BHA CONSULTING
CIVIL - STRUCTURAL - ENVIRONMENTAL

# Phase I (Desk Study)
# Ground Contamination Report

Residential development comprising five dwellings, each with private outside areas and car parking

Land Adjacent to College Farm House,

Wyverstone,

Suffolk

David Black & Son Ltd.

February 2024 – Version 3




CIVIL - STRUCTURAL - ENVIRONMENTAL - ENGINEERING CONSULTANTS

PRE-PLANNING & DEVELOPMENT ADVICE – DETAILED DESIGN – PROFESSIONAL SERVICES

30 CONNAUGHT ROAD, ATTLEBOROUGH, NR17 2JW

TEL. 01953 456806 EMAIL office@b-h-a-consulting.co.uk

DIRECTORS: Andrew Westby BEng(Hons) CEng MICE MIStructE Kay Elvy BSc(Hons) IEng MICE

# Document Control Sheet

| | |
|---|---|
| Project Name: | Land adjacent to College Farm House, College Road, Wyverstone, Suffolk, IP14 4SD |
| Client: | David Black and Son Ltd. |
| Project Reference: | 3760 |
| Report Title: | Phase I (Desk Study) Contamination Report |
| Document Reference: | Version 3 |

| | Name | Position | Date |
|---|---|---|---|
| Prepared By: | Gillian Hoy BSc (Hons) MSc FGS<br>gillian.hoy@b-h-a-consulting.co.uk | Principal Geotechnical Engineer | 19 July 2023 |
| Approved By: | Andrew Westby BEng(Hons) CEng MICE MIStructE<br>Andrew.westby@b-h-a-consulting.co.uk | Director | 19 July 2023 |
| For and on behalf of BHA Consulting Ltd | | | |

| Prepared by | Approved by | Version | Description | Date |
|---|---|---|---|---|
| IE | GH | 2 | Updated with revised location and site layout. | 15/01/2024 |
| IE | GH | 3 | Updated with revised site layout. | 15/02/2024 |

**Contents**



# Appendices

# 1 Introduction

1.1 BHA Consulting Ltd (BHA) has been commissioned by David Black & Son Ltd to produce a Phase I (Desk Study) Ground Contamination Report for the development of five dwellings, each with private garden areas, and associated infrastructure on land adjacent to College Farm House, Wyverstone, to be referred to hereafter as 'the Site'.

1.2 A development plan is provided in **Appendix A**.

1.3 This report has been prepared for the benefit of David Black & Son Ltd and the contents should not be relied upon by others without the express written authority of BHA. If any unauthorised third party makes use of this report they do so at their own risk and BHA owe them no duty of care or skill.

1.4 The purpose of this report is to identify, as far as is reasonably possible, the ground conditions beneath the Site and the potential for contamination which might affect Site users and the environment and give rise to legal liability to the Client or prompt regulatory action pursuant to any Environmental Laws, including Part 2A of the Environmental Protection Act 1990.

1.5 The scope of works included a Site walkover survey, review of available information including geological, hydrogeological and hydrological information; a commercially available environmental database, historical plans and previous reports. This information has been used to develop an initial conceptual Site model to consider any potentially complete pollution linkages.

## Limitations

1.6 This document has been prepared for the titled project and should not be relied upon or used for any other project. BHA accepts no responsibility or liability for the consequences of this document being used for a purpose other than that for which it was commissioned. The assessments and judgments contained herein should not be relied upon as legal opinion.

1.7 The findings and opinions are relevant to the dates of the Site visit and information review and should not be relied upon to represent conditions at substantially later dates. Conditions at the Site will change over time due to natural variations and may be affected by human activities. The opinions included herein are based on the information obtained from the assessments undertaken at the Site and from our experience. No intrusive investigations have been carried out. If additional information becomes available which may alter our conclusions, we request the opportunity to review the information, reassess the potential concerns and modify our opinion, if warranted.

# 2 The Site & Site History

## Site Location

2.1 The Site is located in a rural location approximately 1.5km south-west of the small village of Wyverstone, and around 10km north of the town of Stowmarket. The Site lies to the north-east of College Farm House, to the west of College Road, and is partially occupied by a barn associated with this residential property. The land surrounding the Site is generally laid to arable farmland, with a small cluster of other residential properties in the vicinity, principally located to the north-east on the opposite side of College Road. See **Figures 1.1 and 1.2**, below.

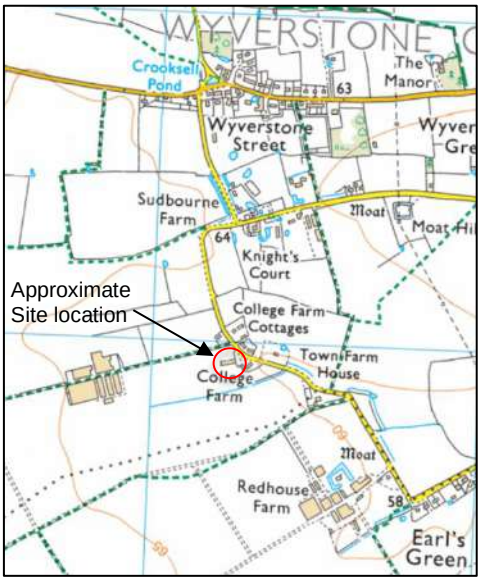



Figure 2.1: Site Location Plan

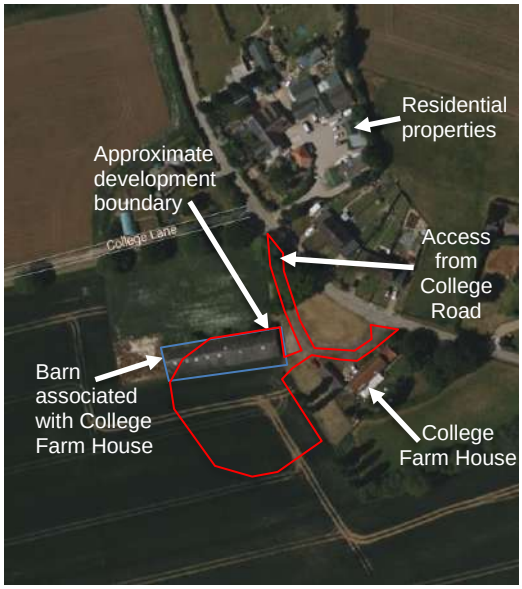



Figure 2.2: Site Location Plan: Aerial View

## Site Walkover

2.2 A Site walkover was undertaken on 17th December 2021 to identify potential contamination sources both within the Site curtilage, and in the immediate vicinity, resulting from the current and previous use of the Site.

2.3 The generally level site is predominately arable agricultural land with a tree lined border on its eastern edge. The northern area comprises a barn constructed in the years between 1958 and 1979, according to historical mapping.

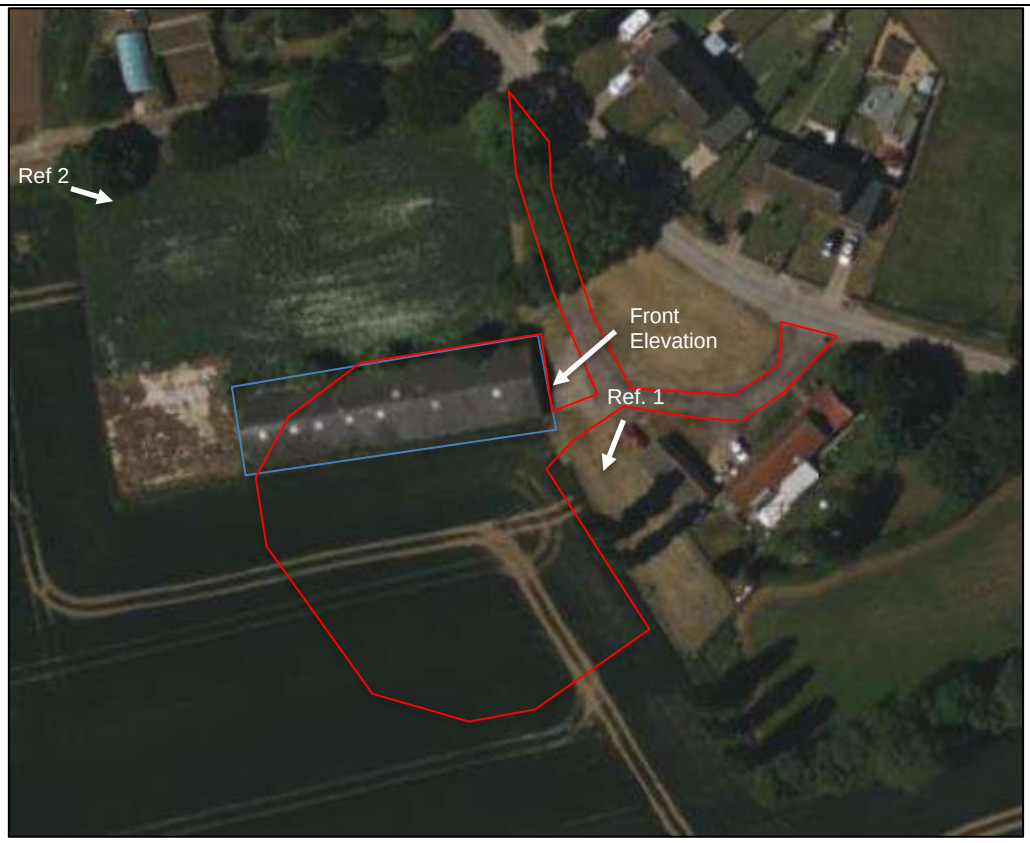
2.4 This barn appears to have originally been used for livestock, with pens provided for this purpose, although latterly appears to have been used for the storage of general agricultural materials and equipment. Most of the internal roof area of the barn is finished with cement bound asbestos liner sheets, including associated cover and fixing strips. The roof liner sheeting remains in a satisfactory condition generally, albeit with some localised impact and other damage.

2.5 Surrounding land is generally agricultural although residential properties are located on the opposite side of College Road to the north east and east, and College Farm House to the east.

2.6 The five dwellings will each have private garden areas and as such the surrounding surface soils were examined. The surrounding soils, close to the barn, comprised occasional fragments of brick and concrete. Fragments of cement bound asbestos were not noted. The presence of made ground will be considered as part of the risk assessment.

2.7 Fuel storage, either in underground or above ground tanks was not noted within the development boundary. Bulk storage of chemicals or chemical residues were not noted, nor were evidence of burnt waste or bonfire remains.

2.8 Site photographs are provided in **Table 2.1** below.





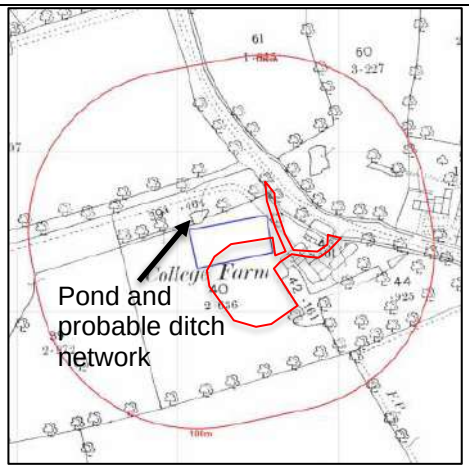
| Map Ref. 1: College Farm House from access driveway, looking south east | Barn front elevation |
|---|---|
|  <br>View of barn left hand side, from barn rear. Brickwork missing. |  <br>Barn left hand side, looking towards College Farm House |
|  <br>Map Ref 2: General view looking north east. | No image |

Table 2.1 Site Images

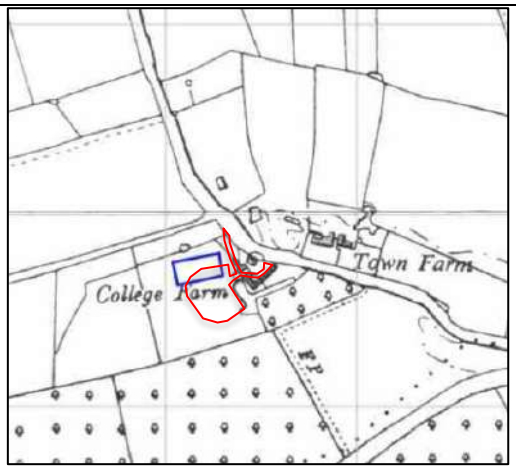
## Site History

2.9 Historical maps were obtained to assist in the desk study (**Appendix B)** and pertinent extracts are shown below in **Table 2.2**. The maps indicate that the barn was built after 1958, but prior to 1979, as part of an already well-established farm and grounds. The mapping indicates an off site pond, and probable ditch network, were present to the north until the 1979-1980 map extract. The infilling of the pond will be considered as part of the risk assessment.

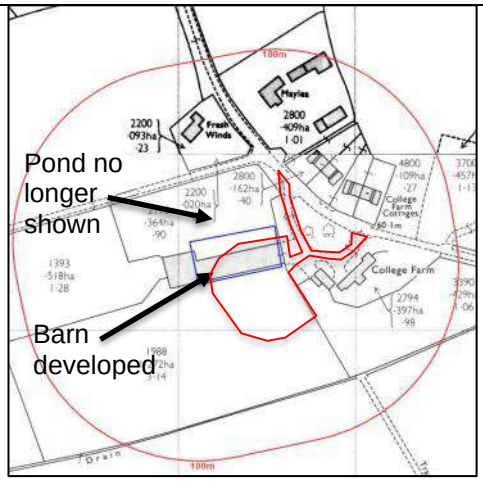
2.10 A small area of housing was developed to the north east between 1958 and 1979. There are no other significant changes.



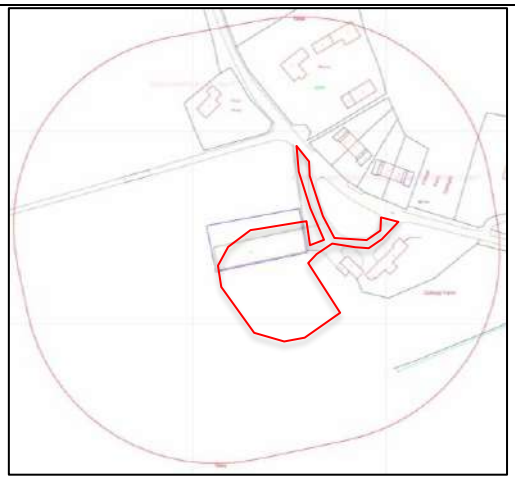

1884




1958




1979-1980



2003

Table 2.2: Historical Map Extracts

## Review of Previous Site Investigations

2.11 BHA is not aware of any previous site investigations that have been undertaken on the Site.

# 3 Environmental Setting

## Geology, Hydrogeology and Groundwater Source Protection Zones

3.1 The British Geological Survey (BGS) website lists the geology underlying the Site as superficial Lowestoft Formation (Diamicton – typical chalky glacial till), overlying bedrock of Crag (Sand).

3.2 The Lowestoft Formation is designated as a Secondary (Undifferentiated) Aquifer, i.e. an aquifer with variable permeability. The Crag is designated as a Principal Aquifer, i.e. an aquifer that usually provides a high level of water storage and may support water supply and/or river base flow on a strategic scale. At this location the Crag is designated as a Source Protection Zone 3 i.e. the total catchment area surrounding a drinking water abstraction point. There are no groundwater abstractions within 250m of the Site.

## Hydrology & Surface Water Abstractions

3.3 The Site is not directly connected to the wider watercourse network; however, a narrow surface water feature (with a width below 5m) runs to the south east, within 250m of the site. The Site is in the water body catchment of the Dove River. There are no associated surface water abstractions.

## Designated Environmentally Sensitive Sites

3.4 There are no designated Environmentally Sensitive Sites within 250m of the site boundary.

# 4 Land Use Data

## General

4.1 Information provided by the Environment Agency and Local Authorities, provided as part of the Environmental Data Pack (**Appendix C**) for environmental permits, incidents and registers (within 250m of the Site boundary) include:

## Historical and Current Industrial Data Entries or Environmental Permits

4.2 There are no historical or current industrial data entries listed that are likely to have a significant impact upon the Site.

## Fuel Station Entries

4.3 There are no active or obsolete fuel stations.

# 5 Ground Gases

**Landfill Sites and Registered Waste Treatment Sites**

5.1 There are no registered or historical landfill records or waste treatment sites within a 250m radius of the Site.

**Ground Gases Generated from BGS Made Ground Sources or Potentially Infilled Land (other than registered landfill)**

5.2 The BGS 1:50,000 map does not indicate any engineering made ground close to the Site.

5.3 The historical mapping indicates a pond and probable ditch network were present off site, infilled prior to 1979. However, due to the historical nature of this (40+ years) it is likely that any gassing regime is now complete and this will not be considered further.

5.4 The mapping does not indicate any other recently (<25 years) infilled features such as ponds or pits to be present within the immediate surrounding area that could give rise to ground gases.

**Radon Gas**

5.5 The Site is in a lower probability radon area (less than 1% of homes are above the action level), therefore no protective measures are required with respect to radon gas.

# 6 Conceptual Site Model & Preliminary Environmental Risk Assessment

6.1 In accordance with the Environmental Protection Act 1990, for contaminated land to exist there should be a source of contamination, a receptor where 'significant harm' or 'significant possibility of significant harm' may be caused, or pollution of controlled waters is being or likely to be caused, and a pathway which connects the two. Should any element of this contaminant linkage not be present (or severed) then the land may not be regarded as contaminated land, as defined in Part 2A of the Environmental Protection Act 1990.

6.2 In accordance with the above approach, a conceptual model of the Site has been produced based on the findings of the desk study, which describes the likely sources (including neighbouring land uses and historical activities both on and within 250m of the Site), the pathways associated with the Site and the potential receptors which may be adversely impacted by a pollutant linkage. This information is presented in **Table 6.1** below. The risk rating terms used to describe the risks identified at the site are based on CIRIA C552 (2001) *Contaminated Land Risk Assessment – A Guide to Good Practice* (**Appendix D**).

| Potential Source/s (Contaminants of Concern) | Potential Receptor | Potential Pathway | Potential Pollutant Linkage | Probability of Exposure, consequence, and magnitude of risk |
|---|---|---|---|---|
| Made ground within surface soils as noted during the walkover around the perimeter of the barn and external drainage structures, (generic contaminants, metals & PAHs)<br><br>Fibres from cement bound asbestos roofing materials (asbestos fibres) | Human Health – End Users – Future Residents | Direct contact (ingestion, inhalation or dermal) | From made ground - likely – residents will have contact via private garden areas. **Phase II Site Investigation proposed.**<br><br>From asbestos fibres - likely – residents will have contact via private garden areas. **Phase II Site Investigation proposed.** | Probability: Likely<br>Consequence: Medium<br>Magnitude: **Moderate Risk**<br><br>Probability: Likely<br>Consequence: Severe<br>Magnitude: **High Risk** |
| | | Indirect contact – vapour inhalation | Unlikely – bulk storage of fuels not noted. | Probability: Unlikely<br>Consequence: Medium<br>Magnitude: **Low Risk** |
| | | Hydrocarbon tainting of potable water supply pipes via migration of mobile hydrocarbons | Unlikely – bulk storage of fuels not noted. | Probability: Unlikely<br>Consequence: Medium<br>Magnitude: **Low Risk** |
| | Controlled Waters – Groundwater – The Site lies upon principal and secondary aquifers | Migration of leachable contaminants | Low likelihood – leachable contaminants are likely to be of negligible amounts | Probability: Unlikely<br>Consequence: Moderate<br>Magnitude: **Low Risk** |
| | Controlled Waters – Surface Water | Groundwater migration & runoff to surface waters carrying | Unlikely – leachable contaminants are likely to be of negligible amounts | Probability: Unlikely<br>Consequence: Moderate |

| | | | | |
|---|---|---|---|---|
| | | entrained sediment or leachable contaminants | | Magnitude: **Low Risk** |
| | Buildings, Structures & Services (pH and sulphate attack on buried concrete) | Direct contact and/or leaching (sulphate, pH) | Unlikely – underlying geology not expected to be aggressive | Probability: Unlikely<br>Consequence: Medium<br>Magnitude: **Low Risk** |
| | Ecology – existing trees and landscaping | Plant uptake | Unlikely – no sources identified and no protected ecosystems on or in the vicinity of the Site | Probability: Unlikely<br>Consequence: Mild<br>Magnitude: **Very Low Risk** |
| Ground Gases | Human health – End Users – Residents | Permeation through ground floor and service penetrations into buildings and structures | Unlikely – no sources identified – no protection measures required. | Probability: Unlikely<br>Consequence: Severe<br>Magnitude: **Low Risk** |
| | Flora | Displacement of oxygen from root systems | Unlikely – no sources identified – no protection measures required. | Probability: Unlikely<br>Consequence: Mild<br>Magnitude: **Very Low Risk** |
| Radon | Human Health – End Users – Future Residents | Permeation through ground floor | Unlikely – no sources identified – no protection measures required | Probability: Unlikely<br>Consequence: Medium<br>Magnitude: **Low Risk** |

Table 6.1: Conceptual Site Model and Preliminary Risk Assessment

# 7 Conclusions & Recommendations

## Environmental Conclusions and Recommendations

7.1 It is proposed to develop five new dwellings on land adjacent to College Farm House which will each have private garden areas.

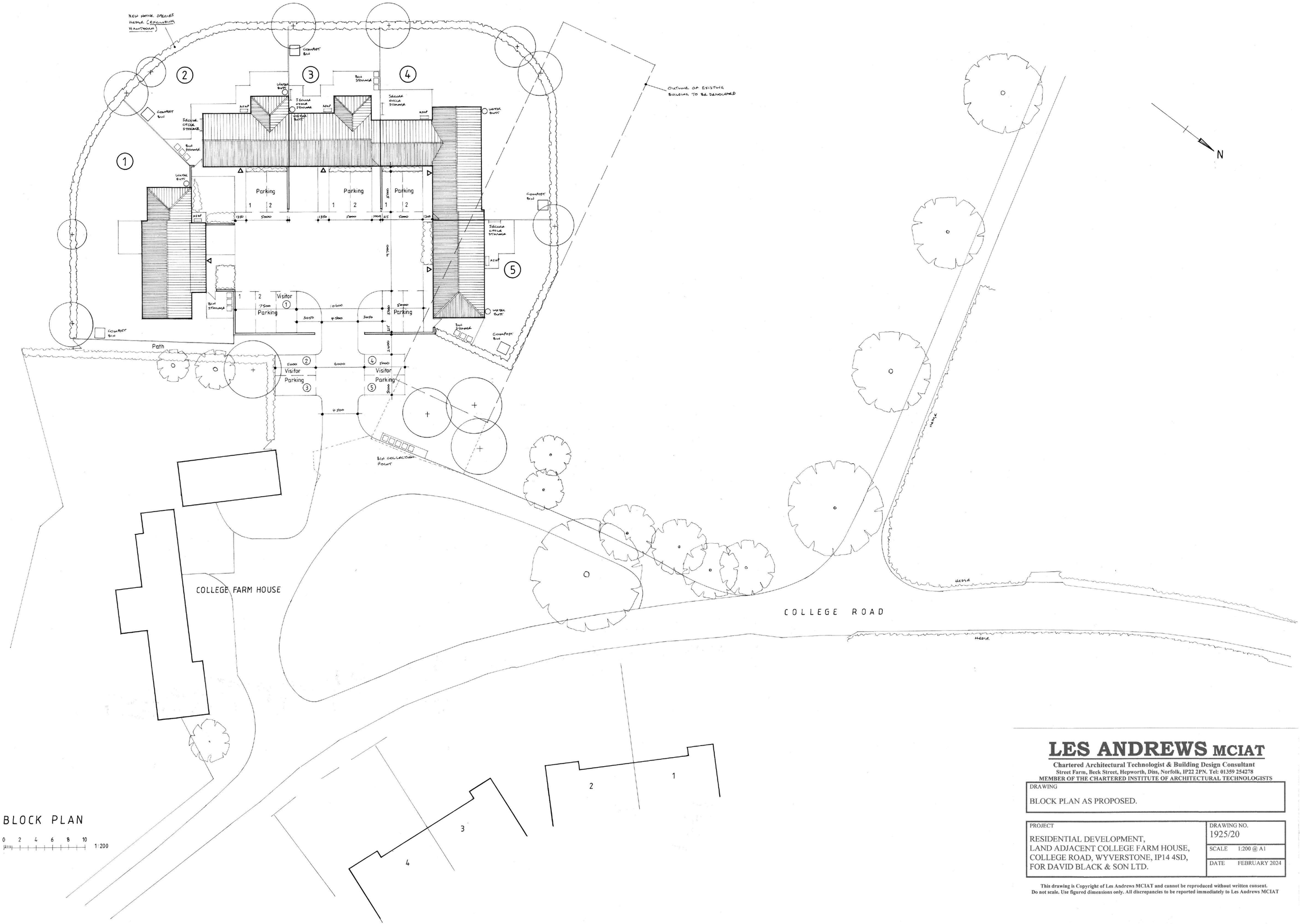
7.2 The Conceptual Site Model and Preliminary Risk Assessment (Table 6.1) has identified that future residents may be at moderate to high risk from generic contaminants within made ground sources and asbestos fibres via direct contact with private garden areas. It is therefore recommended that a Phase II Site Investigation is undertaken to assess the suitability of the ground for a residential end use and establish if any remedial measures are required.

7.3 Ground gases from landfill or recently infilled features have not been identified, therefore, ground gas protection measures in new buildings are not required.

7.4 To facilitate the proposed development, it is recommended that the cement asbestos corrugated sheets are removed and disposed of to an appropriate facility by a licensed and reputable contractor.

7.5 The above recommendations are subject to approval by the LPA.

# Appendix A: Development Plan




BLOCK PLAN

0 2 4 6 8 10 1:200

# LES ANDREWS MCIAT

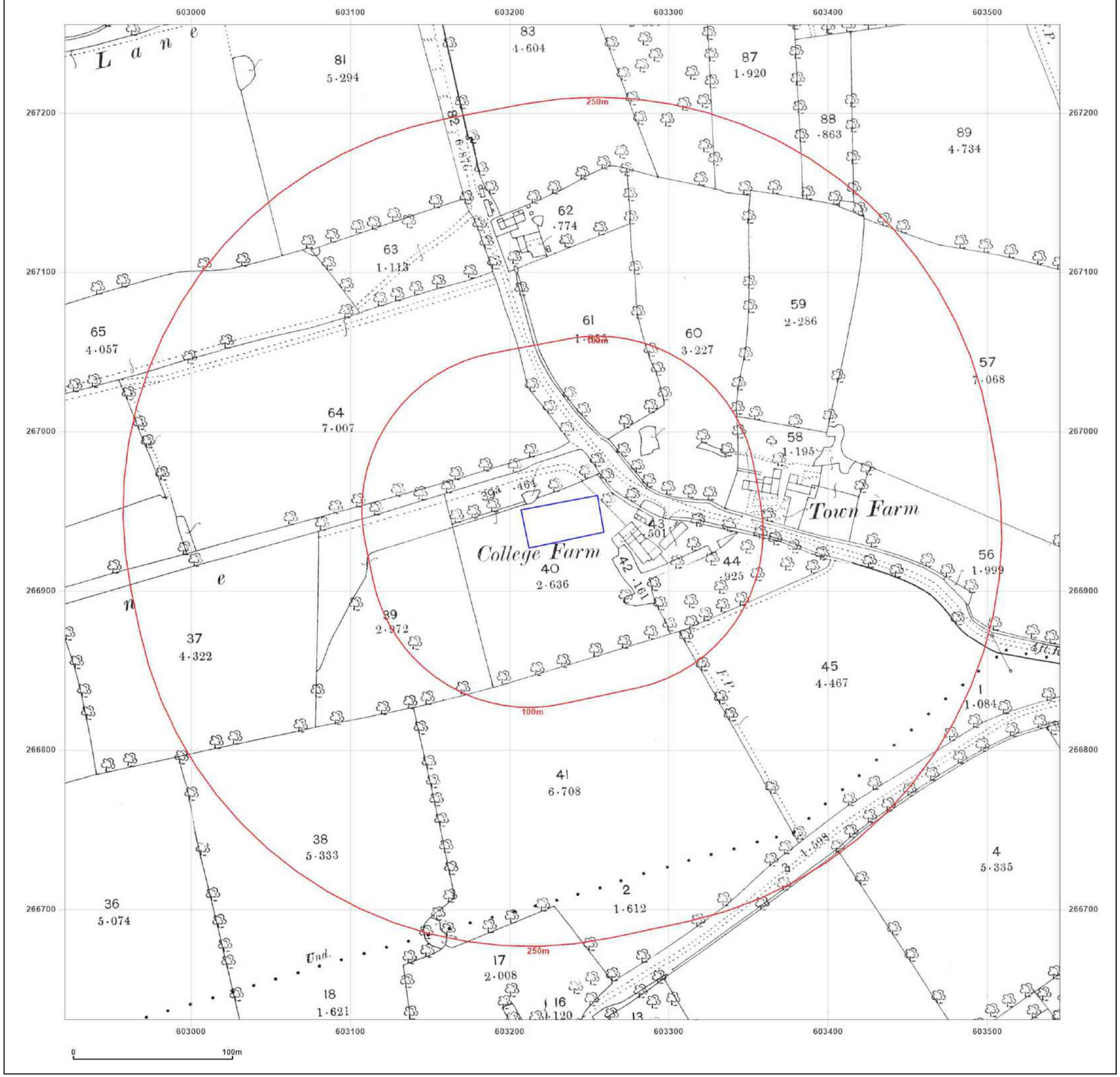
**Chartered Architectural Technologist & Building Design Consultant**
Street Farm, Beck Street, Hepworth, Diss, Norfolk, IP22 2PN. Tel: 01359 254278
**MEMBER OF THE CHARTERED INSTITUTE OF ARCHITECTURAL TECHNOLOGISTS**

DRAWING
BLOCK PLAN AS PROPOSED.

