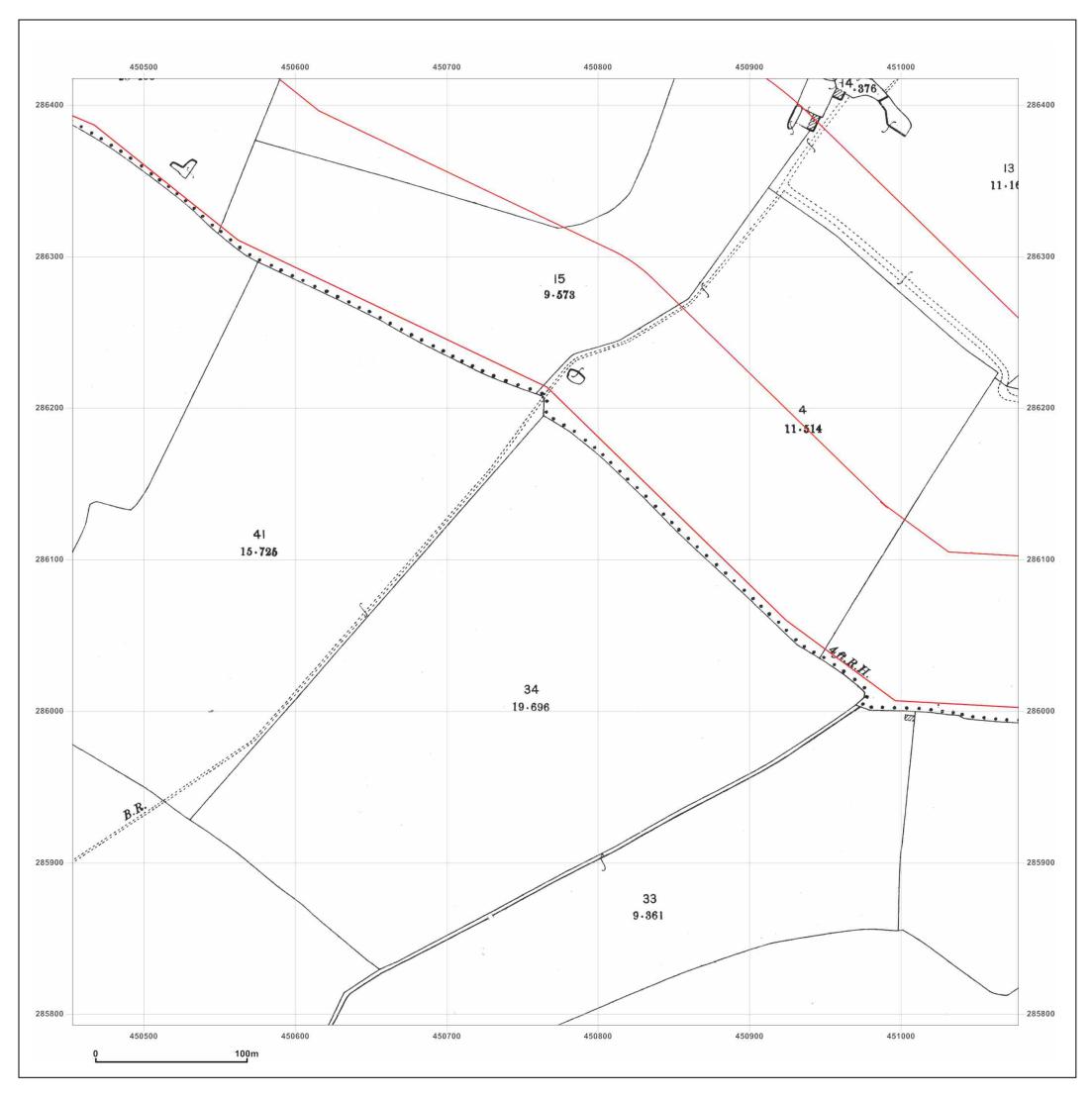
Production date: 22 September 2014

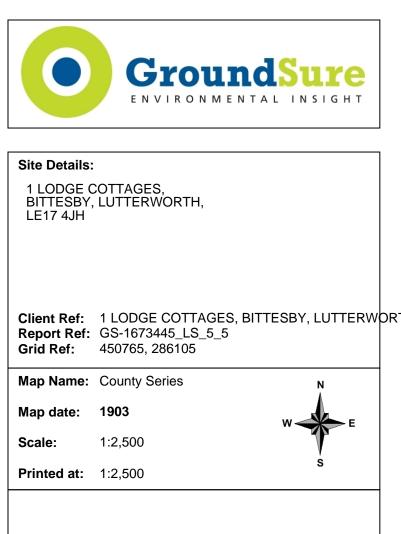


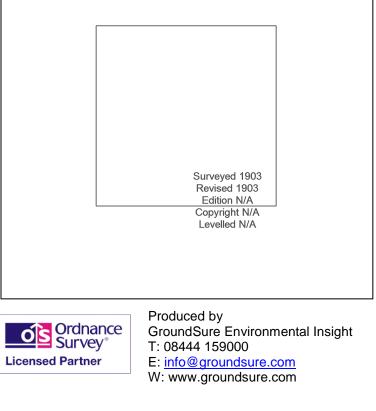




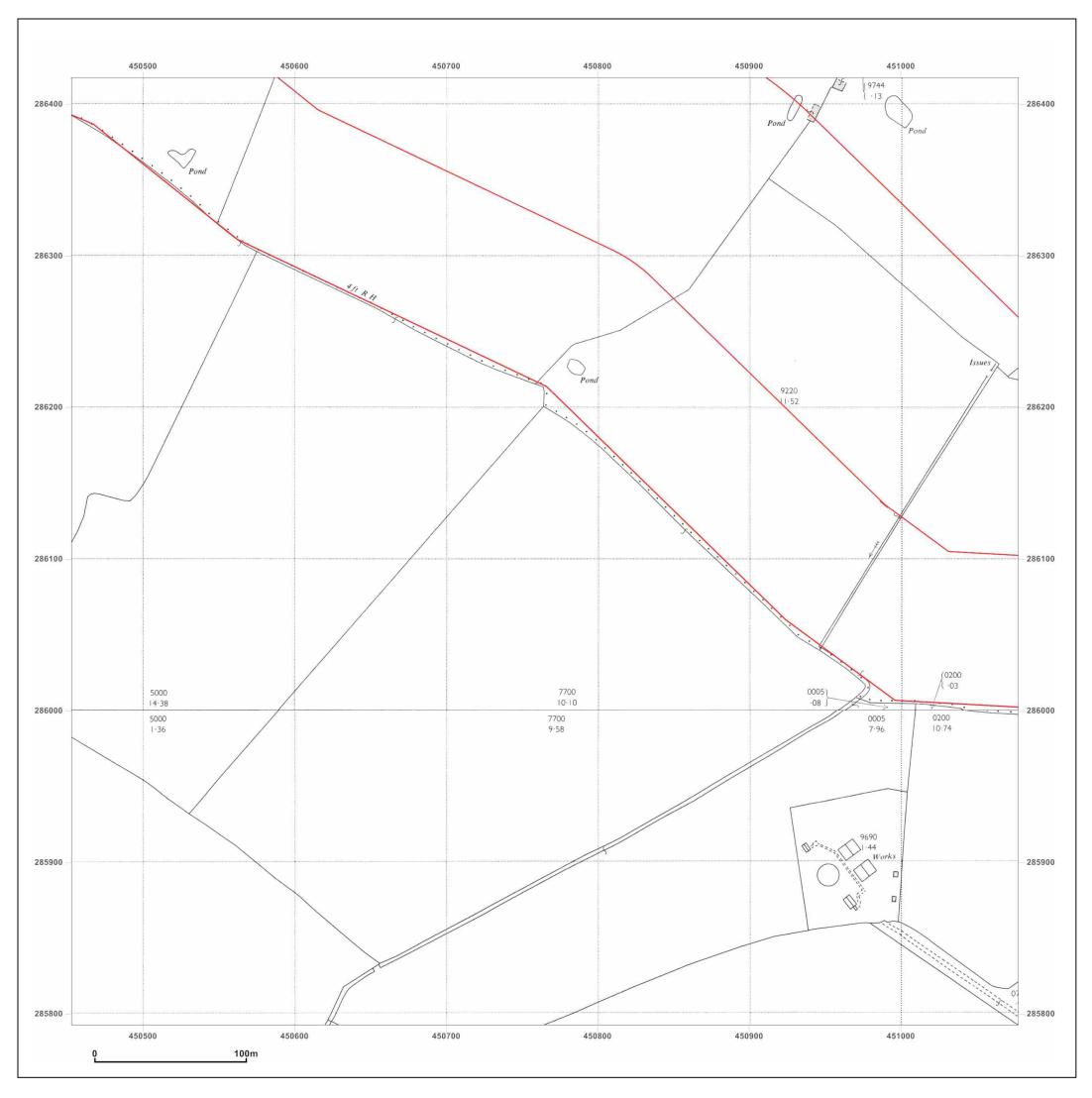
Production date: 22 September 2014



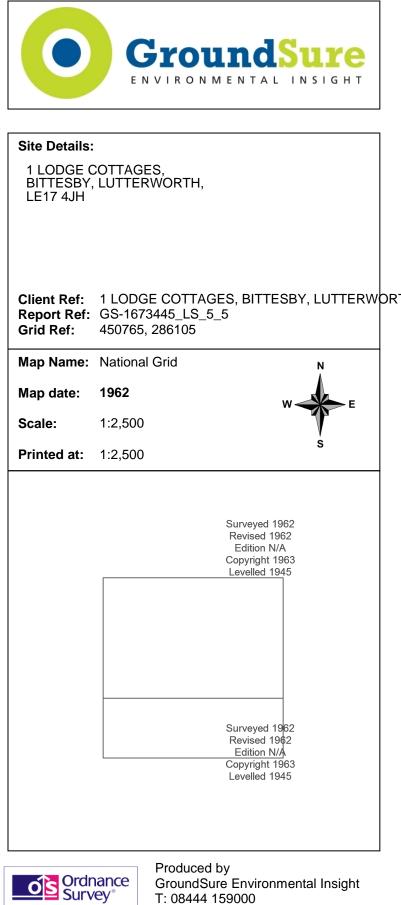




Production date: 22 September 2014



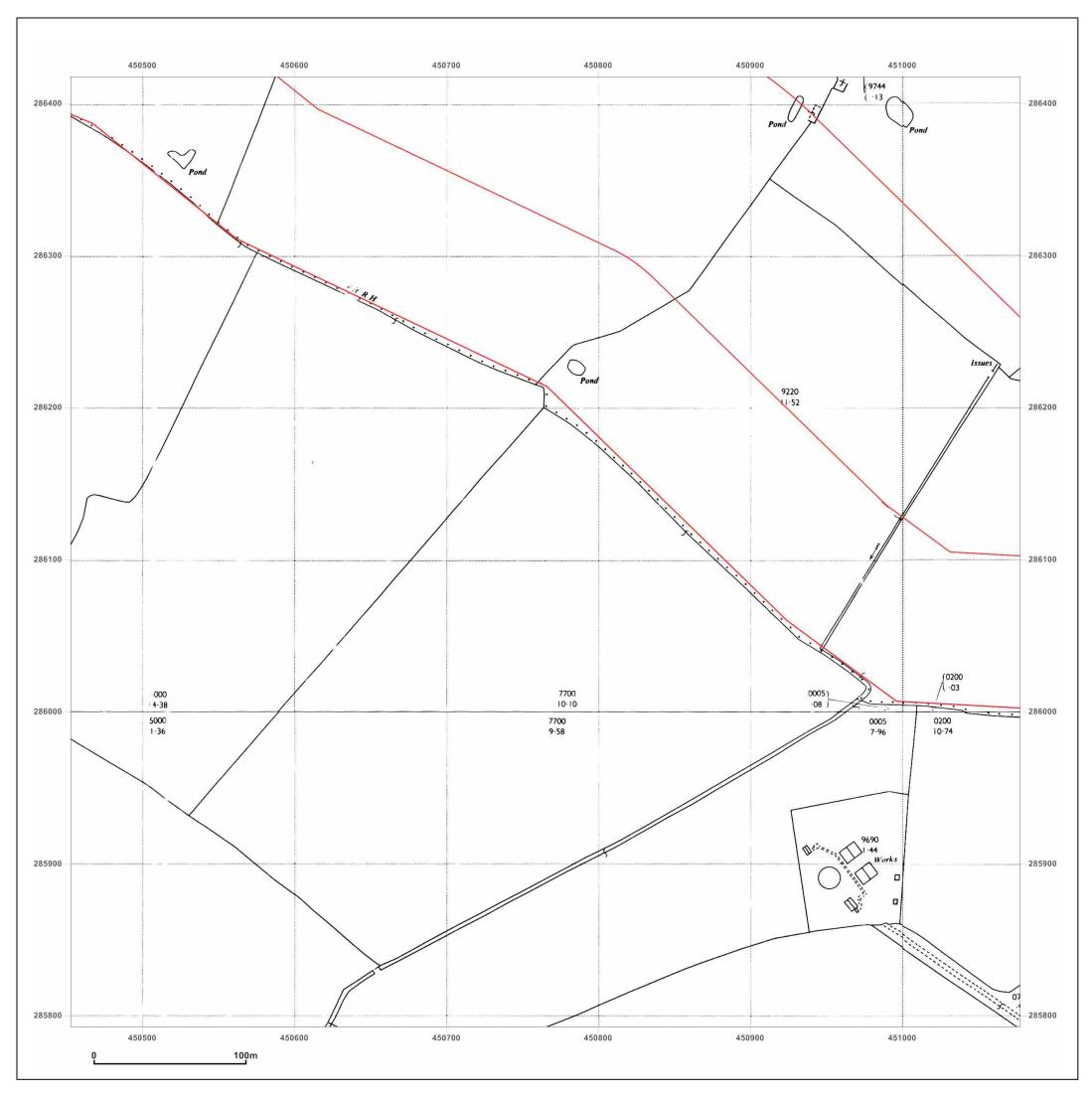
Licensed Partner



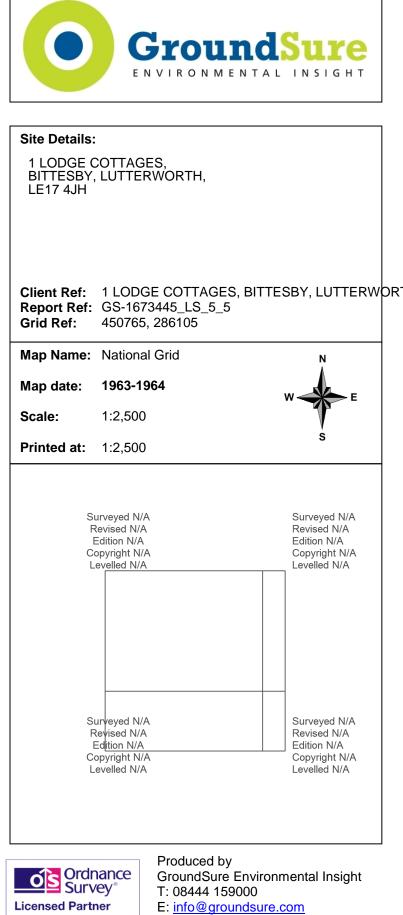
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com W: www.groundsure.com

