Milton Keynes City Council	**Milton Keynes City Plan 2050** Proposed Submission Stage Representation Form	**Ref:** **(For official use only)**

Name of the Local Plan to which this representation relates:	Milton Keynes City Plan 2050

Please return by **5.30pm** on **Monday 22nd December 2025** to Development Plans, Milton Keynes City Council, Civic, 1 Saxon Gate East, Milton Keynes MK9 3EJ, or via email at *ncp.engagement@milton-keynes.gov.uk*

This form has two parts –
Part A – Personal Details: need only be completed once.
Part B – Your representation(s). Please fill in a separate sheet for each representation you wish to make.

Part A

1. Personal Details*		2. Agent's Details (if applicable)
**If an agent is appointed, please complete only the Title, Name and Organisation (if applicable) boxes below but complete the full contact details of the agent in 2.*		
Title		Mr
First Name		Ian
Last Name		Coward
Job Title (where relevant)		Director
Organisation (where relevant)	Gill-Hudson Homes c/o agent	Collins & Coward
E-mail Address		[redacted]
Address Line 1		
Line 2		
Line 3		

Line 4		
Post Code		[redacted]
Telephone Number		

Part B – Please use a separate sheet for each representation

Name or Organisation:

3. To which part of the Local Plan does this representation relate?

Paragraph		Policy		Policies Map	x

4. Do you consider the Local Plan is: (Please tick as appropriate)

4.(1) Legally compliant	Yes		No	x
4.(2) Sound	Yes		No	x
4.(3) Complies with the Duty to co-operate	Yes	x	NO	

5. Please give details of why you consider the Local Plan is not legally compliant or is unsound or fails to comply with the duty to co-operate. Please be as precise as possible.
If you wish to support the legal compliance or soundness of the Local Plan or its compliance with the duty to co-operate, please also use this box to set out your comments.

See attached statement

(Continue on a separate sheet /expand box if necessary)

6. Please set out the modification(s) you consider necessary to make the Local Plan legally compliant and sound, in respect of any legal compliance or soundness matters you have identified at 5 above. (Please note that non-compliance with the duty to co-operate is incapable of modification at examination). You will need to say why each modification will make the Local Plan legally compliant or sound. It will be helpful if you are able to put forward your suggested revised wording of any policy or text. Please be as precise as possible.
(Continue on a separate sheet /expand box if necessary)

Please note *your representation should cover succinctly all the evidence and supporting information necessary to support/justify your representation and your suggested modification(s). You should not assume that you will have a further opportunity to make submissions.*

After this stage, further submissions will be only at the request of the Inspector, based on the matters and issues he or she identifies for examination.

7. If your representation is seeking a modification to the plan, do you consider it necessary to participate in examination hearing session(s)?

	No, I do not wish to participate in hearing session(s)	Yes	**Yes**, I wish to participate in hearing session(s)

8. If you wish to participate in the hearing session(s), please outline why you consider this to be necessary:

To fully explain the position.
Please note *the Inspector will determine the most appropriate procedure to hear those who have indicated that they wish to participate in hearing session(s). You may be asked to confirm your wish to participate when the Inspector has identified the matters and issues for examination.*

Sharing your personal details

Please be aware that, due to the process of having an Independent Examination, a name and means of contact is required for your representation to be considered. Respondent details and representations will be forwarded to the Inspector carrying out the examination of the Local Plan after the Proposed Submission period has ended. This data will be managed by a Programme Officer who acts as the point of contact between the Council and the Inspector and respondents and the Inspector.

For more information on how we use your data – please see our privacy notice by using the following link: https://www.milton-keynes.gov.uk/milton-keynes-council/privacy-notices/milton-keynes-city-council-corporate-privacy-notice

Representations cannot be treated as confidential and will be published on our website alongside your name. *If you are responding as an individual rather than a company or organisation, we will not publish your contact details (email / postal address and telephone numbers) or signatures online.*

Representations to proposed submission Milton Keynes City plan, 2050 Regulation 19 Plan for Consultation

Representation submitted on behalf of Gill-Hudson Homes in respect of land Rectory Farm, Woburn Sands Road, Bow Brickhill, Milton Keynes , MK17 9JY

December 2025

[redacted]

REPRESENTATIONS TO PROPOSED SUBMISSION MILTON KEYNES CITY PLAN, 2050 REGULATION 19 PLAN FOR CONSULTATION

1. We are instructed by our clients, **Gill-Hudson Homes**, to submit representations in respect of the soundness of the Milton Keynes City Plan 2025.

2. The representations submitted relate to the non-inclusion of a site at Rectory Farm, Woburn Sands Road, Bow Brickhill. The basis of these representations is that the non-inclusion as a residential allocation undermines the soundness of the plan within the context of the point that this is a medium scale site and the Local Plan has a reliance upon strategic sites.