PROJECT
RESIDENTIAL DEVELOPMENT,
LAND ADJACENT COLLEGE FARM HOUSE,
COLLEGE ROAD, WYVERSTONE, IP14 4SD,
FOR DAVID BLACK & SON LTD.

DRAWING NO. 1925/20
SCALE 1:200 @ A1
DATE FEBRUARY 2024

# Appendix B: Historical Maps




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** County Series

**Map date:** **1884**

**Scale:** 1:2,500

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

N
W E
S

Surveyed 1884
Revised 1884
Edition N/A
Copyright N/A
Levelled N/A

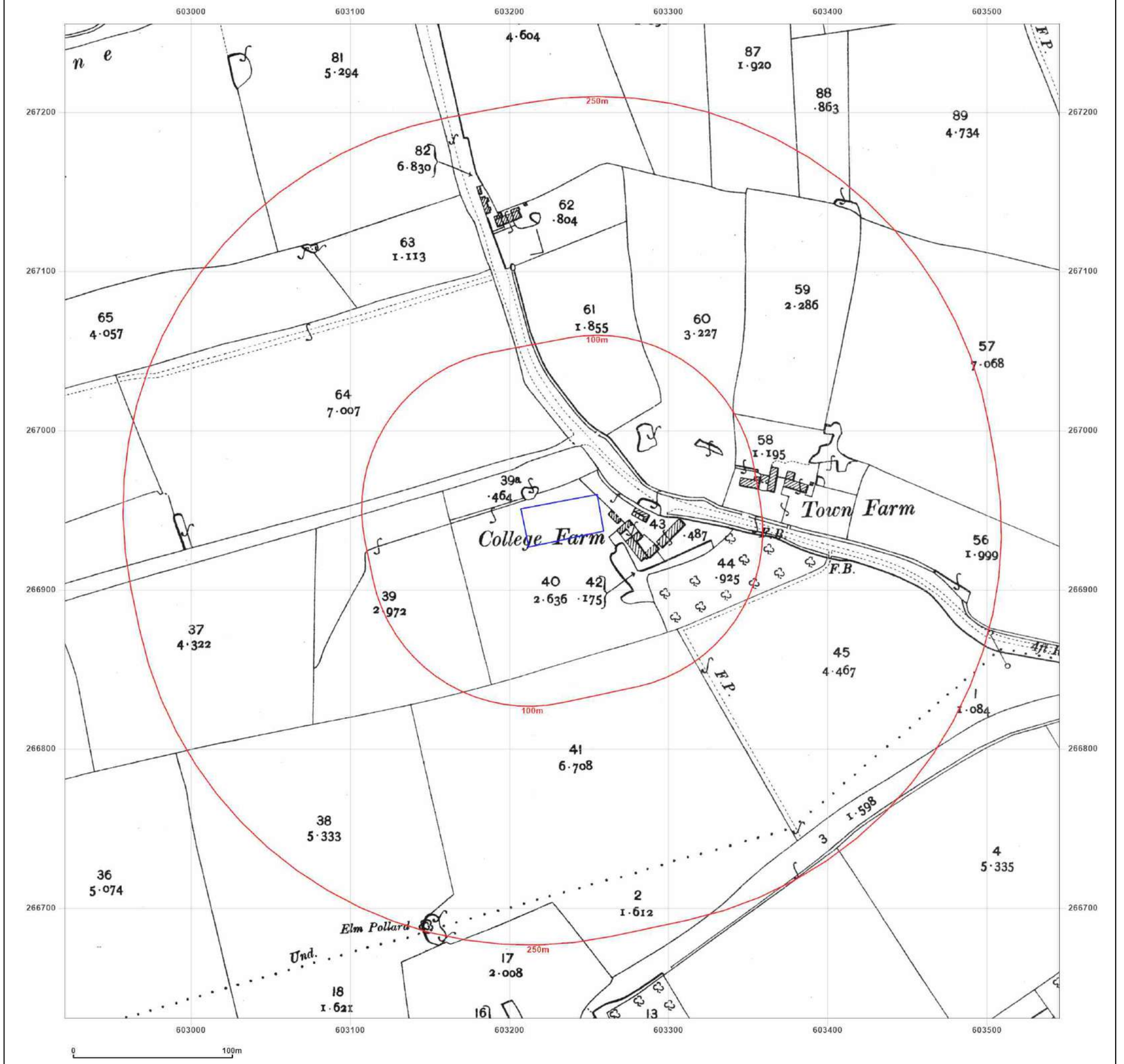
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** County Series

**Map date:** **1903**

**Scale:** 1:2,500

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

N
W E
S

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

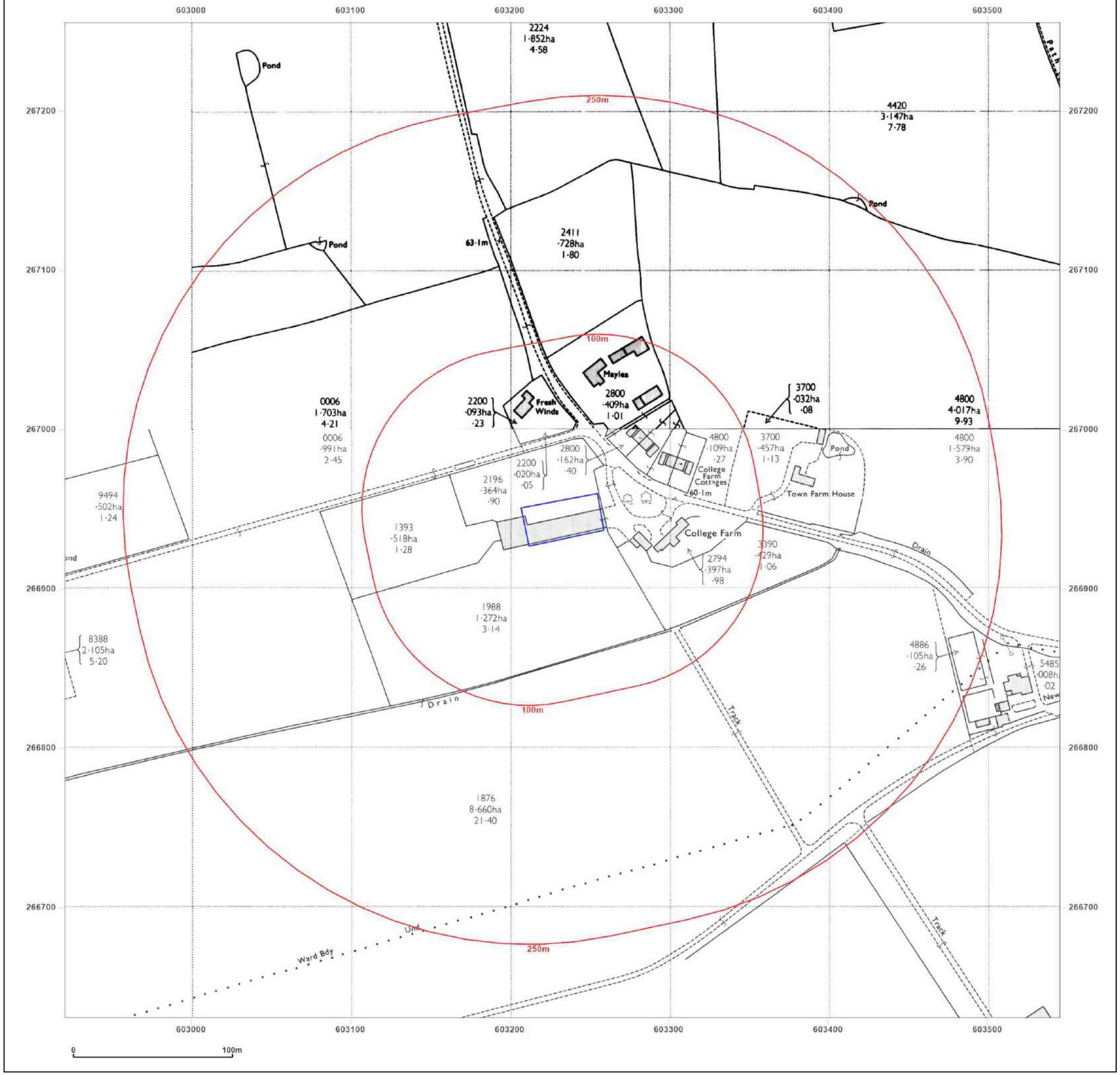
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




# Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

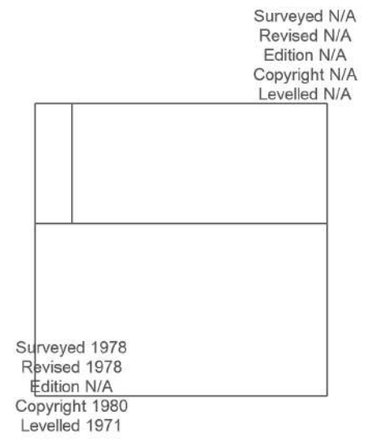
**Map Name:** National Grid

**Map date:** **1979-1980**

**Scale:** 1:2,500

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

N
W E
S




Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf


# Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

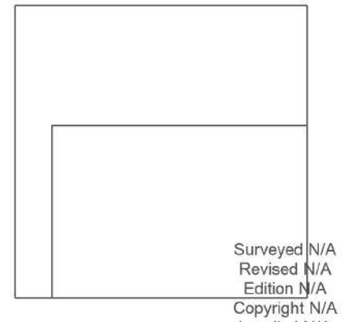
**Map Name:** National Grid

**Map date:** **1980**

**Scale:** 1:2,500

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

N
W E
S



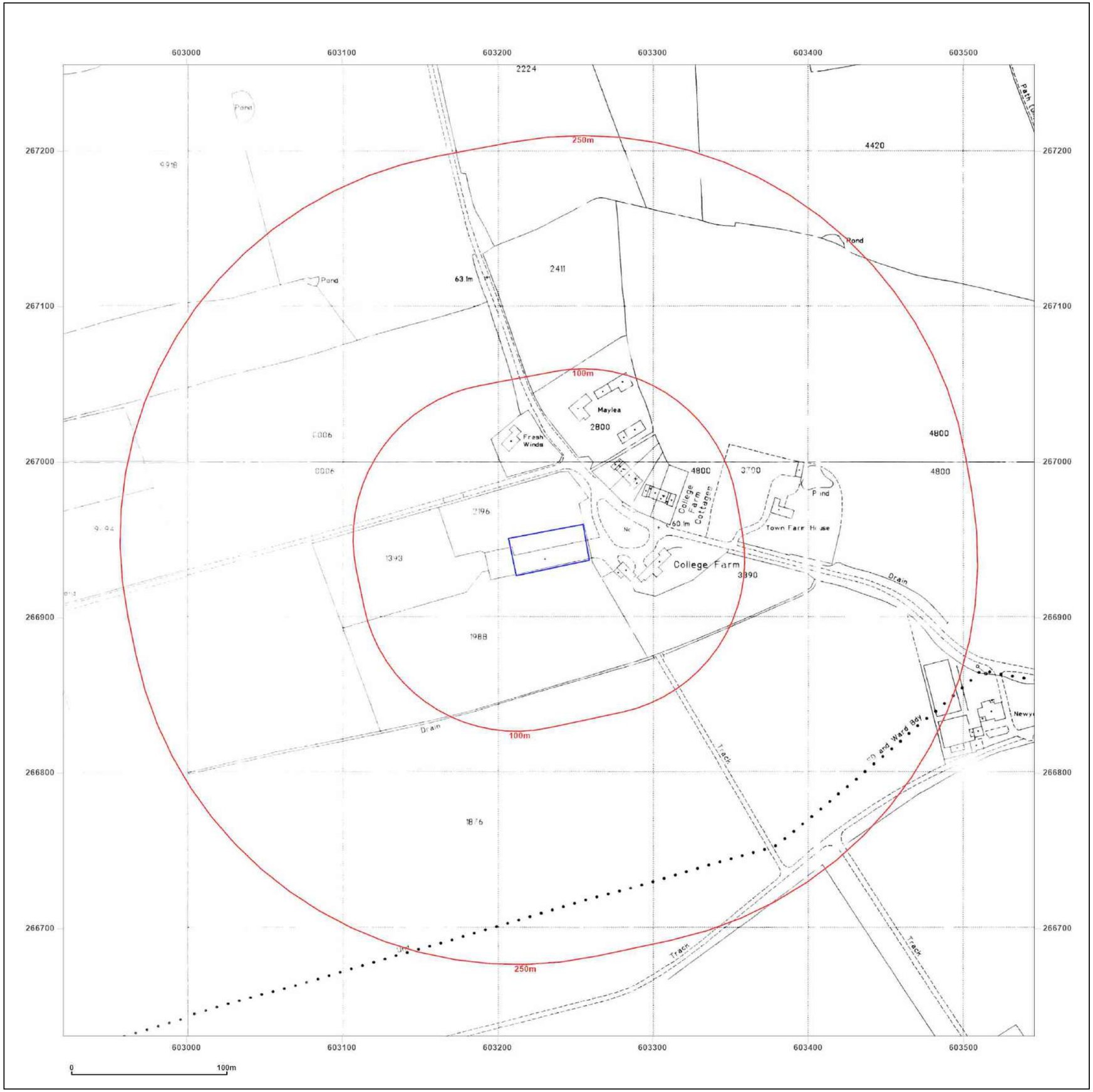

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




# Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** National Grid
**Map date:** **1995**
**Scale:** 1:2,500
**Printed at:** 1:2,500

N
W E
S

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1995
Levelled N/A

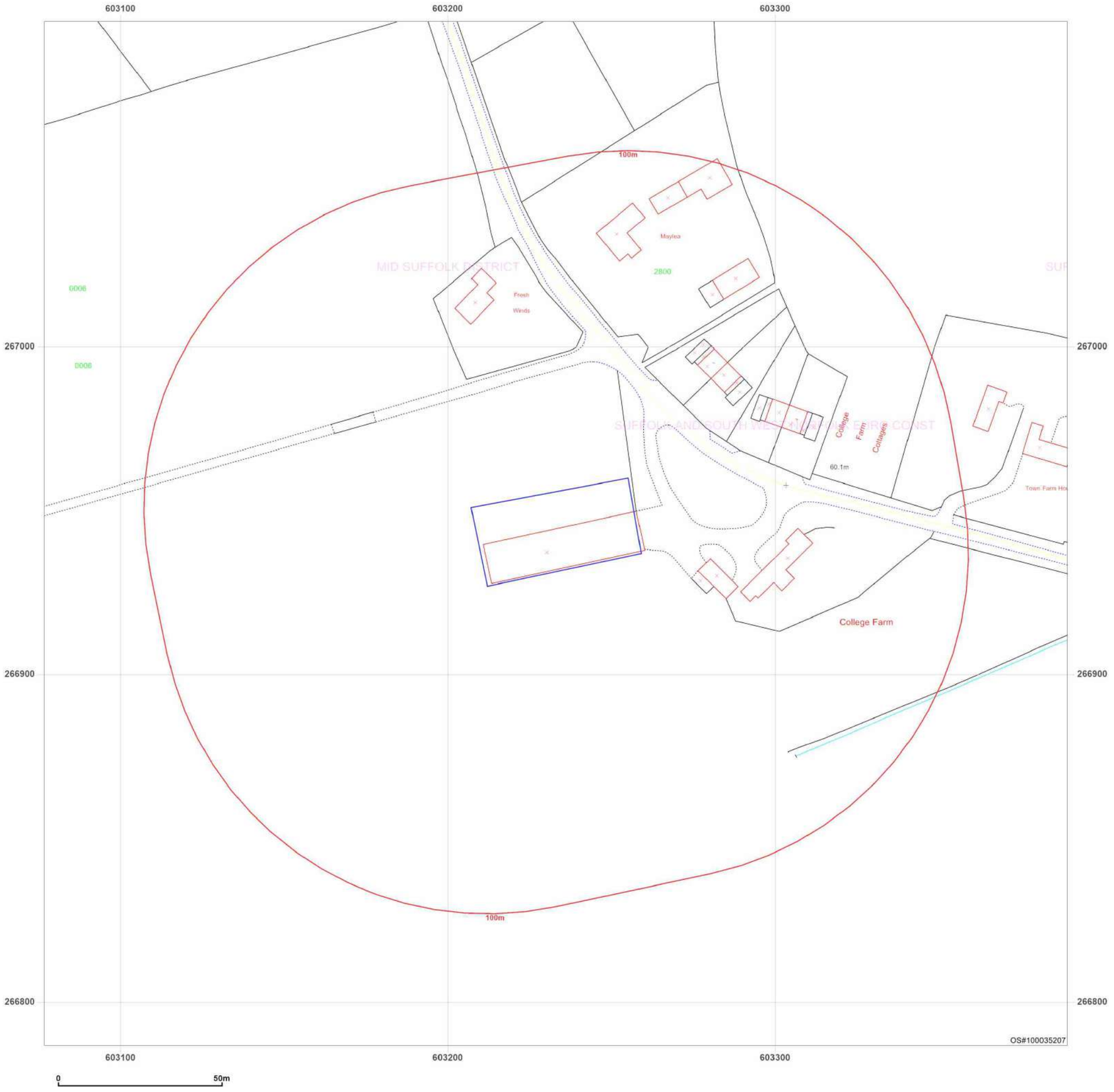
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

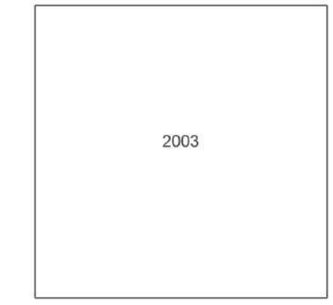
**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** LandLine
**Map date:** **2003**
**Scale:** 1:1,250
**Printed at:** 1:1,250

N
W E
S



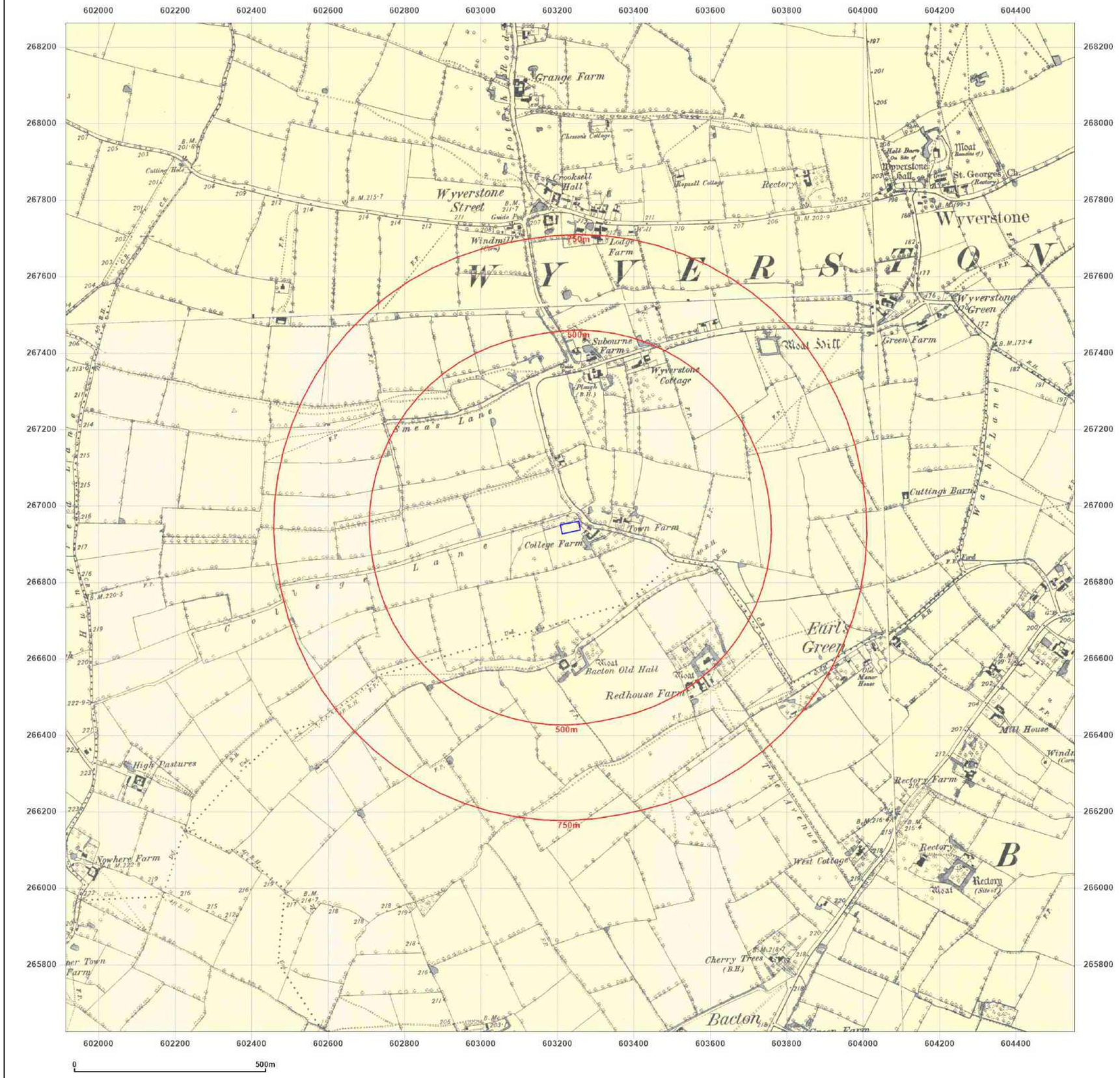

Powered by

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** County Series

**Map date:** **1884**

**Scale:** 1:10,560

**Printed at:** 1:10,560

N
W E
S

Surveyed 1884
Revised 1884
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1884
Revised 1884
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1884
Revised 1884
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1884
Revised 1884
Edition N/A
Copyright N/A
Levelled N/A

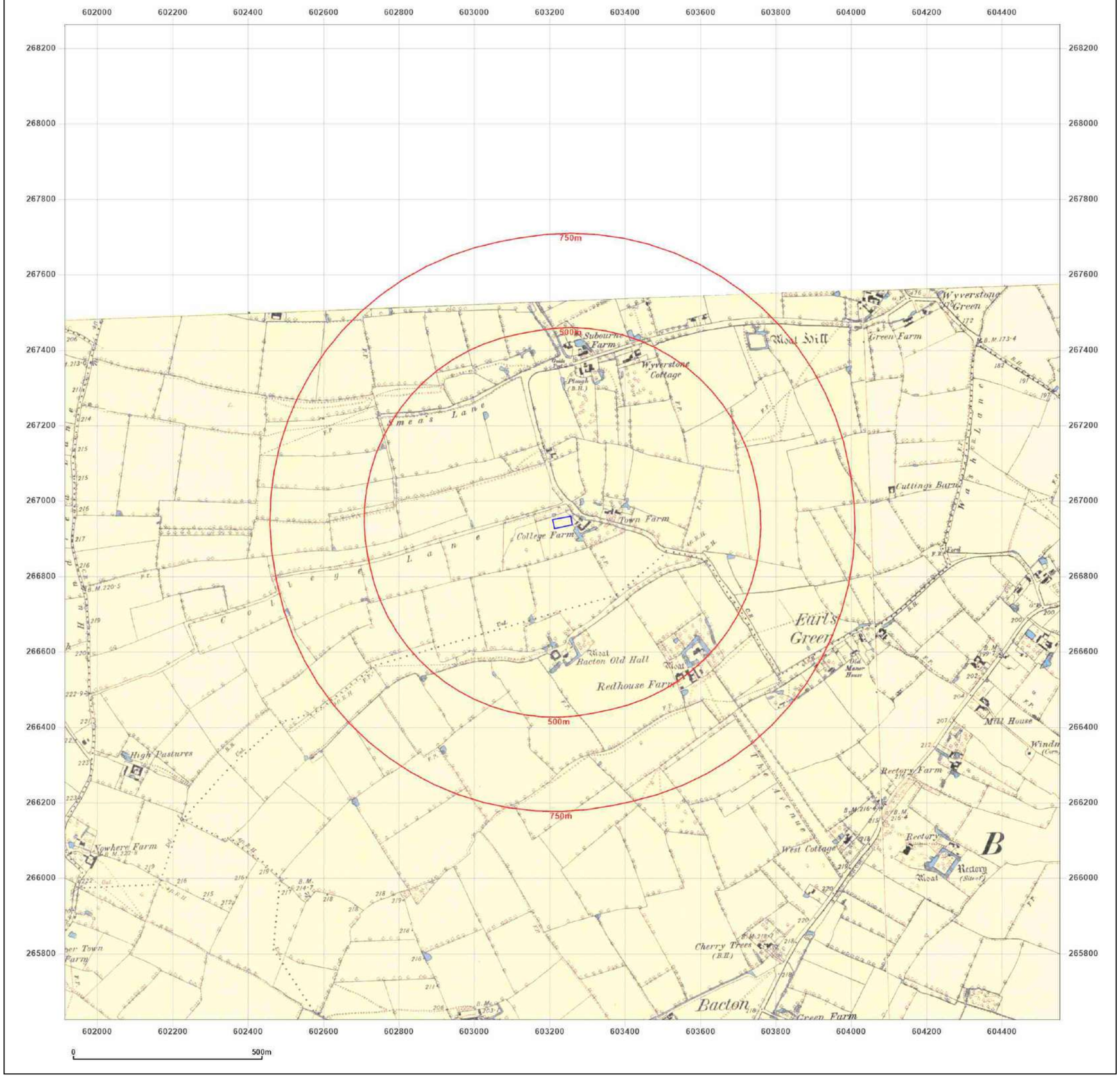
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** County Series

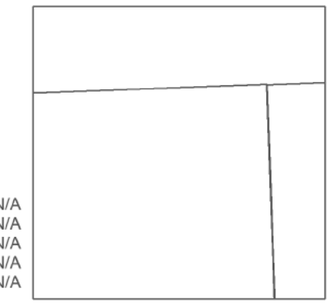
**Map date:** **1888**

**Scale:** 1:10,560

**Printed at:** 1:10,560

N
W E
S

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



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

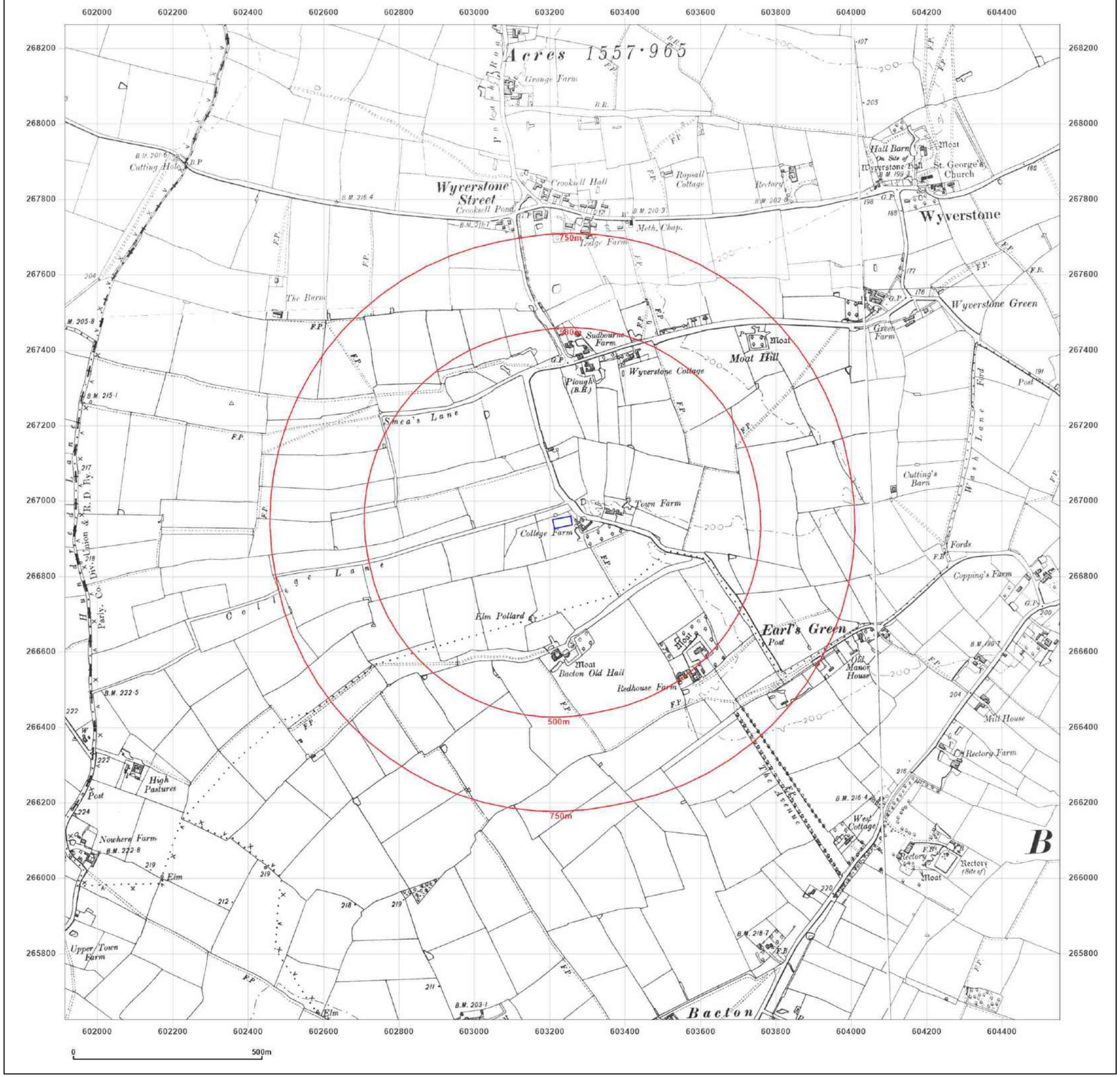
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** County Series
**Map date:** **1903-1905**
**Scale:** 1:10,560
**Printed at:** 1:10,560

