



Floor 4
24 De Montfort Street
Leicester
LE1 7GB
T: 0116 204 7766
info@bsp-consulting.co.uk
www.bsp-consulting.co.uk

Foxes Low Road Holbeach

Phase I Desk Study For Axel Klozenbuecher Architecture

Project: 17-0574

Date: February 2019

Managing Director: Eur Ing **David Sumner** BSc(Hons) MSc CEng FICE MCIHT
Directors: **Clive Roddick** BSc(Hons) CEng MICE **Mark Rayers** BSc(Hons) FCILT MCIHT **Carl J Hilton** MSc BSc(Hons) CEng MStructE MAPM **Paul Elphick** BSc(Hons) CEng MICE **Jef Todd** EngTech TMICE
Associate Directors: **Jason Davenport** BEng(Hons) MCIHT **Tony Goddard** BEng (Hons) CEng MICE **Matthew Viggars** MEng(Hons) CEng MICE
Associates: **Paul Whittingham** BEng(Hons) CEng MStructE **Tim Wilson** BEng(Hons) **Adam Hancocks** MEng (Hons) CEng MStructE
Consultant: **Martin Breakwell** BSc(Hons) CEng MICE

Derby Office: 5 Pride Point Drive, Pride Park, Derby, DE24 8BX Leicester Office: Floor 4, 24 De Montfort Street, Leicester LE1 7BG Sheffield Office: Top Floor, Sheffield Studio, Vincent House, Solly Street, Sheffield S1 4BB
Breakwell Sumner Partnership Ltd. Registered Office: 12 Oxford Street, Nottingham NG1 5BG. Registered in England and Wales No. 3669014



CONTENTS

	PAGE NO
1.0 INTRODUCTION	1
2.0 SITE DESCRIPTION & HISTORY	3
3.0 GEOLOGY & ENVIRONMENTAL SETTING	6
4.0 PRELIMINARY CONCEPTUAL SITE MODEL	12
5.0 CONCLUSIONS	19

APPENDICES

A	Site Location Plan
B	Annotated Site Plan
C	Site Plans Showing General Site Views
D	Historical Plans
E	Landmark Geological Maps
F	Landmark Envirocheck Report
G	Conditions and Limitations

1.0 INTRODUCTION

1.1 Introduction

BSP Consulting has been appointed by the Client, Axel Klozenbuecher Architecture to undertake a Phase I Desk Study on a plot of land off Foxes Low Road, Holbeach.

1.2 Project Understanding

We understand that the Client requires the completion of a Phase I Desk Study report to support a planning application for the potential redevelopment of the site for a low-rise residential end-use incorporating private gardens.

The foregoing understanding has formed the basis of our assessment. Where the proposed site end-use is not consistent with our current understanding, it would be necessary to review our assessment to ensure it continues to apply.

1.3 Scope of Works

The scope of the Phase I Desk Study included the following:

- Detailed site walkover.
- Review of historical and contemporary Ordnance Survey publications.
- Review of the sites geology, hydrology and hydrogeology.
- Review of the sites radon status.
- Review of the sites coal mining status.
- Review of a commissioned Landmark Envirocheck Report.
- Production of a preliminary Conceptual Site Model.

1.4 Limitations

The conclusions and recommendations made in this report are limited to those that can be made based on the findings of the investigation. Where comments are made based on information obtained from third parties, BSP Consulting assumes that all third-party information is true and correct.

No independent action has been undertaken to validate the findings of third-party information, unless specifically stated.

The Phase I Desk Study undertaken herein comprises entirely of non-intrusive works and provides a strategic overview of the site from a geotechnical and environmental perspective and attempts to identify any potential abnormal issues with regards to the development proposals.

This report has been prepared in accordance with our understanding of current good practice. However, new information or legislation, or changes to good practice may necessitate revision of the report after the date of its issue.

BSP Consulting has prepared this report for the sole use and reliance of the Client, Axel Klozenbuecher Architecture, in accordance with our standard Conditions and Limitations (a copy of which is included as Appendix G). This report may not be relied upon by any third party without the explicit written agreement of BSP Consulting.

2.0 SITE DESCRIPTION & HISTORY

2.1 Site Description

The site is located on the eastern edge of Holbeach to the northwest of Foxes Low Road. The site may be located centred around approximate Ordnance Survey National Grid Reference 537250E 325340N and extends to an approximate area of 0.97 hectares. A Site Location Plan (Figure No. 17-0574/01) is included as Appendix A.

At the time of our site visit on 21st January 2019, the site consisted of a disused heavily overgrown plot of land. It is understood from the client that the site was formerly used as part of a larger nursery associated with a bulb growing business.

The site was accessible via a narrow, overgrown driveway off Foxes Low Road. A surface water drain was present on the western side of the road (culverted beneath the access driveway).

Two dilapidated structures were present at the site. An overgrown brick structure was present in the central part of the eastern half of the site and an open-sided barn structure was present in the southern area of the site. Detailed internal inspections were not possible due to access and health and safety reasons. The former barn structure displayed an external sign stating '*A&J Main & Co Ltd Makers London & Glasgow*'. A search on the Internet reveals that this company formerly manufactured hay and grain sheds, Dutch sheds, barns, fold-yard coverings, sheep & cattle sheds, implement sheds, granaries, agricultural roofing and fencing and gates. Several of these products would likely have utilised asbestos cement cladding/roofing, due to the fire-retardant nature and longevity of the material.

Macadam surfacing (overgrown with moss) was present in localised central and southern areas of the site. The remainder of the site was heavily overgrown, and access was not possible to all areas due to the dense nature of the vegetation. Remnant brick structures were visible within the overgrown vegetation in the western half of the site.

The area to the immediate southwest and northwest of the site comprised a disused overgrown plot of land incorporating several dilapidated buildings associated with the continuation of the former nursery. An overgrown bund was present immediately beyond part of the southwestern site boundary. The land to the immediate northwest of the site included a large dilapidated greenhouse, a disused circular water tank and two disused overgrown fuel storage tanks.

A residential property and a heavily overgrown area were present to the immediate northeast of the site with agricultural fields beyond. Agricultural fields and a residential property were also present beyond Foxes Low Road to the southeast of the site.

An Annotated Site Plan (Figure No. 17-0574/02) is included as Appendix B of this report, which shows the main features of the site and immediate surrounds.

General views of the site are included on the plans in Appendix C of this report (Figure Nos. 17-0574/03a and 147-1574/03b).

2.2 Site History

Available historical and contemporary Ordnance Survey publications (detailed in Appendix D) were reviewed to obtain historical information for the site.

The key findings of the historical search are summarised in Table 1.

TABLE 1 – HISTORICAL MAP INFORMATION		
Date	Features on Site	Features off Site
1880s	- The site comprises the southeastern extent of an undeveloped field. - A large pond is present in the eastern extremity of the site and a pond encroaches into the southern extremity of the site.	- Foxes Low Road is present to the immediate southeast of the site. Drains are present on both sides of the road, which appear to be fed by a watercourse to the west of Foxes Low Road. - Properties (presumed residential) are present beyond part of the northeastern site boundary. - Small unidentified buildings are present adjacent to the pond to the south of the site. - Undeveloped fields are present in the vicinity of the site.
1890s	No maps available for viewing.	No maps available for viewing.
1900s	The large pond is no longer present (presumed infilled).	Further buildings are present adjacent to the pond to the south of the site.
1910s & 1920s	No maps available for viewing.	No maps available for viewing.
1930s	- A building is present in the central part of the eastern half of the site and a second building is present in the southern area of the site. - A large glasshouse building is present in the western half of the site together with several small structures adjacent to the northwestern site boundary. - A 'Well' is present on the site adjacent to the northeastern site boundary. - The pond encroaching into the southern extremity of the site is no longer present (presumed infilled).	Further buildings are present to the south of the site in the vicinity of the infilled pond.
1940s	No maps available for viewing.	No maps available for viewing.
1950s	The site remains essentially unchanged.	The surrounding area remains essentially unchanged.
1960s	By the late 1960s, further structures are present adjacent to the site boundaries, including the encroachment of a large building in the northern extremity of the site.	- Further buildings including a large glasshouse have been constructed to the southwest of the site, which are labelled as 'Primrose Holt'. 'Tanks' are present to the immediate north of the site in an area defined as a 'Nursery'. - The properties to the northeast of the site appear to have been redeveloped and a single residential property is now present.
1970s	The site remains essentially unchanged.	The surrounding area remains essentially unchanged.

TABLE 1 – HISTORICAL MAP INFORMATION

Date	Features on Site	Features off Site
1980s	- The building encroaching into the northern extremity of the site is no longer present. - A small circular tank is present adjacent to the northwestern site boundary.	A building has been constructed to the northwest of the site and a large circular tank is present adjacent to the glasshouse to the southwest of the site.
1990s	- The site remains essentially unchanged, although the small circular tank is no longer present. - The aerial photograph dated 1999 shows the western half of the site to be overgrown with only the footprint of the glasshouse structure present.	- A circular tank is present to the immediate northwest of the site. - The tanks to the immediate north are no longer present. - The glasshouse to the southwest of the site has been replaced by a larger glasshouse to the immediate west of the site. - The aerial photograph dated 1999 shows the large glasshouse to be no longer present. The circular tank is visible to the immediate northwest of the site.
2000 to 2018	The site remains essentially unchanged.	The surrounding area remains essentially unchanged.

3.0 GEOLOGY & ENVIRONMENTAL SETTING

3.1 Geological References

The following geological publications were referred to:

- BGS 1:50000 Series Sheet 144 '*Spalding*' (1992) [no 1:10000 or 1:10560 geological map publications available at the BGS in Keyworth].
- Landmark Geological Maps – see Appendix E.
- BGS publication, British Regional Geology '*East Anglia and Adjoining Areas*' Fourth Edition (1961).
- The Coal Authority and The Law Society publication '*Coal Mining and Brine Subsidence Claim Searches – Directory and Guidance*' Sixth Edition (2006).
- Environment Agency website: www.environment-agency.gov.uk.
- British Geological Survey website: www.bgs.ac.uk.

3.2 Geology

Based on the reviewed geological map publications, the site is indicated to be underlain by the Terrington Beds dating from the Quaternary period. These deposits are also identified as Tidal Flat Deposits on the Landmark geological maps, which is anticipated to represent current nomenclature. The term Tidal Flat Deposits has therefore been adopted herein. The Tidal Flat Deposits are underlain at depth by solid geology comprising the Ampthill Clay Formation dating from the Jurassic. The Ampthill Clay Formation is indicated to be up to 10m in thickness, below which the West Walton Formation is indicated.

Tidal Flat Deposits comprise marine alluvium, salt marsh, tidal creek and river deposits, typically consisting of Silt, Sand and Clay. They can include older marine alluvium or salt marsh deposits (Barroway Drove Beds), typically consisting of silty Clay. Tidal Flat Deposits may contain Peat either as a defined band (i.e. Nordelph or Lower Peat) or as impersistent horizons.

It should be noted that superficial drift deposits have the potential to alter rapidly in character and geotechnical properties both laterally and vertically over relatively short distances and may also be water bearing. The reviewed geological map publication identifies the '*Probable Saxon Coastline*' running adjacent to the southeast of the site along the route of Foxes Low Road. The presence of significant thicknesses of beach deposits (i.e. silty sand) may therefore be anticipated beneath the site.

The Ampthill Clay comprises '*mudstones and silty mudstones*', with the underlying West Walton Formation comprising '*silty mudstones and calcareous mudstones with minor nodular limestones*'.

3.3 Faults

No faults are indicated to be present within the boundary of the site, or within the immediate vicinity of the site.

3.4 Man-Made Deposits

The geological publications do not show the presence of any man-made deposits (i.e. Made Ground, Worked Ground or Landscaped Ground) beneath the site or within potential influencing distance of the site (i.e. <250m).

We would note that the historical publications revealed the presence of a former pond (in the eastern extremity of the site) and part of a pond (encroaching into the southern extremity of the site), which appear to have been infilled. The infill to these former features represents potential sources of Made Ground. In addition, Made Ground deposits should be anticipated beneath the site associated with previous commercial (i.e. nursery) activities on the site, together with the demolition of various buildings/structures.

3.5 Coal Mining

The site does not lie within an area requiring the commission of a coal mining report in accordance with The Coal Authority and The Law Society publication '*Coal Mining and Brine Subsidence Claim Searches - Directory and Guidance*', Sixth Edition (2006).

No specific investigation or mitigation in relation to historical coal mining issues is therefore considered to be necessary at the site.

3.6 Landmark Envirocheck Report

A Landmark Envirocheck report was commissioned to assist in ascertaining the environmental setting of the site. The full Envirocheck Report is presented in Appendix F and has revealed the following relevant information. (Details are only listed where they are within 250m of the site).

3.6.1 Agency & Hydrological

Aquifer Status

Both the superficial deposits (Tidal Flat Deposits) and underlying bedrock geology (Amphill Clay Formation) are designated as Unproductive Strata by the Environment Agency.

The Environment Agency describes Unproductive Strata as '*...rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow*'.

Source Protection Zones

The Envirocheck report indicates that the site does not lie within a Source Protection Zone (SPZ), as designated by the Environment Agency. SPZs relate to the protection of groundwater used for public drinking water supply.

Surface Water

The closest surface water feature is indicated to be the drainage ditch that defines the southeastern site boundary adjacent to Foxes Low Road. No Primary Rivers are indicated within the general vicinity of the site.

Flood Risk

The site and entire surrounding area are indicated to lie within an area identified to be at risk from '*extreme flooding from rivers or sea without defences*'. Consideration of this classification is recommended as part of the planning process.

Discharge Consents

One Discharge Consent is identified approximately 92m to the sites south, associated with a bungalow at Foxes Low Road. The discharge type is detailed as '*Unknown*' and '*Onto Land*'. The revocation date is listed as being in 1996.

Local Authority Pollution Prevention and Controls

A single Local Authority Pollution Prevention and Control license is listed approximately 215m to the south of the site, associated with a waste oil burner (status of the license is not provided).

3.6.2 Waste

There are no sites associated with waste (e.g. historic landfills, transfer stations etc.) identified within 250m of the site.

3.6.3 Hazardous Substances

There are no sites associated with hazardous substances (e.g. explosives) identified within 250m of the site.

3.6.4 Geological & Radon

Geological Hazards

The site has been given a Hazard Potential ranking of '*Moderate*' with regards to Potential for Compressible Ground Stability Hazards and potential for Running Sand Ground Stability Hazards. The site has been given a Hazard Potential ranking of '*Low*' with regards to Potential for Shrinking or Swelling Clay Ground Stability Hazards.

No other potentially significant onerous geological issues have been identified within the Envirocheck report which relate to the site.

BGS Estimated Soil Chemistry Data Maps

The BGS has prepared estimated soil concentration maps for several metals (including arsenic, lead, nickel, chromium and cadmium), which are extrapolated from records available for use within their assessments.

Whilst potentially useful for the inference of Natural Metal Enrichment (NME) of the natural soils in a general locale, the data should not be used to inform any detailed decisions with regards to the chemistry of a particular site as it does not allow for anthropogenic effects.

BGS estimates of the soil chemistry at the site indicate anticipated concentrations of arsenic of 15-25mg/kg, cadmium of <1.8mg/kg, chromium of 60-90mg/kg, lead of <150mg/kg and nickel of 15-30mg/kg.

Based on the information supplied within the Envirocheck report, the site is not shown to be located within an area where Natural Metal Enrichment of the underlying natural soils is likely to be present. However, this is only applicable to the specific determinands listed above.

Radon

The Envirocheck report states that *'The property is in a lower probability radon area, as less than 1% of homes are above the action level...No radon protective measures are necessary in the construction of new dwellings or extensions.'* No specific mitigation in relation to radon issues are therefore required at the site.

3.6.5 Industrial Land Use

Contemporary Trade Directory Entries

A total of nine Contemporary Trade Directory Entries are indicated within 250m of the site (four being listed as active), the closest being situated approximately 140m to the sites south. The entries variously relate to industrial and commercial machinery, tyre dealers, adhesives glues and sealants, agricultural machinery, garage services and general engineers, amongst others.

Points of Interest – Commercial Services

There are two entries listed approximately 215m to the south of the site which appear to relate to the same location. The entries relate to vehicle repair and servicing.

Points of Interest – Manufacturing and Production

A 'Tank' is listed as being present approximately 7m to the northwest of the site. This feature is likely to represent the former water tank as identified during our site walkover.

3.6.6 Sensitive Land Use

The site and areas to the immediate north and west are identified as being within a Nitrate Vulnerable Zone. In our experience the majority of this area of the country is defined as a Nitrate Vulnerable Zone and this classification is considered not to present a potential risk to the site.

3.7 Land Use Assessment

As part of the land use assessment, reference has been made to the '*Desk Reference Guide to potentially Contaminative Land Uses*' produced by Mr P Syms and published jointly by the ISVA (The professional Society for Valuers and Auctioneers) in association with The Royal Institution of Chartered Surveyors (RICS) and the Chartered Institute of Environmental Health (CIEH).

We have also made reference to the Department for Environment, Food and Rural Affairs and the Environment Agency Contaminated Land Report CLR8 '*Potential Contaminants for the Assessment of Land*' (March 2002). This document identifies key contaminants which may potentially be present at a site as a result of a given historical land use, and whilst formally withdrawn is still considered to be a useful desk-based reference guide.

3.7.1 On Site Assessment

At the time of our site visit, the site consisted of a disused heavily overgrown plot of land. Historically, the site comprised part of a former nursery associated with a bulb growing business. The nursery extended off-site to the southwest/northwest.

Two dilapidated structures were present at the site. The majority of the site was heavily overgrown, and access was not possible to all areas due to the dense nature of the vegetation. Remnant brick structures were visible within the overgrown vegetation in the western half of the site, representing the suspected remains to former buildings/glasshouses.

The land to the immediate northwest of the site included a large dilapidated greenhouse, a disused circular water tank and two disused overgrown fuel storage tanks.

The site is indicated to be underlain by superficial deposits comprising Tidal Flat Deposits, which can include discontinuous bands or pockets of Peat. At depth, the bedrock geology comprises the Ampthill Clay Formation.

The site is not identified in any of the land-use categories adopted in the above referenced publications. Based on the information obtained from the desk study and our walkover of the site, potential contamination that may be present could include:

- Metals and metalloids associated with any potential Made Ground beneath the site.
- Polycyclic Aromatic Hydrocarbons (PAHs) from any ashy inclusions and/or carbonaceous inclusions in the near surface soils.

- Hydrocarbons associated with agricultural machinery, heating or poor historical housekeeping practices.
- Asbestos from former structures.
- Pesticides from historical applications associated with the nursery business.
- Potentially hazardous ground gas (i.e. carbon dioxide and methane) from potentially organic drift deposits beneath the site and the infilled former ponds.

3.7.2 Off Site Assessment

Based on the information obtained from the desk study, there are no significant sources of potential off-site soil contamination that would be considered to have a plausible risk of migration to the site. Two disused fuel storage tanks were noted to be present to the immediate northwest of the site within the adjacent derelict (former nursery) land parcel; however, these are indicated to be present from at least 20m from the site boundary and would represent a risk driver for the future redevelopment of the adjacent land rather than a key risk driver for the current subject site.

4.0 PRELIMINARY CONCEPTUAL SITE MODEL

4.1 General

The DEFRA publication *'Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance'* (dated April 2012) states the following with regards to the production of a Conceptual Site Model (CSM) for a site:

'The process of risk assessment involves understanding the risks presented by land, and the associated uncertainties. In practice, this understanding is usually developed and communicated in the form of a "conceptual model"'. The development of a CSM is typically undertaken in an iterative process, reflecting the changes in understanding as more detailed site information becomes available.

In developing a CSM, and specifically in the context of land contamination, consideration needs to be given to three essential elements; which form the basis of any risk present. The statutory guidance sections 3.8 and 3.9 (April 2012) states the following with respect to Part 2A.

'Under Part 2A, for a relevant risk to exist there needs to be one or more contaminant-pathway-receptor [CPR] linkages – "contaminant linkage" – by which a relevant receptor might be affected by the contaminants in question. In other words, for a risk to exist there must be contaminants present in, on or under the land in a form and quantity that poses a hazard, and one or more pathways by which they might significantly harm people, the environment, or property; or significantly pollute controlled waters. For the purposes of this guidance:

- (a) A "contaminant" is a substance which is in, on or under the land and which has the potential to cause significant harm to a relevant receptor, or to cause significant pollution of controlled waters.*
- (b) A "receptor" is something that could be adversely affected by a contaminant, for example a person, an organism, an ecosystem, property, or controlled waters. The various types of receptors that are relevant under the Part 2A regime are explained in later sections.*
- (c) A "pathway" is a route by which a receptor is or might be affected by a contaminant.*

The term "contaminant linkage" means the relationship between a contaminant, a pathway and a receptor. All three elements of a contaminant linkage must exist in relation to a particular land before the land can be considered potentially to be contaminated land under Part 2A, including evidence of the actual presence of contaminants. The term "significant contaminant linkage", as used in this Guidance, means a contaminant linkage which gives rise to a level of risk sufficient to justify a piece of land being determined as contaminated land. The term "significant contaminant" means the contaminant which forms part of a significant contaminant linkage.'

With respect to the presence of background levels of contaminants, section 3.21 to 3.23 states *‘The Part 2A regime was introduced to help identify and deal with land which poses unacceptable levels of risk. It was not intended to apply to land with levels of contaminants in soil that are commonplace and widespread throughout England or parts of it, and for which in the very large majority of cases there is no reason to consider that there is an unacceptable risk.*

Normal levels of contaminants in soil should not be considered to cause land to qualify as contaminated land, unless there is a particular reason to consider otherwise. Therefore, if it is established that land is at or close to normal levels of particular contaminants, it should usually not be considered further in relation to the Part 2A regime...

For the purpose of this Guidance, “normal” levels of contaminants in soil may result from:

- (a) The natural presence of contaminants (e.g. caused by soil formation processes and underlying geology) at levels that might reasonably be considered typical in a given area and have not been shown to pose an unacceptable risk to health or the environment.*
- (b) The presence of contaminants caused by low level diffuse pollution, and common human activity other than specific industrial processes. For example, this would include diffuse pollution caused by historic use of leaded petrol and the presence of benzo(a)pyrene from vehicle exhausts, and the spreading of domestic ash in gardens at levels that might reasonably be considered typical.’*

In selecting appropriate generic assessment criteria Section 3.27 of the Guidance states:

‘It is common practice in contaminated land risk assessment to use “generic assessment criteria” (GACs) as screening tools in generic quantitative human health risk assessment to help assessors decide when land can be excluded from the need for further inspection and assessment, or when further work would be warranted’.

With respect to assessing contaminated land, section 4.17 of the Guidance states:

‘In deciding whether or not land is contaminated land on grounds of significant possibility of significant harm to human health, the local authority should use the categorisations described in paragraphs 4.19 – 4.30 below. Categories 1 and 2 would encompass land which is capable of being determined as contaminated land on the grounds of significant possibility of harm to human health. Categories 3 and 4 would encompass land which is not capable of being determined on such grounds.’

In relation to the use of GAC values in the assessment of contaminated land, section 3.29 of the Guidance states:

‘GACs relating to human health risk assessment represent cautious estimates of levels of contaminants in soil at which there is considered to be no risk to health or, at most, a minimal risk to health. With regards to such GACs:

- (a) *They may be used to indicate when land is very unlikely to pose a significant possibility of significant harm to human health. This is on the basis that they are designed to estimate levels of contamination at which risks are likely to be negligible or minimal and far from posing a significant possibility of significant harm to human health.*
- (b) *They should not be used as direct indicators of whether a significant possibility of significant harm to human health may exist. Also, the local authority should not view the degree by which the GACs are exceeded (in itself) as being particularly relevant to this consideration, given that the degree of risk posed by land would normally depend on many factors other than simply the amount of contaminants in soil.*
- (c) *They should not be seen as screening levels which describe the boundary between Categories 3 and 4 in terms of Section 4 (i.e. the two Categories in which land would not be contaminated land on grounds of risk to human health). In the very large majority of cases, these SGVs/GACs describe levels of contamination from which risks should be considered to be comfortably within Category 4.*
- (d) *They should not be viewed as indicators of levels of contamination above which detailed risk assessment would automatically be required under Part 2A.*
- (e) *They should not be used as generic remediation targets under the Part 2A regime. Nor should they be used in this way under the planning system, for example in relation to ensuring that land affected by contamination does not meet the Part 2A definition of contaminated land after it has been developed.'*

In undertaking a risk assessment and deriving a CSM for the purposes of the development of a site (i.e. planning and development control) reference has been made to both the Model Procedures for the Management of Land Contamination, as well as the National Planning Policy Framework (NPPF, dated March 2012). Reference has also been made to the Contaminated Land Statutory Guidance (referenced above), although this is primarily concerned with Local Government determinations of Statutory 'Contaminated Land', which is separate to planning framework requirements.

4.2 Contaminant [C] - Pathway [P] - Receptor [R] Considerations

The following CPR assessment has been undertaken based on the assumption that the site will be redeveloped for a low-rise residential end-use incorporating private gardens.

4.3 Consideration of Potential Sources of Contamination [C]

Based on the findings of our works, the potential key sources of contamination at the site that would require investigation as part of any Phase II Exploratory Investigation works will include the following:

- Metals and metalloids associated with any potential Made Ground beneath the site.
- Polycyclic Aromatic Hydrocarbons (PAHs) from any ashy inclusions and/or carbonaceous inclusions in the near surface soils.

- Hydrocarbons associated with agricultural machinery, heating or poor historical housekeeping practices.
- Asbestos from former structures.
- Pesticides from historical applications associated with the nursery business.
- Potentially hazardous ground gas (i.e. carbon dioxide and methane) from potentially organic drift deposits beneath the site and the infilled former ponds.

The foregoing should be revisited in due course, driven by the findings of appropriate Phase II Exploratory Investigation works.

4.4 Consideration of Potential Pathways [P]

The potential pathways at the site are primarily:

- Direct ingestion of soil.
- Inhalation of dust and vapours.
- Direct skin contact with the ground.
- Direct contact with building materials.
- Direct ingestion of home-grown produce.
- Vertical and lateral migration of contamination.
- Vertical and lateral migration of potentially hazardous ground gases/vapours.

4.5 Consideration of Potential Receptors [R]

The potential key receptors at the site are:

- The construction personnel (i.e. site workers) involved with the development of the site (typically short term (acute) exposure).
- The final end users (residents - typically long term (chronic) exposure and site visitors – typically short term (acute) exposure).
- Neighbouring properties (i.e. off-site receptors).
- Controlled Waters (i.e. principally nearby surface waters).
- Buildings/construction materials.

4.6 Summary

Our preliminary conceptual site model of possible CPR pollutant linkages, applicable to the proposed site usage and based on our current understanding, is summarised in Table 2.

In providing an opinion on the possible risk attributable to the appropriate CPR linkage, we have used the following hierarchy; although it should be noted that these are preliminary and subject to confirmation by appropriate Phase II intrusive works:

Unlikely < Plausible < Likely

TABLE 2 - SUMMARY OF PRELIMINARY CPR ASSESSMENT

Contaminant [C]	Pathway [P]	Receptor [R]	Comments	CPR Linkage Risk
Potentially contaminated soils and/or groundwater associated with the sites current and historic usage	Ingestion of soil and dermal contact	Construction Personnel	Based on the known historical and existing land uses of the site, the risk of significant soil contamination within the underlying soils is currently considered to be low to moderate. Appropriate soil testing is recommended during any Phase II intrusive works to inform the PPE requirements of construction personnel.	Plausible
	Inhalation of dust and vapours	Construction Personnel	Based on the known historical and existing land uses of the site, the risk of significant soil contamination within the underlying soils is currently considered to be low to moderate. Appropriate soil testing is recommended during any Phase II intrusive works to inform the PPE requirements of construction personnel. Appropriate control measures can be implemented during construction activities (i.e. dust suppression measures) which would significantly reduce the risk of exposure to dust inhalation.	Unlikely/ Plausible
	Ingestion of soil and dermal contact	End Users (site residents & visitors)	Based on the known historical and existing land uses of the site, the risk of significant soil contamination within the underlying soils is currently considered to be low to moderate. There is a risk of exposure to any elevated contaminant concentrations within the gardens of the proposed residential dwellings. Appropriate soil testing is recommended during any Phase II intrusive works to confirm the contamination status of the soils.	Plausible
	Ingestion of home-grown produce	End Users (site residents)	Based on the known historical and existing land uses of the site, the risk of significant soil contamination within the underlying soils is currently considered to be low to moderate. There is a risk of exposure to any elevated contaminant concentrations within the gardens of the proposed residential dwellings. Appropriate soil testing is recommended during any Phase II intrusive works to confirm the contamination status of the soils.	Plausible

TABLE 2 - SUMMARY OF PRELIMINARY CPR ASSESSMENT

Contaminant [C]	Pathway [P]	Receptor [R]	Comments	CPR Linkage Risk
	<i>Inhalation of dust and vapours</i>	<i>End Users (site residents & visitors)</i>	The overall risk of vapour intrusion into buildings is currently considered to be low. Following completion of the development (as currently proposed), there is considered to be a minimal risk of dust generation. Any soft landscape areas are likely to be grass surfaced, which will minimise dust generation.	Unlikely
	<i>Vertical and lateral migration/ leaching of contamination</i>	<i>Neighbouring properties (off site receptors)</i>	No obvious significant on-site sources of mobile contamination have been identified by the Desk Study works that may impact off-site receptors. Appropriate soils testing during Phase II works will assist in assessing this potential linkage further.	Unlikely
	<i>Vertical and lateral migration/ leaching of contamination</i>	<i>Controlled Waters</i>	An open drain off Foxes Low Road is present adjacent to the site. The site is underlain by Unproductive Strata. The site does not lie within a SPZ. Based on the Desk Study information, the site has had no historical industrial land uses that would result in a legacy of significant contamination within the underlying soils or groundwater. The risk of significant contamination within the groundwater beneath the site is considered to be relatively low based on the findings of the Desk Study. However, appropriate soil testing is recommended during any Phase II intrusive works to confirm the contamination status of the soils.	Unlikely / Plausible
	<i>Vertical and lateral migration/ leaching of contamination resulting in direct contact</i> <i>Permeation of hydrocarbons through plastic pipe work</i>	<i>Buildings and construction materials (including potable water supply pipes/other utilities)</i>	No significant sources of on-site contamination have been identified by the Desk Study works. The requirements for specific protection measures within the proposed development should be confirmed following soils testing, as part of appropriate Phase II Exploratory Works.	Unlikely
Radon (naturally occurring gas from bedrock materials)	<i>Vertical and lateral migration</i>	<i>Buildings, Construction Personnel and End Users (site residents & visitors)</i>	Based on the Landmark Report, no radon protective measures are required at the site.	Unlikely

TABLE 2 - SUMMARY OF PRELIMINARY CPR ASSESSMENT

Contaminant [C]	Pathway [P]	Receptor [R]	Comments	CPR Linkage Risk
<i>Ground gases</i>	<i>Vertical and lateral migration</i>	<i>Buildings, Construction Personnel and End Users (site residents & visitors)</i>	Potential on-site sources of hazardous ground gas have been identified. The requirements for ground gas protection measures within the proposed development should be confirmed following a programme of ground gas monitoring to establish the ground gas regime at the site, as part of appropriate Phase II Exploratory Works.	Plausible
KEY Where text is in <i>Bold Italic</i> item is potentially present. Where normal text is used item is not present/plausible. CPR Linkage Risk Definitions: Unlikely – A significant pollutant linkage/risk has not been identified. Plausible – A significant pollutant linkage/risk has been identified that may be present at the site. Mitigation measures may be required. Likely – A significant pollutant linkage should be anticipated based on our findings to date. Mitigation measures are likely to be required.				

The foregoing preliminary conceptual model highlights the potential plausible pollutant linkages that may relate to the site and would therefore require addressing by appropriate Phase II Exploratory Works. The information contained within the conceptual model should be confirmed and revised upon completion of an appropriate intrusive investigation, where appropriate.

5.0 CONCLUSIONS

The following conclusions and recommendations are preliminary and subject to confirmation by an appropriate site-specific Phase II Exploratory Investigation.

5.1 Site Summary

- The site comprises a disused heavily overgrown plot of land.
- Two dilapidated structures are present at the site.
- Remnant brick structures are present within the overgrown vegetation, representing the remains to former buildings/glasshouses.
- Historically, the site comprised part of a former nursery associated with a bulb growing business, which extended off-site to the southwest/northwest.
- Geological publications reveal the site to be underlain by superficial deposits comprising Tidal Flat Deposits overlying bedrock of the Amphill Clay Formation.

5.2 Geotechnical Assessment

It is understood that the aspiration is to redevelop the site with low-rise residential properties. The foundation solution for the proposed development will depend on the results of intrusive Phase II investigation works. These works should determine the potential presence and nature of any man-made deposits (i.e. Made Ground, for example) and provide an assessment of the depth to, and strength of, the Natural Strata beneath the site.

It should be noted that the underlying Tidal Flat Deposits comprise highly variable, potentially water bearing soils (i.e. Silt, Sand, Clay and potentially Peat) of generally low geotechnical strength, which may be unsuitable for traditional shallow foundations. Therefore, the use of a deeper founding solution (i.e. piles, for example) may be appropriate. The underlying bedrock of the Amphill Clay Formation generally provides a suitable bearing stratum.

An appropriate scope of geotechnical tests should also be included within a suitable Phase II investigation for the purposes of designing foundations (including plasticity index analysis and/or particle size distribution analysis, water soluble sulphate/pH etc.).

5.3 Building Near Trees

Foundation designs may need to be locally adjusted when building near existing, recently removed or proposed trees and hedgerows.

Trees are present within the boundaries of the site and along the site boundaries, and it is recommended that these are surveyed and identified by a qualified arborist prior to development. Appropriate geotechnical soils testing should be undertaken as part of Phase II works, to assist in detailed foundation design.

5.4 Gas Precautions

The Desk Study works have revealed the presence of potential on-site sources of potentially hazardous ground gas (i.e. carbon dioxide and methane).

Therefore, it is recommended that a robust programme of ground gas monitoring should be undertaken at the site to establish the ground gas regime and to assist in determining the level of any gas precautions required. Monitoring should be undertaken in accordance with CIRIA Report C665 '*Assessing risks posed by hazardous ground gases to buildings*' (2007).

5.5 Radon

Based on the Landmark Envirocheck report, no radon associated precautions are required at the site.

5.6 Coal Mining

No coal mining precautions or associated investigation works are required at the site.

5.7 Water

The results of the intrusive investigation will assist in establishing the groundwater regime beneath the site.

5.8 Surface Water Drainage

The use of soakaways would be subject to the ground conditions encountered during the intrusive works, and where considered plausible an appropriate scope of in-situ soakaway testing should be designed and implemented (in general accordance with BRE Digest DG 365 2016).

5.9 Sources of Contamination

The Phase I Desk Study has identified the following key contaminants that may potentially be present at the site:

- Metals and metalloids associated with any potential Made Ground beneath the site.
- Polycyclic Aromatic Hydrocarbons (PAHs) from any ashy inclusions and/or carbonaceous inclusions in the near surface soils.
- Hydrocarbons associated with agricultural machinery, heating or poor historical housekeeping practices.
- Asbestos from former structures.
- Pesticides from historical applications associated with the nursery business.
- Potentially hazardous ground gas (i.e. carbon dioxide and methane) from potentially organic drift deposits beneath the site and the infilled former ponds.

The foregoing potential contaminants should form the basis of an assessment for human health and Controlled Waters within a suitable Phase II investigation. We would note that the foregoing list should be revised following completion of appropriate intrusive investigation works at the site, and the Preliminary Conceptual Site Model (Section 4.0) updated accordingly.

5.10 Flood Risk

The Landmark Envirocheck report has revealed the site to lie within an area identified as being at risk of flooding. It is recommended that advice be sought from a Drainage Consultant with respect to this matter.

5.11 Asbestos Survey

It is recommended that an asbestos survey is carried out at the site to identify the potential presence of any asbestos, to include a survey of the existing dilapidated buildings. All asbestos containing material (ACM) should be removed and disposed off-site by appropriately qualified contractors.