3. We enclose a red line site plan to confirm the extent of the site boundaries and an extract of this is below:

4. Plus a context plan with the broad location of the site highlighted.

5. We set out our position on the following basis:

- We introduce the site and explain its background, history and availability for development;
- We set the context in respect of allocations to date with particular regard to policy GS2, "Strategy for Homes", and the housing chapter of the Local Plan;
- We justify our position that the allocation of this site will contribute to the soundness of the plan and set out the perceived deficiencies in respect of its non-allocation.

6. The site extends to just over a hectare and was submitted via the call for sites process and was assessed by the local planning authority under **ID 110356** on the following basis:

The site is classified as entry ID 110356 and a summary of the local planning authority's recently published position is as follows:

- **Site known as Rectory Farm;**
- **Within the parish of Bow Brickhill;**
- **No current planning status;**
- **Site area of 1.01 hectares with a suitable site area of 0.15 hectares;**
- **Conclusion is that the site is unsuitable and undeliverable;**
- **Exclusion type noted as agricultural land post 1988 Grade 3a;**

7. Plus the "suitability" commentary read as follows:

Unsuitable - over 85% of the site is Grade 3a Agricultural Land and the remainder outside of this designation is not of a size of form which would be suitable for development.

8. The availability commentary is as follows:

Site is a greenfield site abutting the village of Bow Brickhill for which previous applications for residential development have been submitted and refused. It is therefore likely to be achievable if constraints were able to be overcome and it were suitable.

The policy constraint is as open countryside.

A constraint was identified relating to surface water.

The overcoming constraints entry is stated as follows:

A detailed assessment of Agricultural Land Classification would be required to demonstrate the site is not Best and Most Versatile Land. If this is achievable then a positive allocation of the site would be required through the new Local Plan or a Neighbourhood Plan to overcome the existing open countryside designation. Impact of potential surface water flood risk would also need to be considered.

9. In relation to planning history a previous scheme for up to 28 residential units was submitted and refused by the local planning authority under the terms of **18/01372/FUL** in June 2019 and later dismissed at appeal on 27th April, 2020 pursuant to **APP/Y0435/W/19/3234204.**

10. The refusal can be summarised as the site was outside of the defined settlement limits and the Inspector accepted the position of the local planning authority that it did have a 5-year housing land supply at that point and that the tilted balance could not therefore be engaged. As a matter of principle, it therefore fell foul of countryside policies of restraint [we add that there were also some concerns expressed as to the nature of the scheme itself albeit these matters are less relevant to the consideration of these representations which deal with the principle of the development of the site].

11. Post the call for sites the owners instructed an agricultural land assessment to address the comments and conclusions within the ID references above. This was prepared by Ground Science Solutions and is dated November, 2024 and together with the site location plan is appended to these representations.

12. The main points arising from this agricultural land survey are as follows:

- **The topsoil is thin and in some places the underlying Oxford clay is exposed at the surface;**

- **It has been assumed that topsoil has been removed historically;**

- **The site is not suitable for livestock due to the underlying wet clay soil and the undulating surface;**

- **For any future agricultural use the site would need to be levelled and a significant amount of topsoil imported;**

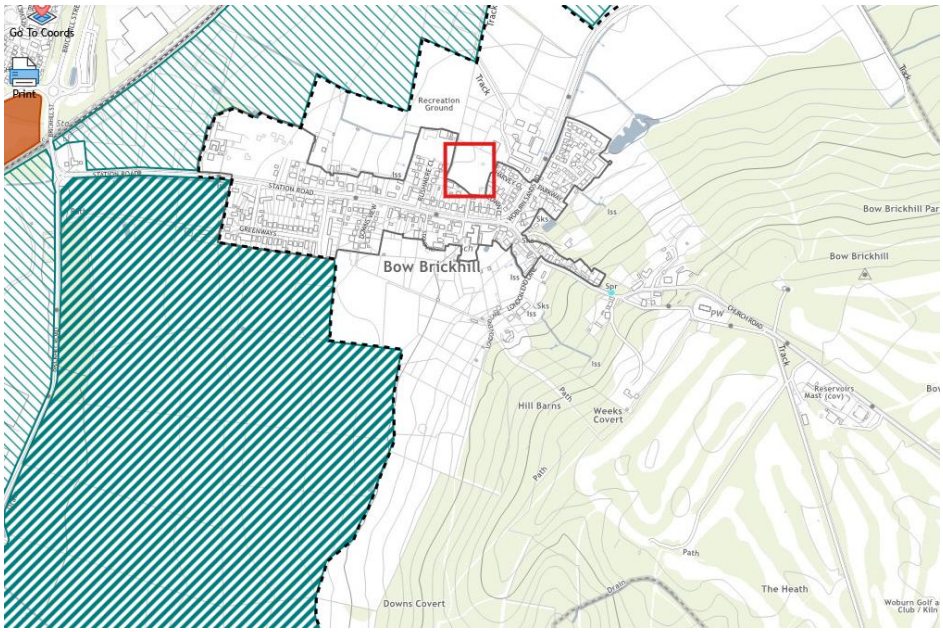
- **A view is expressed that this position is unlikely to be viable as the site is not of a sufficient size to be worked remotely from a main farm.**

13. In short therefore the site is available for development and has an access road to its edge.

14. The owner is clearly committed to bringing it forward and this is illustrated by the previous appeal decision as well as these representations and previous allocation submissions.