N
W E
S

Surveyed 1881
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1884
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1884
Revised 1905
Edition 1905
Copyright N/A
Levelled N/A

Surveyed 1884
Revised 1903
Edition N/A
Copyright N/A
Levelled N/A

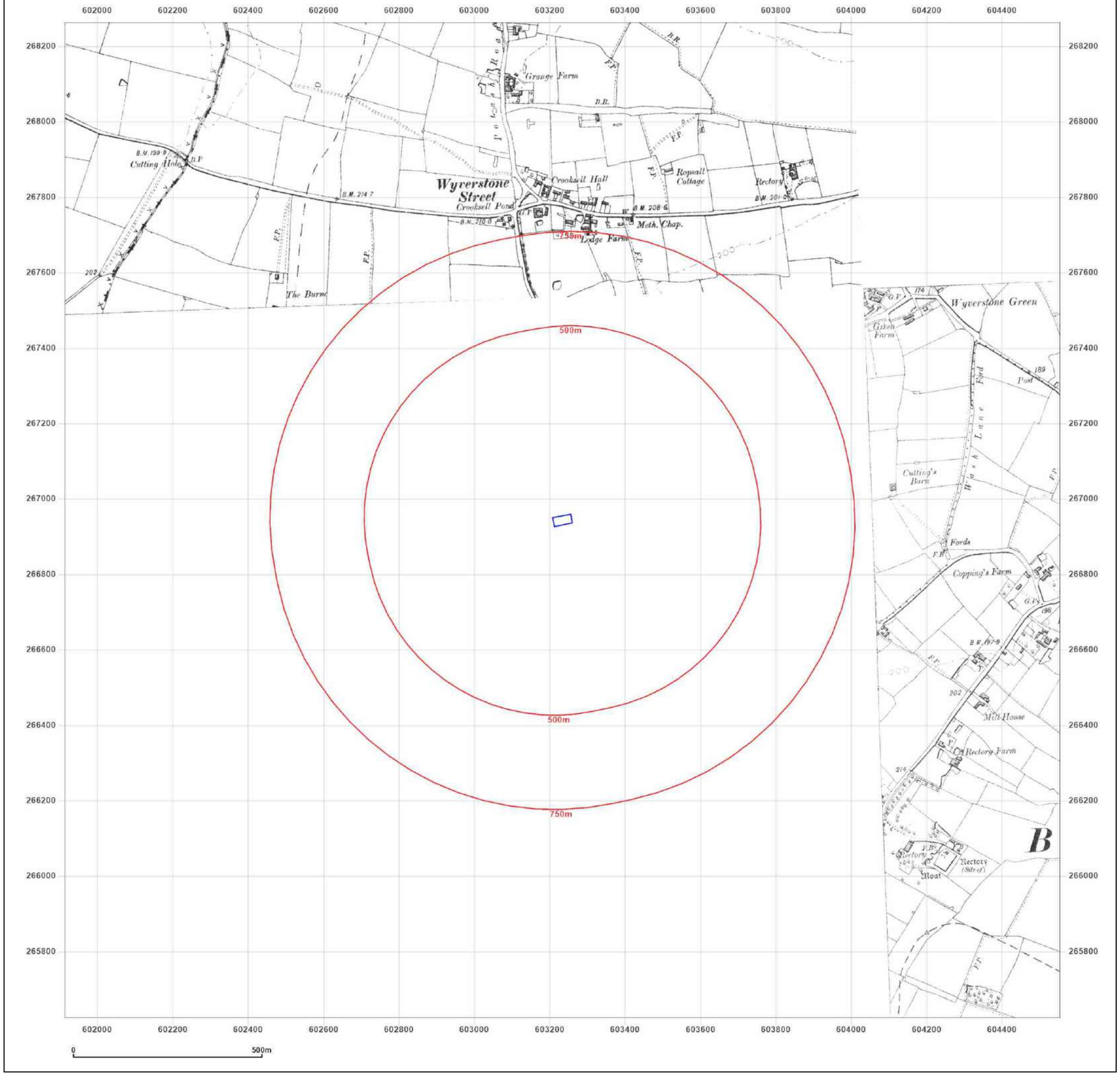
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** County Series

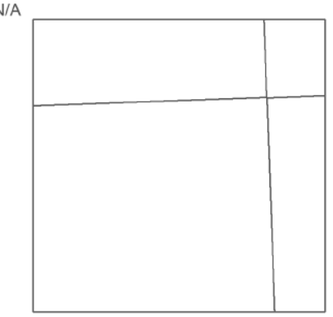
**Map date:** **1905**

**Scale:** 1:10,560

**Printed at:** 1:10,560

N
W E
S

Surveyed 1884
Revised 1905
Edition 1905
Copyright N/A
Levelled N/A



Surveyed 1884
Revised 1905
Edition 1905
Copyright N/A
Levelled N/A

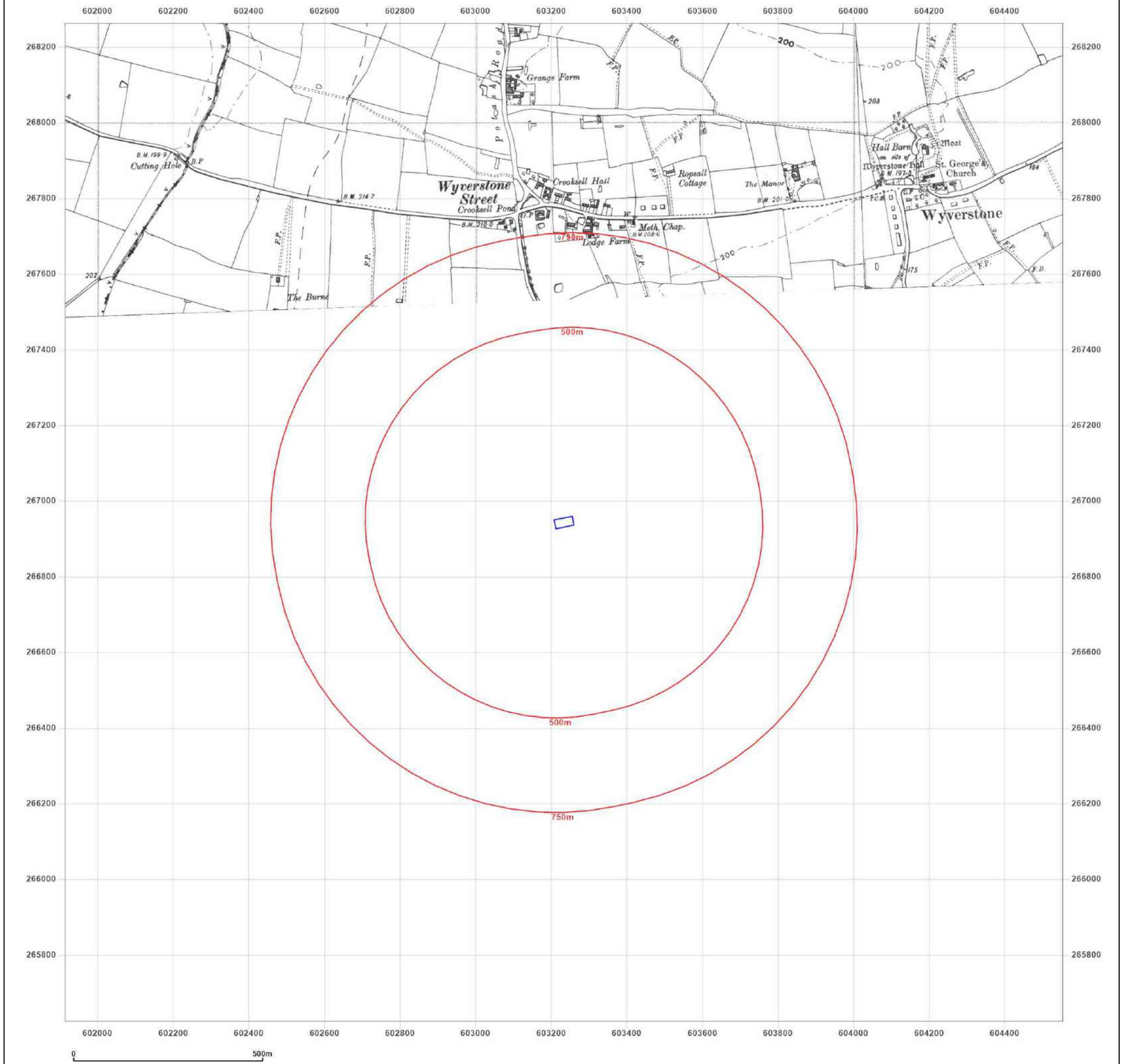
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** County Series

**Map date:** **1950**

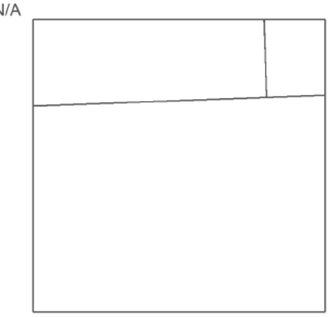
**Scale:** 1:10,560

**Printed at:** 1:10,560

N
W E
S

Surveyed 1884
Revised 1950
Edition N/A
Copyright N/A
Levelled N/A

Surveyed 1884
Revised 1950
Edition N/A
Copyright N/A
Levelled N/A



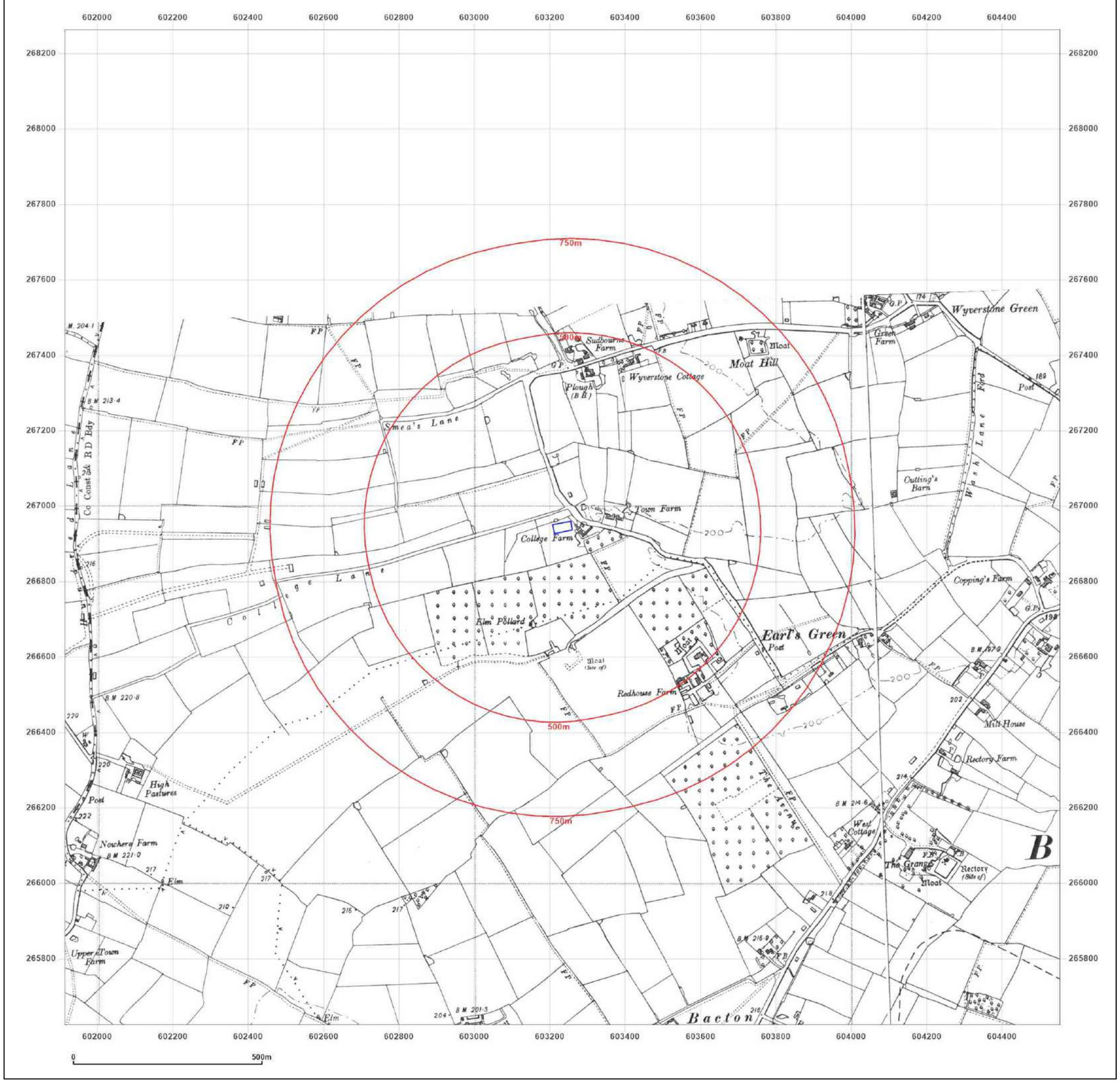
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

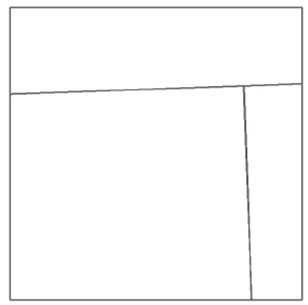
**Map Name:** County Series

**Map date:** **1950**

**Scale:** 1:10,560

**Printed at:** 1:10,560

N
W E
S



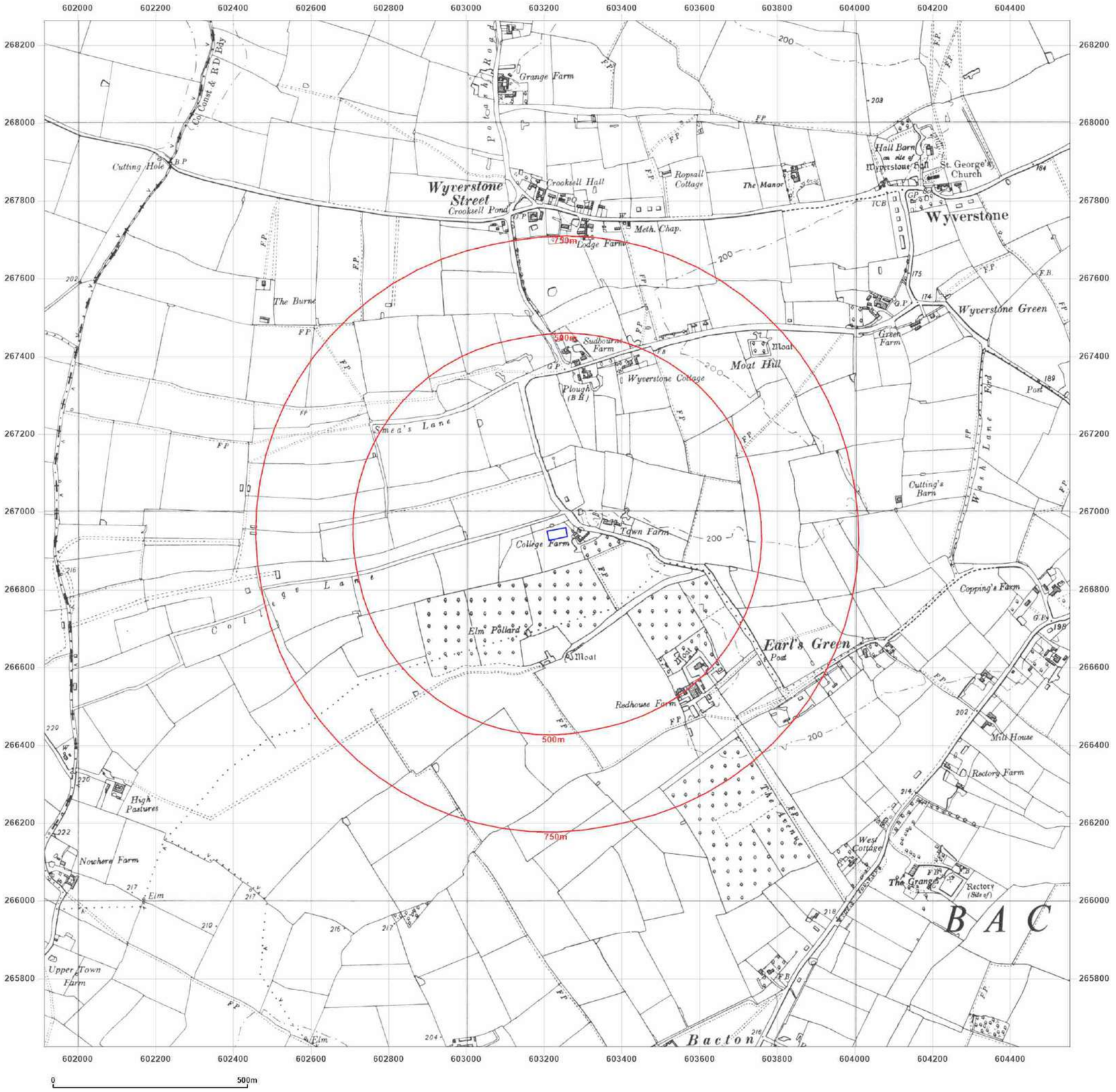

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** Provisional

**Map date:** **1958**

**Scale:** 1:10,560

**Printed at:** 1:10,560

N
W E
S

Surveyed N/A
Revised 1957
Edition N/A
Copyright 1958
Levelled N/A

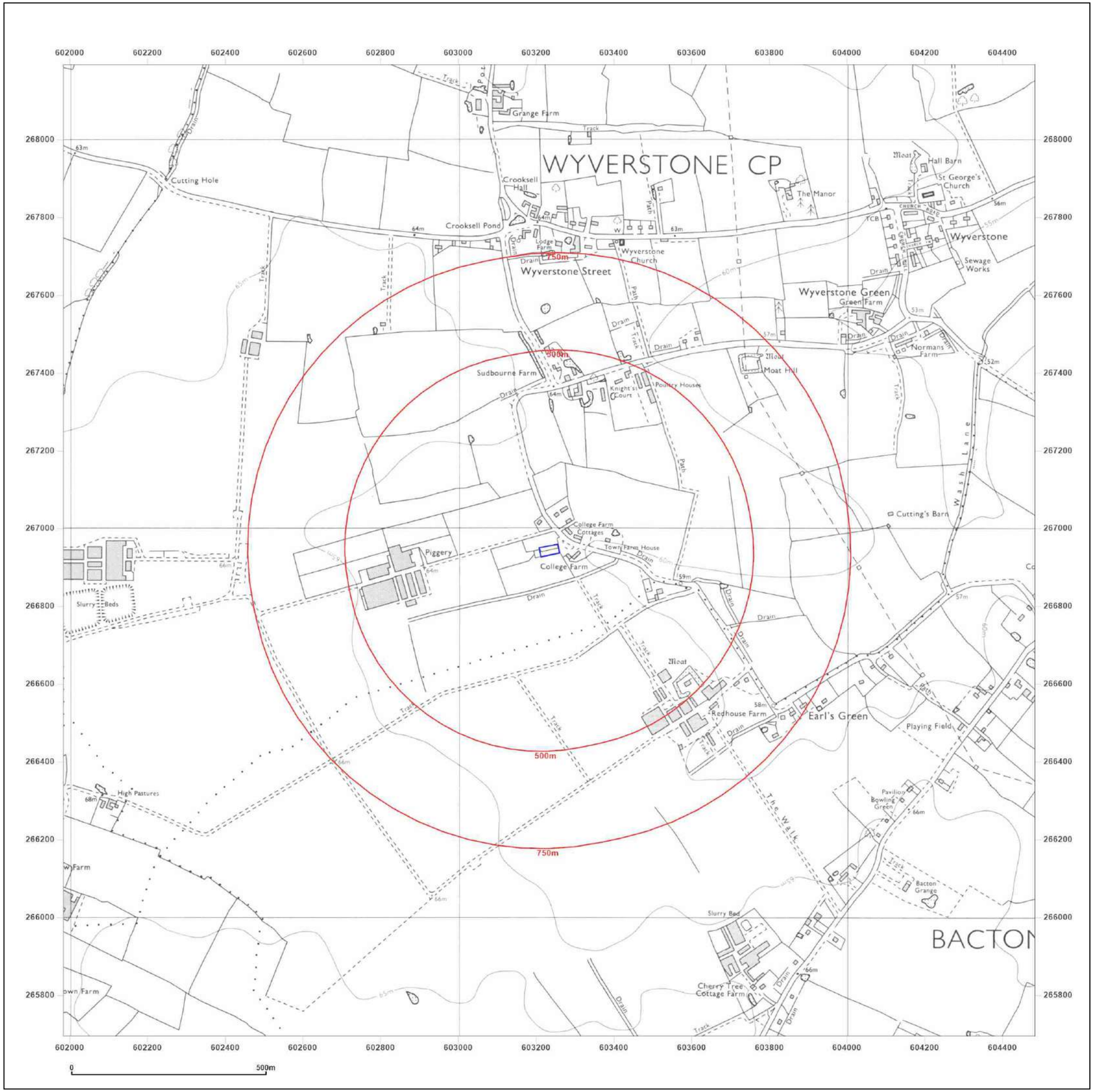
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** National Grid

**Map date:** **1983**

**Scale:** 1:10,000

**Printed at:** 1:10,000

N
W E
S

Surveyed 1980
Revised 1983
Edition N/A
Copyright N/A
Levelled N/A

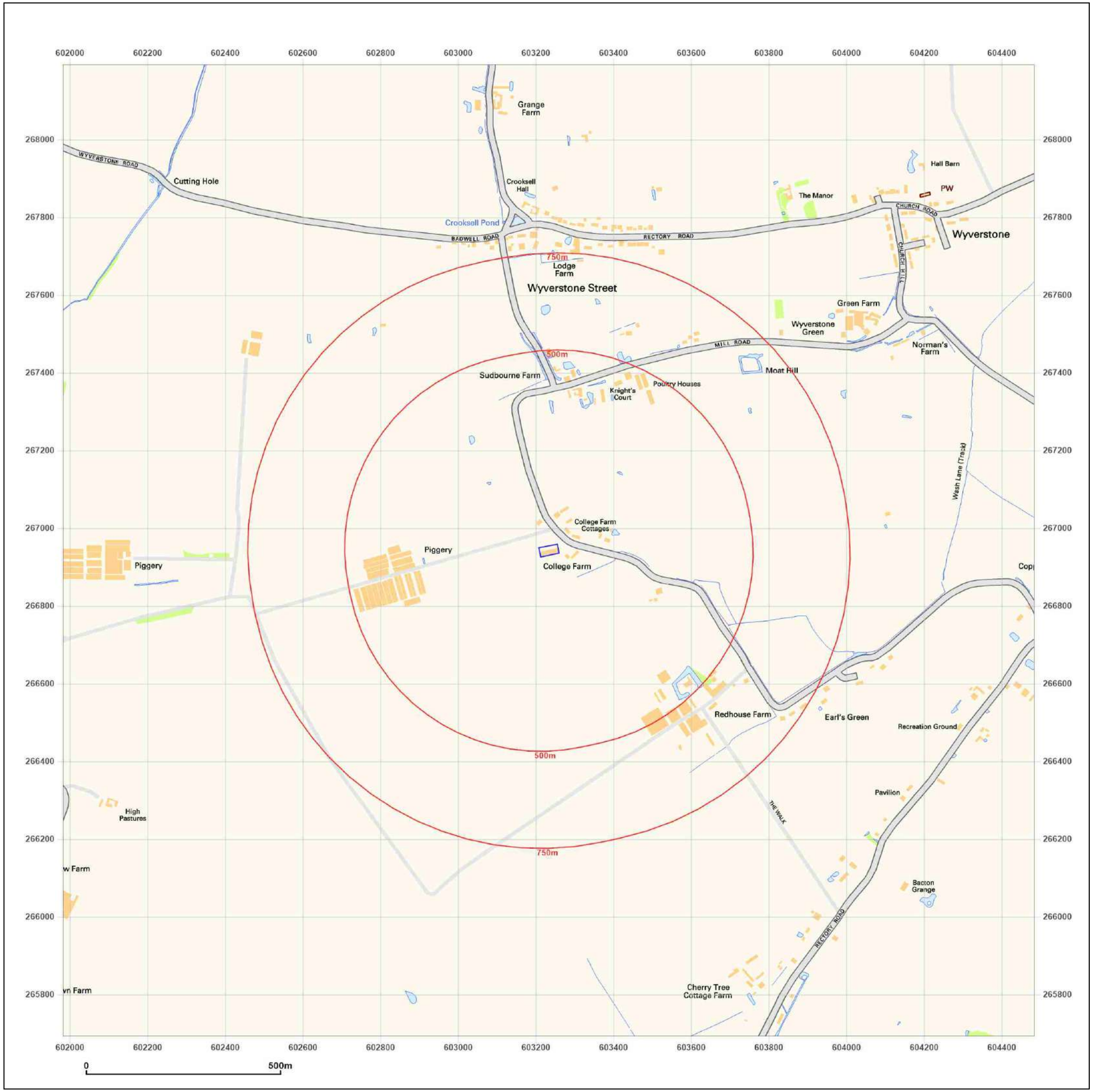
Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

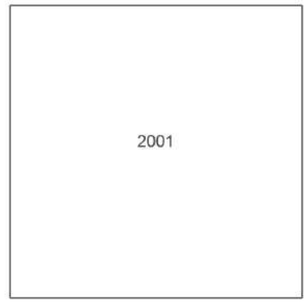
**Map Name:** National Grid

**Map date:** **2001**

**Scale:** 1:10,000

**Printed at:** 1:10,000

N
W E
S



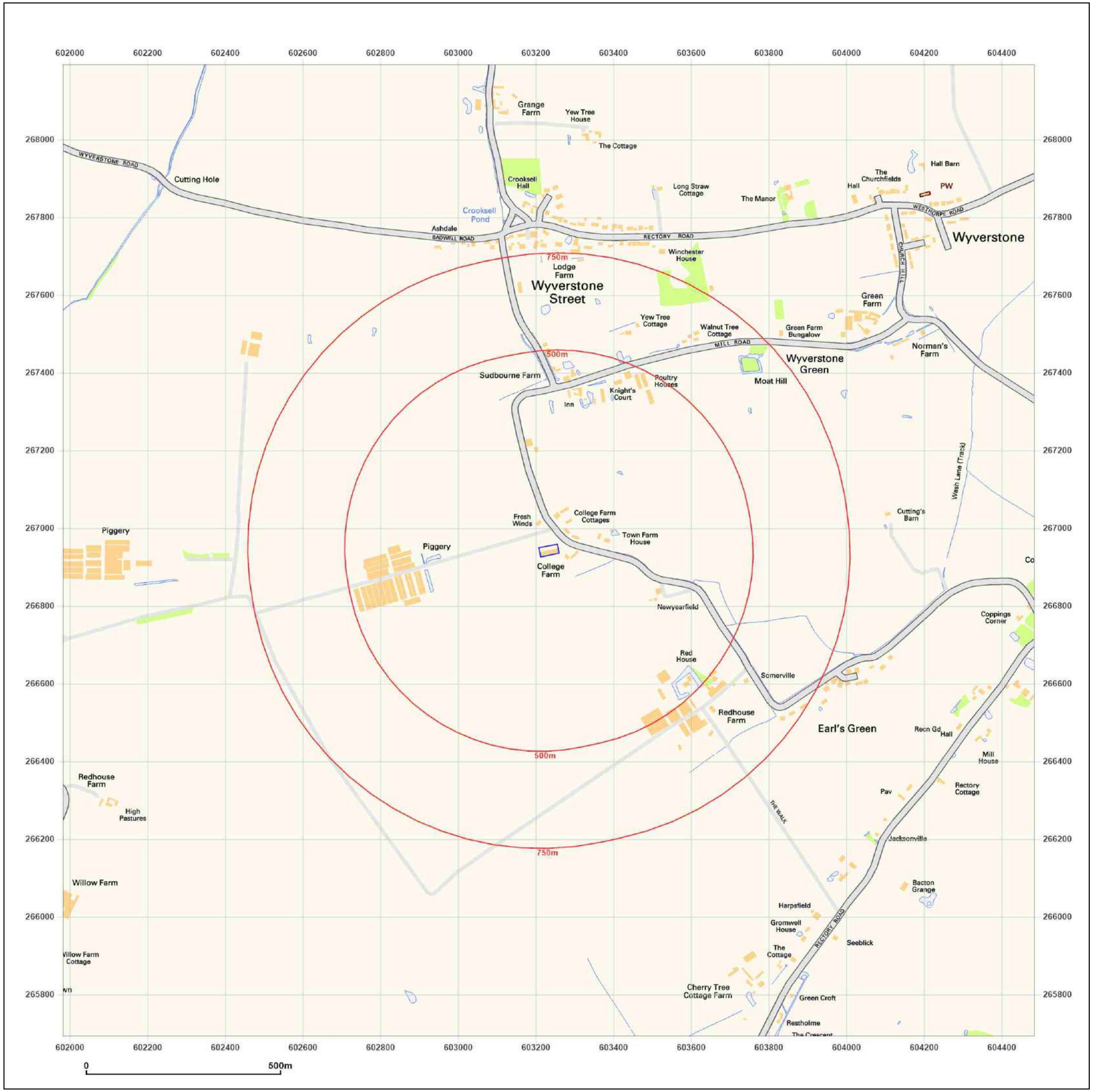

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




# Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

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

N
W E
S

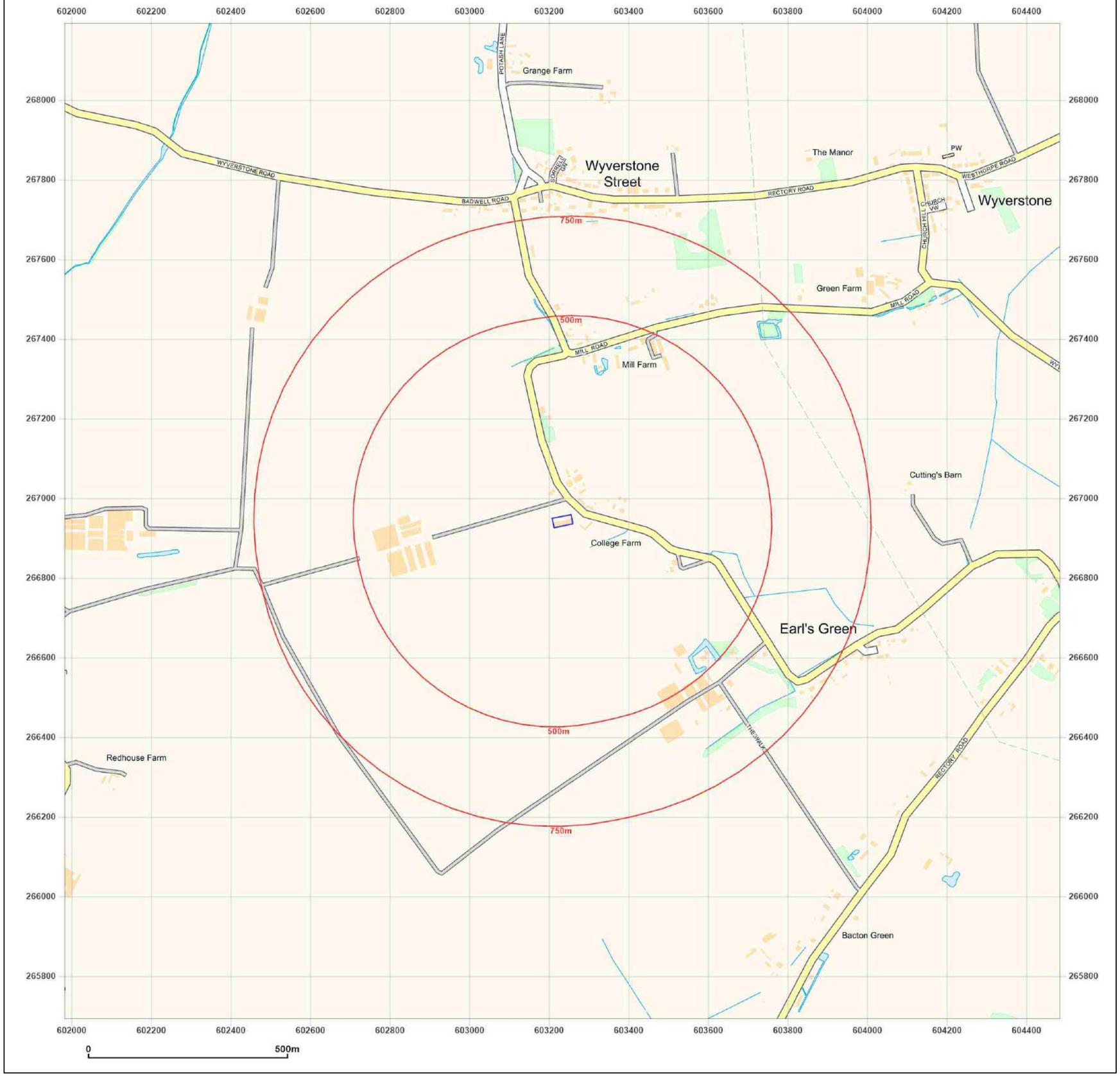
2010

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf




Groundsure INSIGHTS

**Site Details:**

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

**Client Ref:** 22-09-21-GH-3760
**Report Ref:** GS-9068405
**Grid Ref:** 603233, 266943

**Map Name:** National Grid
**Map date:** **2022**
**Scale:** 1:10,000
**Printed at:** 1:10,000

N
W E
S

2022

Powered by OS

Produced by
Groundsure Insights
T: 08444 159000
E: info@groundsure.com
W: www.groundsure.com