5.12 Statutory Consultation

We would recommend that a copy of this Phase I Desk Study report is issued to the Local Planning Authority for review and comment as part of the planning application process. Any comments made by the Local Authority, or their appointed consultees, should be incorporated into the Phase II Exploratory Investigation to ensure that the intrusive investigation is acceptable to all parties.

5.13 Recommended Phase II Exploratory Investigation Works

Proposed Phase II Exploratory Works should be sufficient to investigate the possible issues raised in the Phase I Desk Study and should be undertaken in general accordance with current industry good practice. Based on our current understanding (Preliminary Conceptual Site Model) it is recommended that Phase II works comprise the following, as a minimum:

- A programme of exploratory holes to provide an initial inspection of the near surface ground conditions for geotechnical and environmental purposes. It should be noted that detailed intrusive works would only be possible after clearance works involving the substantial removal of the overgrown vegetation.
- Appropriate geotechnical and environmental soil analysis.
- The installation of ground gas and water monitoring points at the site to enable a programme of monitoring.

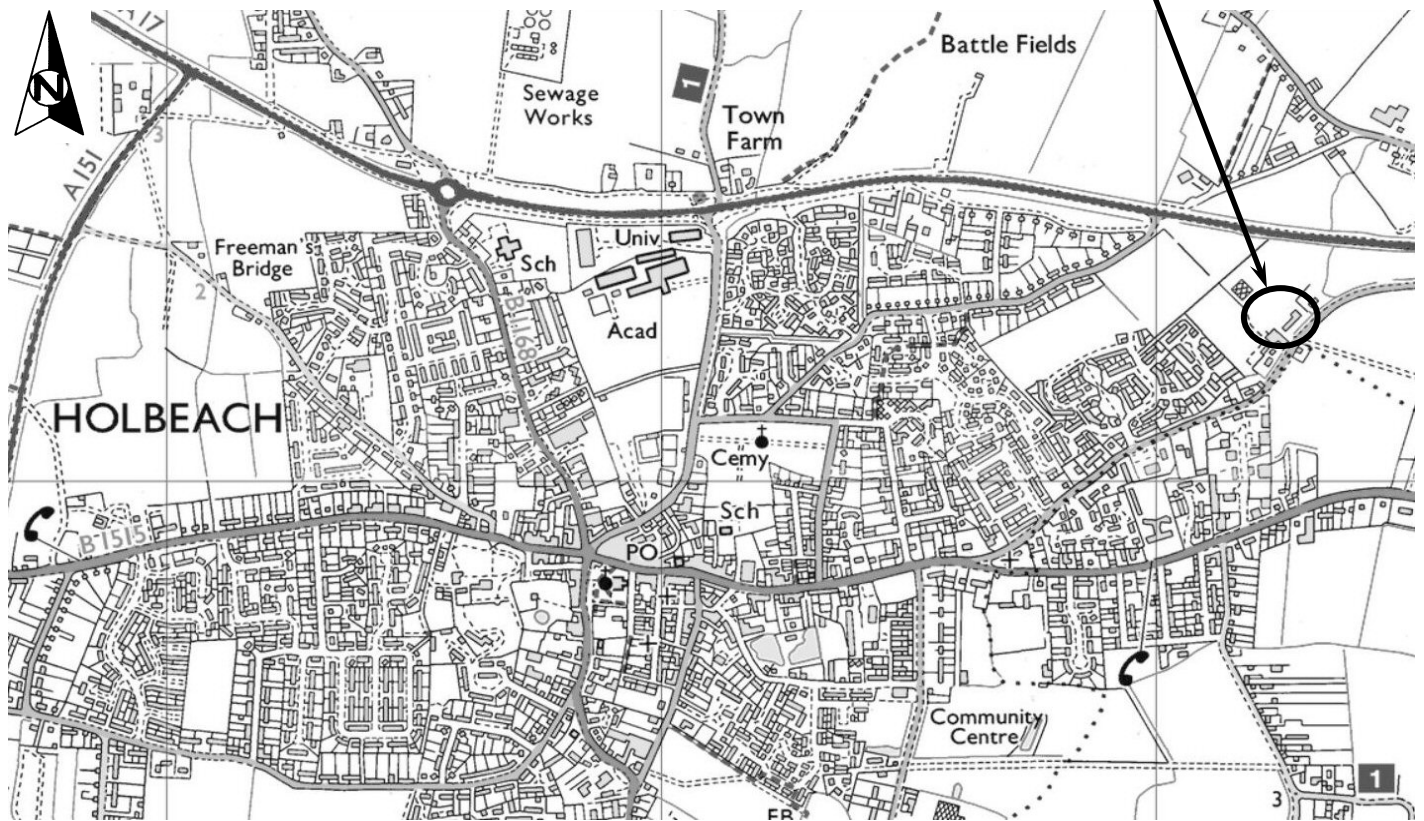
5.14 Closing Comment

Based on the evidence of the findings of the Phase I desk study enquiries and following the implementation of any necessary remedial measures, the site is considered likely to be suitable for the proposed end-use from a geotechnical and environmental perspective.

APPENDIX A

**Site Location Plan
(Figure No. 17-0574/01)**

APPROXIMATE
SITE LOCATION



DO NOT SCALE

REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE.
CROWN COPYRIGHT RESERVED. LICENCE NO.100041272

Project No.	17-0574	Drawn	PK
Client	Axel Klozenbuecher Architecture	Checked	
Project	Foxes Low Road Holbeach	Approved	
		Scale	NTS
		Date Drawn	31.01.19
Title	Site Location Plan	Rev.	
		Figure No. 17-0574/01	

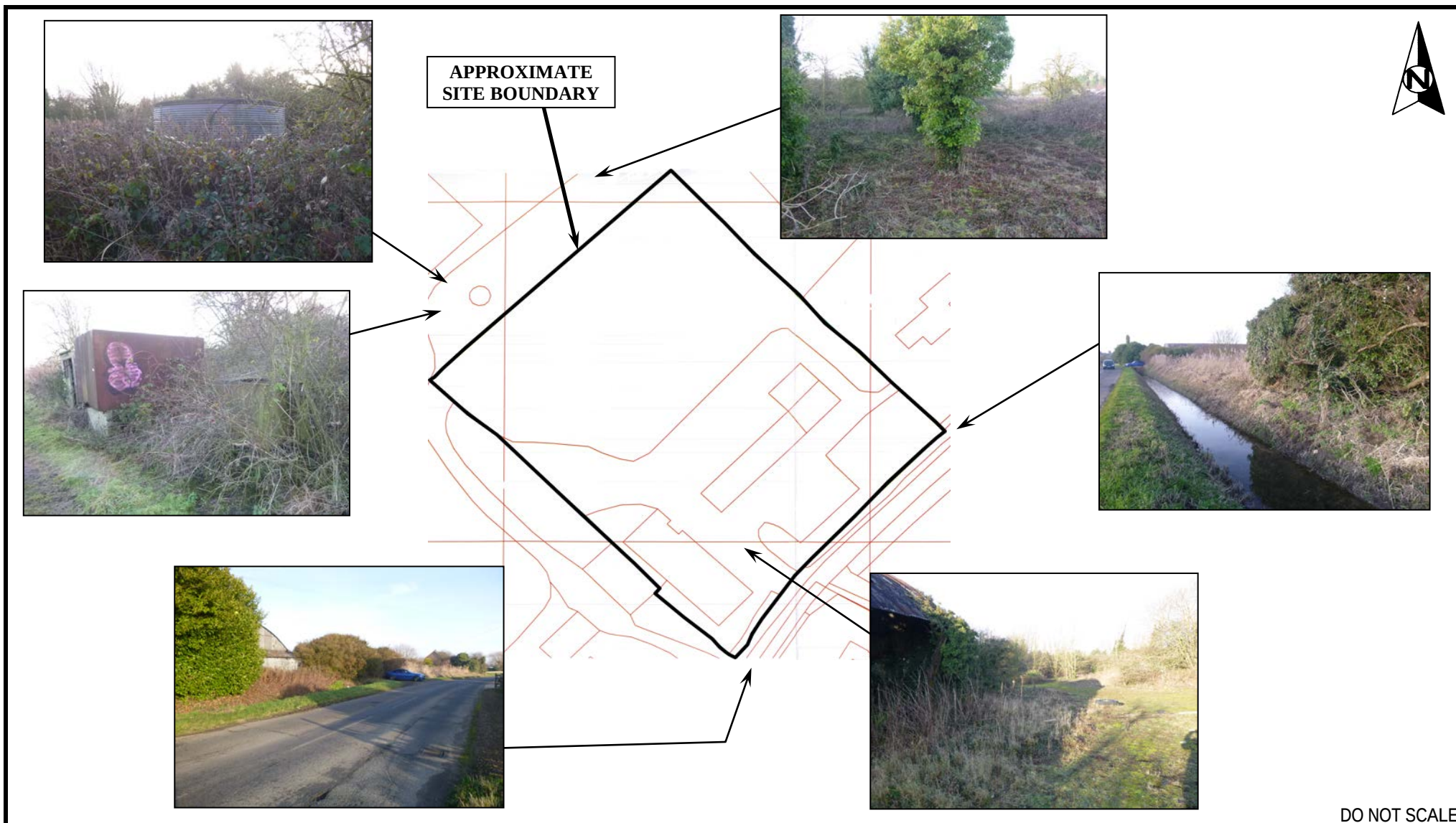


APPENDIX B

**Annotated Site Plan
(Figure No. 17-0574/02)**

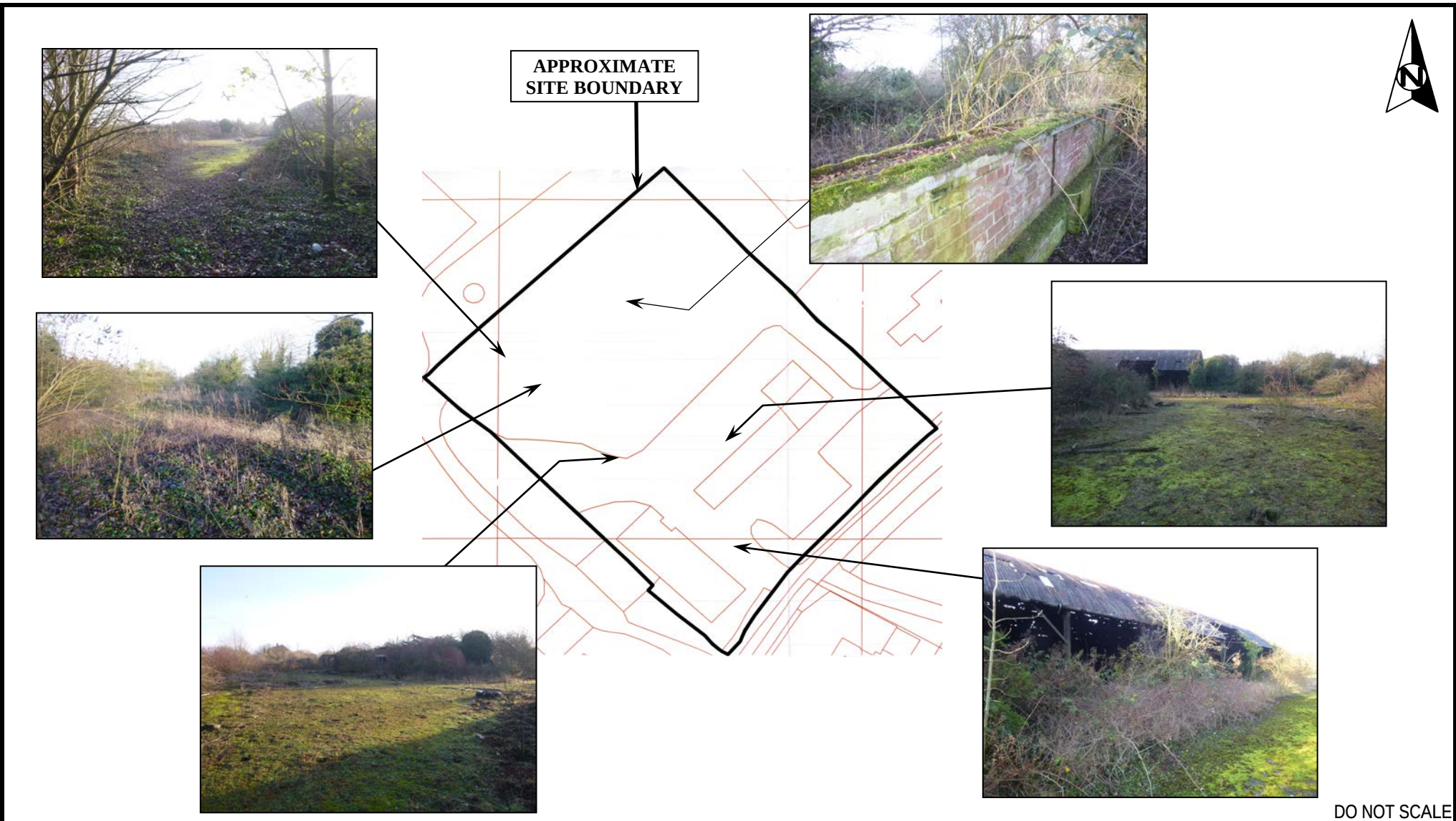
APPENDIX C

**Site Plans Showing General Site Views
(Figure Nos. 17-0574/03a & 17-0574/03b)**



REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE.
CROWN COPYRIGHT RESERVED. LICENCE NO. 100041272

Project No.	17-0574	Title	Site Plan Showing General Site Views	Drawn	PK
Client	Axel Klozenbuecher Architecture			Checked	
Project	Foxes Low Road Holbeach	Scale	NTS	Approved	
		Revision		Figure No. 17-0574/03a	
		Date Drawn	31.01.19		



DO NOT SCALE

REPRODUCED FROM THE ORDNANCE SURVEY MAP WITH THE PERMISSION OF THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE.
CROWN COPYRIGHT RESERVED. LICENCE NO. 100041272

Project No.	17-0574	Title	Site Plan Showing General Site Views	Drawn	PK
Client	Axel Klozenbuecher Architecture			Checked	
Project	Foxes Low Road Holbeach	Scale	NTS	Approved	
		Revision		Figure No. 17-0574/03b	
		Date Drawn	31.01.19		



APPENDIX D

Historical Plans

Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250



Large-Scale National Grid Data 1:2,500 and 1:1,250



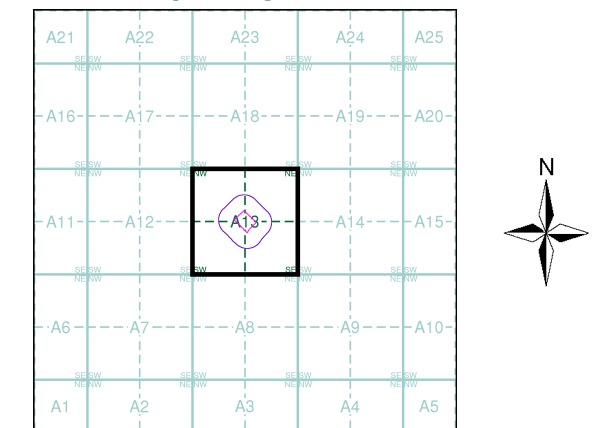
Envirocheck®

LANDMARK INFORMATION GROUP®

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:2,500	1888	2
Lincolnshire	1:2,500	1904	3
Lincolnshire	1:2,500	1931	4
Ordnance Survey Plan	1:2,500	1969	5
Supply of Unpublished Survey Information	1:2,500	1976	6
Additional SIMs	1:2,500	1977 - 1982	7
Additional SIMs	1:2,500	1982 - 1991	8
Additional SIMs	1:2,500	1984 - 1991	9
Additional SIMs	1:2,500	1986	10
Additional SIMs	1:2,500	1992	11
Large-Scale National Grid Data	1:2,500	1995	12
Large-Scale National Grid Data	1:2,500	1995	13
Historical Aerial Photography	1:2,500	1999	14

Historical Map - Segment A13



Order Details

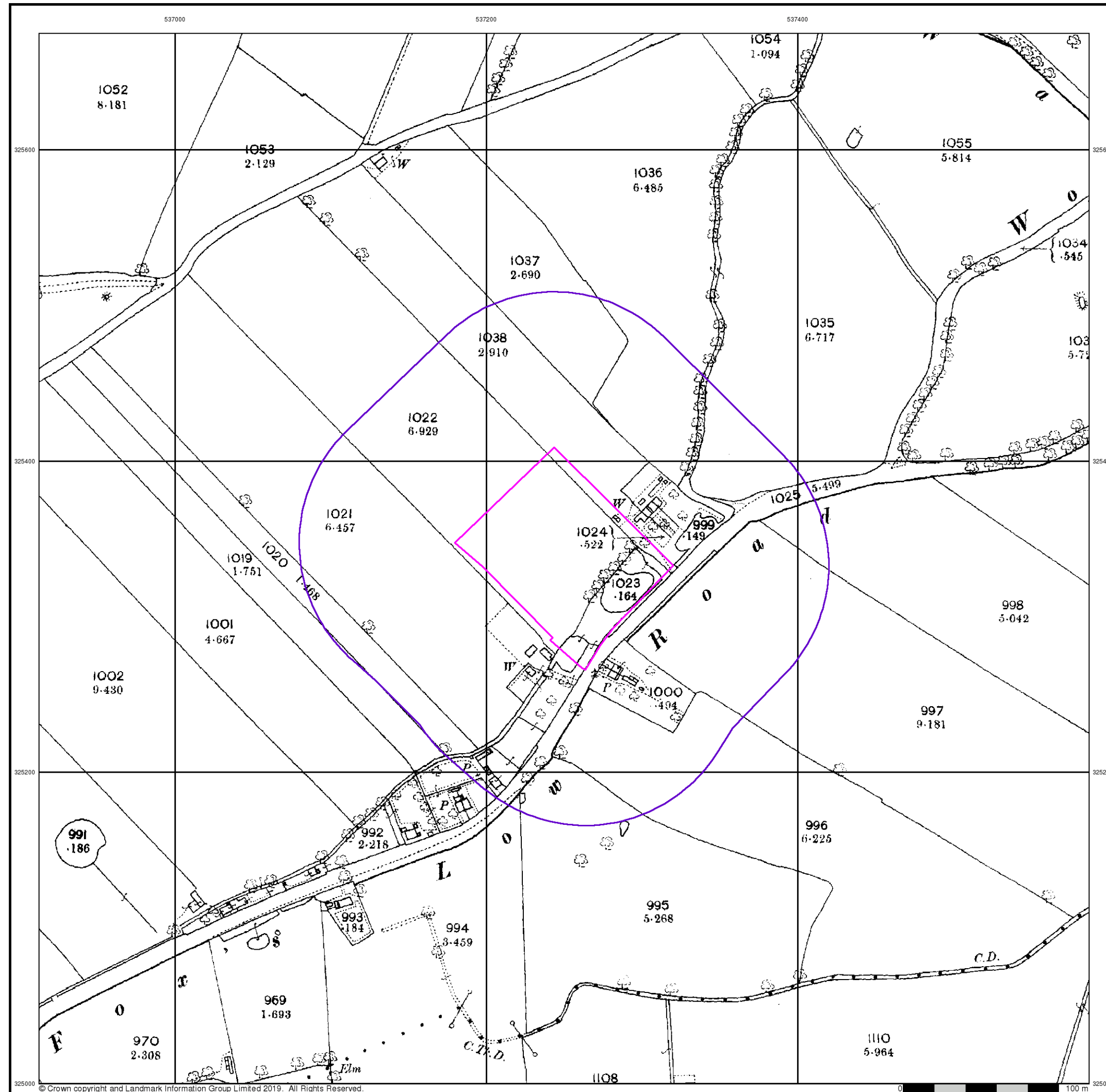
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Envirocheck®

LANDMARK INFORMATION GROUP®

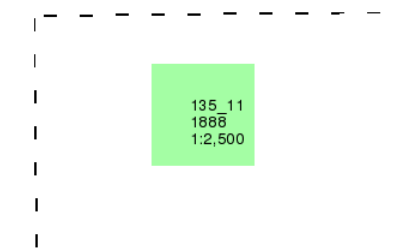
Lincolnshire

Published 1888

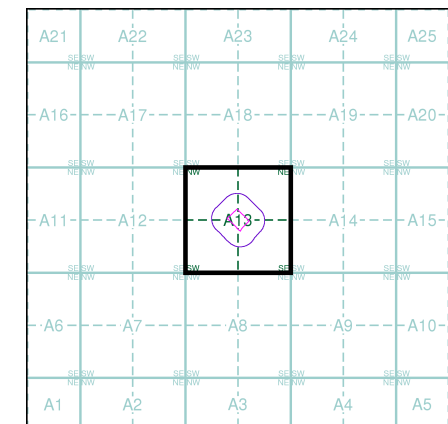
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

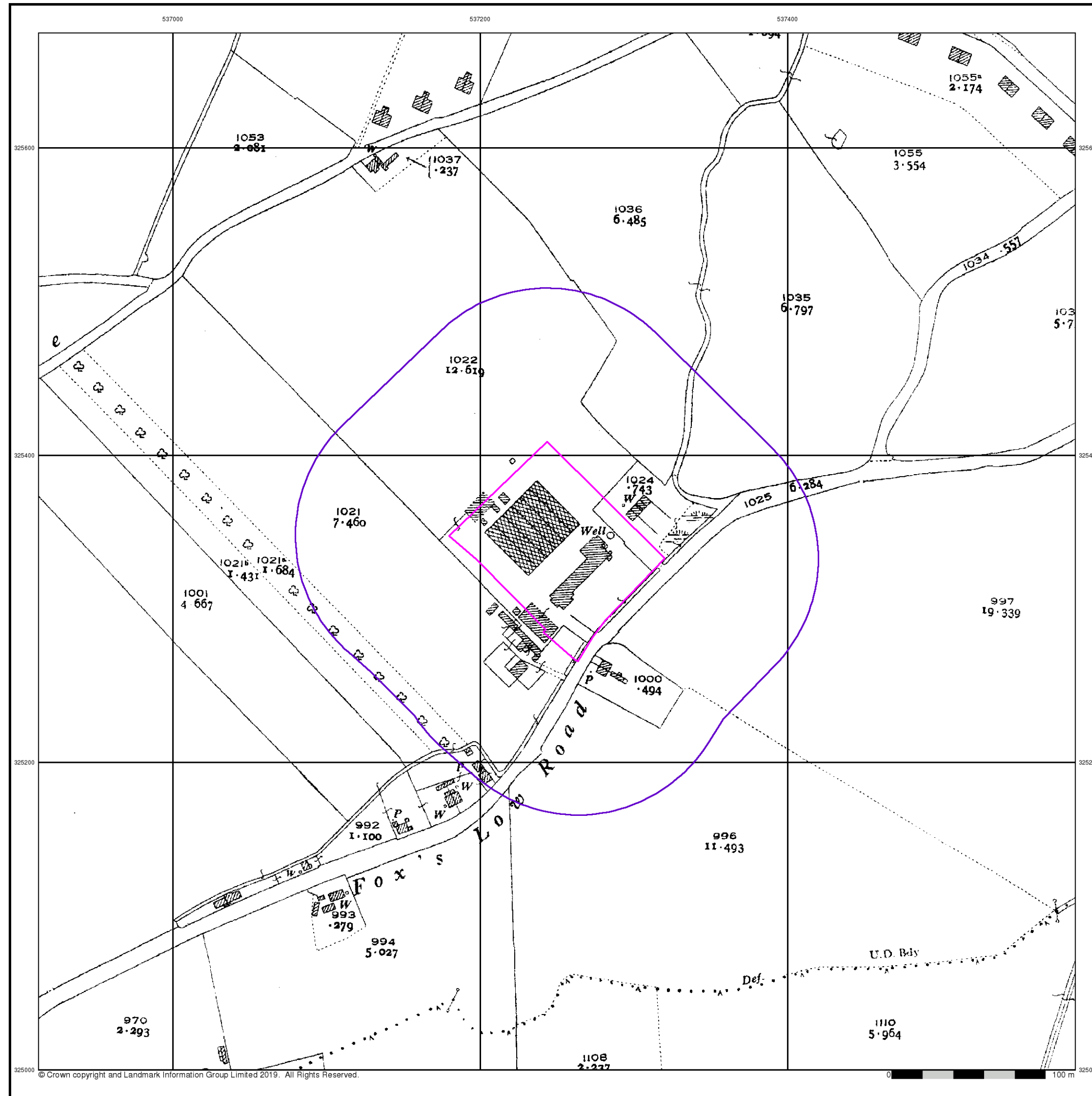
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



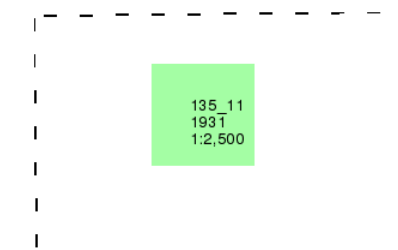
Lincolnshire

Published 1931

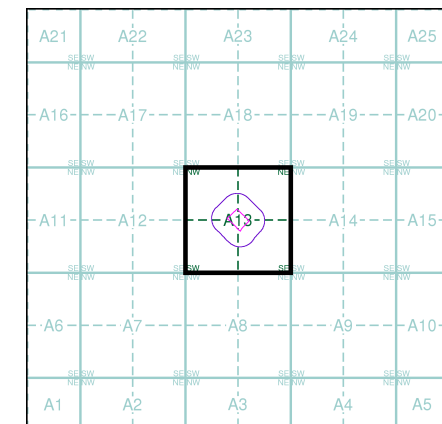
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

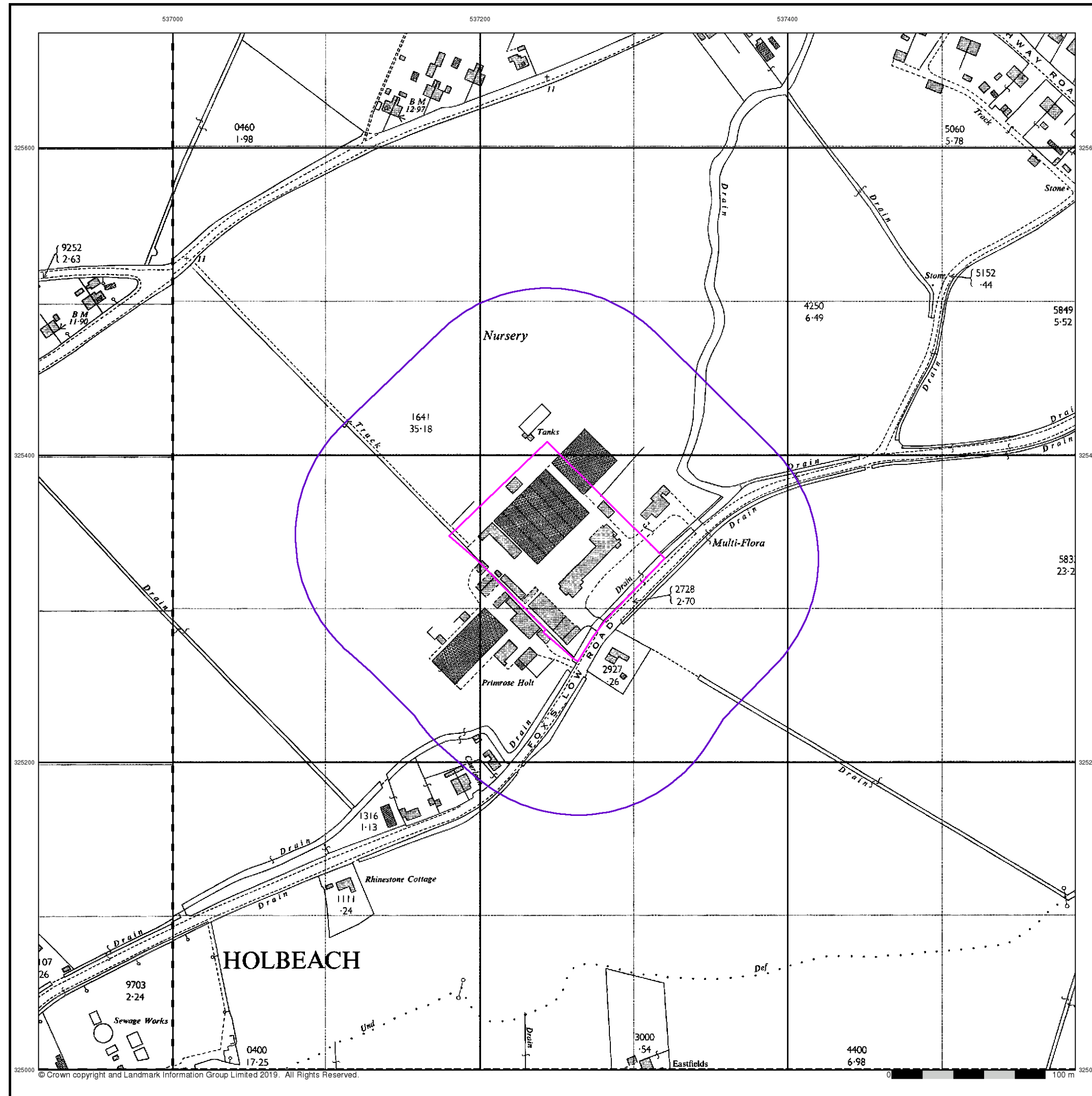


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach



Ordnance Survey Plan

Published 1969

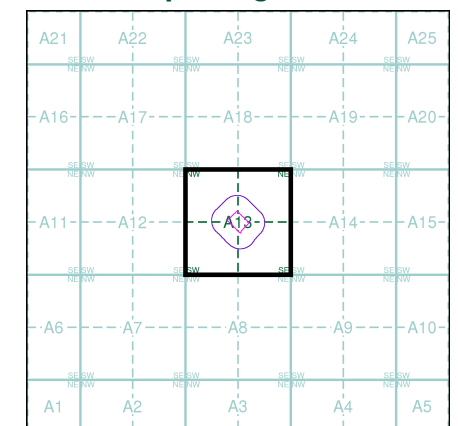
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

TF3625 1969 12,500	TF3725 1969 12,500
TF3624 1969 12,500	TF3724 1969 12,500

Historical Map - Segment A13

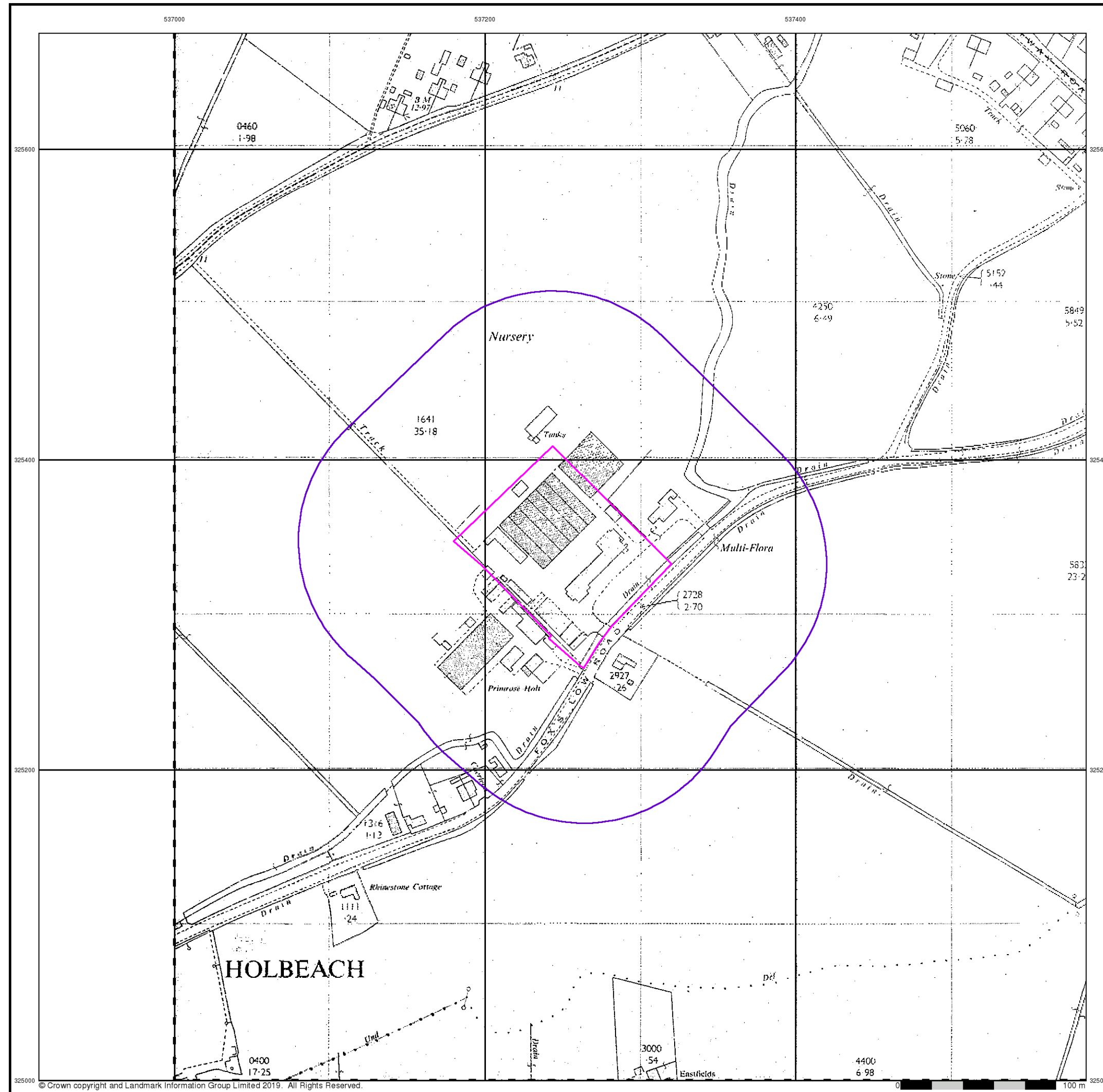


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

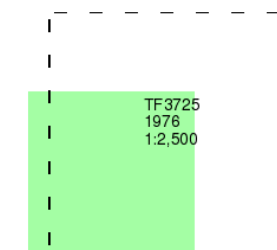
Supply of Unpublished Survey Information