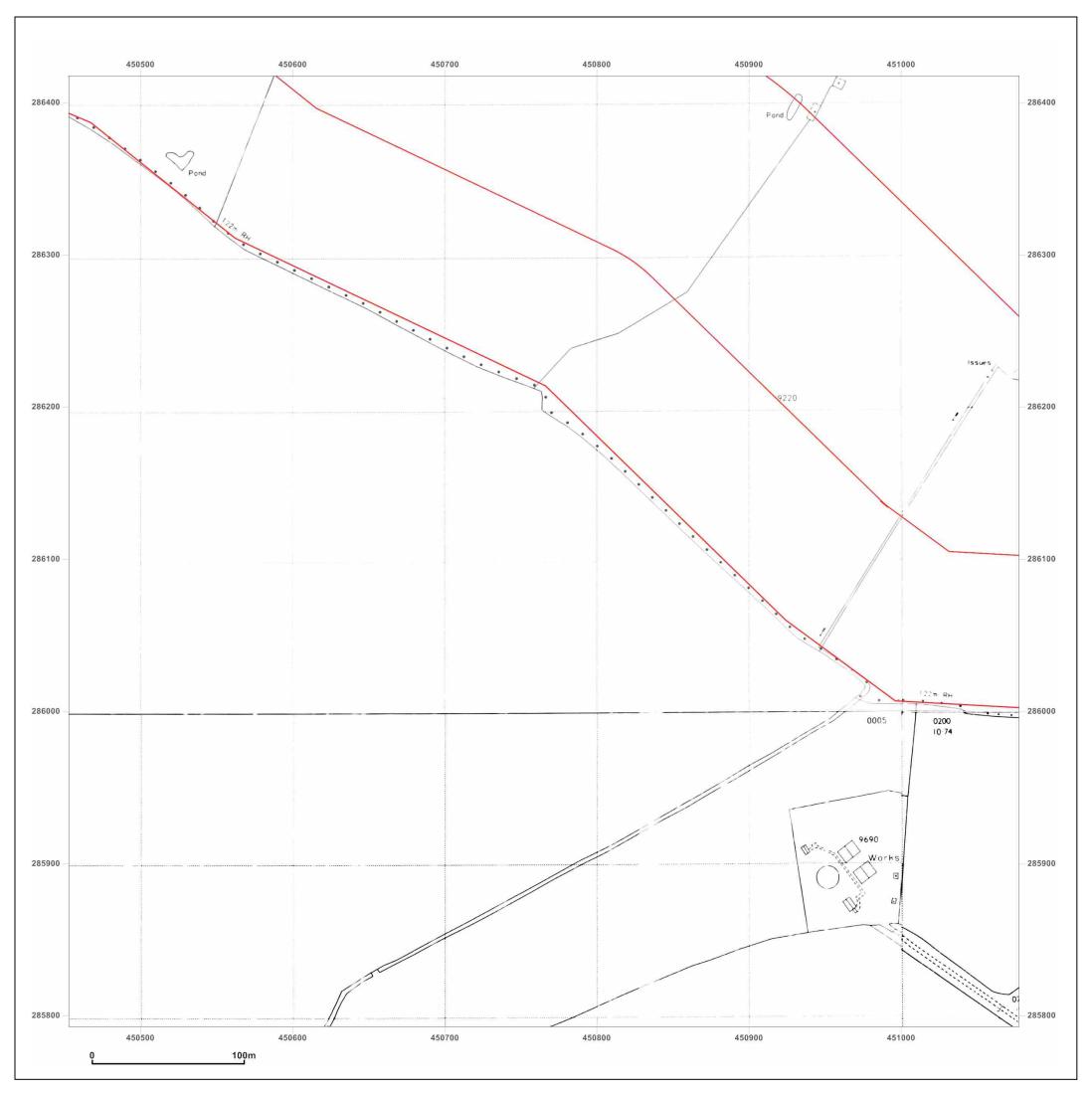
Production date: 22 September 2014

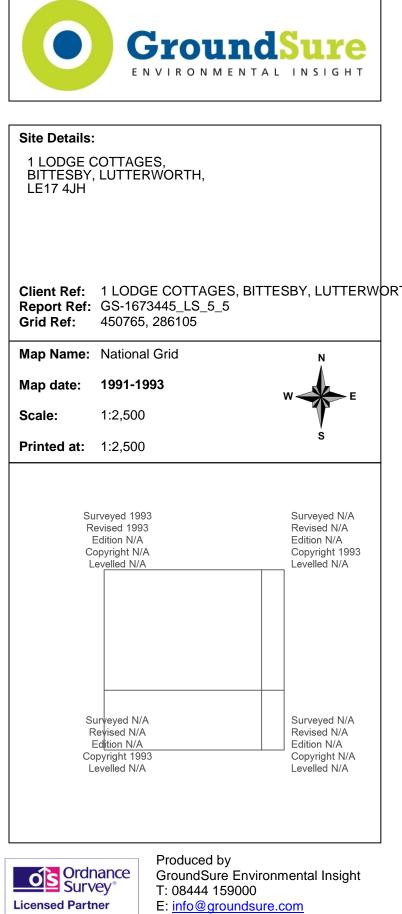


W: www.groundsure.com



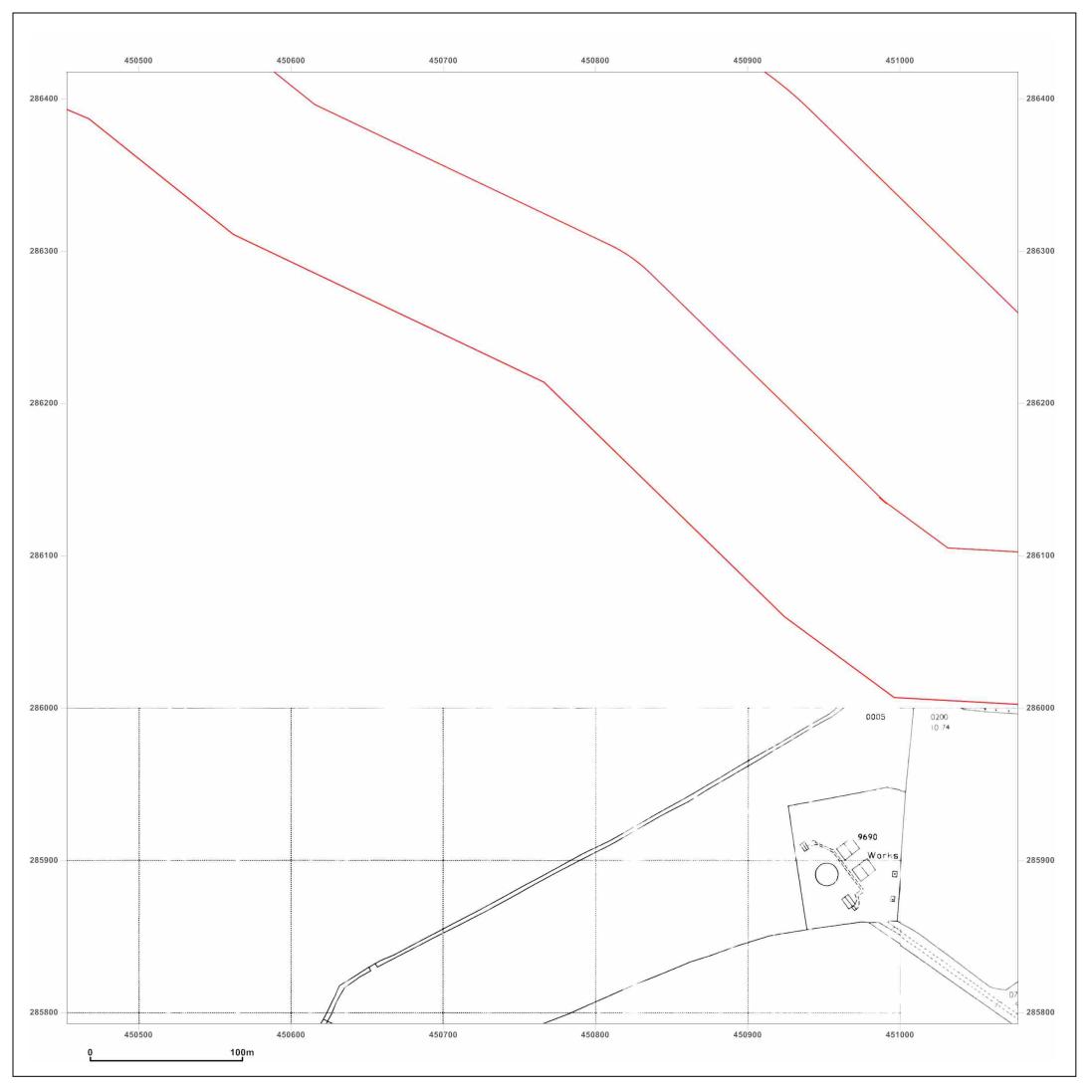
Production date: 22 September 2014

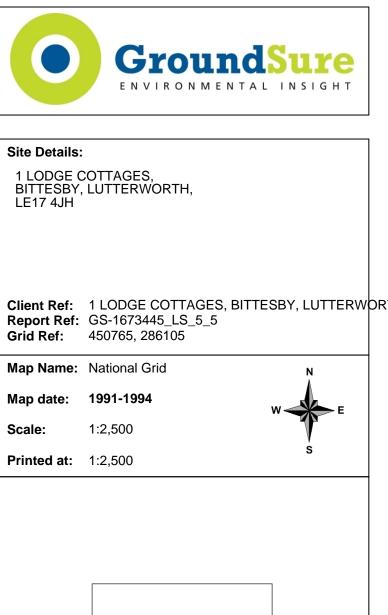


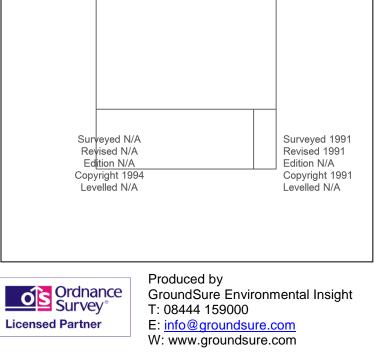


W: www.groundsure.com

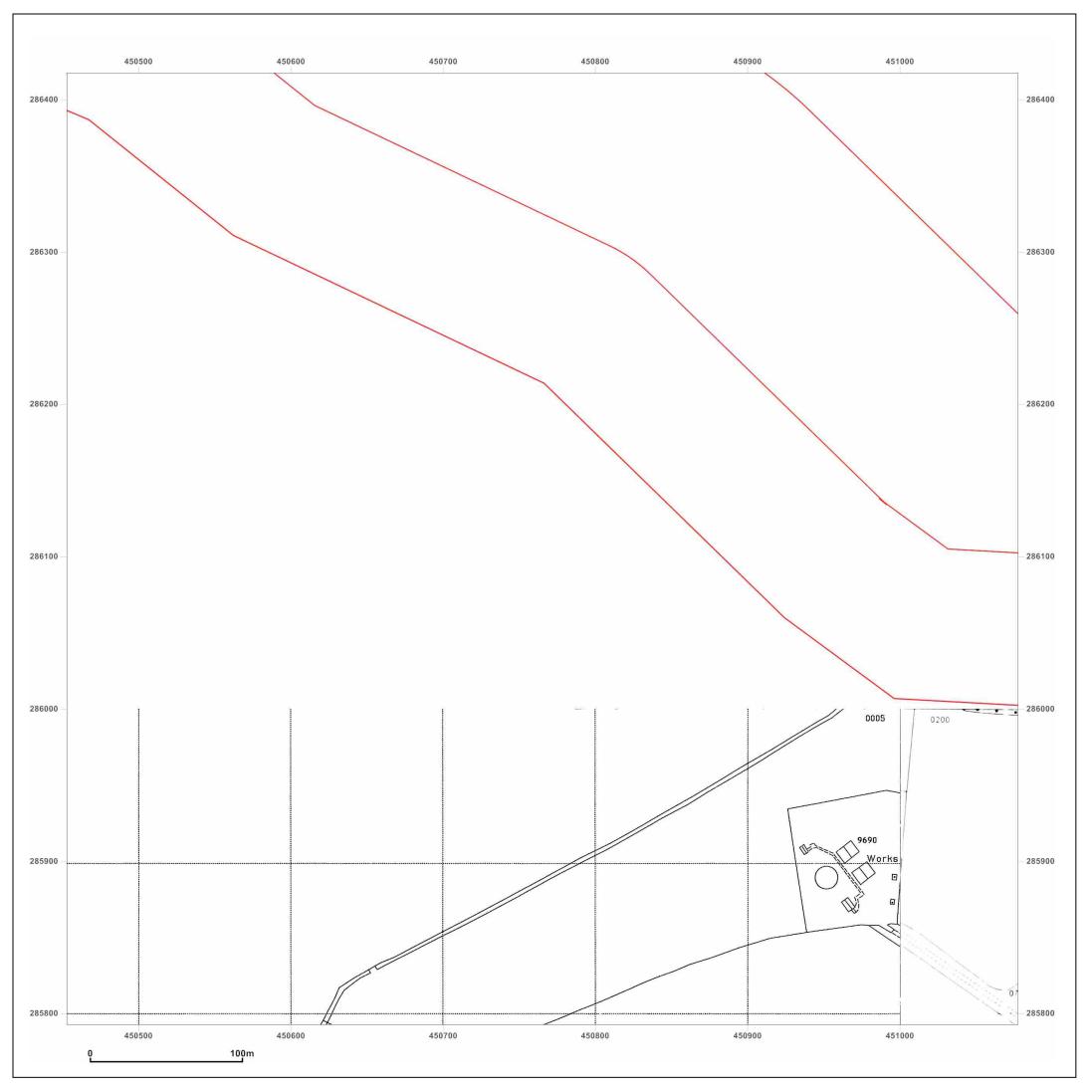
Production date: 22 September 2014

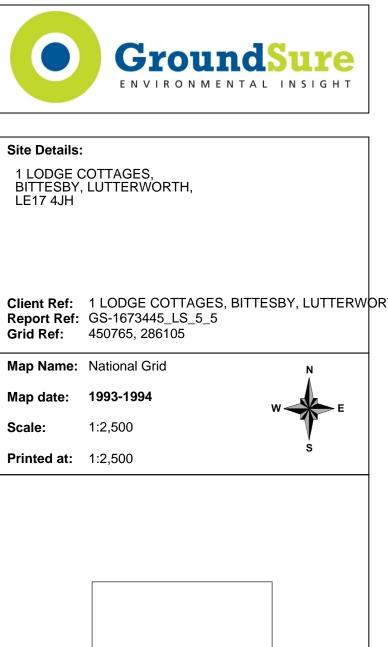


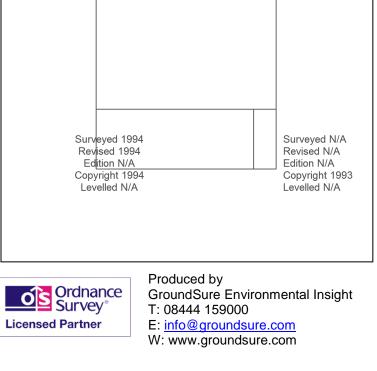