Production date: 21 September 2022

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf

# Appendix C: Environmental Data Pack

Groundsure
LOCATION INTELLIGENCE

# Enviro+Geo Insight

BARN ADJACENT TO COLLEGE FARMHOUSE, COLLEGE ROAD, WYVERSTONE, IP14 4SD

## Order Details

**Date:** 21/09/2022

**Your ref:** 22-09-21-GH-3760

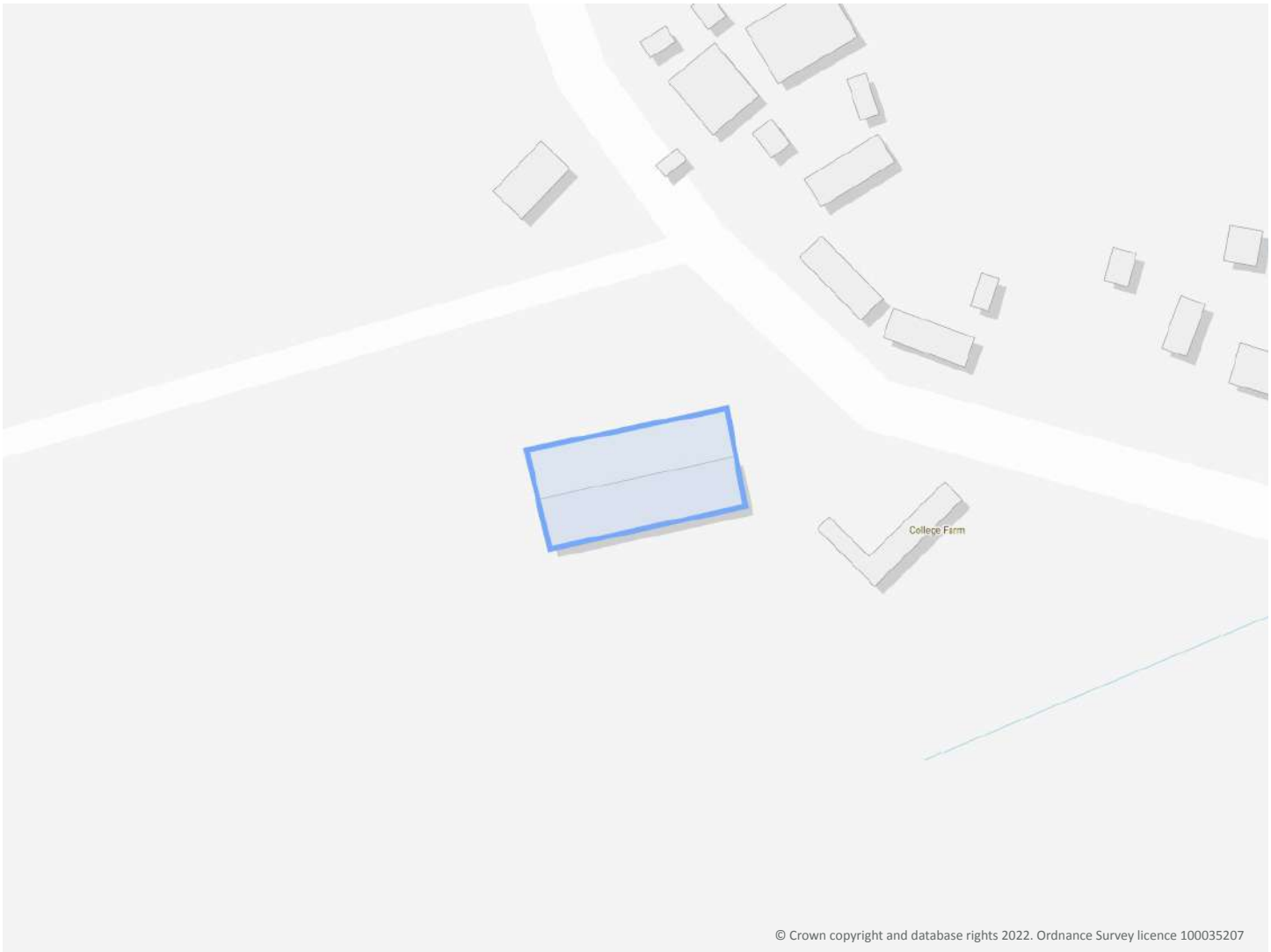
**Our Ref:** GS-9068406

## Site Details

**Location:** 603233 266936

**Area:** 0.12 ha

**Authority:** Mid Suffolk District Council








Contact us with any questions at:
info@groundsure.com
08444 159 000

# Summary of findings

| Page | Section | Past land use | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 14 | 1.1 | Historical industrial land uses | 0 | 0 | 0 | 3 | - |
| 15 | 1.2 | Historical tanks | 0 | 0 | 0 | 9 | - |
| 15 | 1.3 | Historical energy features | 0 | 0 | 0 | 0 | - |
| 16 | 1.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 16 | 1.5 | Historical garages | 0 | 0 | 0 | 0 | - |
| 16 | 1.6 | Historical military land | 0 | 0 | 0 | 0 | - |
| Page | Section | Past land use - un-grouped | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 17 | 2.1 | Historical industrial land uses | 0 | 0 | 0 | 3 | - |
| 18 | 2.2 | Historical tanks | 0 | 0 | 0 | 9 | - |
| 18 | 2.3 | Historical energy features | 0 | 0 | 0 | 0 | - |
| 19 | 2.4 | Historical petrol stations | 0 | 0 | 0 | 0 | - |
| 19 | 2.5 | Historical garages | 0 | 0 | 0 | 0 | - |
| Page | Section | Waste and landfill | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 20 | 3.1 | Active or recent landfill | 0 | 0 | 0 | 0 | - |
| 20 | 3.2 | Historical landfill (BGS records) | 0 | 0 | 0 | 0 | - |
| 20 | 3.3 | Historical landfill (LA/mapping records) | 0 | 0 | 0 | 0 | - |
| 20 | 3.4 | Historical landfill (EA/NRW records) | 0 | 0 | 0 | 0 | - |
| 20 | 3.5 | Historical waste sites | 0 | 0 | 0 | 0 | - |
| 21 | 3.6 | Licensed waste sites | 0 | 0 | 0 | 0 | - |
| 21 | 3.7 | Waste exemptions | 0 | 0 | 0 | 0 | - |
| Page | Section | Current industrial land use | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 22 | 4.1 | Recent industrial land uses | 0 | 0 | 1 | - | - |
| 23 | 4.2 | Current or recent petrol stations | 0 | 0 | 0 | 0 | - |
| 23 | 4.3 | Electricity cables | 0 | 0 | 0 | 0 | - |
| 23 | 4.4 | Gas pipelines | 0 | 0 | 0 | 0 | - |
| 23 | 4.5 | Sites determined as Contaminated Land | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 23 | 4.6 | Control of Major Accident Hazards (COMAH) | 0 | 0 | 0 | 0 | - |
| 24 | 4.7 | Regulated explosive sites | 0 | 0 | 0 | 0 | - |
| 24 | 4.8 | Hazardous substance storage/usage | 0 | 0 | 0 | 0 | - |
| 24 | 4.9 | Historical licensed industrial activities (IPC) | 0 | 0 | 0 | 0 | - |
| **24** | **4.10** | **Licensed industrial activities (Part A(1))** | 0 | 0 | 0 | 6 | - |
| 25 | 4.11 | Licensed pollutant release (Part A(2)/B) | 0 | 0 | 0 | 0 | - |
| 26 | 4.12 | Radioactive Substance Authorisations | 0 | 0 | 0 | 0 | - |
| 26 | 4.13 | Licensed Discharges to controlled waters | 0 | 0 | 0 | 0 | - |
| 26 | 4.14 | Pollutant release to surface waters (Red List) | 0 | 0 | 0 | 0 | - |
| 26 | 4.15 | Pollutant release to public sewer | 0 | 0 | 0 | 0 | - |
| 26 | 4.16 | List 1 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| 27 | 4.17 | List 2 Dangerous Substances | 0 | 0 | 0 | 0 | - |
| 27 | 4.18 | Pollution Incidents (EA/NRW) | 0 | 0 | 0 | 0 | - |
| 27 | 4.19 | Pollution inventory substances | 0 | 0 | 0 | 0 | - |
| 27 | 4.20 | Pollution inventory waste transfers | 0 | 0 | 0 | 0 | - |
| 27 | 4.21 | Pollution inventory radioactive waste | 0 | 0 | 0 | 0 | - |

| Page | Section | Hydrogeology | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| **28** | **5.1** | **Superficial aquifer** | Identified (within 500m) | | | | |
| **29** | **5.2** | **Bedrock aquifer** | Identified (within 500m) | | | | |
| **30** | **5.3** | **Groundwater vulnerability** | Identified (within 50m) | | | | |
| 31 | 5.4 | Groundwater vulnerability- soluble rock risk | None (within 0m) | | | | |
| 31 | 5.5 | Groundwater vulnerability- local information | None (within 0m) | | | | |
| **32** | **5.6** | **Groundwater abstractions** | 0 | 0 | 0 | 3 | 2 |
| 34 | 5.7 | Surface water abstractions | 0 | 0 | 0 | 0 | 0 |
| 34 | 5.8 | Potable abstractions | 0 | 0 | 0 | 0 | 0 |
| **34** | **5.9** | **Source Protection Zones** | 1 | 0 | 0 | 0 | - |
| 34 | 5.10 | Source Protection Zones (confined aquifer) | 0 | 0 | 0 | 0 | - |

| Page | Section | Hydrology | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| **35** | **6.1** | **Water Network (OS MasterMap)** | 0 | 0 | 4 | - | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 36 | 6.2 | Surface water features | 0 | 0 | 2 | - | - |
| 36 | 6.3 | WFD Surface water body catchments | 1 | - | - | - | - |
| 37 | 6.4 | WFD Surface water bodies | 0 | 0 | 0 | - | - |
| 37 | 6.5 | WFD Groundwater bodies | 1 | - | - | - | - |

| Page | Section | River and coastal flooding | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 38 | 7.1 | Risk of flooding from rivers and the sea | None (within 50m) | | | | |
| 38 | 7.2 | Historical Flood Events | 0 | 0 | 0 | - | - |
| 38 | 7.3 | Flood Defences | 0 | 0 | 0 | - | - |
| 39 | 7.4 | Areas Benefiting from Flood Defences | 0 | 0 | 0 | - | - |
| 39 | 7.5 | Flood Storage Areas | 0 | 0 | 0 | - | - |
| 40 | 7.6 | Flood Zone 2 | None (within 50m) | | | | |
| 40 | 7.7 | Flood Zone 3 | None (within 50m) | | | | |

| Page | Section | Surface water flooding | |
|---|---|---|---|
| 41 | 8.1 | Surface water flooding | 1 in 30 year, 0.3m - 1.0m (within 50m) |

| Page | Section | Groundwater flooding | |
|---|---|---|---|
| 43 | 9.1 | Groundwater flooding | Low (within 50m) |

| Page | Section | Environmental designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 44 | 10.1 | Sites of Special Scientific Interest (SSSI) | 0 | 0 | 0 | 0 | 0 |
| 44 | 10.2 | Conserved wetland sites (Ramsar sites) | 0 | 0 | 0 | 0 | 0 |
| 44 | 10.3 | Special Areas of Conservation (SAC) | 0 | 0 | 0 | 0 | 0 |
| 44 | 10.4 | Special Protection Areas (SPA) | 0 | 0 | 0 | 0 | 0 |
| 45 | 10.5 | National Nature Reserves (NNR) | 0 | 0 | 0 | 0 | 0 |
| 45 | 10.6 | Local Nature Reserves (LNR) | 0 | 0 | 0 | 0 | 0 |
| 45 | 10.7 | Designated Ancient Woodland | 0 | 0 | 0 | 0 | 0 |
| 45 | 10.8 | Biosphere Reserves | 0 | 0 | 0 | 0 | 0 |
| 46 | 10.9 | Forest Parks | 0 | 0 | 0 | 0 | 0 |
| 46 | 10.10 | Marine Conservation Zones | 0 | 0 | 0 | 0 | 0 |
| 46 | 10.11 | Green Belt | 0 | 0 | 0 | 0 | 0 |
| 46 | 10.12 | Proposed Ramsar sites | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 46 | 10.13 | Possible Special Areas of Conservation (pSAC) | 0 | 0 | 0 | 0 | 0 |
| 47 | 10.14 | Potential Special Protection Areas (pSPA) | 0 | 0 | 0 | 0 | 0 |
| 47 | 10.15 | Nitrate Sensitive Areas | 0 | 0 | 0 | 0 | 0 |
| **47** | **10.16** | **Nitrate Vulnerable Zones** | 1 | 0 | 0 | 0 | 12 |
| **49** | **10.17** | **SSSI Impact Risk Zones** | 1 | - | - | - | - |
| 50 | 10.18 | SSSI Units | 0 | 0 | 0 | 0 | 0 |
| Page | Section | Visual and cultural designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 51 | 11.1 | World Heritage Sites | 0 | 0 | 0 | - | - |
| 52 | 11.2 | Area of Outstanding Natural Beauty | 0 | 0 | 0 | - | - |
| 52 | 11.3 | National Parks | 0 | 0 | 0 | - | - |
| **52** | **11.4** | **Listed Buildings** | 0 | 0 | 1 | - | - |
| 53 | 11.5 | Conservation Areas | 0 | 0 | 0 | - | - |
| 53 | 11.6 | Scheduled Ancient Monuments | 0 | 0 | 0 | - | - |
| 53 | 11.7 | Registered Parks and Gardens | 0 | 0 | 0 | - | - |
| Page | Section | Agricultural designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| **54** | **12.1** | **Agricultural Land Classification** | Grade 3 (within 250m) | | | | |
| 55 | 12.2 | Open Access Land | 0 | 0 | 0 | - | - |
| 55 | 12.3 | Tree Felling Licences | 0 | 0 | 0 | - | - |
| 55 | 12.4 | Environmental Stewardship Schemes | 0 | 0 | 0 | - | - |
| **55** | **12.5** | **Countryside Stewardship Schemes** | 1 | 1 | 3 | - | - |
| Page | Section | Habitat designations | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 57 | 13.1 | Priority Habitat Inventory | 0 | 0 | 0 | - | - |
| 57 | 13.2 | Habitat Networks | 0 | 0 | 0 | - | - |
| 57 | 13.3 | Open Mosaic Habitat | 0 | 0 | 0 | - | - |
| 57 | 13.4 | Limestone Pavement Orders | 0 | 0 | 0 | - | - |
| Page | Section | Geology 1:10,000 scale | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| **58** | **14.1** | **10k Availability** | Identified (within 500m) | | | | |
| 59 | 14.2 | Artificial and made ground (10k) | 0 | 0 | 0 | 0 | - |
| 60 | 14.3 | Superficial geology (10k) | 0 | 0 | 0 | 0 | - |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 60 | 14.4 | Landslip (10k) | 0 | 0 | 0 | 0 | - |
| 61 | 14.5 | Bedrock geology (10k) | 0 | 0 | 0 | 0 | - |
| 61 | 14.6 | Bedrock faults and other linear features (10k) | 0 | 0 | 0 | 0 | - |
| Page | Section | Geology 1:50,000 scale | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| **62** | **15.1** | **50k Availability** | Identified (within 500m) | | | | |
| 63 | 15.2 | Artificial and made ground (50k) | 0 | 0 | 0 | 0 | - |
| 63 | 15.3 | Artificial ground permeability (50k) | 0 | 0 | - | - | - |
| **64** | **15.4** | **Superficial geology (50k)** | 1 | 0 | 0 | 0 | - |
| **65** | **15.5** | **Superficial permeability (50k)** | Identified (within 50m) | | | | |
| 65 | 15.6 | Landslip (50k) | 0 | 0 | 0 | 0 | - |
| 65 | 15.7 | Landslip permeability (50k) | None (within 50m) | | | | |
| **66** | **15.8** | **Bedrock geology (50k)** | 1 | 0 | 0 | 0 | - |
| **67** | **15.9** | **Bedrock permeability (50k)** | Identified (within 50m) | | | | |
| 67 | 15.10 | Bedrock faults and other linear features (50k) | 0 | 0 | 0 | 0 | - |
| Page | Section | Boreholes | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 68 | 16.1 | BGS Boreholes | 0 | 0 | 0 | - | - |
| Page | Section | Natural ground subsidence | | | | | |
| **69** | **17.1** | **Shrink swell clays** | Low (within 50m) | | | | |
| **70** | **17.2** | **Running sands** | Very low (within 50m) | | | | |
| **71** | **17.3** | **Compressible deposits** | Negligible (within 50m) | | | | |
| **72** | **17.4** | **Collapsible deposits** | Very low (within 50m) | | | | |
| **73** | **17.5** | **Landslides** | Very low (within 50m) | | | | |
| **74** | **17.6** | **Ground dissolution of soluble rocks** | Negligible (within 50m) | | | | |
| Page | Section | Mining, ground workings and natural cavities | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
| 75 | 18.1 | Natural cavities | 0 | 0 | 0 | 0 | - |
| 76 | 18.2 | BritPits | 0 | 0 | 0 | 0 | - |
| **76** | **18.3** | **Surface ground workings** | 0 | 4 | 0 | - | - |
| 76 | 18.4 | Underground workings | 0 | 0 | 0 | 0 | 0 |
| 76 | 18.5 | Historical Mineral Planning Areas | 0 | 0 | 0 | 0 | - |

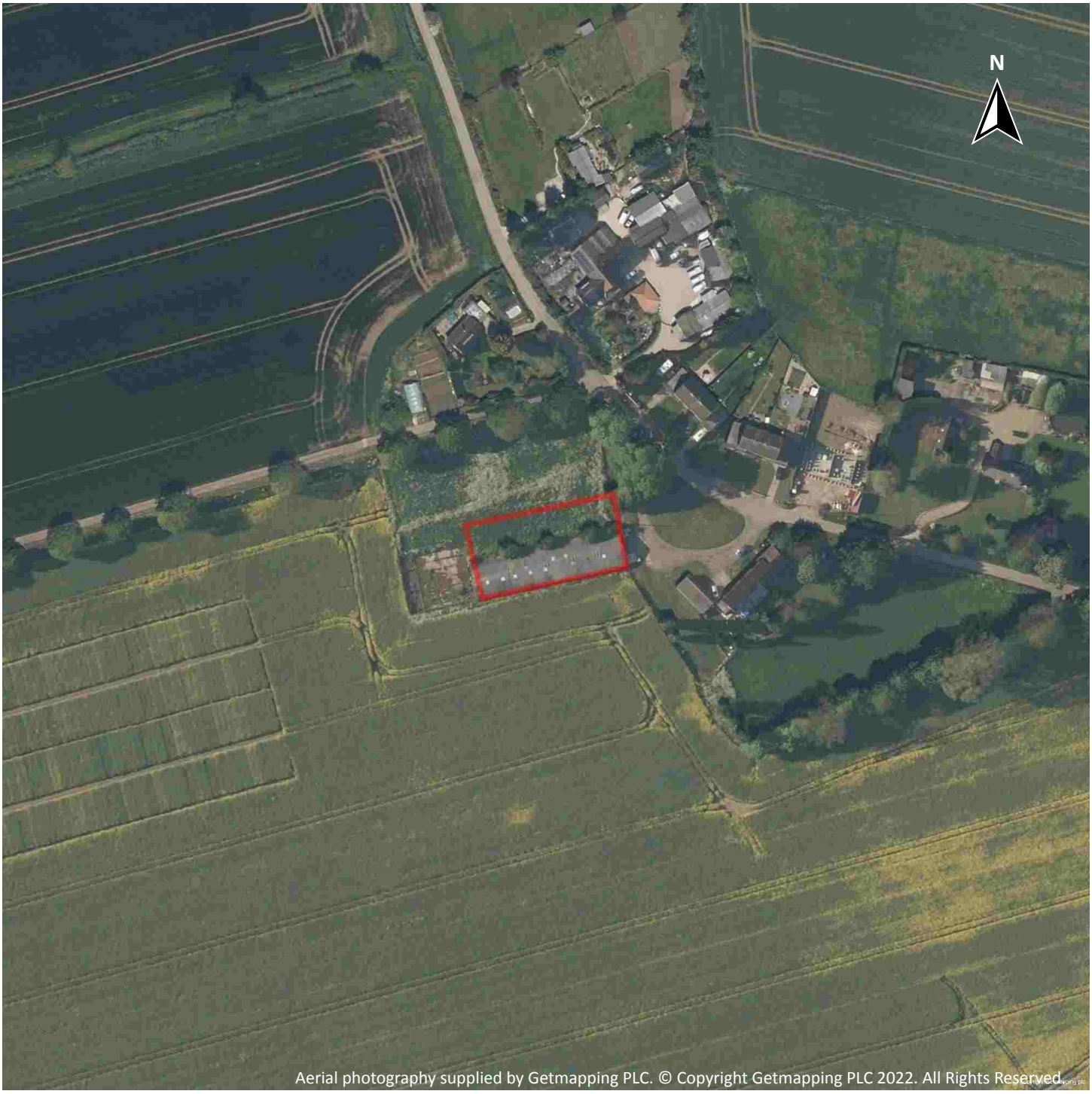
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 77 | 18.6 | Non-coal mining | 0 | 0 | 0 | 0 | 0 |
| 77 | 18.7 | Mining cavities | 0 | 0 | 0 | 0 | 0 |
| 77 | 18.8 | JPB mining areas | None (within 0m) | | | | |
| 77 | 18.9 | Coal mining | None (within 0m) | | | | |
| 77 | 18.10 | Brine areas | None (within 0m) | | | | |
| 78 | 18.11 | Gypsum areas | None (within 0m) | | | | |
| 78 | 18.12 | Tin mining | None (within 0m) | | | | |
| 78 | 18.13 | Clay mining | None (within 0m) | | | | |

| Page | Section | Radon | |
|---|---|---|---|
| **79** | **19.1** | **Radon** | Less than 1% (within 0m) |

| Page | Section | Soil chemistry | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| **80** | **20.1** | **BGS Estimated Background Soil Chemistry** | 1 | 1 | - | - | - |
| 80 | 20.2 | BGS Estimated Urban Soil Chemistry | 0 | 0 | - | - | - |
| 80 | 20.3 | BGS Measured Urban Soil Chemistry | 0 | 0 | - | - | - |

| Page | Section | Railway infrastructure and projects | On site | 0-50m | 50-250m | 250-500m | 500-2000m |
|---|---|---|---|---|---|---|---|
| 81 | 21.1 | Underground railways (London) | 0 | 0 | 0 | - | - |
| 81 | 21.2 | Underground railways (Non-London) | 0 | 0 | 0 | - | - |
| 81 | 21.3 | Railway tunnels | 0 | 0 | 0 | - | - |
| 81 | 21.4 | Historical railway and tunnel features | 0 | 0 | 0 | - | - |
| 81 | 21.5 | Royal Mail tunnels | 0 | 0 | 0 | - | - |
| 82 | 21.6 | Historical railways | 0 | 0 | 0 | - | - |
| 82 | 21.7 | Railways | 0 | 0 | 0 | - | - |
| 82 | 21.8 | Crossrail 1 | 0 | 0 | 0 | 0 | - |
| 82 | 21.9 | Crossrail 2 | 0 | 0 | 0 | 0 | - |
| 82 | 21.10 | HS2 | 0 | 0 | 0 | 0 | - |