Published 1976

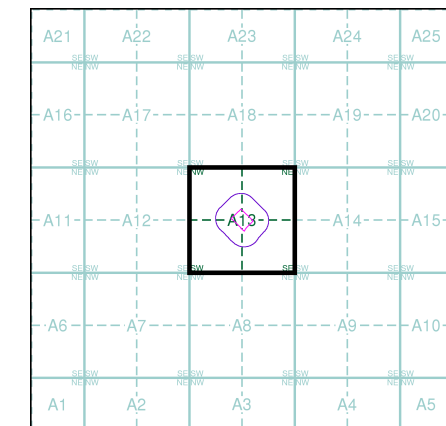
Source map scale - 1:2,500

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13

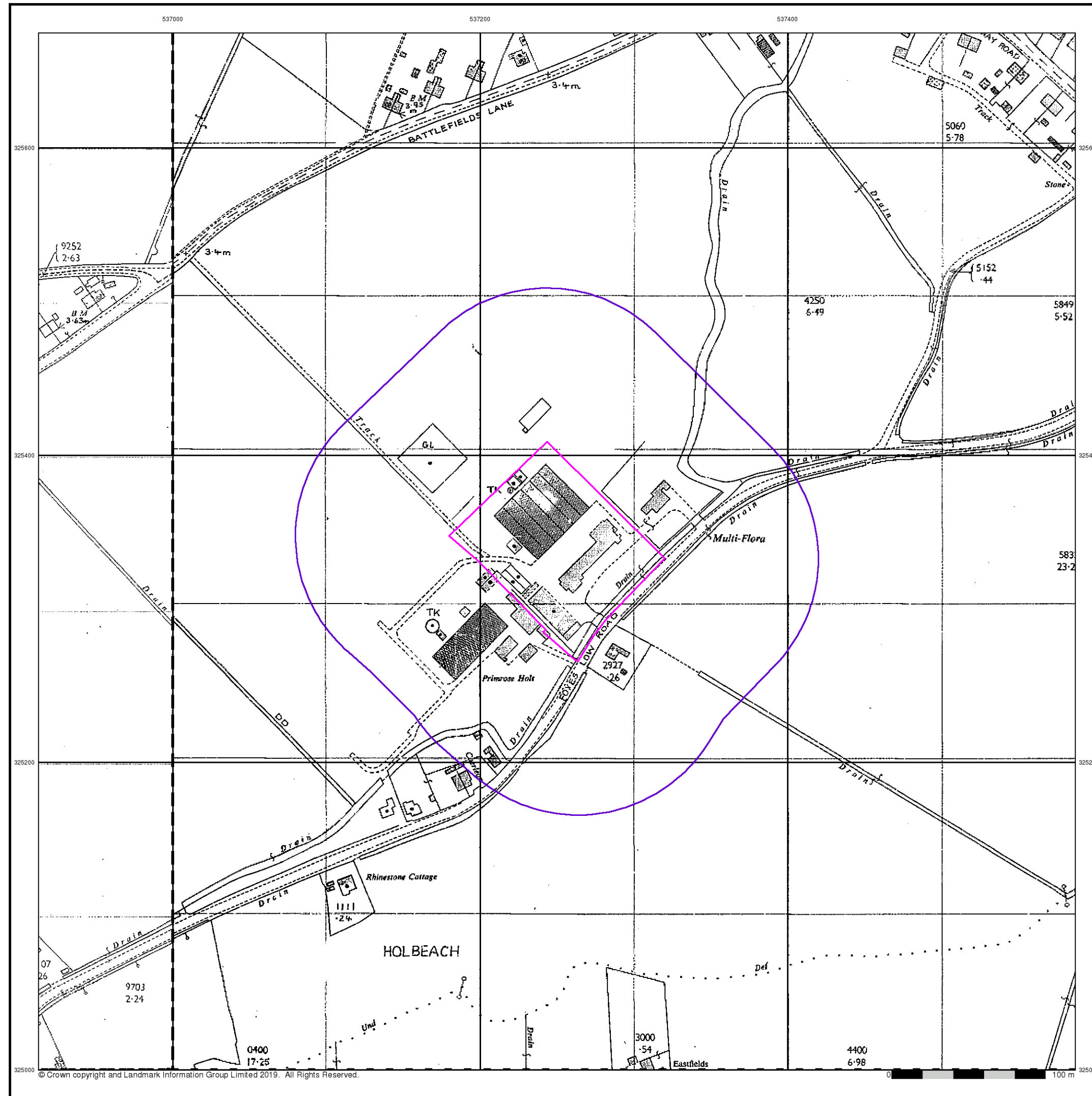


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

Additional SIMs

Published 1977 - 1982

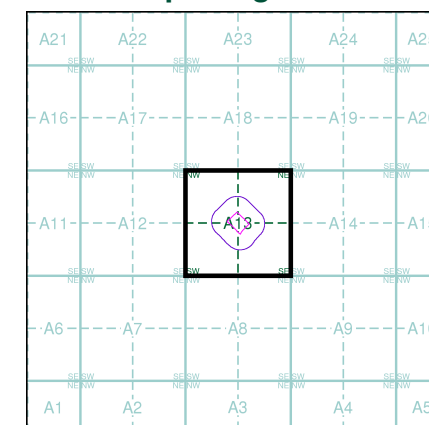
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

TF3625 1977 12,500	TF3725 1982 12,500
TF3624 1977 12,500	TF3724 1981 12,500

Historical Map - Segment A13



Order Details

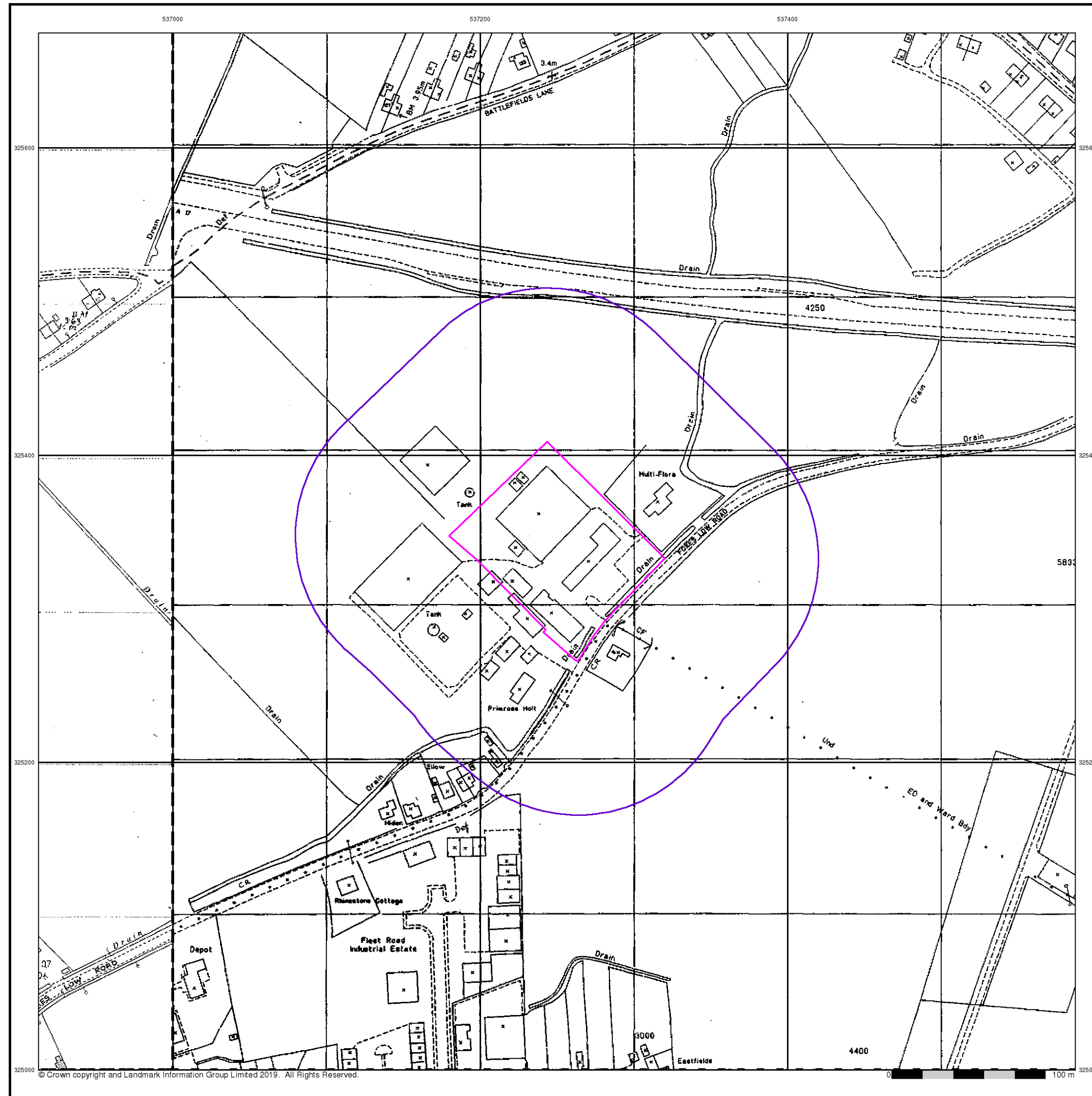
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Additional SIMs

Published 1982 - 1991

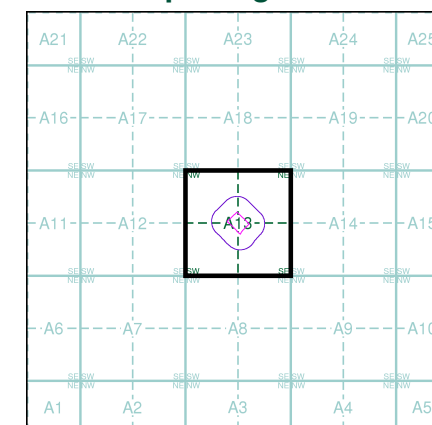
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

TF3625 1982 1:2,500	TF3725 1991 1:2,500
TF3624 1983 1:2,500	TF3724 1991 1:2,500

Historical Map - Segment A13

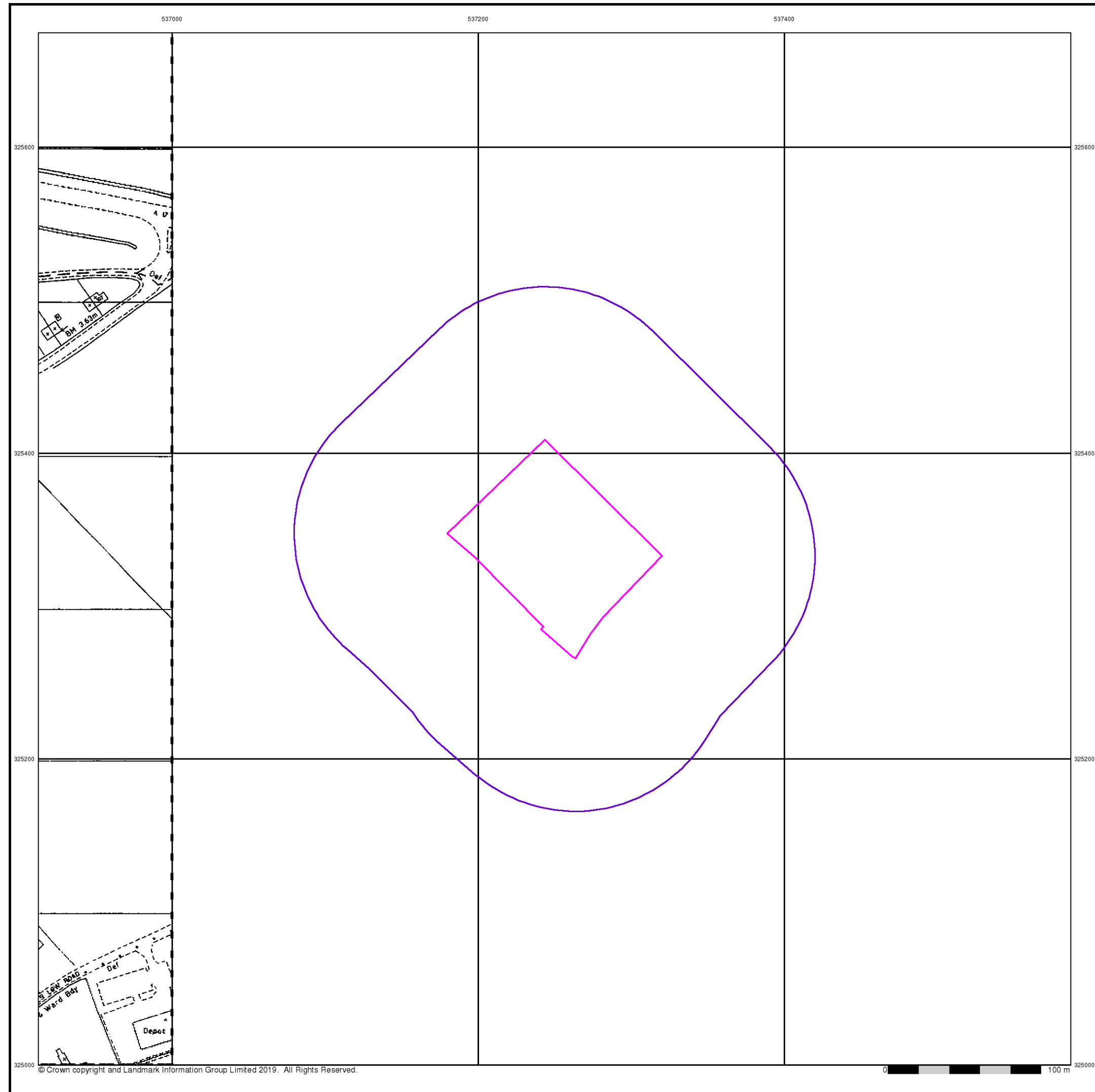


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach



Additional SIMs

Published 1984 - 1991

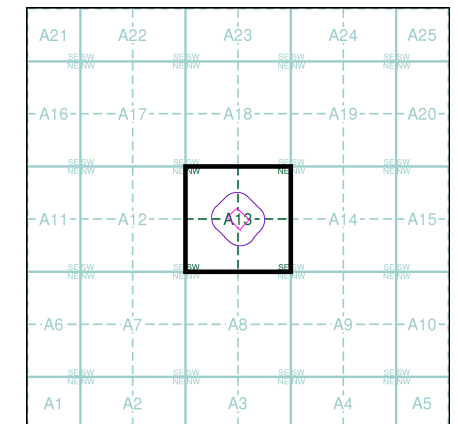
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

TF3625	1991	1:2,500
TF3624	1984	1:2,500

Historical Map - Segment A13

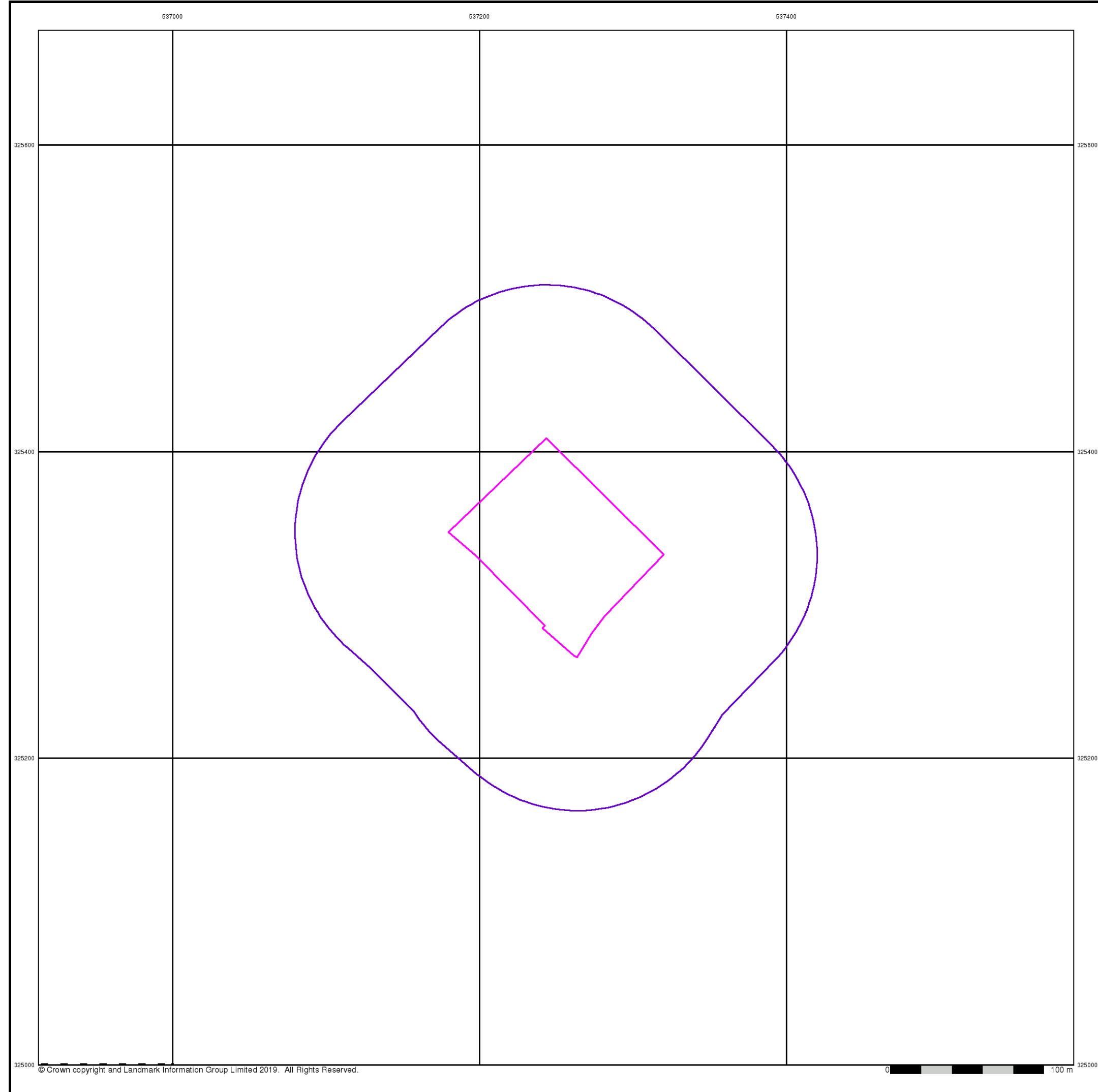


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach



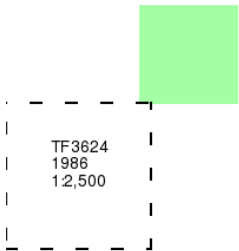
Additional SIMs

Published 1986

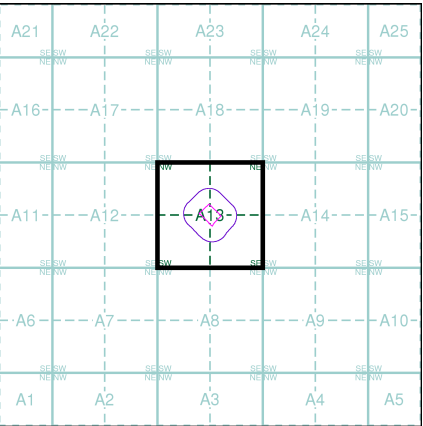
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13

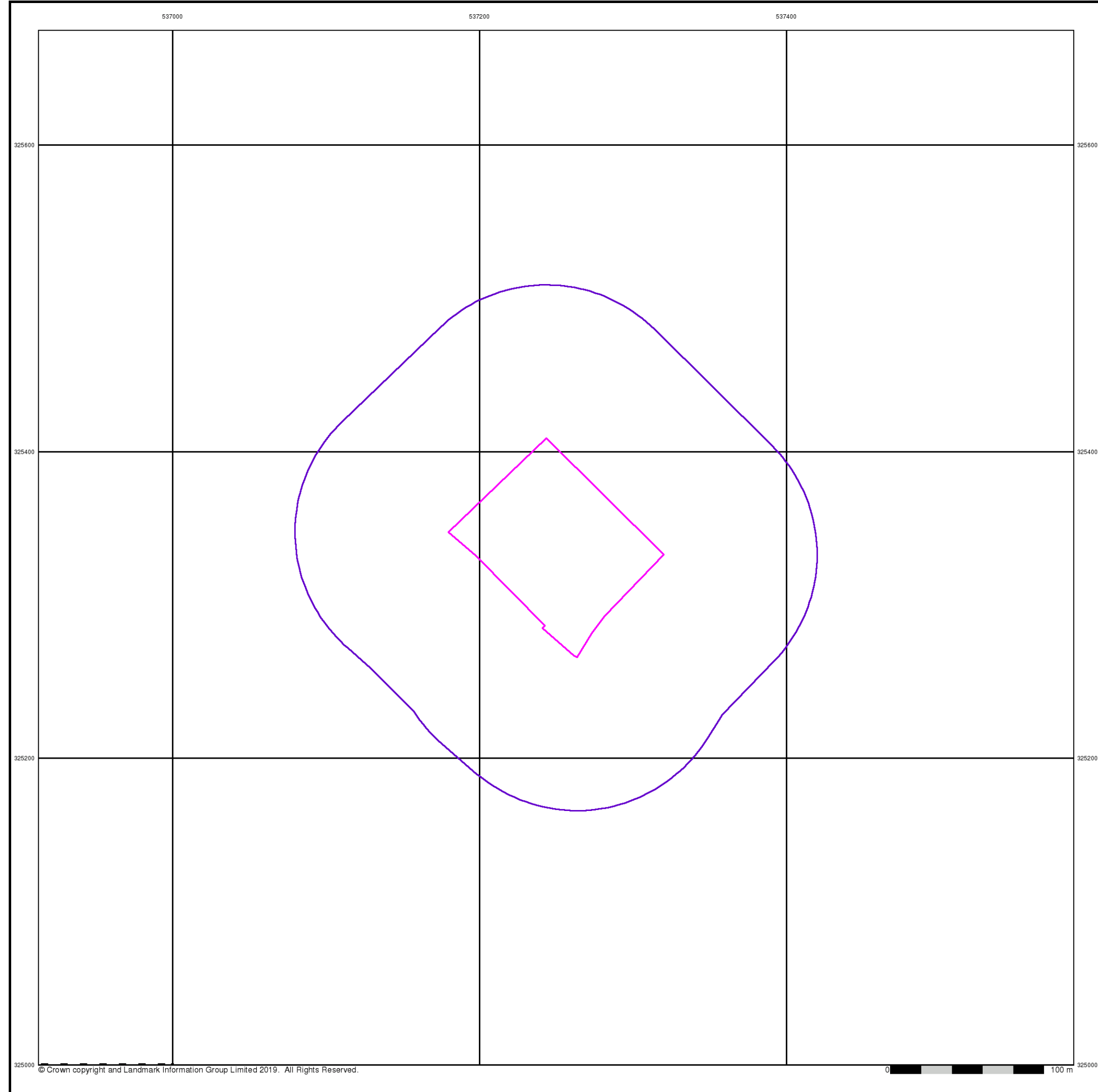


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach



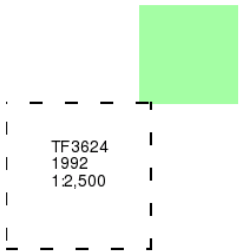
Additional SIMs

Published 1992

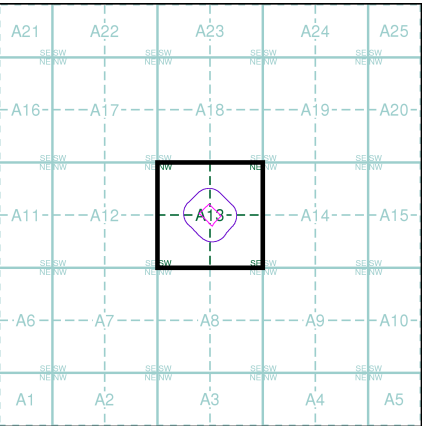
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's `Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13

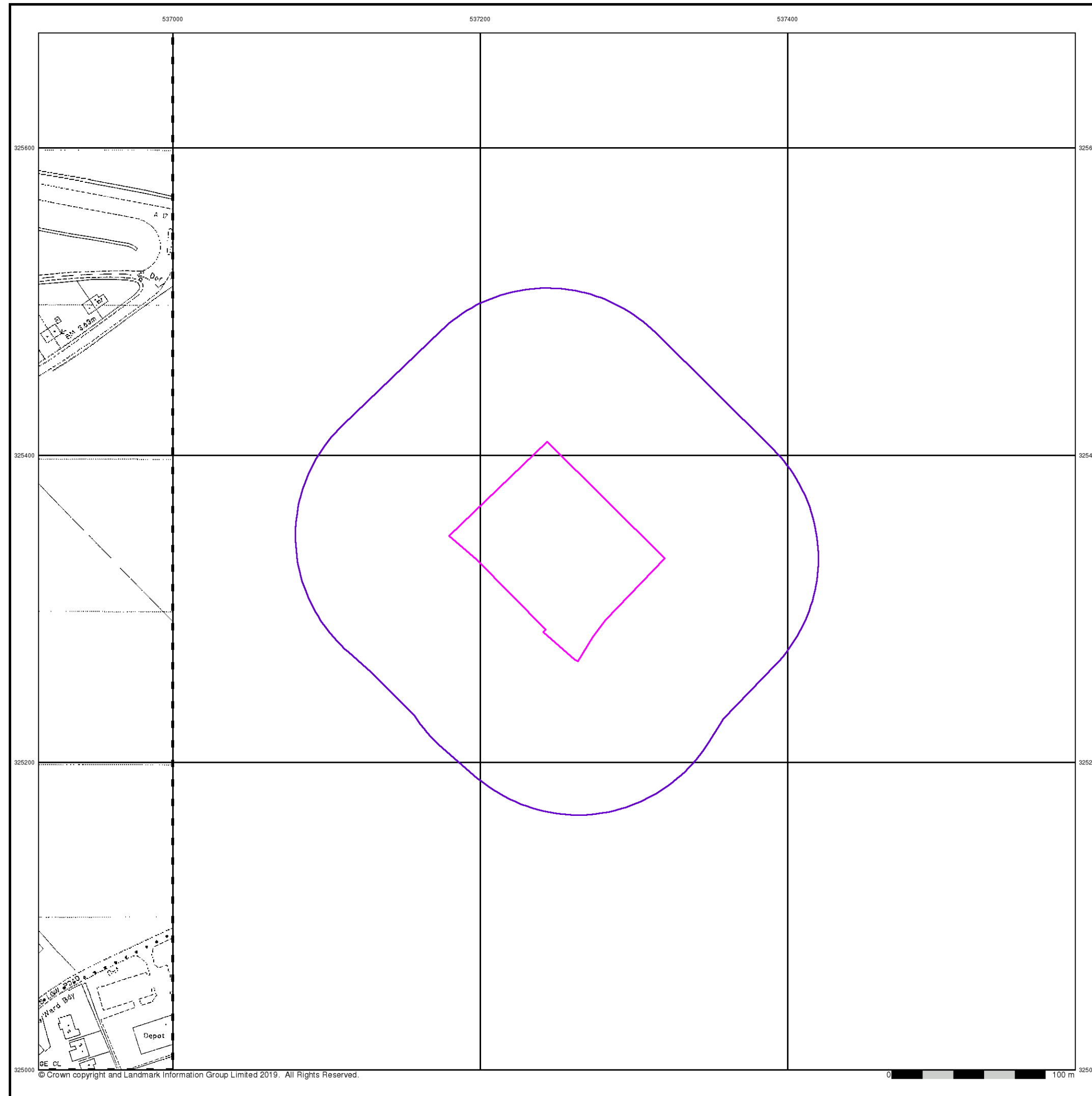


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 100

Site Details

Foxes Lowe Road, Holbeach



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

Large-Scale National Grid Data

Published 1995

Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

TF3625
1995
1:2,500

Historical Map - Segment A13

A21A22A23A24A25

A16A17A18A19A20

A11A12A13A14A15

A6A7A8A9A10

A1A2A3A4A5

N

Order Details

Order Number:

191394219_1_1

Customer Ref:

D37179

National Grid Reference:

537250, 325340

Slice:

A

Site Area (Ha):

0.97

Search Buffer (m):

100

Site Details

Foxes Lowe Road, Holbeach



Envirocheck[®]

● LANDMARK INFORMATION GROUP[®]

Historical Aerial Photography

Published 1999

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13

A21	A22	A23	A24	A25
A16	A17	A18	A19	A20
A11	A12	A13	A14	A15
A6	A7	A8	A9	A10
A1	A2	A3	A4	A5

Order Details

Order Number:	191394219_1_1
Customer Ref:	D37179
National Grid Reference:	537250, 325340
Slice:	A
Site Area (Ha):	0.97
Search Buffer (m):	100

Site Details

Foxes Lowe Road, Holbeach

Landmark[®]

● INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

A Landmark Information Group Service v50.0 17-Jan-2019 Page 14 of 14

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	•285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

1:10,000 Raster Mapping

	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	Mean high water (springs)		Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building

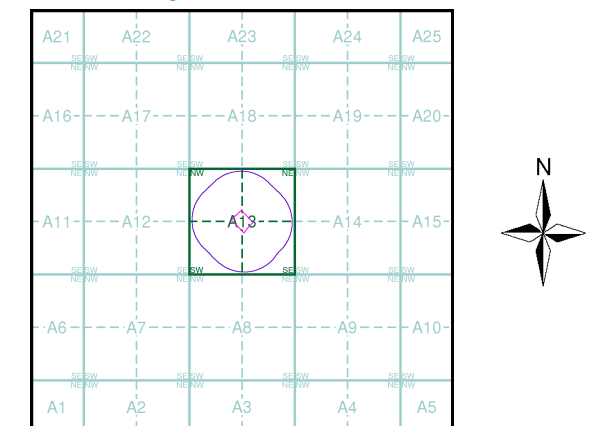
Envirocheck®

LANDMARK INFORMATION GROUP®

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lincolnshire	1:10,560	1887	2
Lincolnshire	1:10,560	1906	3
Lincolnshire	1:10,560	1906	4
Lincolnshire	1:10,560	1931 - 1932	5
Lincolnshire	1:10,560	1931	6
Lincolnshire	1:10,560	1938 - 1952	7
Lincolnshire	1:10,560	1951 - 1952	8
Ordnance Survey Plan	1:10,000	1956 - 1959	9
Ordnance Survey Plan	1:10,000	1970 - 1977	10
Ordnance Survey Plan	1:10,000	1992	11
10K Raster Mapping	1:10,000	2000	12
10K Raster Mapping	1:10,000	2006	13
VectorMap Local	1:10,000	2018	14

Historical Map - Slice A



Order Details

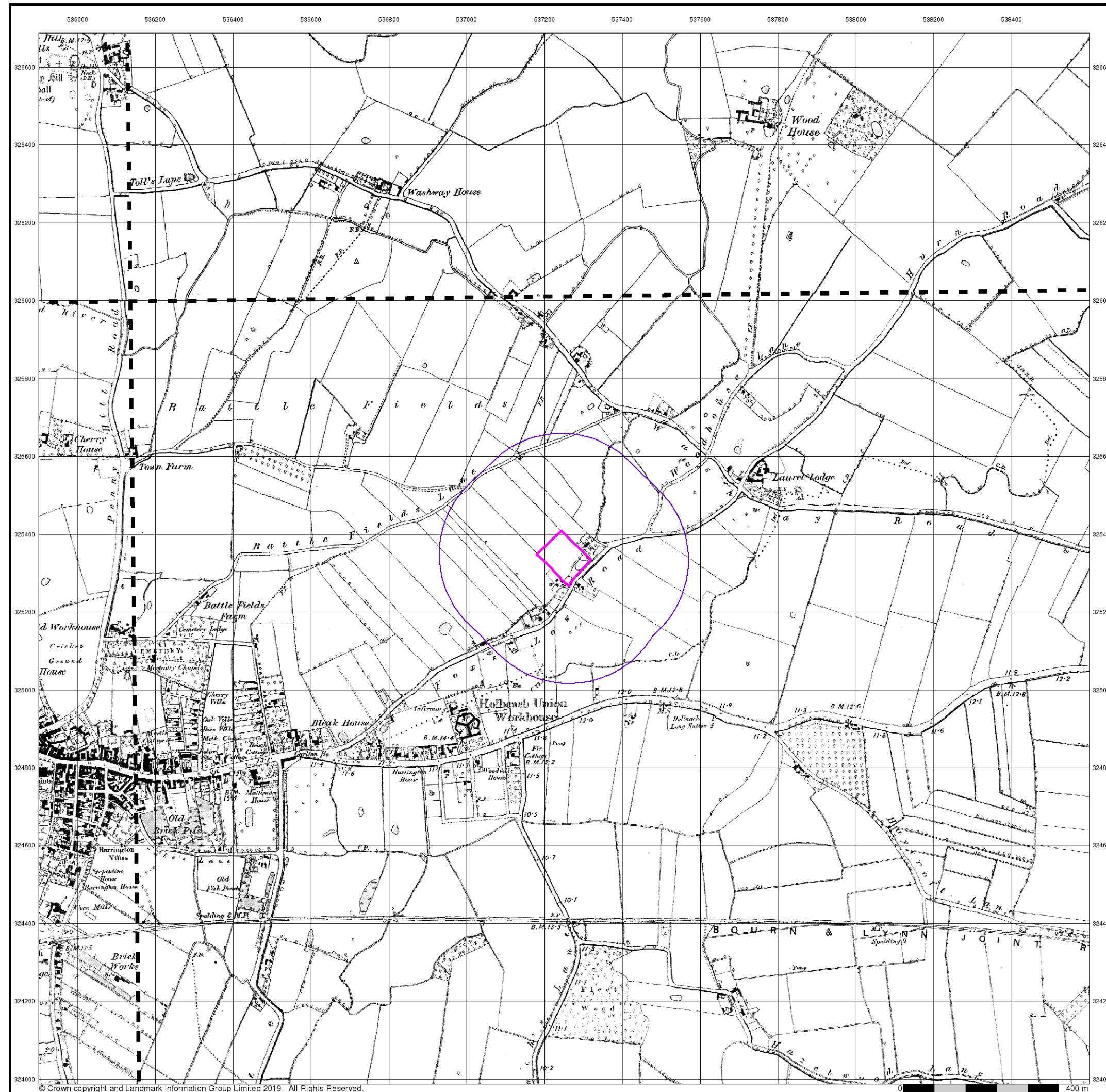
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Envirocheck[®]

LANDMARK INFORMATION GROUP®

Lincolnshire

Published 1887

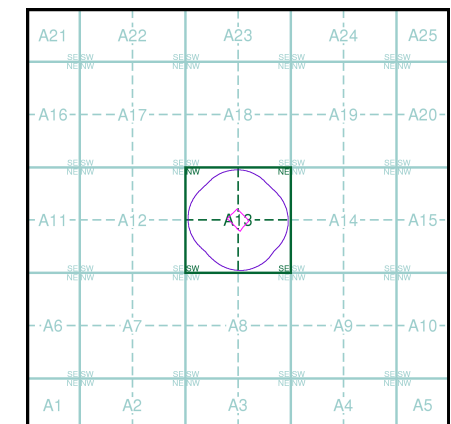
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

135NW 1887 1:10,560	135NE 1887 1:10,560
135SW 1887 1:10,560	135SE 1887 1:10,560

Historical Map - Slice A



Order Details

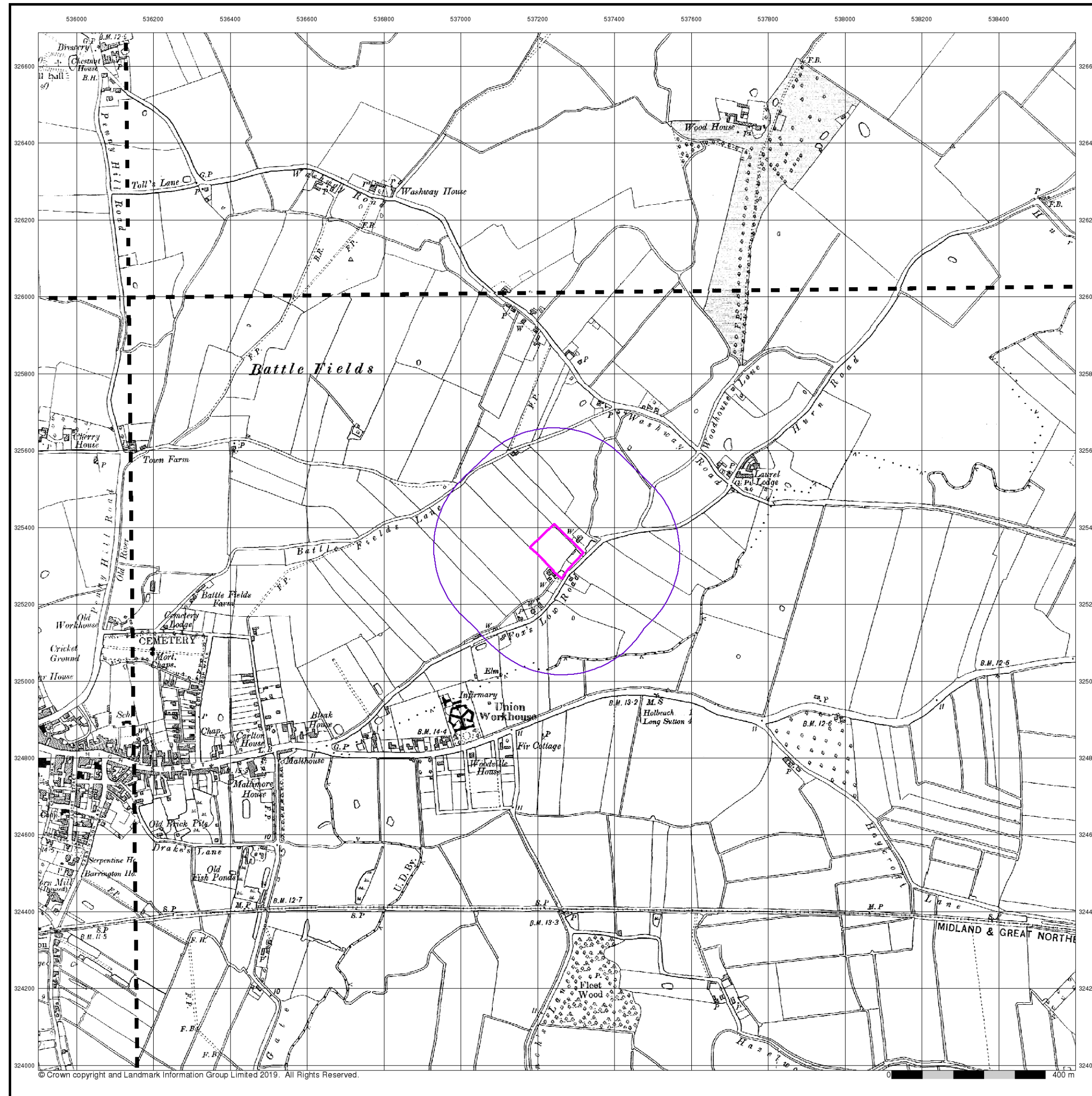
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Lincolnshire

