



# Phase I Geo-Environmental Desk Study

Site: Land at Lower Road, Breachwood Green, SG4 8NS

Prepared for: Mr Geoff Long

14<sup>th</sup> August 2026

Project reference: UK26.7955

Report Status: Issue 1



**EPS Project Reference:** UK26.7955

**Title:** Phase I Geo-Environmental Desk Study  
Land at Lower Road, Breachwood Green, SG4 8NS

**Client:** Mr Geoff Long 15 Lower Road, Breachwood Green, SG4 8NS

**EPS Contact Details:** Cambridge Office  
7B Caxton House  
Broad Street  
Cambourne  
Cambridge, CB23 6JN  
Tel: 01954 710666  
info@epstrategies.co.uk

**Issue: 1** **Date:** 14<sup>th</sup> August 2026

**Author(s):**

**Technical Review:**

**Authorisation Review:**

*J Beale*

*T Hodgkinson*

*S Bullock*

Jonathan Beale

Tom Hodgkinson

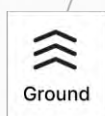
Steve Bullock

Geo-environmental Engineer

Senior Consultant

Director

**Connected Sustainable Thinking.**



Environmental Protection Strategies Ltd (04330320) trading as EPS



Registered Office: 7 Caxton House, Broad Street, Cambourne, Cambridge CB23 6JN

## NON-TECHNICAL CLIENT SUMMARY

### LAND AT LOWER ROAD, BREACHWOOD GREEN, SG4 8NS

This report presents the findings of a Phase I Geo-Environmental Desk Study which was carried out to assess risks posed by contaminated land and to provide an initial assessment of geological and geotechnical aspects to inform how the proposed development might be affected.

- The site comprises an undeveloped open field at the edge of a village, on which a residential development is proposed comprising the construction of six properties with associated soft landscaping, parking space and an access road.
- Geological records indicate the underlying ground conditions to comprise superficial deposits of the Clay-with-Flints Formation followed by bedrock of the Lewes Nodular Chalk Formation, the latter of which is classified as a Principal Aquifer. The site also lies within an area where groundwater is protected for abstraction, although records indicate the water table to lie in excess of 30m below ground level. As such, the site is considered to lie in an area of moderate environmental sensitivity.
- Review of available historical mapping suggests that the site has remained undeveloped since at least the 1880s. However, a small concrete slab was noted in the southeast corner of the site, potentially evidence of some minor previous development in this area. According to the Client, the land was previously used at times for dog agility training and for keeping horses, and a small shed was previously present where the concrete slab was identified.
- On this basis, a limited number of plausible risks have been identified in association with the possible presence of contaminated shallow soils in isolated areas. It is plausible that future site users could be exposed to these soils should they be uncovered through the development works, particularly where future landscaped areas may intersect with the locations of former structures. Therefore, it is recommended that a modest intrusive investigation is undertaken to further assess these risks.
- A copy of this report should be provided to the Environmental Health department of North Hertfordshire District Council so that the information may be used to support the current planning application. This report should satisfy the requirements of Condition 7 part (a) under 22/02871/FP and the issue of contaminated land does not appear to present a barrier to a viable redevelopment.

The above points represent a simplified summary of the findings of this assessment and **must not** form the basis for key decisions for the proposed development. A thorough review of the details is contained within the following report, or alternatively get in touch and we'll talk you through it.

## **LIMITATIONS**

This report has been prepared for the client(s) listed on the report title page. Environmental Protection Strategies (EPS) accepts no liability or responsibility for use of, or reliance upon, this report and / or the information contained within it by third parties.

If third parties have been contracted / consulted during compilation of this report, the validity of any data they may have supplied, and which are included in the report, have been assessed as far as possible by EPS however, EPS cannot guarantee the validity of these data.

No part of this report, or references to it, may be included in published documents of any kind without approval from EPS.

This report and its contents, together with any supporting correspondence or other documentation, remain the property of Environmental Protection Strategies Ltd until paid for in full.

Where ground investigations have been conducted, these have been limited to the level of detail required for the site in order to achieve the objectives of the investigation.

The report has been written, reviewed and authorised by the persons listed on page 2. It has also undergone EPS' quality management inspection. Should you require any further assistance regarding the information provided within the report, please do not hesitate to contact us.

The National Planning Policy Framework requires a competent person to prepare site investigation information, which is defined as a person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, and membership of a relevant professional organisation. EPS considers that it fulfils these criteria and would welcome any request for staff CVs or case studies to demonstrate it.

As stated within DEFRA's Contaminated Land Statutory Guidance, with any complex risk assessment it is possible that different suitably qualified people may reach slightly different conclusions when interpreting the same information. EPS recognises this and considers the conclusions presented within this report to be robust and appropriate but input from the Local Authority and their judgement in line with this guidance would still be welcomed.

## TABLE OF CONTENTS

|          |                                                                      |           |
|----------|----------------------------------------------------------------------|-----------|
| <b>1</b> | <b>INTRODUCTION .....</b>                                            | <b>1</b>  |
| 1.1      | Objectives .....                                                     | 1         |
| 1.2      | Limitations and Constraints .....                                    | 1         |
| <b>2</b> | <b>SITE CHARACTERISATION .....</b>                                   | <b>3</b>  |
| 2.1      | Site & Location Description .....                                    | 3         |
| 2.2      | Geo-Environmental Setting .....                                      | 4         |
| 2.3      | Site History .....                                                   | 7         |
| <b>3</b> | <b>PRELIMINARY RISK ASSESSMENT &amp; CONCEPTUAL SITE MODEL .....</b> | <b>9</b>  |
| 3.1      | Background .....                                                     | 9         |
| 3.2      | Source Characterisation .....                                        | 9         |
| 3.3      | Potential Receptors .....                                            | 10        |
| 3.4      | Potential Pathways .....                                             | 12        |
| 3.5      | Summary of Contaminant Linkages .....                                | 12        |
| 3.6      | Key Potential Areas of Concern and Uncertainties .....               | 14        |
| <b>4</b> | <b>GEOTECHNICAL GROUND MODEL .....</b>                               | <b>15</b> |
| <b>5</b> | <b>CONCLUSIONS &amp; RECOMMENDATIONS .....</b>                       | <b>17</b> |
|          | <b>Figures .....</b>                                                 | <b>18</b> |
|          | Figure 1 Site Location Plan                                          |           |
|          | Figure 2 Current Site Layout Plan                                    |           |
|          | Figure 3 Aerial Photograph                                           |           |
|          | <b>Appendices .....</b>                                              | <b>19</b> |
|          | Appendix A Selected Site Photographs & Site Walkover Notes           |           |
|          | Appendix B Proposed Development Plan                                 |           |
|          | Appendix C Surrounding Land Use                                      |           |
|          | Appendix D Geological Context                                        |           |
|          | Appendix E Groundwater Vulnerability Maps                            |           |
|          | Appendix F Selection of Historic Maps                                |           |

## 1 INTRODUCTION

In July 2026, Environmental Protection Strategies Ltd (EPS) was commissioned by Mr Geoff Long on behalf of Mr Geoff Long to complete a Phase I Geo-Environmental Desk Study Report for land at Lower Road, Breachwood Green, SG4 8NS ('the site'); see Figure 1.

The work was commissioned in order to fulfil planning requirements relating to land contamination (Condition 7 under North Hertfordshire District Council extant planning consent ref: 22/02871/FP) for a proposed development understood to comprise the construction of 6No new residential properties with associated soft landscaping, parking space and an access road. The properties will comprise a combination of semi-detached, and detached with standalone garage.

This report presents the findings, conclusions, and recommendations of the Phase I Desk Study undertaken for the site as instructed.

### 1.1 Objectives

The purpose of this desk study is to evaluate the potential contaminant linkages which may be active at the site in its current condition, or could become active in future, and to determine if any action is required to investigate them further or to break them.

This is achieved by carrying out the following activities:

- a) Examining the site history - late 1800s to present day, through collection of historical maps of the area, site records, records held by relevant local authorities and the Environment Agency, and review of other information databases.
- b) Characterising the site's environmental and geological sensitivity through examination of existing geological, hydrogeological, topographical and historical maps, and aerial photographs of the area.
- c) Identifying Potential Areas of Concern through a combination of historical map and data review.
- d) Consideration of any future plans for the site and the effects any proposed changes may have on contaminant linkages over time.
- e) Development of a Conceptual Site Model through a Preliminary Risk Assessment to evaluate the potential risks posed by the site and make recommendations for any further work that may be required to ensure suitability for use and safe development. In accordance with the Environment Agency's *Land Contamination: Risk Management* guidance and the *National Planning Policy Framework*.

### 1.2 Limitations and Constraints

The purpose of this report is to present the findings of a soil sampling investigation conducted at the location(s) specified. When examining the data collected from the investigations made during the assessment, Environmental Protection Strategies Ltd (EPS) makes the following statements:

This report does not include specific investigation for the presence of either Potential Asbestos Containing Material (PACM) or Japanese Knotweed at the subject site however, if obvious evidence of either is observed during EPS site walkover, details will be provided in this report. Specialist contractors should be commissioned to make detailed assessments and recommendations if these materials are suspected.

## 2 SITE CHARACTERISATION

The following section provides a summary of the information collected in relation to the site location and history.

### 2.1 Site & Location Description

| Detail                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location</b>                | The site lies on the north side of Lower Road at the northeast edge of the village of Breachwood Green, approximately 1.8km northeast of London Luton Airport.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>National Grid Reference</b> | 515470, 222190                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Topographic Elevation</b>   | Levels lie between approximately 139.3m and 143.8m above Ordnance Datum (AOD), sloping down from south to north.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Description of Site</b>     | <p>The site comprises a sub-rectangular parcel of land covering approximately 0.38ha. A site walkover survey was conducted prior to EPS' site investigations on 27<sup>th</sup> July 2026 at which time the land was found to comprise an undeveloped field, divided in two by a wire fence running southwest-northeast through the site. The site is accessed via a locked gate leading north from Lower Road, where there is a small area of hardcore surfacing forming a rudimentary driveway / parking space.</p> <p>The site is somewhat overgrown with frequent patches of waist-high grasses and weeds, dotted with consolidated mole hills. A small concrete slab was noted in the southeast corner of the site next to a pile of roof tiles, understood to be associated with a former shed which has been removed, while signs of surface water drainage were also present. A manhole cover associated with a foul sewer was noted in the north of the site.</p> <p>The western site boundary was defined by a wooden fence and hedgerows separating the land from the adjacent property, with a second gate present in the northwest corner of the site leading from the property's rear garden forming a public right of way. The remaining site boundaries were generally defined by mature trees up to 30-40m tall, of various species.</p> |
| <b>Surrounding Land Use</b>    | Residential properties occupy the land immediately to the west of the site as well as on the south side of Lower Road, while a large wooded area lies to the north. To the east, and beyond the properties                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

|                                   |                                                                                                                              |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| <b>Surrounding Land Use Cont.</b> | immediately to the south, the land is predominantly agricultural although a sewage works is present around 180m to the east. |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------|

A plan showing the site location is provided as Figure 1, the current site layout is detailed on Figure 2 and an aerial photograph is included as Figure 3. Selected site photographs and Site Walkover Notes are included as Appendix A, an indicative proposed development plan is included as Appendix B and relevant extracts of a Landmark Envirocheck report summarising the surrounding land use are included as Appendix C.

## 2.2 Geo-Environmental Setting

| Detail                                 | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                             |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <b>Geology</b>                         | Geological mapping shows the site to be underlain by superficial deposits of the Clay-with-Flints Formation, followed by bedrock of the Lewes Nodular Chalk Formation. Information on the site's geological context is included as Appendix D.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                             |
| <b>British Geological Survey (BGS)</b> | <p>Historic borehole logs from the British Geological Survey were also reviewed, of which the nearest record which offers limited pertinent additional information refers to a location around 340m northeast of the site, in an area where ground levels are around 20m lower than the site. This borehole reports local ground conditions to comprise a thin layer of topsoil followed by clay with flints to a depth of 1.35m (below ground level), a layer of weak chalk to 2.4m, and then a more competent chalk with occasional flints to beyond the maximum depth of the borehole at 50m.</p> <p>Groundwater was reportedly encountered at a depth of approximately 27.2m and noted to rest at around 30m (therefore potentially around 50m at the site given the difference in topographic levels). A copy of this historic borehole log is also included within Appendix D.</p> |                             |
| <b>Geological Hazards</b>              | <b>Hazard</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>On Site Risk</b>         |
|                                        | Mining (non-coal)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Rare                        |
|                                        | Collapsible Ground                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Very Low                    |
|                                        | Compressible Ground                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No Hazard                   |
|                                        | Ground Dissolution                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Moderate                    |
|                                        | Landslide                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Very Low<br>(Low @ 179m NW) |

| Detail                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                 |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| <b>Geological Hazards Cont.</b>            | Running Sand                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No Hazard<br>(Very Low @ 50m N) |
|                                            | Shrinking / Swelling Clay                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Low                             |
|                                            | <p>The Envirocheck records two historic mineral sites within a 1km radius, located around 390m south and 540m west respectively, and referring to former opencast clay pits extracting from the Clay-with-Flints Formation in association with nearby historic brick works.</p> <p>One man-made mining cavity is also reported at a distance of around 350m to the south, also associated with historic brick works and potential chalk mining.</p>                                                                                                                                           |                                 |
| <b>Radon</b>                               | <p>The Envirocheck indicates the site to lie in a location where the percentage of homes above the radon action level is less than 1%. It further reports that the site will therefore not require radon protection measures in the construction of new buildings.</p>                                                                                                                                                                                                                                                                                                                        |                                 |
| <b>Hydrogeology</b>                        | <p>Groundwater vulnerability maps for the area show the underlying bedrock geology to be classified as a Principal Aquifer while the superficial deposits are classified as Unproductive Strata. The site also lies within a Source Protection Zone (SPZ 2 – Outer Protection Zone) for local groundwater abstraction. Groundwater vulnerability maps are included as Appendix E.</p> <p>The Envirocheck report lists only one groundwater abstraction license within a 1km radius, located around 820m to the southeast for general farming and domestic purposes at a private property.</p> |                                 |
| <b>Hydrology</b>                           | <p>The nearest surface water feature appears to comprise a series of drainage ditches located around 230m east of the site, adjacent to the nearby sewage works. No other watercourses are present within a 1km radius.</p> <p>The Envirocheck report does not list any surface water abstractions within a 1km radius.</p>                                                                                                                                                                                                                                                                   |                                 |
| <b>Known Site Drainage &amp; Utilities</b> | <p>As mentioned previously, a manhole cover associated with a foul sewer was noted in the north of the site. Statutory records from Thames Water show this feature to flow in a NW-SE orientation beneath the western part of the site, before merging with that beneath Lower Road, close to the site entrance where a second manhole was noted. The sewer then turns towards the east and flows beneath the adjacent fields towards the nearby sewage works.</p>                                                                                                                            |                                 |

| Detail                                              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Landfill &amp; Waste</b>                         | <p>The Envirocheck report does not indicate the presence of any current or historic landfills, or other waste management facilities, within 1km of the site.</p> <p>However, a number of areas of other potentially infilled land are recorded to be present, located around 480m, 510m and 545m west of the site respectively. These appear to refer disused clay pits on the far side of Breachwood Green, which were reportedly infilled during the 1960s-1970s.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Industrial Land Use &amp; Points of Interest</b> | <p>The Envirocheck report lists 2 potentially contaminative industrial land uses/points of interest within 500m, referring to an office furniture and equipment supplier around 50m southwest and a car body repair shop around 380m southwest. Both are listed as no longer active, however. No fuel stations are present in the vicinity.</p> <p>No historic pollution incidents are recorded within 1km of the site.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Unexploded Ordnance (UXO)</b>                    | <p>In order to initially assess risks associated with unexploded ordnance (UXO), reference has been made to UXO Bomb Risk maps available publicly via Zetica UXO. These maps show that the site and the entirety of Breachwood Green lie in an area with a 'low' bomb risk, with no records to date of any UXO finds or strategic targets in the surrounding area.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Planning History</b>                             | <p>Following a review of the North Hertfordshire District Council planning portal, two planning applications have been identified that are pertinent to the site, both relating to the currently active consent.</p> <p>The earlier of the two (22/02871/FP) constitutes the original application for <i>Erection of six dwellings comprising of two pairs of semi-detached dwellings (2 x 2-bed and 2 x 3-bed) and two detached 3-bed dwellings with detached double garages (plots 3 and 4) including parking, landscaping and creation of vehicular access off Lower Road</i>. This was submitted in November 2022 and conditionally approved in December 2023, and remains relevant. The second application (26/01614/S73) refers to a recent amendment to the approved drawings under the previous consent, submitted in June 2026.</p> <p>This report was commissioned in order to address outstanding conditions under 22/02871/FP.</p> |

| Detail                                       | Description                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Previous Investigation or Remediation</b> | EPS are not aware of any previous ground investigations or remedial works undertaken at the site.                                                                                                                                                                                                                                     |
| <b>Sensitive Land Use</b>                    | The site lies within an area of Adopted Green Belt land, as well as within a Nitrate Vulnerable Zone where surface and groundwater are identified as being at risk from nitrates leaching off agricultural land. In addition, the immediately adjacent wood to the north (known as Lord's Wood) is designated as an Ancient Woodland. |

## 2.3 Site History

A summary of historical map data from 1881 to 2026 is provided below. Key points are highlighted and copies of relevant historic maps and any others examined during the investigation are included in this report as Appendix F.



- The available historical mapping suggests that the site has remained undeveloped since at least the 1880s. However as mentioned previously, during the site walkover a small concrete slab was noted in the southeast corner of the site, potentially evidence of some minor previous development in this area. According to the Client, the land has been in their ownership for a number of decades and was previously used at times for dog agility

training and for keeping horses, and a small shed was previously present where the concrete slab was identified.