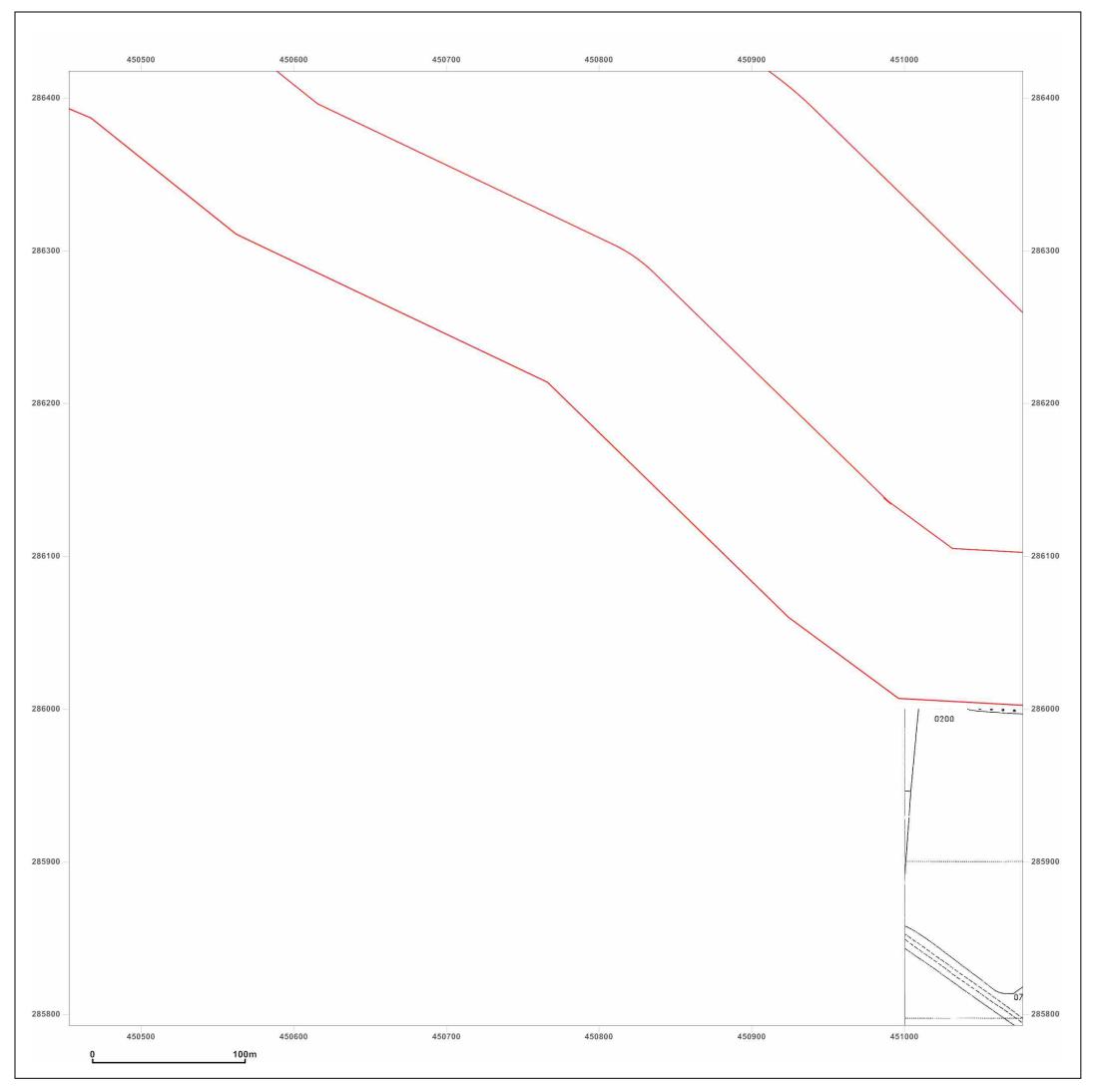
Production date: 22 September 2014





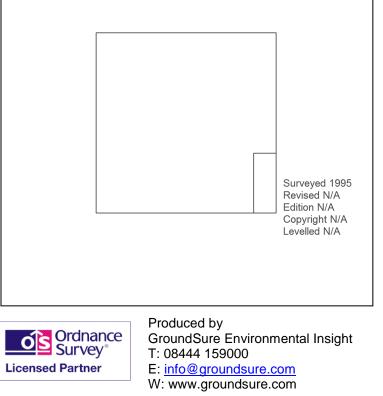


Production date: 22 September 2014

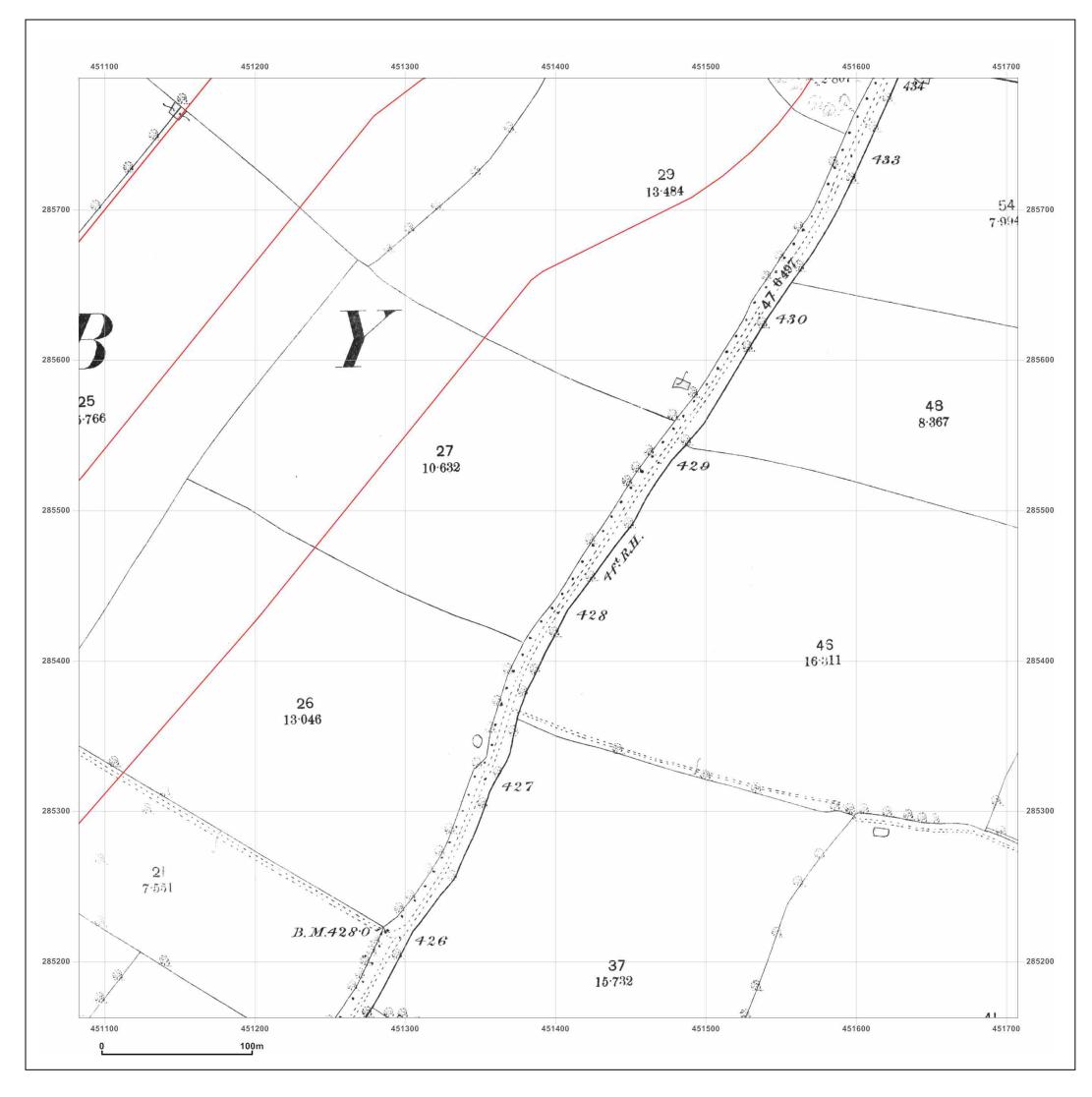


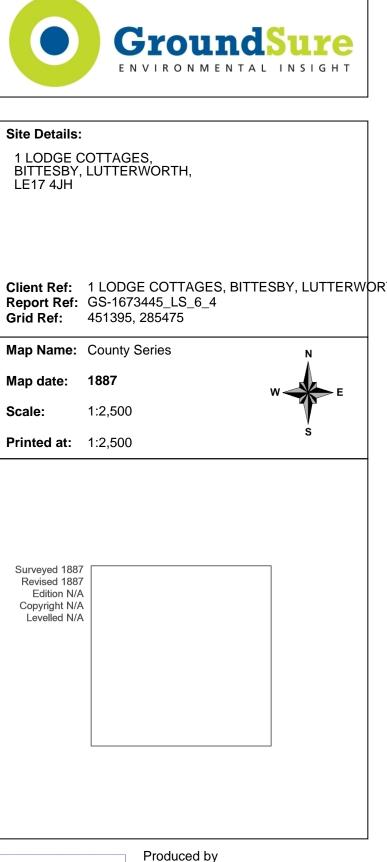


| Map Name:   | National Grid | N |
|-------------|---------------|---|
| Map date:   | 1995          | W |
| Scale:      | 1:2,500       | Y |
| Printed at: | 1:2,500       | S |
|             |               |   |