Published 1906

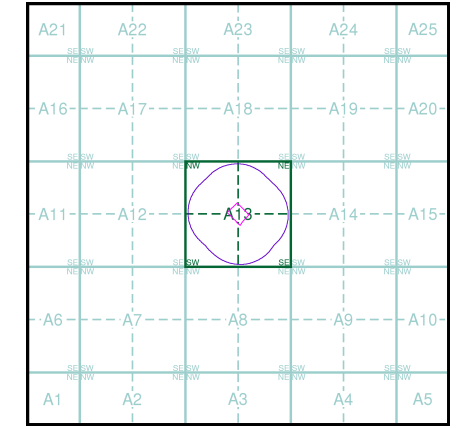
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

135NW 1906 1:10,560	135NE 1906 1:10,560
135SW 1906 1:10,560	135SE 1906 1:10,560

Historical Map - Slice A

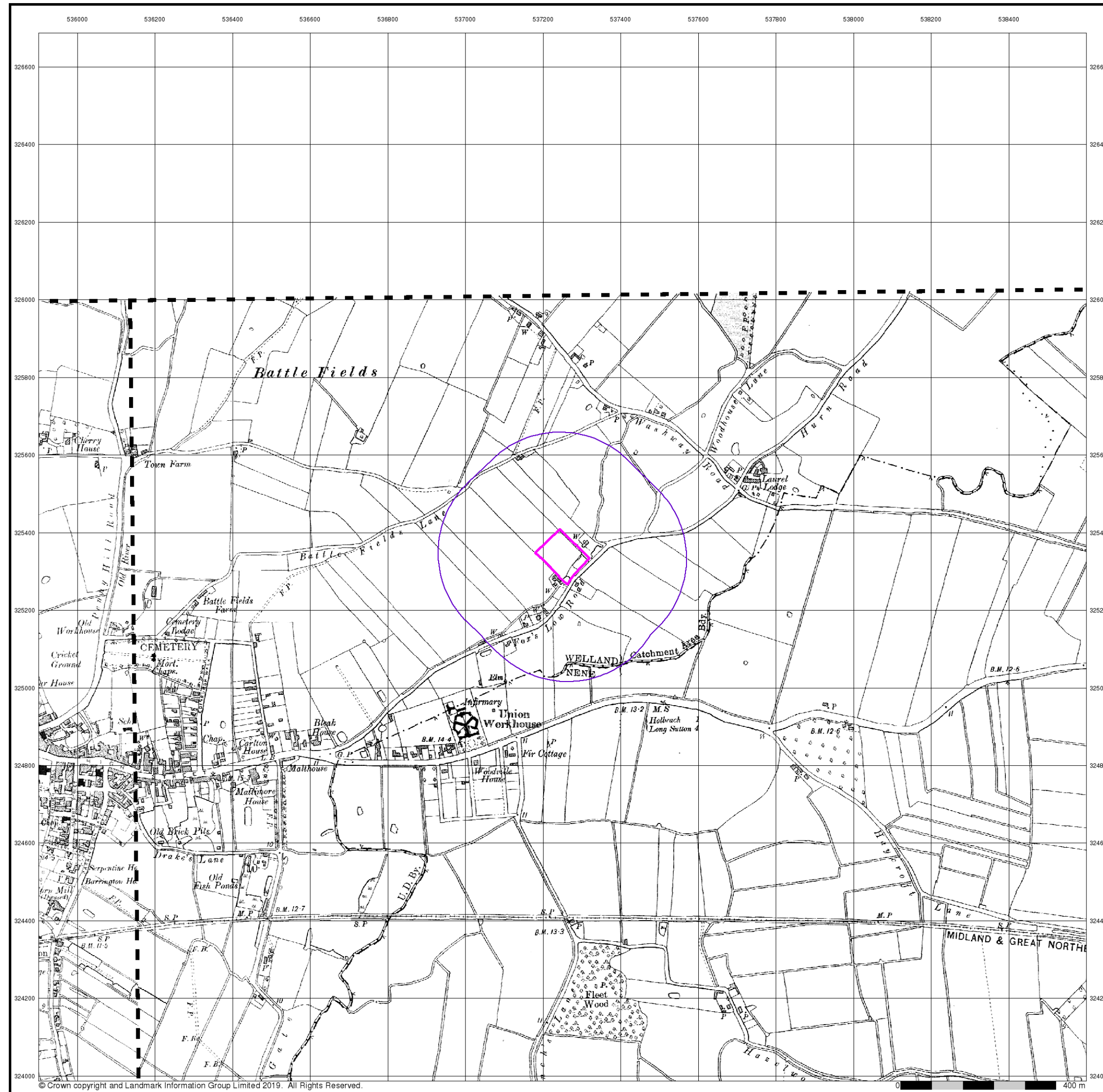


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

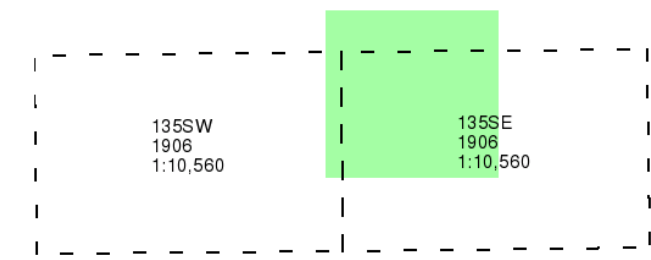
Lincolnshire

Published 1906

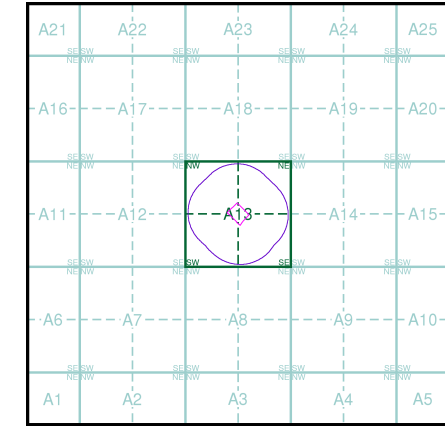
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

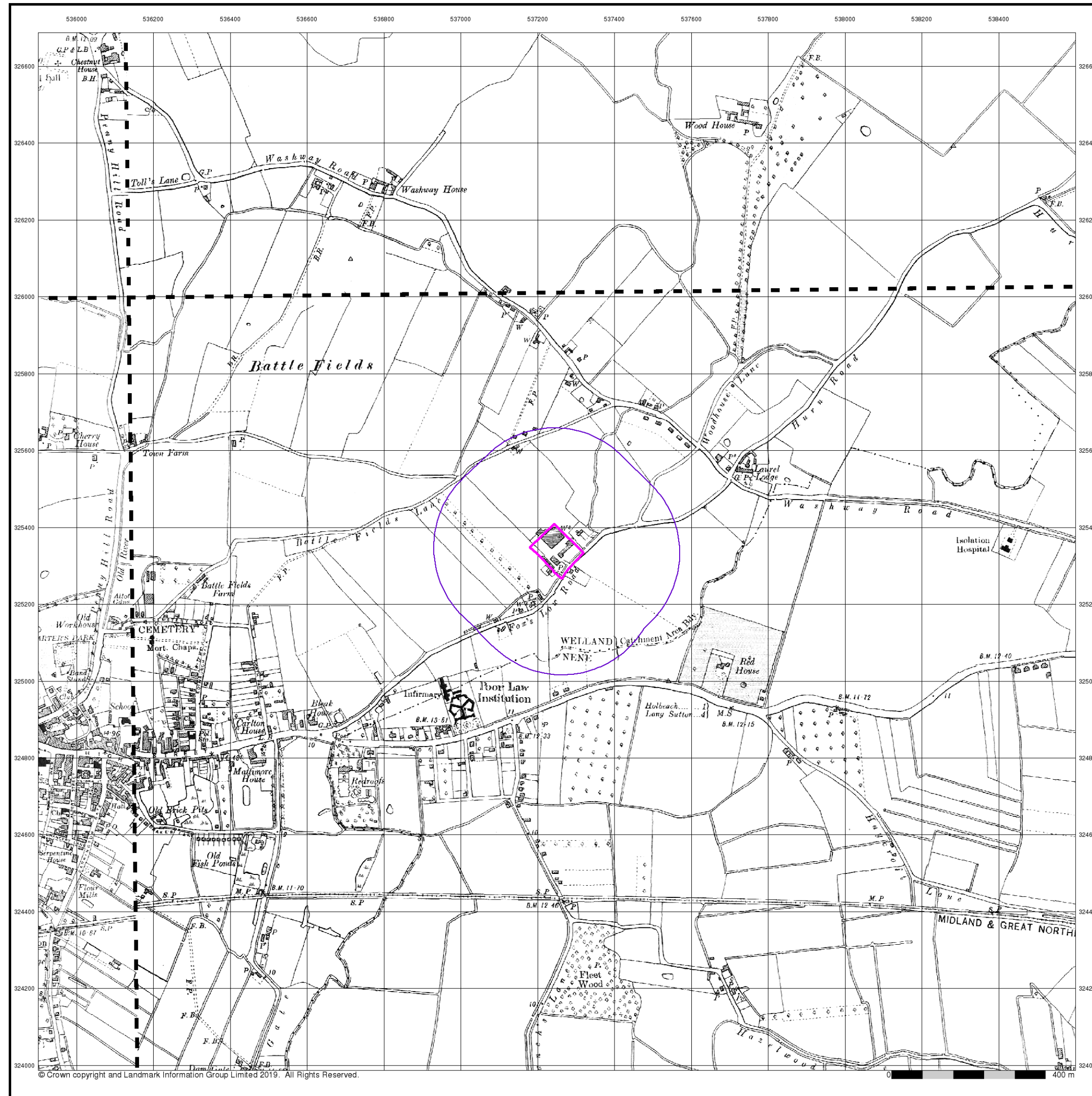


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

Lincolnshire

Published 1931 - 1932

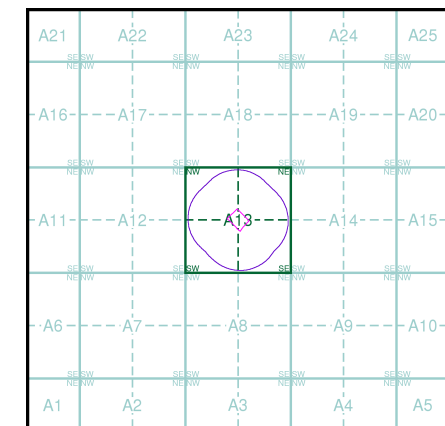
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

135NW 1931 1:10,560	135NE 1931 1:10,560
135SW 1932 1:10,560	135SE 1932 1:10,560

Historical Map - Slice A



Order Details

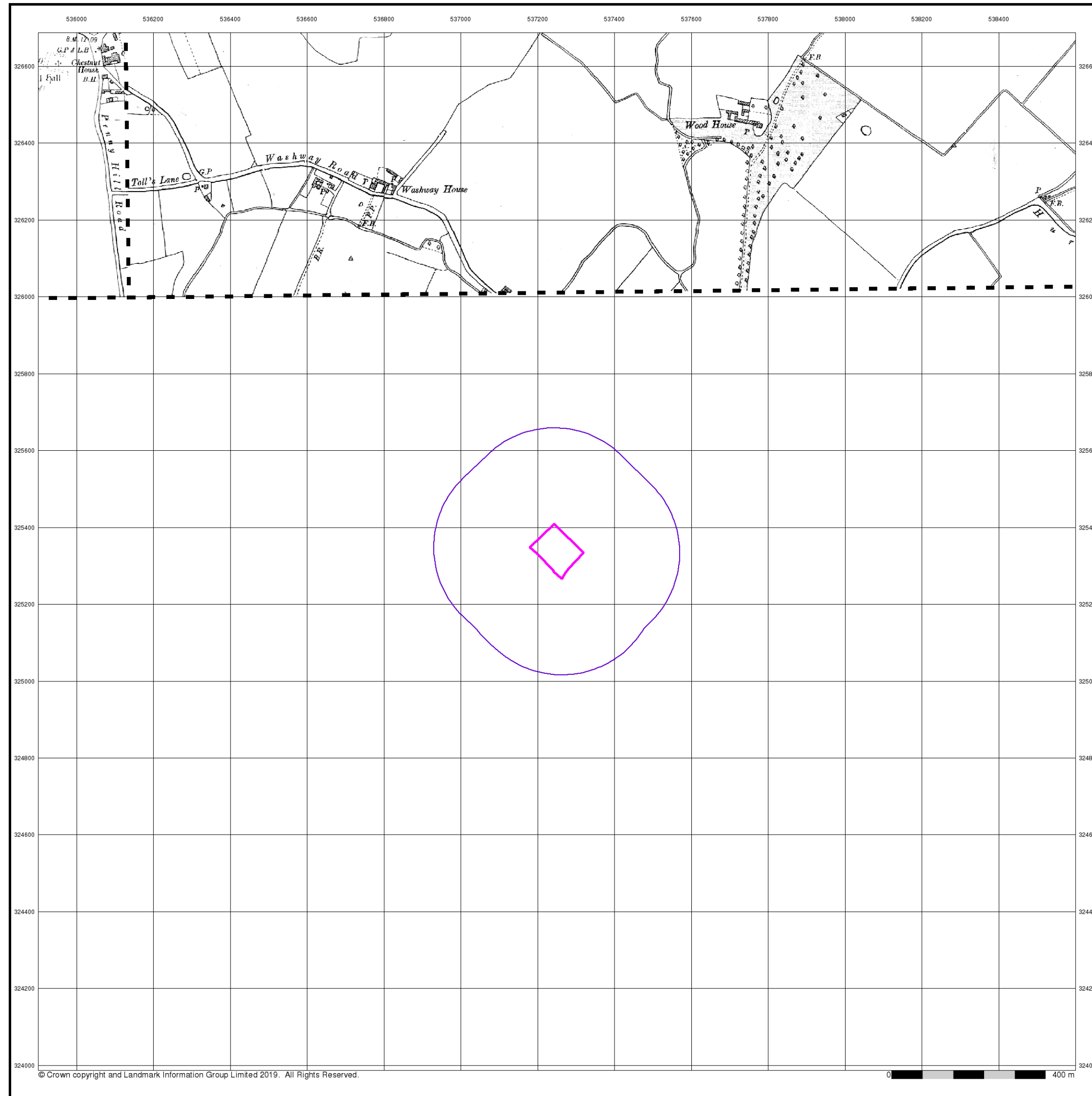
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



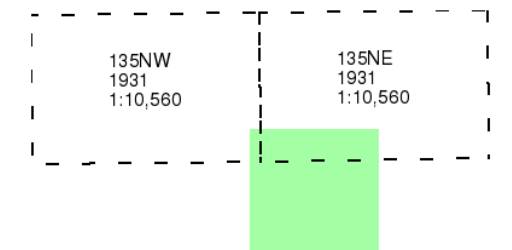
Lincolnshire

Published 1931

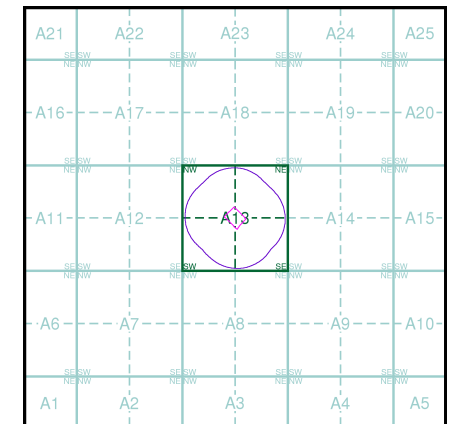
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A

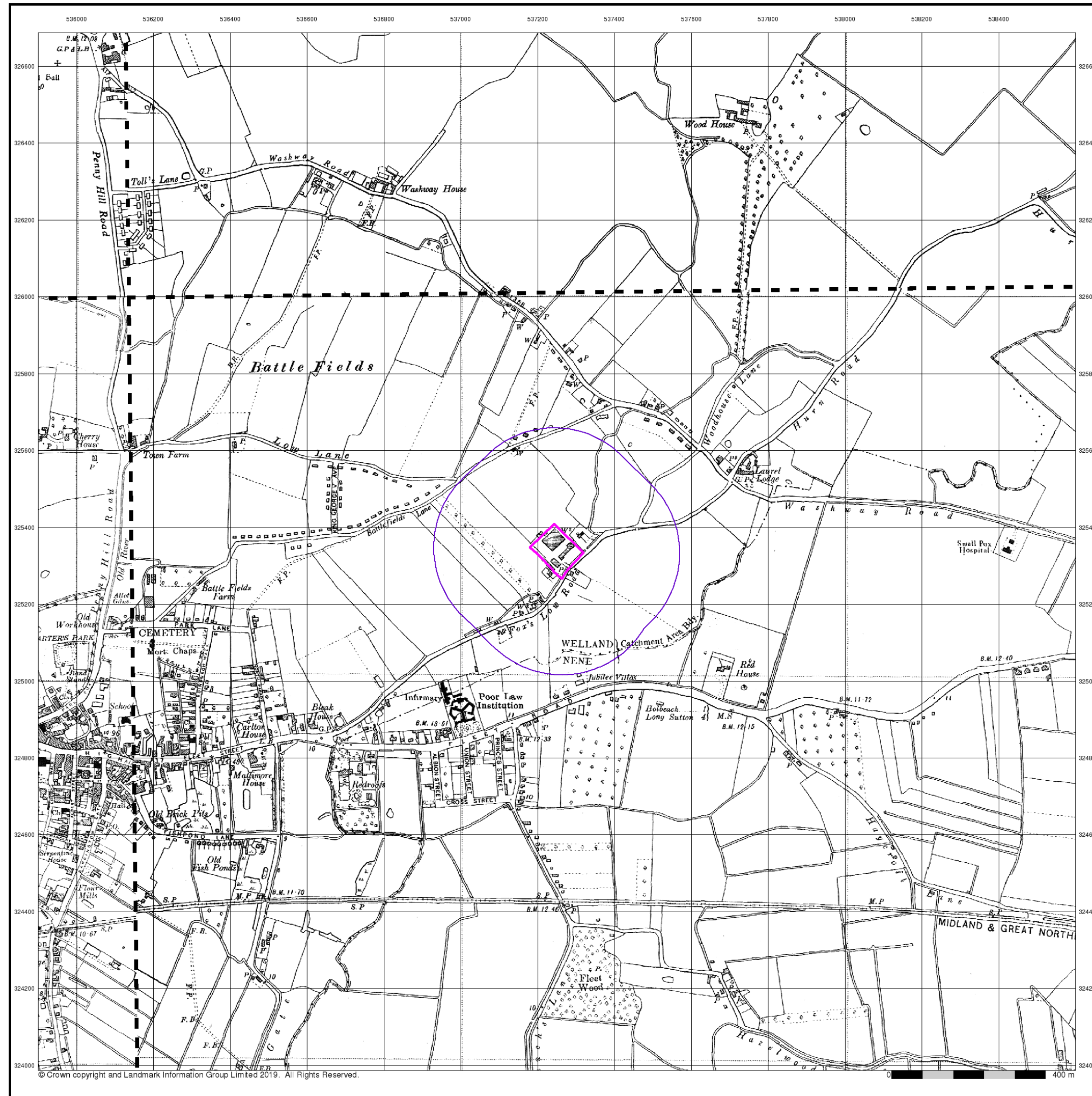


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

Envirocheck[®]

LANDMARK INFORMATION GROUP[®]

Lincolnshire

Published 1938 - 1952

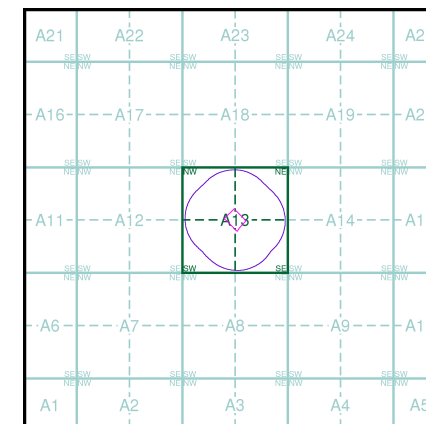
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

135NW 1952 1:10,560	135NE 1952 1:10,560
135SW 1938 1:10,560	135SE 1938 1:10,560

Historical Map - Slice A



Order Details

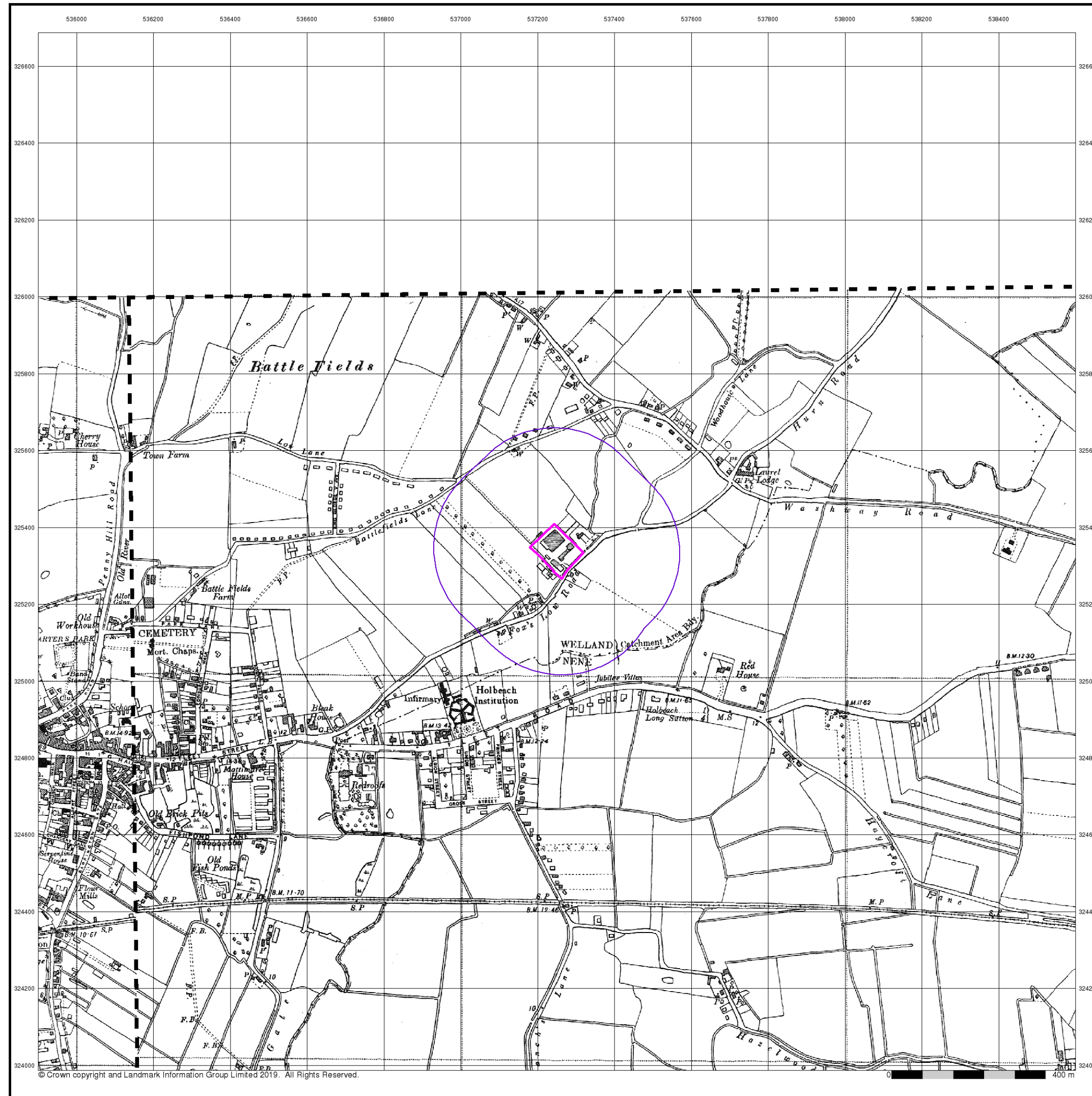
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark[®]
LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

Envirocheck[®]

LANDMARK INFORMATION GROUP[®]

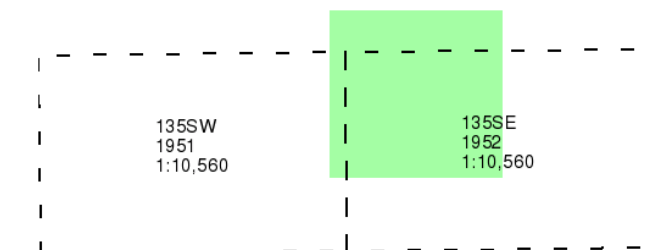
Lincolnshire

Published 1951 - 1952

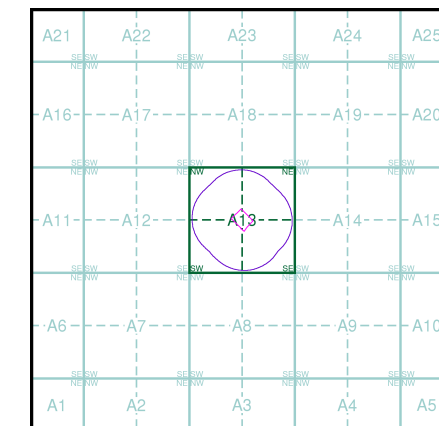
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

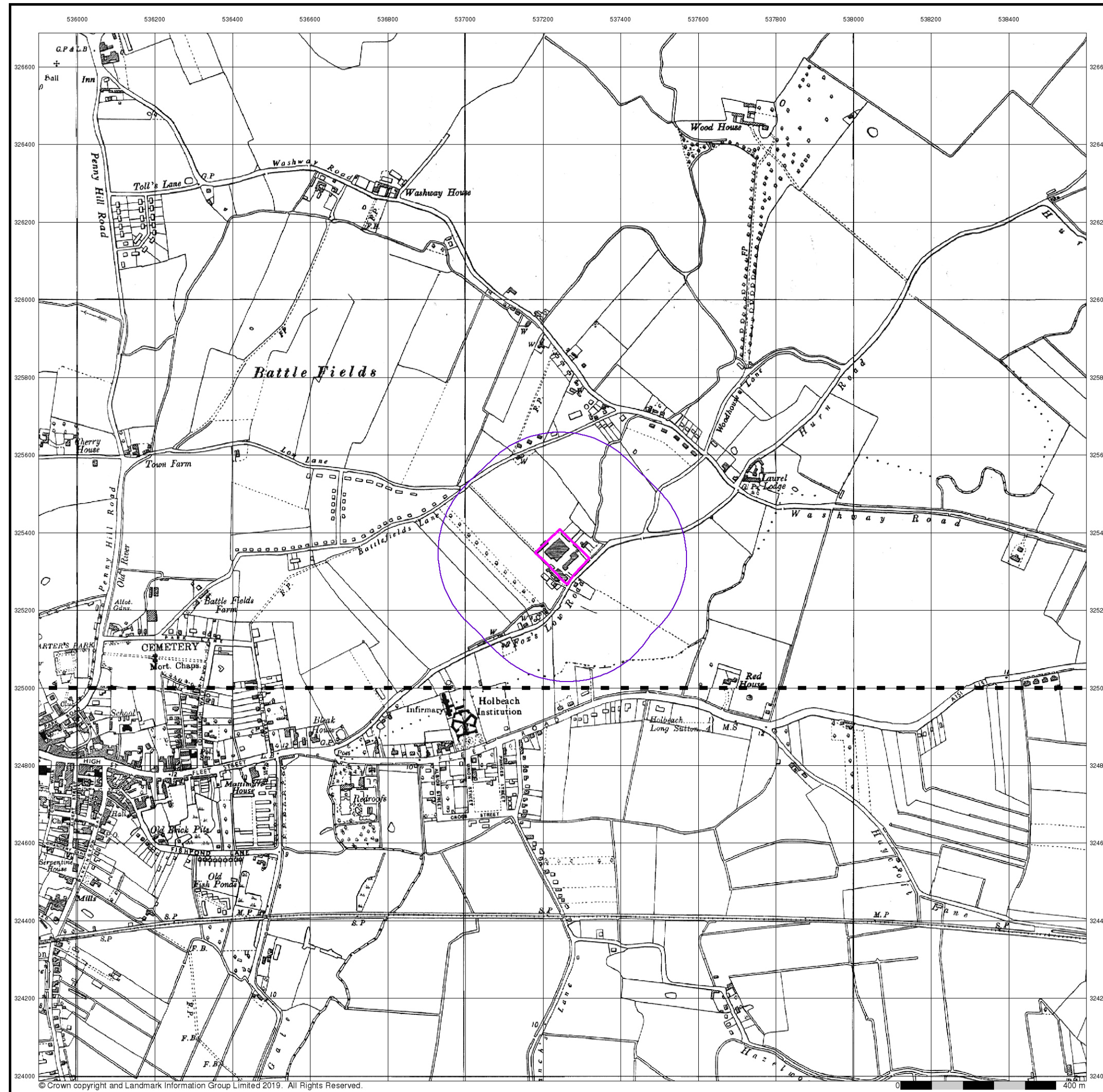
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark[®]
LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

Ordnance Survey Plan

Published 1956 - 1959

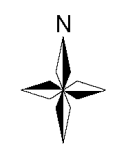
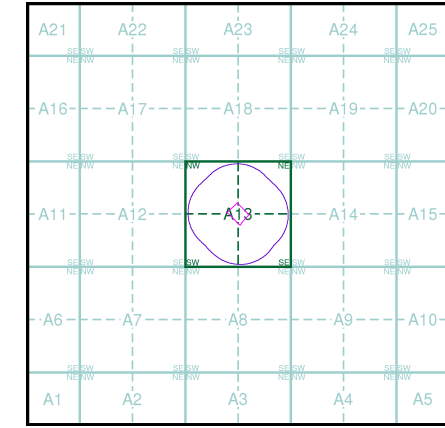
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

TF32NE	1956
1:10,560	
TF32SE	1959
1:10,560	

Historical Map - Slice A

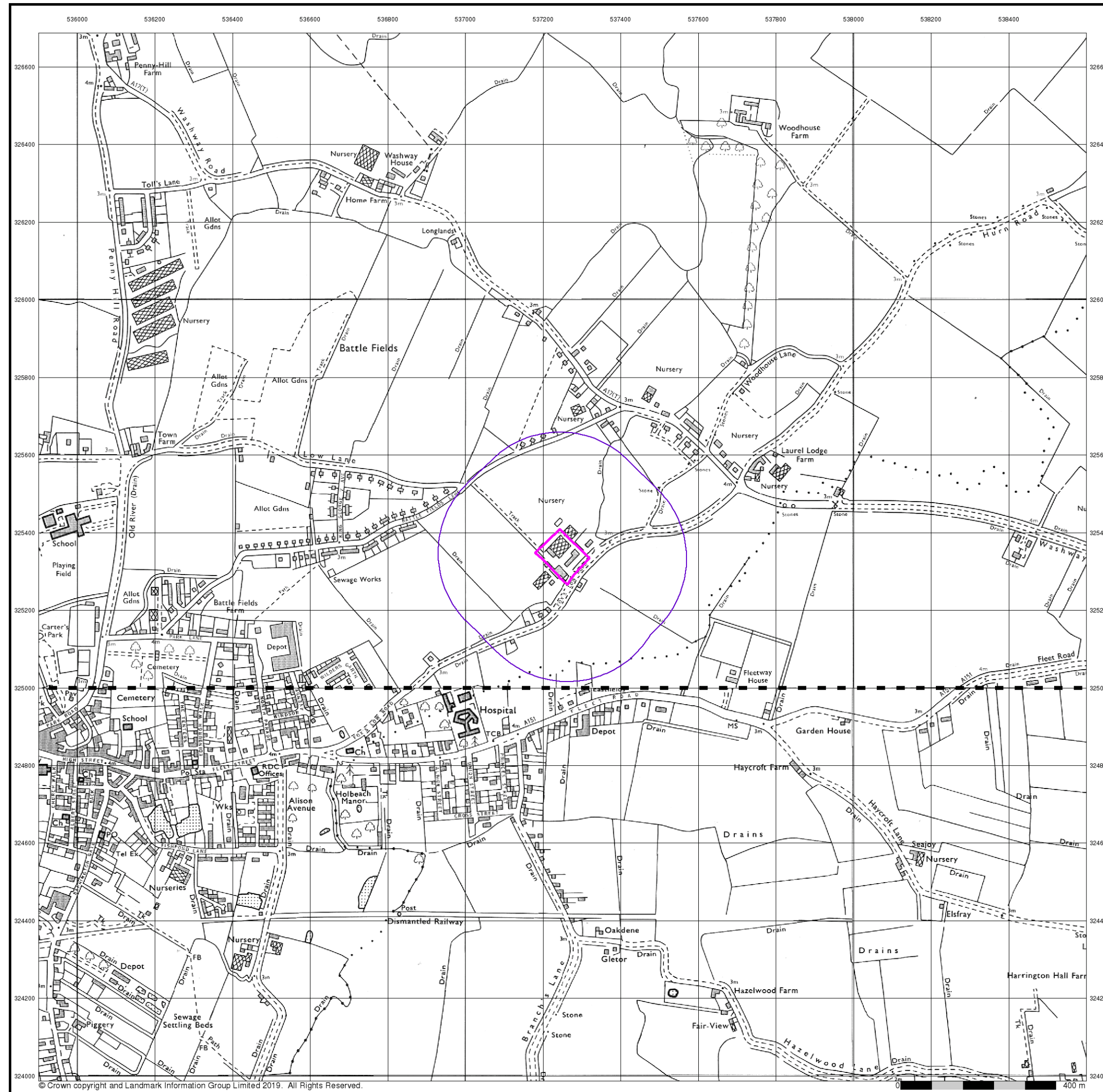


Order Details

Order Number:	191394219_1_1
Customer Ref:	D37179
National Grid Reference:	537250, 325340
Slice:	A
Site Area (Ha):	0.97
Search Buffer (m):	250

Site Details

Foxes Lowe Road, Holbeach



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

Ordnance Survey Plan

Published 1970 - 1977

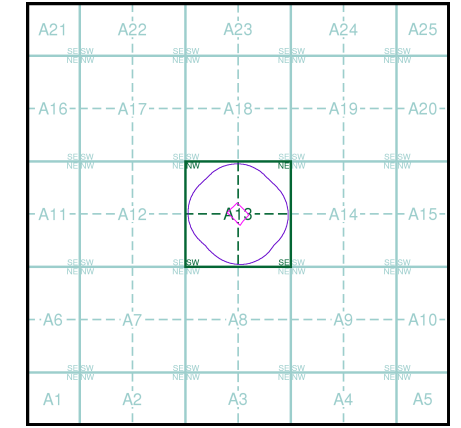
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

TF32NE	1977
1:10,000	
TF32SE	1970
1:10,000	

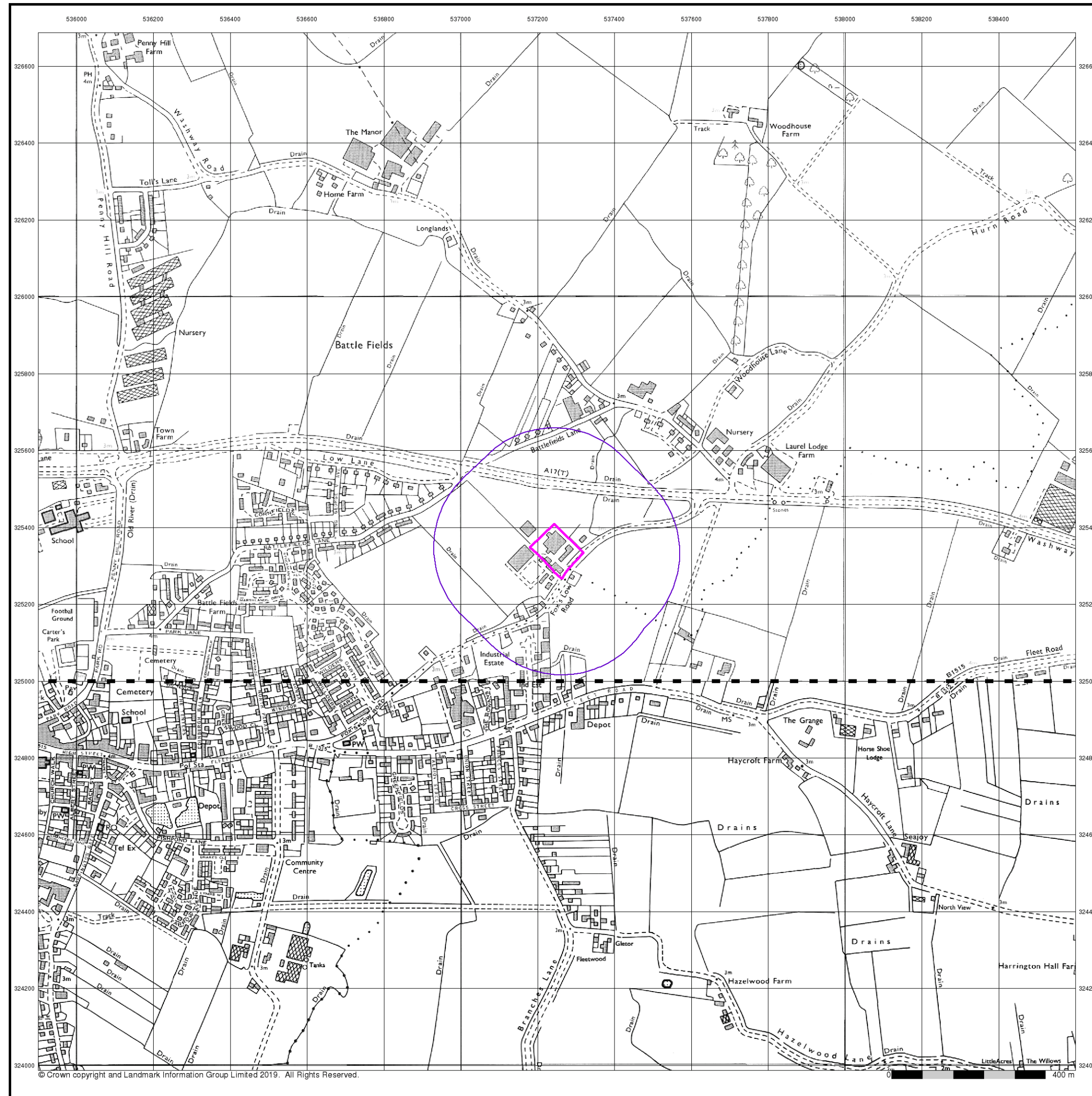
Historical Map - Slice A



Order Details	
Order Number:	191394219_1_1
Customer Ref:	D37179
National Grid Reference:	537250, 325340
Slice:	A
Site Area (Ha):	0.97
Search Buffer (m):	250

Site Details

Foxes Lowe Road, Holbeach



© Crown copyright and Landmark Information Group Limited 2019. All Rights Reserved.