15. The concern with the agricultural land classification as expressed in the call for sites reply should be revisited at this point in view of the specialist agricultural land report.

16. We now turn to the allocations in the Local Plan and note that specifically policies GS15, 17 and 23 deal with large strategic allocations in relatively close proximity and allocate land east of Wavendon, south of Bow Brickhill and Caldecotte South respectively: an extract from the emerging proposals map below with our addition of the broad location of the representation site is below to show the close proximity of the representation site to these strategic allocations:



17. Policy GS2 is entitled **"Strategy for Homes"** and confirms that a minimum of 50,372 (net) new houses will be delivered in the period 2022-2050.

18. Policy GS2 has a total of 59,779 new homes and acknowledging the 22,705 which will be delivered from completions and commitments for the period 2022-2050, the allocations are almost wholly strategic.

19. A figure of 16,000 is allocated in respect of Central Milton Keynes and Campbell Park and the local planning authority is reliant upon extensions with the sites as allocated ranging from the smallest figure being 400 homes to 7,750 with the 16,000 figure as cited above being by far the largest.

20. We therefore question the soundness of the plan based upon reliance upon the more strategic sites and not having an appropriate mix of small and larger sites coming forward.

21. The current representation site could provide in region of 25 to 30 new houses and this figure is materially above the "sites providing fewer than 10 houses" which a level of houses which will contribute to the windfall allowance which together with other commitments totals 2,990.

22. We make this point in the context of the NPPF at paragraph 73 which advises that small and medium size sites can make an important contribution to meeting the housing requirements of an area and are essential for small and medium enterprise house builders to deliver new houses and that these are often built out relatively quickly.

23. The April 2020 appeal was submitted on behalf of Mr David Gill of Gill-Hudson Homes and we are now instructed by the same party.

24. As previously noted the access road is in place and if there is an opportunity to build out this site the owner will do so in the short to medium term.

25. The advice at NPPF 73 (a) is therefore at the very heart of our submission and this reads as follows, with our emphasis:

> **a) identify, through the development plan and brownfield registers, land to accommodate at least 10% of their housing requirement on sites no larger than one hectare; unless it can be shown, through the preparation of relevant plan policies, that there are strong reasons why this 10% target cannot be achieved;**

26. The representation site at Bow Brickhill is just over a hectare as previously noted.

27. We therefore address policy GS2 in the context of the NPPF 73 (a) point and if a 10% figure will come forward on smaller sites.

28. In doing so we go through the allocations from top to bottom.

29. The 22,705 figure for completions and commitments across a number of delivery options also includes sites with planning permission and under construction.

30. Whilst carried forward a proportion is therefore not new housing which is to be provided under the provisions of this Plan and paragraph 73 of the NPPF seeks clear identification. It is this lack of clear identification of the smaller sites that undermines the soundness of the Plan at this stage. Policy GS12 concerns the

redevelopment of Wolverton Railway Works and this is a mixed use scheme with a large number of residential units (in the region of 400) being anticipated. This is therefore not a small and unconstrained site that will come forward in the short term.

31. GS13 is Walton Campus and is again a larger and mixed use site with 300+150 houses to be developed on a phased basis.

32. GS14 is the Eastern Strategic City Extension which will provide an overall total of 16,000 with 7,750 new houses within the Plan period.

33. GS15 East of Wavendon Strategic City Extension with a figure of 2,250;

34. GS17 South of Bow Brickhill Strategic Extension which is a large mixed use scheme with 1,300 new homes and this also has to have regard to the Brickhill Special Landscape Area and is consequently a large site with its own constraints.

35. GS18 Levante Gate Strategic City Extension which again a mixed use scheme with a high residential figure of 1,250 new homes anticipated.

36. GS19 The Shenley Dens Strategic City Extension to deliver 1,000 new homes.

37. GS20 The Western Expansion Area with 200 hectares of residential development and this is a retained allocation as are the others to follow.