Production date: 22 September 2014



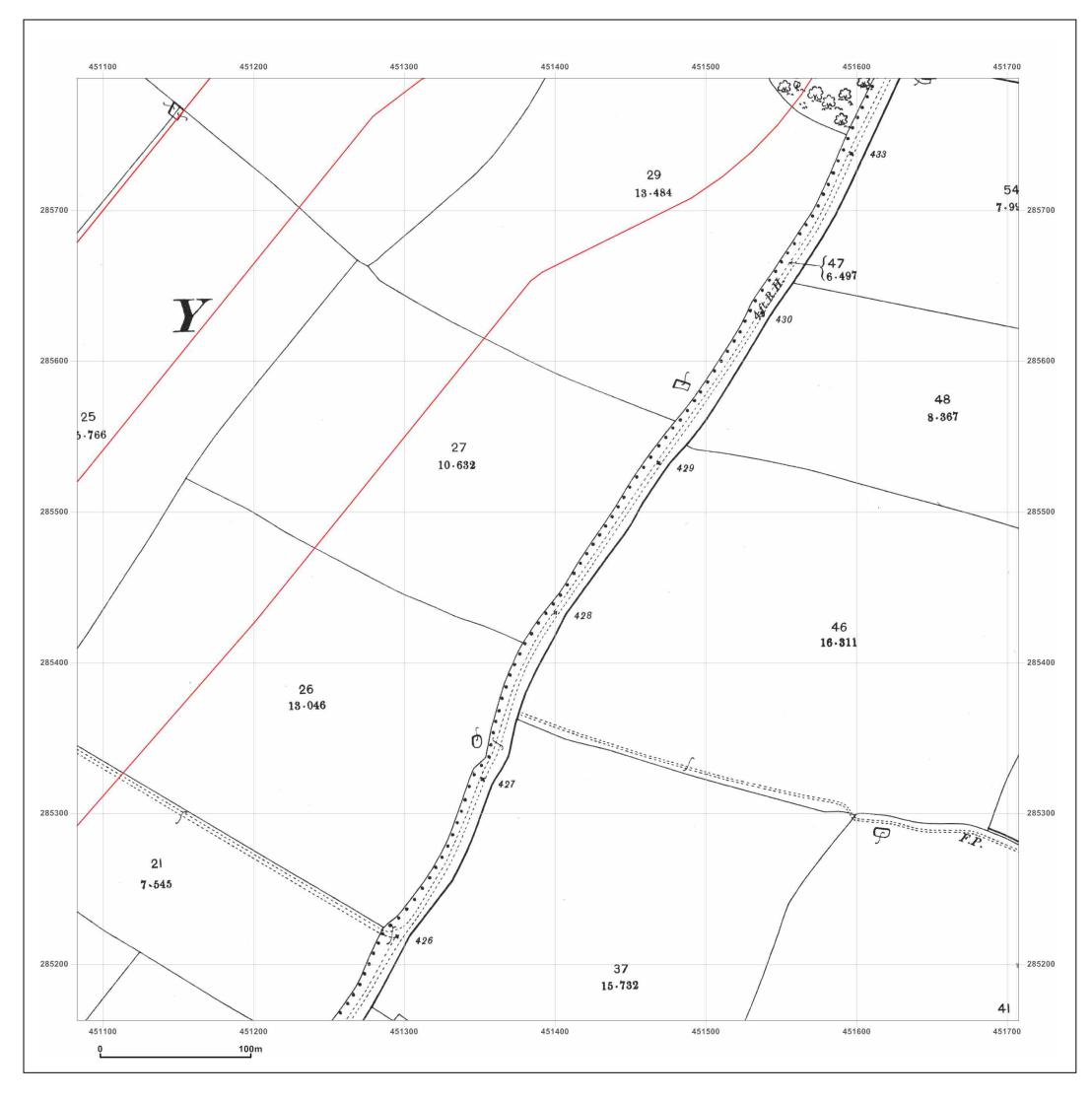


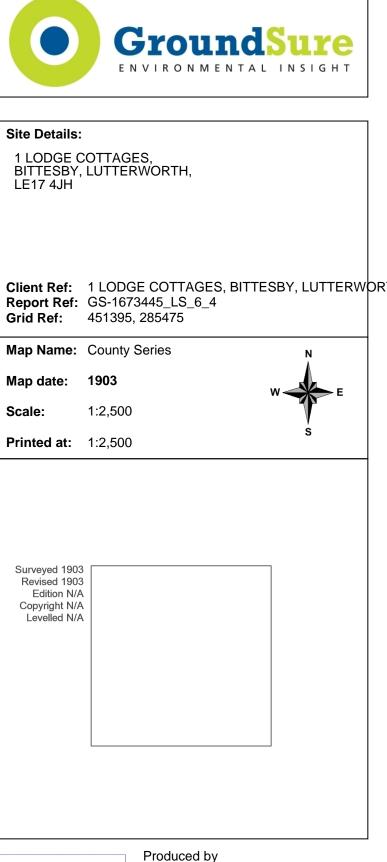
**Ordnance** Survey<sup>®</sup> Licensed Partner

Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



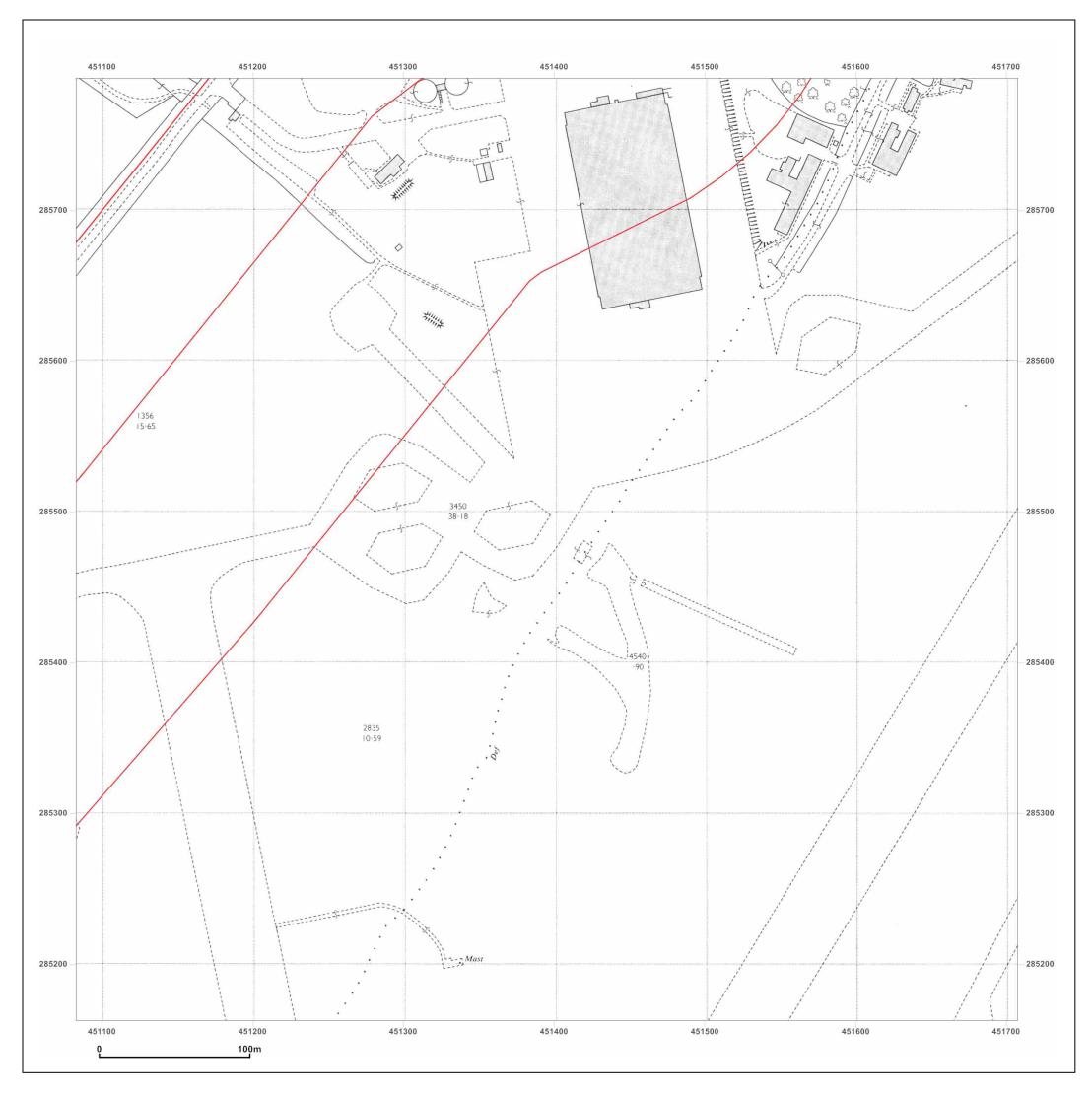


**Ordnance** Survey<sup>®</sup> Licensed Partner

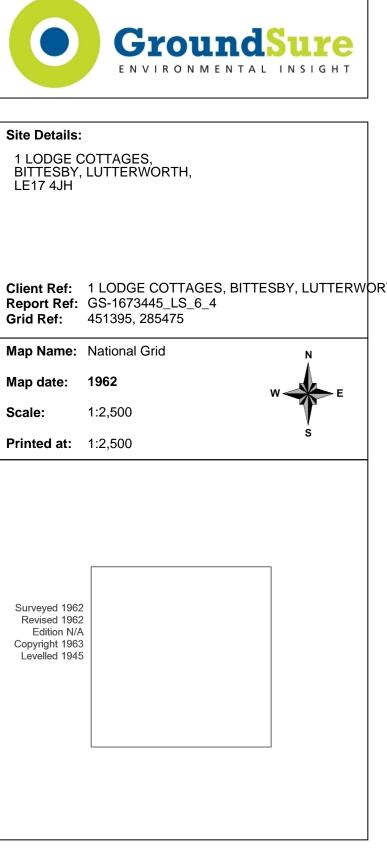
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



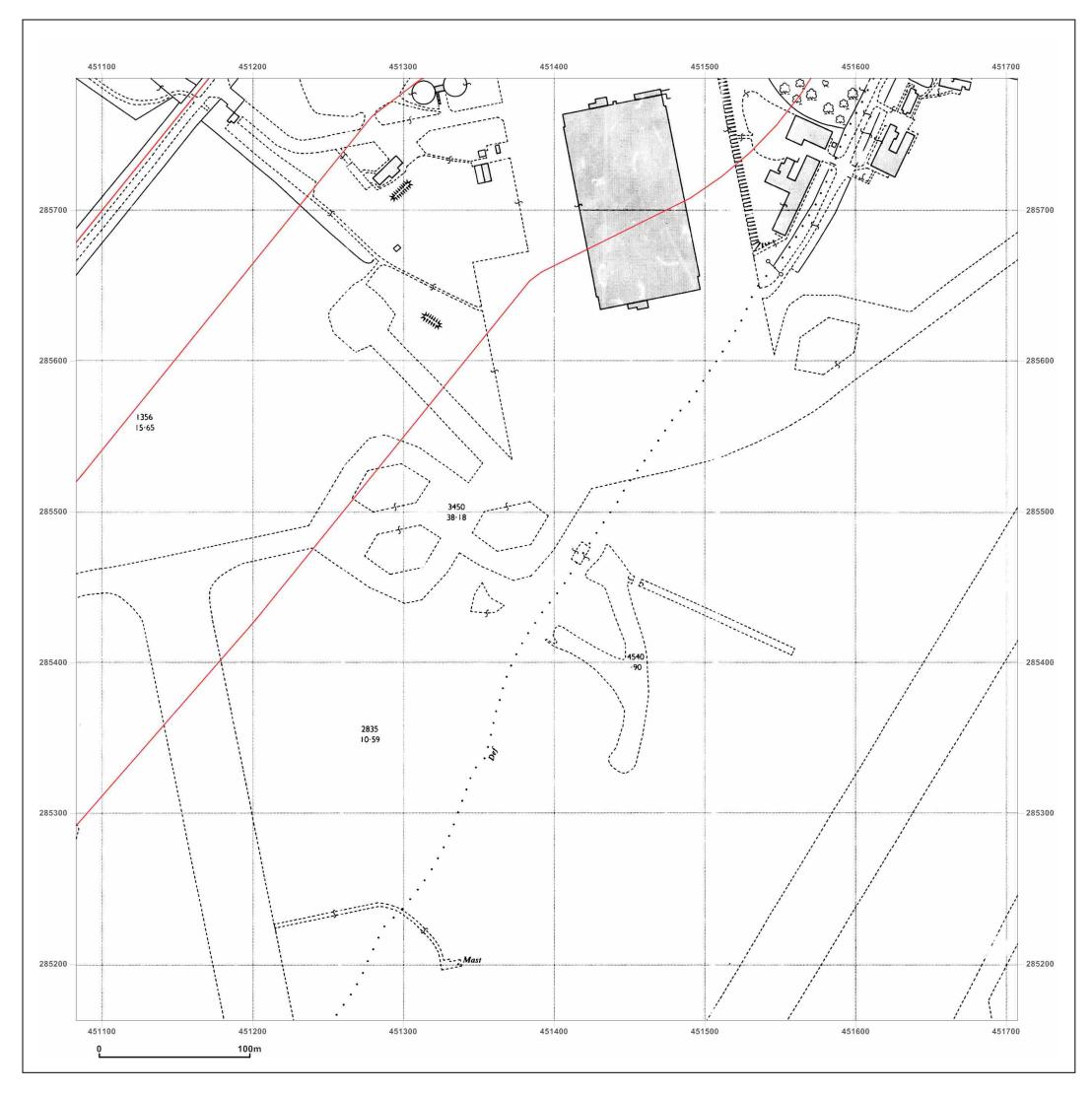
To view map legend click here <u>Legend</u>

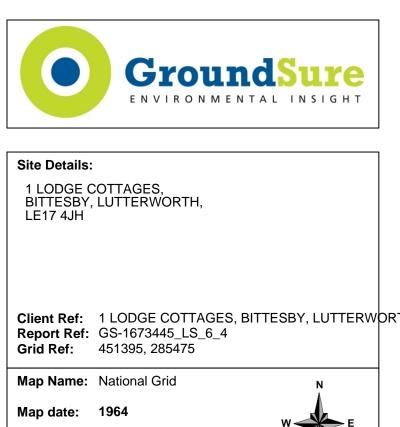


Cordnance Survey<sup>®</sup> Licensed Partner Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

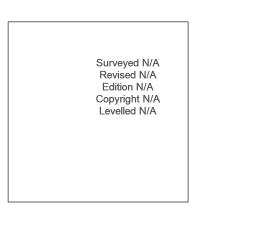
Production date: 22 September 2014





1:2,500 Scale:

**Printed at:** 1:2,500

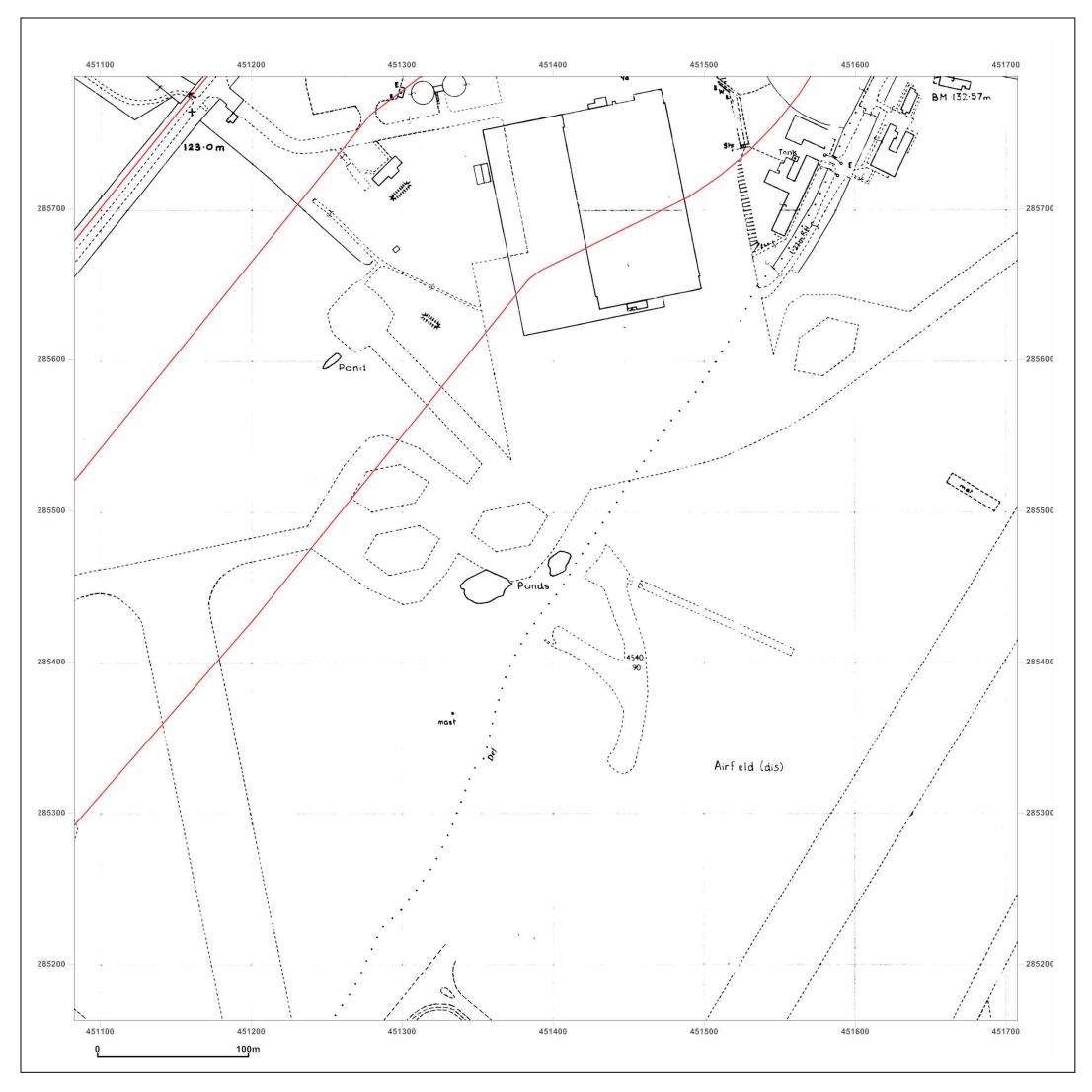


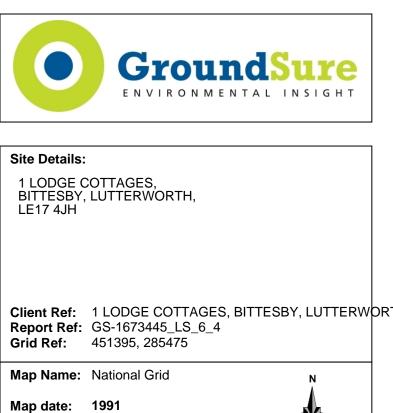


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





Scale: 1:2,500

**Printed at:** 1:2,500

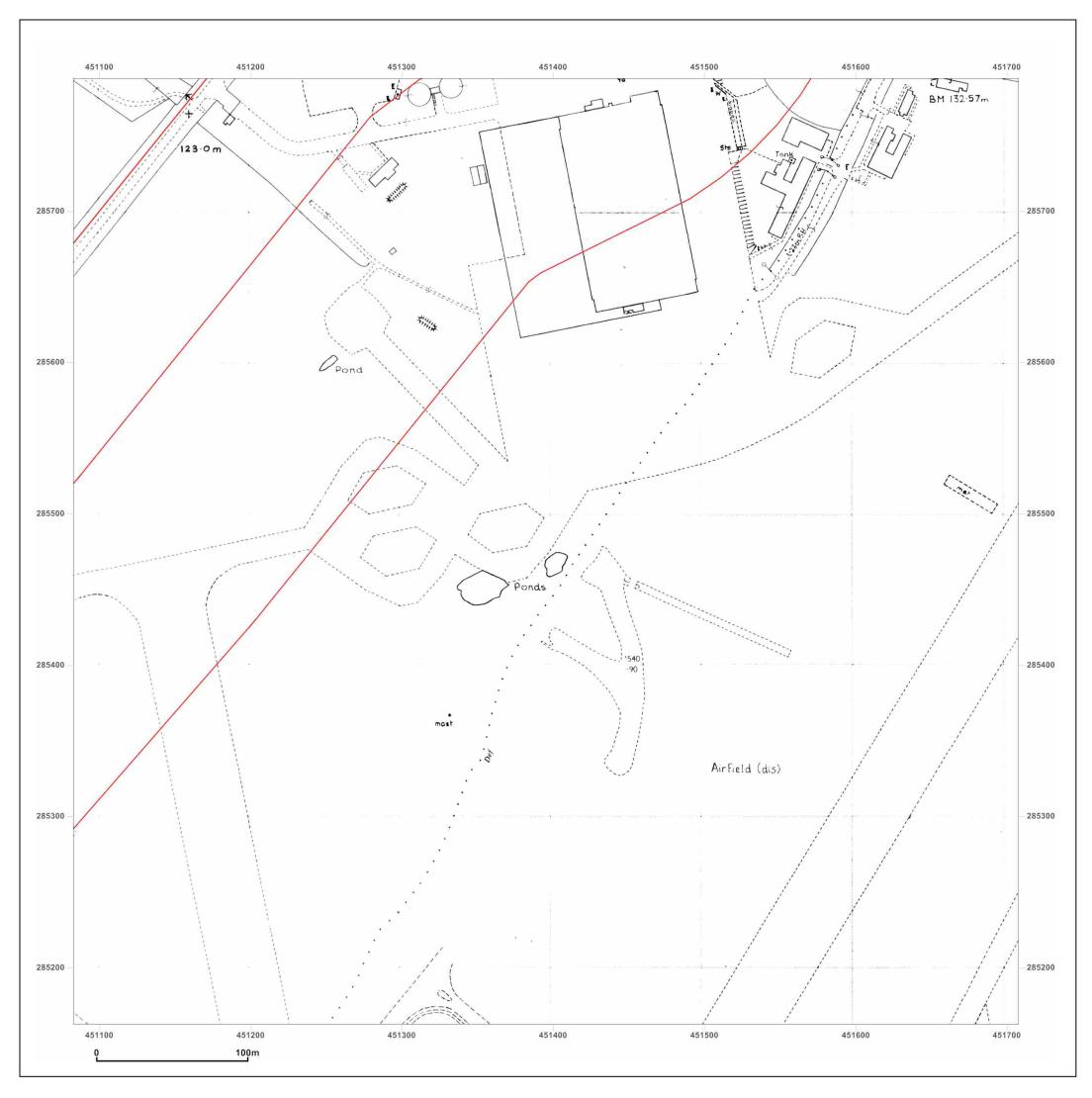
Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A

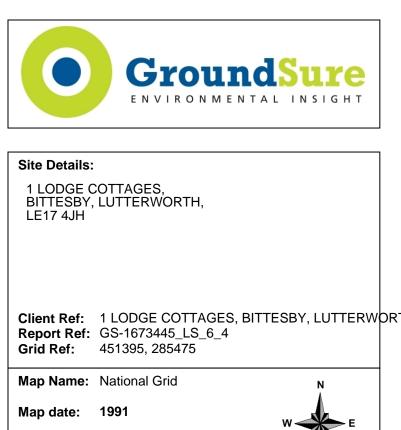


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





Scale: 1:2,500

**Printed at:** 1:2,500

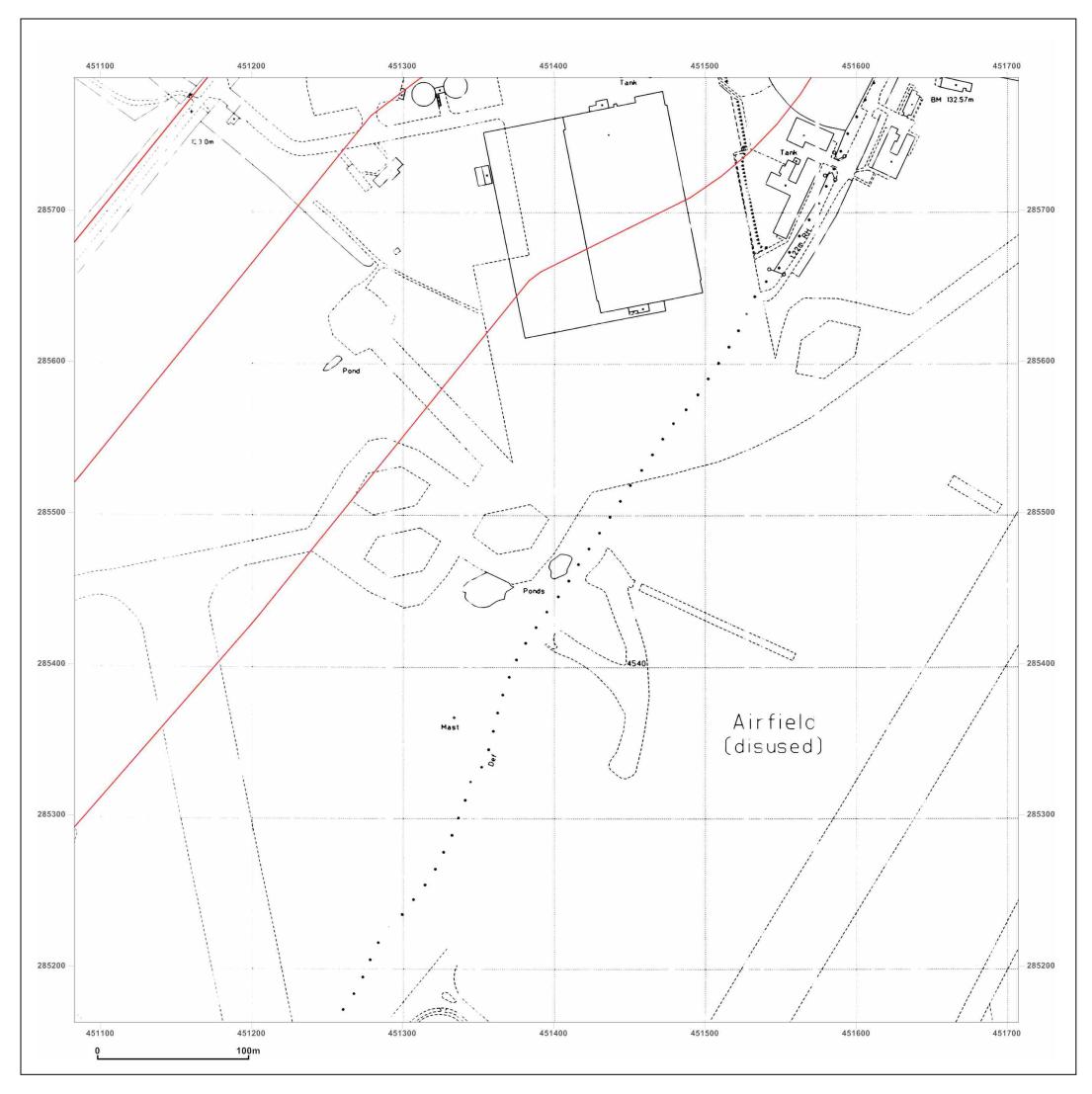
Surveyed 1991 Revised 1991 Edition N/A Copyright 1991 Levelled N/A

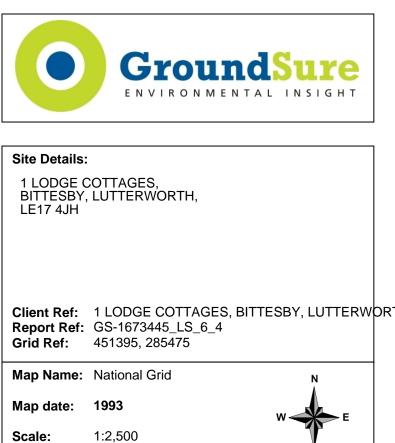


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

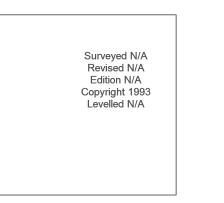
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