- Historic satellite imagery from Google Earth covering the period since 2000 does show evidence of these former land uses. Dog training reportedly took place in the front section of the site (southeast of the wire fence), and apparatus associated with this activity can be seen on images dating from 2000 to 2022. A small white marquee or similar is also shown at the eastern end of the site between 2017 and 2022, however the date the shed was removed is not known. Lastly, a small area in the southwest corner was cleared for vehicle parking at the time the site was active, this corresponds to where hardcore was noted at the ground surface. Conversely, the rear of the site (northwest of the wire fence) is where horses were previously kept, although the dates that this took place are also not known.
- Within the surrounding area, the earliest historical maps from 1881 show the village of Breachwood Green to be established to the west and south of the site, while Lord's Wood lay to the north. Notable features at this time include sporadic residential dwellings, a primary school and a chapel, as well as a small orchard immediately to the west (one of several in the village), while a brick works was present around 300m to the south. The map also highlights a number of former ponds in the vicinity, including one immediately south of the site on the opposite side of Lower Road.
- Most of these former ponds are no longer shown and are assumed to have been infilled by the 1920s, however few other significant changes to the area are apparent until around the 1960s and 1970s. During this time, the village undergoes more widespread development with many of the surrounding orchards removed and built upon (although not the orchard adjacent to the site itself). In addition, the old clay pits associated with the former brick works to the south appear to have been infilled during this time, while a sewage works is now present around 200m to the east, and an electrical substation is shown around 60m to the west. No other significant changes are then noted up to the present day.

### 3 PRELIMINARY RISK ASSESSMENT & CONCEPTUAL SITE MODEL

In accordance with the Environment Agency's Land Contamination: Risk Management, there are three stages to managing contaminated land (Risk Assessment, Remedial Options Appraisal / Remediation and Verification). This section outlines the first tier of Stage 1, the Preliminary Risk Assessment.

The following section provides a review of the contaminant linkages that may be active at the site, whereby EPS have examined the potential sources that may be present as a result of historic and / or current site activities and where potential interaction between these sources and the identified human / environmental receptors may occur.

#### 3.1 Background

A Desk Study comprises the first stage of any geo-environmental assessment, the purpose of which is to determine what potentially contaminative activities may have occurred at the property or the surrounding area which may pose an environmental or geological risk to site users, the surrounding environment or proposed development, either at present or in the future.

The method used in this investigation to assess the environmental risk posed is based on the concept of 'contaminant linkage', which considers the following three factors:

|                 |                                                                                                                                                        |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Source</b>   | The location from which an environmentally hazardous / contaminative substance is, (or was,) derived.                                                  |
| <b>Pathway</b>  | A route or mechanism via which a source could come into contact with a receptor to cause significant harm.                                             |
| <b>Receptor</b> | An environmentally sensitive object or condition e.g. person, property, controlled water, or ecological system, which may be present now or in future. |

If all three factors are identified, there is the potential for a 'contaminant linkage' to be active, which could result in significant harm being caused to the environment or human health.

#### 3.2 Source Characterisation

The following potential contaminant sources have been identified at the site and in the surrounding area:

| Potential Source                          | Source Description                                                                                                                                                          | Principal Contaminants of Concern               |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|
| Current Site Use                          | In-fill material of unknown origin (Made Ground) potentially used to level areas beneath former buildings / hardstanding.                                                   | PAH, Metals, ACM                                |
| Historic Site Use                         | Activities associated with the occasional storage of vehicles on the site during its former use.                                                                            | TPH                                             |
| Current and Historic Surrounding Land Use | Former presence of historic orchards in the immediate vicinity.                                                                                                             | Metals, Herbicides and pesticides               |
|                                           | Various historically in-filled land features within the surrounding area, including a number of small ponds nearby as well as clay pits associated with former brick works. | Ground Gas (CH <sub>4</sub> , CO <sub>2</sub> ) |
|                                           | Nearby electrical substation                                                                                                                                                | PCB                                             |
|                                           | Various current / historic potentially contaminative industrial land uses in the wider surrounding area including vehicle garages and a sewage works.                       | VOC, TPH, PAH, Metals                           |

**Notes:**

|                 |                                  |
|-----------------|----------------------------------|
| PAH             | Polycyclic aromatic hydrocarbons |
| ACM             | Asbestos Containing Material     |
| TPH             | Total Petroleum Hydrocarbons     |
| CO <sub>2</sub> | Carbon Dioxide                   |
| CH <sub>4</sub> | Methane                          |
| PCB             | Polychlorinated Biphenyls        |
| VOC             | Volatile Organic Compounds       |

### 3.3 Potential Receptors

A framework for the assessment of risks arising from the presence of contamination in soils has been produced by the Environment Agency and the Department for the Environment, Food and Rural Affairs (DEFRA) and is presented with the report: 'Using Science to Create A Better Place: Updated Technical Background to the CLEA Model – Science Report SC050021/SR3'. This guidance document defines a series of standard land uses which have been further developed into six generic land uses in the Category 4 Screening Levels project for Land Affected by Contamination (DEFRA/Contaminated Land: Applications in Real Environments (CL:AIRE) Project Report SP1010, 2014) which form a basis for the development of the Conceptual Site Model.

Risks posed to controlled waters have been considered in line with the Environment Agency's approach to groundwater protection (v1.2, 2018) and associated position statements.

The proposed development plan is understood to comprise the construction of 6No new residential properties with associated soft landscaping. Therefore, the land use has been considered as:

- Residential (with homegrown produce)

In view of the environmental setting, current and potential future land use of the site and surrounding sites, the potential receptors for any contaminant impact are discussed in the table below:

| Receptor                              | Site Specific Description                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Human</b>                          | Future site users, site workers involved in the site redevelopment, and those working and living in the surrounding area have the potential to be at risk from exposure to potential contaminants of concern.                                                                                                                                                                                                                                                                       |
| <b>Groundwater</b>                    | The underlying geology comprises superficial deposits of the Clay-with-Flints Formation followed by the Lewes Nodular Chalk Formation, with the latter classified by the EA as a Principal Aquifer. The site also lies within a SPZ 2 for local groundwater abstraction. Therefore, although historic borehole logs suggest the groundwater table to be fairly deep in this area, it should still be considered as a potential receptor to site-derived contaminants at this stage. |
| <b>Surface Water</b>                  | The nearest surface watercourses comprise drainage ditches associated with the nearby sewage works. Given the distance of these features from the site and the absence of shallow groundwater to facilitate migration, it is not considered plausible that site-derived contaminants could impact surface water.                                                                                                                                                                    |
| <b>Flora and Fauna</b>                | The proposed development includes the provision of private garden areas / soft landscaping. Some of the identified contaminants of concern are known to be phytotoxic and as such, the potential for this impact should be considered.                                                                                                                                                                                                                                              |
| <b>Buildings &amp; Infrastructure</b> | Subsurface structures are likely to be present at the site which may be adversely affected by the potential presence of the identified contaminants of concern. These include concrete used in building foundations, buried potable water supply pipes and other service lines and pipes.                                                                                                                                                                                           |
| <b>Adjacent Land</b>                  | Adjacent residential dwellings could also be at risk from potential contaminants found at the site.                                                                                                                                                                                                                                                                                                                                                                                 |

### 3.4 Potential Pathways

Where contaminants may be present in soil, there are a number of potential pathways that enable human receptors to come into contact with or be exposed to them. The most direct pathways, considered under current UK legislation, can be summarised as follows:

- Direct ingestion of contaminated soil
- Ingestion of household dust
- Ingestion of contaminated vegetables
- Ingestion of soil attached to vegetables
- Dermal contact with contaminated soil
- Dermal contact with household dust
- Inhalation of fugitive soil dust
- Inhalation of fugitive household dust
- Inhalation of vapours outside
- Inhalation of vapours inside

Clearly, not all these potential pathways apply for every standard land-use. For example, ingestion of contaminated vegetables will not apply to land uses other than 'residential with plant uptake' and 'allotments'.

However, in addition to direct exposure pathways, a number of physical transport mechanisms / pathways may also exist at a site that allow remote or less accessible contaminants in soil or groundwater to reach human or environmental receptors both at a site and beyond the site boundary. These include the transport mechanisms listed below.

- Downward and lateral movement of contaminants in soil either by gravity or through being 'leached' by percolating rainwater
- Lateral migration of contaminants dissolved in groundwater.
- Direct seepage or leaching of contaminants from soil into subsurface drains or supply pipework.
- Volatilisation of contaminants from groundwater or unsaturated soils into buildings or outdoor air.

Through examination of the standard land use and environmental setting at each site, the presence of pathways and transport mechanisms described above must be considered when assessing whether a contaminant linkage may plausibly be active, and therefore be included in the conceptual site model.

### 3.5 Summary of Contaminant Linkages

Considering the site use and environmental setting, and proposed land use, the following plausible contaminant linkages have been identified through this Phase I assessment and require further investigation.

| Source                                              | Pathway                                                                                      | Receptor                                               |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------|
| <b>Contaminated Soil</b><br>(Potential Made Ground) | Direct contact and inadvertent ingestion by eating or smoking with dirty hands               | Construction workers during redevelopment & site users |
|                                                     | Inhalation of fugitive dusts                                                                 |                                                        |
|                                                     | Direct uptake and / or adherence of contaminated soil to vegetation and subsequent ingestion | Site users                                             |
|                                                     | Direct uptake via root systems                                                               | Plants                                                 |
|                                                     | Direct contact                                                                               | Buried infrastructure                                  |

The following comments are made with respect to contaminant linkages which have been considered through development of the conceptual model, but have not been concluded as 'plausible' – i.e. through which a significant possibility of significant harm could occur to an identified receptor:

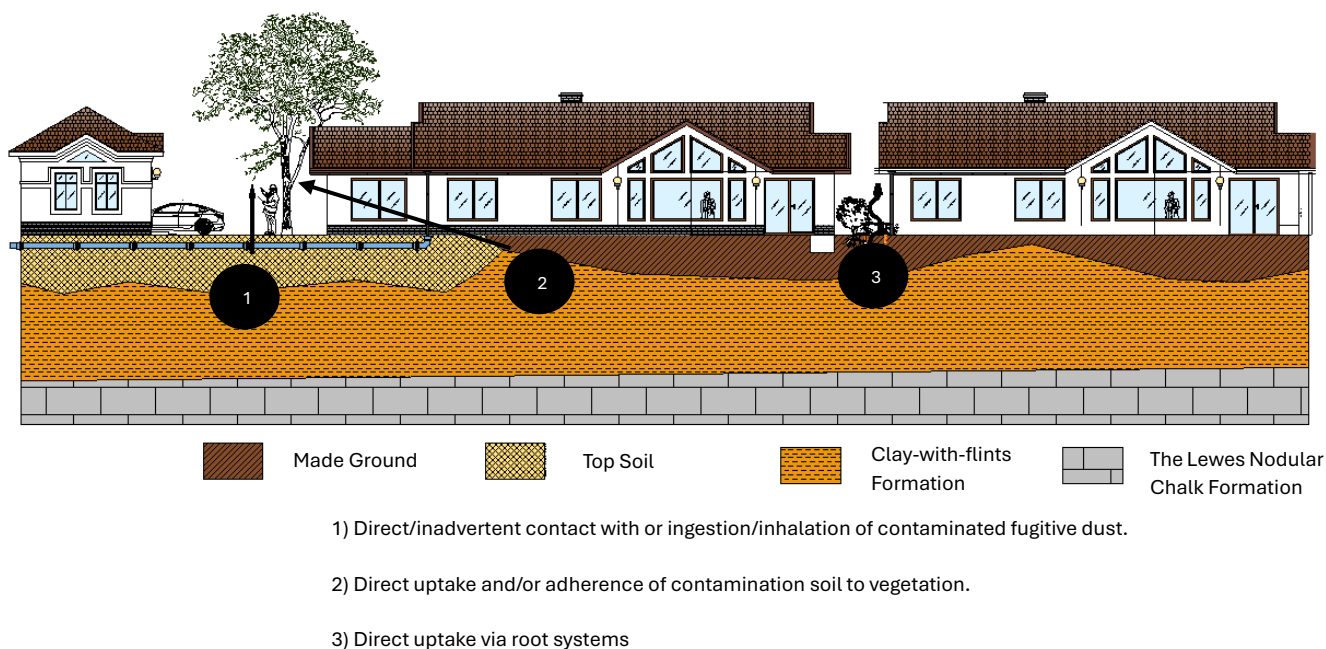
- The typical contaminants of concern associated with historic made ground beneath the site (heavy metals, PAH compounds and asbestos) are generally considered to be relatively immobile in the environment as a result of their very low solubility and volatility. On this basis, plausible pathways by which these potential contaminants could pose a significant risk to the underlying groundwater are not considered to be active. Similarly, there is not considered to be a significant risk to the site itself from any off-site sources of these contaminants.
- In addition, the local geology is anticipated to comprise an initial layer of primarily cohesive soils (clays) which are typically of low permeability and will act to inhibit significant migration of contaminants beyond their source zone.
- Whilst a number of historically in-filled small ponds have been highlighted within the immediate surrounding area, given the relatively small size and considerable age (and therefore likely nature of fill material) of these features, a plausible contaminant linkage is not recognised from the on-site migration of ground gases.
- Whilst the majority of relatively modern electrical transformers do not contain insulation oils containing PCBs, the substation identified nearby dates from the 1970s and therefore does represent a potential off-site source of these compounds. However, given the distance of this feature and the limited mobility of PCBs in the environment, this source is not considered to pose a significant risk to the proposed development in this case.
- Pesticides and herbicides have been associated with the presence of multiple orchards and an allotments and in the surrounding area, however given the distance of the

allotment, and the low residency time of these contaminants in soil, no plausible contamination linkage is recognised from the on-site migration of agri-chemicals (including pesticides) onto the site.

- The various other potentially contaminative industrial land uses in the wider surrounding area such as vehicle garages and a sewage works are also generally not considered to pose significant risks to the site in terms of the migration of volatile organic vapours, due to a combination of their distance from the site, relatively small size, and the local geological conditions.

The following diagram provides an illustration of the plausible contaminant linkages that may be active at the site and which may need further investigation or control to ensure safe development:

#### **Illustrative Conceptual Site Model – Land at Lower Road, Breachwood Green**



### **3.6 Key Potential Areas of Concern and Uncertainties**

The main area of concern identified by EPS with respect to the proposed residential development at Lower Road, Breachwood Green, relates to the possible presence of some limited but potentially contaminated made ground beneath the surface in isolated areas as a result of previous site uses. It is possible that future site users (and construction workers) could be exposed to these soils should they be uncovered during and after the proposed works, particularly in proposed landscaped areas.

## 4 GEOTECHNICAL GROUND MODEL

Geological records indicate the ground conditions to comprise superficial deposits from the Clay-with-Flints Formation, followed by bedrock of the Lewes Nodular Chalk Formation, although some limited made ground is also anticipated at the surface in localised areas given the former site use. A conceptual geotechnical ground model is provided in the table below which assesses design elements, anticipated strata and ground conditions:

| Strata                        | Foundations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                              |                                   |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------|
|                               | Allowable Bearing Pressure                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Settlement                                                   | Volume Change                     |
| Made Ground                   | Not appropriate as bearing strata                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | High sensitivity                                             | Depends upon the soil composition |
| Clay-with-Flints Formation    | 75kN/m <sup>2</sup> to 150kN/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Moderate sensitivity / Long term consolidation under loading | Moderate to high sensitivity      |
| Lewes Nodular Chalk Formation | 100kN/m <sup>2</sup> to 150kN/m <sup>2</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Low sensitivity                                              | Low sensitivity                   |
|                               | Drainage – Permeability                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                              |                                   |
| Made Ground                   | Not suitable for infiltration drainage                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                              |                                   |
| Clay-with-Flints Formation    | Unlikely to be suitable for infiltration drainage                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                              |                                   |
| Lewes Nodular Chalk Formation | Generally suitable for infiltration drainage (although dissolution risk must be considered; see below)                                                                                                                                                                                                                                                                                                                                                                                              |                                                              |                                   |
|                               | Concrete Grade                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                              |                                   |
| Made Ground                   | Low to moderate risk of high sulphate levels                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                              |                                   |
| Clay-with-Flints Formation    | Moderate risk of high sulphate levels                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                              |                                   |
| Lewes Nodular Chalk Formation | Low risk of high sulphate levels                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                              |                                   |
| Potential Hazard              | Comment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                              |                                   |
| Chalk Dissolution             | Given the local geological conditions, the Envirocheck has highlighted the potential for chalk dissolution features (e.g. natural cavities) to be present beneath the site, which should be taken into account and if possible, investigated further. In addition, although the chalk has been indicated above as generally suitable for infiltration drainage, it may be prudent to avoid the use of borehole soakaways which channel large amounts of runoff into a relatively concentrated area. |                                                              |                                   |

| Potential Hazard        | Comment                                                                                                                                                                                                                                                                                                                                            |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Trees & Vegetation      | A number of large trees are present around the edges of the site particularly to the north and east of the site. Therefore, as shallow soils may be cohesive, the presence of these must be considered during any future foundation design (including those recently removed or yet to be planted) as they could lead to deepening of foundations. |
| Below Ground Structures | Some below ground structures / foundations and services may be present within the ground from the site's former use, while any fill material present may also contain waste that could form localised obstructions. A known foul sewer runs beneath the west of the site area.                                                                     |
| Excavation Stability    | While unsupported excavations in clay soils can remain stable for short periods, the long-term stability of these should not be relied upon, along with that of any excavations in made or disturbed ground.                                                                                                                                       |
| Slopes                  | The site generally slopes down from south to north, with the lowest point of the site lying in the northeast corner.                                                                                                                                                                                                                               |

## 5 CONCLUSIONS & RECOMMENDATIONS

The site is generally fairly low risk in terms of contaminated land. However, this Phase I Desk Study has identified a limited number of plausible contaminant linkages with the potential to be active or to become active through the proposed development, as a result of the site's historical use and the presence of former structures in one area.

In the context of potentially unacceptable or acceptable risks as outlined within the Environment Agency's *Land Contamination: Risk Management* guidance, the contaminant linkages which pose potentially unacceptable risks and warrant further assessment to determine the most appropriate action are as follows:

- Human health risks associated with interaction between future residents and potentially contaminated shallow soils, especially within domestic garden areas.
- Potential exposure of site workers to contaminated soils during the proposed redevelopment.