## Recent aerial photograph

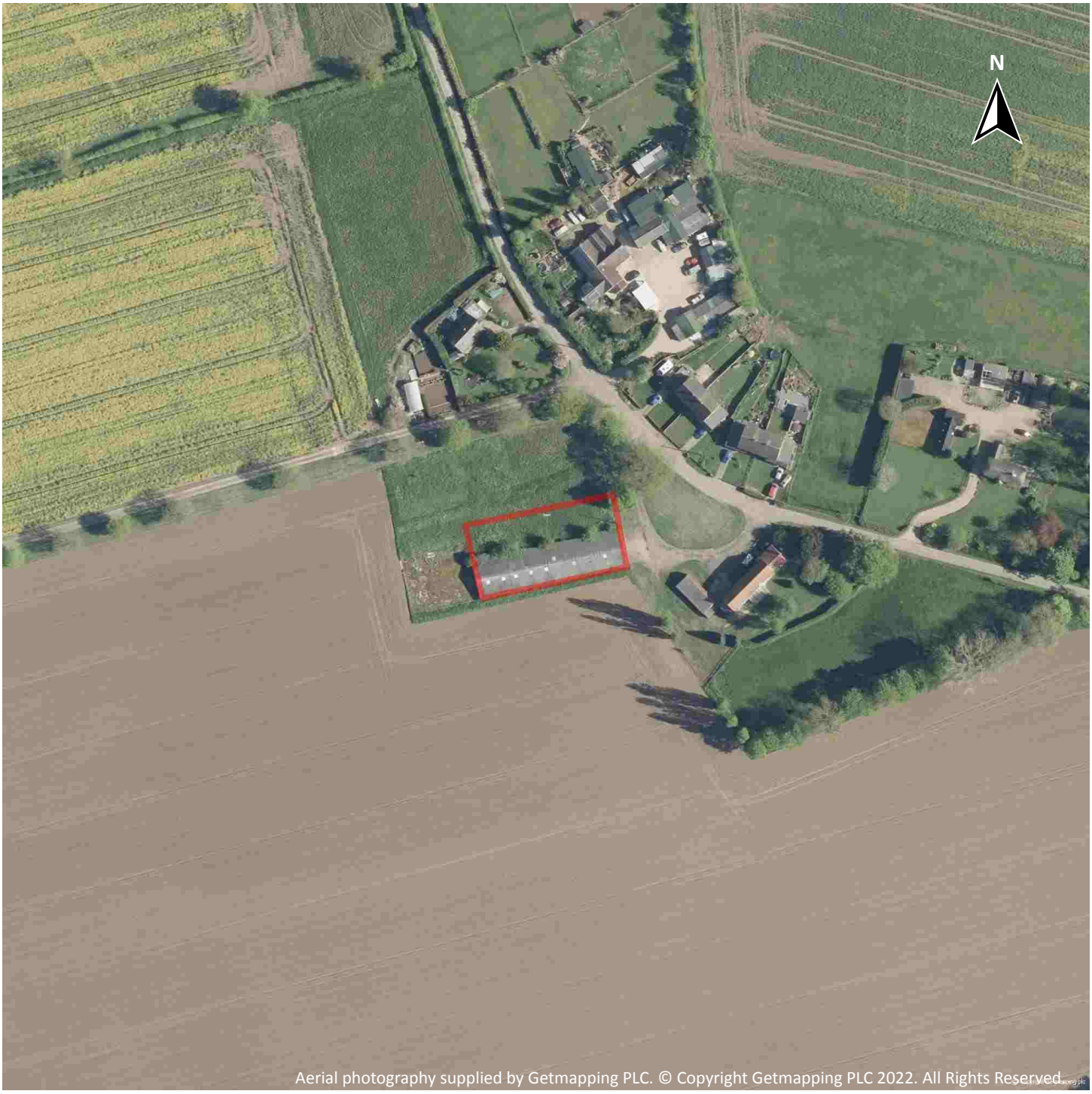





Capture Date: 02/06/2021

Site Area: 0.12ha

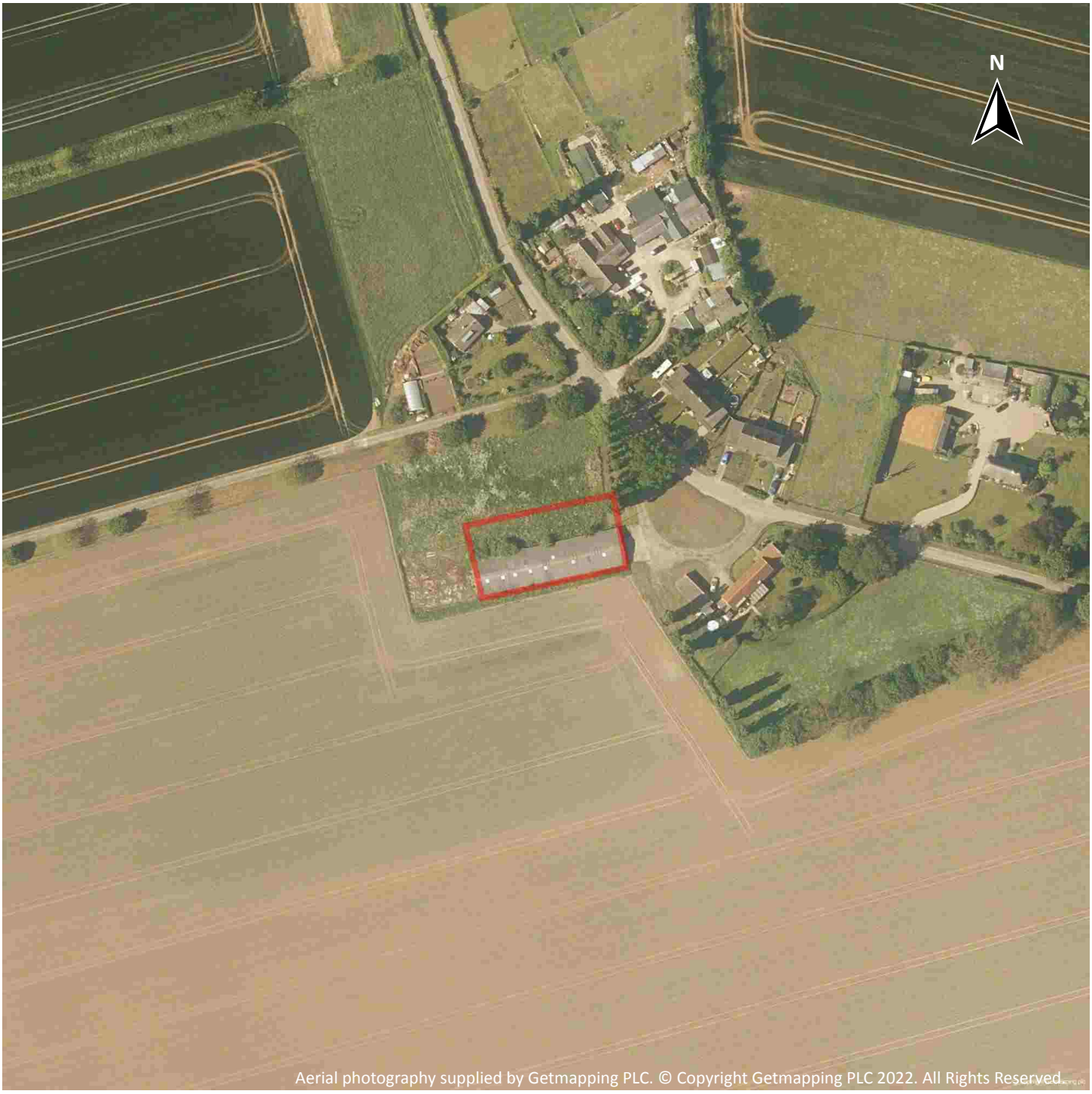
## Recent site history - 2018 aerial photograph




Capture Date: 05/05/2018

Site Area: 0.12ha

## Recent site history - 2014 aerial photograph






Capture Date: 18/05/2014

Site Area: 0.12ha

# Recent site history - 2008 aerial photograph




Capture Date: 25/07/2008

Site Area: 0.12ha

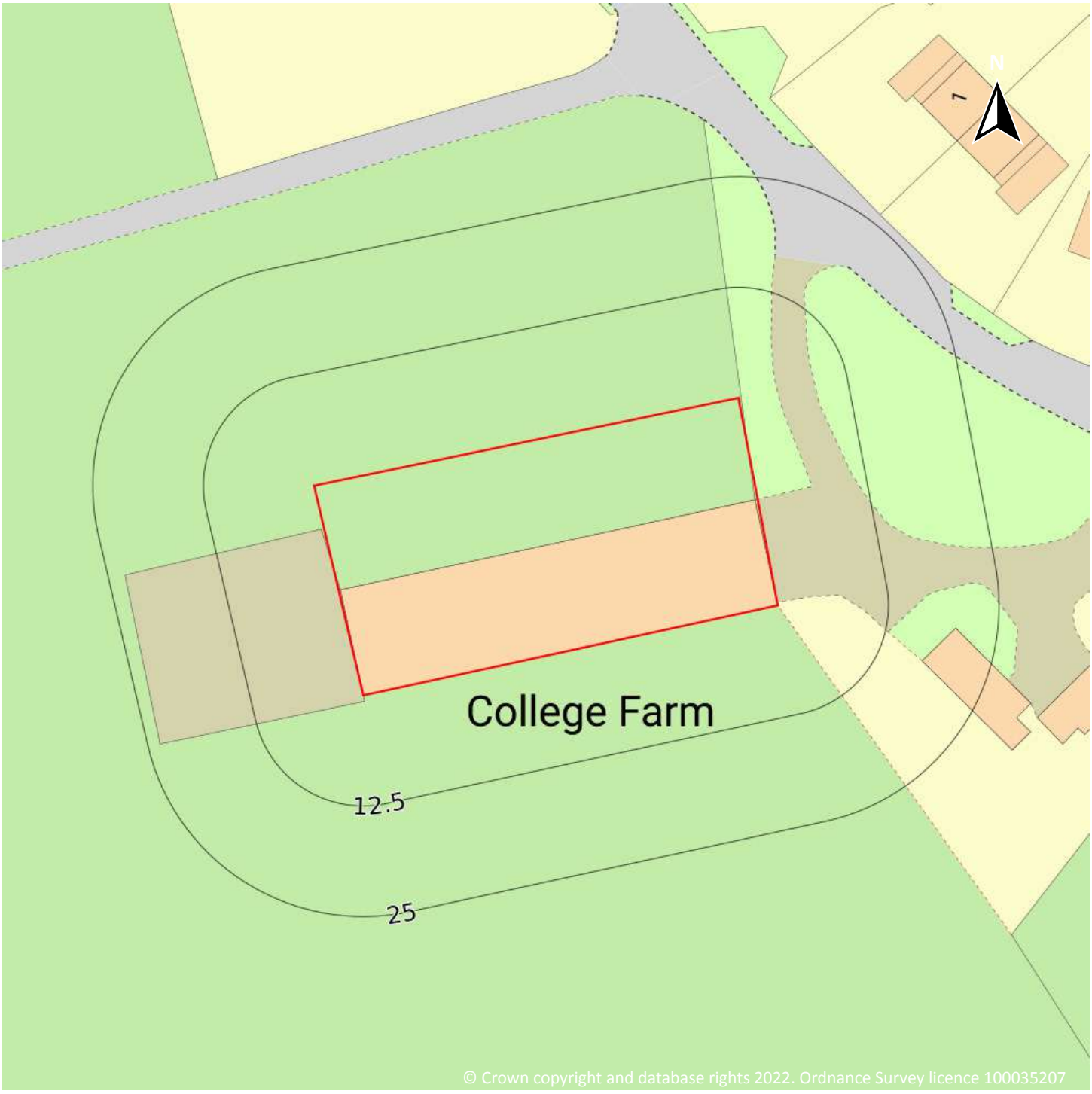
## Recent site history - 1999 aerial photograph




Capture Date: 25/06/1999

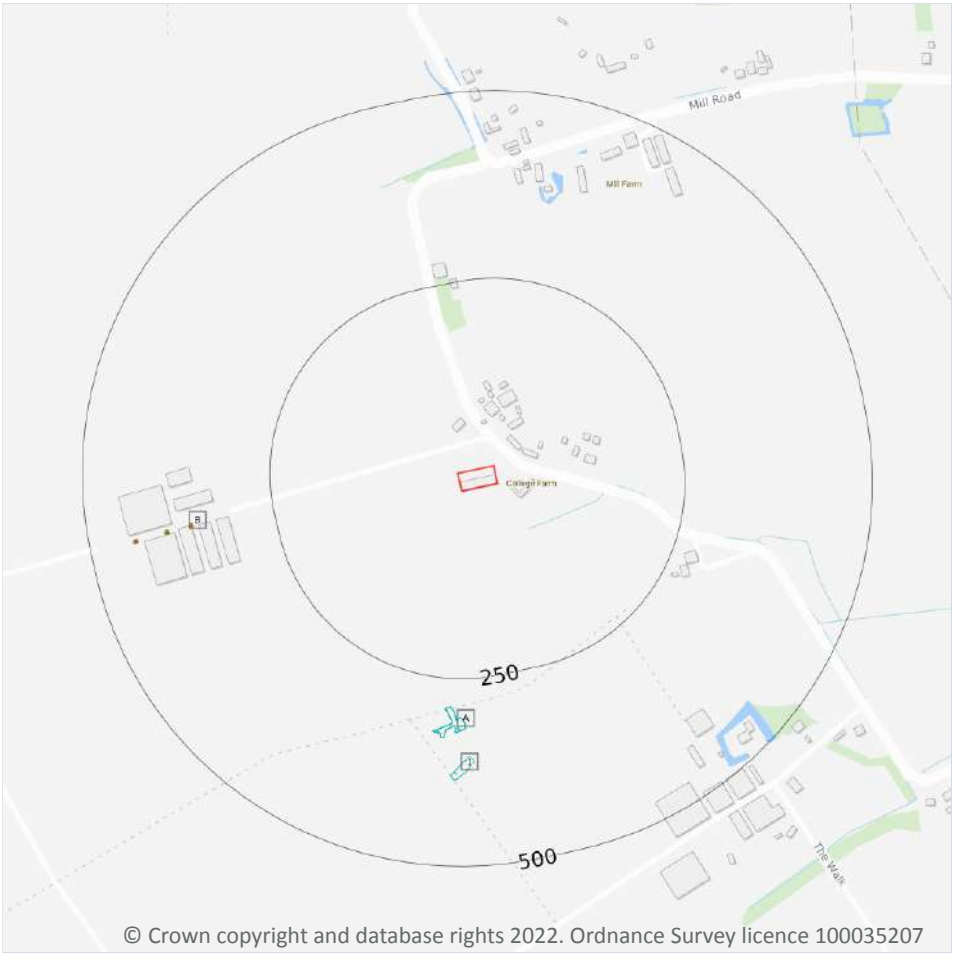
Site Area: 0.12ha

## OS MasterMap site plan




Site Area: 0.12ha

# 1 Past land use




Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

## 1.1 Historical industrial land uses

| Records within 500m | 3 |
|---|---|

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| A | 288m S | Abattoir | 1950 | 2332236 |

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| A | 288m S | Abattoir | 1884 | 2342869 |
| 1 | 354m S | Abattoir | 1884 | 2323528 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.2 Historical tanks

| **Records within 500m** | **9** |
|---|---|

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

| ID | Location | Land use | Dates present | Group ID |
|---|---|---|---|---|
| B | 359m W | Unspecified Tank | 1978 | 420931 |
| B | 360m W | Unspecified Tank | 1997 | 419213 |
| B | 362m W | Unspecified Tank | 1986 | 420348 |
| B | 393m W | Unspecified Tank | 1978 | 418135 |
| B | 393m W | Unspecified Tank | 1997 | 418165 |
| B | 395m W | Unspecified Tank | 1986 | 420203 |
| B | 435m W | Unspecified Tank | 1978 | 420075 |
| B | 436m W | Unspecified Tank | 1997 | 418501 |
| B | 439m W | Unspecified Tank | 1986 | 417926 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.3 Historical energy features

| **Records within 500m** | **0** |
|---|---|

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.4 Historical petrol stations

| Records within 500m | 0 |
|---|---|

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

*This data is sourced from Ordnance Survey / Groundsure.*

## 1.5 Historical garages

| Records within 500m | 0 |
|---|---|

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

*This data is sourced from Ordnance Survey / Groundsure.*

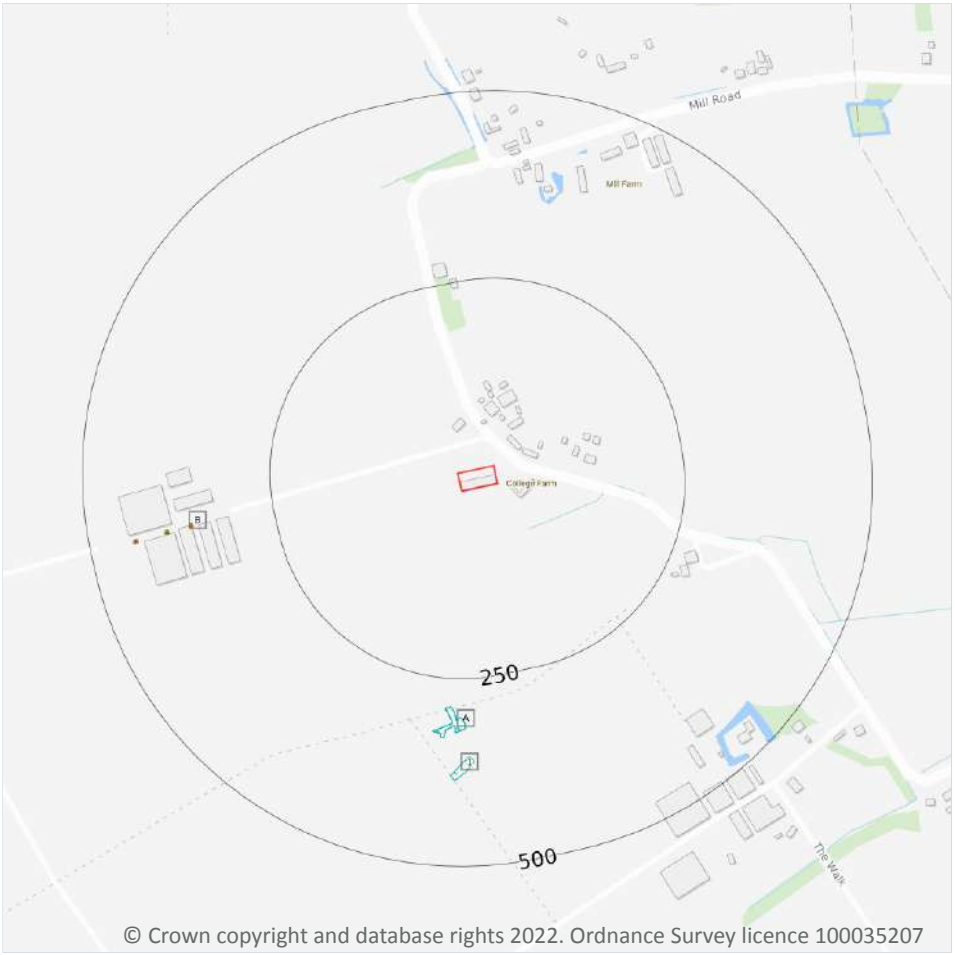
## 1.6 Historical military land

| Records within 500m | 0 |
|---|---|

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

*This data is sourced from Ordnance Survey / Groundsure / other sources.*

# 2 Past land use - un-grouped






Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical tanks

## 2.1 Historical industrial land uses

| Records within 500m | 3 |
|---|---|

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 17**

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| A | 288m S | Abattoir | 1950 | 2332236 |
| A | 288m S | Abattoir | 1884 | 2342869 |
| 1 | 354m S | Abattoir | 1884 | 2323528 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.2 Historical tanks

| Records within 500m | 9 |
|---|---|

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 17**

| ID | Location | Land Use | Date | Group ID |
|---|---|---|---|---|
| B | 359m W | Unspecified Tank | 1978 | 420931 |
| B | 360m W | Unspecified Tank | 1997 | 419213 |
| B | 362m W | Unspecified Tank | 1986 | 420348 |
| B | 393m W | Unspecified Tank | 1978 | 418135 |
| B | 393m W | Unspecified Tank | 1997 | 418165 |
| B | 395m W | Unspecified Tank | 1986 | 420203 |
| B | 435m W | Unspecified Tank | 1978 | 420075 |
| B | 436m W | Unspecified Tank | 1997 | 418501 |
| B | 439m W | Unspecified Tank | 1986 | 417926 |

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.3 Historical energy features

| Records within 500m | 0 |
|---|---|

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.4 Historical petrol stations

| Records within 500m | 0 |
|---|---|

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

*This data is sourced from Ordnance Survey / Groundsure.*

## 2.5 Historical garages

| Records within 500m | 0 |
|---|---|

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

*This data is sourced from Ordnance Survey / Groundsure.*

# 3 Waste and landfill

## 3.1 Active or recent landfill

| Records within 500m | 0 |
|---|---|

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 3.2 Historical landfill (BGS records)

| Records within 500m | 0 |
|---|---|

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

*This data is sourced from the British Geological Survey.*

## 3.3 Historical landfill (LA/mapping records)

| Records within 500m | 0 |
|---|---|

Landfill sites identified from Local Authority records and high detail historical mapping.

*This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.*

## 3.4 Historical landfill (EA/NRW records)

| Records within 500m | 0 |
|---|---|

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 3.5 Historical waste sites

| Records within 500m | 0 |
|---|---|

Waste site records derived from Local Authority planning records and high detail historical mapping.

*This data is sourced from Ordnance Survey/Groundsure and Local Authority records.*

## 3.6 Licensed waste sites

| Records within 500m | 0 |
|---|---|

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

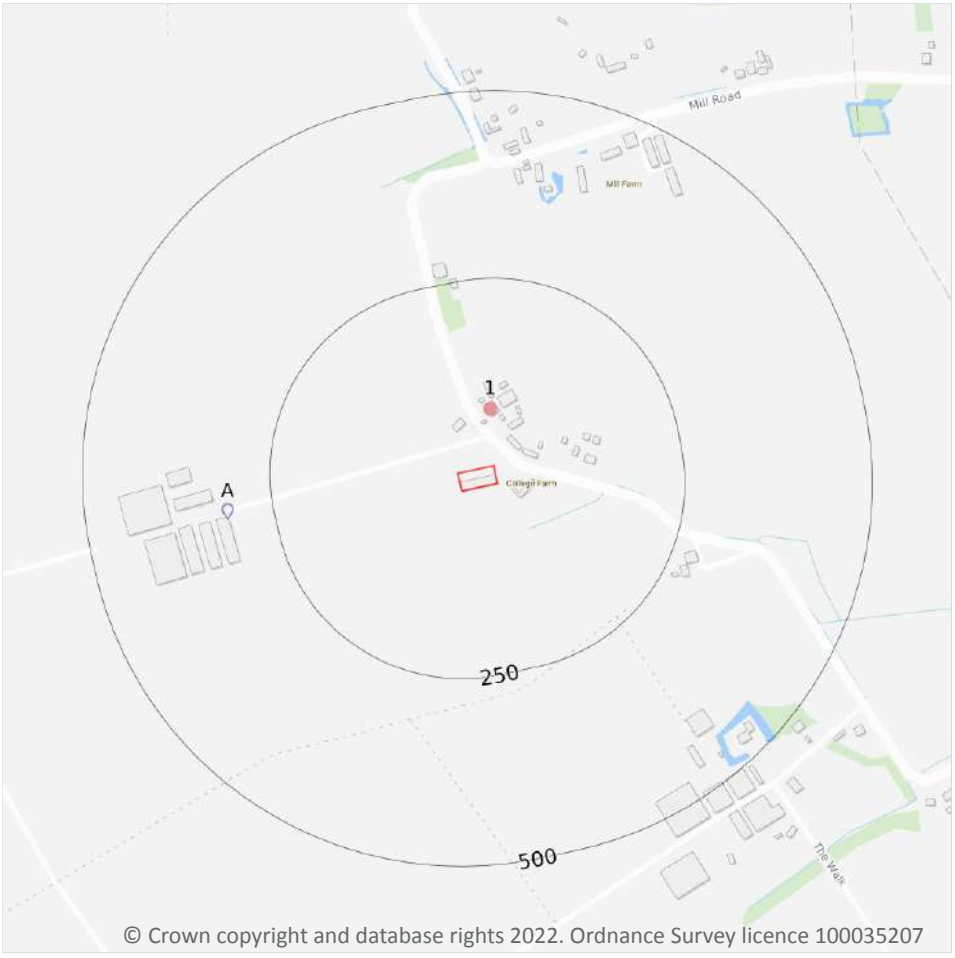
## 3.7 Waste exemptions

| Records within 500m | 0 |
|---|---|

Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

# 4 Current industrial land use






Site Outline

Search buffers in metres (m)

Recent industrial land uses

Part A(1) industrial activities

## 4.1 Recent industrial land uses

| Records within 250m | 1 |
|---|---|

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 22**

| ID | Location | Company | Address | Activity | Category |
|---|---|---|---|---|---|
| 1 | 77m N | Arrden Vale Kitchens | Crosslands, College Road, Wyverstone, Suffolk, IP14 4SD | General Construction Supplies | Industrial Products |

*This data is sourced from Ordnance Survey.*

## 4.2 Current or recent petrol stations

| Records within 500m | 0 |
|---|---|

Open, closed, under development and obsolete petrol stations.

*This data is sourced from Experian.*

## 4.3 Electricity cables

| Records within 500m | 0 |
|---|---|

High voltage underground electricity transmission cables.

*This data is sourced from National Grid.*

## 4.4 Gas pipelines

| Records within 500m | 0 |
|---|---|

High pressure underground gas transmission pipelines.

*This data is sourced from National Grid.*

## 4.5 Sites determined as Contaminated Land

| Records within 500m | 0 |
|---|---|

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

*This data is sourced from Local Authority records.*

## 4.6 Control of Major Accident Hazards (COMAH)

| Records within 500m | 0 |
|---|---|

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

*This data is sourced from the Health and Safety Executive.*

## 4.7 Regulated explosive sites

| Records within 500m | 0 |
|---|---|

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

*This data is sourced from the Health and Safety Executive.*

## 4.8 Hazardous substance storage/usage

| Records within 500m | 0 |
|---|---|

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

*This data is sourced from Local Authority records.*

## 4.9 Historical licensed industrial activities (IPC)

| Records within 500m | 0 |
|---|---|

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.10 Licensed industrial activities (Part A(1))

| Records within 500m | 6 |
|---|---|

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 22**

| ID | Location | Details | |
|---|---|---|---|
| A | 310m W | Operator: BACTON PIGS LIMITED<br>Installation Name: JACKSONS & SCHOLES FARM EPR/WP3637MD<br>Process: ASSOCIATED PROCESS<br>Permit Number: FP3307PY<br>Original Permit Number: WP3637MD | EPR Reference: -<br>Issue Date: 29/04/2021<br>Effective Date: 29/04/2021<br>Last date noted as effective: 13/06/2022<br>Status: EFFECTIVE |

| ID | Location | Details | |
|---|---|---|---|
| A | 310m W | Operator: BACTON PIGS LIMITED<br>Installation Name: JACKSONS & SCHOLES FARM EPR/WP3637MD<br>Process: ASSOCIATED PROCESS<br>Permit Number: TP3939XN<br>Original Permit Number: WP3637MD | EPR Reference: -<br>Issue Date: 20/06/2008<br>Effective Date: 20/06/2008<br>Last date noted as effective: 13/06/2022<br>Status: SUPERCEDED |
| A | 310m W | Operator: BACTON PIGS LIMITED<br>Installation Name: JACKSONS & SCHOLES FARM EPR/WP3637MD<br>Process: INTENSIVE FARMING; >750 SOWS<br>Permit Number: TP3939XN<br>Original Permit Number: WP3637MD | EPR Reference: -<br>Issue Date: 20/06/2008<br>Effective Date: 20/06/2008<br>Last date noted as effective: 13/06/2022<br>Status: SUPERCEDED |
| A | 310m W | Operator: BACTON PIGS LIMITED<br>Installation Name: JACKSONS & SCHOLES FARM<br>Process: ASSOCIATED PROCESS<br>Permit Number: WP3637MD<br>Original Permit Number: WP3637MD | EPR Reference: -<br>Issue Date: 27/07/2007<br>Effective Date: 01/08/2007<br>Last date noted as effective: 13/06/2022<br>Status: SUPERCEDED |
| A | 310m W | Operator: BACTON PIGS LIMITED<br>Installation Name: JACKSONS & SCHOLES FARM<br>Process: INTENSIVE FARMING; >750 SOWS<br>Permit Number: WP3637MD<br>Original Permit Number: WP3637MD | EPR Reference: -<br>Issue Date: 27/07/2007<br>Effective Date: 01/08/2007<br>Last date noted as effective: 13/06/2022<br>Status: SUPERCEDED |
| A | 310m W | Operator: BACTON PIGS LIMITED<br>Installation Name: JACKSONS & SCHOLES FARM EPR/WP3637MD<br>Process: INTENSIVE FARMING; >750 SOWS<br>Permit Number: FP3307PY<br>Original Permit Number: WP3637MD | EPR Reference: -<br>Issue Date: 29/04/2021<br>Effective Date: 29/04/2021<br>Last date noted as effective: 13/06/2022<br>Status: EFFECTIVE |