**Printed at:** 1:2,500

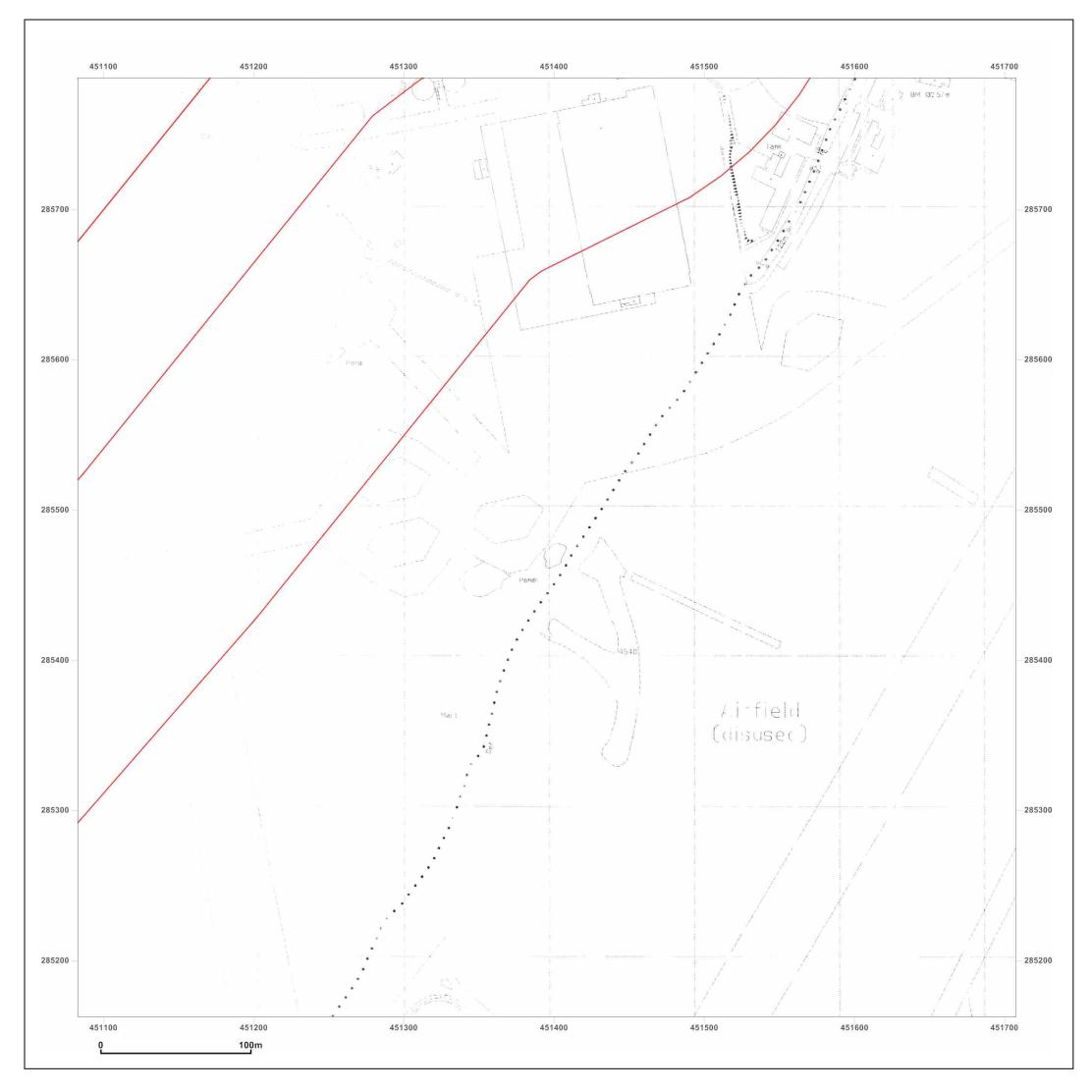


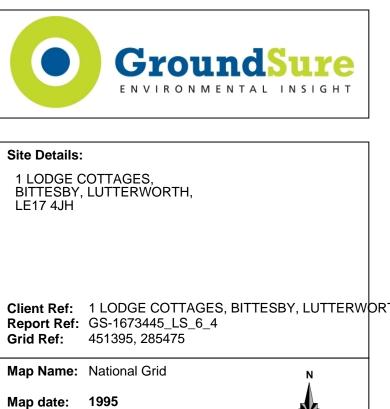


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

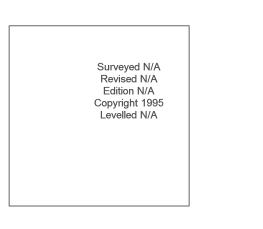
Production date: 22 September 2014





Scale: 1:2,500

**Printed at:** 1:2,500

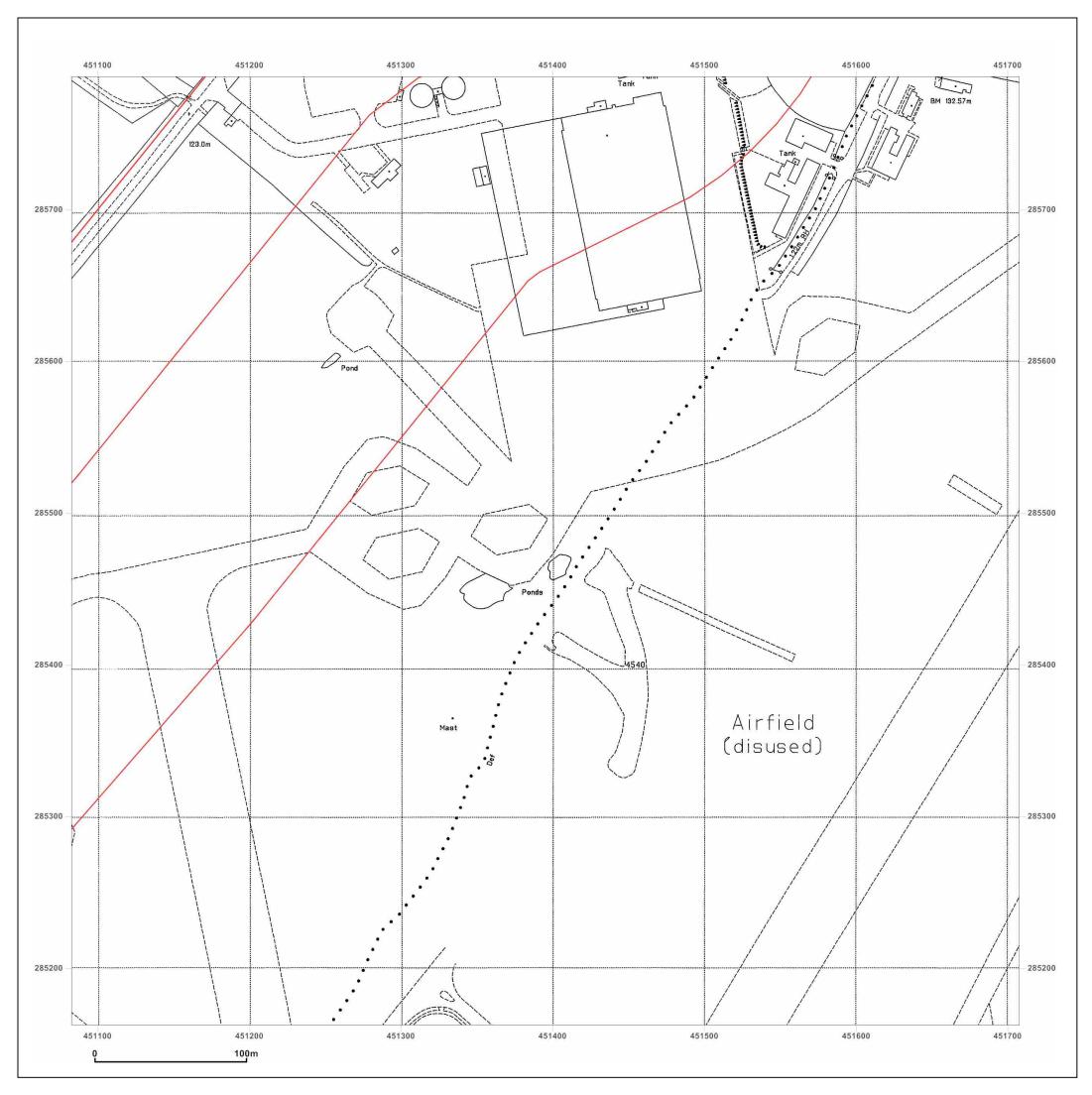


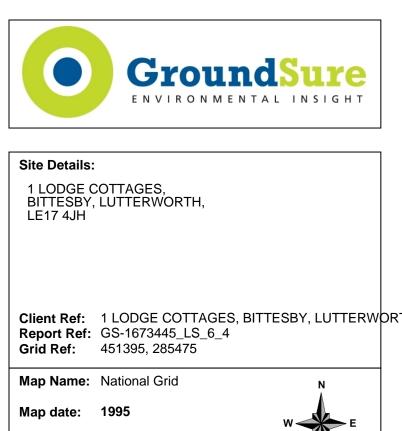


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014





1:2,500 Scale:

**Printed at:** 1:2,500

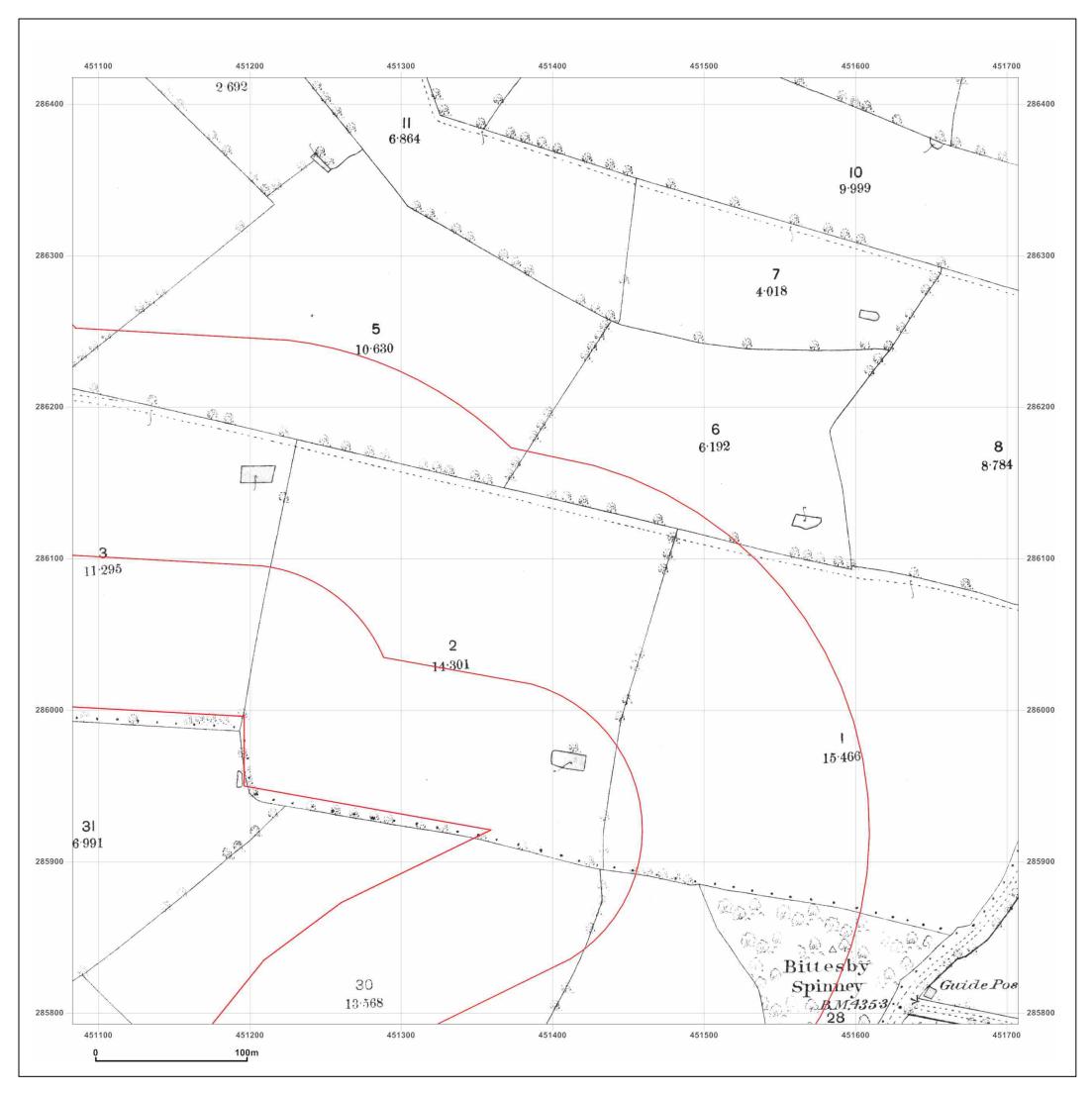
Surveyed 1995 Revised N/A Edition N/A Copyright N/A Levelled N/A

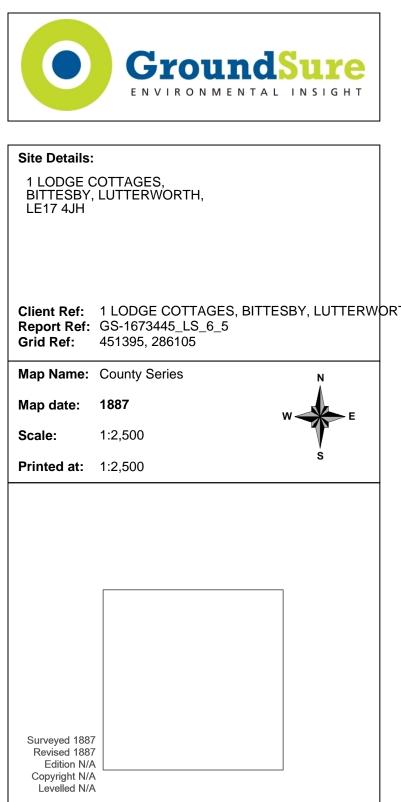


Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



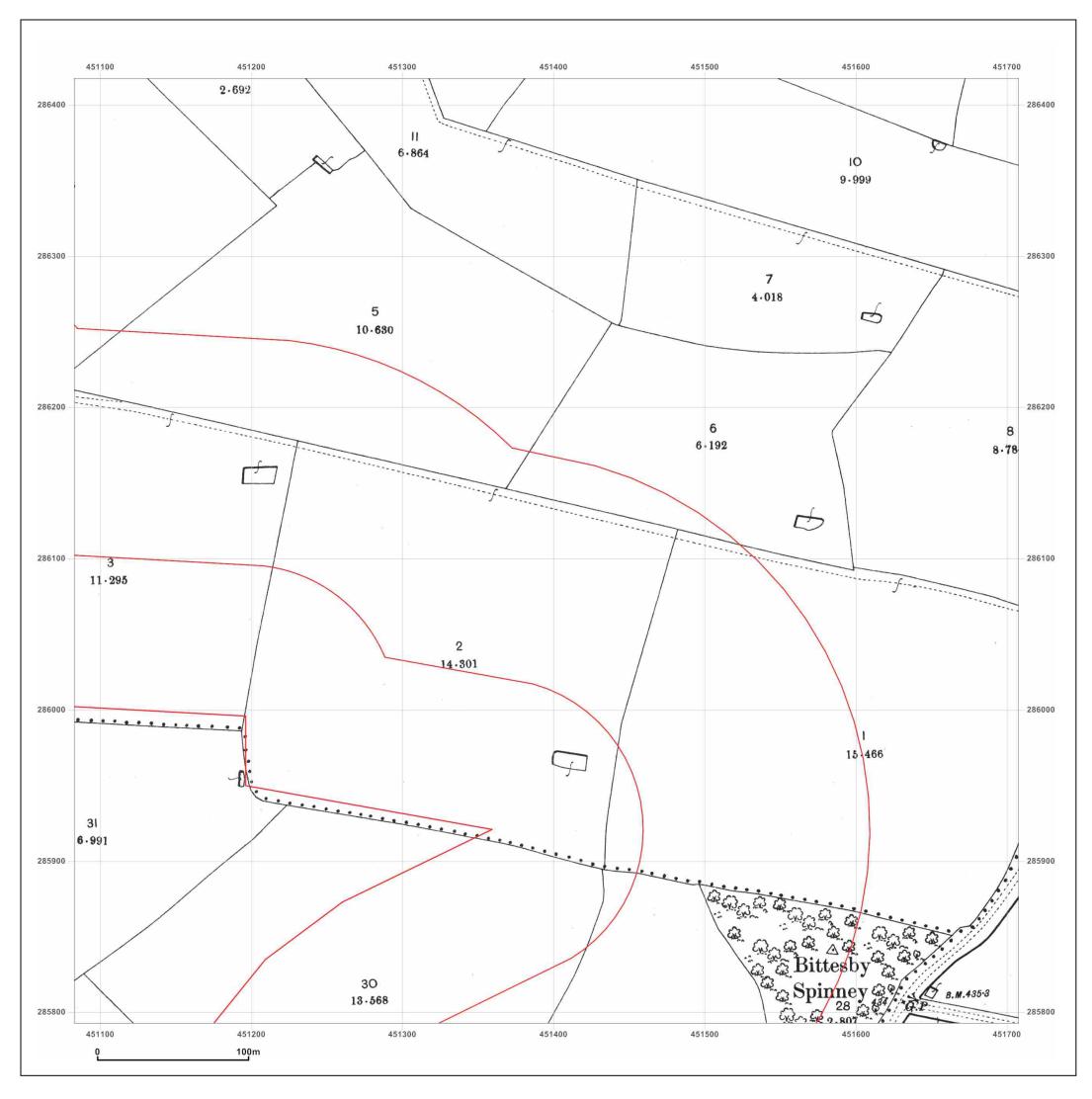




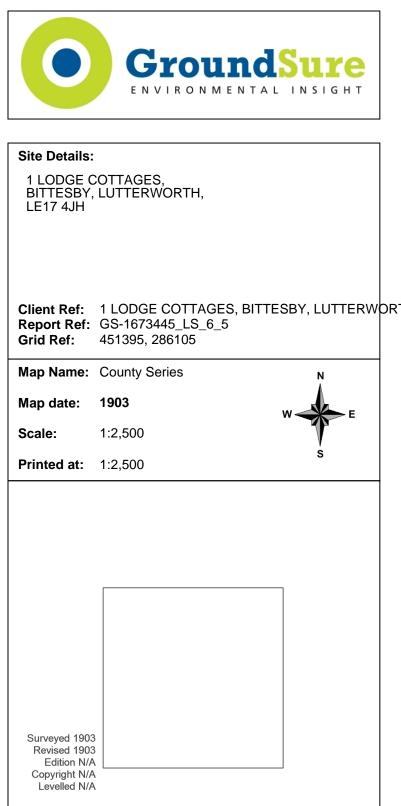
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