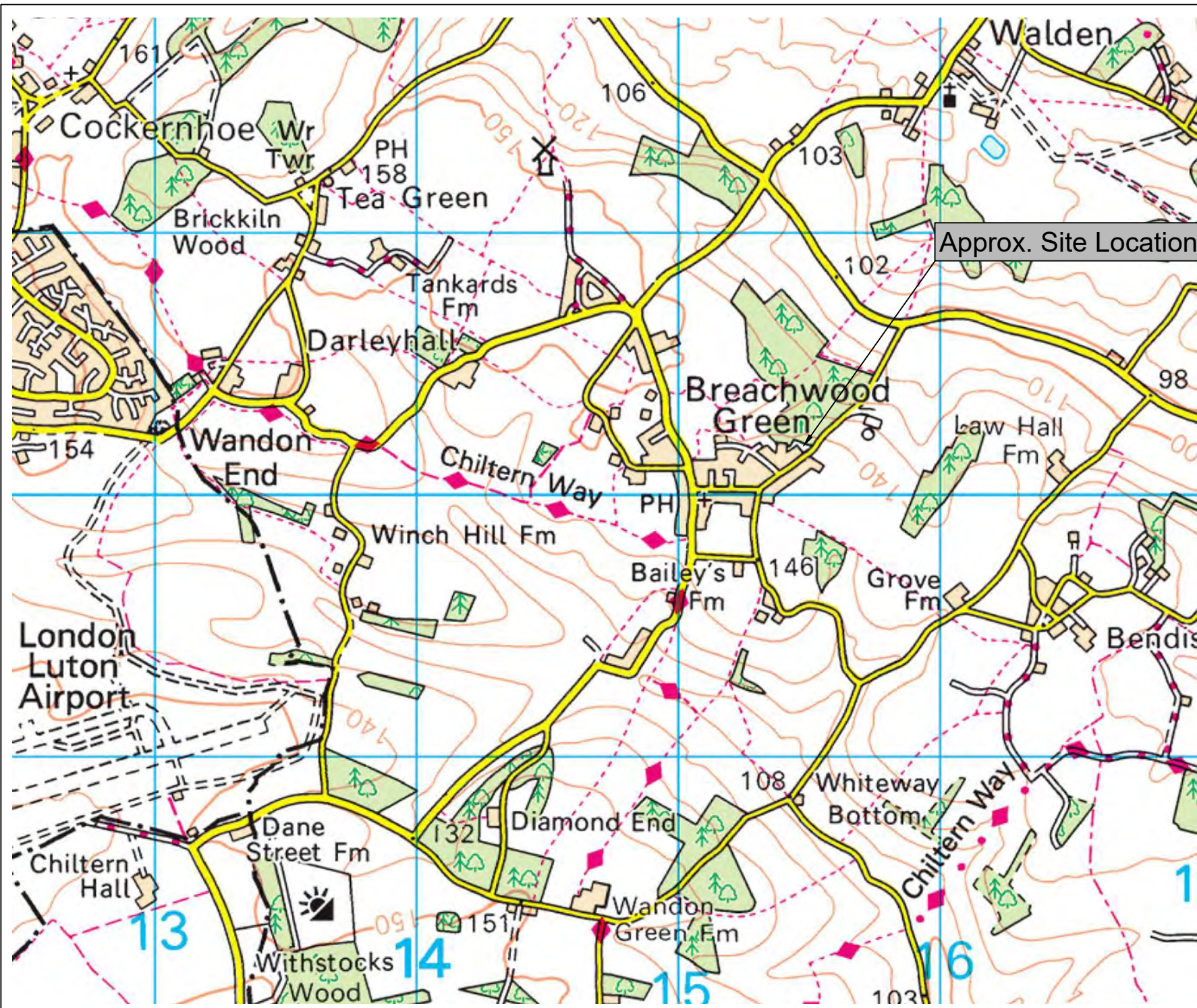
It is therefore recommended that, initially, the identified plausible contaminant linkages should be further investigated by means of an exploratory intrusive investigation. Given the size and nature of the site, this is likely to comprise the forming of a limited number of boreholes / trial pits across the site to investigate ground conditions and obtain shallow soil samples for laboratory testing.

Any impacts to soil quality by source contaminants which are identified by the exploratory investigation may require further targeted intrusive investigations in order to delineate the contaminants found and quantitatively evaluate the risks posed.

A copy of this report should be provided to the Environmental Health department of North Hertfordshire District Council so that the information may be used to support the current planning application. This report should satisfy the requirements of Condition 7 part (a) under 22/02871/FP.

END

## FIGURES



Notes:

1. Base map reproduced under Crown Copyright Licence Number: 100054115

|     |      |       |             |       |
|-----|------|-------|-------------|-------|
|     |      |       |             |       |
|     |      |       |             |       |
| Rev | Date | Drawn | Description | CHK'd |



The Geotechnical and Environmental Engineers  
[www.epstrategies.co.uk](http://www.epstrategies.co.uk)

Site

Land at Lower Road, Breachwood Green  
SG4 8NS

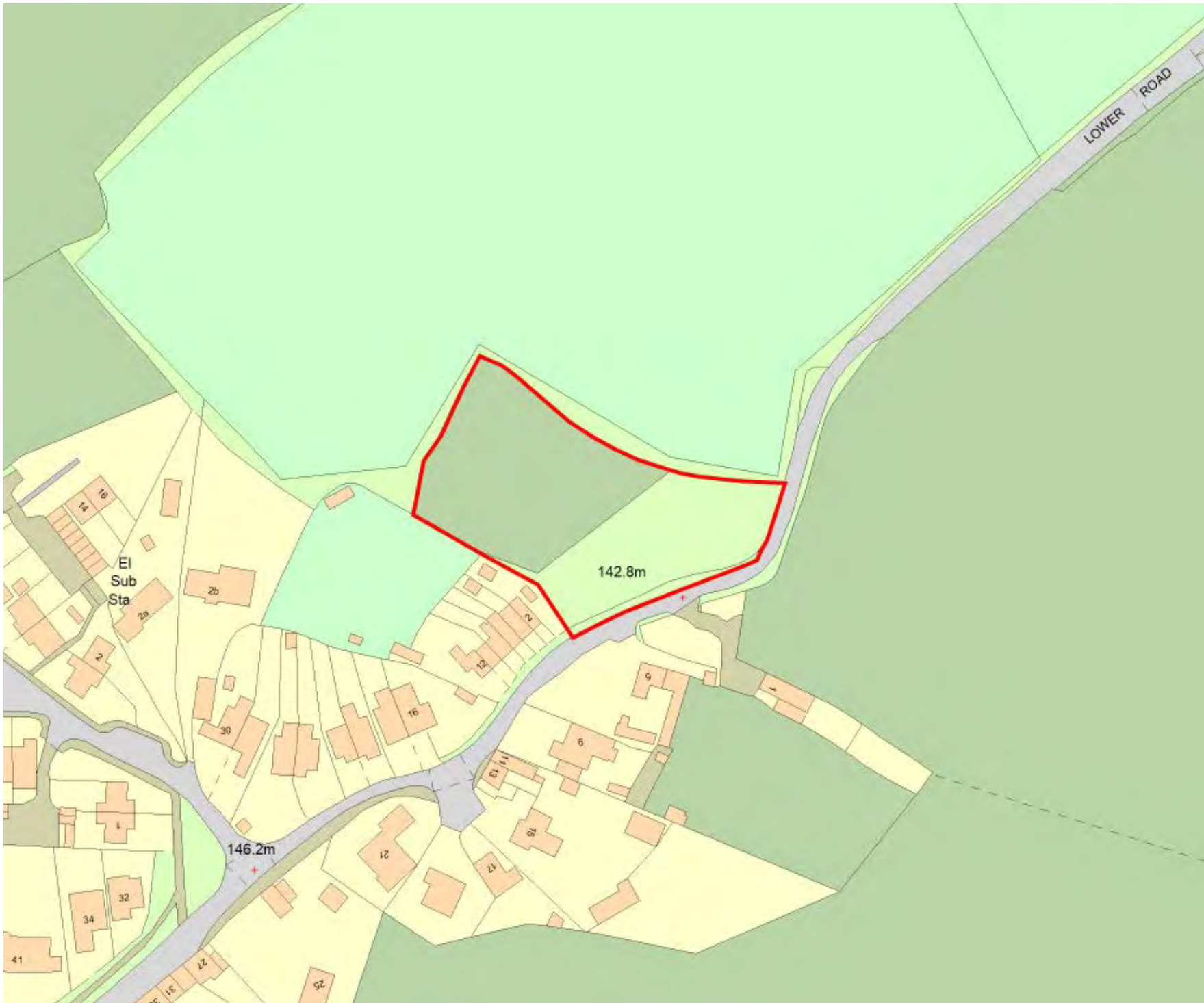
Client

Mr Geoff Long

Title

Figure 1 - Site Location Plan

|            |            |                   |           |
|------------|------------|-------------------|-----------|
| Surveyed   | -          | Drawn by          | JMB       |
| Checked by | TH         | Date              | July 2026 |
| Scale      | (M4 Sheet) | Drawing Reference |           |
| NTS        |            | UK26.7955_001     |           |
| Job No     | UK26.7955  | Rev               | 0         |



KEY:

 APPROX. SITE BOUNDARY

Notes:

1. Base map reproduced under Crown Copyright Licence Number: 100054115

|     |      |       |             |       |
|-----|------|-------|-------------|-------|
|     |      |       |             |       |
|     |      |       |             |       |
|     |      |       |             |       |
| Rev | Date | Drawn | Description | CHK'd |



The Geotechnical and Environmental Engineers  
[www.epstrategies.co.uk](http://www.epstrategies.co.uk)

Site

Land at Lower Road, Breachwood Green  
SG4 8NS

Client

Mr Geoff Long

Title

Figure 2 - Current Site Layout Plan

|             |    |           |           |
|-------------|----|-----------|-----------|
| Surveyed:   | -  | Drawn by: | JMB       |
| Checked by: | TH | Date:     | July 2026 |

|       |            |                   |
|-------|------------|-------------------|
| Scale | (A4 Sheet) | Drawing Reference |
| NTS   |            | UK26.7955_002     |

|           |     |
|-----------|-----|
| Job No    | Rev |
| UK26.7955 | 1   |



KEY:

 APPROX. SITE BOUNDARY

Notes:

1. Base map reproduced under Crown Copyright Licence  
Number: 100054115

|     |      |       |             |       |
|-----|------|-------|-------------|-------|
|     |      |       |             |       |
|     |      |       |             |       |
|     |      |       |             |       |
| Rev | Date | Drawn | Description | CHK'd |



The Geotechnical and Environmental Engineers  
[www.epstrategies.co.uk](http://www.epstrategies.co.uk)

Site

Land at Lower Road, Breachwood Green  
SG4 8NS

Client

Mr Geoff Long

Title

Figure 3 - Aerial Photograph

|             |    |           |           |
|-------------|----|-----------|-----------|
| Surveyed:   | -  | Drawn by: | JMB       |
| Checked by: | TH | Date:     | July 2026 |

|       |            |                   |
|-------|------------|-------------------|
| Scale | (A4 Sheet) | Drawing Reference |
| NTS   |            | UK26.7955_003     |

|           |     |
|-----------|-----|
| Job No    | Rev |
| UK26.7955 | 1   |

## **APPENDICES**

## **APPENDIX A - SELECTED SITE PHOTOGRAPHS & SITE WALKOVER NOTES**

**Photo 1:** View facing north from the site entrance



**Photo 2:** View facing east towards the southeast corner of the site



**Photo 3:** View facing southwest back towards the site entrance



**Photo 4:** View facing west towards the northwest corner of the site



**Photo 5:** Sewer manhole cover in the north of the site



**Photo 6:** Concrete slab in the southeast corner of the site where a former shed has been removed



**Job Number:** UK26.7955  
**Date:** 27 July 2026  
**Engineer:** TH / JBe

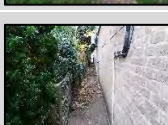


### SITE WALKOVER CHECKLIST

| GEOTECHNICAL                                                                       |                                                                             | COMMENTS/EVIDENCE                                      |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------------------------|
|    | Are there any abrupt changes in slope profiles?                             | No                                                     |
|    | Is there evidence of overburden on the slopes?                              | No                                                     |
|    | Is there evidence of excavation at the base of a slope?                     | No                                                     |
|    | Are there signs of landslip, such as tilting trees/posts?                   | No                                                     |
|   | Are there signs of subsidence?                                              | No                                                     |
|  | Is there evidence of cracked ground?                                        | Yes - Occasional desiccation cracks on ground surface. |
|  | Is there evidence of compressible ground (i.e. Peat)?                       | No                                                     |
|  | Is there evidence of an abrupt change in ground conditions?                 | No                                                     |
|  | Is there evidence of high groundwater, such as areas of waterlogged ground? | No                                                     |
|  | Do signs of water loving plants such as reeds exist?                        | No                                                     |
|  | Are there any ponds, streams, ditches (even if dry), springs or wells?      | No                                                     |
|  | Is there vegetation? What is the nature of it?                              | Yes - Knee high grasses throughout.                    |

**Job Number:** UK26.7955  
**Date:** 27 July 2026  
**Engineer:** TH / JBe



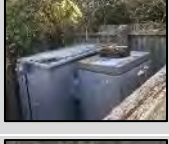
|                                                                                    |                                                                                     |                                                                                                                                        |
|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
|    | Are trees present? What are the species & height of the trees?                      | <i>Yes - 30-40m tall mature trees along N &amp; E boundaries, mix of deciduous and evergreen. One 10m semi mature in west of site.</i> |
|    | What is the nature and condition of vegetation on adjoining land?                   | <i>OK</i>                                                                                                                              |
|    | Is there evidence of former vegetation?                                             | <i>No</i>                                                                                                                              |
|    | Is there evidence of movement in any existing structures?                           | <i>No</i>                                                                                                                              |
|    | Evidence of below ground structures & services?                                     | <i>Yes - Foul sewer crossing beneath western end of site, cover visible in NW of site.</i>                                             |
|   | Any evidence of mine shafts or adits? (Check Coal Authority Mapping)                | <i>No</i>                                                                                                                              |
|  | Are there any access issues for a digger/drilling rig (slopes, height, gates etc.)? | <i>Yes - Gate and surrounding roads are fairly narrow.</i>                                                                             |

Any other comments?

| CONTAMINATION                                                                      |                                                              | COMMENTS/EVIDENCE                                                                            |
|------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------------------------------------------------------------------|
|  | Evidence of ground contamination?                            | <i>No</i>                                                                                    |
|  | Evidence of groundwater /surface water contamination?        | <i>No</i>                                                                                    |
|  | Evidence of historic site use?                               | <i>Yes - Concrete slab noted in SE corner of site, with evidence of drains leading away.</i> |
|  | Have all buildings been accessed internally, what was found? | <i>No</i>                                                                                    |

Job Number: UK26.7955  
 Date: 27 July 2026  
 Engineer: TH / JBe



|                                                                                    |                                                                                                                                |                                                                                                                |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
|    | Evidence of /suspected asbestos?<br>In building fabric or on ground, describe condition and form (cement/fibrous).             | No                                                                                                             |
|    | Any man-made surfacing present?<br>Including bituminous road planings/scalpings. Describe condition of hardstanding.           | Yes - Small amount of surfacing along western boundary from site entrance, occasional asphalt fragments noted. |
|    | Any fuel or oil storage? If above ground, are tanks bunded/ steel/with above ground pipe or any staining?                      | No                                                                                                             |
|    | Obvious drainage features observed such as 3-chamber oil-water interceptor?                                                    | No                                                                                                             |
|   | Any waste deposition observed, such as fly-tipped soils or chemical containers/ drums or areas of burning?                     | No                                                                                                             |
|  | Electricity substation present, maintained/operational? Are there any warning stickers on the gates/fence regarding chemicals? | No                                                                                                             |
|  | Evidence of previous investigation/remediation (e.g. old monitoring wells)?                                                    | No                                                                                                             |
|  | Walked around surrounding areas? Identify any off-site sources such as petrol stations, heating oil tanks.                     | No                                                                                                             |
|  | Anecdotal evidence                                                                                                             | Yes - Landowner noted that field was used in the past for dog training and keeping horses.                     |

Any other comments?

## **APPENDIX B – PROPOSED DEVELOPMENT PLAN**

ANY QUERIES REGARDING DIMENSIONS TO BE TAKEN UP WITH  
PENTANGLE DESIGN GROUP.

ALL DIMENSIONS OF EXISTING BUILDINGS TO BE VERIFIED ON SITE.

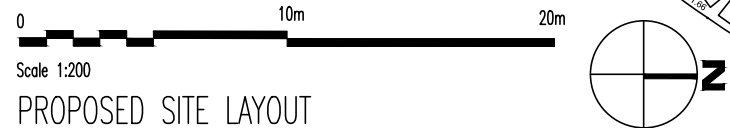
THIS DRAWING IS THE COPYRIGHT OF PENTANGLE DESIGN GROUP  
AND SHALL NOT BE IN ANY WAY USED OR REPRODUCED WITHOUT  
THEIR PRIOR WRITTEN CONSENT.