38. GS21 The Milton Keynes Strategic Urban Extension with 5,000 new homes.

39. GS22 The South-East Milton Keynes Strategic Urban Extension again with 3,000 homes.

40. The basis of the objection and therefore our view that the plan is not sound is that it seems to be almost wholly reliant upon legacy allocations as well as much larger strategic housing sites as referenced above.

41. The plan should also allocate a series of medium size sites which will come forward within a very different timeframe to the more strategic allocations.

42. The site at Bow Brickhill as per these representations is a classic example of this and this is very much missing from the plan.

43. This site is in a sustainable location largely surrounded by pre-existing residential development and with leisure facilities on one side in the form of fields and sports facilities.

44. The access road is already in place whereas with the more strategic sites there is a significant amount of infrastructure work to come forward. Whilst strategic sites are developed on a phased basis the start up costs are proportionately high due to the infrastructure requirements.

45. In addition the planning history confirms a commitment to bringing forward the development in the short term.

46. We have addressed the issue of the agricultural land classification and the call for sites reply also acknowledges the small area of surface water around the centre of the site. However, any residential scheme can built around this very limited constraint and a drainage and SUDS strategy would be a key feature of any application in this event so that this issue is resolved.

47. The site will therefore come forward efficiently and so provide housing well before any of the strategic sites are able to come forward.

48. It is clearly the case that larger sites clearly have a larger number of complications and challenges not least in respect of planning but also in terms of finance and marketability.

49. A discrete site of the nature of the site as presented at Bow Brickhill will have its role in the overall plan process.

50. The soundness of any plan is based upon deliverability and the plan as currently worded does not in our view properly and fairly reflects paragraph 73 (a) of the NPPF.

51. The allocation of this site will be a step towards addressing this and placing the plan on a sounder footing.

BOW BRICKHILL

residential development

Site location

Site area = 10297m2

1:1250

Site Location

Rev	Date	Comments

0 10 20 30 40 50 60 70 80 90 100 paper scale (mm)

Scale bar

0 10 20 30 40 50 metres 1:1250 scale

nettassets
Architectural Design & Development Consultants

Title
Proposed residential development
Rectory Farm, Bow Brickhill

Detail
Site Location

Nett Assets
The Studio, 141 New Road,
Croxley Green, Herts. WD3 3EN.
Tel:- 01923 293117. 07531 124528
Web:- www.nettassets.co.uk

Date	Job Ref	
April 2018	18038	
Scale	Drg No.	Rev.
1:1250 @ A3	PL-21	.... A3

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SOIL INVESTIGATION REAR FIELD

RECTORY FARM

BOW BRICKHILL MK17 9JY

GROUND
SCIENCE
SOLUTIONS

Report 2024/6003

NOVEMBER 2024

RECTORY FARM, BOW BRICKHILL MK17 9JY
Soil inspection rear field

Prepared By	Checked By		Status	Date	Issue No
[redacted] Albert Prince BSc MCMI FIDiagE FGS	Albert Prince BSc MCMI FIDiagE FGS		FINAL	09/10/2024	1

Bow Brickhill/Gill Hudson Homes Ltd
Groundsciencesolutions

November 2024

CONTENTS

1.0 INTRODUCTION AND SCOPE

In September 2024 Gill Hudson Homes Ltd requested that Ground Science Solutions carry out a survey of a land locked field at the back of the former Rectory Farm, Bow Brickhill MK17 9JY. The survey object was to establish the quality of the soil and the practicalities of the field being of use for agriculture.

2.0 SITE LOCATION AND DESCRIPTION

The site is roughly square and slopes locally steeply to the north mainly, but locally to the south or east. The site is undulating with deep channels/ruts. Walking is as a result difficult and hazardous partly due to the growth of brambles mainly Rubus fruticosus/ulmifolius, classed as "mega sized" for removal purposes, (with the probable need to use chainsaws) . The channels/ruts in the ground surface, have random orientation and distribution with areas of high ground.

The site is covered with a substantial growth of weeds and shrubs as well as brambles. The field appears to have been abandoned for sometime possibly due to local ponding of water. The soil fabric indicates that the field has not been ploughed for many years if at all.

Access is via a small road alongside domestic housing.

Photo No.1 Small excavator with figure guiding some metres below. The use of this small machine was slow and hazardous due to the ruts.

3.0 SITE LAND USE AND HISTORY

A selection of historical maps is presented in Appendix A.

The oldest available 1:2,500 map dates to 1881 and shows the site as part of the farms and was two fields separated by a tree lined field boundary, with no structures. A small pond is shown to the north of the current development site. A much larger rectangular fish pond was located 100 m south-east of the site.

The 1898 1:10,560 map shows the site in its wider rural context, but there had been no changes on the site itself. This map shows no marked sand or gravel extraction area within 500 m of the site, but one feature located about 250 m east of the site along a marked footpath looks as if it may have been a backfilled small extraction area. An "Old Sandpit" is indicated about 500 m south-east of the site within the area of Bow Brickhill Park, but seems to have been backfilled by the end of the 19th century. The nearest railway line is shown approximately 750 m north-west of the site.