To view map legend click here <u>Legend</u>

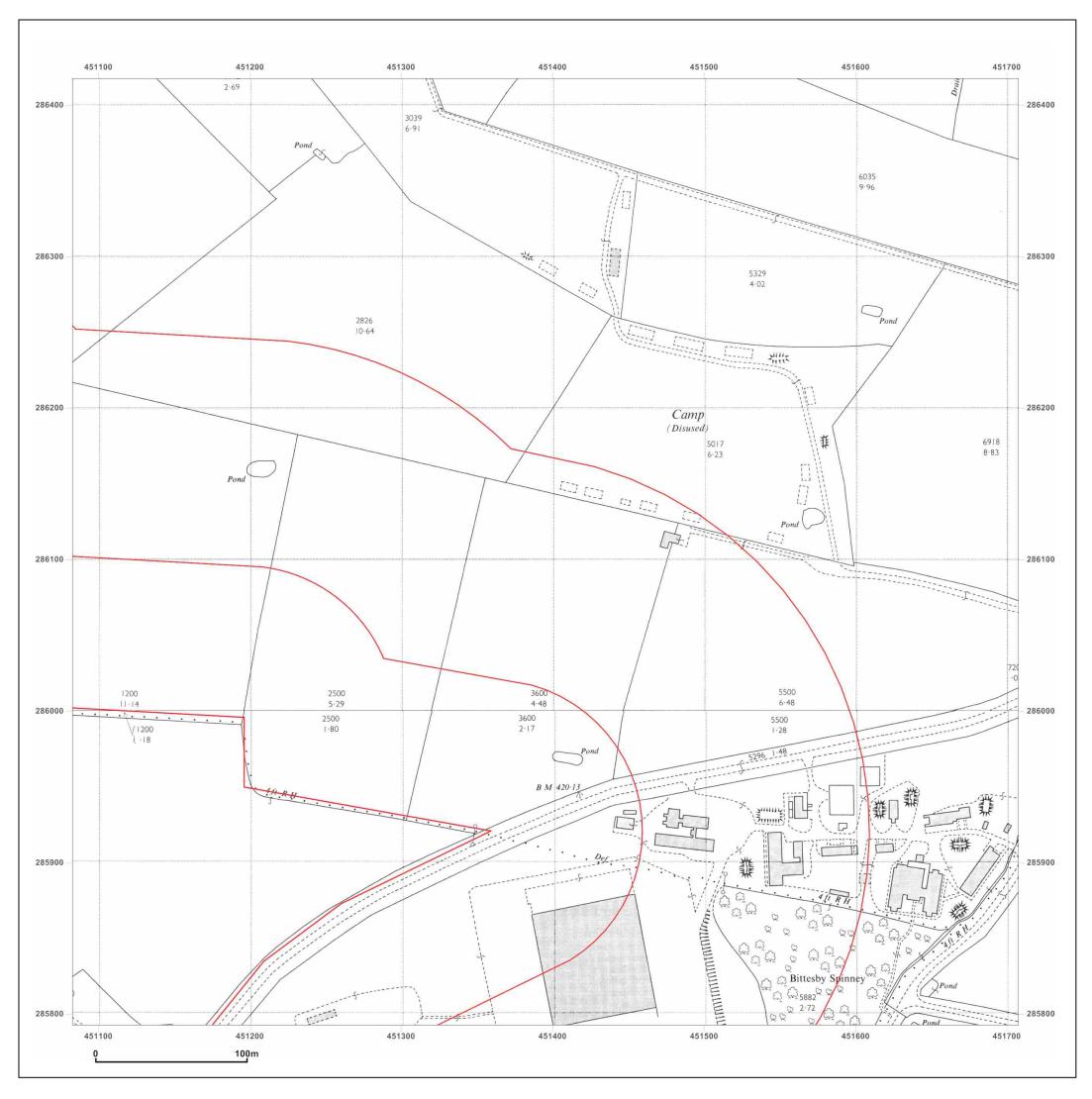




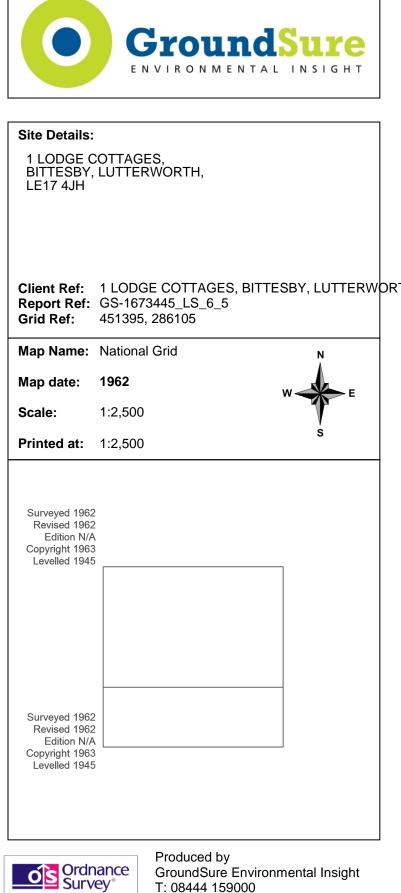
Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



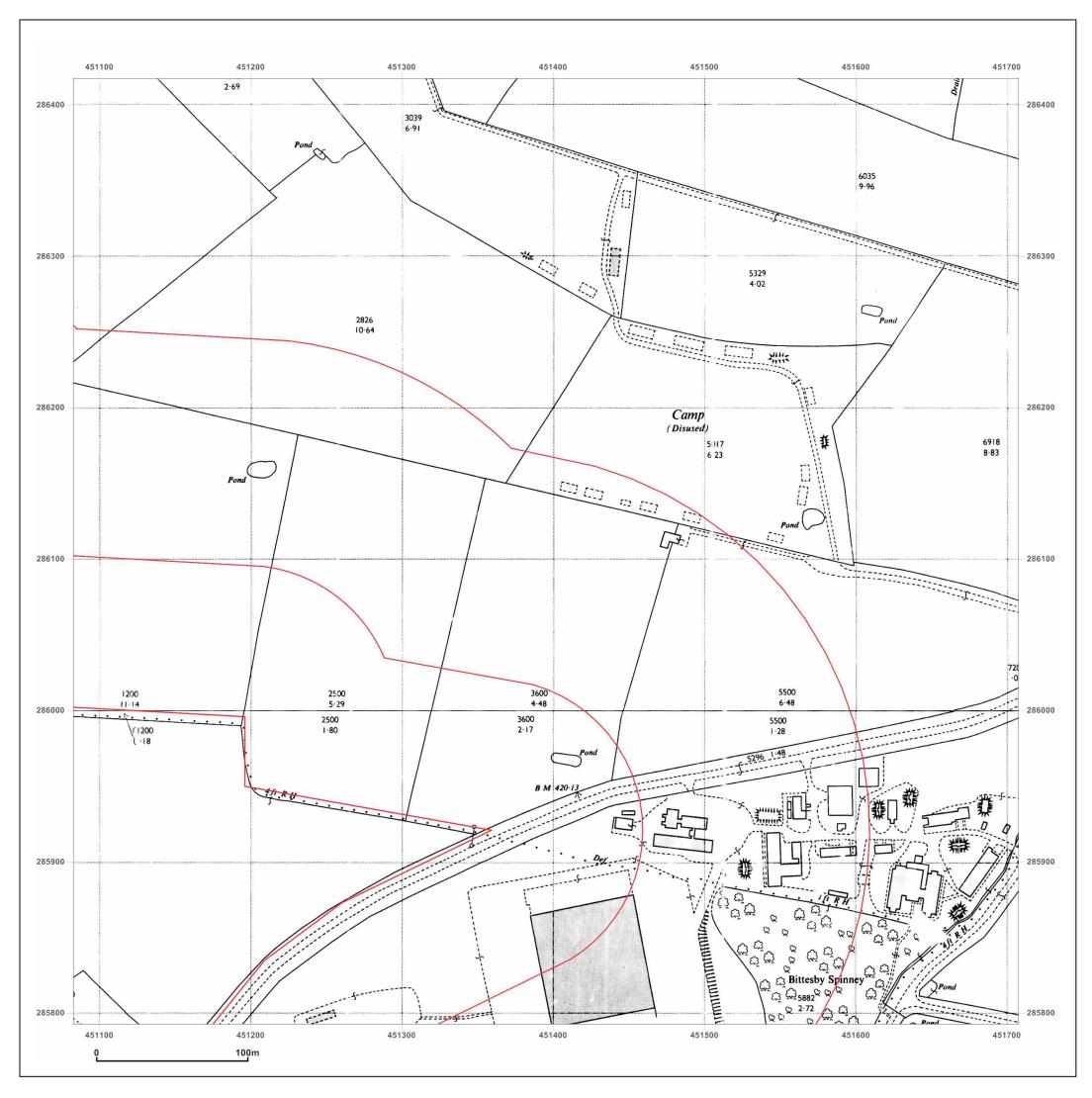
Licensed Partner



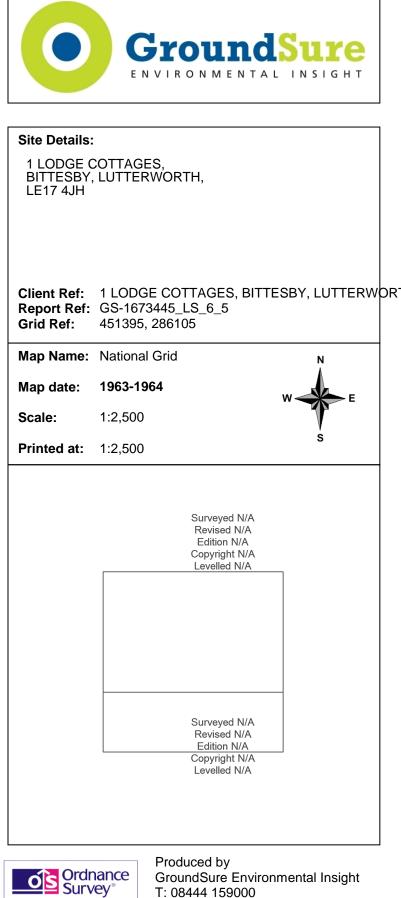
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: info@groundsure.com W: www.groundsure.com