NOTES



LEGEND

- EVCHP • Car Charging Point.
- Lighting Bollard with cowl to minimise light spillage
- SW Swift Box located at high level.
- B Bat Box located at high level



S73

**PENTANGLE**

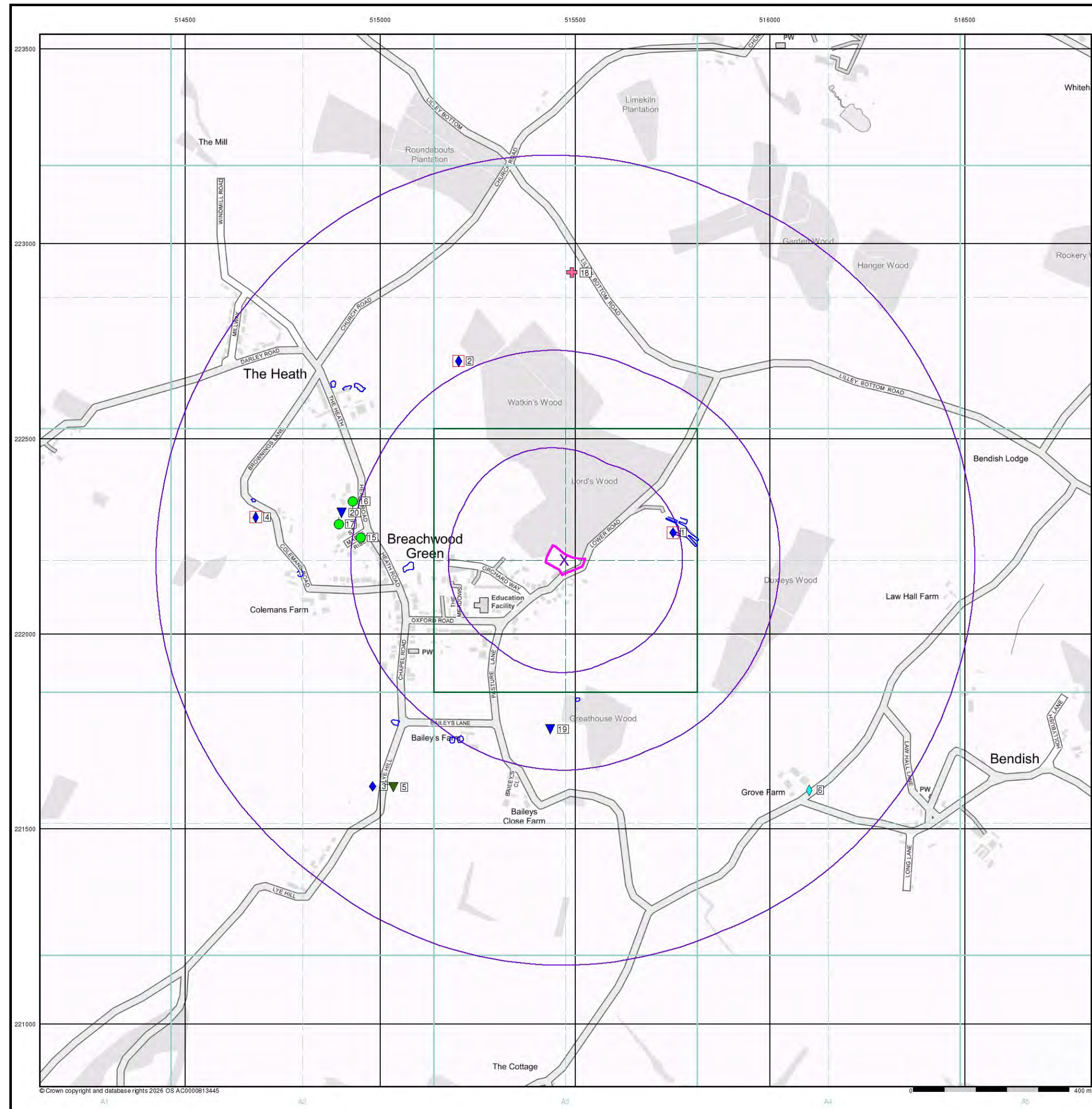
DESIGN GROUP

SUITE 1, 21 BANCROFT HITCHIN HERTS SG5 1JW  
TEL(01462) 431133 E:PDG@PENTANGLEDESIGN.CO.UK  
JOB TITLE

Residential Development. Land at Lower Road, Breachwood Green, Hitchin

|                                 |          |                 |  |
|---------------------------------|----------|-----------------|--|
| DRAWING TITLE                   |          | DRAFTING NUMBER |  |
| Proposed Site Layout            |          |                 |  |
| SCALE                           | 1:200    | DRAWING NUMBER  |  |
| DATE                            | Sept '22 | REVISION        |  |
| Sheet                           | A2       |                 |  |
| JOB NUMBER                      | 3660     |                 |  |
| ARCHITECTS & INTERIOR DESIGNERS |          |                 |  |

## **APPENDIX C – SURROUNDING LAND USE**

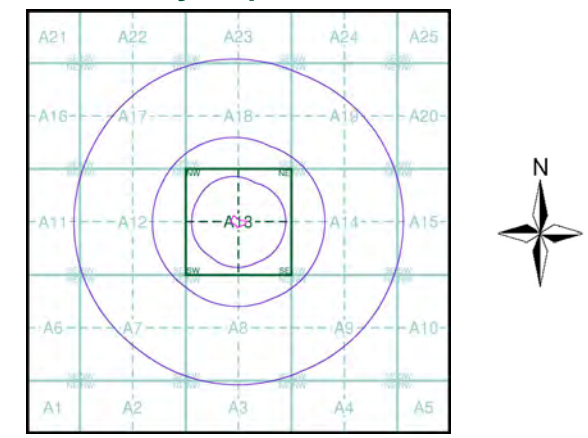


© Crown copyright and database rights 2026 OS AC0000813445



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

Site Sensitivity Map - Slice A



**Order Details**

Order Number: 407045903\_1\_1  
 Customer Ref: UK26.7955  
 National Grid Reference: 515470, 222190  
 Slice: A  
 Site Area (Ha): 0.38  
 Search Buffer (m): 1000

**Site Details**

Site at 515480, 222190



## **APPENDIX D – GEOLOGICAL CONTEXT**

# Geology 1:50,000 Maps Legends

## Artificial Ground and Landslip

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

## Superficial Geology

| Map Colour                                                                          | Lex Code | Rock Name                               | Rock Type                   | Min and Max Age           |
|-------------------------------------------------------------------------------------|----------|-----------------------------------------|-----------------------------|---------------------------|
|    | ALV      | Alluvium                                | Clay, Silt, Sand and Gravel | Not Supplied - Holocene   |
|    | LOFT     | Lowestoft Formation                     | Diamicton                   | Not Supplied - Anglian    |
|    | GFDMP    | Glaciofluvial Deposits, Mid Pleistocene | Sand and Gravel             | Not Supplied - Cromerian  |
|    | HEAD     | Head                                    | Clay, Silt, Sand and Gravel | Not Supplied - Quaternary |
|  | CWF      | Clay-with-flints Formation              | Clay, Silt, Sand and Gravel | Not Supplied - MIOCENE    |

## Bedrock and Faults

| Map Colour                                                                          | Lex Code | Rock Name                                                                       | Rock Type | Min and Max Age           |
|-------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------|-----------|---------------------------|
|  | LESE     | Lewes Nodular Chalk Formation and Seaford Chalk Formation (Undifferentiated)    | Chalk     | Not Supplied - Turonian   |
|  | CKR      | Chalk Rock Member                                                               | Chalk     | Not Supplied - Turonian   |
|  | HNCK     | Holywell Nodular Chalk Formation and New Pit Chalk Formation (Undifferentiated) | Chalk     | Not Supplied - Cenomanian |



### Geology 1:50,000 Maps

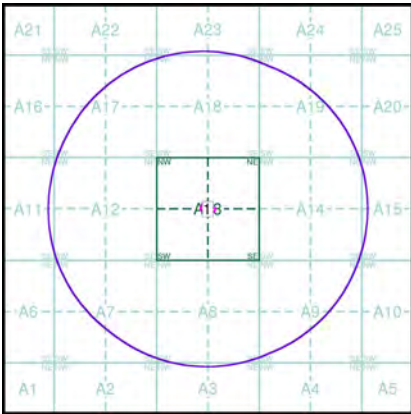
This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published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

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

### Geology 1:50,000 Maps Coverage

|                      |              |
|----------------------|--------------|
| Map ID:              | 1            |
| Map Sheet No:        | 221          |
| Map Name:            | Hitchin      |
| Map Date:            | 1995         |
| Bedrock Geology:     | Available    |
| Superficial Geology: | Available    |
| Artificial Geology:  | Available    |
| Faults:              | Not Supplied |
| Landslip:            | Available    |
| Rock Segments:       | Not Supplied |

### Geology 1:50,000 Maps - Slice A



### Order Details:

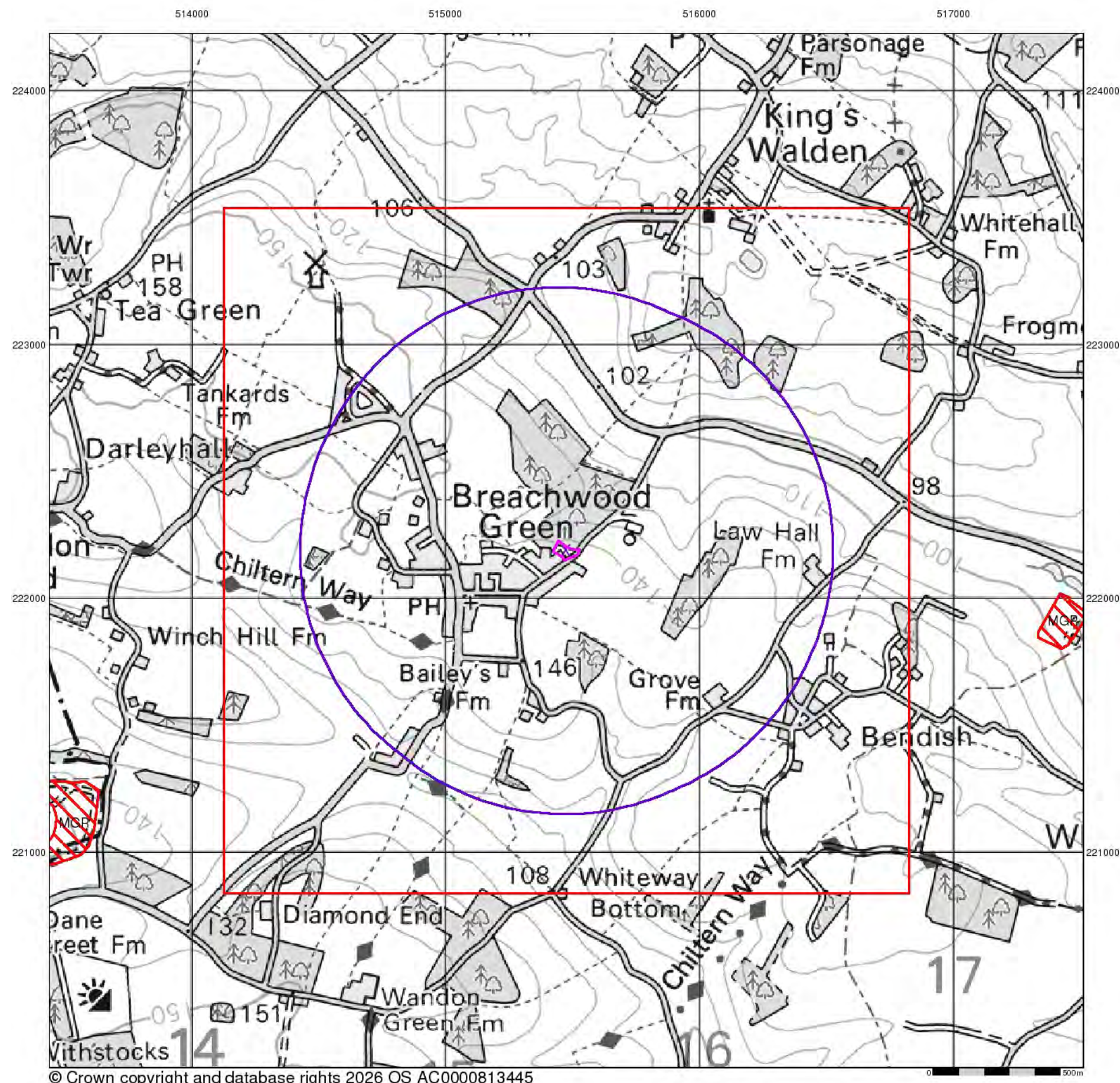
|                          |                |
|--------------------------|----------------|
| Order Number:            | 407045903_1_1  |
| Customer Reference:      | UK26.7955      |
| National Grid Reference: | 515470, 222190 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.38           |
| Search Buffer (m):       | 1000           |

### Site Details:

Site at 515480, 222190



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



© Crown copyright and database rights 2026 OS AC0000813445



### Artificial Ground and Landslip

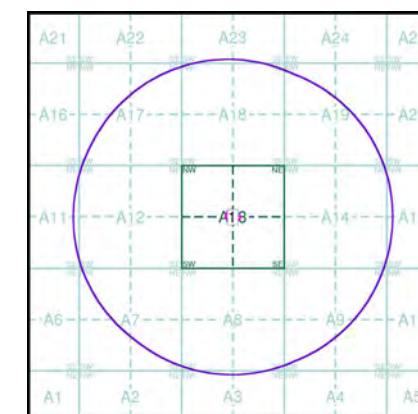
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

### Artificial Ground and Landslip Map - Slice A



### Order Details:

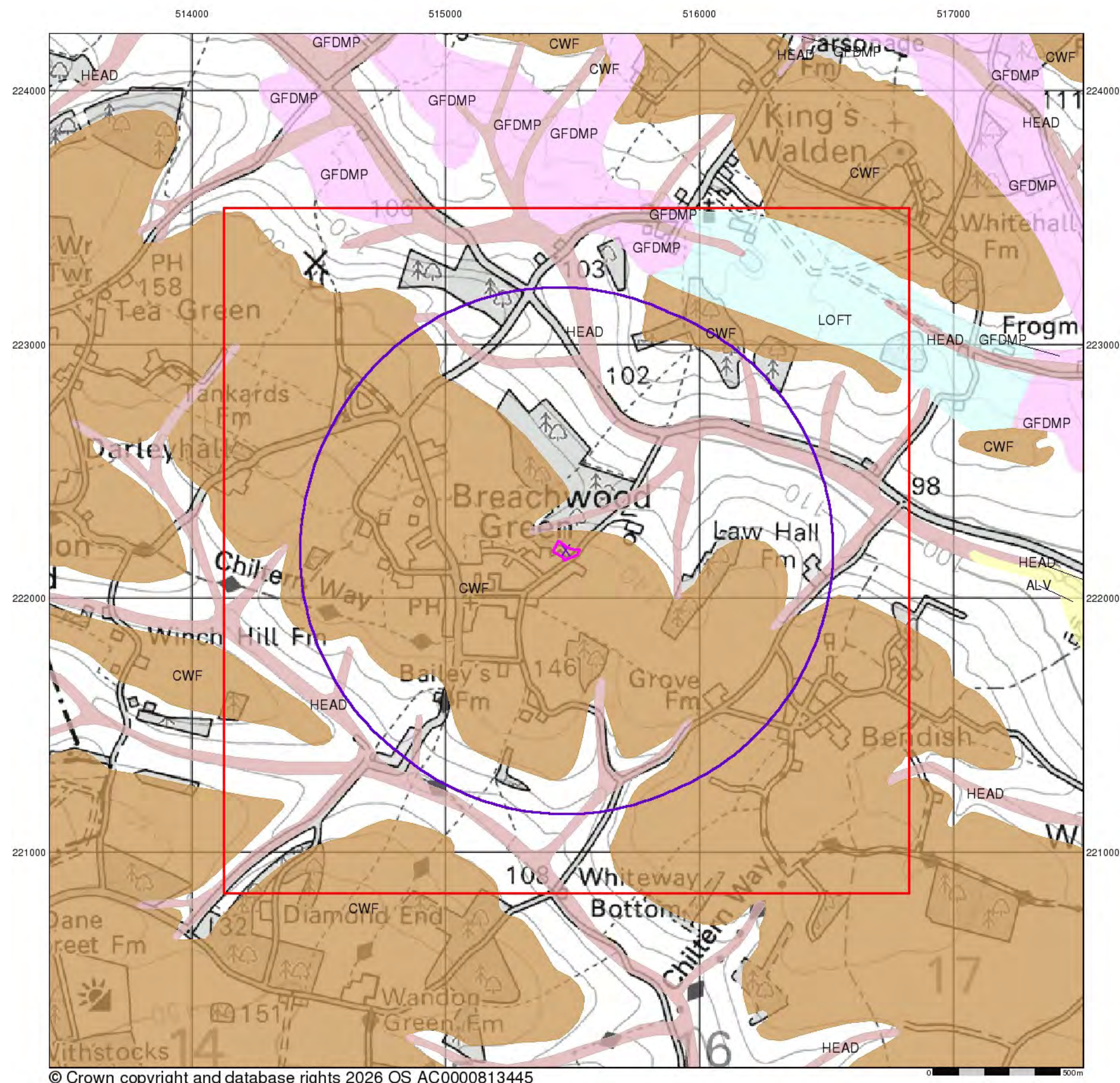
|                          |                |
|--------------------------|----------------|
| Order Number:            | 407045903_1_1  |
| Customer Reference:      | UK26.7955      |
| National Grid Reference: | 515470, 222190 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.38           |
| Search Buffer (m):       | 1000           |

### Site Details:

Site at 515480, 222190

**Landmark**  
INFORMATION GROUP

Tel: 0844 844 9952  
Fax: 0844 844 9951  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)