Envirocheck®

LANDMARK INFORMATION GROUP®

Ordnance Survey Plan

Published 1992

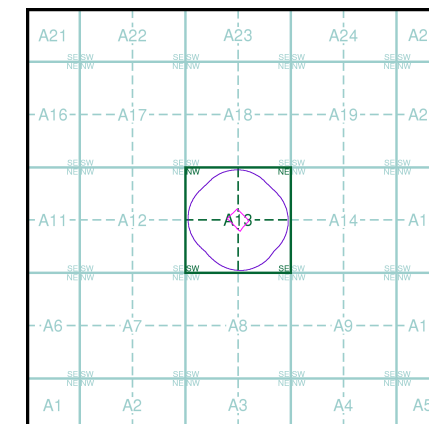
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

TF32NE
1992
1:10,000
TF32SE
1992
1:10,000

Historical Map - Slice A



Order Details

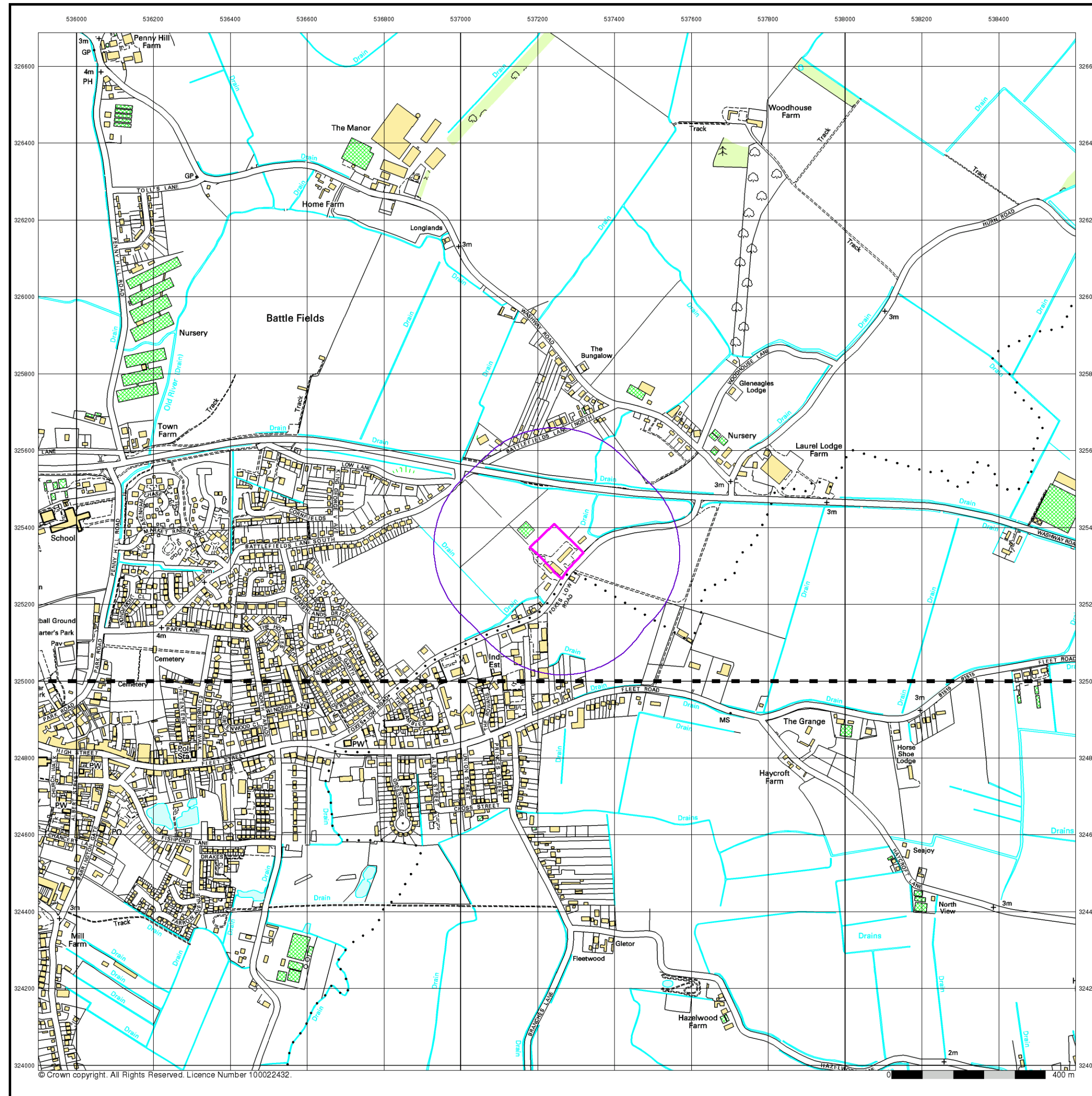
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



10k Raster Mapping

Published 2000

Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

TF32NE

2000

1:10,000

TF32SE

2000

1:10,000

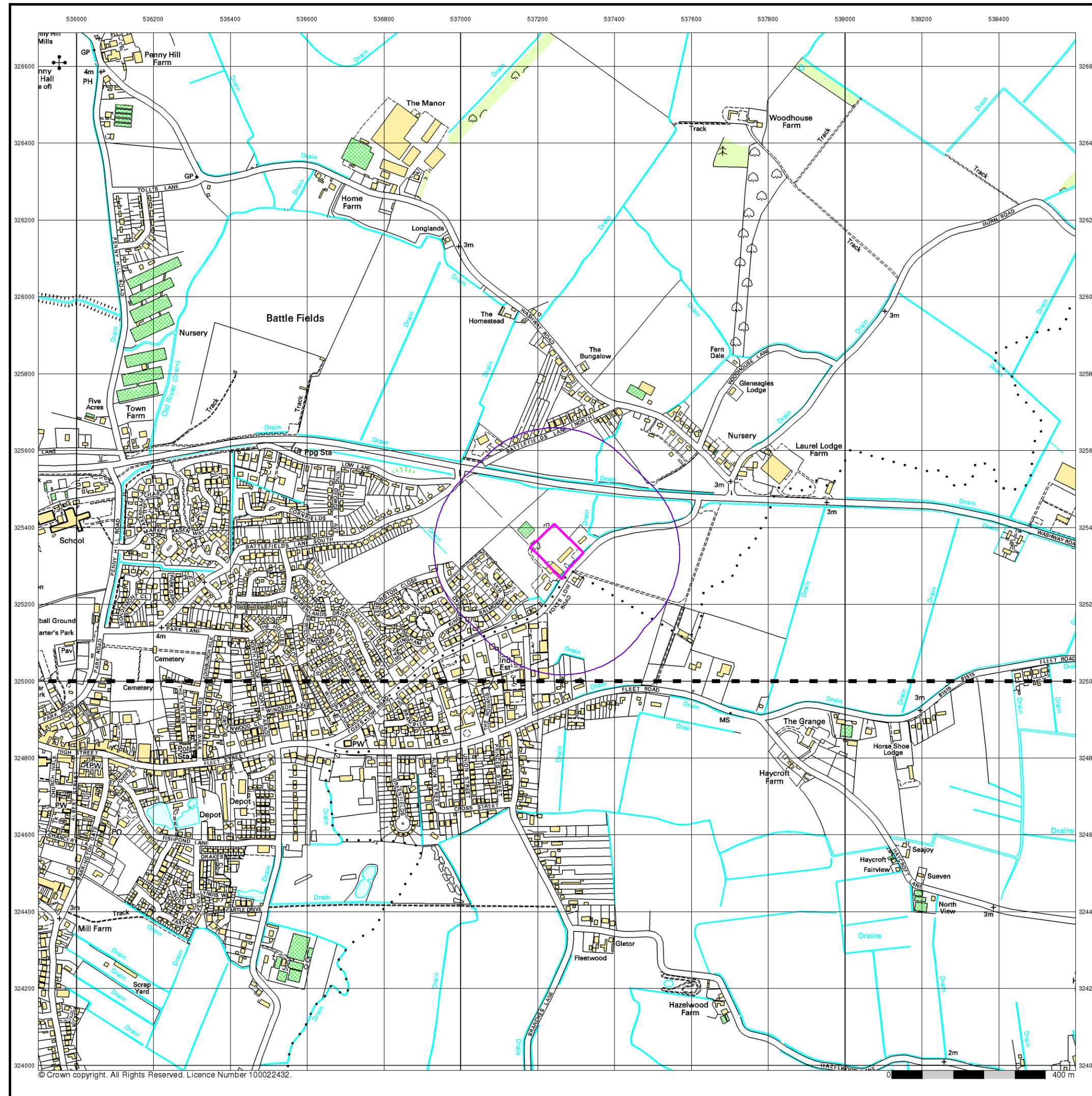
Historical Map - Slice A

Order Details

Order Number:	191394219_1_1
Customer Ref:	D37179
National Grid Reference:	537250, 325340
Slice:	A
Site Area (Ha):	0.97
Search Buffer (m):	250

Site Details

Foxes Lowe Road, Holbeach



10k Raster Mapping
Published 2006
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

TF32NE	2006	1:10,000
TF32SE	2006	1:10,000

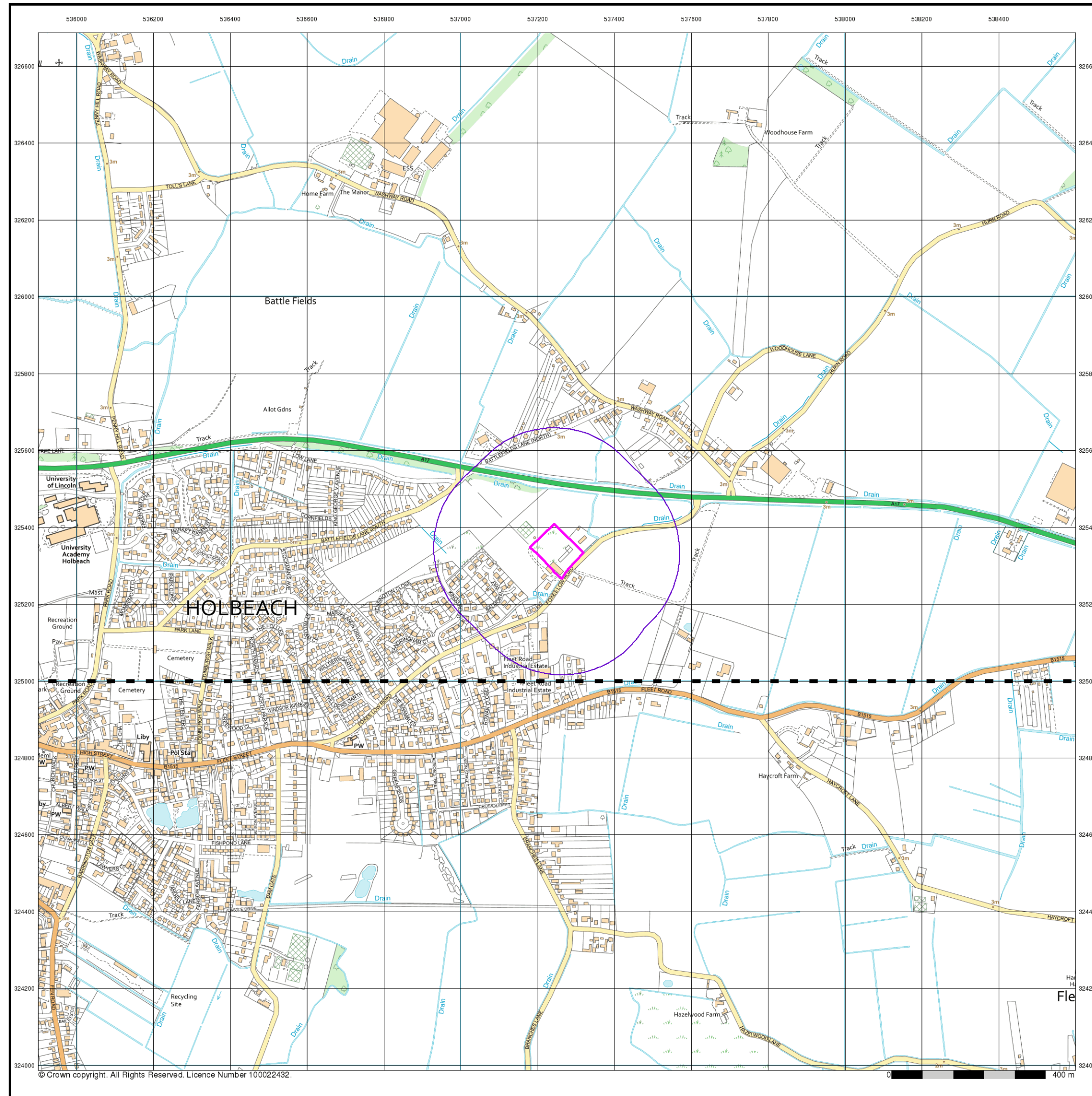
Historical Map - Slice A

North Arrow

Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details
Foxes Lowe Road, Holbeach



© Crown copyright. All Rights Reserved. Licence Number 100022432.

Envirocheck®

LANDMARK INFORMATION GROUP®

VectorMap Local

Published 2018

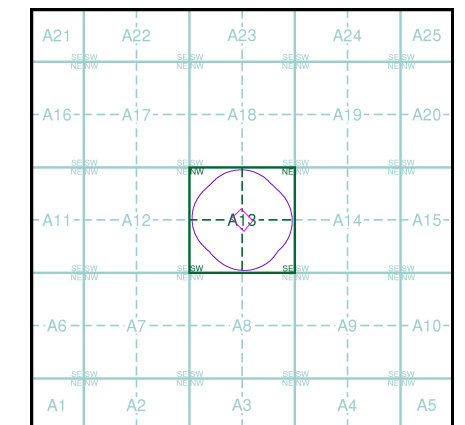
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

TF32NE
2018
Variable
TF32SE
2018
Variable

Historical Map - Slice A



Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

APPENDIX E

Landmark Geological Maps

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	TFD	Tidal Flat Deposits	Clay and Silt	Not Supplied - Holocene

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	AMC	Amphill Clay Formation	Mudstone	Not Supplied - Oxfordian
	WWB	West Walton Formation	Mudstone and Siltstone	Not Supplied - Oxfordian

Envirocheck[®]

● LANDMARK INFORMATION GROUP[®]

Geology 1:50,000 Maps

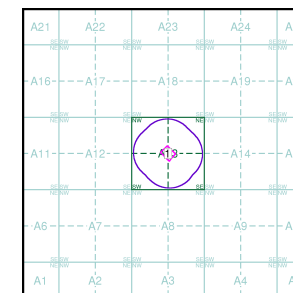
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.

The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID: 1
 Map Sheet No: 144
 Map Name: Spalding
 Map Date: 1992
 Bedrock Geology: Available
 Superficial Geology: Available
 Artificial Geology: Available
 Faults: Not Supplied
 Landslip: Not Available
 Rock Segments: Not Supplied

Geology 1:50,000 Maps - Slice A



Order Details:

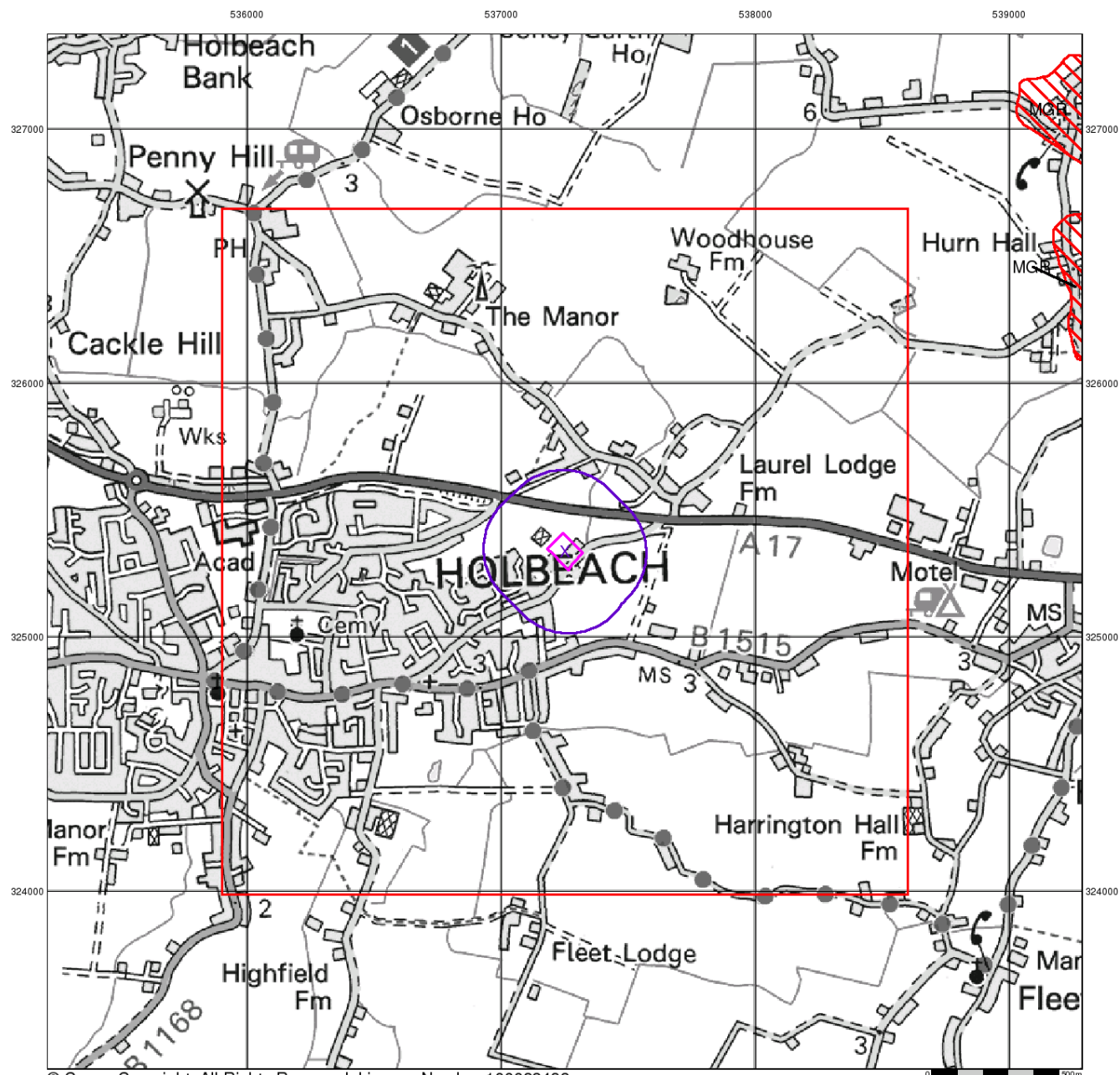
Order Number: 191394219_1_1
 Customer Reference: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details:

Foxes Lowe Road, Holbeach

Landmark[®]
 ● LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

Envirocheck®

● LANDMARK INFORMATION GROUP®

Artificial Ground and Landslip

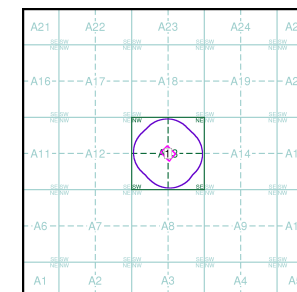
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



Order Details:

Order Number: 191394219_1_1
 Customer Reference: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details:

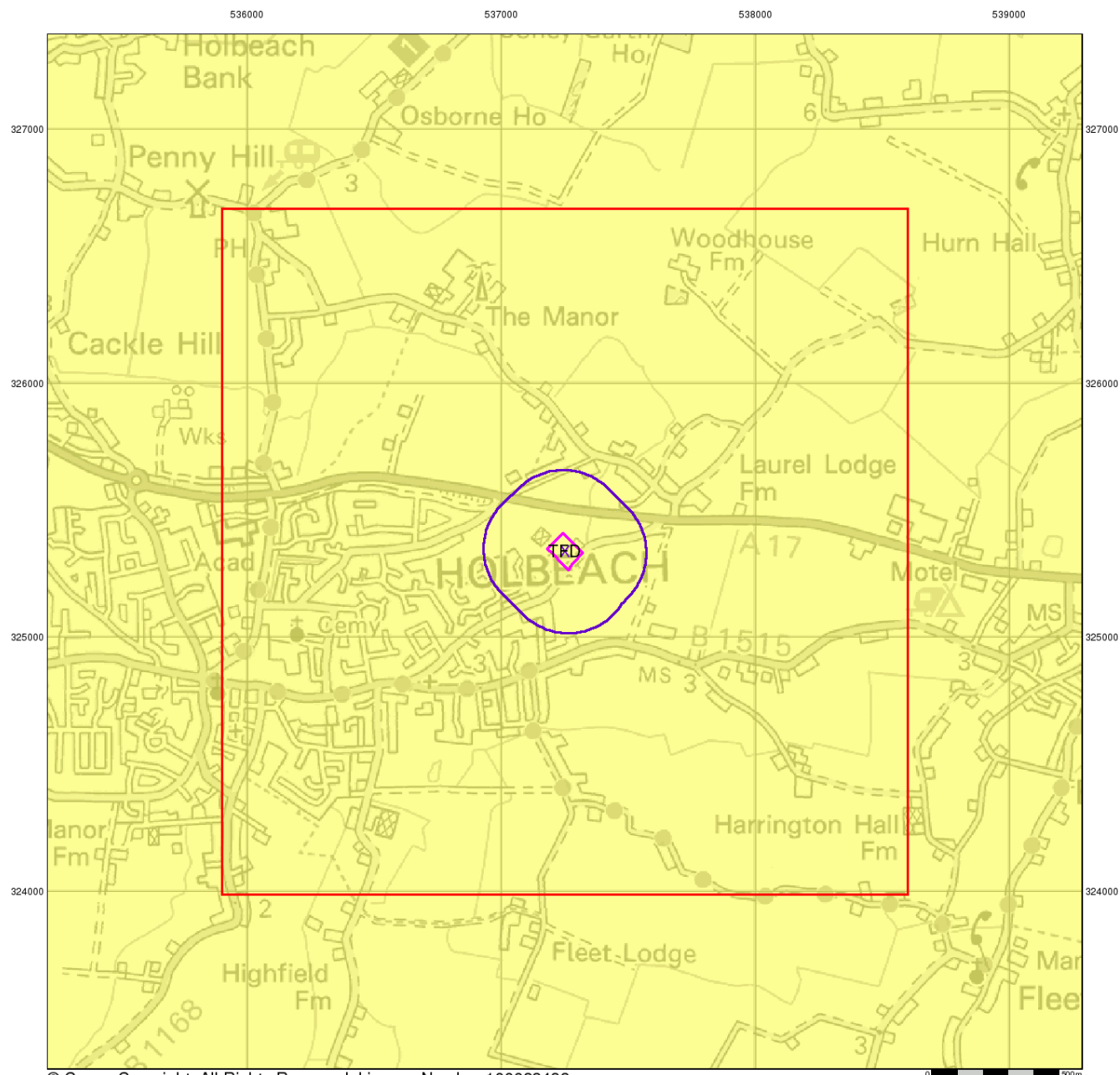
Foxes Lowe Road, Holbeach

Landmark®
 ● LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

v15.0 17-Jan-2019

Page 2 of 5



© Crown Copyright. All Rights Reserved. License Number 100022432.

Envirocheck®

● LANDMARK INFORMATION GROUP®

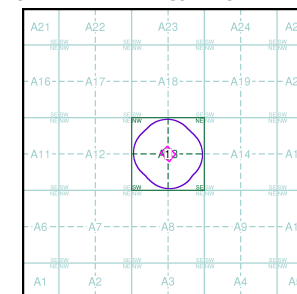
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details:

Order Number: 191394219_1_1
 Customer Reference: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details:

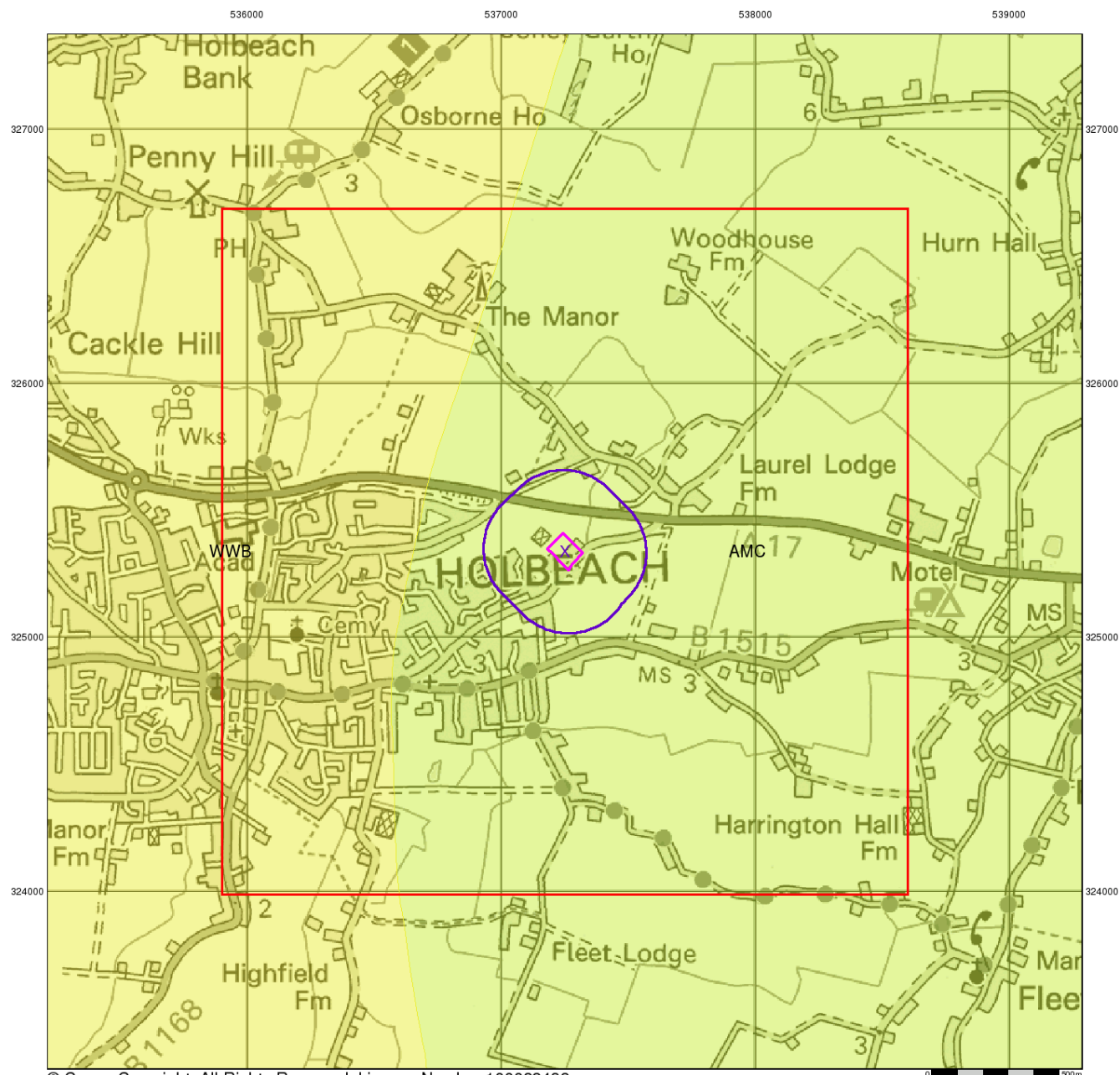
Foxes Lowe Road, Holbeach

Landmark®
 ● LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

v15.0 17-Jan-2019

Page 3 of 5



© Crown Copyright. All Rights Reserved. License Number 100022432.

Envirocheck®

LANDMARK INFORMATION GROUP®

Bedrock and Faults

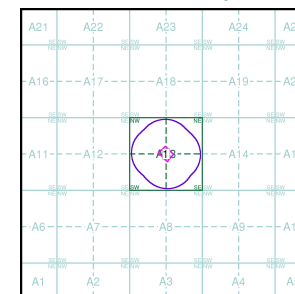
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



Order Details:

Order Number: 191394219_1_1
 Customer Reference: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details:

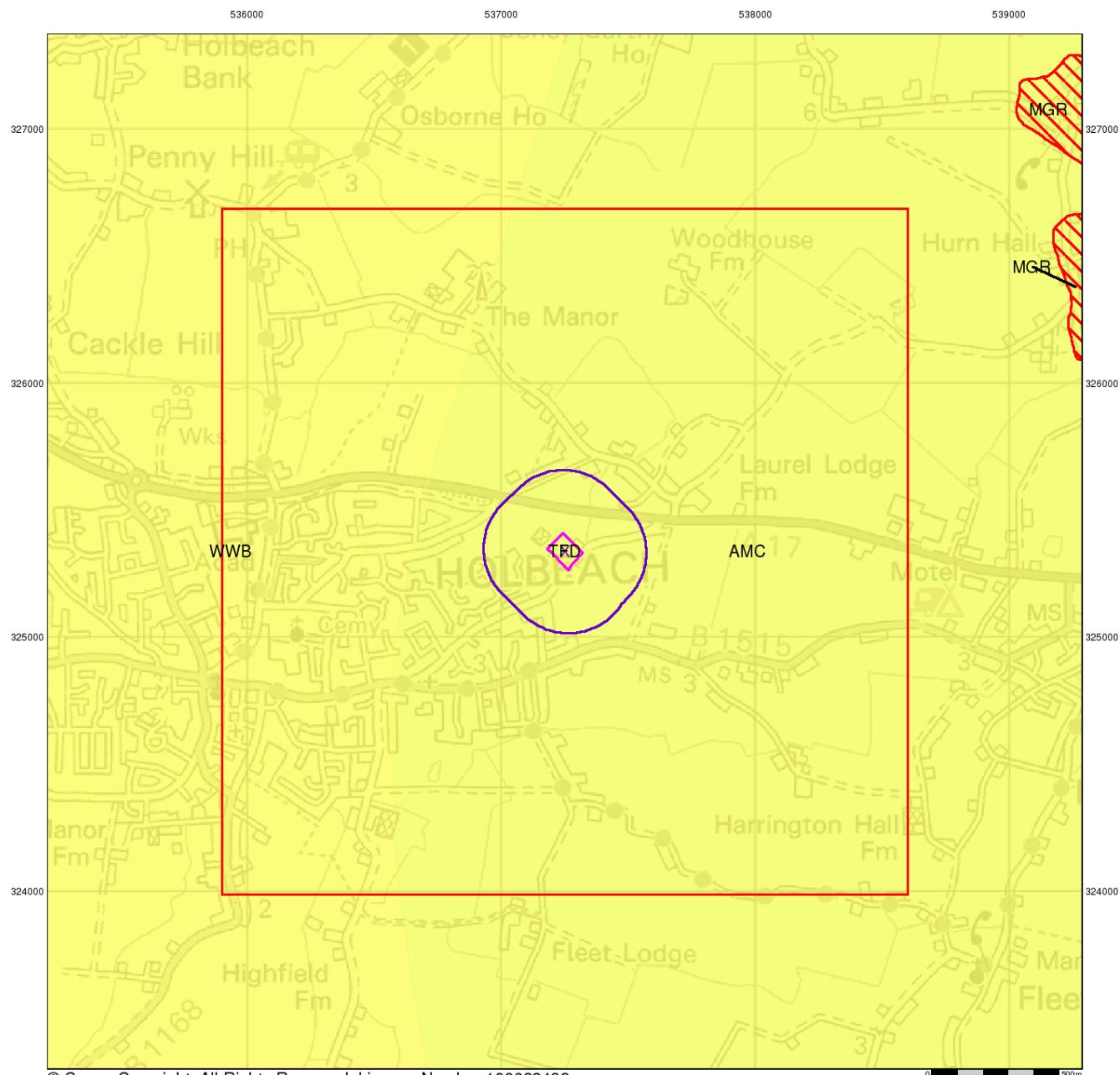
Foxes Lowe Road, Holbeach

Landmark®
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk

v15.0 17-Jan-2019

Page 4 of 5



© Crown Copyright. All Rights Reserved. License Number 100022432.