Production date: 22 September 2014



Licensed Partner

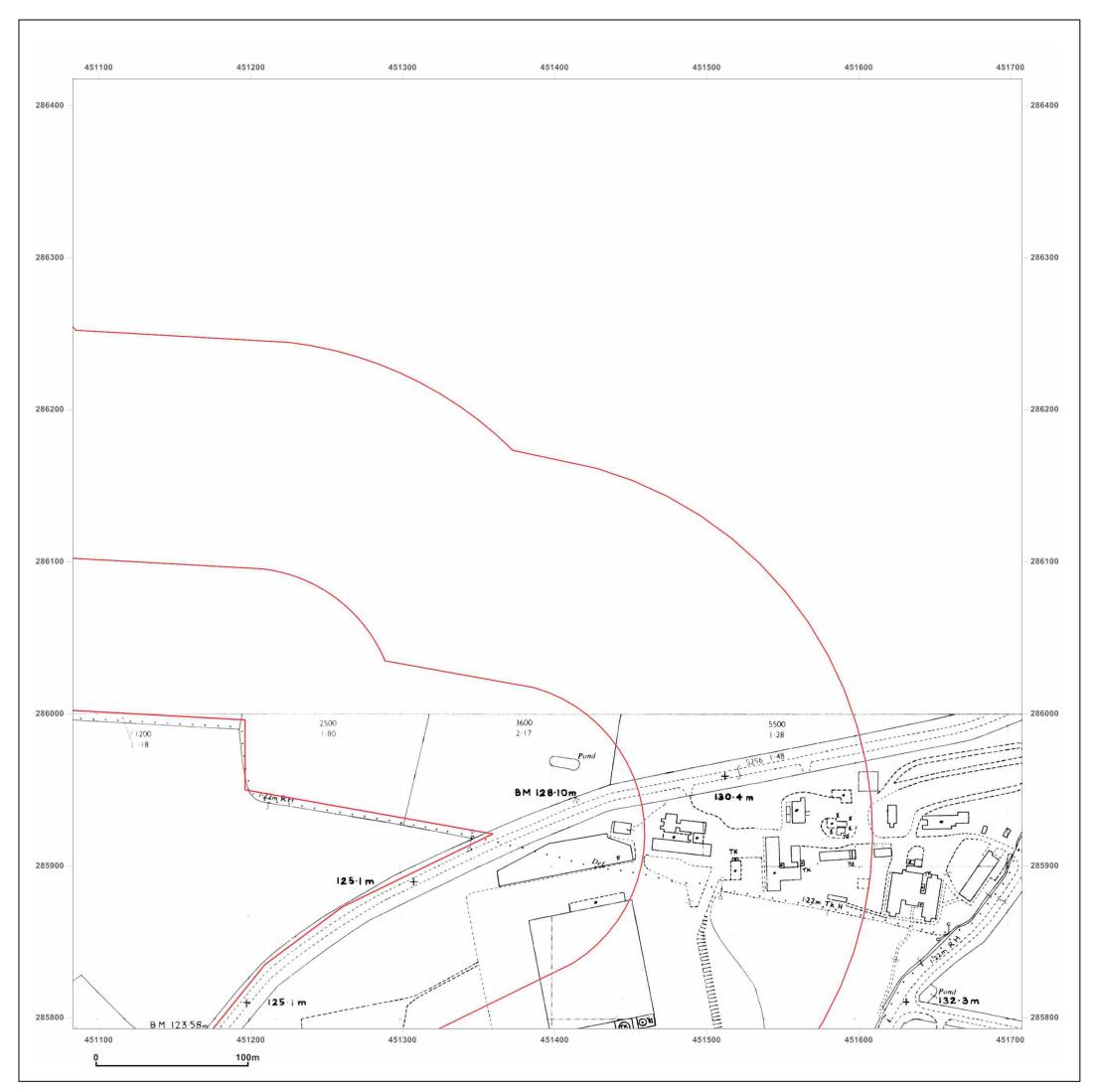


© Crown copyright and database rights 2013 Ordnance Survey 100035207

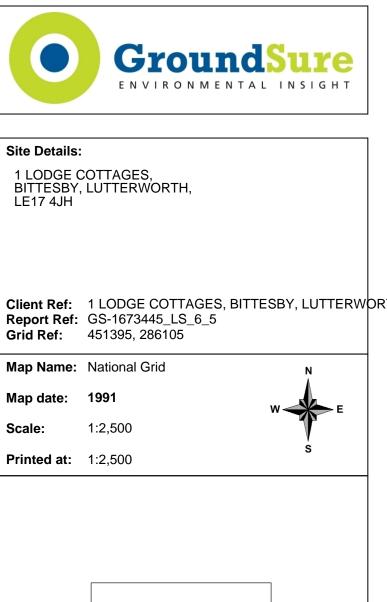
E: info@groundsure.com

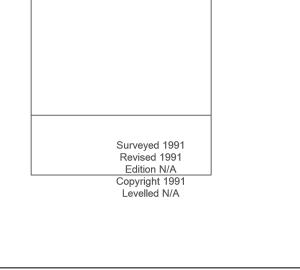
W: www.groundsure.com

Production date: 22 September 2014



\_\_\_\_



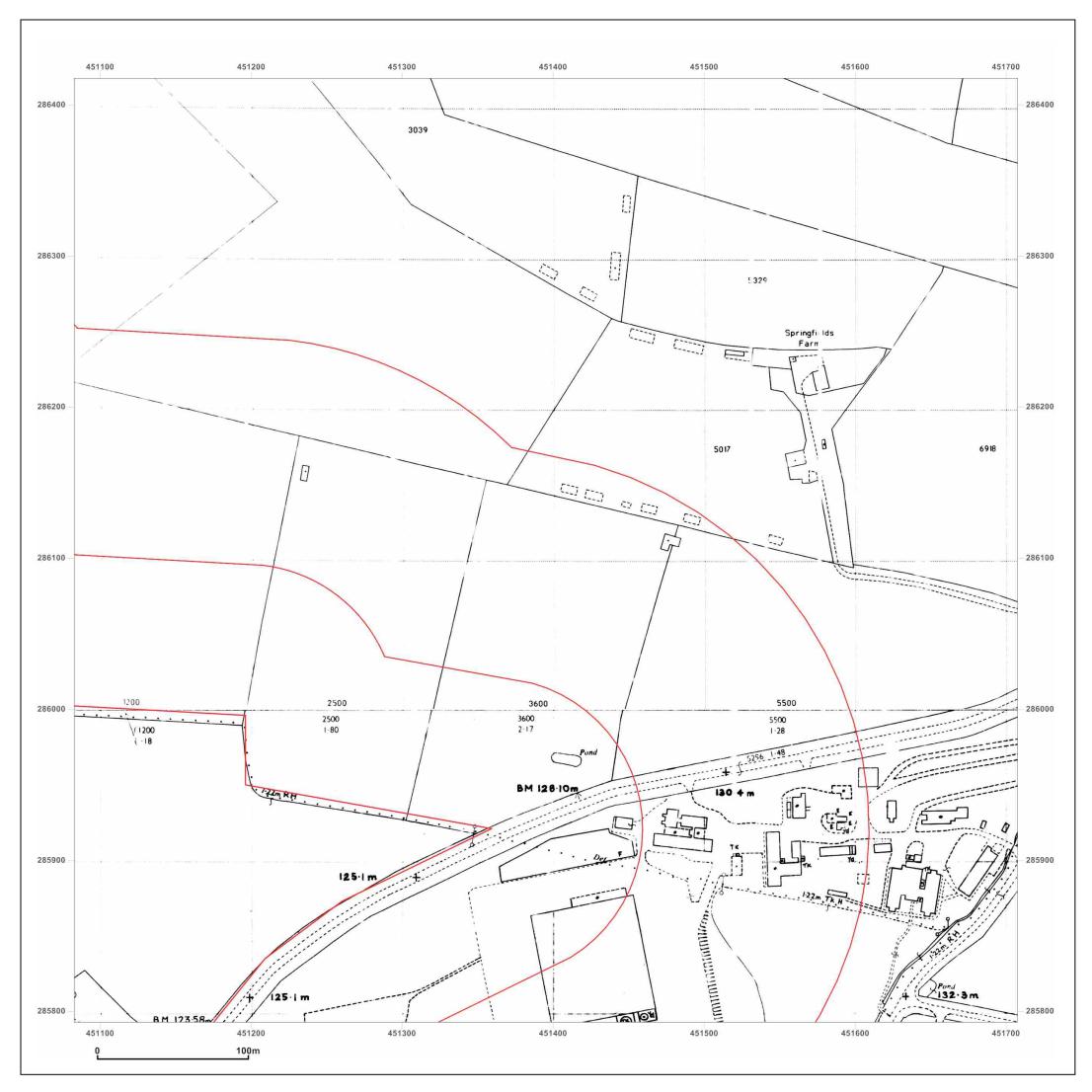




Produced by GroundSure Environmental Insight T: 08444 159000 E: <u>info@groundsure.com</u> W: www.groundsure.com

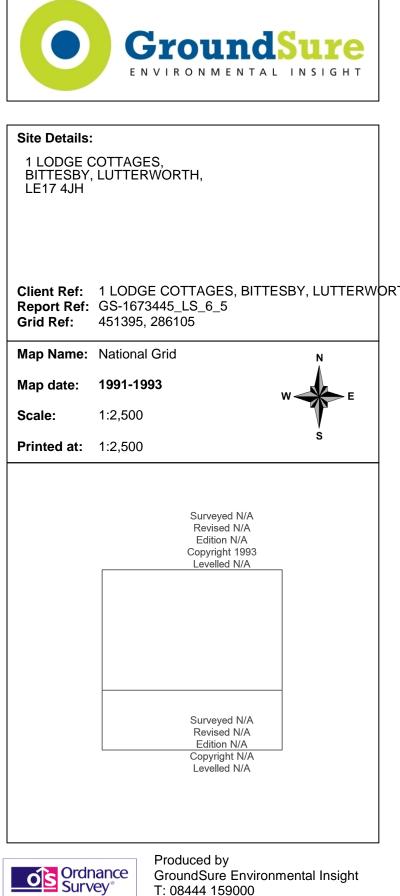
© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014



Licensed Partner

To view map legend click here Legend

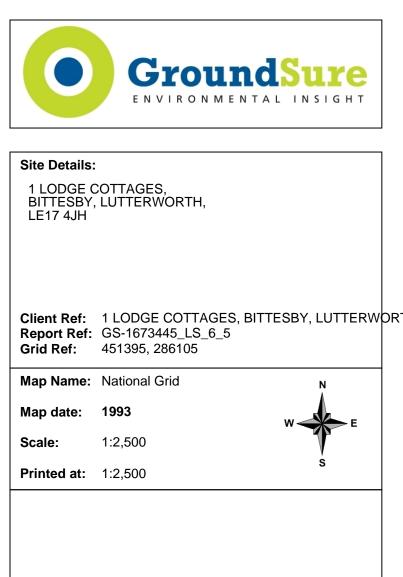


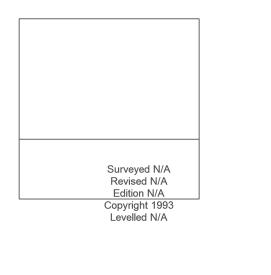
© Crown copyright and database rights 2013 Ordnance Survey 100035207

E: <u>info@groundsure.com</u> W: www.groundsure.com

Production date: 22 September 2014





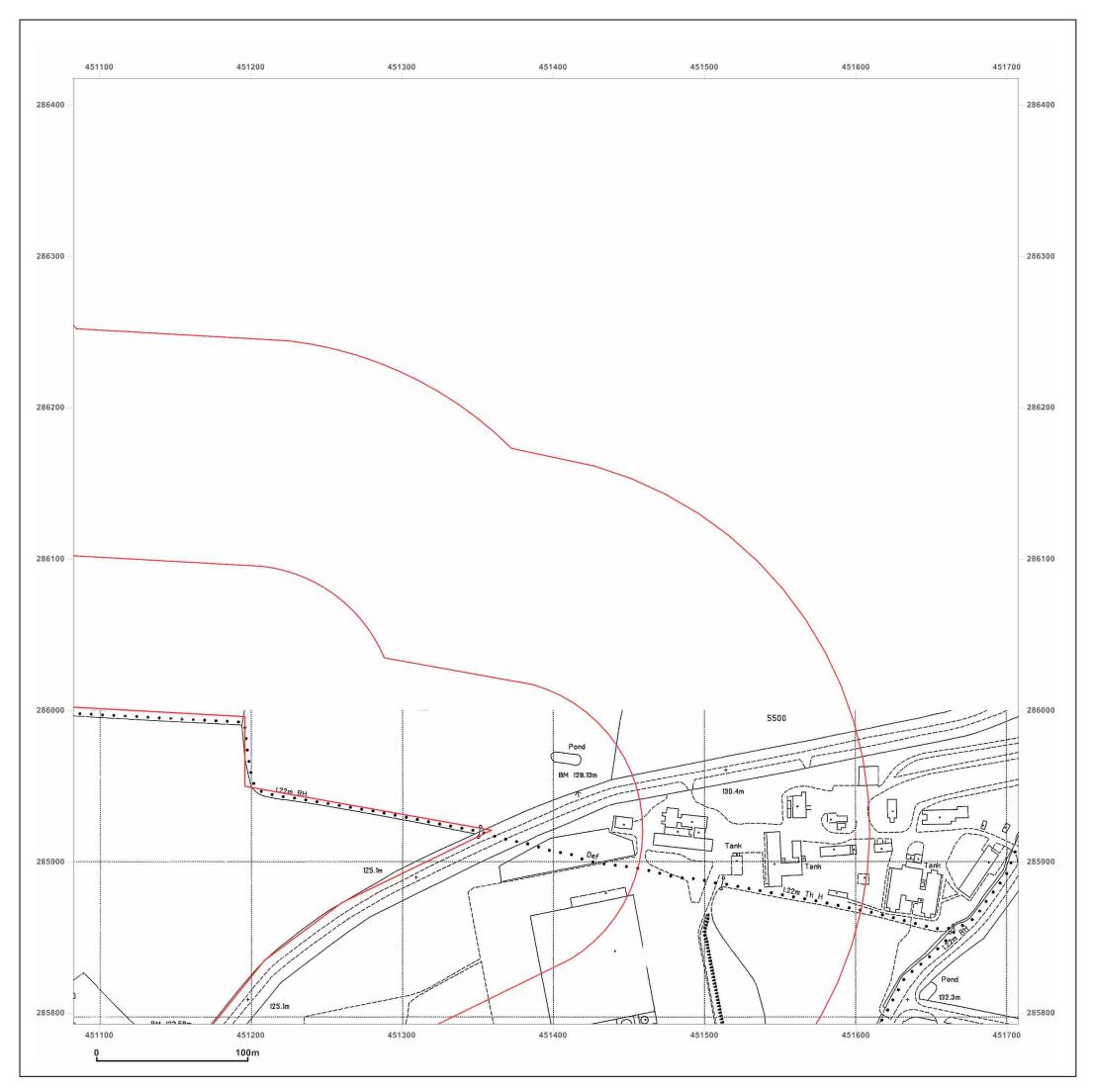


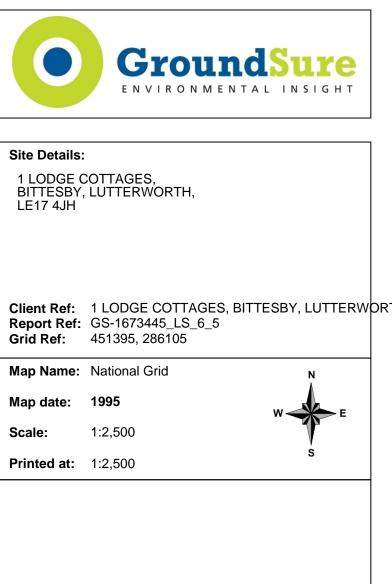


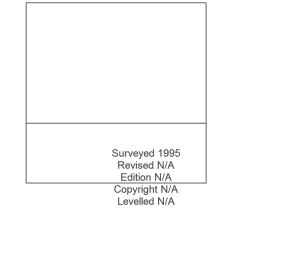
Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014









Produced by GroundSure Environmental Insight T: 08444 159000 E: info@groundsure.com W: www.groundsure.com

© Crown copyright and database rights 2013 Ordnance Survey 100035207

Production date: 22 September 2014