The 1901 and 1925 1:2,500 maps show no changes on the site, and only minor changes in the configuration of the Rectory Farm buildings to the south of the development site. The 1924 1:10,560 map suggests no major developments or changes in the vicinity of the site.

No maps of any scale are available for the years from 1926 to 1949.

The 1972-1977 show the site shows the area to the south that had been farm land has been redeveloped as residential housing with Haynes Close and Edwin Close in place.

Residential housing had also been constructed to the east of the site facing Parkway.

The 1989 1:2500 map shows no change on the site.

It is not shown on any of the maps seen by GSS issued before 2001, but an industrial estate had been established on the nearby Blind Pond Farm located approximately 100 m north-east of the site at some time between the late 1970's and the 1990s.

3.1 AERIAL PHOTOGRAPHS

The 1969 Photograph (see figure 3) shows the site area as a sensibly level sloping field grassed with sheep grazing.

The 1999 aerial photograph shows the site field with a number of mature shrubs indicating the field is not in use for agriculture.

The 2007 aerial photograph shows the site field grasses but cleared of shrubs.

The 2013 aerial photograph indicates that the topsoil has been stripped from the majority of the site.

The 2017 aerial indicates that site has been largely stripped down to the Oxford Clay.

The 2023 map shows the site overgrown with areas cleared to store materials used on the recent housing development and clearance of the drainage ditch on the site boundary.

The 2024 google map is similar.

4.0 GEOLOGY AND GROUND CONDITIONS

According to the British Geological Survey (BGS) 1:50,000 Digital Geological Map of Great Britain, no artificial deposits or Made Ground are indicated on the site, or within 500 metres of the site.

The mapped superficial geology of the site area consists of Head Deposits, Sand and Clay. The BGS Lexicon of Named Rock Units defines Head Deposits as poorly sorted and poorly stratified, comprising grave, sand and clay, locally with lenses of silt, clay or peat and organic material.

According to the published maps, the underlying solid geology consists of the Oxford Clay Formation, a Mudstone. The BGS Lexicon of Named Rock Units describes the Oxford Clay as a grey silicate mudstone with beds of argillaceous limestone nodules. Over most of the outcrop area it consists of three parts: the lower part, the Peterborough Member which comprises a brownish-grey fissile organic-rich silicate mudstone with subordinate beds of grey blocky mudstone; the middle part, the Stewartby Member which consists of a grey silicate mudstone with subordinate beds of silty shell-debris-rich mudstone, and the upper part, the Weymouth Member, a pale grey calcareous blocky mudstone.

The shrink-swell hazard rating for the site is defined as moderate.

5.0 GSS FIELDWORK AND SOIL CLASSIFICATION

On the 7th September 2024 a grid of six shallow boreholes were drilled on the site. A small tracked excavator with a small rotary rig mounted at the back was used. Stability of larger excavators would have been difficult with the need to dig a large flat platform at each location. Even with the smaller excavator this was needed in most locations. The excavator had a banksman at the front and rear, changes in ground level on occasions made it difficult for the excavator to see the banks men.

The following photographs illustrate ground conditions.

Photo No.2 Example of excavating a stable platform.

Photo No 3. Typical site conditions

Photo No.4 Showing undulating topography.

Photo No.5. One of the boreholes these were big enough for the strata to be identified and sampled directly.

Locally the topsoil was very thin and some downslope migration may have occurred i.e. from a high point into a rut. Sampling points were restricted due to the level of overgrowth present.

The six boreholes are summarised as follow

Borehole No.	Type	Depth m	Texture		Description	Limitation	GRADE
1	Topsoil	0.12	SZL		Light to dark brown (10YR 5/3) Slightly clayey silt (loam) 3% flint gravel	W	3b
1	Subsoil	0.12-0.5	SCL		Brown silty clay (loam) 3-4% flint and gravel.	W	3b
2	Topsoil	0.20	SZL		Light to dark brown (10YR 5/3) Slightly clayey silt (loam) 3% flint gravel	W	3b
2	Subsoil	0.2 -1.0			Slightly silty clay (loam) weathered Oxford Clay	W	3b
3	Topsoil	0.2			Light to dark brown (10YR 5/3) Slightly clayey silt (loam) 3% flint gravel	W	3b
3	Subsoil	0.2-1.0			Slightly silty clay (loam) weathered Oxford Clay	W	3b