© Crown copyright and database rights 2026 OS AC0000813445



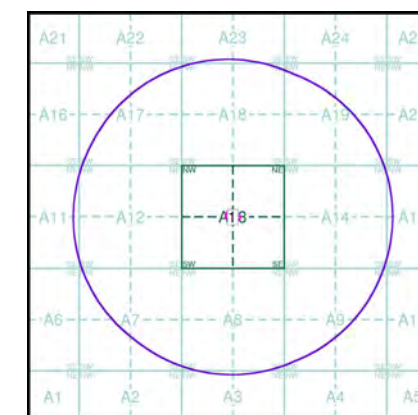
## Superficial Geology

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

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

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

## Superficial Geology Map - Slice A



### Order Details:

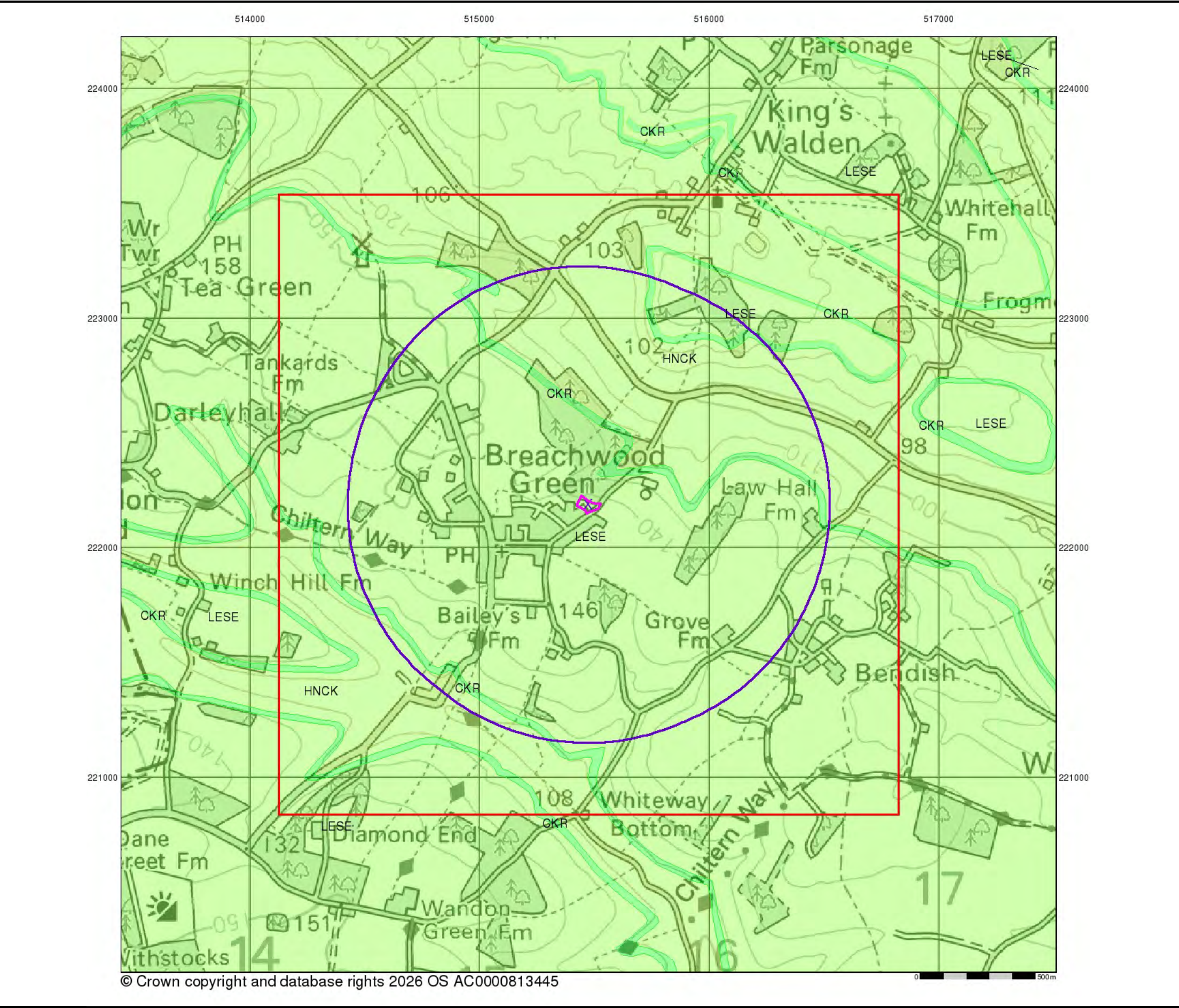
|                          |                |
|--------------------------|----------------|
| Order Number:            | 407045903_1_1  |
| Customer Reference:      | UK26.7955      |
| National Grid Reference: | 515470, 222190 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.38           |
| Search Buffer (m):       | 1000           |

### Site Details:

Site at 515480, 222190



|      |                                                                  |
|------|------------------------------------------------------------------|
| Tel: | 0844 844 9952                                                    |
| Fax: | 0844 844 9951                                                    |
| Web: | <a href="http://www.envirocheck.co.uk">www.envirocheck.co.uk</a> |



© Crown copyright and database rights 2026 OS AC0000813445



**Bedrock and Faults**

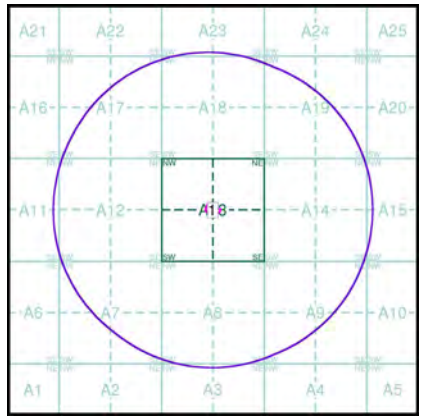
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

**Bedrock and Faults Map - Slice A**



**Order Details:**

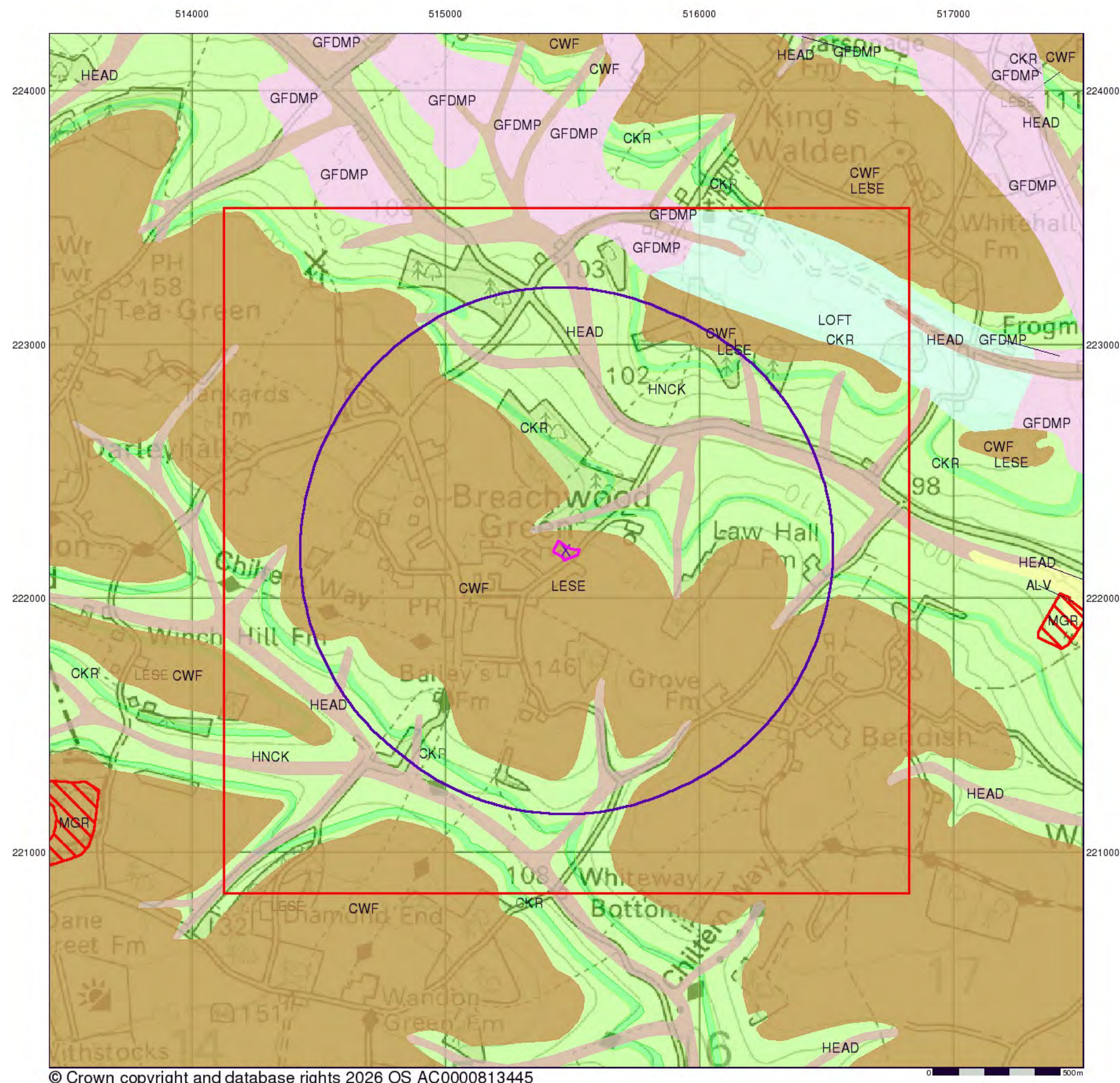
Order Number: 407045903\_1\_1  
Customer Reference: UK26.7955  
National Grid Reference: 515470, 222190  
Slice: A  
Site Area (Ha): 0.38  
Search Buffer (m): 1000

**Site Details:**

Site at 515480, 222190



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



© Crown copyright and database rights 2026 OS AC0000813445



### Combined Surface Geology

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

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

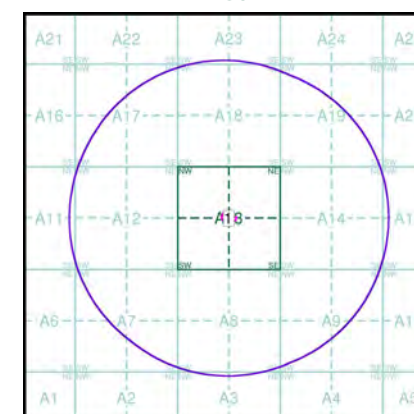
### Additional Information

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

### Contact

British Geological Survey  
Kingsley Dunham Centre  
Keyworth  
Nottingham  
NG12 5GG  
Telephone: 0115 936 3143  
Fax: 0115 936 3276  
email: [enquiries@bgs.ac.uk](mailto:enquiries@bgs.ac.uk)  
website: [www.bgs.ac.uk](http://www.bgs.ac.uk)

### Combined Geology Map - Slice A



### Order Details:

|                          |                |
|--------------------------|----------------|
| Order Number:            | 407045903_1_1  |
| Customer Reference:      | UK26.7955      |
| National Grid Reference: | 515470, 222190 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.38           |
| Search Buffer (m):       | 1000           |

### Site Details:

Site at 515480, 222190



Tel: 0844 844 9952  
Fax: 0844 844 9951  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)



45842

# Borehole Log

THAMES

TL 15843 22255

TL12/139



TL12SE/62 Soil Mechanics

|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              |                                                                                   |                                              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------|
| Drilled NE<br>Logged NE<br>Checked AL                                                                                                                                  | Start<br>15/03/2005<br>End<br>16/03/2005 | Equipment, Methods and Remarks<br>Beretta T51<br>Hand excavated inspection pit from GL to 1.20m Rotary open holed<br>drilling from 1.20m to 50.00m<br>75mm diameter standpipe installed to a depth of 50.00m | Depth from<br>0.00m<br>to<br>50.00m<br>Diameter<br>200mm<br>Casing Depth<br>1.50m | Ground Level<br>Coordinates<br>National Grid |
| Samples and Tests                                                                                                                                                      |                                          |                                                                                                                                                                                                              | Strata                                                                            |                                              |
| Depth                                                                                                                                                                  | Type & No                                | Records                                                                                                                                                                                                      | Date<br>Casing                                                                    | Time<br>Water                                |
| 15/03/2005 0800                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Description                                                                       |                                              |
| Fluic 1.20-1.35<br>Air moist. 90 % White                                                                                                                               |                                          |                                                                                                                                                                                                              | Grass over TOPSOIL (DRILLERS<br>DESCRIPTION)                                      |                                              |
| Fluic 1.35-2.40<br>Air moist. 90 % White                                                                                                                               |                                          |                                                                                                                                                                                                              | CLAY with flints.<br>(DRILLERS DESCRIPTION)                                       |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Weak CHALK with flints.<br>(DRILLERS DESCRIPTION)                                 |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | CHALK with occasional flints<br>(DRILLERS DESCRIPTION)                            |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Depth, Level<br>(Thickness)                                                       |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Legend                                                                            |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Backfill<br>materials                                                             |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Depth Related Remarks -<br>From to (m)                                            |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Chiselling<br>Depths (m)                                                          |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Time                                                                              |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Tools used                                                                        |                                              |
| Groundwater Entries<br>No Struck Post strike behaviour<br>(m)                                                                                                          |                                          |                                                                                                                                                                                                              | Depth sealed<br>(m)                                                               |                                              |
| Notes: For explanation of symbols and<br>abbreviations see key sheet All depths and reduced<br>levels in metres Stratum thickness given in brackets<br>in depth column |                                          |                                                                                                                                                                                                              | Project<br>Breachwood Green STW                                                   |                                              |
| Scale 1:50                                                                                                                                                             |                                          |                                                                                                                                                                                                              | Project No.<br>D5503                                                              |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Carried out for<br>Thames Water                                                   |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Borehole<br>BH1                                                                   |                                              |
|                                                                                                                                                                        |                                          |                                                                                                                                                                                                              | Sheet 1 of 5                                                                      |                                              |



# Borehole Log

TL12/139



Soil Mechanics

|                                                                             |                                          |                                                                                                                                                                                                             |                                                                                   |                   |                       |                                              |
|-----------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------|-----------------------|----------------------------------------------|
| Drilled NE<br>Logged NE<br>Checked AL                                       | Start<br>15/03/2005<br>End<br>16/03/2005 | Equipment, Methods and Remarks<br>Beretta T51<br>Hand excavated inspection pit from GL to 1.20m Rotary open hole<br>drilling from 1.20m to 50.00m<br>75mm diameter standpipe installed to a depth of 50.00m | Depth from<br>0.00m<br>to<br>50.00m                                               | Diameter<br>200mm | Casing Depth<br>1.50m | Ground Level<br>Coordinates<br>National Grid |
| <b>Samples and Tests</b><br>Depth Type & No Records Date Casing Time Water  |                                          |                                                                                                                                                                                                             | <b>Strata</b><br>Description                                                      |                   |                       | Depth, Level<br>(Thickness)                  |
| CHALK with occasional flints<br>(DRILLERS DESCRIPTION)                      |                                          |                                                                                                                                                                                                             |                                                                                   |                   |                       | Legend<br>Backfill<br>Instruments            |
| Finish 2.40-30.45<br>As mud 50 % White                                      |                                          |                                                                                                                                                                                                             |                                                                                   |                   |                       |                                              |
| Depth Type & No Records Date Casing Time Water                              |                                          |                                                                                                                                                                                                             | Depth Related Remarks *<br>From to (m)                                            |                   |                       | Chiselling<br>Depths (m) Time Tools used     |
| Groundwater Entries<br>No Struck (m) Post strike behaviour Depth sealed (m) |                                          |                                                                                                                                                                                                             | Project Breachwood Green STW<br>Project No. D5503<br>Carried out for Thames Water |                   |                       | Borehole<br>BH1<br>Sheet 2 of 5              |

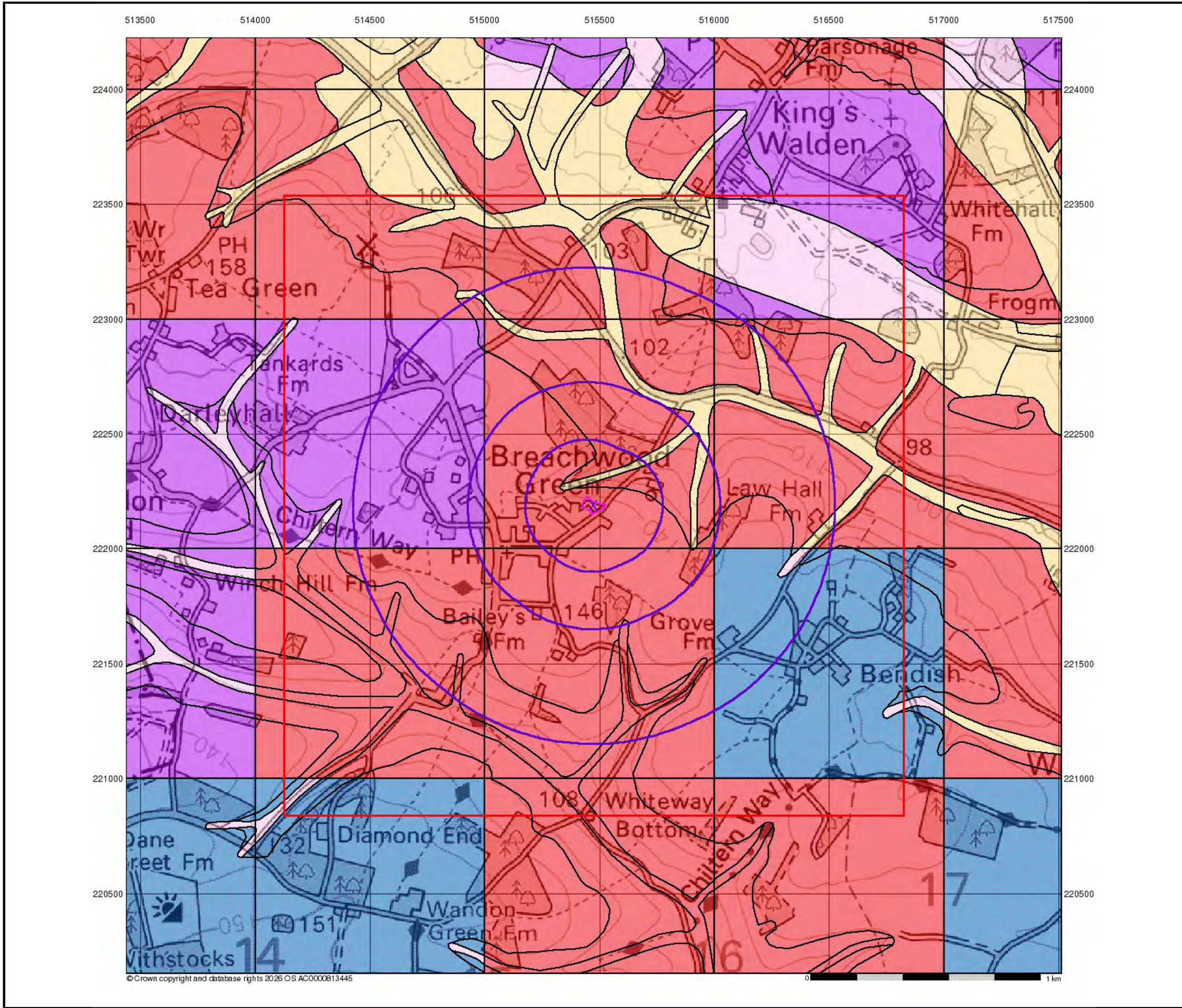
Notes: For explanation of symbols and abbreviations see key sheet. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.