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.11 Licensed pollutant release (Part A(2)/B)

| Records within 500m | 0 |
|---|---|

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

*This data is sourced from Local Authority records.*

## 4.12 Radioactive Substance Authorisations

| Records within 500m | 0 |
|---|---|

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.13 Licensed Discharges to controlled waters

| Records within 500m | 0 |
|---|---|

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.14 Pollutant release to surface waters (Red List)

| Records within 500m | 0 |
|---|---|

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.15 Pollutant release to public sewer

| Records within 500m | 0 |
|---|---|

Discharges of Special Category Effluents to the public sewer.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.16 List 1 Dangerous Substances

| Records within 500m | 0 |
|---|---|

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.17 List 2 Dangerous Substances

| Records within 500m | 0 |
|---|---|

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.18 Pollution Incidents (EA/NRW)

| Records within 500m | 0 |
|---|---|

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 4.19 Pollution inventory substances

| Records within 500m | 0 |
|---|---|

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

*This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.*

## 4.20 Pollution inventory waste transfers

| Records within 500m | 0 |
|---|---|

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

*This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.*

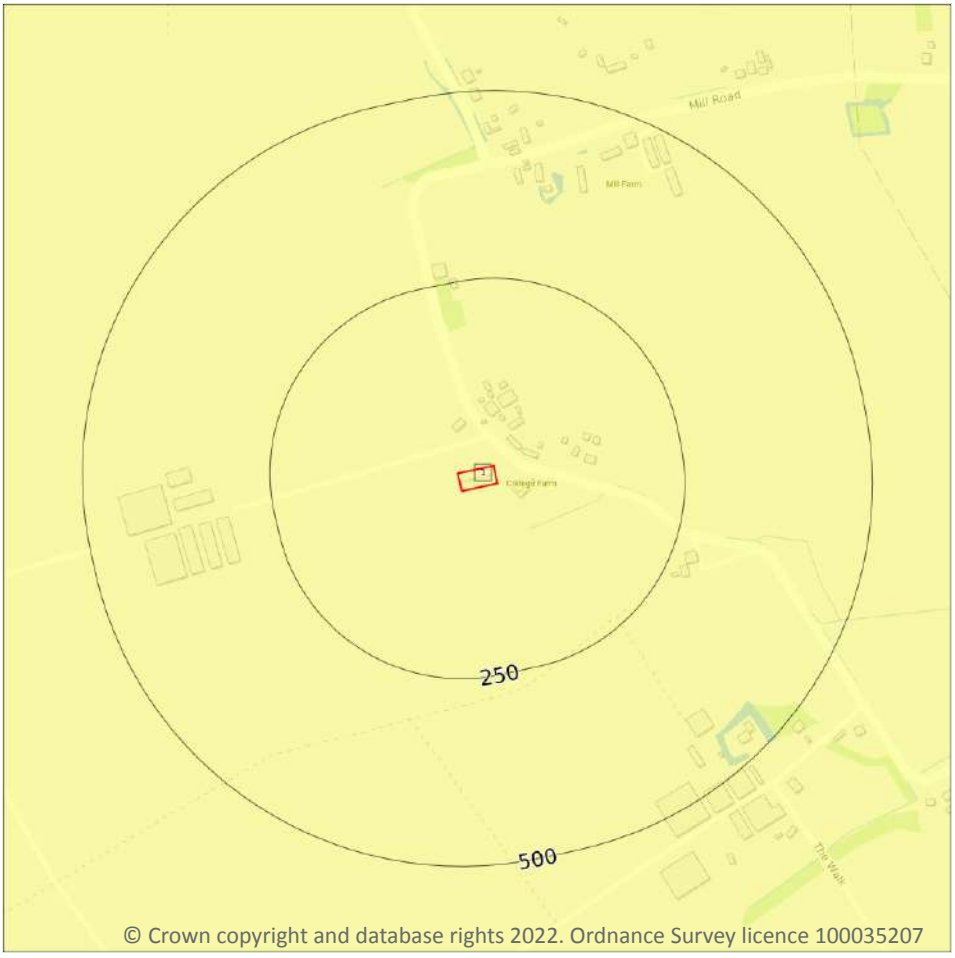
## 4.21 Pollution inventory radioactive waste

| Records within 500m | 0 |
|---|---|

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

*This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.*

# 5 Hydrogeology - Superficial aquifer




Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

## 5.1 Superficial aquifer

| Records within 500m | 1 |
|---|---|

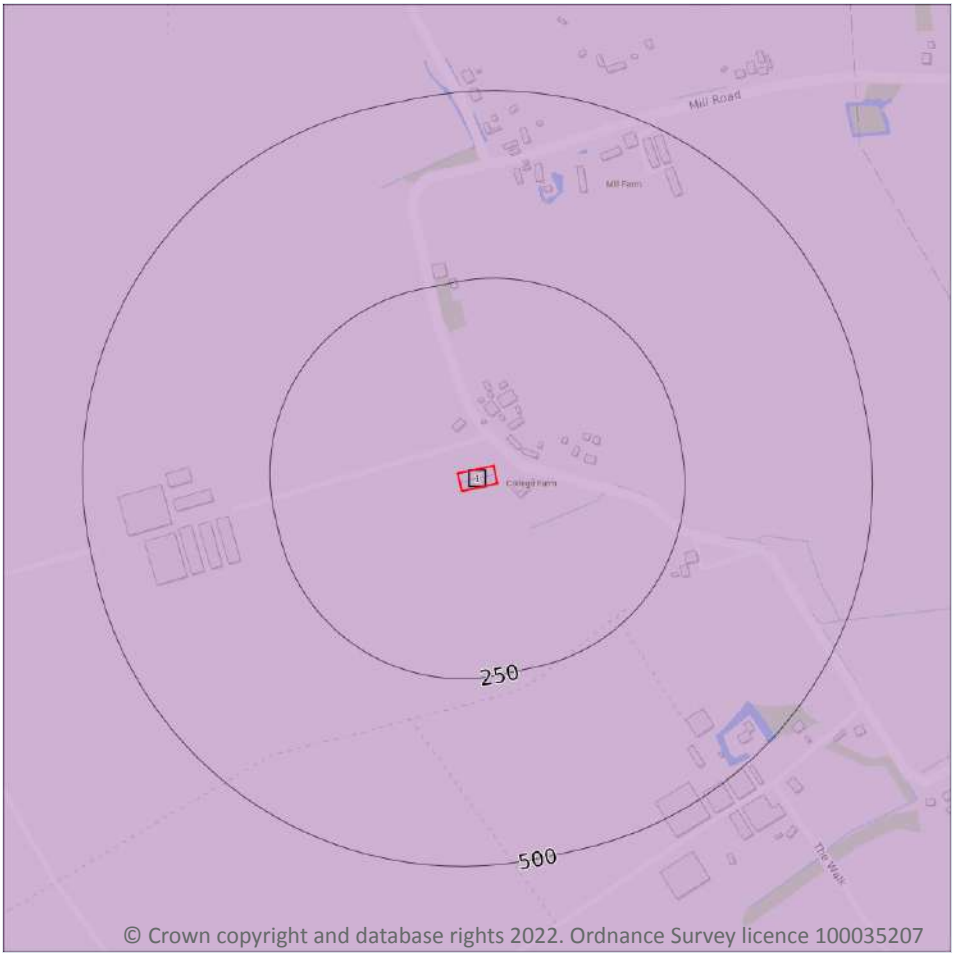
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 28**

| ID | Location | Designation | Description |
|---|---|---|---|
| **1** | **On site** | **Secondary Undifferentiated** | **Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type** |

*This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.*

# Bedrock aquifer




Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

## 5.2 Bedrock aquifer

| Records within 500m | 1 |
|---|---|

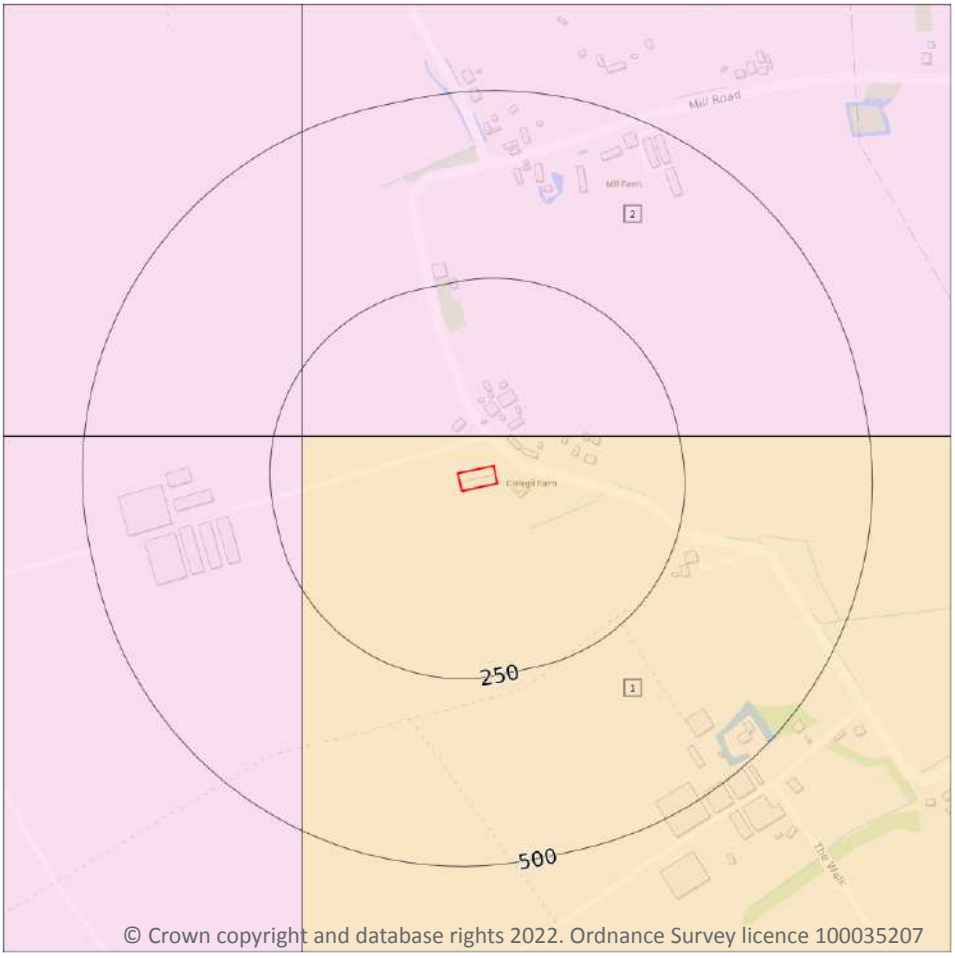
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 29**

| ID | Location | Designation | Description |
|---|---|---|---|
| **1** | **On site** | **Principal** | **Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers** |

*This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.*

# Groundwater vulnerability




Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

## 5.3 Groundwater vulnerability

| Records within 50m | 2 |
|---|---|

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 30**

| ID | Location | Summary | Soil / surface | Superficial geology | Bedrock geology |
|---|---|---|---|---|---|
| **1** | **On site** | **Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer** | **Leaching class: Intermediate Infiltration value: >70% Dilution value: <300mm/year** | **Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low** | **Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular** |
| 2 | 39m N | Summary Classification: Secondary superficial aquifer - Medium Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer | Leaching class: Low Infiltration value: 40-70% Dilution value: <300mm/year | Vulnerability: Medium Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Low | Vulnerability: Low Aquifer type: Principal Flow mechanism: Intergranular |

*This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.*

## 5.4 Groundwater vulnerability- soluble rock risk

| **Records on site** | **0** |
|---|---|

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

*This data is sourced from the British Geological Survey and the Environment Agency.*

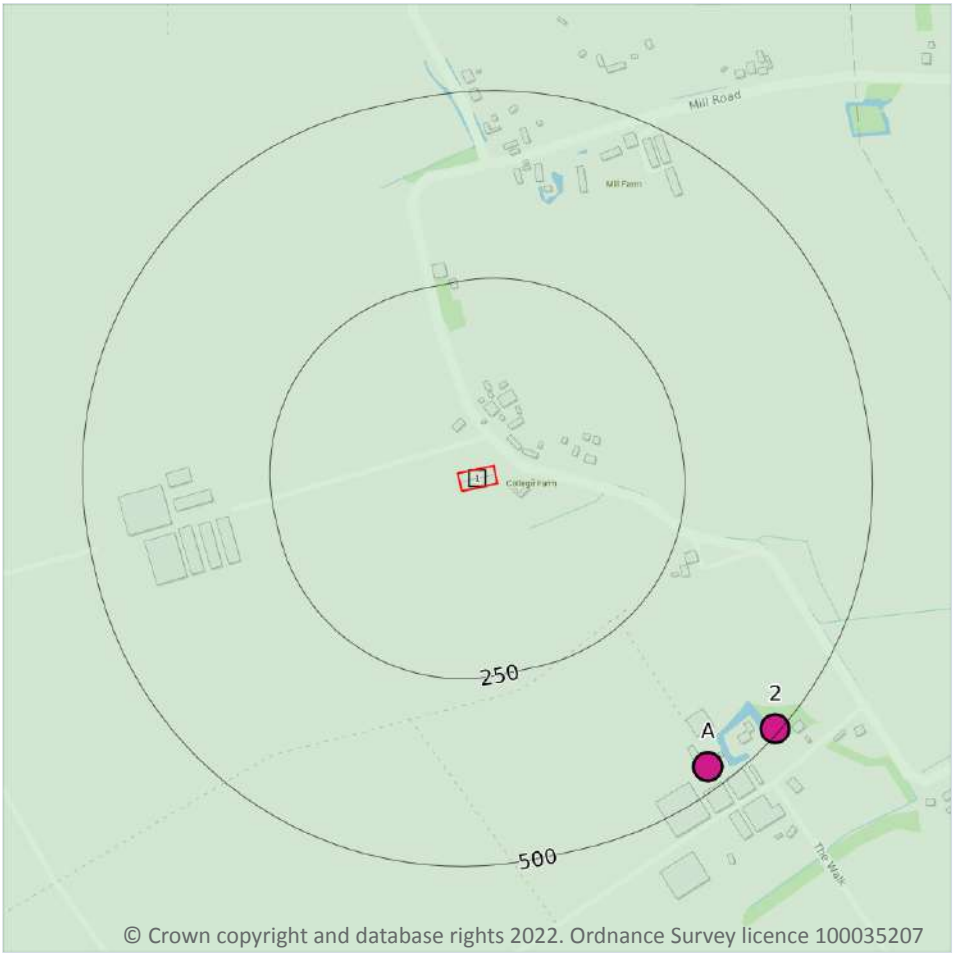
## 5.5 Groundwater vulnerability- local information

| **Records on site** | **0** |
|---|---|

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

*This data is sourced from the British Geological Survey and the Environment Agency.*

# Abstractions and Source Protection Zones






Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

## 5.6 Groundwater abstractions

| Records within 2000m | 5 |
|---|---|

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 32**

| ID | Location | Details | |
|---|---|---|---|
| A | 470m SE | Status: Historical<br>Licence No: 7/34/17/*G/0048<br>Details: Spray Irrigation - Direct<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: BORE AT RED HOUSE FM,BACTON<br>Data Type: Point<br>Name: DAVID BLACK & SON LTD<br>Easting: 603540<br>Northing: 266560 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 01/05/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 01/05/1967<br>Version End Date: - |
| A | 470m SE | Status: Active<br>Licence No: 7/34/17/*G/0048<br>Details: General Farming & Domestic<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: BORE AT RED HOUSE FARM, BACTON<br>Data Type: Point<br>Name: DAVID BLACK & SON LTD<br>Easting: 603540<br>Northing: 266560 | Annual Volume ($m^3$): 60,400<br>Max Daily Volume ($m^3$): 200<br>Original Application No: EV 1732<br>Original Start Date: 08/05/1967<br>Expiry Date: -<br>Issue No: 101<br>Version Start Date: 22/11/2002<br>Version End Date: - |
| 2 | 494m SE | Status: Historical<br>Licence No: 7/34/17/*G/0046<br>Details: General Farming & Domestic<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: BORE AT RED HOUSE FM,BACTON<br>Data Type: Point<br>Name: DAVID BLACK & SON LTD<br>Easting: 603630<br>Northing: 266610 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 01/05/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 01/05/1967<br>Version End Date: - |
| - | 913m NW | Status: Historical<br>Licence No: 7/34/17/*G/0046<br>Details: General Farming & Domestic<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: BORE W OF WYVERSTONE STREET<br>Data Type: Point<br>Name: DAVID BLACK & SON LTD<br>Easting: 602470<br>Northing: 267490 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 01/05/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 01/05/1967<br>Version End Date: - |
| - | 1303m SW | Status: Historical<br>Licence No: 7/34/17/*G/0046<br>Details: General Farming & Domestic<br>Direct Source: GROUND WATER SOURCE OF SUPPLY<br>Point: BORE AT HIGH PASTURES,WYVER'NE<br>Data Type: Point<br>Name: DAVID BLACK & SON LTD<br>Easting: 602070<br>Northing: 266300 | Annual Volume ($m^3$): -<br>Max Daily Volume ($m^3$): -<br>Original Application No: -<br>Original Start Date: 01/05/1967<br>Expiry Date: -<br>Issue No: 100<br>Version Start Date: 01/05/1967<br>Version End Date: - |

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 5.7 Surface water abstractions

| Records within 2000m | 0 |
|---|---|

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 5.8 Potable abstractions

| Records within 2000m | 0 |
|---|---|

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 5.9 Source Protection Zones

| Records within 500m | 1 |
|---|---|

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

Features are displayed on the Abstractions and Source Protection Zones map on **page 32**

| ID | Location | Type | Description |
|---|---|---|---|
| **1** | **On site** | **3** | **Total catchment** |

*This data is sourced from the Environment Agency and Natural Resources Wales.*

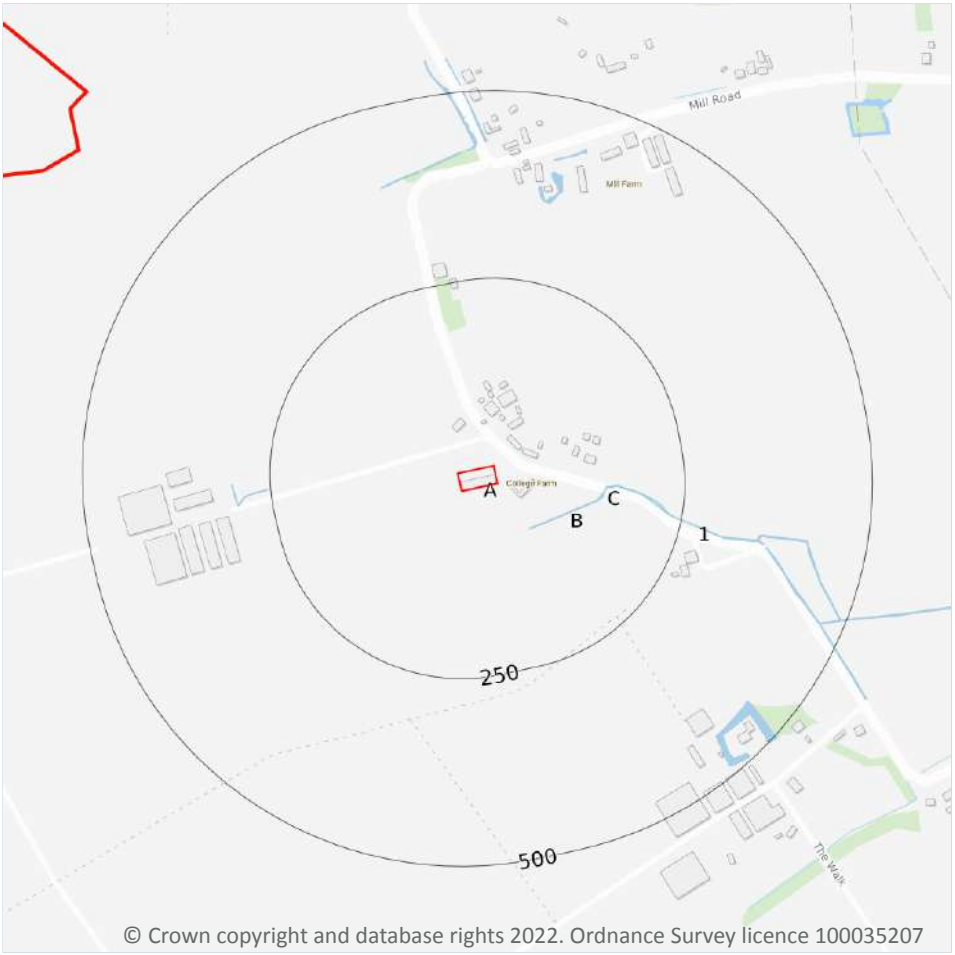
## 5.10 Source Protection Zones (confined aquifer)

| Records within 500m | 0 |
|---|---|

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

# 6 Hydrology




Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

## 6.1 Water Network (OS MasterMap)

| Records within 250m | 4 |
|---|---|

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on **page 35**

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|---|---|---|---|---|---|
| B | 74m SE | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |

| ID | Location | Type of water feature | Ground level | Permanence | Name |
|---|---|---|---|---|---|
| C | 142m E | Inland river not influenced by normal tidal action. | Underground | Watercourse contains water year round (in normal circumstances) | - |
| C | 146m E | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |
| 1 | 233m E | Inland river not influenced by normal tidal action. | On ground surface | Watercourse contains water year round (in normal circumstances) | - |

*This data is sourced from the Ordnance Survey.*

## 6.2 Surface water features

| **Records within 250m** | **2** |
|---|---|

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on **page 35**

*This data is sourced from the Ordnance Survey.*

## 6.3 WFD Surface water body catchments

| **Records on site** | **1** |
|---|---|

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 35**

| ID | Location | Type | Water body catchment | Water body ID | Operational catchment | Management catchment |
|---|---|---|---|---|---|---|
| **A** | **On site** | **River** | **Dove trib - Finningham** | **GB105034045660** | **Waveney** | **Broadland Rivers** |

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 6.4 WFD Surface water bodies

| Records identified | 1 |
|---|---|

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on **page 35**

| ID | Location | Type | Name | Water body ID | Overall rating | Chemical rating | Ecological rating | Year |
|---|---|---|---|---|---|---|---|---|
| - | 2711m NE | River | Dove trib - Finningham | GB105034045660 | Moderate | Fail | Moderate | 2019 |

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 6.5 WFD Groundwater bodies

| Records on site | 1 |
|---|---|

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on **page 35**

| ID | Location | Name | Water body ID | Overall rating | Chemical rating | Quantitative | Year |
|---|---|---|---|---|---|---|---|
| **A** | **On site** | **Broadland Rivers Chalk & Crag** | **GB40501G400300** | **Poor** | **Poor** | **Poor** | **2019** |

*This data is sourced from the Environment Agency and Natural Resources Wales.*

# 7 River and coastal flooding

## 7.1 Risk of flooding from rivers and the sea

| Records within 50m | 0 |
|---|---|

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.2 Historical Flood Events

| Records within 250m | 0 |
|---|---|

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.3 Flood Defences

| Records within 250m | 0 |
|---|---|

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.4 Areas Benefiting from Flood Defences

| Records within 250m | 0 |
|---|---|

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

## 7.5 Flood Storage Areas

| Records within 250m | 0 |
|---|---|

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

# River and coastal flooding - Flood Zones

## 7.6 Flood Zone 2

| Records within 50m | 0 |
|---|---|

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

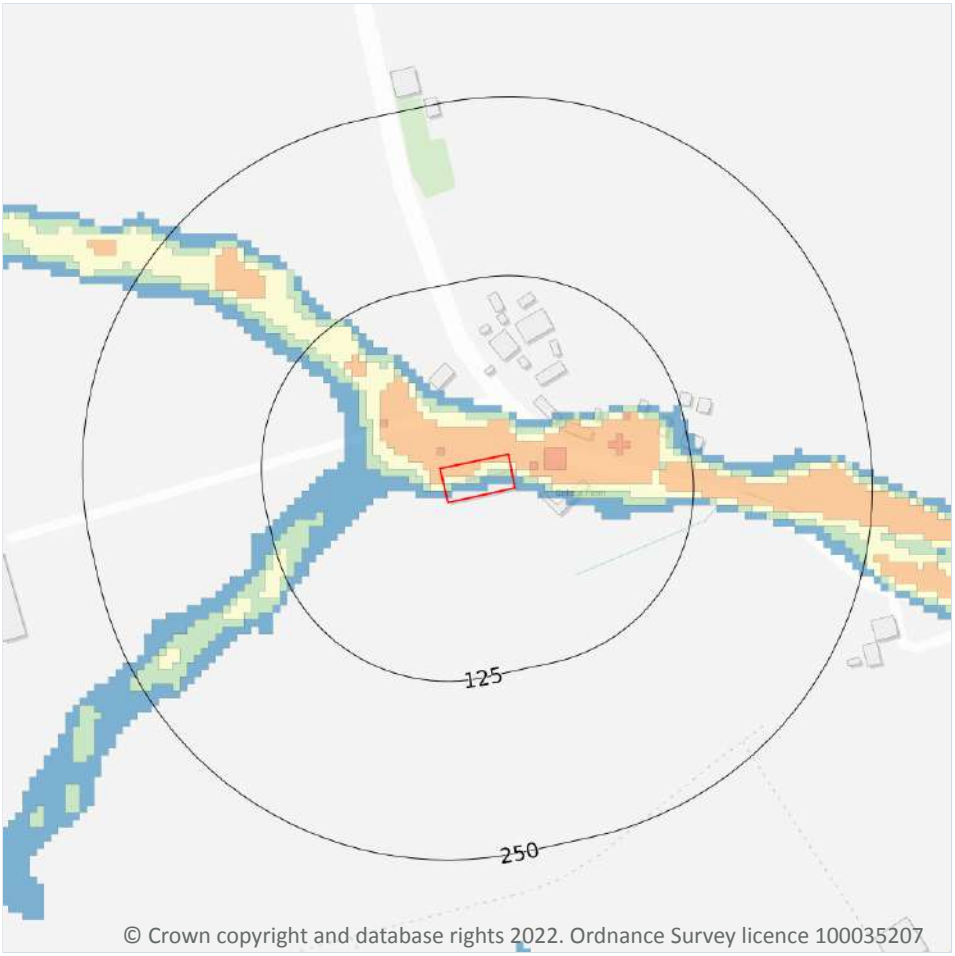
## 7.7 Flood Zone 3

| Records within 50m | 0 |
|---|---|

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

*This data is sourced from the Environment Agency and Natural Resources Wales.*

# 8 Surface water flooding




Site Outline
Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

## 8.1 Surface water flooding

| | |
|---|---|
| **Highest risk on site** | **1 in 30 year, 0.1m - 0.3m** |
| **Highest risk within 50m** | **1 in 30 year, 0.3m - 1.0m** |

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on **page 41**

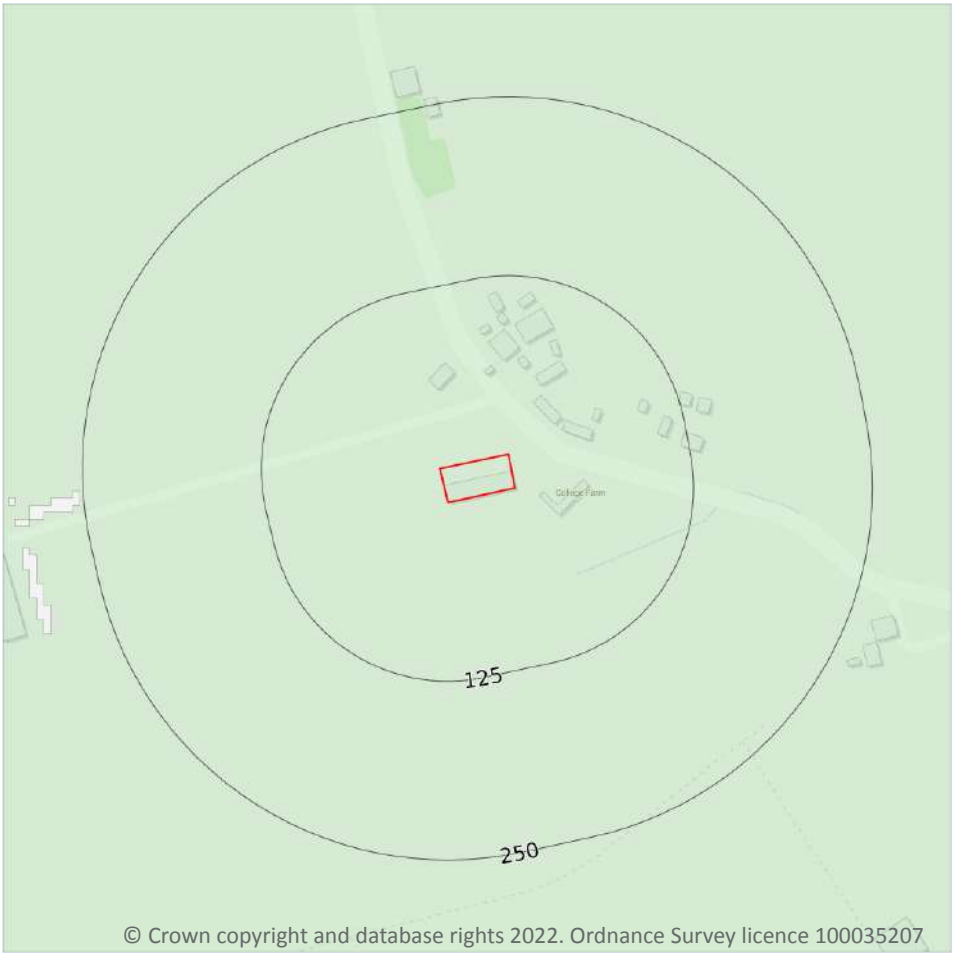
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

The table below shows the maximum flood depths for a range of return periods for the site.

| Return period | Maximum modelled depth |
|---|---|
| 1 in 1000 year | Between 0.3m and 1.0m |
| 1 in 250 year | Between 0.1m and 0.3m |
| 1 in 100 year | Between 0.1m and 0.3m |
| 1 in 30 year | Between 0.1m and 0.3m |

*This data is sourced from Ambiental Risk Analytics.*

# 9 Groundwater flooding




Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

## 9.1 Groundwater flooding

| | |
|---|---|
| **Highest risk on site** | **Low** |
| **Highest risk within 50m** | **Low** |

Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on **page 43**

*This data is sourced from Ambiental Risk Analytics.*

# 10 Environmental designations

## 10.1 Sites of Special Scientific Interest (SSSI)

| Records within 2000m | 0 |
|---|---|

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.2 Conserved wetland sites (Ramsar sites)

| Records within 2000m | 0 |
|---|---|

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.3 Special Areas of Conservation (SAC)

| Records within 2000m | 0 |
|---|---|

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.4 Special Protection Areas (SPA)

| Records within 2000m | 0 |
|---|---|

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.5 National Nature Reserves (NNR)

| Records within 2000m | 0 |
|---|---|

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.6 Local Nature Reserves (LNR)

| Records within 2000m | 0 |
|---|---|

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.7 Designated Ancient Woodland

| Records within 2000m | 0 |
|---|---|

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.8 Biosphere Reserves

| Records within 2000m | 0 |
|---|---|

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.9 Forest Parks

| Records within 2000m | 0 |
|---|---|

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

*This data is sourced from the Forestry Commission.*

## 10.10 Marine Conservation Zones

| Records within 2000m | 0 |
|---|---|

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 10.11 Green Belt

| Records within 2000m | 0 |
|---|---|

Areas designated to prevent urban sprawl by keeping land permanently open.