4	Topsoil	0.1			Light to dark brown (10YR 5/3) Slightly clayey silt (loam) 3% flint gravel	W	3b
4	Subsoil	0.1-1.0			Slightly silty clay (loam) weathered Oxford Clay	W	3b
5	Topsoil	0.15			Light to dark brown (10YR 5/3) Slightly clayey silt (loam) 3% flint gravel	W	3b
5	Subsoil	0.15-1.0			Slightly silty clay (loam) weathered Oxford Clay	W	3b
6	Topsoil	0.1			Light to dark brown (10YR 5/3) Slightly clayey silt (loam) 3% flint gravel	W	3b
6	Subsoil	0.1-1.0			Slightly silty clay (loam) weathered Oxford Clay	W	3b

The topsoil where present had a generally friable angular blocky fabric with a medium permeability, the underlying subsoil was mainly weathered Oxford Clay and is virtually impermeable i.e. imperfect drainage. This results in water running off downslope with local ponding and softening of the Oxford Clay surface, hence the W classification.

Weathered Oxford Clay is at surface in some parts of the site which appears to have been substantially stripped of topsoil in the past. Later work involving clearance of drains and areas for materials storage has resulted in areas around the boundaries of the site which were possibly not stripped of topsoil being moved to areas where topsoil had been stripped. This mixing of the site soils complicates the assessment of whether topsoil found is insitu or is secondary.

The undulating topography of the site is at least in part due the drain clearing operations.

We have assessed the topsoil where present as Subgrade 3b due to the imperfect drainage (wetness class 111), resulting in a soil too wet to cultivate for parts of the year.

The grey Oxford Clay will have a low hydraulic conductivity (permeability) around $10^{-8\ to 9}$m/s and ponding during wet weather is to be expected (this has also been observed).

6.0 CONCLUSIONS

The field has a general slope to the north however due to undulating topography the slope direction is variable. The topsoil Is often rather thin and appears to be very thin in some areas where the underlying Oxford Clay is exposed at the surface.

The field is not well suited to livestock due to the underlying wet clay soil, and undulating surface, topsoil is variable in thickness with as little as a few millimetres present some downslope movement may have taken place due to the surface water running downslope.

Aerial photographs indicate that the topsoil was largely removed some years back presumably for use elsewhere.

In order to return this field to agricultural use ,the site will need to be levelled and suitable topsoil imported as insufficient appears to be present currently . Removal of the brambles and shrubs will in places possibly remove the remaining topsoil unless great care is taken.

This would probably not be viable when subject to a cost benefit analysis. As the field is not of a sufficient size to be worked remotely from a main farm.

In our opinion the topsoil present would be grade 3b at best and more topsoil would be needed to be imported to make the field viable.

The use of the site field for future agricultural purposes would therefore problematic.

FIGURES

BOW BRICKHILL

residential development

Site location

Site area = 10297m2

1:1250

FIGURE 1 SITE LOCATION

Site Location

Rev	Date	Comments

Scale bar

0 10 20 30 40 50

metres 1:1250 scale

nettassets

Architectural Design & Development Consultants

Title: Proposed residential development
Rectory Farm, Bow Brickhill

Detail: Site Location

Nett Assets
The Studio, 141 New Road,
Croxley Green, Herts. WD3 3EN.
Tel:- 01923 29317. 07531 124526
Web:- www.nettassets.co.uk

Date: April 2018

Job Ref: 18038

Scale: 1:1250 @ A3

Drg No.: PL-21

Rev.:

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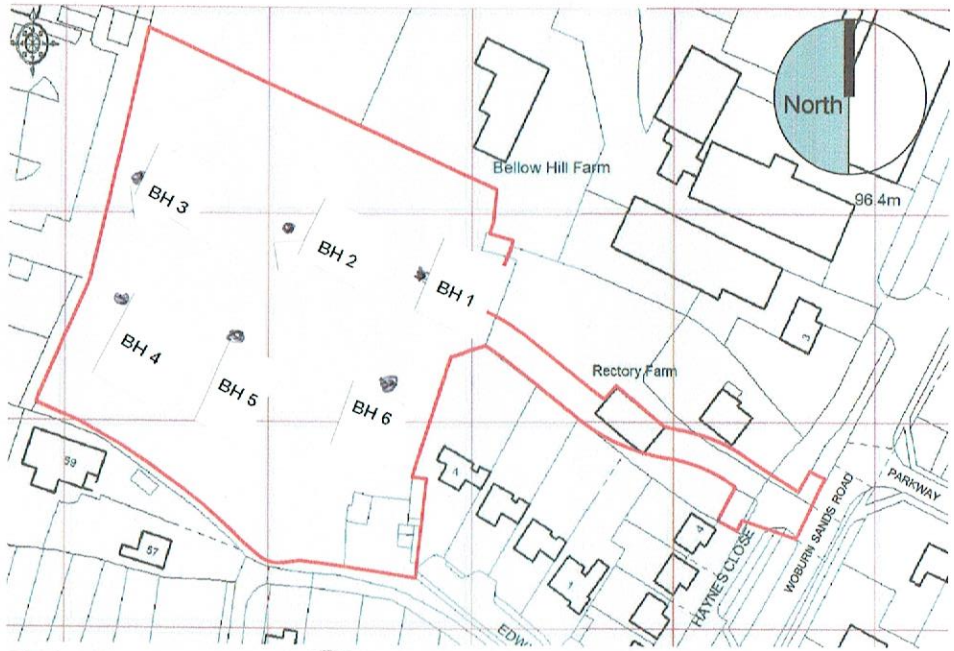
BOW BRICKHILL