Scale 1:50

BL10050 000 11 3301804/2005 16 50 13



## **APPENDIX E – GROUNDWATER VULNERABILITY MAPS**



## Groundwater Vulnerability

### General

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

### Agency and Hydrological

#### Bedrock Aquifers

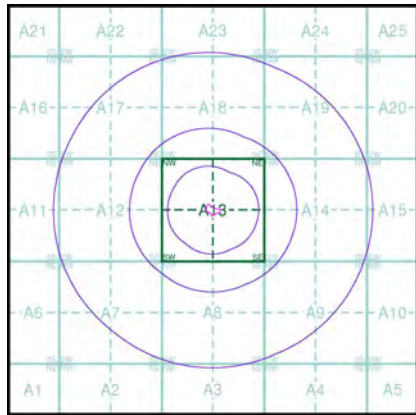
- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

#### Superficial Aquifers

- High Vulnerability, Principal Aquifer
- High Vulnerability, Secondary Aquifer
- Medium Vulnerability, Principal Aquifer
- Medium Vulnerability, Secondary Aquifer
- Low Vulnerability, Principal Aquifer
- Low Vulnerability, Secondary Aquifer

- Unproductive Aquifer
- Soluble Rock

### Site Sensitivity Context Map - Slice A



### Order Details

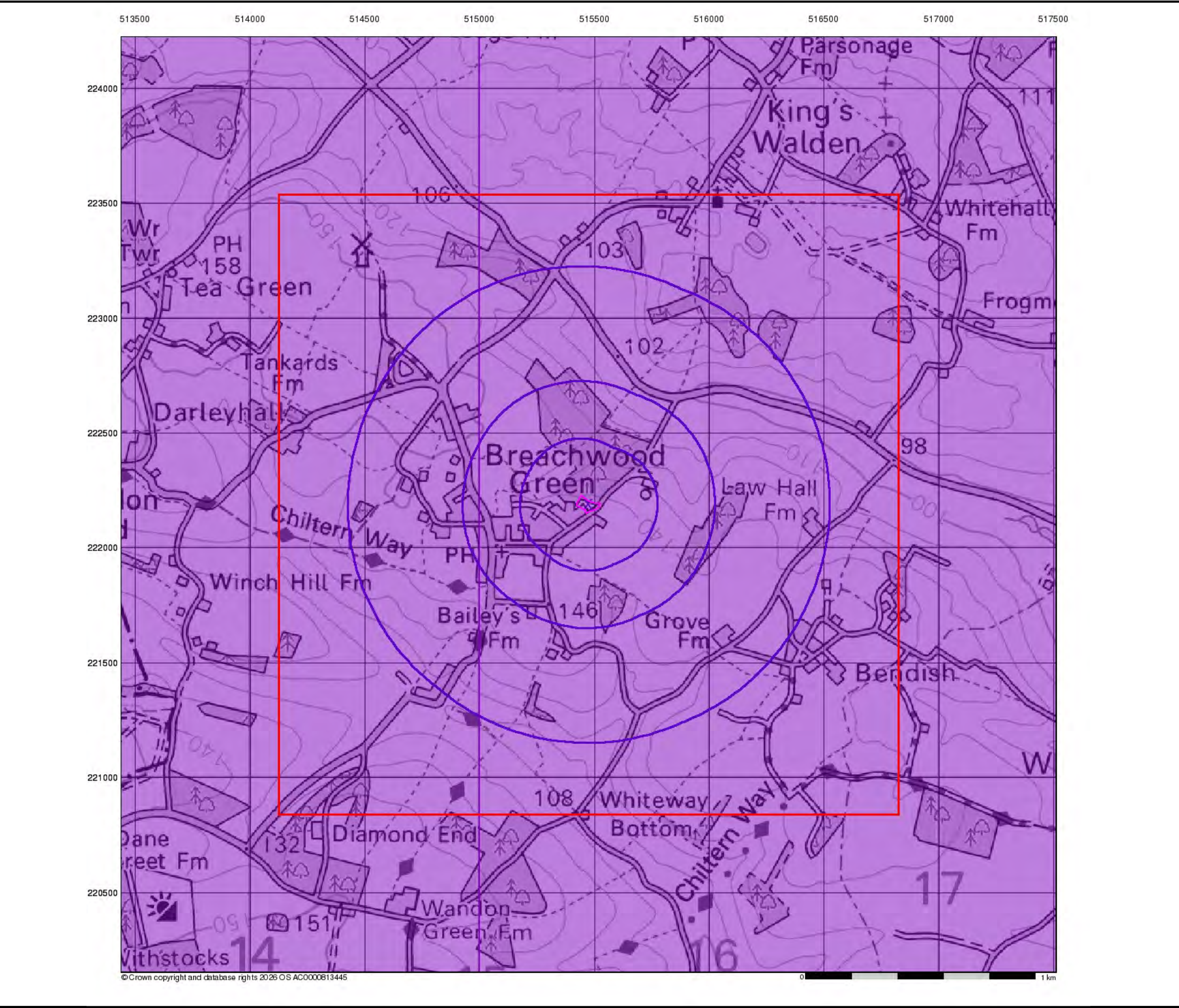
Order Number: 407045903\_1\_1  
Customer Ref: UK26.7955  
National Grid Reference: 515470, 222190  
Slice: A  
Site Area (Ha): 0.38  
Search Buffer (m): 1000

### Site Details

Site at 515480, 222190



Tel: 0330 036 6618  
Fax: 0844 844 9951  
Web: www.envirocheck.co.uk





## Bedrock Aquifer Designation

### General

 Specified Site

 Specified Buffer(s)

 Bearing Reference Point

 Slice

 Map ID

### Agency and Hydrological

#### Geological Classes

 Principal Aquifer

 Secondary A Aquifer

 Secondary B Aquifer

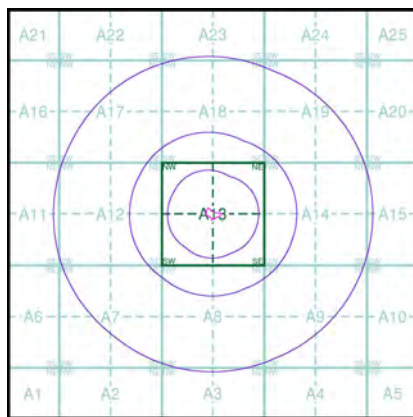
 Secondary Undifferentiated

 Unproductive Strata

 Unknown

 Unknown (Lakes and Landslip)

### Site Sensitivity Context Map - Slice A



### Order Details

|                          |                |
|--------------------------|----------------|
| Order Number:            | 407045903_1_1  |
| Customer Ref:            | UK26.7955      |
| National Grid Reference: | 515470, 222190 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.38           |
| Search Buffer (m):       | 1000           |

### Site Details

Site at 515480, 222190

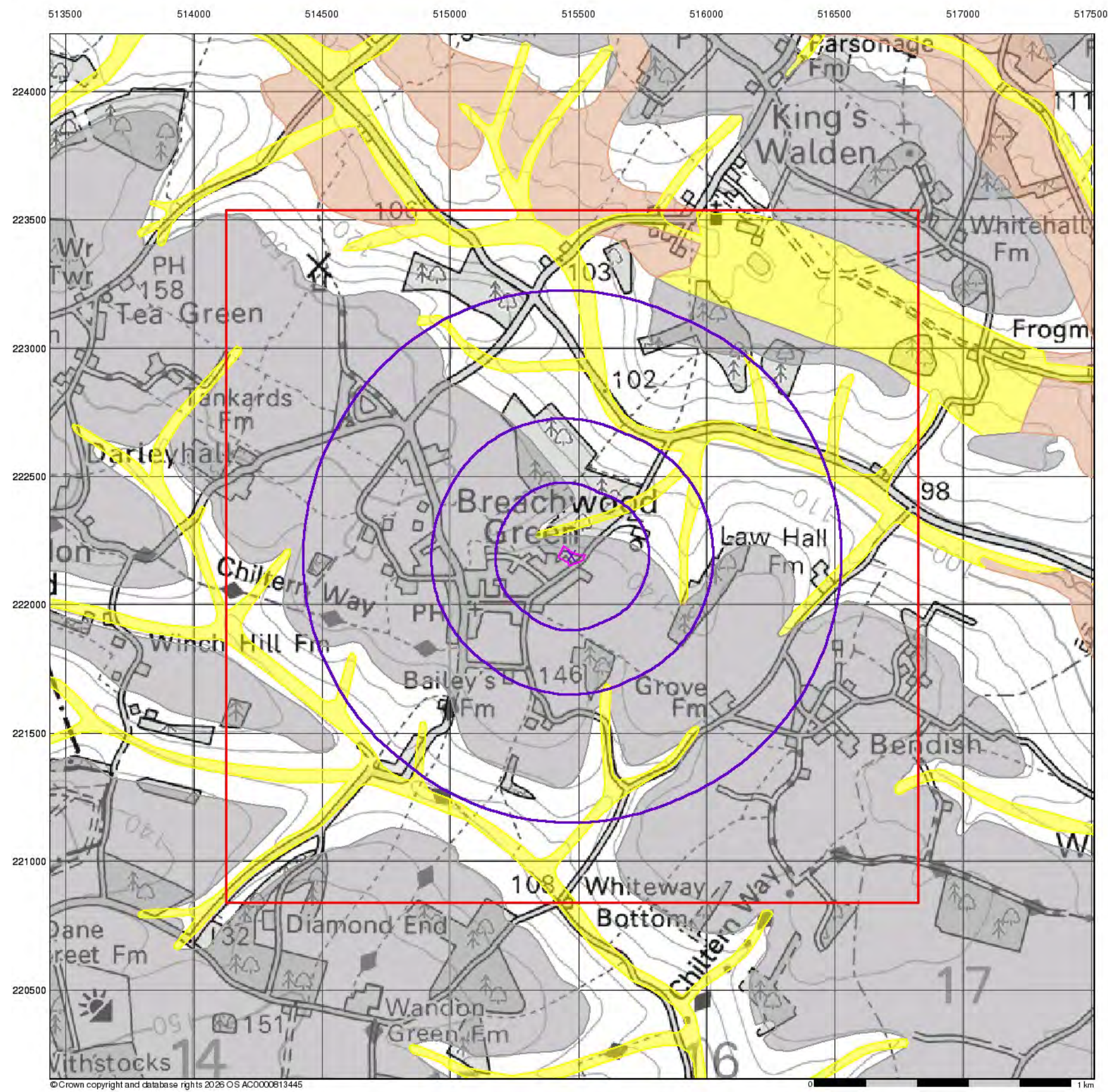


Landmark  
INFORMATION GROUP

Tel: 0330 036 6618  
Fax: 0844 844 9951  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)

A Landmark Information Group Service v15.0 16-Jul-2026

Page 2 of 6



© Crown copyright and database rights 2026 OS AC0000813445



## Superficial Aquifer Designation

### General

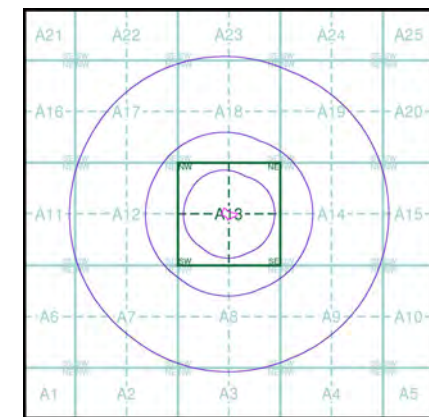
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

### Agency and Hydrological

#### Geological Classes

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

### Site Sensitivity Context Map - Slice A



### Order Details

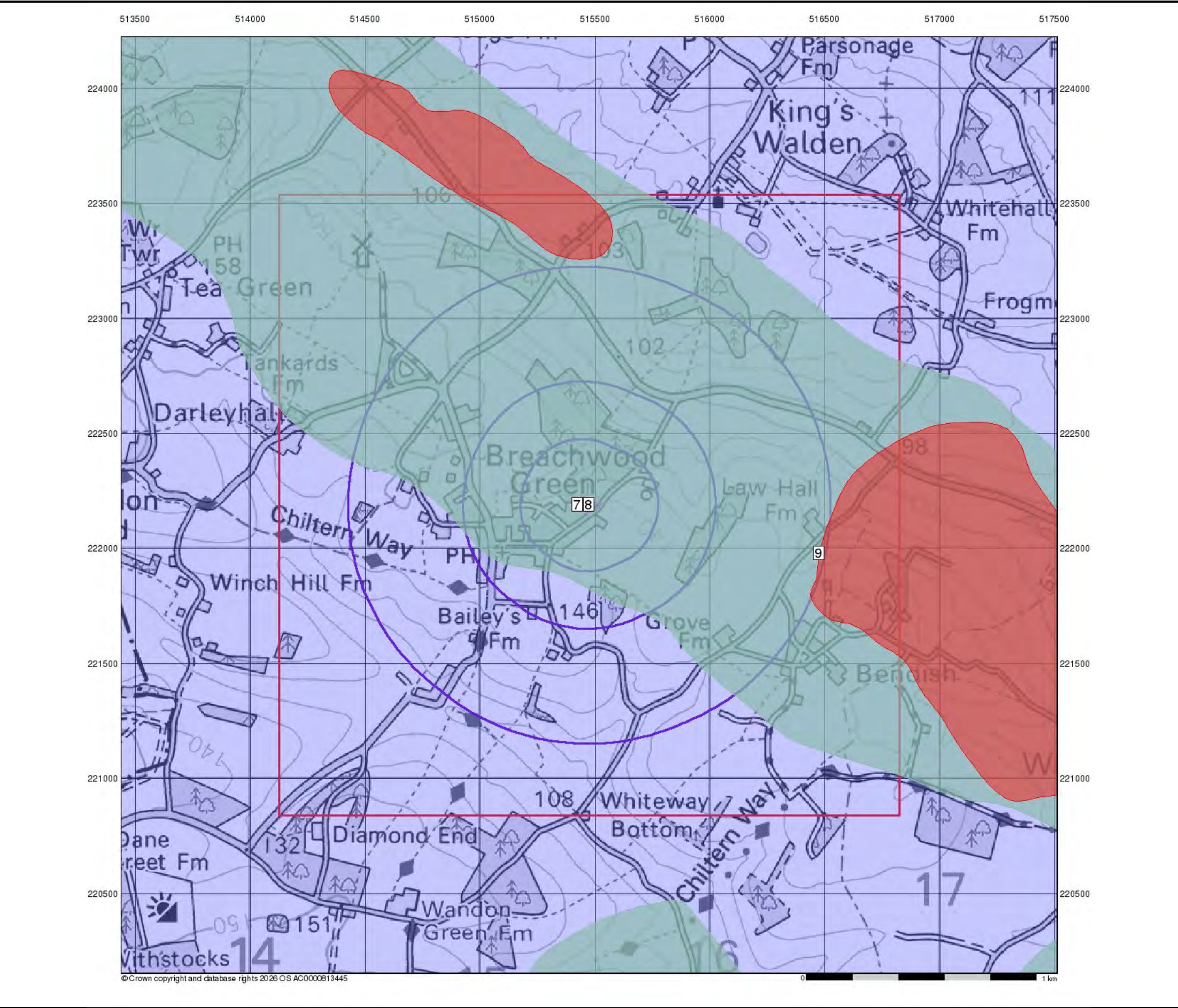
Order Number: 407045903\_1\_1  
Customer Ref: UK26.7955  
National Grid Reference: 515470, 222190  
Slice: A  
Site Area (Ha): 0.38  
Search Buffer (m): 1000