Envirocheck®

● LANDMARK INFORMATION GROUP®

Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

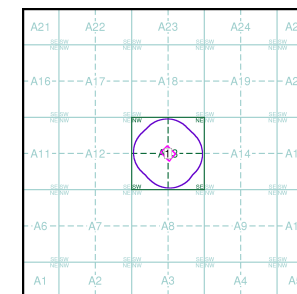
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details:

Order Number: 191394219_1_1
Customer Reference: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details:

Foxes Lowe Road, Holbeach

Landmark®
● LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

v15.0 17-Jan-2019

Page 5 of 5

APPENDIX F

Landmark Envirocheck Report

Envirocheck[®] Report:

Datasheet

Order Details:

Order Number:

191394219_1_1

Customer Reference:

D37179

National Grid Reference:

537250, 325340

Slice:

A

Site Area (Ha):

0.97

Search Buffer (m):

250

Site Details:

Foxes Lowe Road
Holbeach

Client Details:

Ms L Daniels
GeoDyne Ltd
Unit 2.2 Clarendon House
Clarendon Business Park
Clumber Avenue
Nottingham
NG5 1AH

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	5
Hazardous Substances	-
Geological	6
Industrial Land Use	7
Sensitive Land Use	9
Data Currency	10
Data Suppliers	14
Useful Contacts	15

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client. In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Copyright Notice

© Landmark Information Group Limited 2019. The Copyright on the information and data and its format as contained in this Envirocheck® Report ("Report") is the property of Landmark Information Group Limited ("Landmark") and several other Data Providers, including (but not limited to) Ordnance Survey, British Geological Survey, the Environment Agency/Natural Resources Wales and Natural England, and must not be reproduced in whole or in part by photocopying or any other method. The Report is supplied under Landmark's Terms and Conditions accepted by the Customer. A copy of Landmark's Terms and Conditions can be found with the Index Map for this report. Additional copies of the Report may be obtained from Landmark, subject to Landmark's charges in force from time to time. The Copyright, design rights and any other intellectual rights shall remain the exclusive property of Landmark and /or other Data providers, whose Copyright material has been included in this Report. © Environment Agency & United Kingdom Research and Innovation 2019. © Natural Resources Wales & United Kingdom Research and Innovation 2019.

Natural England Copyright Notice

Site of Special Scientific Interest, National Nature Reserve, Ramsar, Special Protection Area, Special Conservation Area, Marine Nature Reserve data (derived from Ordnance Survey 1:10000 raster) is provided by, and used with the permission of, Natural England who retain the copyright and Intellectual Property Rights for the data.

Scottish Natural Heritage Copyright

Contains SNH information licensed under the Open Government Licence v3.0.

Ove Arup Copyright Notice

The Mining Instability data was obtained on licence from Ove Arup & Partners Limited (for further information, contact mining.review@arup.com). No reproduction or further use of such Data is to be made without the prior written consent of Ove Arup & Partners Limited. The supplied Mining Instability data is derived from publicly available records and other third party sources and neither Ove Arup & Partners nor Landmark warrant the accuracy or completeness of such information or data.

Peter Brett Associates Copyright Notice

The cavity data presented has been extracted from the PBA enhanced version of the original DEFRA national cavity databases. PBA/DEFRA retain the copyright & intellectual property rights in the data. Whilst all reasonable efforts are made to check that the information contained in the cavity databases is accurate we do not warrant that the data is complete or error free. The information is based upon our own researches and those collated from a number of external sources and is continually being augmented and updated by PBA. In no event shall PBA/DEFRA or Landmark be liable for any loss or damage including, without limitation, indirect or consequential loss or damage arising from the use of this data.

Radon Potential dataset Copyright Notice

Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England.

Natural Resources Wales Copyright Notice

Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Contains Ordnance Survey Data. Ordnance Survey Licence number 100019741. Crown Copyright and Database Right. Contains Natural Resources Wales information © Natural Resources Wales and Database Right. All rights Reserved. Some features of this information are based on digital spatial data licensed from the Centre for Ecology & Hydrology © NERC (CEH). Defra, Met Office and DARD Rivers Agency © Crown copyright. © Cranfield University. © James Hutton Institute. Contains OS data © Crown copyright and database right 2019. Land & Property Services © Crown copyright and database right.

Report Version v53.0

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Agency & Hydrological			
BGS Groundwater Flooding Susceptibility			
Contaminated Land Register Entries and Notices			
Discharge Consents	pg 1		1
Prosecutions Relating to Controlled Waters			n/a
Enforcement and Prohibition Notices			
Integrated Pollution Controls			
Integrated Pollution Prevention And Control			
Local Authority Integrated Pollution Prevention And Control			
Local Authority Pollution Prevention and Controls	pg 1		1
Local Authority Pollution Prevention and Control Enforcements			
Nearest Surface Water Feature	pg 1	Yes	
Pollution Incidents to Controlled Waters			
Prosecutions Relating to Authorised Processes			
Registered Radioactive Substances			
River Quality			
River Quality Biology Sampling Points			
River Quality Chemistry Sampling Points			
Substantiated Pollution Incident Register			
Water Abstractions			
Water Industry Act Referrals			
Groundwater Vulnerability	pg 1	Yes	n/a
Drift Deposits			n/a
Bedrock Aquifer Designations	pg 1	Yes	n/a
Superficial Aquifer Designations	pg 1	Yes	n/a
Source Protection Zones			
Extreme Flooding from Rivers or Sea without Defences	pg 1	Yes	Yes
Flooding from Rivers or Sea without Defences	pg 2	Yes	Yes
Areas Benefiting from Flood Defences			
Flood Water Storage Areas			
Flood Defences			
OS Water Network Lines	pg 3	1	14

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Waste			
BGS Recorded Landfill Sites			
Historical Landfill Sites			
Integrated Pollution Control Registered Waste Sites			
Licensed Waste Management Facilities (Landfill Boundaries)			
Licensed Waste Management Facilities (Locations)			
Local Authority Landfill Coverage	pg 5	2	n/a
Local Authority Recorded Landfill Sites			
Potentially Infilled Land (Non-Water)			
Potentially Infilled Land (Water)			
Registered Landfill Sites			
Registered Waste Transfer Sites			
Registered Waste Treatment or Disposal Sites			
Hazardous Substances			
Control of Major Accident Hazards Sites (COMAH)			
Explosive Sites			
Notification of Installations Handling Hazardous Substances (NIHHS)			
Planning Hazardous Substance Consents			
Planning Hazardous Substance Enforcements			

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Geological			
BGS 1:625,000 Solid Geology	pg 6	Yes	n/a
BGS Estimated Soil Chemistry	pg 6	Yes	Yes
BGS Recorded Mineral Sites			
BGS Urban Soil Chemistry			
BGS Urban Soil Chemistry Averages			
CBSCB Compensation District			n/a
Coal Mining Affected Areas			n/a
Mining Instability			n/a
Man-Made Mining Cavities			
Natural Cavities			
Non Coal Mining Areas of Great Britain			
Potential for Collapsible Ground Stability Hazards			
Potential for Compressible Ground Stability Hazards	pg 6	Yes	
Potential for Ground Dissolution Stability Hazards			
Potential for Landslide Ground Stability Hazards	pg 6	Yes	
Potential for Running Sand Ground Stability Hazards	pg 6	Yes	
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 6	Yes	
Radon Potential - Radon Affected Areas			n/a
Radon Potential - Radon Protection Measures			n/a
Industrial Land Use			
Contemporary Trade Directory Entries	pg 7		9
Fuel Station Entries			
Points of Interest - Commercial Services	pg 7		2
Points of Interest - Education and Health			
Points of Interest - Manufacturing and Production	pg 8		1
Points of Interest - Public Infrastructure			
Points of Interest - Recreational and Environmental			
Gas Pipelines			
Underground Electrical Cables			

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Sensitive Land Use			
Ancient Woodland			
Areas of Adopted Green Belt			
Areas of Unadopted Green Belt			
Areas of Outstanding Natural Beauty			
Environmentally Sensitive Areas			
Forest Parks			
Local Nature Reserves			
Marine Nature Reserves			
National Nature Reserves			
National Parks			
Nitrate Sensitive Areas			
Nitrate Vulnerable Zones	pg 9	1	
Ramsar Sites			
Sites of Special Scientific Interest			
Special Areas of Conservation			
Special Protection Areas			
World Heritage Sites			

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Discharge Consents Operator: Day And Hammond Buildings Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Bungalow At Fox'S Low Road Holbeach, Spalding, Lincs Authority: Environment Agency, Anglian Region Catchment Area: Not Supplied Reference: Pr5lf3799 Permit Version: 1 Effective Date: 13th October 1981 Issued Date: 13th October 1981 Revocation Date: 1st October 1996 Discharge Type: Unknown Discharge: Onto Land Environment: Receiving Water: Land Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989 Positional Accuracy: Located by supplier to within 100m	A13SW (S)	92	2	537200 325200
2	Local Authority Pollution Prevention and Controls Name: A & J Services (Spalding) Ltd Location: Unit 30, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY Authority: South Holland District Council, Environmental Services Permit Reference: Not Supplied Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input Status: Not Supplied Positional Accuracy: Manually positioned to the address or location	A13SW (S)	215	3	537195 325063
	Nearest Surface Water Feature	A13SE (SE)	0	-	537275 325284
	Groundwater Vulnerability Soil Classification: Not classified Map Sheet: Sheet 24 North Northamptonshire Scale: 1:100,000	A13NE (SE)	0	2	537251 325338
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A13NE (SE)	0	4	537251 325338
	Superficial Aquifer Designations Aquifer Designation: Unproductive Strata	A13NE (SE)	0	4	537251 325338
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A13SE (E)	0	2	537269 325330
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (SE)	0	2	537251 325338
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (S)	67	2	537237 325205
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (SW)	86	2	537140 325269
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	140	2	537185 325535
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	156	2	537110 325497
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	180	2	537492 325385

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	210	2	537150 325600
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	232	2	537470 325510
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	250	2	536975 325490
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (SE)	0	2	537251 325338
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial/Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	0	2	537274 325343
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (S)	67	2	537237 325205
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (SW)	86	2	537140 325269
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SW (W)	96	2	537090 325315
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (N)	140	2	537185 325535
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	156	2	537110 325497
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (E)	180	2	537492 325385
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	210	2	537140 325595
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	214	2	537130 325590
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NE (NE)	228	2	537465 325510
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13SE (SE)	245	2	537515 325185
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Tidal Models Boundary Accuracy: As Supplied	A13NW (NW)	250	2	536975 325490
	Areas Benefiting from Flood Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Flood Water Storage Areas None				
	Flood Defences None				
3	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 22.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13SE (SE)	0	5	537274 325285
4	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 81.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13SE (SE)	1	5	537290 325300
5	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 117.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13SE (S)	10	5	537258 325258
6	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 21.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NE (E)	35	5	537345 325356
7	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 135.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NE (NE)	46	5	537333 325384
8	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 91.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NE (E)	56	5	537359 325372
9	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 316.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NE (N)	91	5	537272 325497
10	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 287.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NE (N)	116	5	537274 325521

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 272.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NE (NE)	135	5	537358 325485
12	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 11.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13SW (SW)	139	5	537143 325187
13	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 309.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NE (NE)	149	5	537349 325513
14	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 188.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NE (NE)	149	5	537349 325513
15	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 111.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NE (E)	168	5	537472 325404
16	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 101.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13SW (W)	218	5	536963 325332
17	OS Water Network Lines Watercourse Form: Inland river Watercourse Length: 30.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Welland Primacy: 2	A13NW (NW)	230	5	537065 325556

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: South Holland District Council - Has no landfill data to supply		0	3	537251 325338
	Local Authority Landfill Coverage Name: Lincolnshire County Council - Had landfill data but passed it to the relevant environment agency		0	6	537251 325338

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: West Walton Formation, Ampthill Clay Formation And Kimmeridge Clay Formation (Undifferentiated)	A13NE (SE)	0	1	537251 325338
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (SE)	0	1	537251 325338
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (W)	180	1	537000 325338
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	537251 325338
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	537251 325338
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	537251 325338
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	537251 325338
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	537251 325338
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	537251 325338
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	537251 325338
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (SE)	0	1	537251 325338

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	Contemporary Trade Directory Entries Name: Heatflo Sealants Location: Unit 24, Fleet Road Industrial Estate, Fleet, Holbeach, Spalding, Lincolnshire, PE12 8LY Classification: Adhesives, Glues & Sealants Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	140	-	537217 325134
18	Contemporary Trade Directory Entries Name: Newtec Odense UK Ltd Location: Unit 21-23, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY Classification: Machinery - Industrial & Commercial Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (S)	144	-	537190 325142
18	Contemporary Trade Directory Entries Name: Tennyson Tyres Ltd Location: Unit 20, Fleet Road Industrial Estate, Holbeach, Spalding, PE12 8LY Classification: Tyre Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (SW)	171	-	537153 325136
19	Contemporary Trade Directory Entries Name: Hargrave Agriculture Ltd Location: Unit 29, Fleet Road Industrial Estate, Fleet Holbeach, Spalding, Lincolnshire, PE12 8LY Classification: Agricultural Machinery - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	190	-	537217 325082
19	Contemporary Trade Directory Entries Name: Hargrave Agriculture Ltd Location: Unit 29, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY Classification: Agricultural Machinery - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	190	-	537217 325082
20	Contemporary Trade Directory Entries Name: A & J Services Spalding Ltd Location: Unit 30, Fleet Road Industrial Estate, Holbeach, SPALDING, Lincolnshire, PE12 8LY Classification: Electrical Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (S)	215	-	537195 325062
20	Contemporary Trade Directory Entries Name: Kent & Franklin Location: Unit 30, Fleet Road Industrial Estate, Holbeach, Spalding, Lincolnshire, PE12 8LY Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	215	-	537195 325062
20	Contemporary Trade Directory Entries Name: J T Ward Kitchens & Bedrooms Location: Unit 18, Fleet Road Industrial Estate, Holbeach, Spalding, PE12 8LY Classification: Kitchen Furniture Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A13SW (S)	243	-	537149 325052
20	Contemporary Trade Directory Entries Name: J T Ward Joinery Ltd Location: Unit 18, Fleet Road Industrial Estate, Holbeach, Spalding, PE12 8LY Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (S)	243	-	537150 325052
21	Points of Interest - Commercial Services Name: Kent & Franklin Location: Unit 30, Fleet Road Industrial Estate, Holbeach, Spalding, PE12 8LY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (S)	215	8	537195 325062
21	Points of Interest - Commercial Services Name: Kent & Franklin Location: Unit 30, Fleet Road Industrial Estate, Holbeach, Spalding, PE12 8LY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SW (S)	215	8	537195 325062

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	Points of Interest - Manufacturing and Production Name: Tank Location: PE12 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	7	8	537189 325365

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	Nitrate Vulnerable Zones Name: Whaplode River Nvz Description: Surface Water Source: Environment Agency, Head Office	A13NE (SE)	0	4	537251 325338

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices South Holland District Council - Environmental Services	October 2013	Annual Rolling Update
Discharge Consents Environment Agency - Anglian Region	October 2018	Quarterly
Enforcement and Prohibition Notices Environment Agency - Anglian Region	March 2013	Annual Rolling Update
Integrated Pollution Controls Environment Agency - Anglian Region	October 2008	Variable
Integrated Pollution Prevention And Control Environment Agency - Anglian Region	October 2018	Quarterly
Local Authority Integrated Pollution Prevention And Control South Holland District Council - Environmental Services	October 2014	Variable
Local Authority Pollution Prevention and Controls South Holland District Council - Environmental Services	October 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements South Holland District Council - Environmental Services	October 2014	Variable
Nearest Surface Water Feature Ordnance Survey	September 2017	
Pollution Incidents to Controlled Waters Environment Agency - Anglian Region	September 1999	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - Anglian Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters Environment Agency - Anglian Region	March 2013	Annual Rolling Update
Registered Radioactive Substances Environment Agency - Anglian Region	January 2015	
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - Anglian Region - Northern Area	October 2018	Quarterly
Water Abstractions Environment Agency - Anglian Region	October 2018	Quarterly
Water Industry Act Referrals Environment Agency - Anglian Region	October 2017	Quarterly
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	January 2018	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2018	Quarterly

Agency & Hydrological	Version	Update Cycle
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	August 2018	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	August 2018	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	August 2018	Quarterly
Flood Defences Environment Agency - Head Office	August 2018	Quarterly
OS Water Network Lines Ordnance Survey	October 2018	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually
Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - Head Office	July 2018	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - Anglian Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - Anglian Region - Northern Area	July 2018	Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - Anglian Region - Northern Area	October 2018	Quarterly
Local Authority Landfill Coverage Lincolnshire County Council South Holland District Council - Environmental Services	May 2000 May 2000	Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Lincolnshire County Council South Holland District Council - Environmental Services	May 2000 May 2000	Not Applicable Not Applicable
Potentially Infilled Land (Non-Water) Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water) Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites Environment Agency - Anglian Region - Northern Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency - Anglian Region - Northern Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - Anglian Region - Northern Area	March 2003	Not Applicable

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites Health and Safety Executive	March 2017	Variable
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements South Holland District Council Lincolnshire County Council - Highways and Planning Department	January 2016 June 2010	Variable Variable
Planning Hazardous Substance Consents Lincolnshire County Council - Highways and Planning Department South Holland District Council	August 2007 January 2016	Variable Variable
Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2018	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

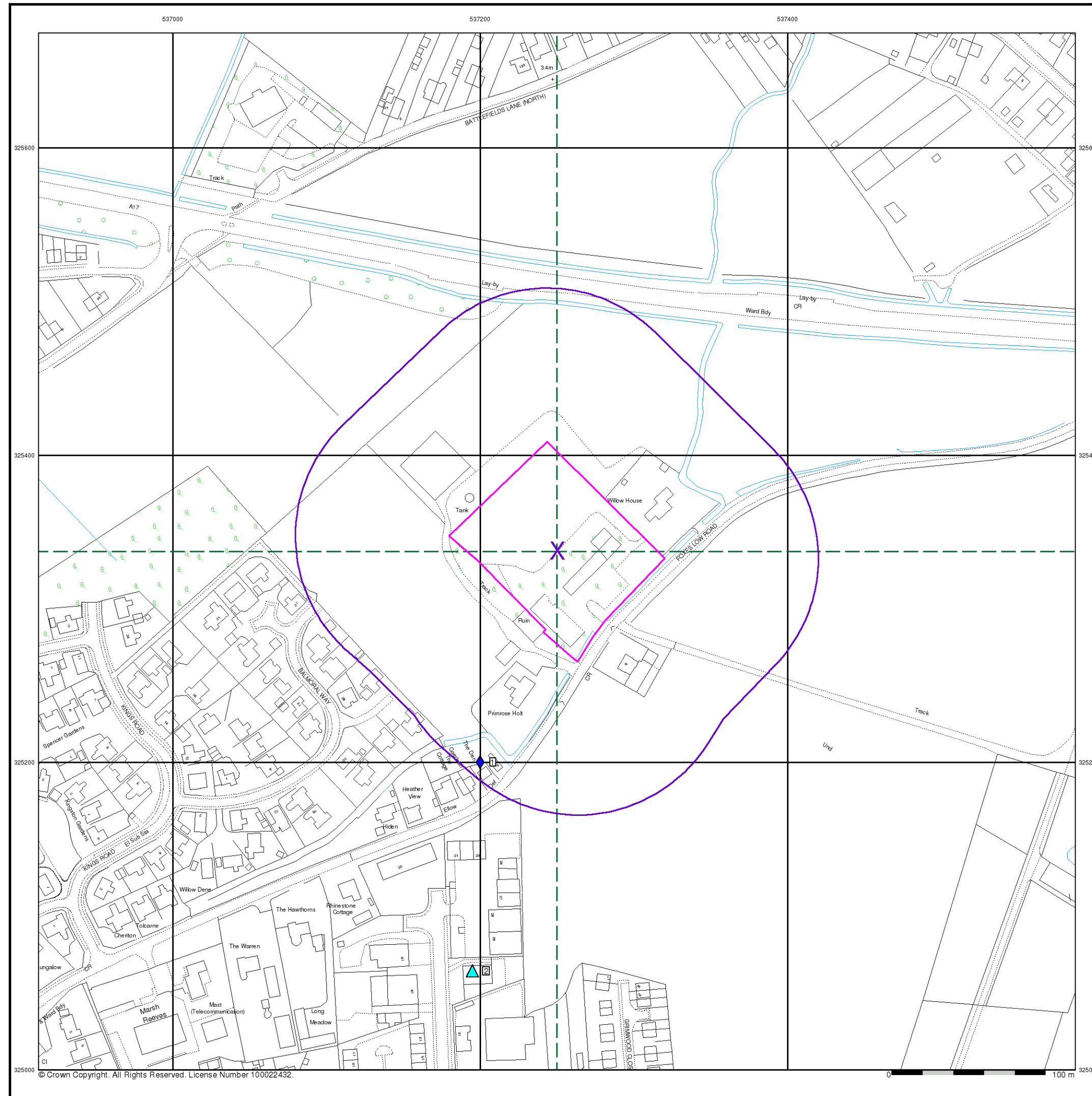
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	November 2018	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2018	Quarterly
Gas Pipelines National Grid	July 2014	
Points of Interest - Commercial Services PointX	September 2018	Quarterly
Points of Interest - Education and Health PointX	September 2018	Quarterly
Points of Interest - Manufacturing and Production PointX	September 2018	Quarterly
Points of Interest - Public Infrastructure PointX	September 2018	Quarterly
Points of Interest - Recreational and Environmental PointX	September 2018	Quarterly
Underground Electrical Cables National Grid	December 2015	
Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	August 2018	Bi-Annually
Areas of Outstanding Natural Beauty Natural England	August 2018	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	August 2018	Bi-Annually
Marine Nature Reserves Natural England	January 2018	Bi-Annually
National Nature Reserves Natural England	August 2018	Bi-Annually
National Parks Natural England	April 2017	Bi-Annually
Nitrate Vulnerable Zones Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	December 2017 October 2015	Bi-Annually
Ramsar Sites Natural England	August 2018	Bi-Annually
Sites of Special Scientific Interest Natural England	October 2018	Bi-Annually
Special Areas of Conservation Natural England	August 2018	Bi-Annually
Special Protection Areas Natural England	August 2018	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
Centre for Ecology and Hydrology	 Centre for Ecology & Hydrology NATURAL ENVIRONMENT RESEARCH COUNCIL
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	South Holland District Council - Environmental Services Council Offices, Priory Road, Spalding, Lincolnshire, PE11 2XE	Website: www.sholland.gov.uk
4	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	Ordnance Survey Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	Lincolnshire County Council 4th Floor, City Hall, Lincoln, Lincolnshire, LN1 1DN	Telephone: 01522 552222 Fax: 01522 552288 Email: PublicRelations@lincolnshire.gov.uk Website: www.lincolnshire.gov.uk
7	Health and Safety Executive 5S.2 Redgrave Court, Merton Road, Bootle, L20 7HS	Website: www.hse.gov.uk
8	PointX 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.



© Crown Copyright. All Rights Reserved. License Number 100022432.

- ### General

 - Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
- ### Agency and Hydrological

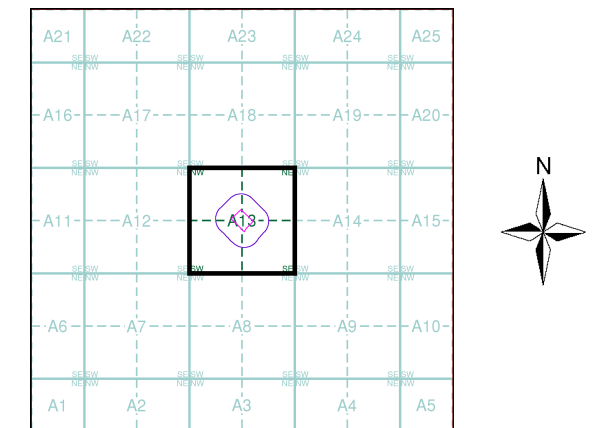
 - Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- ### Waste

 - BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- ### Hazardous Substances

 - COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- ### Geological

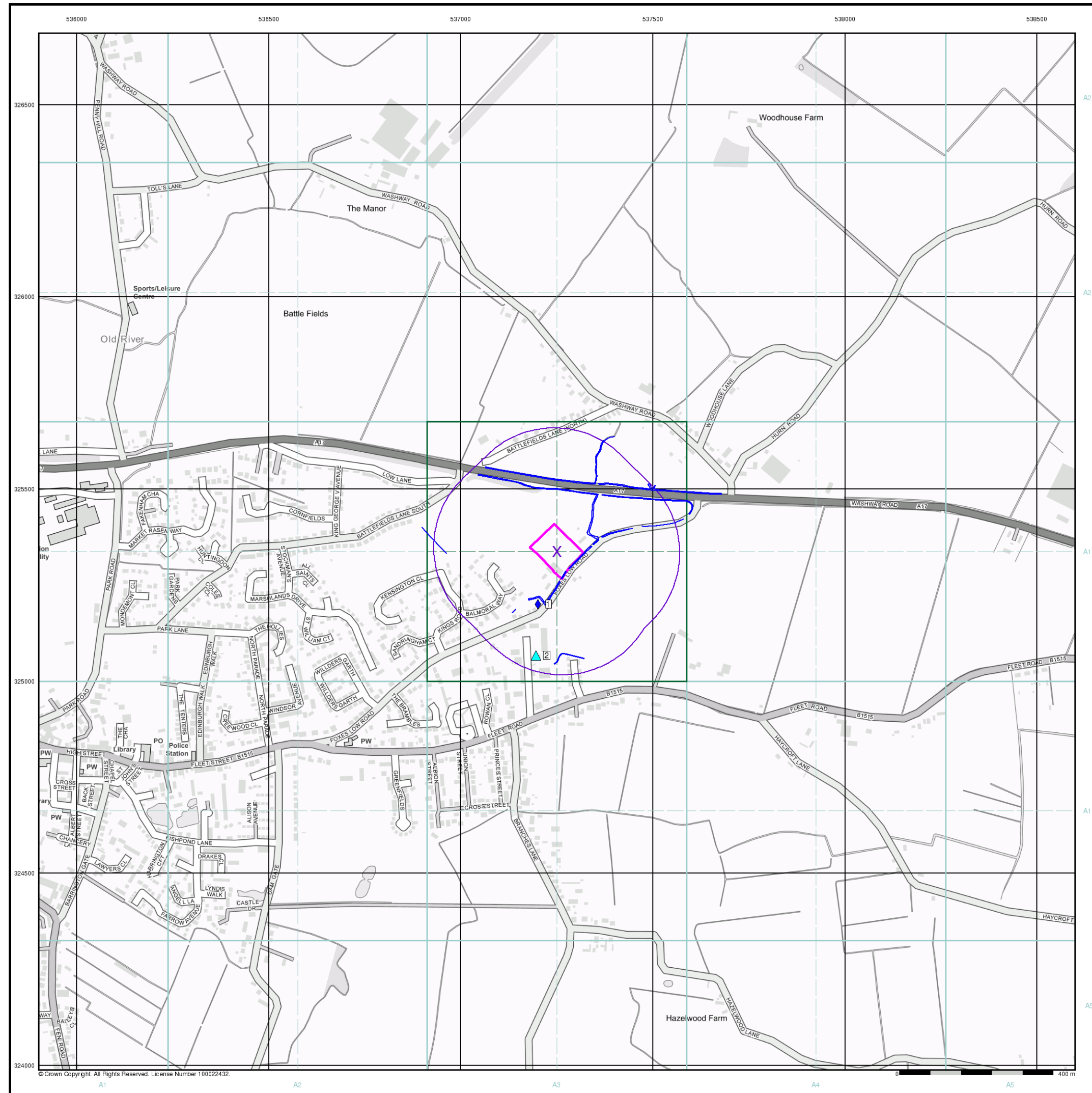
 - BGS Recorded Mineral Site

Site Sensitivity Map - Segment A13



Order Details
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Plot Buffer (m): 100

Site Details
Foxes Lowe Road, Holbeach



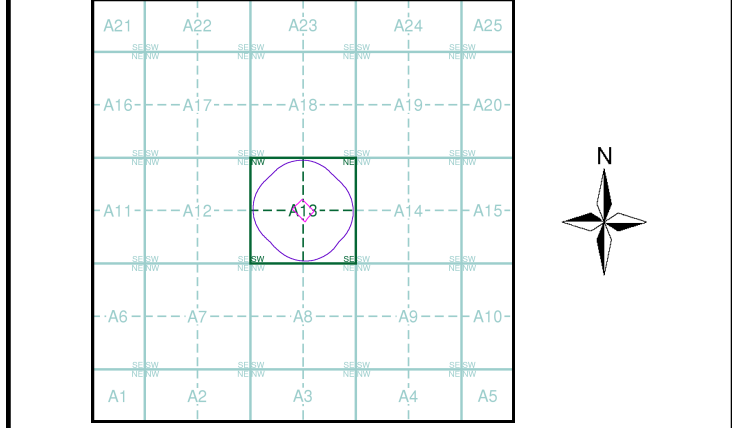
© Crown Copyright. All Rights Reserved. License Number 100022432.

Envirocheck®

LANDMARK INFORMATION GROUP®

- General**
 - Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Several of Type at Location
- Agency and Hydrological**
 - Contaminated Land Register Entry or Notice (Location)
 - Contaminated Land Register Entry or Notice
 - Discharge Consent
 - Enforcement or Prohibition Notice
 - Integrated Pollution Control
 - Integrated Pollution Prevention Control
 - Local Authority Integrated Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control
 - Local Authority Pollution Prevention and Control Enforcement
 - Pollution Incident to Controlled Waters
 - Prosecution Relating to Authorised Processes
 - Prosecution Relating to Controlled Waters
 - Registered Radioactive Substance
 - River Network or Water Feature
 - River Quality Sampling Point
 - Substantiated Pollution Incident Register
 - Water Abstraction
 - Water Industry Act Referral
- Waste**
 - BGS Recorded Landfill Site (Location)
 - BGS Recorded Landfill Site
 - EA Historic Landfill (Buffered Point)
 - EA Historic Landfill (Polygon)
 - Integrated Pollution Control Registered Waste Site
 - Licensed Waste Management Facility (Landfill Boundary)
 - Licensed Waste Management Facility (Location)
 - Local Authority Recorded Landfill Site (Location)
 - Local Authority Recorded Landfill Site
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Non-water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water)
 - Registered Landfill Site (Location)
 - Registered Landfill Site (Point Buffered to 100m)
 - Registered Landfill Site (Point Buffered to 250m)
 - Registered Waste Transfer Site (Location)
 - Registered Waste Transfer Site
 - Registered Waste Treatment or Disposal Site (Location)
 - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
 - COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
 - BGS Recorded Mineral Site
- Geological**
 - BGS Recorded Mineral Site

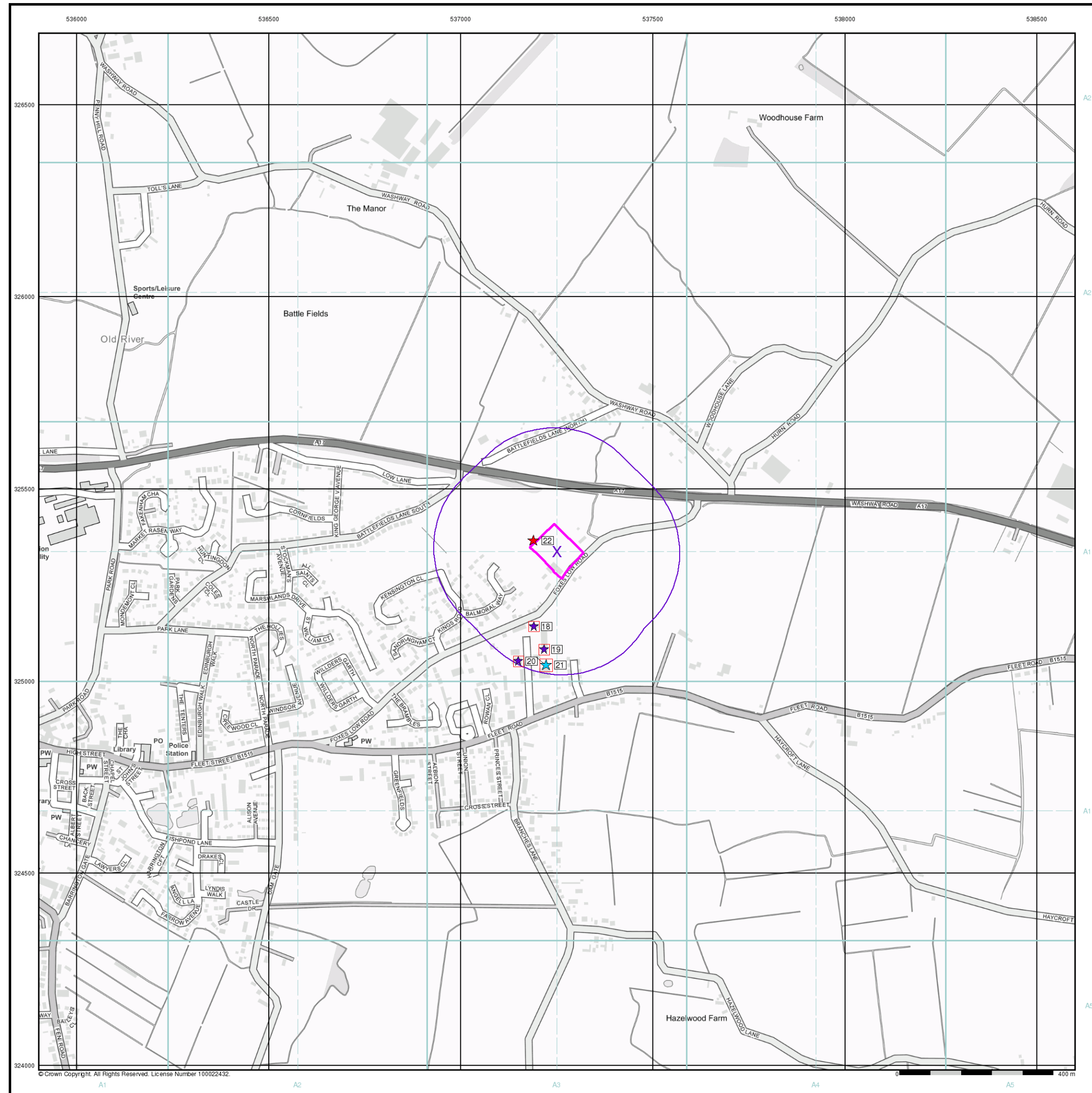
Site Sensitivity Map - Slice A



Order Details
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details
Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

Envirocheck®

LANDMARK INFORMATION GROUP®

Industrial Land Use Map

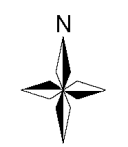
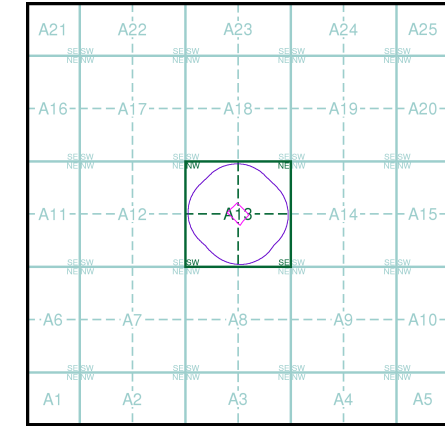
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