residential development



Site location

Site area = 10297m2

1:1250

FIGURE 2 BOREHOLE LOCATIONS

Site Location

Rev	Date	Comments

Scale bar

0 10 20 30 40 50

metres 1:1250 scale

nettassets

Architectural Design & Development Consultants

Nett Assets
The Studio, 141 New Road,
Croxley Green, Herts, WD3 3EN.
Tel:- 01923 29317, 07531 124528
Web:- www.nettassets.co.uk

Title: Proposed residential development
Rectory Farm, Bow Brickhill

Detail: Site Location

Date: April 2018

Job Ref: 18038

Scale: 1:1250 @ A3

Drg No.: PL-21

Rev.:

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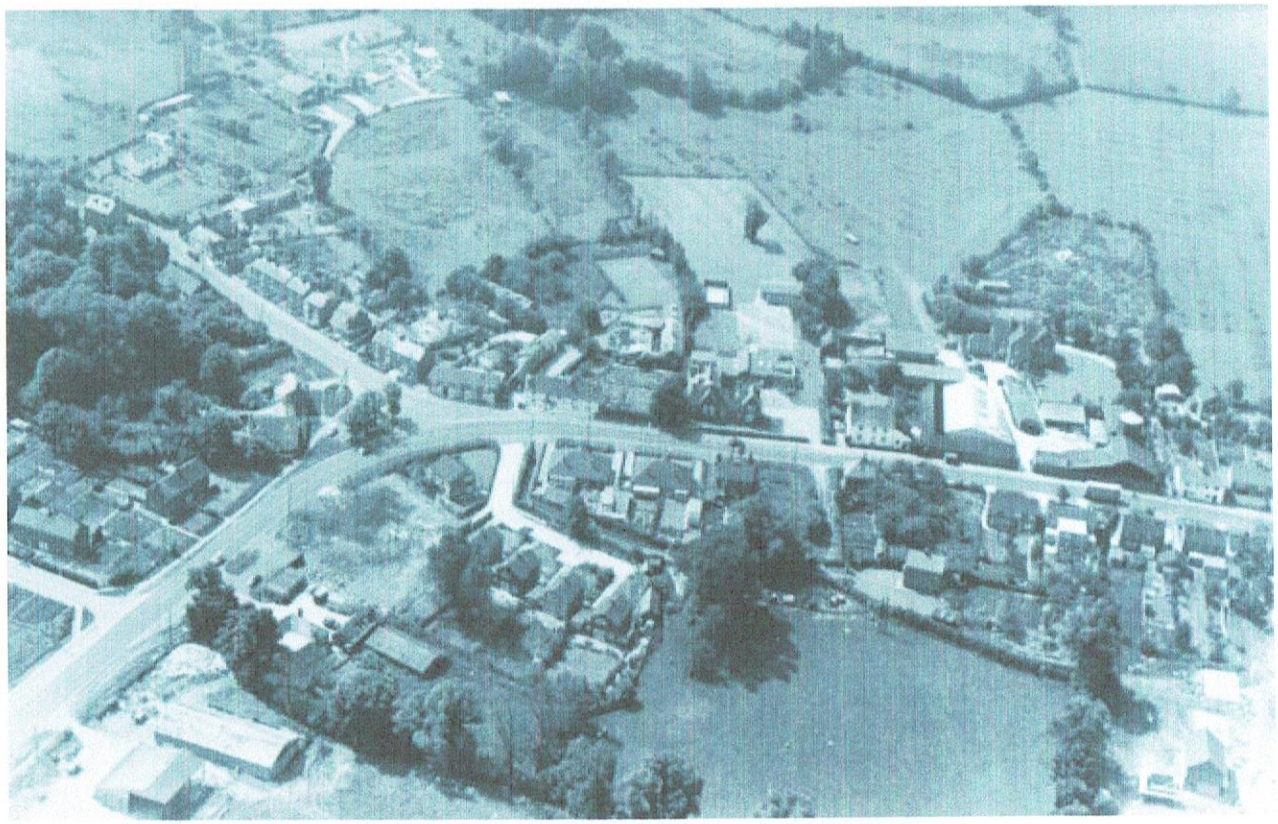