### Site Details

Site at 515480, 222190



Tel: 0330 036 6618  
Fax: 0844 844 9951  
Web: www.envirocheck.co.uk



## Source Protection Zones

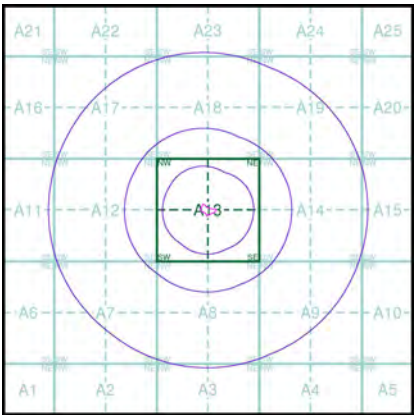
### General

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

### Agency and Hydrological

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

### Site Sensitivity Context Map - Slice A



### Order Details

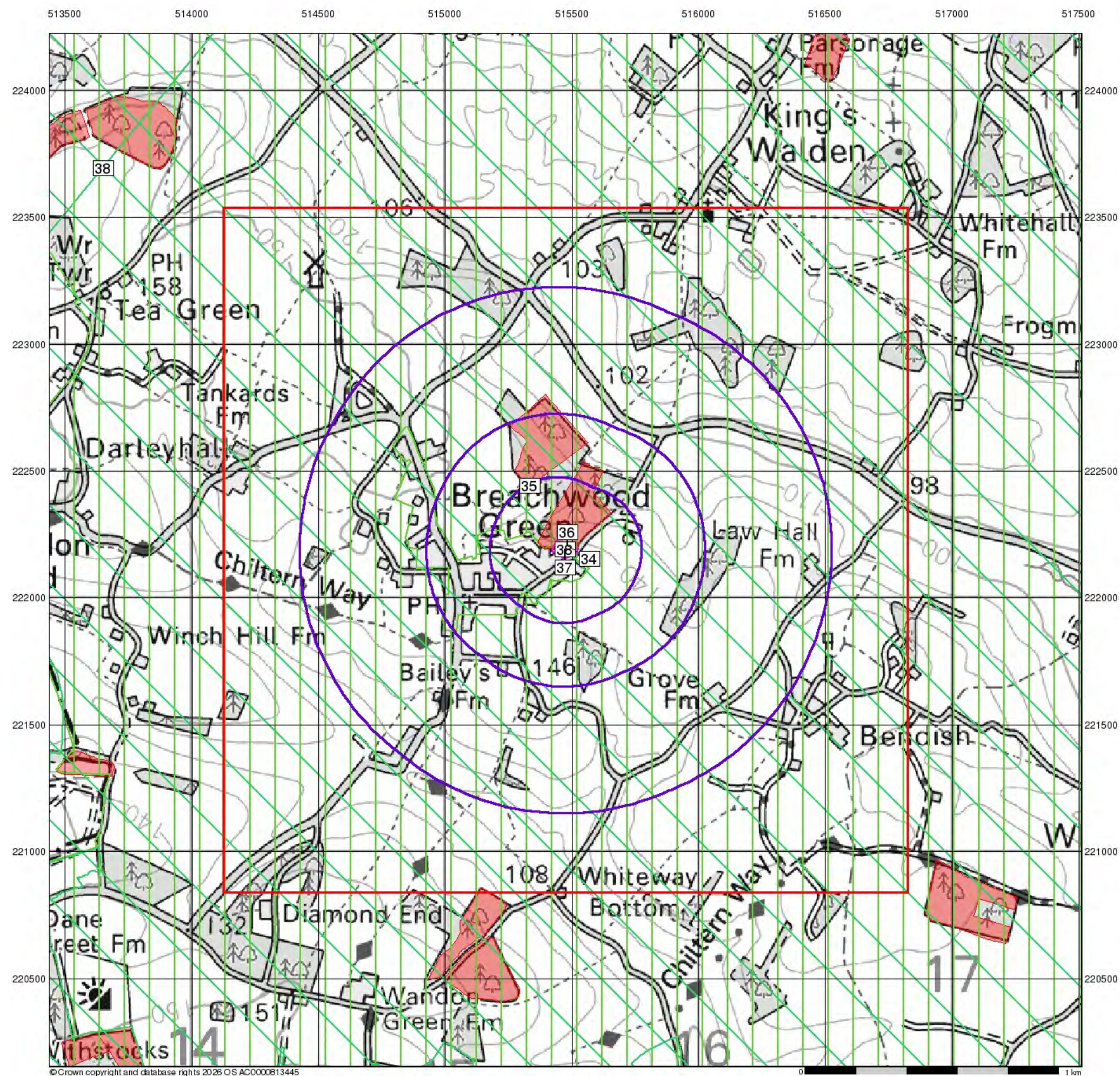
Order Number: 407045903\_1\_1  
Customer Ref: UK26.7955  
National Grid Reference: 515470, 222190  
Slice: A  
Site Area (Ha): 0.38  
Search Buffer (m): 1000

### Site Details

Site at 515480, 222190



Tel: 0330 036 6618  
Fax: 0844 844 9951  
Web: www.envirocheck.co.uk



© Crown copyright and database rights 2026 OS AC0000813445



## Sensitive Land Uses

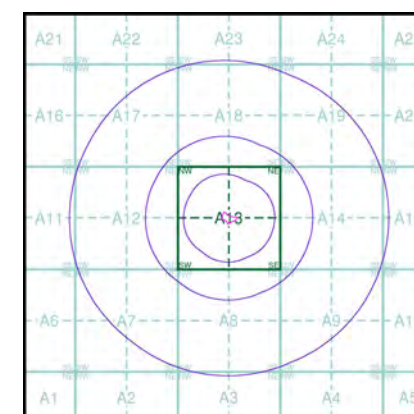
### General

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

### Sensitive Land Uses

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

### Site Sensitivity Context Map - Slice A



### Order Details

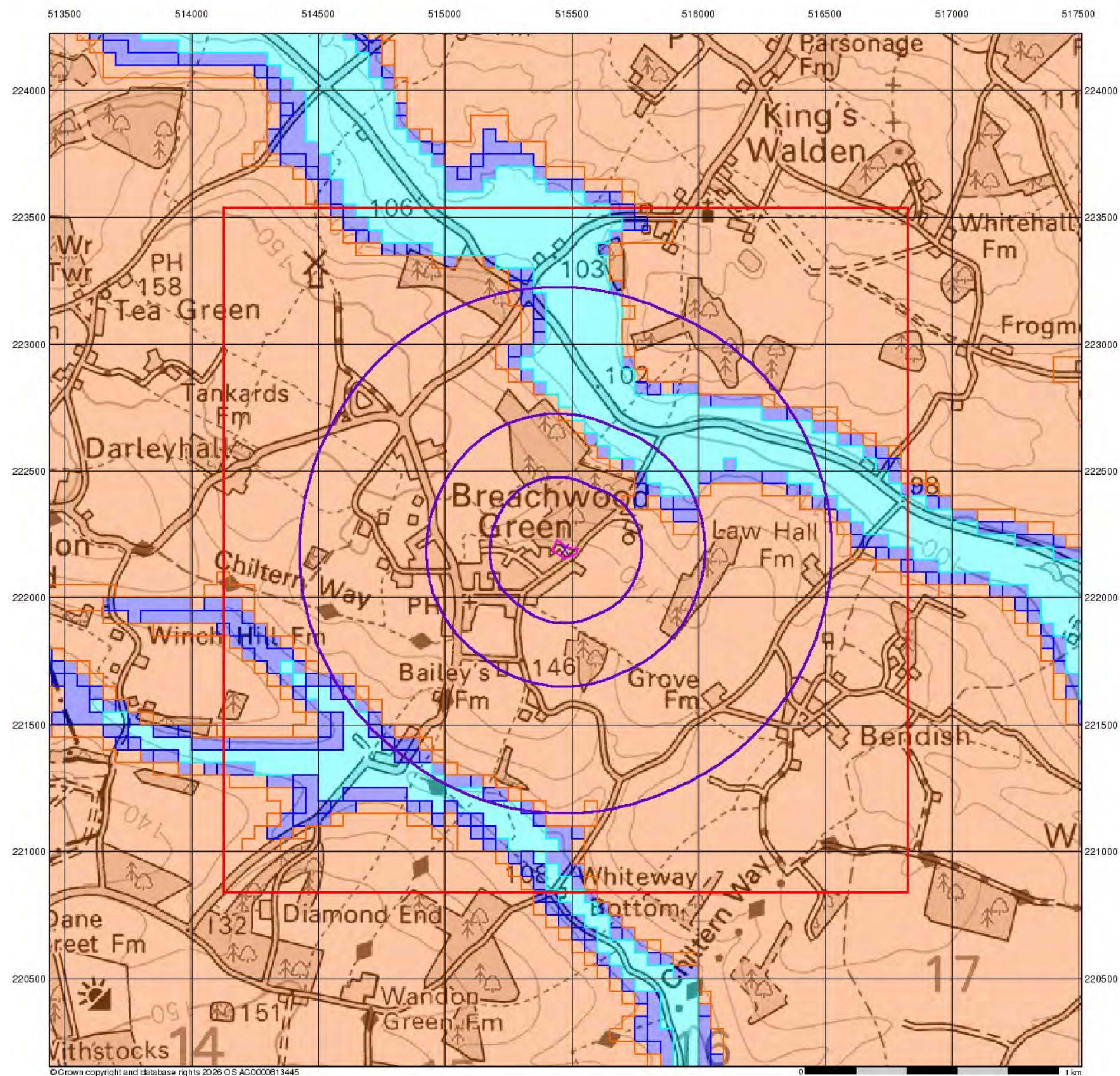
Order Number: 407045903\_1\_1  
Customer Ref: UK26.7955  
National Grid Reference: 515470, 222190  
Slice: A  
Site Area (Ha): 0.38  
Search Buffer (m): 1000

### Site Details

Site at 515480, 222190



Tel: 0330 036 6618  
Fax: 0844 844 9951  
Web: www.envirocheck.co.uk



© Crown copyright and database rights 2026 OS AC0000813445



## BGS Flood GFS Data

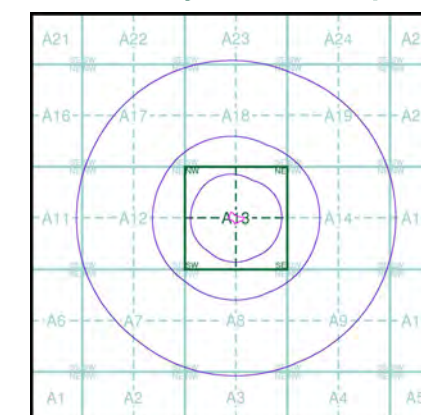
### General

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

### Agency and Hydrological (Flood)

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

### Site Sensitivity Context Map - Slice A



### Order Details

Order Number: 407045903\_1\_1  
Customer Ref: UK26.7955  
National Grid Reference: 515470, 222190  
Slice: A  
Site Area (Ha): 0.38  
Search Buffer (m): 1000

### Site Details

Site at 515480, 222190



Tel: 0330 036 6618  
Fax: 0844 844 9951  
Web: www.envirocheck.co.uk

## **APPENDIX F – A SELECTION OF HISTORIC MAPS**

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit

Sand Pit

Other Pits

Quarry

Shingle

Orchard

Osiers

Reeds

Marsh

Mixed Wood

Deciduous

Brushwood

Fir

Furze

Rough Pasture

Arrow denotes flow of water

Trigonometrical Station

Site of Antiquities

Bench Mark

Pump, Guide Post, Signal Post

Well, Spring, Boundary Post

**•285** Surface Level

Sketched Contour

Instrumental Contour

Main Roads

Fenced

Minor Roads

Un-Fenced

Sunken Road

Raised Road

Road over Railway

Railway over River

Railway over Road

Level Crossing

Road over River or Canal

Road over Stream

Road over Stream

County Boundary (Geographical)

County & Civil Parish Boundary

Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

R.D. Bdy. Rural District Boundary

Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry

Gravel Pit

Sand Pit

Disused Pit or Quarry

Refuse or Slag Heap

Lake, Loch or Pond

Dunes

Boulders

Coniferous Trees

Non-Coniferous Trees

Orchard

Scrub

Coppice

Bracken

Heath

Rough Grassland

Marsh

Reeds

Saltings

Building

Glasshouse

Direction of Flow of Water

Shingle

Sand

Sloping Masonry

Pylon

Electricity Transmission Line

Pole

Cutting

Embankment

Standard Gauge Multiple Track

Standard Gauge Single Track

Siding, Tramway or Mineral Line

Narrow Gauge

Geographical County

Administrative County, County Borough or County of City

Municipal Borough, Urban or Rural District, Burgh or District Council

Borough, Burgh or County Constituency  
Shown only when not coincident with other boundaries

Civil Parish  
Shown alternately when coincidence of boundaries occurs

BP, BS

Boundary Post or Stone

Ch

Church

CH

Club House

F E Sta

Fire Engine Station

FB

Foot Bridge

Fn

Fountain

GP

Guide Post

MP

Mile Post

MS

Mile Stone

Pol Sta

Police Station

PO

Post Office

PC

Public Convenience

PH

Public House

SB

Signal Box

Spr

Spring

TCB

Telephone Call Box

TCP

Telephone Call Post

W

Well

1:10,000 Raster Mapping

Gravel Pit

Refuse tip or slag heap

Rock

Rock (scattered)

Boulders

Boulders (scattered)

Shingle

Mud

Sand

Sand Pit

Slopes

Top of cliff

General detail

Underground detail

Overhead detail

Narrow gauge railway

Multi-track railway

Single track railway

County boundary (England only)

Civil, parish or community boundary

District, Unitary, Metropolitan, London Borough boundary

Constituency boundary

Area of wooded vegetation

Non-coniferous trees

Non-coniferous trees (scattered)

Coniferous trees

Coniferous trees (scattered)

Positioned tree

Orchard

Coppice or Osiers

Rough Grassland

Heath

Scrub

Marsh, Salt Marsh or Reeds

Water feature

Flow arrows

MHW(S) Mean high water (springs)

MLW(S) Mean low water (springs)

Telephone line (where shown)

Electricity transmission line (with poles)

Bench mark (where shown)

Triangulation station

Point feature (e.g. Guide Post or Mile Stone)

Pylon, flare stack or lighting tower

Site of (antiquity)

Glasshouse

General Building

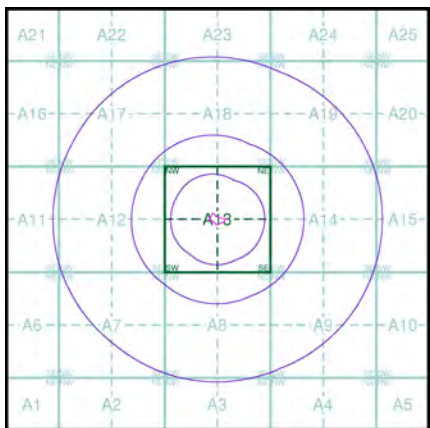
Important Building



Historical Mapping & Photography included:

| Mapping Type         | Scale    | Date | Pg |
|----------------------|----------|------|----|
| Bedfordshire         | 1:10,560 | 1884 | 2  |
| Hertfordshire        | 1:10,560 | 1884 | 3  |
| Hertfordshire        | 1:10,560 | 1899 | 4  |
| Bedfordshire         | 1:10,560 | 1901 | 5  |
| Hertfordshire        | 1:10,560 | 1925 | 6  |
| Bedfordshire         | 1:10,560 | 1925 | 7  |
| Hertfordshire        | 1:10,560 | 1925 | 8  |
| Hertfordshire        | 1:10,560 | 1947 | 9  |
| Bedfordshire         | 1:10,560 | 1947 | 10 |
| Ordnance Survey Plan | 1:10,000 | 1960 | 11 |
| Ordnance Survey Plan | 1:10,000 | 1975 | 12 |
| Ordnance Survey Plan | 1:10,000 | 1986 | 13 |
| Ordnance Survey Plan | 1:10,000 | 1992 | 14 |
| 10K Raster Mapping   | 1:10,000 | 1999 | 15 |
| 10K Raster Mapping   | 1:10,000 | 2006 | 16 |
| VectorMap Local      | 1:10,000 | 2026 | 17 |

Historical Map - Slice A



Order Details

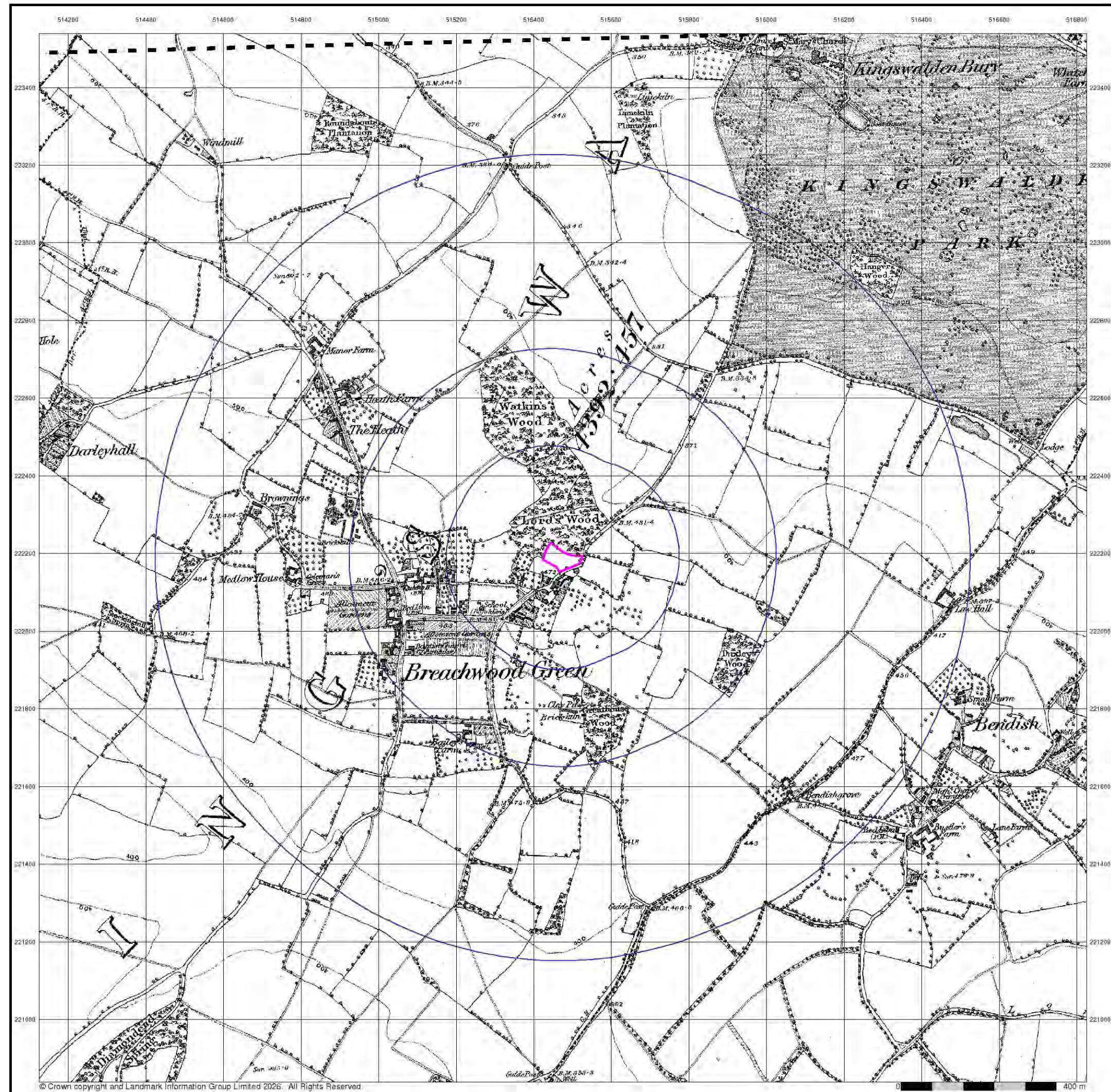
Order Number: 407045903\_1\_1  
Customer Ref: UK26.7955  
National Grid Reference: 515470, 222190  
Slice: A  
Site Area (Ha): 0.38  
Search Buffer (m): 1000