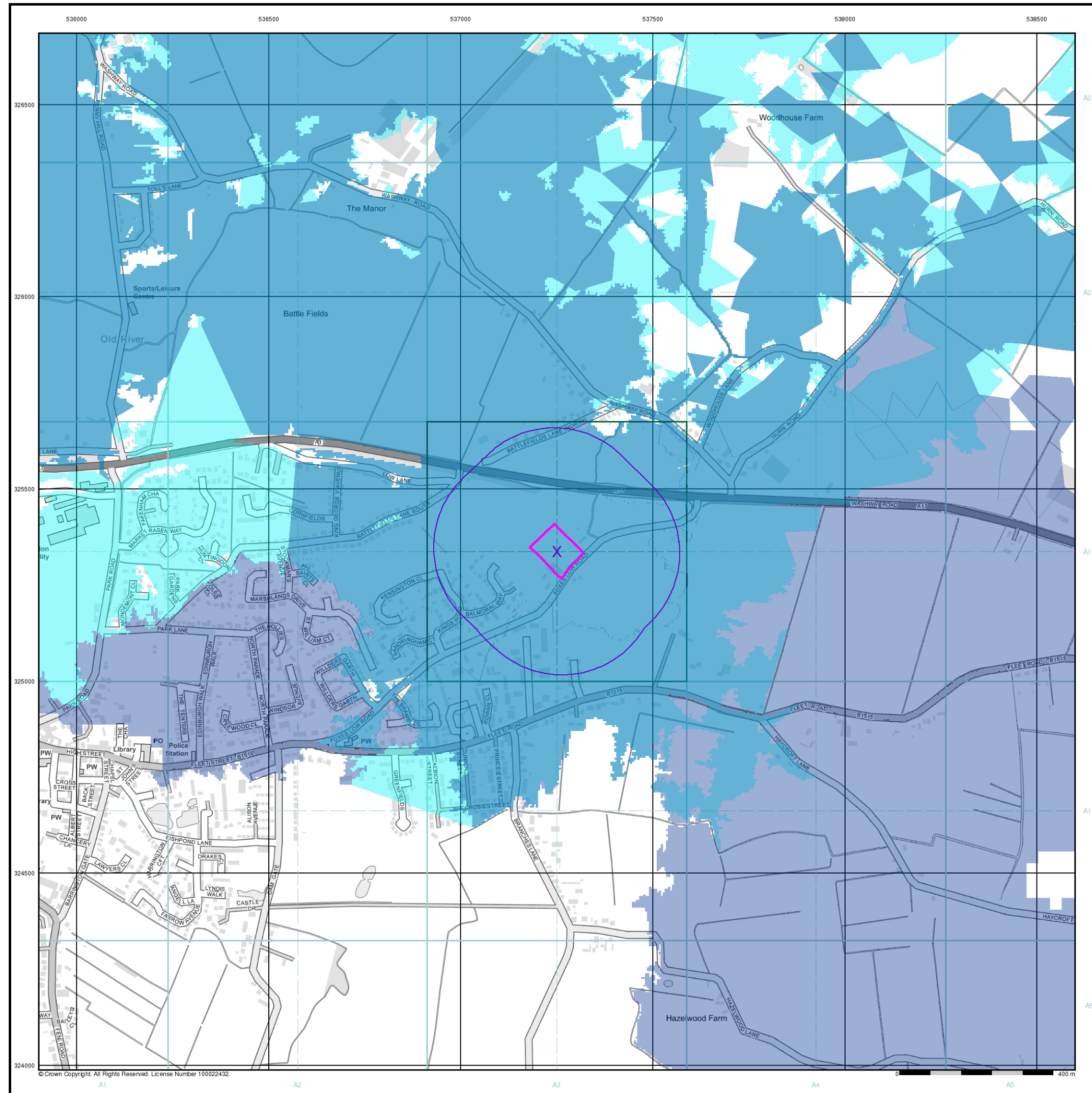
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

Envirocheck®

LANDMARK INFORMATION GROUP®

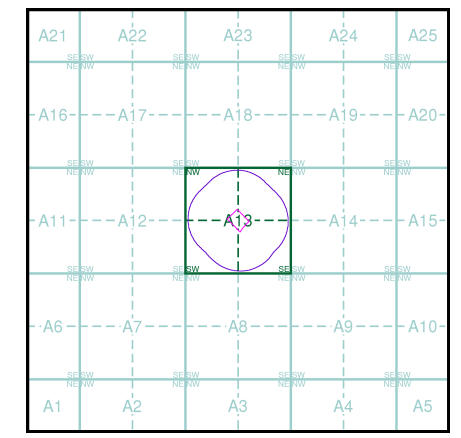
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



Order Details

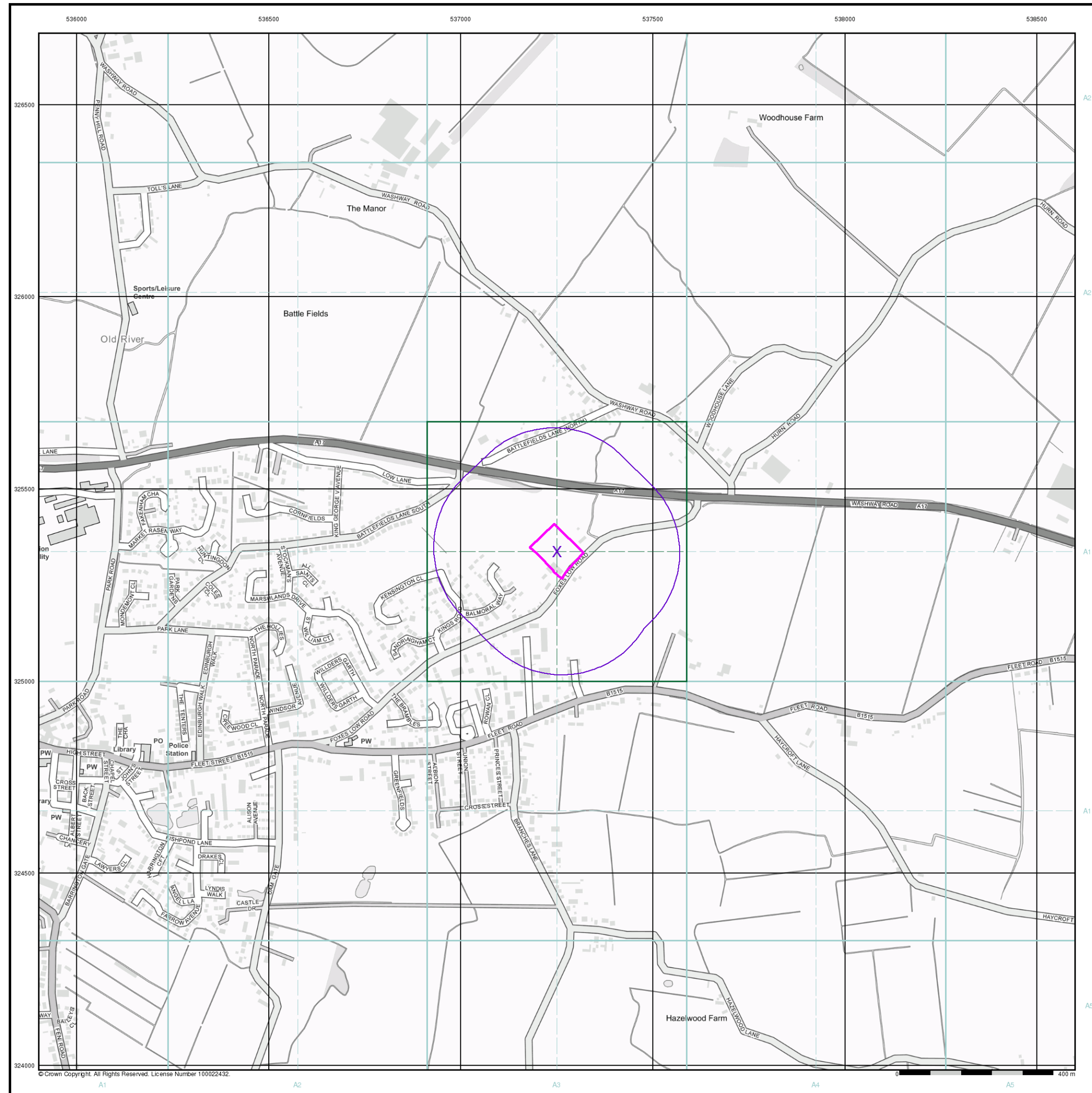
Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

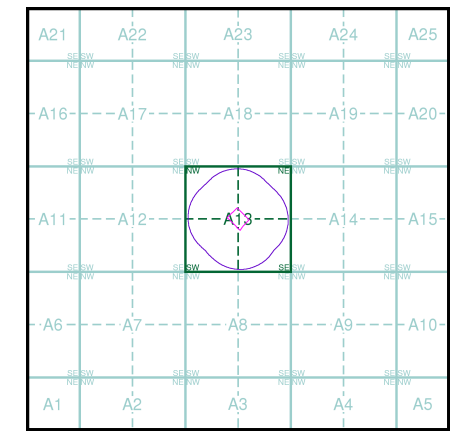
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A

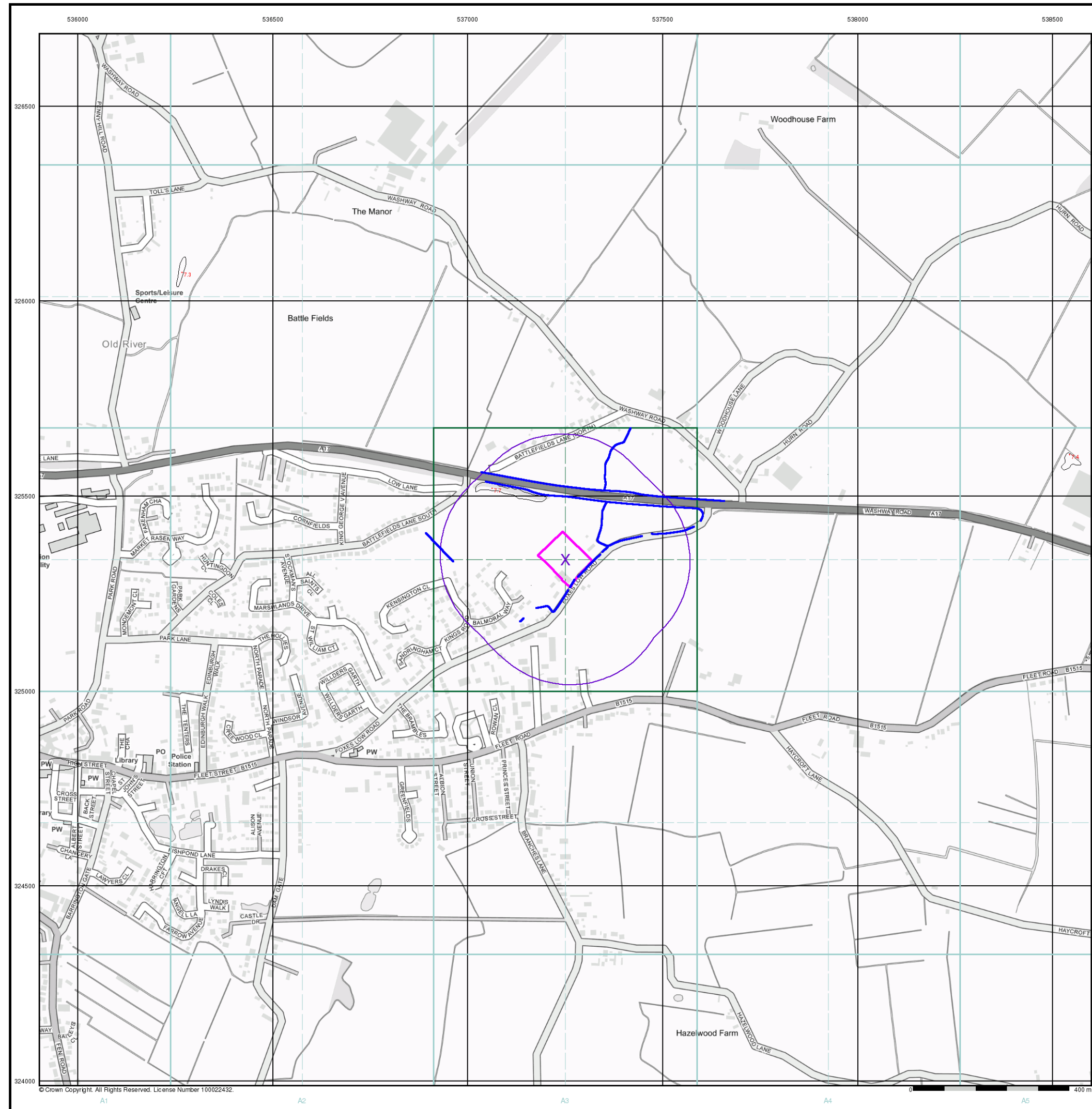


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach



© Crown Copyright. All Rights Reserved. License Number 100022432.

Envirocheck®

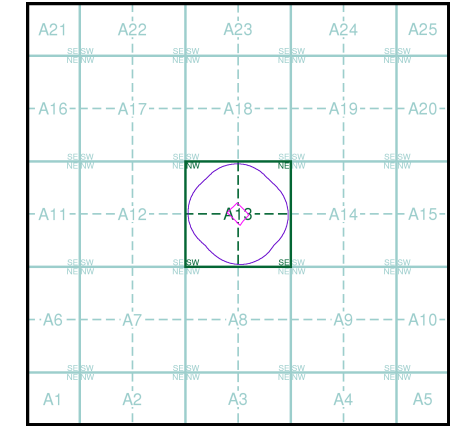
LANDMARK INFORMATION GROUP®

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point

- OS Water Network Data**
- | | |
|--------------|-------------------------|
| Canal | Drain |
| Reservoir | Other |
| Foreshore | Lake |
| Marsh | Transfer |
| Tidal River | Lock Or Flight Of Locks |
| Inland River | Sea |

- Contours (height in meters)**
- Standard Contour 105 100 95
- Master Contour
- Spot Height 167.3
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number: 191394219_1_1

Customer Ref: D37179

National Grid Reference: 537250, 325340

Slice: A

Site Area (Ha): 0.97

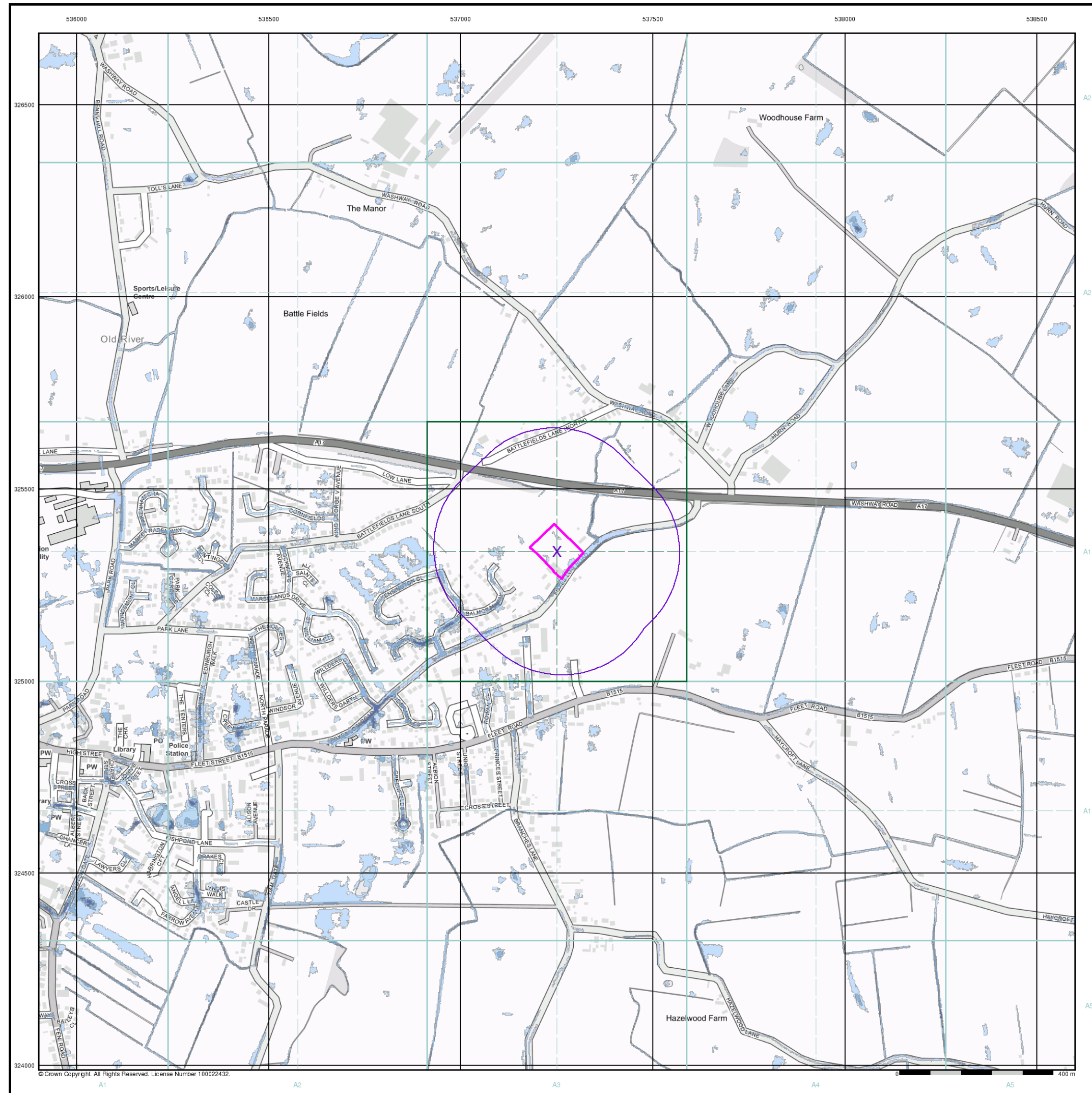
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

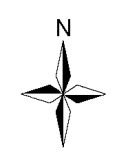
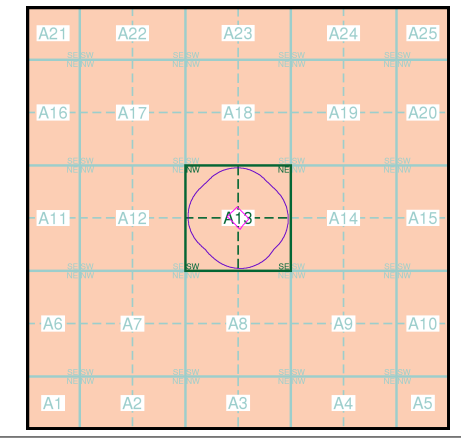
Risk of Flooding from Surface Water

- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

- See the suitability map below
- National to county
 - County to town
 - Town to street
 - Street to parcels of land
 - Property

E/NRW Suitability Map - Slice A

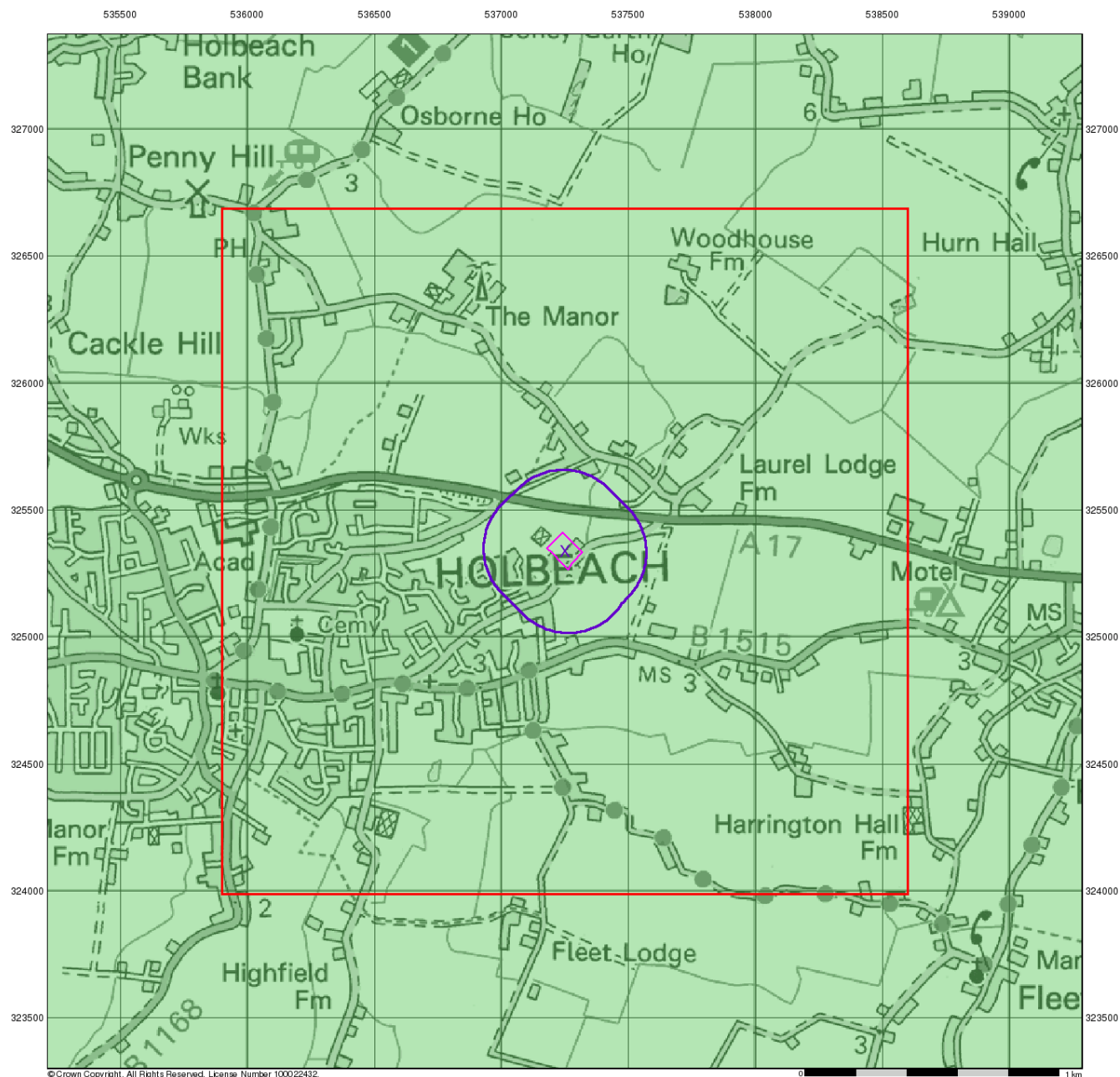


Order Details

Order Number: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach



© Crown Copyright. All Rights Reserved. License Number 100022432.

0 1 km

Envirocheck®

LANDMARK INFORMATION GROUP®

Groundwater Vulnerability

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

Major Aquifer (Highly Permeable)

Minor Aquifer (Variably Permeable)

Non Aquifer (Negligibly Permeable)

Water or Sea

Drift Deposit

Soil Classes

High (H) 1, 2, 3, U

Intermediate (I) 1, 2

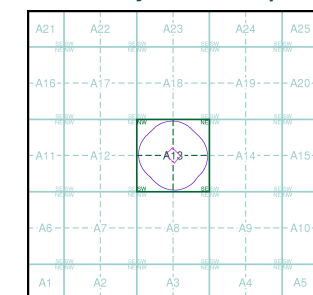
Low

High (H) 1, 2, 3, U

Intermediate (I) 1, 2

Low

Site Sensitivity Context Map - Slice A



Order Details

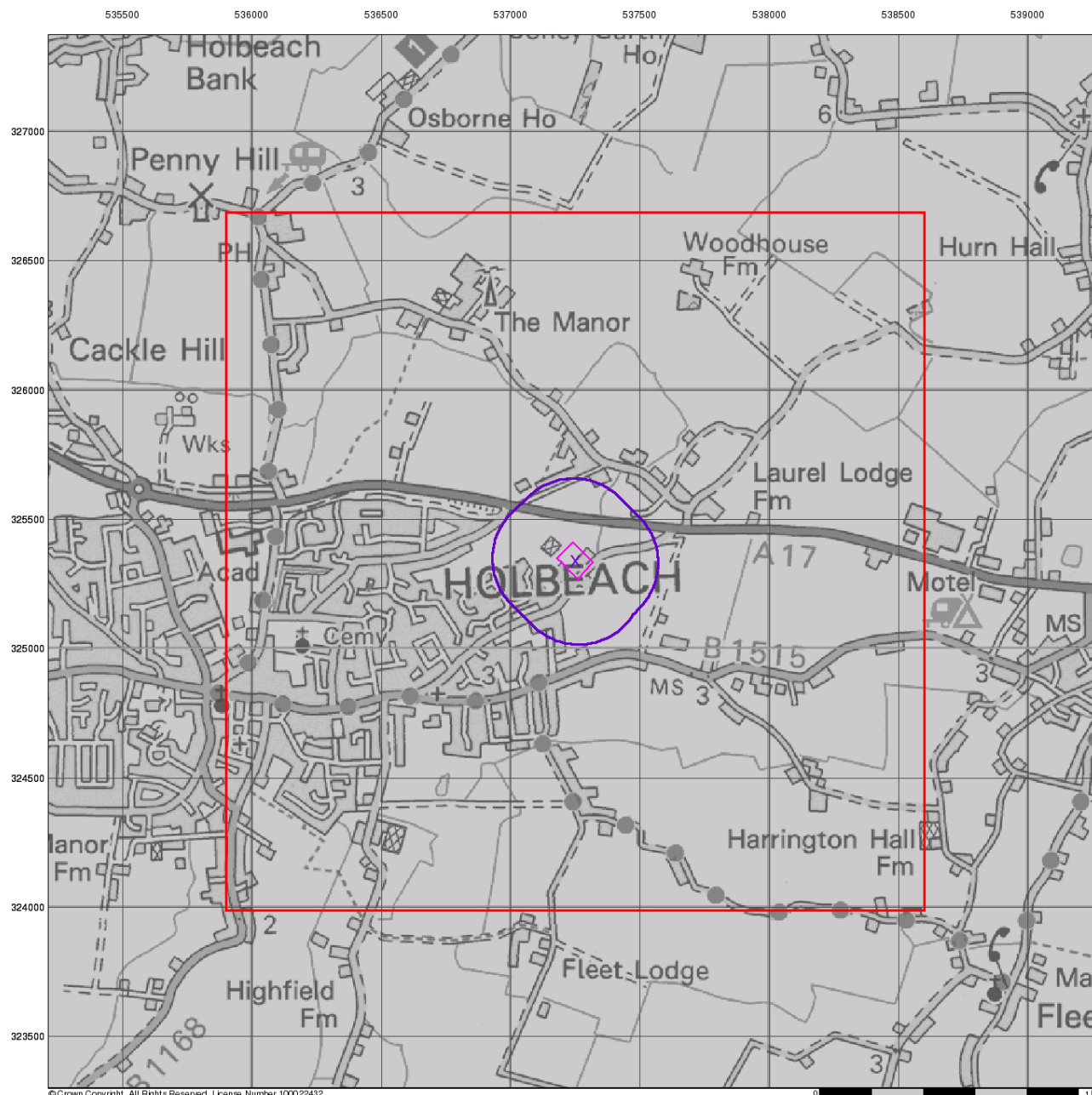
Order Number: 191394219_1_1
 Customer Ref: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



Envirocheck®

LANDMARK INFORMATION GROUP®

Bedrock Aquifer Designation

General

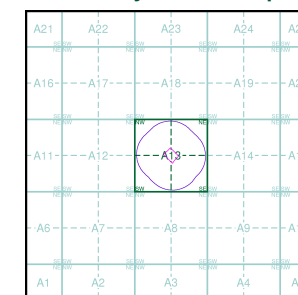
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

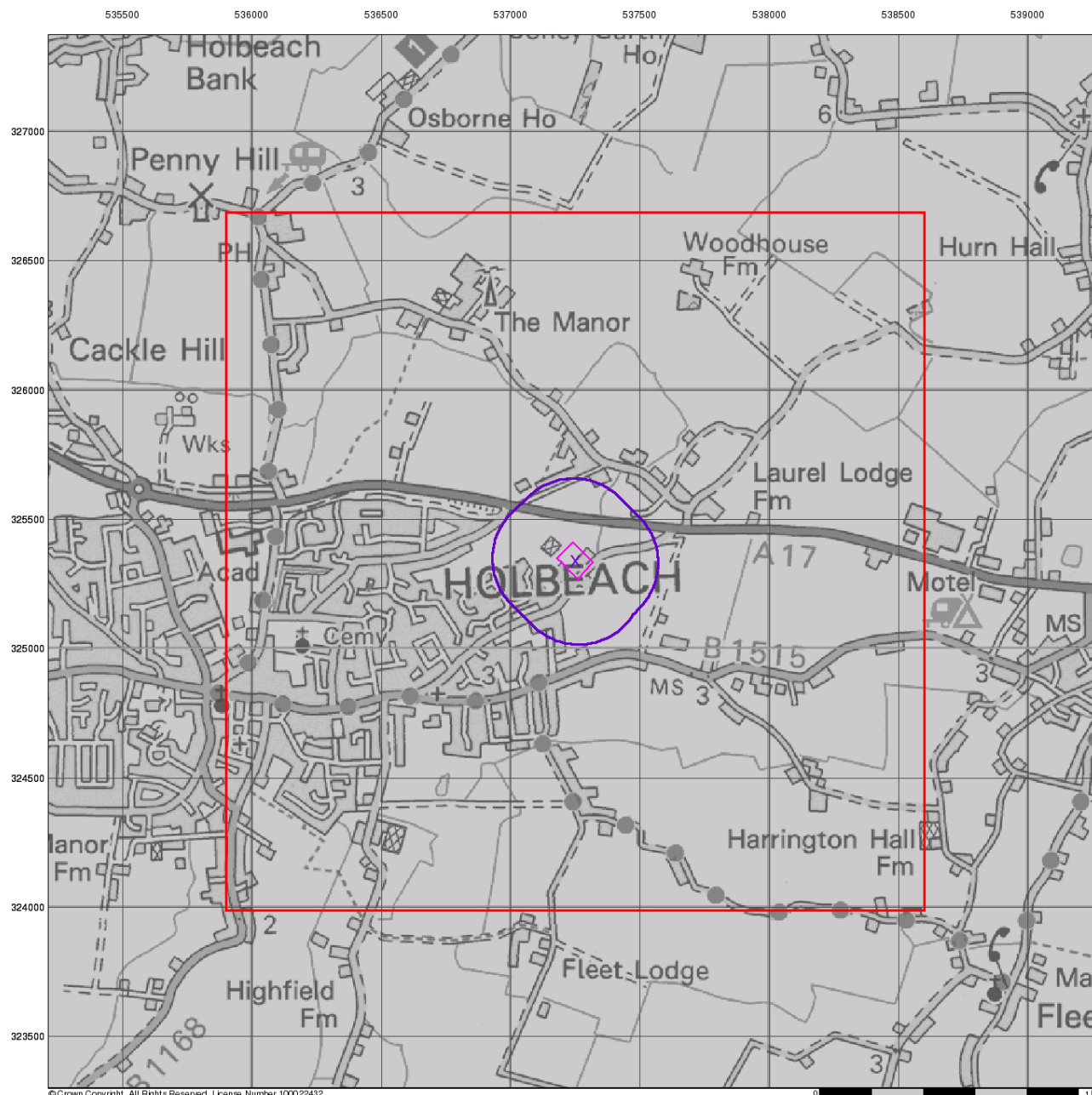
Order Number: 191394219_1_1
 Customer Ref: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

0 1 km

Envirocheck[®]

LANDMARK INFORMATION GROUP[®]

Superficial Aquifer Designation

General

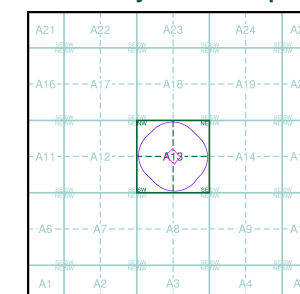
- ◇ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- B Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



Order Details

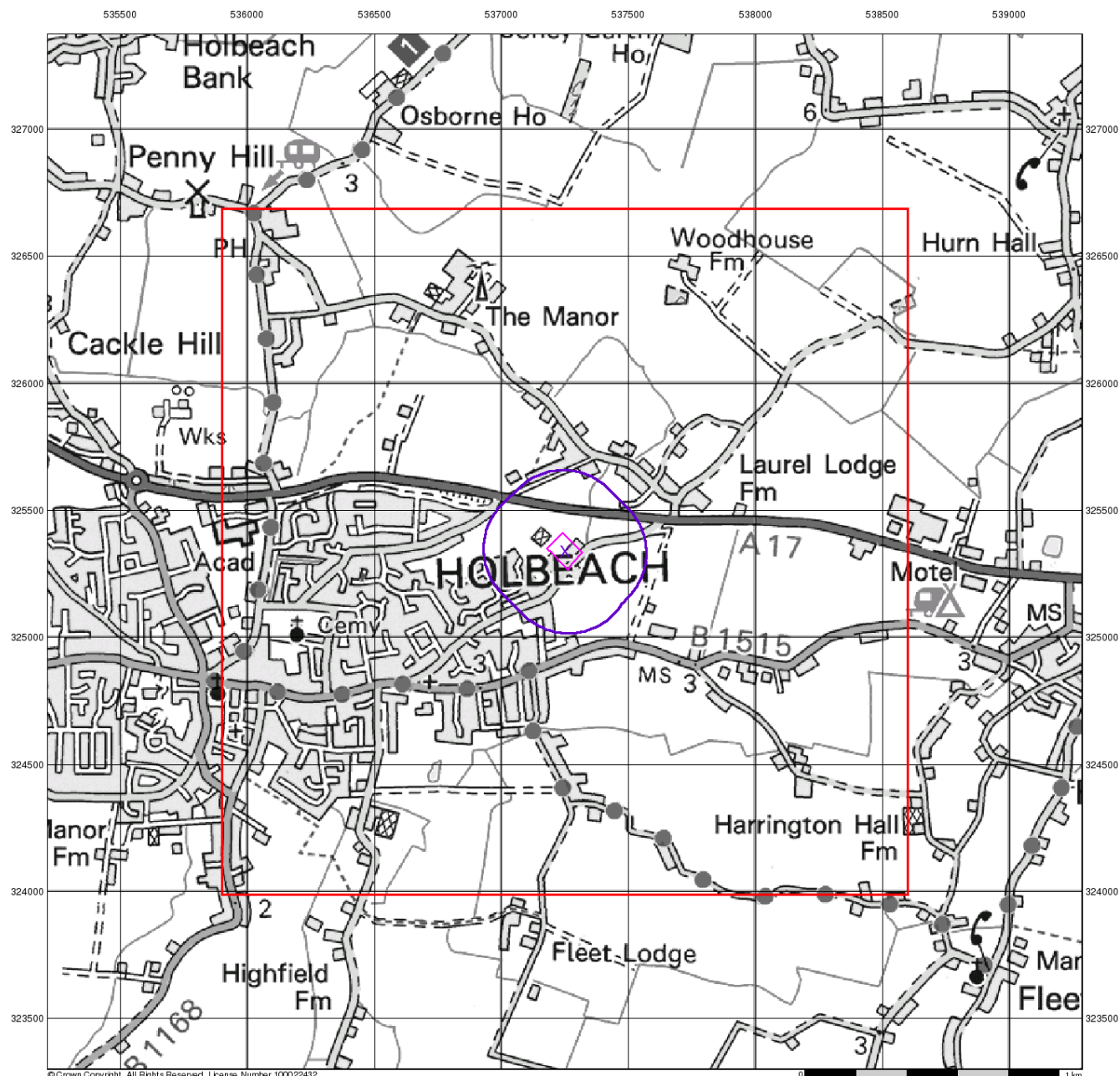
Order Number: 191394219_1_1
 Customer Ref: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark[®]
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

0 1 km

Envirocheck®

LANDMARK INFORMATION GROUP®

Source Protection Zones

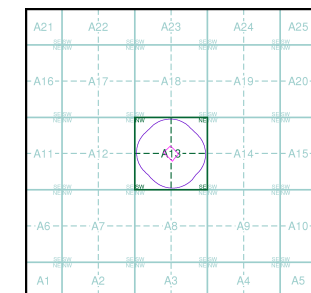
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