*This data is sourced from the Ministry of Housing, Communities and Local Government.*

## 10.12 Proposed Ramsar sites

| Records within 2000m | 0 |
|---|---|

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

*This data is sourced from Natural England.*

## 10.13 Possible Special Areas of Conservation (pSAC)

| Records within 2000m | 0 |
|---|---|

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

*This data is sourced from Natural England and Natural Resources Wales.*

## 10.14 Potential Special Protection Areas (pSPA)

| Records within 2000m | 0 |
|---|---|

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

*This data is sourced from Natural England.*

## 10.15 Nitrate Sensitive Areas

| Records within 2000m | 0 |
|---|---|

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

*This data is sourced from Natural England.*

## 10.16 Nitrate Vulnerable Zones

| Records within 2000m | 13 |
|---|---|

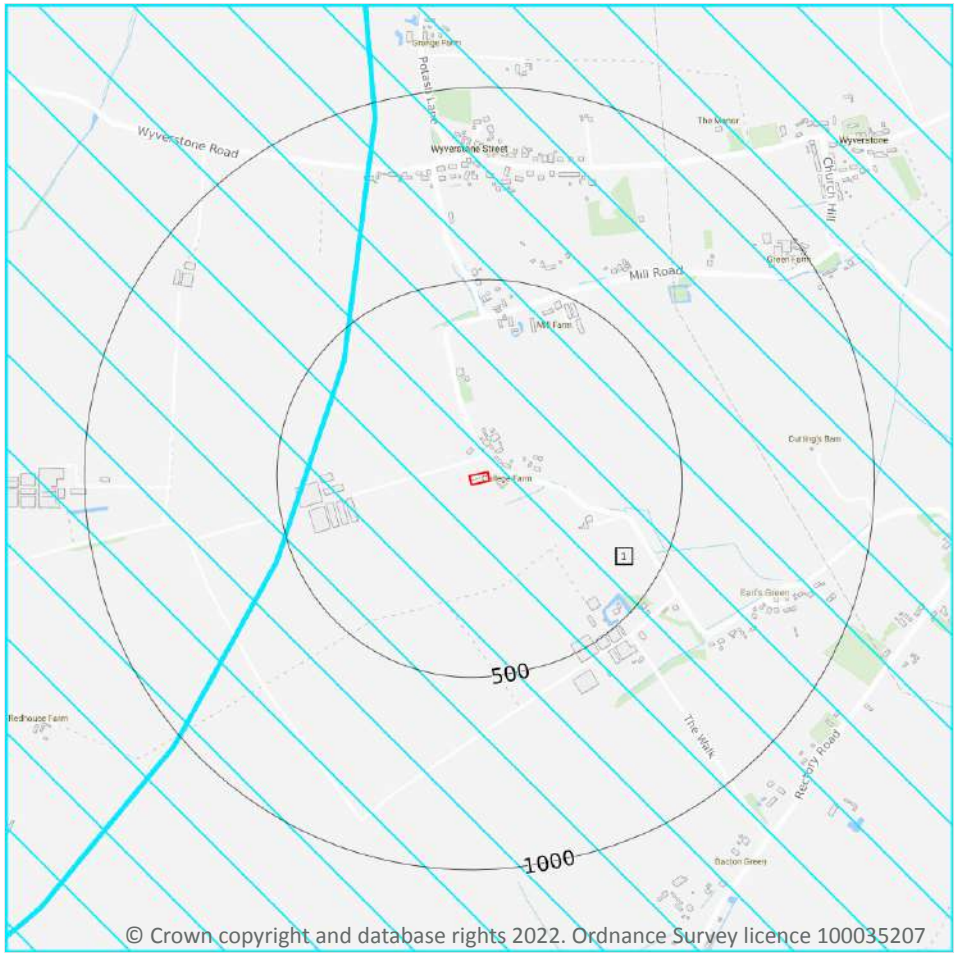
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

| Location | Name | Type | NVZ ID | Status |
|---|---|---|---|---|
| **On site** | **River Waveney NVZ** | **Surface Water** | **396** | **Existing** |
| 755m SW | River Gipping NVZ | Surface Water | 416 | Existing |
| 755m SW | Sandlings and Chelmsford | Groundwater | 78 | Existing |
| 777m NW | Ely Ouse and Cut-off channel NVZ | Surface Water | 390 | Existing |
| 833m NE | River Waveney NVZ | Surface Water | 396 | Existing |
| 945m S | River Waveney NVZ | Surface Water | 396 | Existing |
| 950m SW | Sandlings and Chelmsford | Groundwater | 78 | Existing |
| 950m SW | River Gipping NVZ | Surface Water | 416 | Existing |

| Location | Name | Type | NVZ ID | Status |
|---|---|---|---|---|
| 1267m E | River Waveney NVZ | Surface Water | 396 | Existing |
| 1581m SW | Ely Ouse and Cut-off channel NVZ | Surface Water | 390 | Existing |
| 1757m SW | Ely Ouse and Cut-off channel NVZ | Surface Water | 390 | Existing |
| 1985m SE | River Gipping NVZ | Surface Water | 416 | Existing |
| 1985m SE | Sandlings and Chelmsford | Groundwater | 78 | Existing |

*This data is sourced from Natural England and Natural Resources Wales.*

# SSSI Impact Zones and Units




Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

Not recorded

Favourable

Unfavourable - Recovering

Unfavourable - No change

Unfavourable - Declining

Partially destroyed

Destroyed

## 10.17 SSSI Impact Risk Zones

| Records on site | 1 |
|---|---|

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 49**

| ID | Location | Type of developments requiring consultation |
|---|---|---|
| **1** | **On site** | **Infrastructure - Airports, helipads and other aviation proposals.**<br>**Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 750m², manure stores > 3500t.** |

*This data is sourced from Natural England.*

## 10.18 SSSI Units

| Records within 2000m | 0 |
|---|---|

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

*This data is sourced from Natural England and Natural Resources Wales.*

# 11 Visual and cultural designations


Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

## 11.1 World Heritage Sites

| Records within 250m | 0 |
|---|---|

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 11.2 Area of Outstanding Natural Beauty

| Records within 250m | 0 |
|---|---|

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

*This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.*

## 11.3 National Parks

| Records within 250m | 0 |
|---|---|

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

*This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.*

## 11.4 Listed Buildings

| Records within 250m | 1 |
|---|---|

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

Features are displayed on the Visual and cultural designations map on **page 51**

| ID | Location | Name | Grade | Reference Number | Listed date |
|---|---|---|---|---|---|
| 1 | 126m E | Town Farm House, Wyverstone, Mid Suffolk, Suffolk, IP14 | II | 1033107 | 14/06/1987 |

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 11.5 Conservation Areas

| Records within 250m | 0 |
|---|---|

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

## 11.6 Scheduled Ancient Monuments

| Records within 250m | 0 |
|---|---|

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

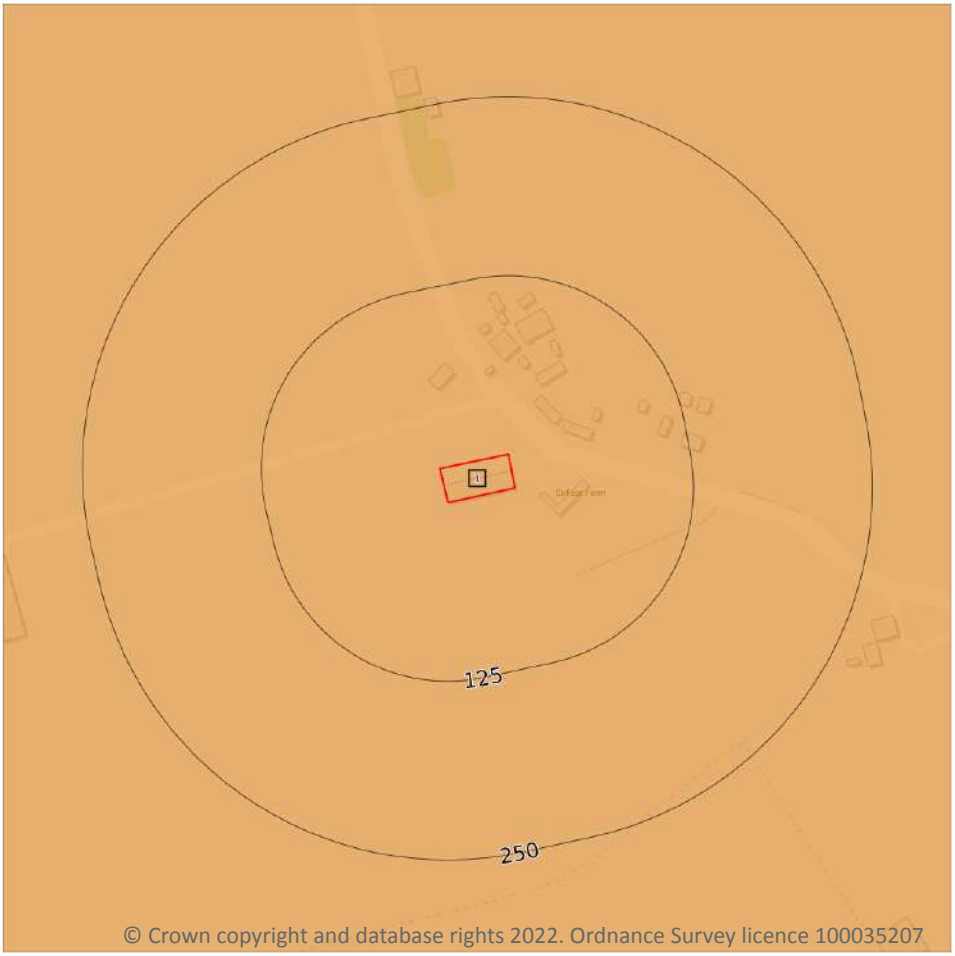
## 11.7 Registered Parks and Gardens

| Records within 250m | 0 |
|---|---|

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

*This data is sourced from Historic England, Cadw and Historic Environment Scotland.*

# 12 Agricultural designations




Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

## 12.1 Agricultural Land Classification

| Records within 250m | 1 |
|---|---|

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 54**

| ID | Location | Classification | Description |
|---|---|---|---|
| 1 | On site | Grade 3 | Good to moderate quality agricultural land. Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2. |

*This data is sourced from Natural England.*

## 12.2 Open Access Land

| Records within 250m | 0 |
|---|---|

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

*This data is sourced from Natural England and Natural Resources Wales.*

## 12.3 Tree Felling Licences

| Records within 250m | 0 |
|---|---|

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

*This data is sourced from the Forestry Commission.*

## 12.4 Environmental Stewardship Schemes

| Records within 250m | 0 |
|---|---|

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

*This data is sourced from Natural England.*

## 12.5 Countryside Stewardship Schemes

| Records within 250m | 5 |
|---|---|

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

| Location | Reference | Scheme | Start Date | End Date |
|---|---|---|---|---|
| **On site** | **496254** | **Countryside Stewardship (Middle Tier)** | **01/01/2018** | **31/12/2022** |
| 36m NW | 496254 | Countryside Stewardship (Middle Tier) | 01/01/2018 | 31/12/2022 |
| 107m E | 496254 | Countryside Stewardship (Middle Tier) | 01/01/2018 | 31/12/2022 |

| Location | Reference | Scheme | Start Date | End Date |
|---|---|---|---|---|
| 237m S | 496254 | Countryside Stewardship (Middle Tier) | 01/01/2018 | 31/12/2022 |
| 246m SE | 496254 | Countryside Stewardship (Middle Tier) | 01/01/2018 | 31/12/2022 |

*This data is sourced from Natural England.*

# 13 Habitat designations

## 13.1 Priority Habitat Inventory

| Records within 250m | 0 |
|---|---|

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

*This data is sourced from Natural England.*

## 13.2 Habitat Networks

| Records within 250m | 0 |
|---|---|

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

*This data is sourced from Natural England.*

## 13.3 Open Mosaic Habitat

| Records within 250m | 0 |
|---|---|

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

*This data is sourced from Natural England.*

## 13.4 Limestone Pavement Orders

| Records within 250m | 0 |
|---|---|

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

*This data is sourced from Natural England.*

# 14 Geology 1:10,000 scale - Availability




Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

## 14.1 10k Availability

| Records within 500m | 1 |
|---|---|

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 58**

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|---|---|---|---|---|---|---|
| **1** | **On site** | **No coverage** | **No coverage** | **No coverage** | **No coverage** | **NoCov** |

*This data is sourced from the British Geological Survey.*

# Geology 1:10,000 scale - Artificial and made ground

## 14.2 Artificial and made ground (10k)

| Records within 500m | 0 |
|---|---|

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

*This data is sourced from the British Geological Survey.*

# Geology 1:10,000 scale - Superficial

## 14.3 Superficial geology (10k)

| Records within 500m | 0 |
|---|---|

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

*This data is sourced from the British Geological Survey.*

## 14.4 Landslip (10k)

| Records within 500m | 0 |
|---|---|

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

*This data is sourced from the British Geological Survey.*

# Geology 1:10,000 scale - Bedrock

## 14.5 Bedrock geology (10k)

| Records within 500m | 0 |
|---|---|

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

*This data is sourced from the British Geological Survey.*

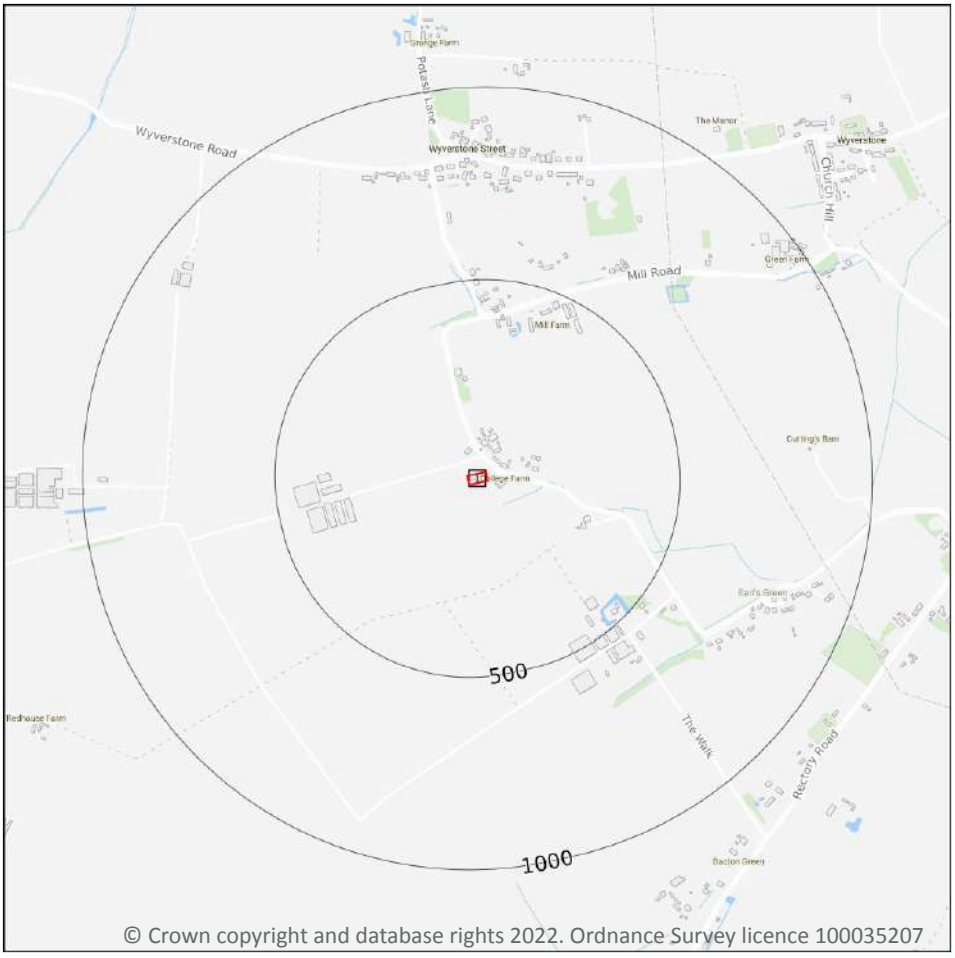
## 14.6 Bedrock faults and other linear features (10k)

| Records within 500m | 0 |
|---|---|

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

*This data is sourced from the British Geological Survey.*

# 15 Geology 1:50,000 scale - Availability




Site Outline

Search buffers in metres (m)

Geological map tile

## 15.1 50k Availability

| Records within 500m | 1 |
|---|---|

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 62**

| ID | Location | Artificial | Superficial | Bedrock | Mass movement | Sheet No. |
|---|---|---|---|---|---|---|
| **1** | **On site** | **Full** | **Full** | **Full** | **No coverage** | **EW190_eye_v4** |

*This data is sourced from the British Geological Survey.*

# Geology 1:50,000 scale - Artificial and made ground

## 15.2 Artificial and made ground (50k)

| Records within 500m | 0 |
|---|---|

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

*This data is sourced from the British Geological Survey.*

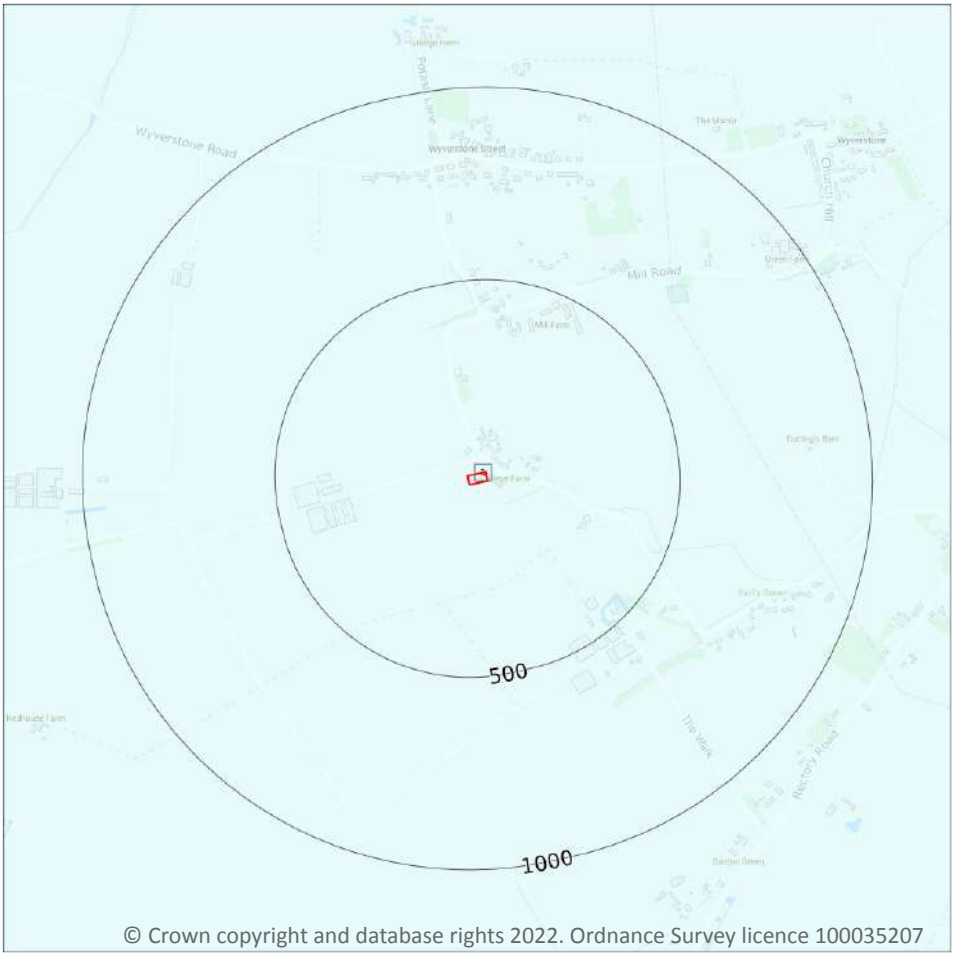
## 15.3 Artificial ground permeability (50k)

| Records within 50m | 0 |
|---|---|

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

*This data is sourced from the British Geological Survey.*

# Geology 1:50,000 scale - Superficial






Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

## 15.4 Superficial geology (50k)

| Records within 500m | 1 |
|---|---|

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 64**

| ID | Location | LEX Code | Description | Rock description |
|---|---|---|---|---|
| **1** | **On site** | **LOFT-DMTN** | **LOWESTOFT FORMATION** | **DIAMICTON** |

*This data is sourced from the British Geological Survey.*

## 15.5 Superficial permeability (50k)

| Records within 50m | 1 |
|---|---|

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

| Location | Flow type | Maximum permeability | Minimum permeability |
|---|---|---|---|
| **On site** | **Mixed** | **Moderate** | **Low** |

*This data is sourced from the British Geological Survey.*

## 15.6 Landslip (50k)

| Records within 500m | 0 |
|---|---|

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

*This data is sourced from the British Geological Survey.*

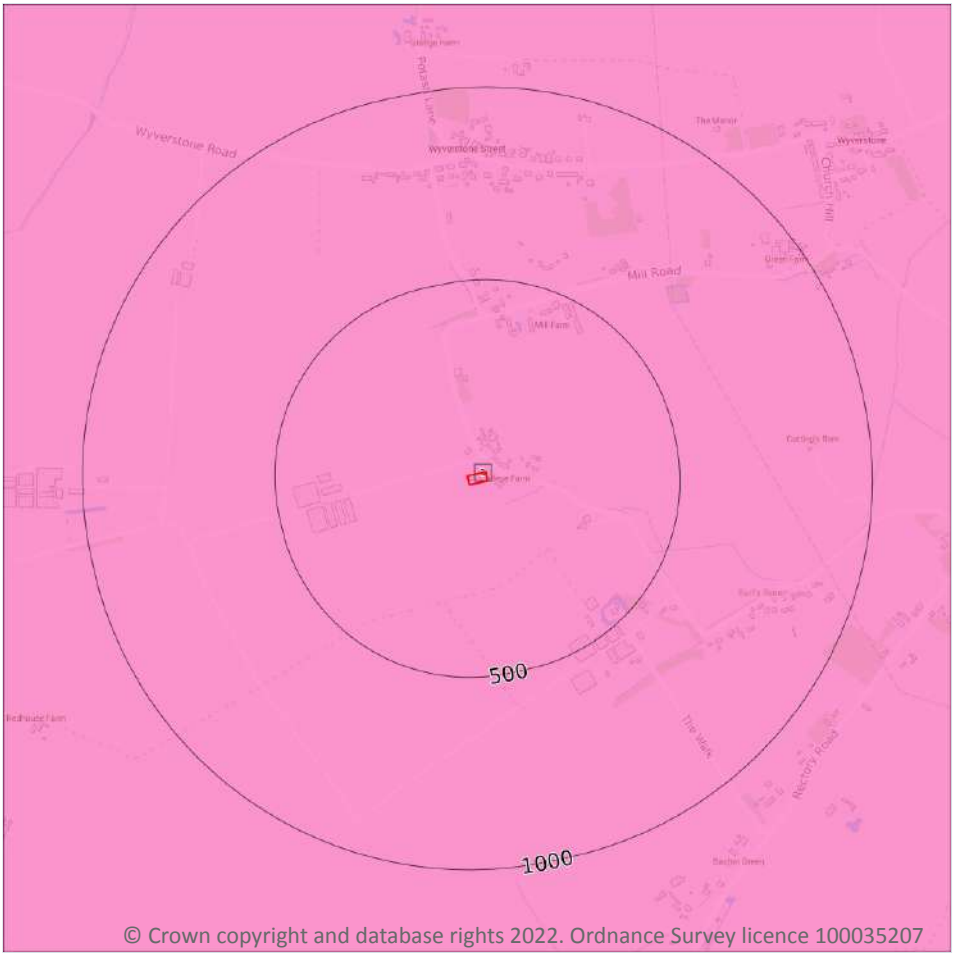
## 15.7 Landslip permeability (50k)

| Records within 50m | 0 |
|---|---|

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

*This data is sourced from the British Geological Survey.*

# Geology 1:50,000 scale - Bedrock






Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

## 15.8 Bedrock geology (50k)

| Records within 500m | 1 |
|---|---|

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 66**

| ID | Location | LEX Code | Description | Rock age |
|---|---|---|---|---|
| **1** | **On site** | **CRAG-S** | **CRAG GROUP - SAND** | **-** |

*This data is sourced from the British Geological Survey.*

## 15.9 Bedrock permeability (50k)

| Records within 50m | 1 |
|---|---|

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

| Location | Flow type | Maximum permeability | Minimum permeability |
|---|---|---|---|
| **On site** | **Intergranular** | **High** | **High** |

*This data is sourced from the British Geological Survey.*

## 15.10 Bedrock faults and other linear features (50k)

| Records within 500m | 0 |
|---|---|

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

*This data is sourced from the British Geological Survey.*

# 16 Boreholes

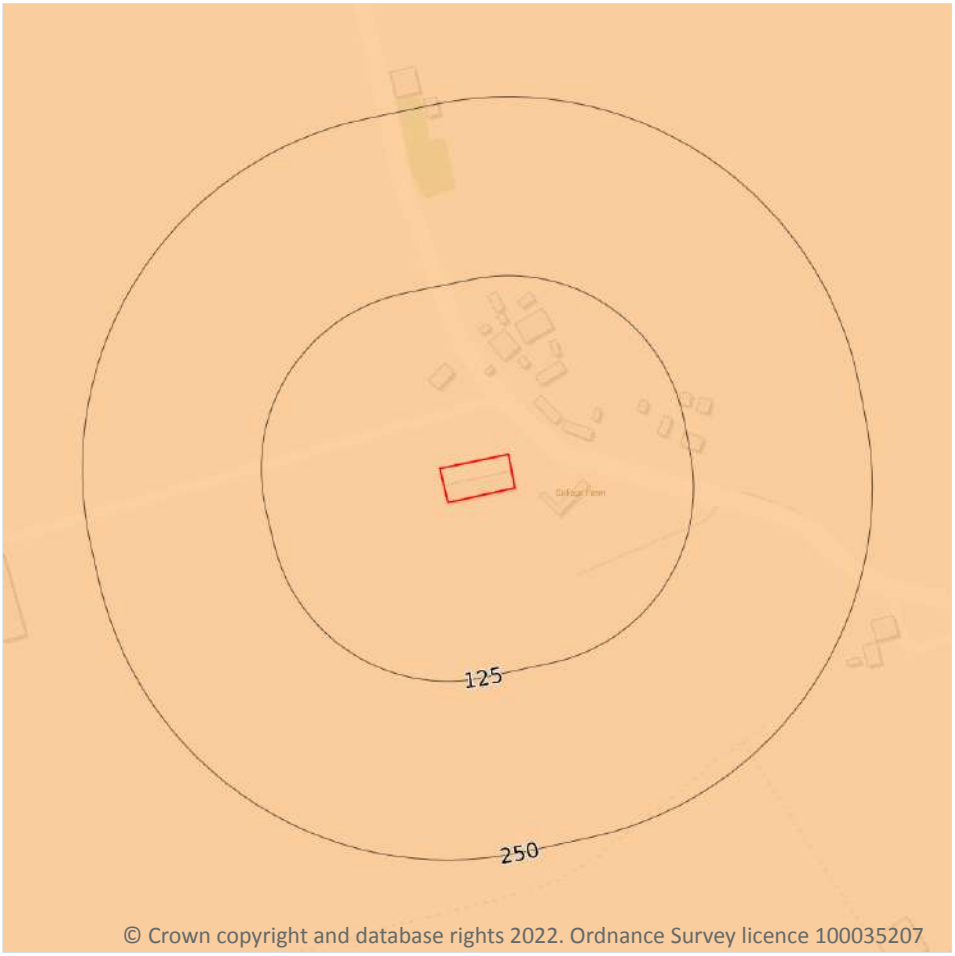
## 16.1 BGS Boreholes

| Records within 250m | 0 |
|---|---|

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

*This data is sourced from the British Geological Survey.*

# 17 Natural ground subsidence - Shrink swell clays




Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

## 17.1 Shrink swell clays

| Records within 50m | 1 |
|---|---|

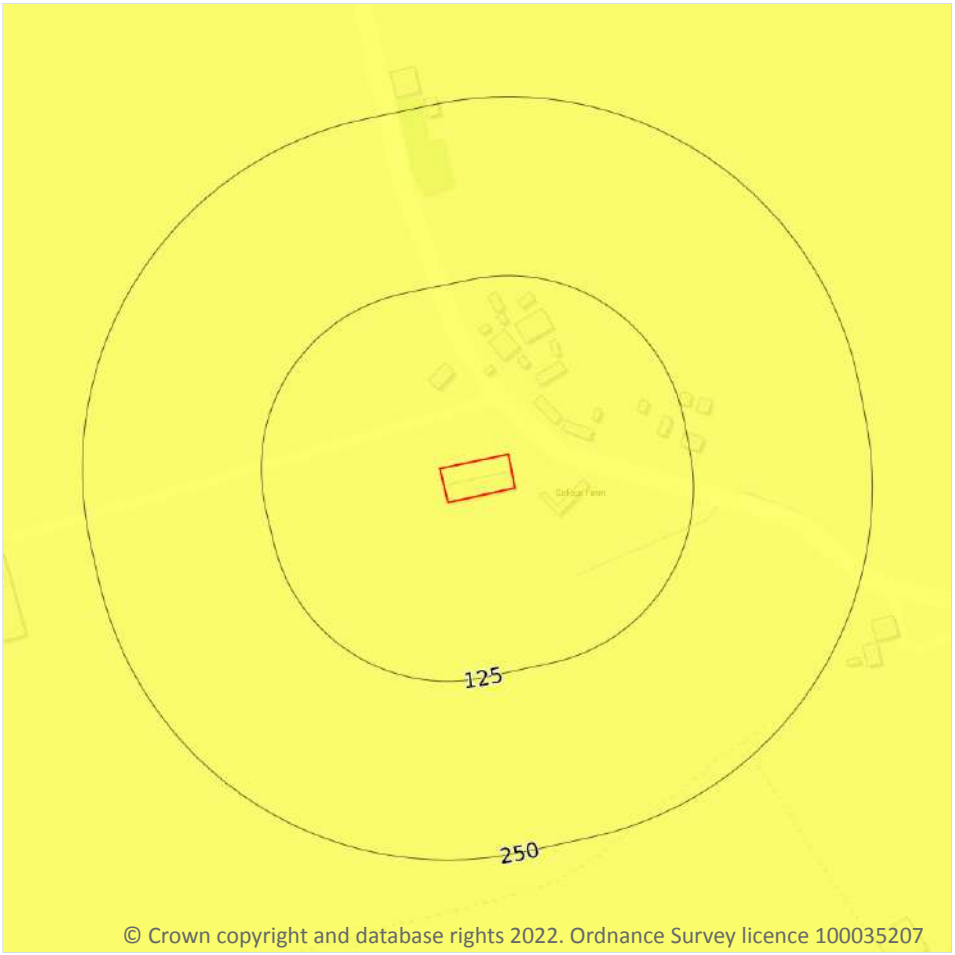
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 69**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Low** | **Ground conditions predominantly medium plasticity.** |