Site Details

Site at 515480, 222190



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





## Hertfordshire

### Published 1884

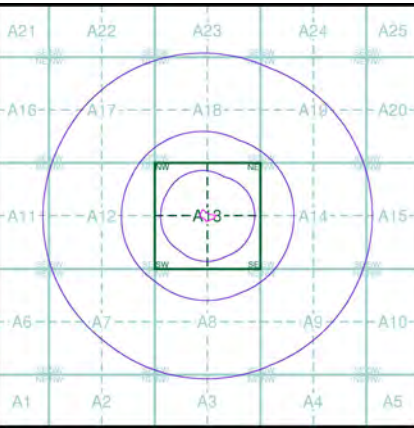
### Source map scale - 1:10,560

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

#### Map Name(s) and Date(s)

|       |      |          |
|-------|------|----------|
| 01100 | 1884 | 1:10,560 |
| 01900 | 1884 | 1:10,560 |

#### Historical Map - Slice A



#### Order Details

|                          |                |
|--------------------------|----------------|
| Order Number:            | 407045903_1_1  |
| Customer Ref:            | UK26.7955      |
| National Grid Reference: | 515470, 222190 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.38           |
| Search Buffer (m):       | 1000           |

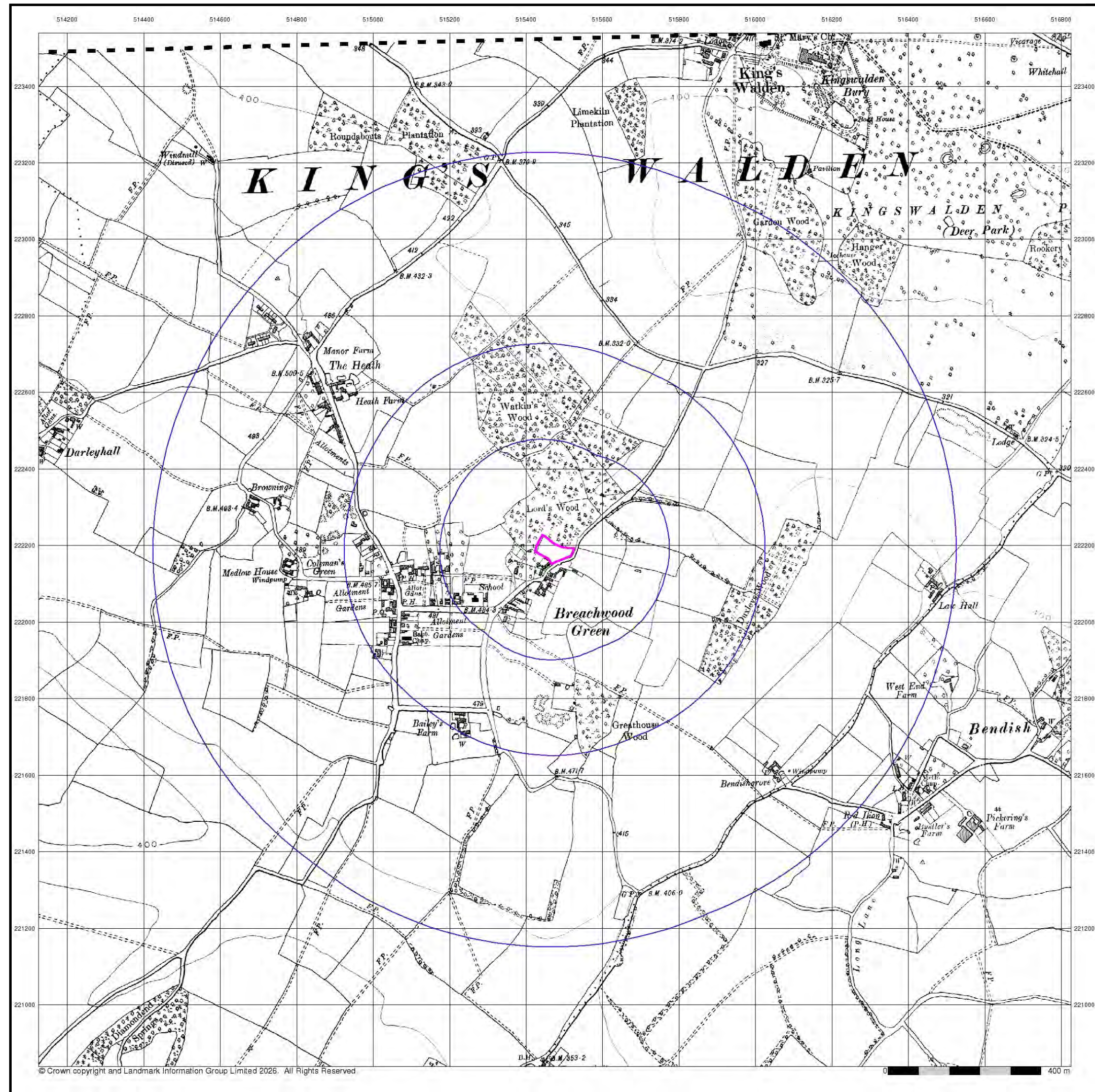
#### Site Details

Site at 515480, 222190



Tel: 0844 844 9952  
Fax: 0844 844 9951  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)

A Landmark Information Group Service v50.0 16-Jul-2026 Page 3 of 17





## Bedfordshire

### Published 1925

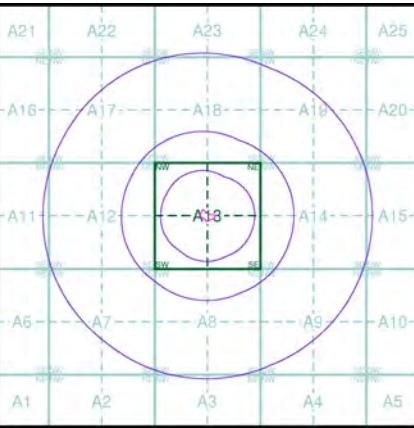
### Source map scale - 1:10,560

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

### Map Name(s) and Date(s)

033NE  
1925  
1:10,560

### Historical Map - Slice A



### Order Details

|                          |                |
|--------------------------|----------------|
| Order Number:            | 407045903_1_1  |
| Customer Ref:            | UK26.7955      |
| National Grid Reference: | 515470, 222190 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.38           |
| Search Buffer (m):       | 1000           |

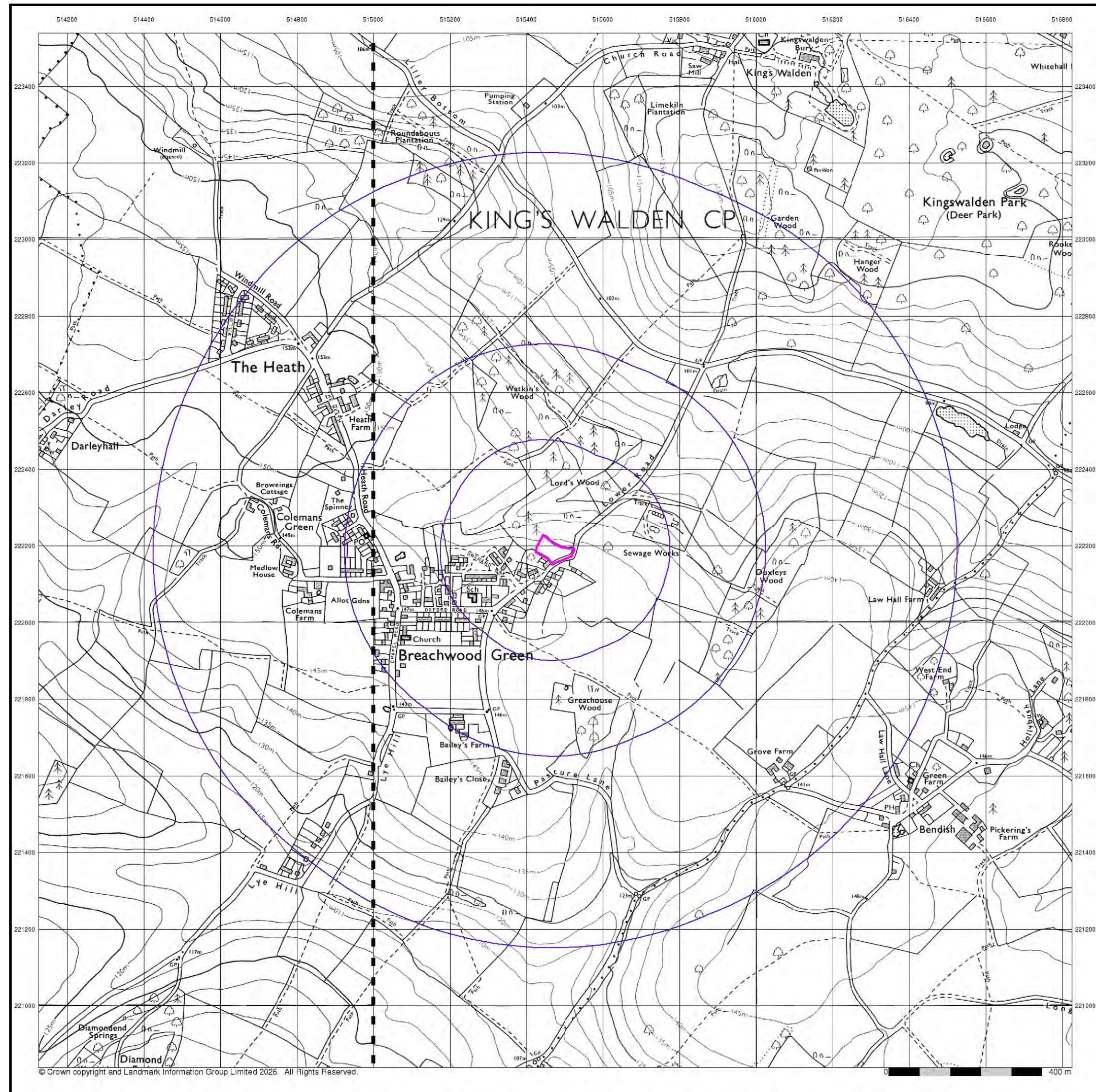
### Site Details

Site at 515480, 222190



Tel: 0844 844 9952  
Fax: 0844 844 9951  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)

A Landmark Information Group Service v50.0 16-Jul-2026 Page 7 of 17





### Ordnance Survey Plan

#### Published 1975

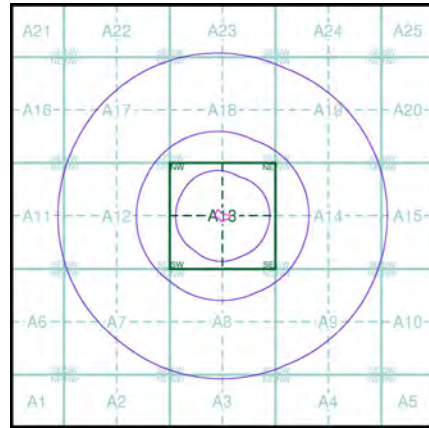
#### Source map scale - 1:10,000

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

#### Map Name(s) and Date(s)

|                            |                            |
|----------------------------|----------------------------|
| TL12SW<br>1975<br>1:10,000 | TL12SE<br>1975<br>1:10,000 |
|----------------------------|----------------------------|

#### Historical Map - Slice A



#### Order Details

|                          |                |
|--------------------------|----------------|
| Order Number:            | 407045903_1_1  |
| Customer Ref:            | UK26.7955      |
| National Grid Reference: | 515470, 222190 |
| Slice:                   | A              |
| Site Area (Ha):          | 0.38           |
| Search Buffer (m):       | 1000           |

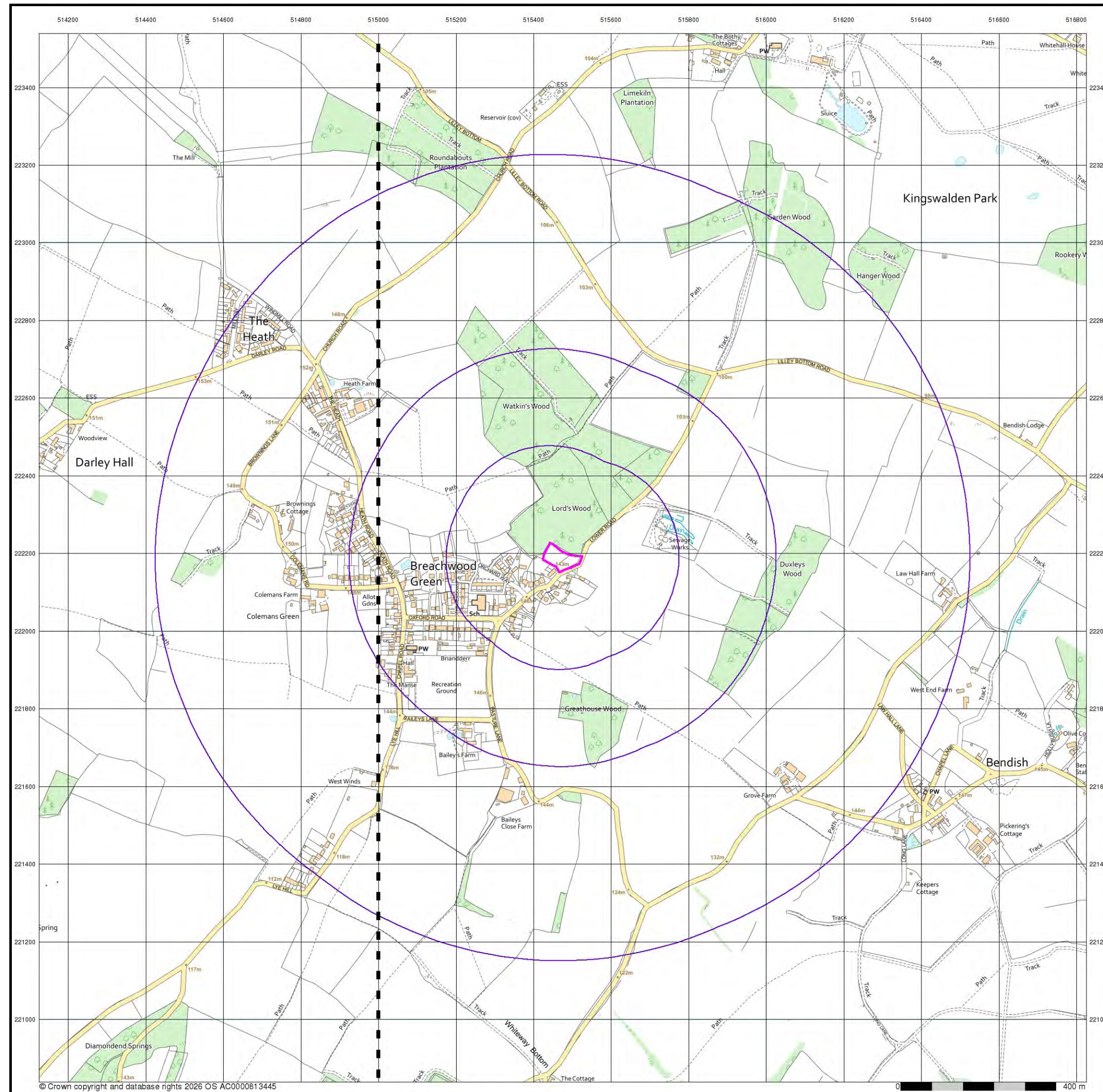
#### Site Details

Site at 515480, 222190



Tel: 0844 844 9952  
Fax: 0844 844 9951  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)

A Landmark Information Group Service v50.0 16-Jul-2026 Page 12 of 17



© Crown copyright and database rights 2026 OS AC0000813445



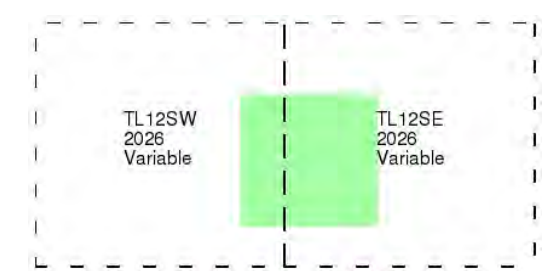
## VectorMap Local

Published 2026

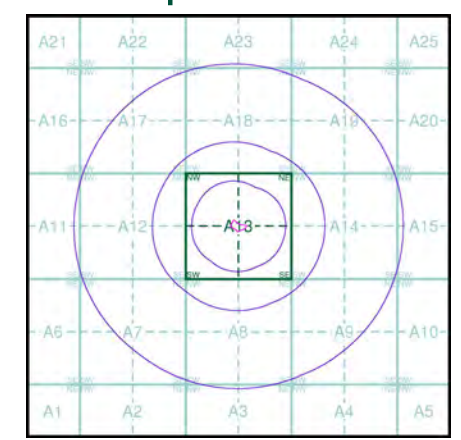
Source map scale - 1:10,000

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

### Map Name(s) and Date(s)



### Historical Map - Slice A



### Order Details

Order Number: 407045903\_1\_1  
Customer Ref: UK26.7955  
National Grid Reference: 515470, 222190  
Slice: A  
Site Area (Ha): 0.38  
Search Buffer (m): 1000

### Site Details

Site at 515480, 222190



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



7b Caxton House  
Broad Street  
Cambourne  
Cambridge CB23 6JN

**T** +44(0) 1954 710666  
**E** [info@epstrategies.co.uk](mailto:info@epstrategies.co.uk)  
**W** [www.epstrategies.co.uk](http://www.epstrategies.co.uk)

Registered office as above. Environmental Protection Strategies Ltd (04330320) trading as EPS.