Order Details

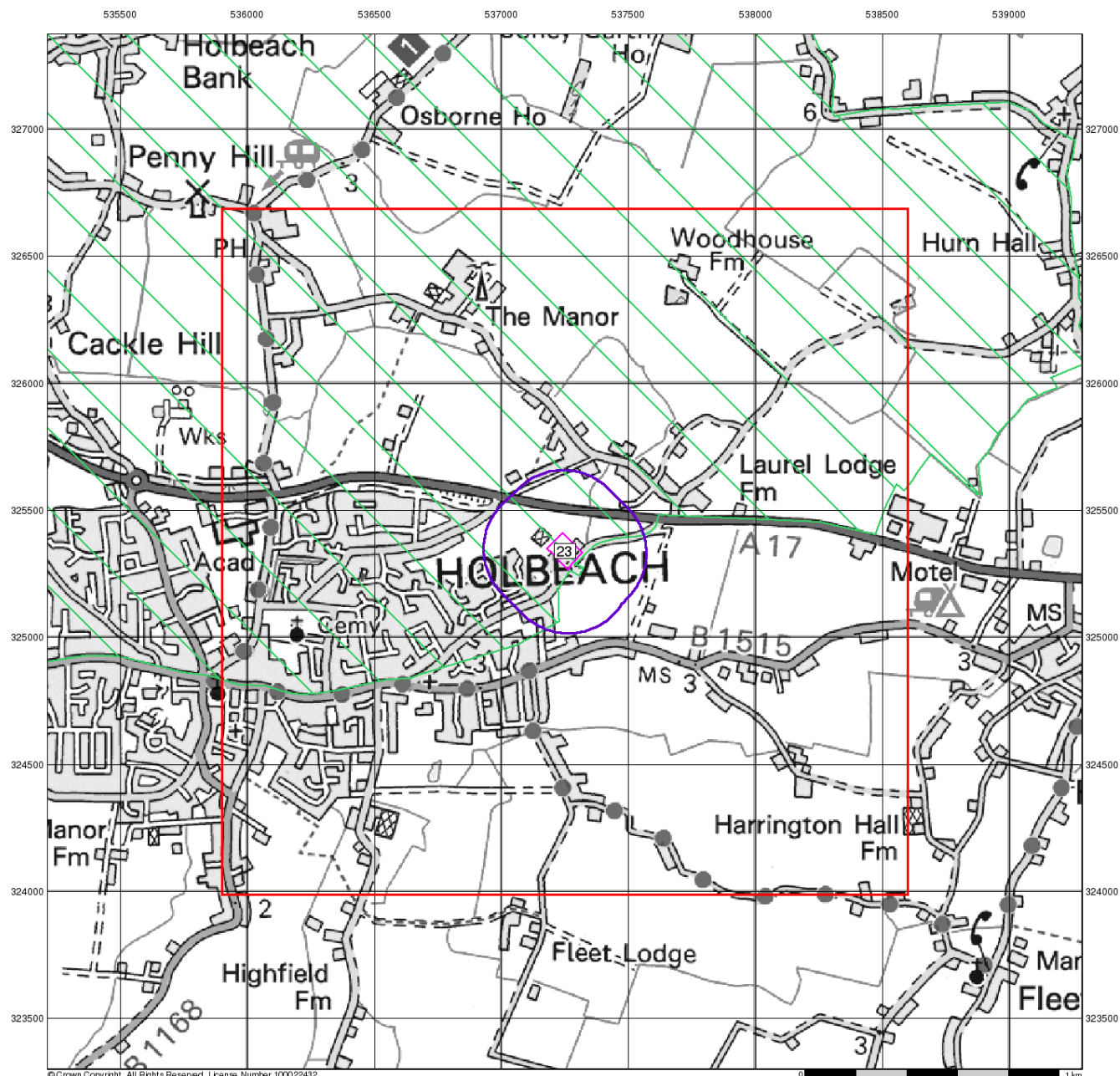
Order Number: 191394219_1_1
 Customer Ref: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



Envirocheck®

LANDMARK INFORMATION GROUP®

Sensitive Land Uses

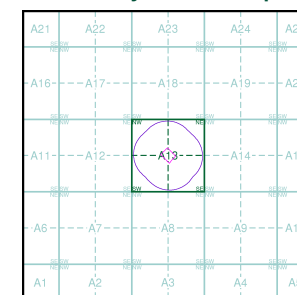
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



Order Details

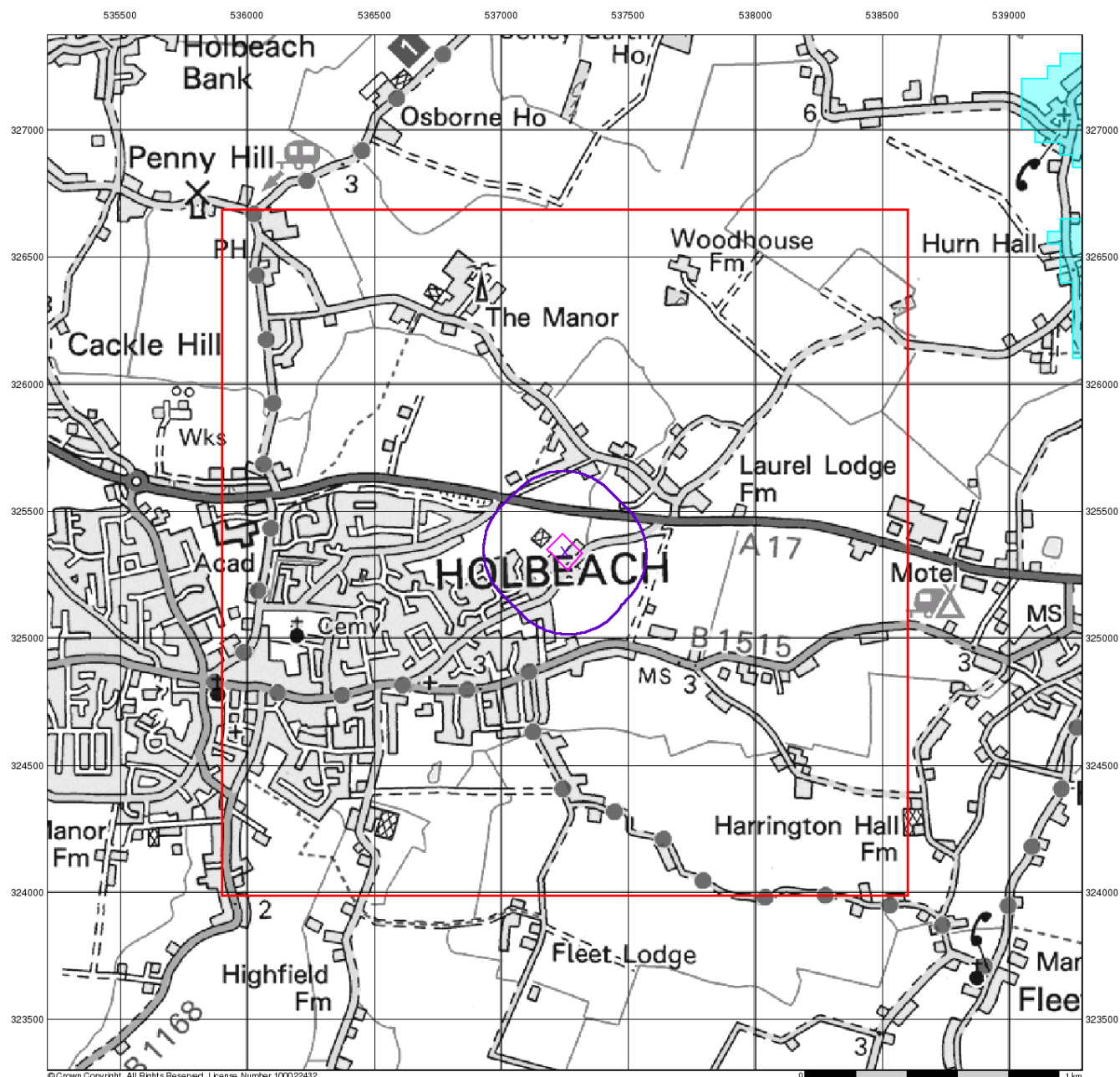
Order Number: 191394219_1_1
 Customer Ref: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
 INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



© Crown Copyright. All Rights Reserved. License Number 100022432.

Envirocheck®

LANDMARK INFORMATION GROUP®

BGS Flood GFS Data

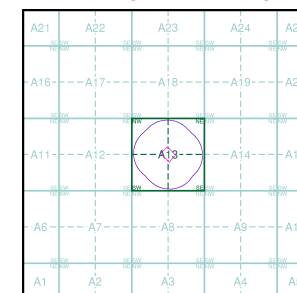
General

- ◇ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

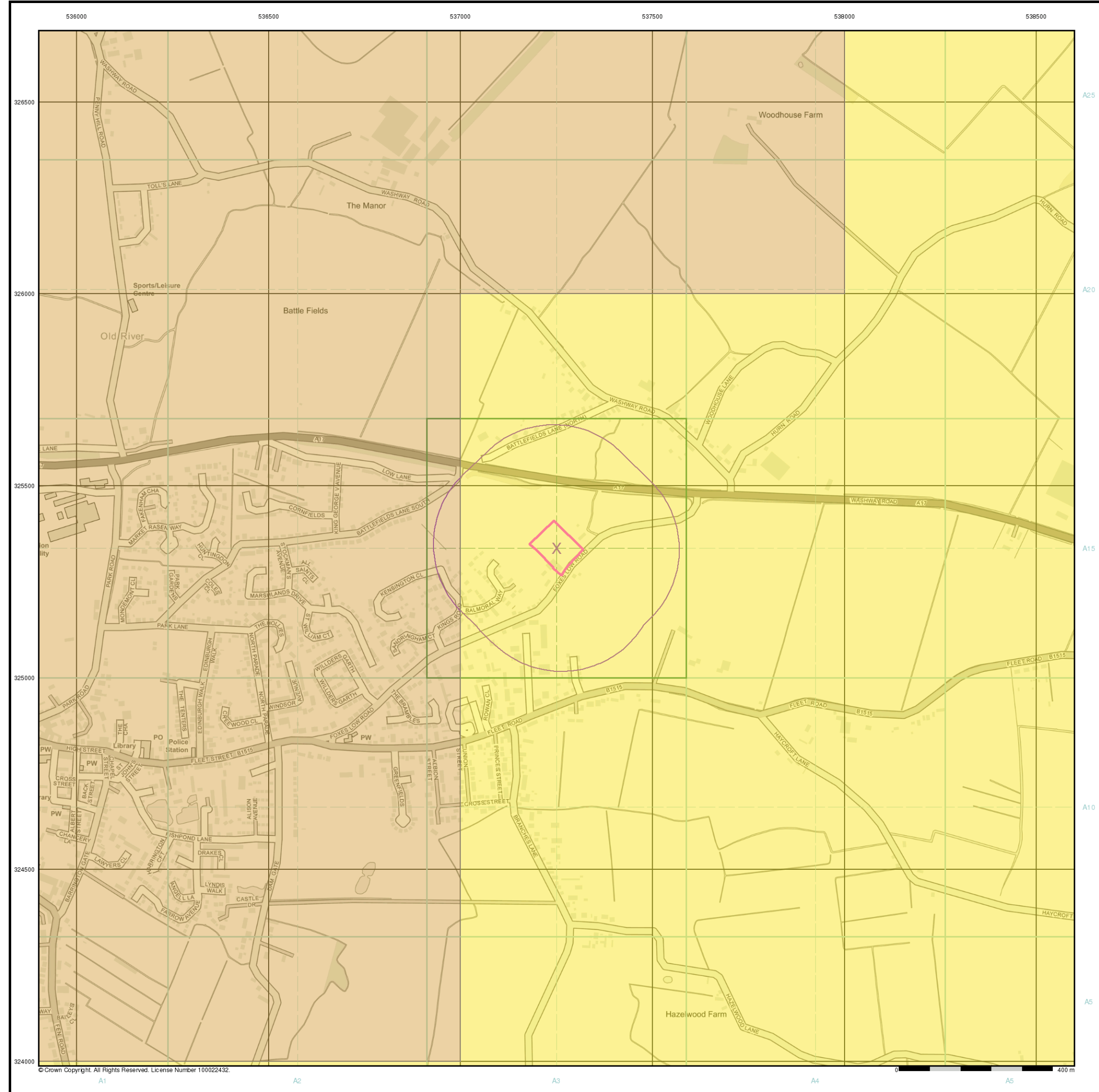
Order Number: 191394219_1_1
 Customer Ref: D37179
 National Grid Reference: 537250, 325340
 Slice: A
 Site Area (Ha): 0.97
 Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

Landmark®
 LANDMARK INFORMATION GROUP

Tel: 0844 844 9952
 Fax: 0844 844 9951
 Web: www.envirocheck.co.uk



Envirocheck[®]

● LANDMARK INFORMATION GROUP[®]

General

● Specified Site ● Specified Buffer(s) X Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

< 15
15 - 25
25 - 35
35 - 45
45 - 60
60 - 120
> 120

Estimated Soil Chemistry Arsenic - Slice A

Order Details

Order Details:	191394219_1_1
Customer Ref:	D37179
National Grid Reference:	537250, 325340
Slice:	A
Site Area (Ha):	0.97
Search Buffer (m):	250

Site Details

Foxes Lowe Road, Holbeach

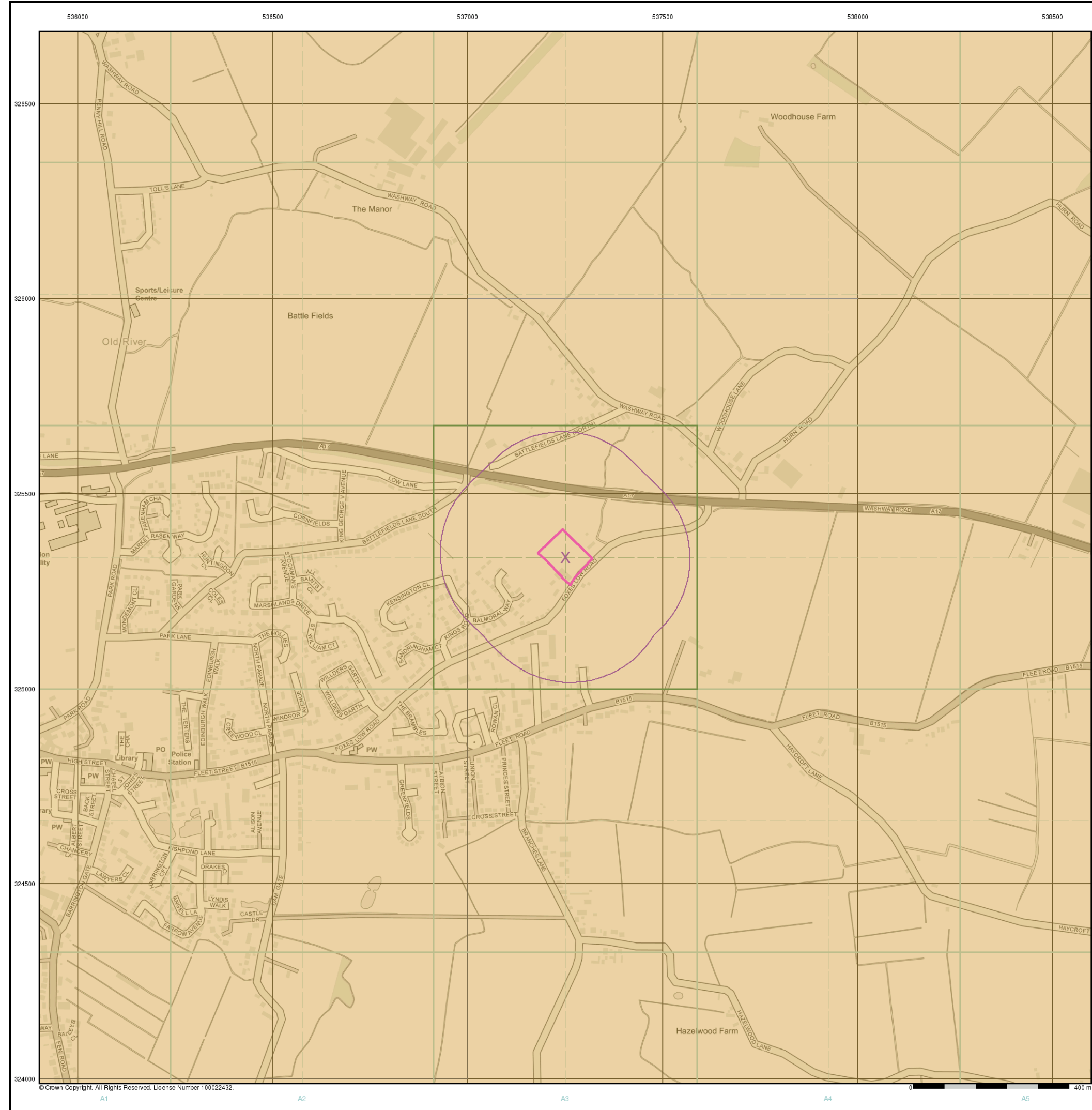
Landmark[®]

● ● INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

© Crown Copyright. All Rights Reserved. License Number 100022432.

A Landmark Information Group Service v50.0 17-Jan-2019 Page 1 of 5



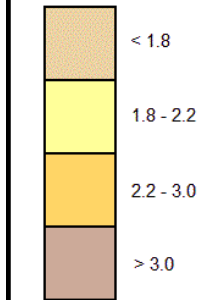
© Crown Copyright. All Rights Reserved. License Number 100022432.

General

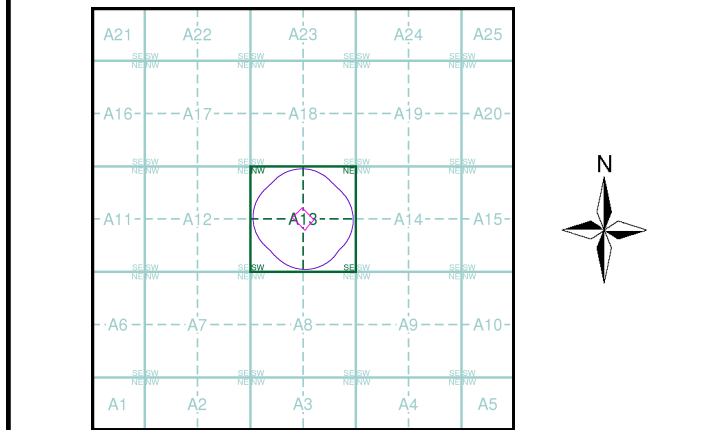
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg



Estimated Soil Chemistry Cadmium - Slice A

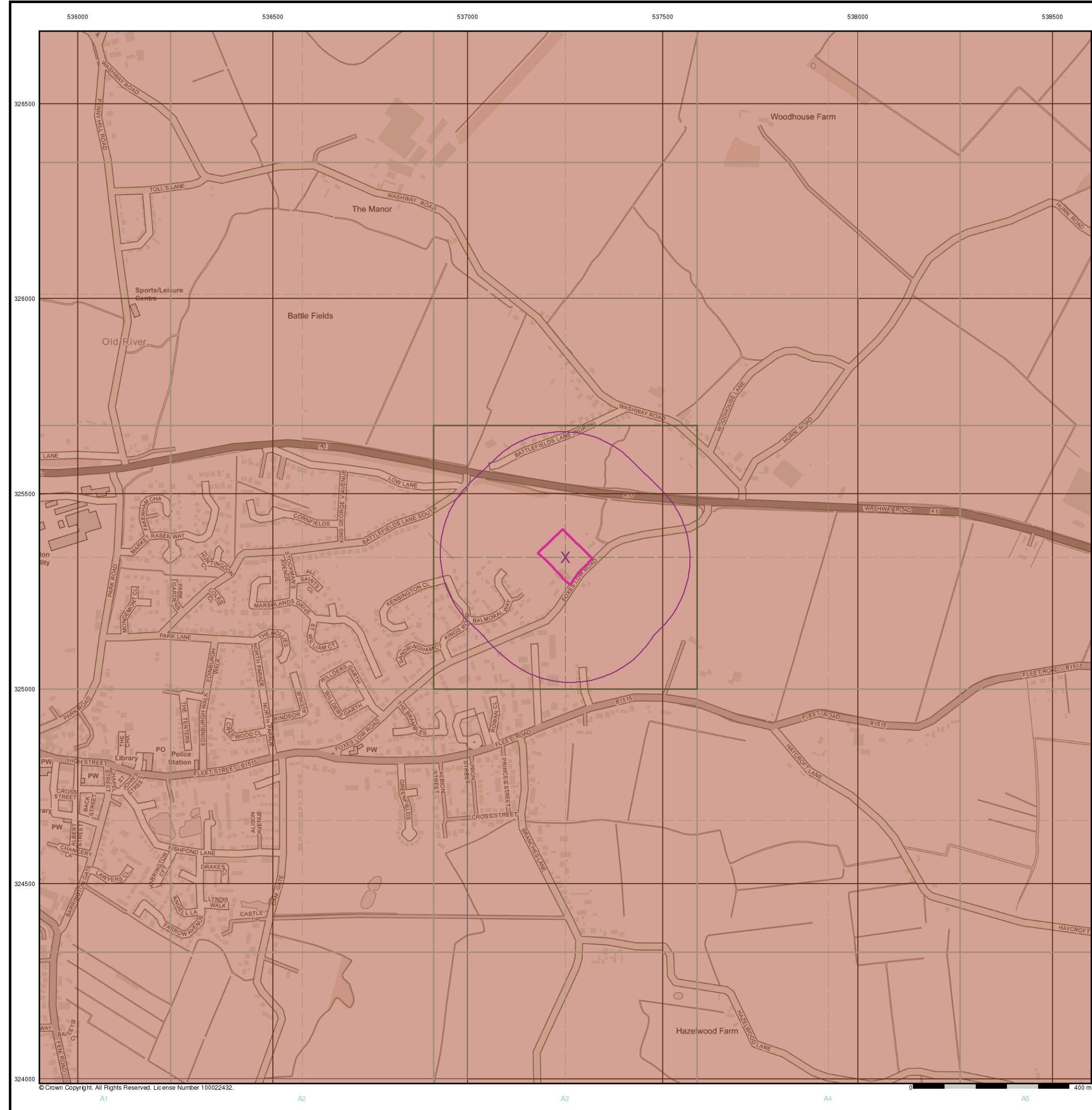


Order Details

Order Details: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

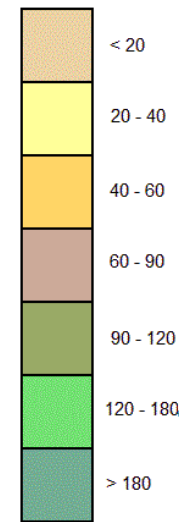


General

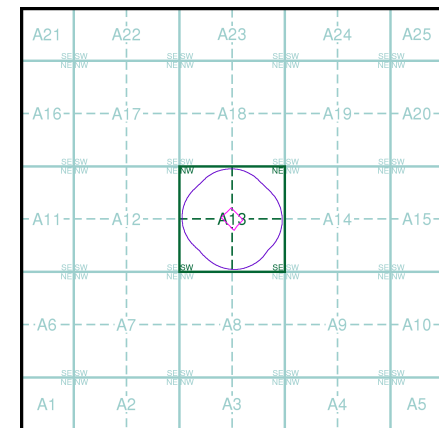
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A



Order Details

Order Details:

191394219_1_1

Customer Ref:

D37179

National Grid Reference:

537250, 325340

Slice:

A

Site Area (Ha):

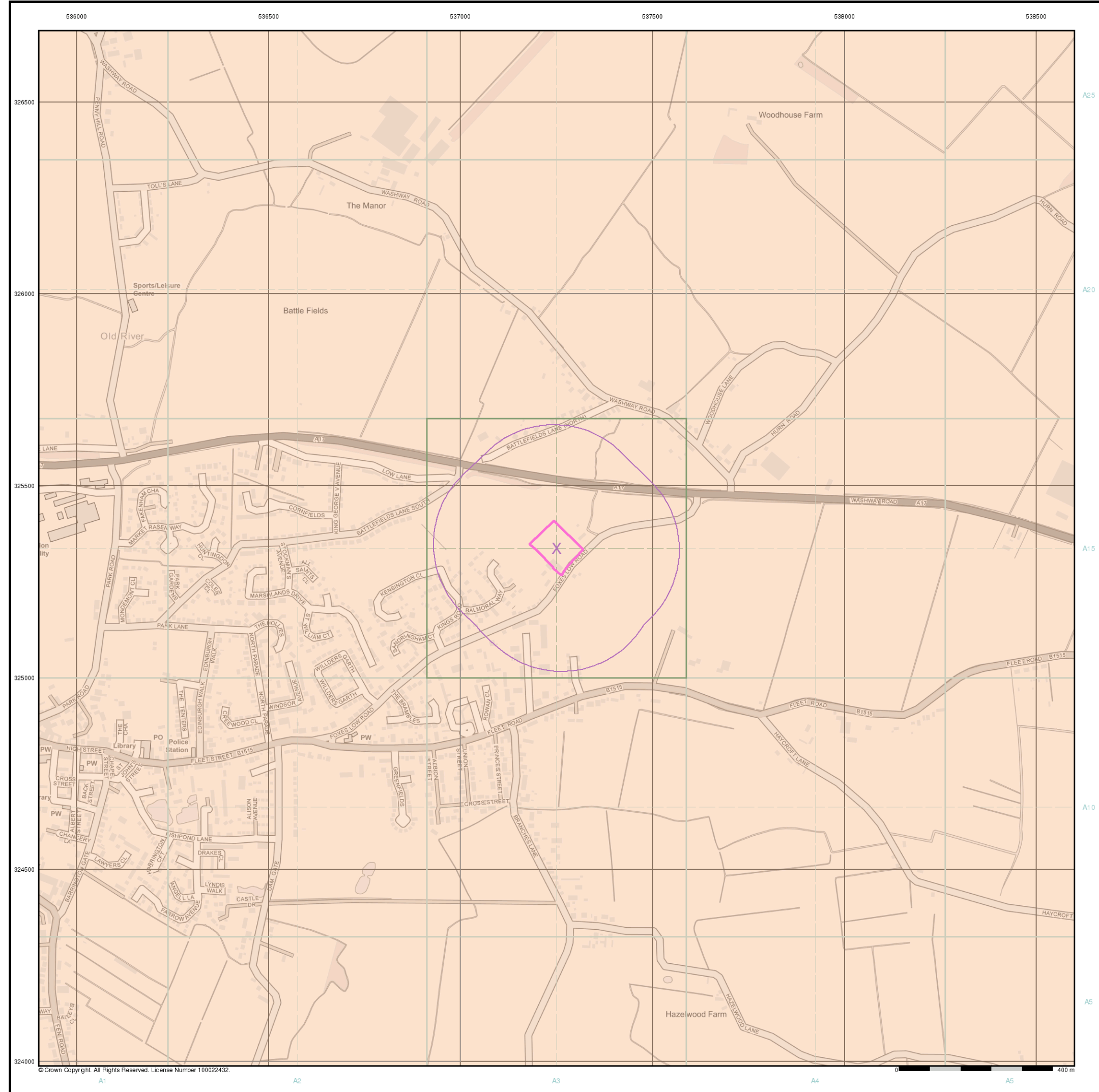
0.97

Search Buffer (m):

250

Site Details

Foxes Lowe Road, Holbeach



Envirocheck®

● LANDMARK INFORMATION GROUP®

General

📍 Specified Site 📄 Specified Buffer(s) ✕ Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

Orange	<100 mg/kg
Green	100 - 200
Purple	200 - 300
Brown	300 - 600
Blue	600 - 1200
Cyan	>1200

Estimated Soil Chemistry Lead - Slice A

Order Details

Order Details:	191394219_1_1
Customer Ref:	D37179
National Grid Reference:	537250, 325340
Slice:	A
Site Area (Ha):	0.97
Search Buffer (m):	250

Site Details

Foxes Lowe Road, Holbeach

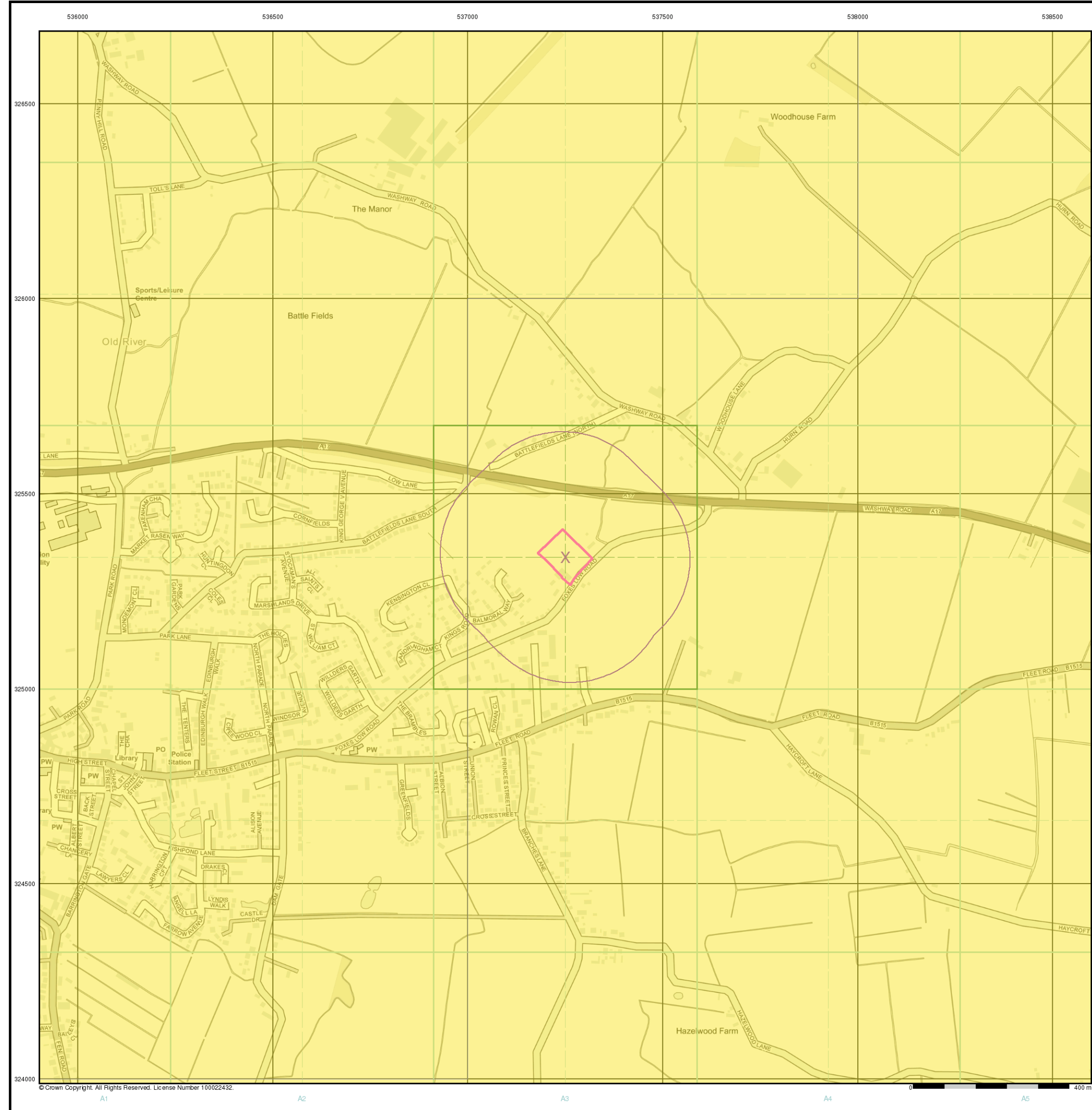
Landmark®

● INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

© Crown Copyright. All Rights Reserved. License Number 100022432.

A Landmark Information Group Service v50.0 17-Jan-2019 Page 4 of 5



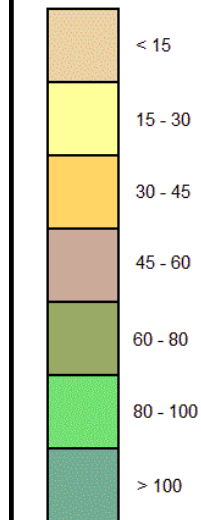
© Crown Copyright. All Rights Reserved. License Number 100022432.

General

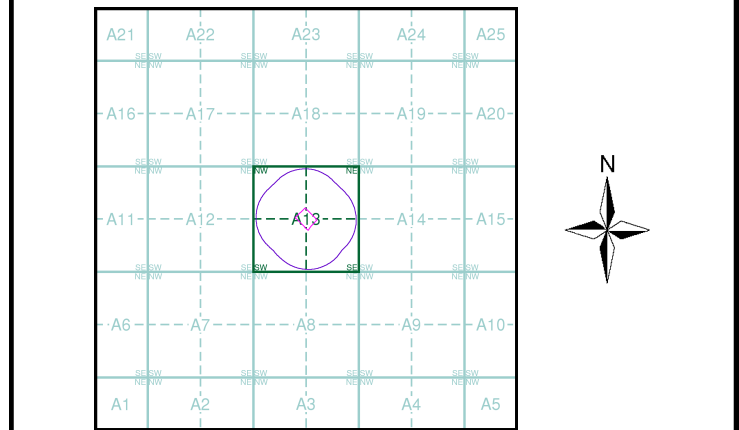
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details: 191394219_1_1
Customer Ref: D37179
National Grid Reference: 537250, 325340
Slice: A
Site Area (Ha): 0.97
Search Buffer (m): 250

Site Details

Foxes Lowe Road, Holbeach

APPENDIX G

Conditions & Limitations



Standard Conditions & Limitations For Ground Investigation Works

Floor 4
24 De Montfort Street
Leicester
LE1 7GB
T: 0116 204 7766
info@bsp-consulting.co.uk
www.bsp-consulting.co.uk

Phase I Desk Studies

1. Works undertaken to provide the basis of the Phase I Desk Study report comprise a review of information available from a number of sources/parties (potentially also including the Client) together with a walk over of the site (where applicable and included within the quotation). The opinions given in the Phase I Desk Study are based on the information available from third parties/sources that has been obtained within the available timeframe. BSP Consulting assumes all third party information to be true and correct and therefore cannot accept liability for the accuracy of such information supplied.
2. Should additional information become available that may affect the comments and opinions made within the Phase I Desk Study, BSP Consulting reserves the right to review such information and make modifications to comments/opinions as appropriate.
3. It should be borne in mind that a Phase I Desk Study collates available information to generate a conceptual model of the site. The actual geotechnical and environmental considerations can only be fully quantified by intrusive investigation works to confirm the accuracy of the conceptual site model.

Phase II Intrusive Investigations

1. Our quotation assumes that access to the site will be arranged by others at no cost to ourselves.
2. We have assumed that free access is available throughout to the entire site and that works can be undertaken during a single mobilisation. Where restricted access is encountered, or where additional unscheduled mobilisations are required, additional costs may be incurred to the client.
3. We have assumed that all available information relating to buried services will be supplied by the Client at no cost to ourselves. No responsibility will be accepted for damage to underground services that have not been brought to our prior attention by the Client.
4. All excavations will be backfilled with compacted arisings upon completion, with any excess arisings left proud of ground levels. Excess arisings will not be removed from the site unless specifically requested by the Client. Where we are requested to remove excess arisings, all associated costs will be passed to the Client.
5. We will attempt to leave the site in a clean and tidy state, however, it must be understood that some disturbance of the site is unavoidable during intrusive works.
6. Exploratory holes are positioned approximately on site by BSP Consulting. Should the client require precise locations of all exploratory points, additional fees will be incurred. It must be borne in mind that backfilled trial pits can create 'soft spots', therefore, should the Client wish to designate 'no dig' zones, for example under the footprint of proposed structures, these must be brought to our attention prior to commencement of works.
7. Groundwater observations relate to conditions encountered at the time of investigation. It must be understood that groundwater levels may vary as a result of recent climatic conditions or seasonal variation.
8. Trial pits and boreholes examine only a small proportion of the total site area. No liability can be accepted for conditions not revealed in exploratory holes, particularly between positions. All extrapolations of available data are given in good faith.

Payment

1. Payment terms are strictly 28 days from the invoice date.
2. Prior to commencement of works, we require receipt of formal written instruction from the Client accepting full financial responsibility for the work.
3. Receipt of instruction to commence work shall be taken as acceptance and compliance of the foregoing conditions.

Liability

1. BSP Consulting offer £5,000,000 Professional Indemnity Insurance (in aggregate over the year). This shall be the limit of our liability for works undertaken. No individual liability shall be implied to, or accepted by, any employee for works undertaken for and on behalf of BSP Consulting.

Managing Director: Eur Ing David Sumner BSc(Hons) MSc CEng FICE MCIHT

Directors: Clive Roddick BSc(Hons) CEng MICE Mark Rayers BSc(Hons) FCILT MCIHT Carl J Hilton MSc BSc(Hons) CEng MIStructE MAPM Paul Elphick BSc(Hons) CEng MICE Jef Todd EngTech TMICE

Associate Directors: Jason Davenport BEng(Hons) MCIHT Tony Goddard BEng (Hons) CEng MICE Tim Wilson BEng(Hons) Matthew Viggars MEng(Hons) CEng MICE

Associates: Paul Whittingham BEng(Hons) CEng MIStructE Adam Hancocks MEng (Hons) CEng MIStructE Carol Ell BEng (Hons) CEng MICE Monika Anszperger MEng CEng MIStructE

Consultant: Martin Breakwell BSc(Hons) CEng MICE

Derby Office: 5 Pride Point Drive, Pride Park, Derby, DE24 8BX Leicester Office: Floor 4, 24 De Montfort Street, Leicester LE1 7BG Sheffield Office: Top Floor, Sheffield Studio, Vincent House, Solly Street, Sheffield S1 4BB
 Breakwell Sumner Partnership Ltd. Registered Office: 12 Oxford Street, Nottingham NG1 5BG. Registered in England and Wales No. 3669014