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Running sands






Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

## 17.2 Running sands

| Records within 50m | 1 |
|---|---|

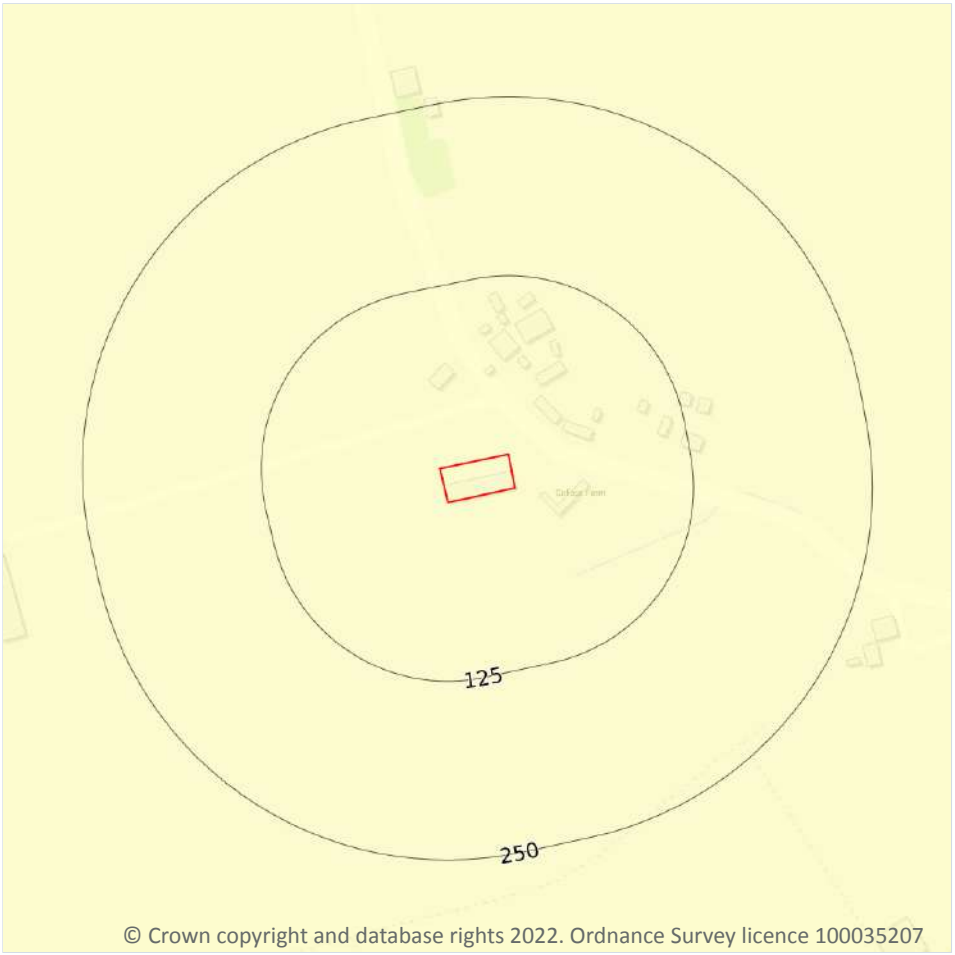
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 70**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Very low** | **Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.** |

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Compressible deposits






Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

## 17.3 Compressible deposits

| Records within 50m | 1 |
|---|---|

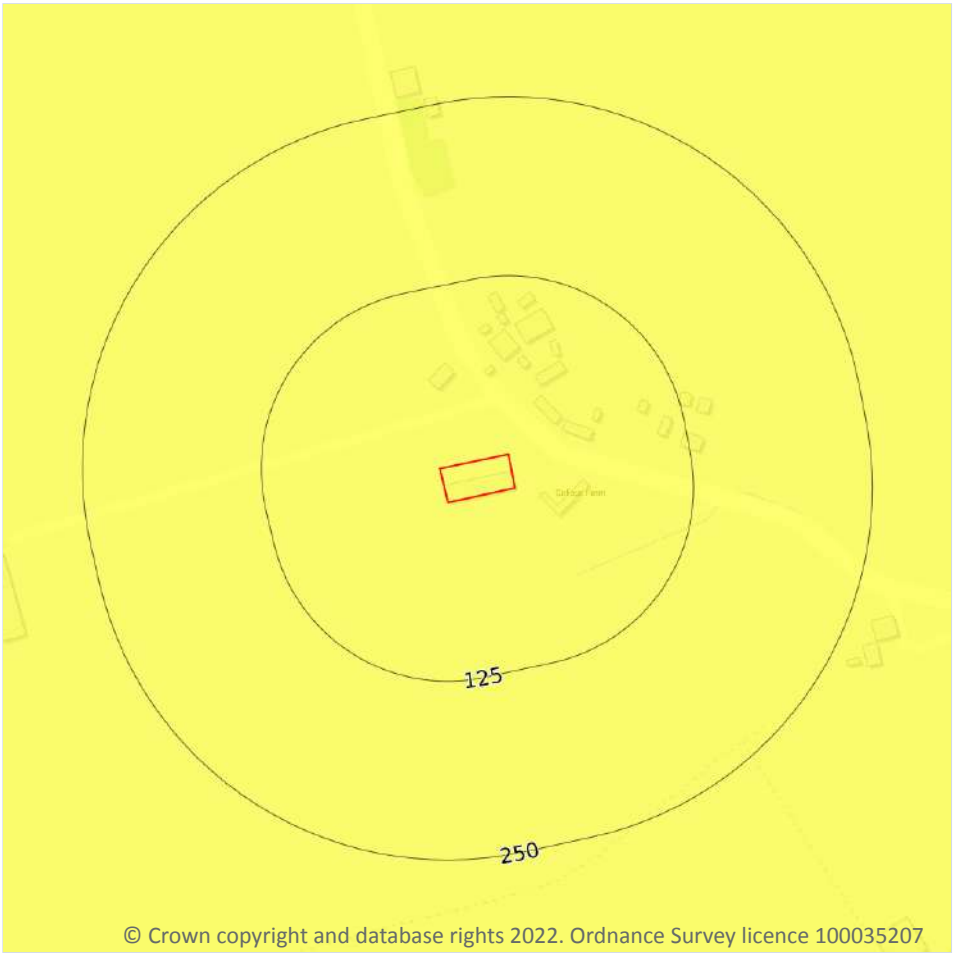
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 71**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Negligible** | **Compressible strata are not thought to occur.** |

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Collapsible deposits






Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

## 17.4 Collapsible deposits

| **Records within 50m** | **1** |
|---|---|

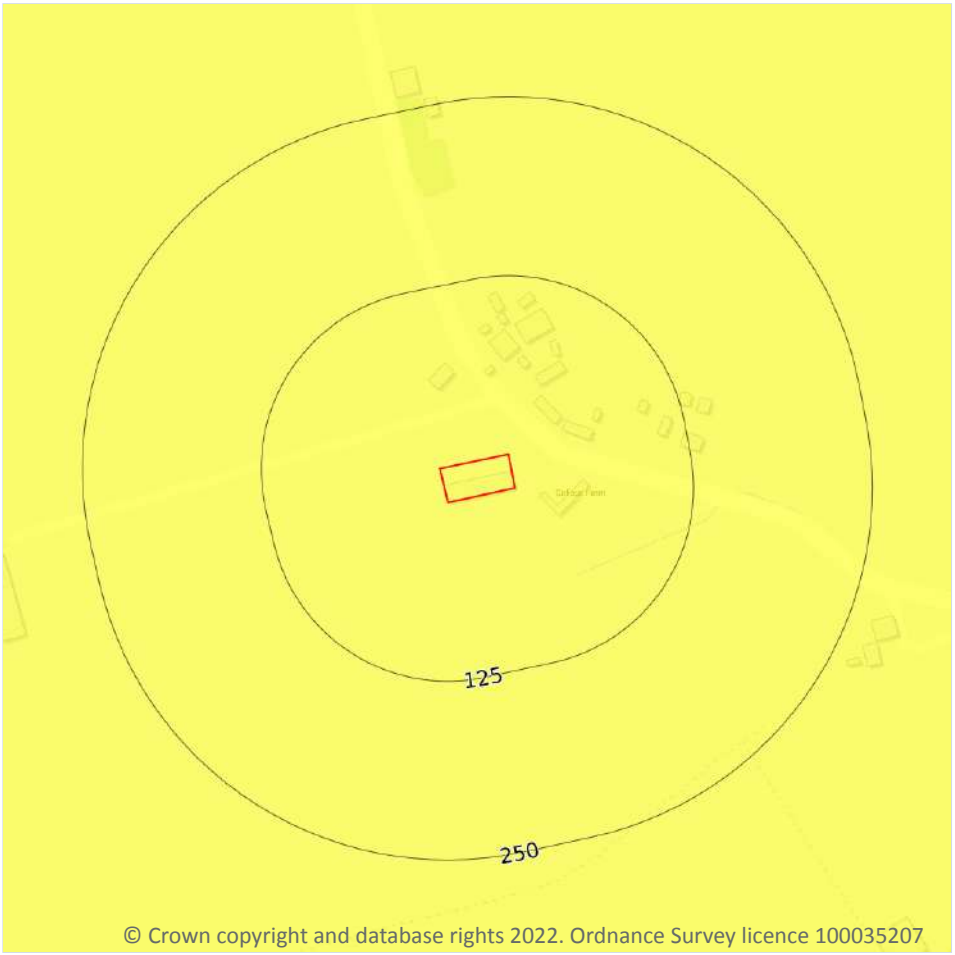
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 72**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Very low** | **Deposits with potential to collapse when loaded and saturated are unlikely to be present.** |

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Landslides




Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

## 17.5 Landslides

| Records within 50m | 1 |
|---|---|

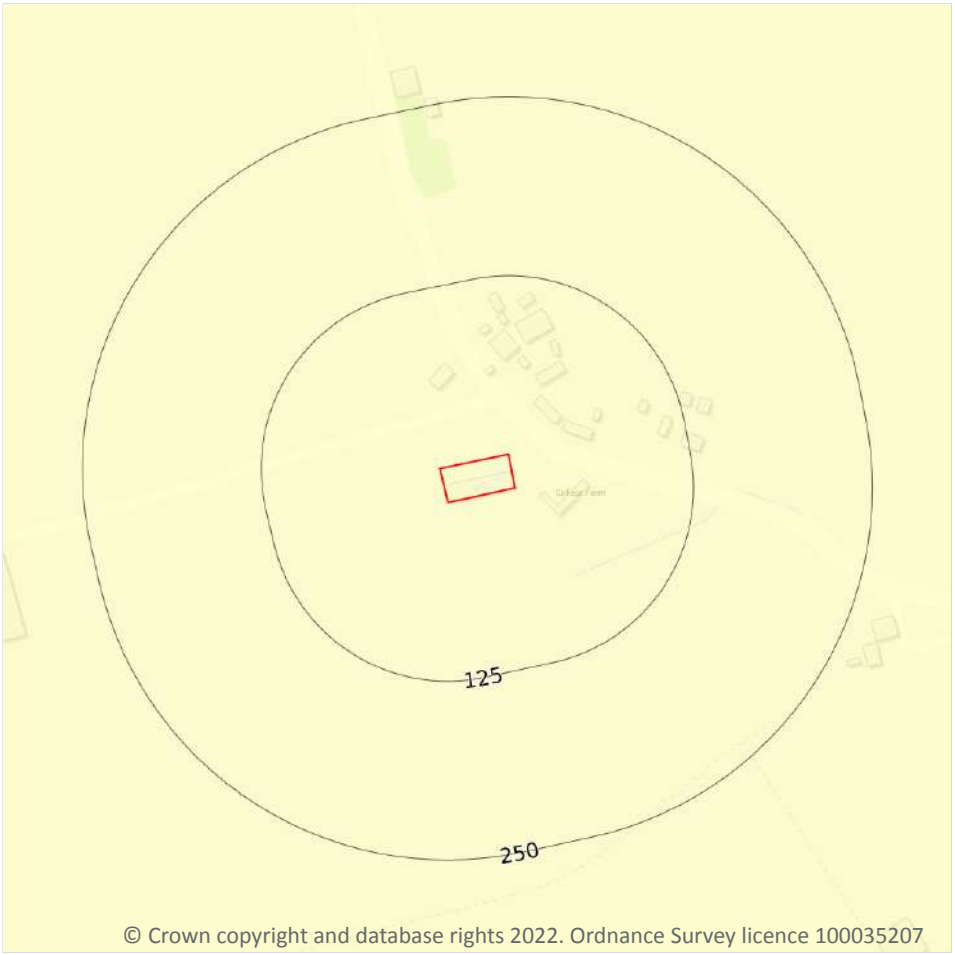
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 73**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Very low** | **Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.** |

*This data is sourced from the British Geological Survey.*

# Natural ground subsidence - Ground dissolution of soluble rocks






Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

## 17.6 Ground dissolution of soluble rocks

| Records within 50m | 1 |
|---|---|

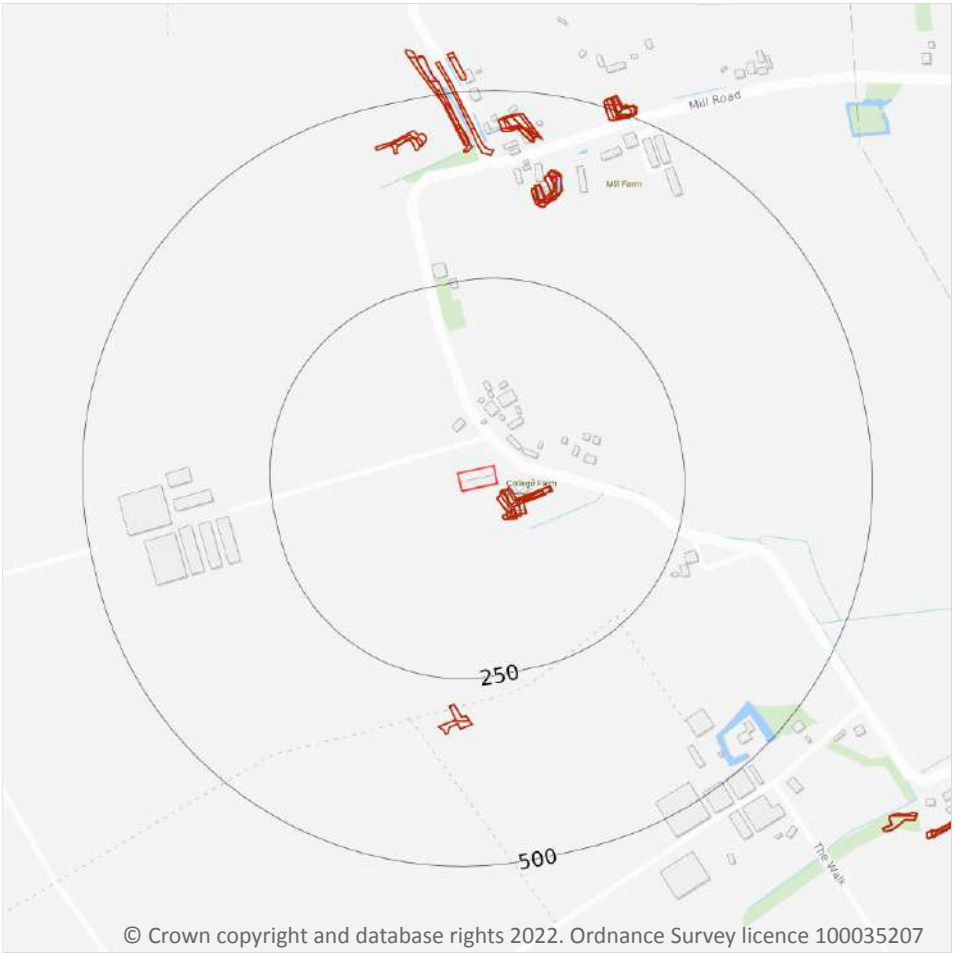
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 74**

| Location | Hazard rating | Details |
|---|---|---|
| **On site** | **Negligible** | **Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.** |

*This data is sourced from the British Geological Survey.*

# 18 Mining, ground workings and natural cavities






Site Outline

Search buffers in metres (m)

Natural cavities (Area)

Natural cavities (Point)

BritPits

Surface ground workings

Underground workings

Historical Mineral Planning Areas

Mining Cavities

Non Coal Mining

Sporadic underground mining of restricted extent possible

Localised small scale underground mining possible

Small scale mining possible

Underground mining known or likely within or in close proximity

Underground mining known within or in very close proximity

## 18.1 Natural cavities

| Records within 500m | 0 |
|---|---|

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

*This data is sourced from Stantec UK Ltd.*

## 18.2 BritPits

| Records within 500m | 0 |
|---|---|

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

*This data is sourced from the British Geological Survey.*

## 18.3 Surface ground workings

| Records within 250m | 4 |
|---|---|

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining, ground workings and natural cavities map on **page 75**

| ID | Location | Land Use | Year of mapping | Mapping scale |
|---|---|---|---|---|
| A | 12m SE | Pond | 1950 | 1:10560 |
| A | 12m SE | Pond | 1884 | 1:10560 |
| A | 13m SE | Pond | 1905 | 1:10560 |
| A | 16m SE | Pond | 1950 | 1:10560 |

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.4 Underground workings

| Records within 1000m | 0 |
|---|---|

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

*This is data is sourced from Ordnance Survey/Groundsure.*

## 18.5 Historical Mineral Planning Areas

| Records within 500m | 0 |
|---|---|

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

*This data is sourced from the British Geological Survey.*

## 18.6 Non-coal mining

| Records within 1000m | 0 |
|---|---|

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

*This data is sourced from the British Geological Survey.*

## 18.7 Mining cavities

| Records within 1000m | 0 |
|---|---|

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

*This data is sourced from Stantec UK Ltd.*

## 18.8 JPB mining areas

| Records on site | 0 |
|---|---|

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

*This data is sourced from Johnson Poole and Bloomer.*

## 18.9 Coal mining

| Records on site | 0 |
|---|---|

Areas which could be affected by past, current or future coal mining.

*This data is sourced from the Coal Authority.*

## 18.10 Brine areas

| Records on site | 0 |
|---|---|

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

*This data is sourced from the Cheshire Brine Subsidence Compensation Board.*

## 18.11 Gypsum areas

| Records on site | 0 |
|---|---|

Generalised areas that may be affected by gypsum extraction.

*This data is sourced from British Gypsum.*

## 18.12 Tin mining

| Records on site | 0 |
|---|---|

Generalised areas that may be affected by historical tin mining.

*This data is sourced from Groundsure.*

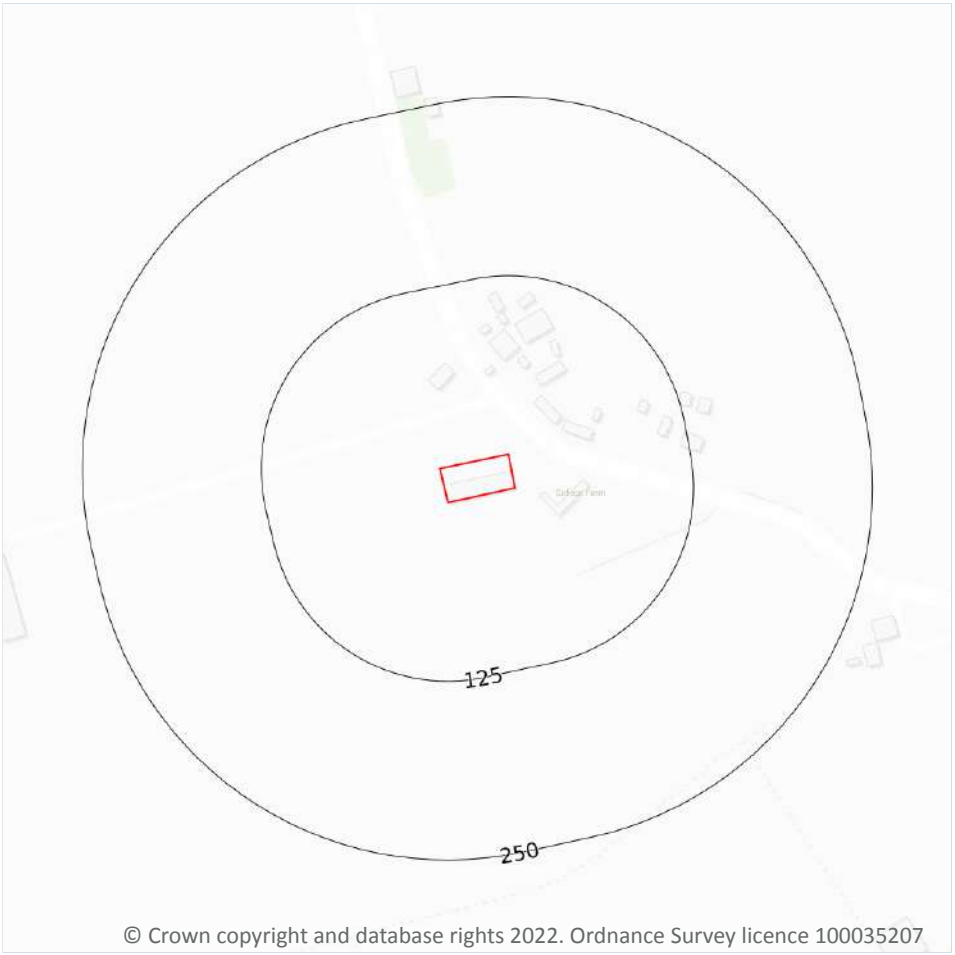
## 18.13 Clay mining

| Records on site | 0 |
|---|---|

Generalised areas that may be affected by kaolin and ball clay extraction.

*This data is sourced from the Kaolin and Ball Clay Association (UK).*

# 19 Radon






Site Outline

Search buffers in metres (m)

Greater than 30%

Between 10% and 30%

Between 5% and 10%

Between 3% and 5%

Between 1% and 3%

Less than 1%

## 19.1 Radon

| Records on site | 1 |
|---|---|

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 79**

| Location | Estimated properties affected | Radon Protection Measures required |
|---|---|---|
| **On site** | **Less than 1%** | **None**** |

*This data is sourced from the British Geological Survey and Public Health England.*

# 20 Soil chemistry

## 20.1 BGS Estimated Background Soil Chemistry

| Records within 50m | 2 |
|---|---|

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 $km^2$. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 $km^2$; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

| Location | Arsenic | Bioaccessible Arsenic | Lead | Bioaccessible Lead | Cadmium | Chromium | Nickel |
|---|---|---|---|---|---|---|---|
| **On site** | **15 mg/kg** | **No data** | **100 mg/kg** | **60 mg/kg** | **1.8 mg/kg** | **60 - 90 mg/kg** | **15 - 30 mg/kg** |
| 40m N | 15 mg/kg | No data | 100 mg/kg | 60 mg/kg | 1.8 mg/kg | 40 - 60 mg/kg | 15 - 30 mg/kg |

*This data is sourced from the British Geological Survey.*

## 20.2 BGS Estimated Urban Soil Chemistry

| Records within 50m | 0 |
|---|---|

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per $km^2$).

*This data is sourced from the British Geological Survey.*

## 20.3 BGS Measured Urban Soil Chemistry

| Records within 50m | 0 |
|---|---|

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per $km^2$.

*This data is sourced from the British Geological Survey.*

# 21 Railway infrastructure and projects

## 21.1 Underground railways (London)

| Records within 250m | 0 |
|---|---|

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

*This data is sourced from publicly available information by Groundsure.*

## 21.2 Underground railways (Non-London)

| Records within 250m | 0 |
|---|---|

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.

*This data is sourced from publicly available information by Groundsure.*

## 21.3 Railway tunnels

| Records within 250m | 0 |
|---|---|

Railway tunnels taken from contemporary Ordnance Survey mapping.

*This data is sourced from the Ordnance Survey.*

## 21.4 Historical railway and tunnel features

| Records within 250m | 0 |
|---|---|

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

*This data is sourced from Ordnance Survey/Groundsure.*

## 21.5 Royal Mail tunnels

| Records within 250m | 0 |
|---|---|

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

*This data is sourced from Groundsure/the Postal Museum.*

## 21.6 Historical railways

| Records within 250m | 0 |
|---|---|

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

*This data is sourced from OpenStreetMap.*

## 21.7 Railways

| Records within 250m | 0 |
|---|---|

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

*This data is sourced from Ordnance Survey and OpenStreetMap.*

## 21.8 Crossrail 1

| Records within 500m | 0 |
|---|---|

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

*This data is sourced from publicly available information by Groundsure.*

## 21.9 Crossrail 2

| Records within 500m | 0 |
|---|---|

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

*This data is sourced from publicly available information by Groundsure.*

## 21.10 HS2

| Records within 500m | 0 |
|---|---|

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

*This data is sourced from HS2 ltd.*

## Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference.

## Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

# Appendix D: Contaminated Land Risk Assessment Methodology

# Contaminated Land Risk Assessment Methodology

The following Contaminated Land Risk Assessment methodology is based on CIRIA C552 (2001) *Contaminated Land Risk Assessment – A Guide to Good Practice*, and is used in order to quantify the risk posed by various sources, pathway and receptor linkages as identified by the Phase I (Desk Study) stage. This will then determine an overall risk category which can be used to identify potential investigation or remedial actions. This methodology uses qualitative descriptors and therefore is a qualitative approach based on the desk study information and should be refined following receipt of any Phase II investigation data.

The methodology requires the classification of:

- the magnitude of the **consequence** (severity) of a risk occurring, and
- the magnitude of the **probability** (likelihood) of a risk occurring.

The potential consequences of contamination risks occurring at this site are classified in accordance with Table A below:

| Classification | Definition of Consequence |
|---|---|
| Severe | • Short-term (acute) risks to human health<br>• Short-term risk of pollution of sensitive water resource or ecosystem<br>• Catastrophic damage to crops/buildings/property/infrastructure, including off-site soils |
| Medium | • Medium/long-term (chronic) risks to human health<br>• Medium/long-term risk of pollution of sensitive water resource or ecosystem<br>• Significant damage to crops/buildings/property/infrastructure (on or off-site)<br>• Contamination of off-site soils |
| Mild | • Easily preventable, permanent health effects on humans<br>• Pollution of non-sensitive water resources<br>• Localised damage to crops/buildings/property/infrastructure (on or off-site) |
| Minor | • Easily preventable, non-permanent health effects on humans, or no effects<br>• Minor, low-level and localised contamination of on-site soils<br>• Easily repairable damage to crops/buildings/property/infrastructure |

Table A: Classification of Consequence

The probability of contamination risks occurring at this Site are classified in accordance with Table B below:

| Classification | Definition of Probability |
|---|---|
| High Likelihood | Circumstances are such that an event appears very likely in the short-term or almost inevitable in the long-term; or there is already evidence that such an event has occurred. |
| Likely | Circumstances are such that such an event is not inevitable, but is possible in the short-term and is likely over the long-term. |
| Low Likelihood | Circumstances are such that it is by no means certain that an event would occur even over a longer period, and it is less likely in the short-term. |
| Unlikely | Circumstances are such that it is improbable that an event would occur even in the very long-term. |

Table B: Classification of Probability*

*Note that for each category, it is assumed that a pollution linkage exists. Where a pollution linkage does not exist, the likelihood is zero, as is the risk.

For each possible pollution linkage (source-pathway-receptor) identified, the potential risk can be evaluated based upon the following **probability** x **consequence** matrix:

| | | **Consequence** | | | |
|---|---|---|---|---|---|
| | | Severe | Medium | Mild | Minor |
| Probability | High Likelihood | Very High Risk | High risk | Moderate Risk | Low Risk |
| | Likely | High Risk | Moderate Risk | Moderate Risk | Low Risk |
| | Low Likelihood | Moderate Risk | Moderate Risk | Low Risk | Very Low Risk |
| | Unlikely | Low Risk | Low Risk | Very Low Risk | Very Low Risk |

Table C: Risk Matrix

The definitions of the risk categories, together with the investigatory and remedial actions that are likely to be necessary in each case are shown in Table D. These risk categories apply to each pollutant linkage, not simply to each hazard or receptor.

| Risk Category | Definition and likely actions required |
|---|---|
| Very High | • Severe harm to a defined receptor is very likely, or has already occurred<br>• The risk is likely to result in a substantial liability<br>• Urgent investigation (if not already undertaken) is likely to be required<br>• Urgent remediation is likely to be required |
| High | • Harm to a defined receptor is likely<br>• The risk, if realised, may result in a substantial liability<br>• Urgent investigation (if not already undertaken) is likely to be required<br>• Remediation is likely to be required in the long term, possibly sooner |
| Moderate | • Harm to a defined receptor is possible, but severe harm is unlikely<br>• Investigation is likely to be required to clarify the level of potential liability and risk<br>• Some remediation may be required in the longer term |
| Low | • Harm to a defined receptor is possible, but is likely to be mild at worst<br>• Liabilities could theoretically arise, but are unlikely<br>• Further investigation is not required at this stage<br>• Remediation is unlikely to be required |
| Very Low | • Harm to a defined receptor is unlikely, and would be minor at worst<br>• No liabilities are likely to arise<br>• Further investigation is not required at this stage<br>• Remediation is very unlikely to be required |

Table D: Definition of Risk Categories and Likely Actions Required