FIGURE 3

APPENDICES

APPENDIX A

Google Maps

Imagery ©2024 Airbus, Maxar Technologies, Map data ©2024 50 m

Live traffic	*Fast*	*Slow*

Groundsure
LOCATION INTELLIGENCE

Geo
Insight

3, WOBURN SANDS ROAD, BOW BRICKHILL, MILTON KEYNES, MK17 9JY

Order Details

Date: 14/10/2024

Your ref: BRICK

Our Ref: GS-CJZ-6CH-YV5-ULD

Site Details

Location: 490603 234725

Area: 1.04 ha

Authority: Milton Keynes ↗

Contact us with any questions at:
info@groundsure.com ↗
01273 257 755

Certified B Corporation

Summary of findings

Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
11 >	1.1 >	10k Availability >	Identified (within 500m)				
12	1.2	Artificial and made ground (10k)	0	0	0	0	-
13 >	1.3 >	Superficial geology (10k) >	0	2	1	2	-
14 >	1.4 >	Landslip (10k) >	0	0	0	1	-
15 >	1.5 >	Bedrock geology (10k) >	1	0	1	1	-
16	1.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
17 >	2.1 >	50k Availability >	Identified (within 500m)				
18	2.2	Artificial and made ground (50k)	0	0	0	0	-
18	2.3	Artificial ground permeability (50k)	0	0	-	-	-
19 >	2.4 >	Superficial geology (50k) >	0	2	0	0	-
20 >	2.5 >	Superficial permeability (50k) >	Identified (within 50m)				
20 >	2.6 >	Landslip (50k) >	0	0	0	1	-
20	2.7	Landslip permeability (50k)	None (within 50m)				
21 >	2.8 >	Bedrock geology (50k) >	1	0	0	1	-
22 >	2.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
22	2.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
23	3.1	BGS Boreholes	0	0	0	-	-
Page	Section	Natural ground subsidence >					
24 >	4.1 >	Shrink swell clays >	Moderate (within 50m)				
25 >	4.2 >	Running sands >	Very low (within 50m)				
27 >	4.3 >	Compressible deposits >	Negligible (within 50m)				
28 >	4.4 >	Collapsible deposits >	Very low (within 50m)				
29 >	4.5 >	Landslides >	Very low (within 50m)				
30 >	4.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				

Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
32	5.1	BritPits	0	0	0	0	-
33 >	5.2 >	Surface ground workings >	0	6	4	-	-
33	5.3	Underground workings	0	0	0	0	0
33	5.4	Underground mining extents	0	0	0	0	-
34	5.5	Historical Mineral Planning Areas	0	0	0	0	-
34	5.6	Non-coal mining	0	0	0	0	0
34	5.7	JPB mining areas	None (within 0m)				
34	5.8	The Coal Authority non-coal mining	0	0	0	0	-
35 >	5.9 >	Researched mining >	0	0	1	0	-
35	5.10	Mining record office plans	0	0	0	0	-
35	5.11	BGS mine plans	0	0	0	0	-
35	5.12	Coal mining	None (within 0m)				
36	5.13	Brine areas	None (within 0m)				
36	5.14	Gypsum areas	None (within 0m)				
36	5.15	Tin mining	None (within 0m)				
36	5.16	Clay mining	None (within 0m)				

Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
37	6.1	Natural cavities	0	0	0	0	-
37	6.2	Mining cavities	0	0	0	0	0
37	6.3	Reported recent incidents	0	0	0	0	-
37	6.4	Historical incidents	0	0	0	0	-
38	6.5	National karst database	0	0	0	0	-

Page	Section	Radon >	
39 >	7.1 >	Radon >	Less than 1% (within 0m)

Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
41 >	8.1 >	BGS Estimated Background Soil Chemistry >	1	3	-	-	-
41	8.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
42	8.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
43	9.1	Underground railways (London)	0	0	0	-	-
43	9.2	Underground railways (Non-London)	0	0	0	-	-
43	9.3	Railway tunnels	0	0	0	-	-
43	9.4	Historical railway and tunnel features	0	0	0	-	-
43	9.5	Royal Mail tunnels	0	0	0	-	-
44	9.6	Historical railways	0	0	0	-	-
44	9.7	Railways	0	0	0	-	-
44	9.8	Crossrail 1	0	0	0	0	-
44	9.9	Crossrail 2	0	0	0	0	-
44	9.10	HS2	0	0	0	0	-

Recent aerial photograph

Capture Date: 27/05/2023

Site Area: 1.04ha

Recent site history - 2017 aerial photograph

Capture Date: 11/08/2017

Site Area: 1.04ha

Recent site history - 2013 aerial photograph

Capture Date: 01/08/2013

Site Area: 1.04ha

Recent site history - 2007 aerial photograph

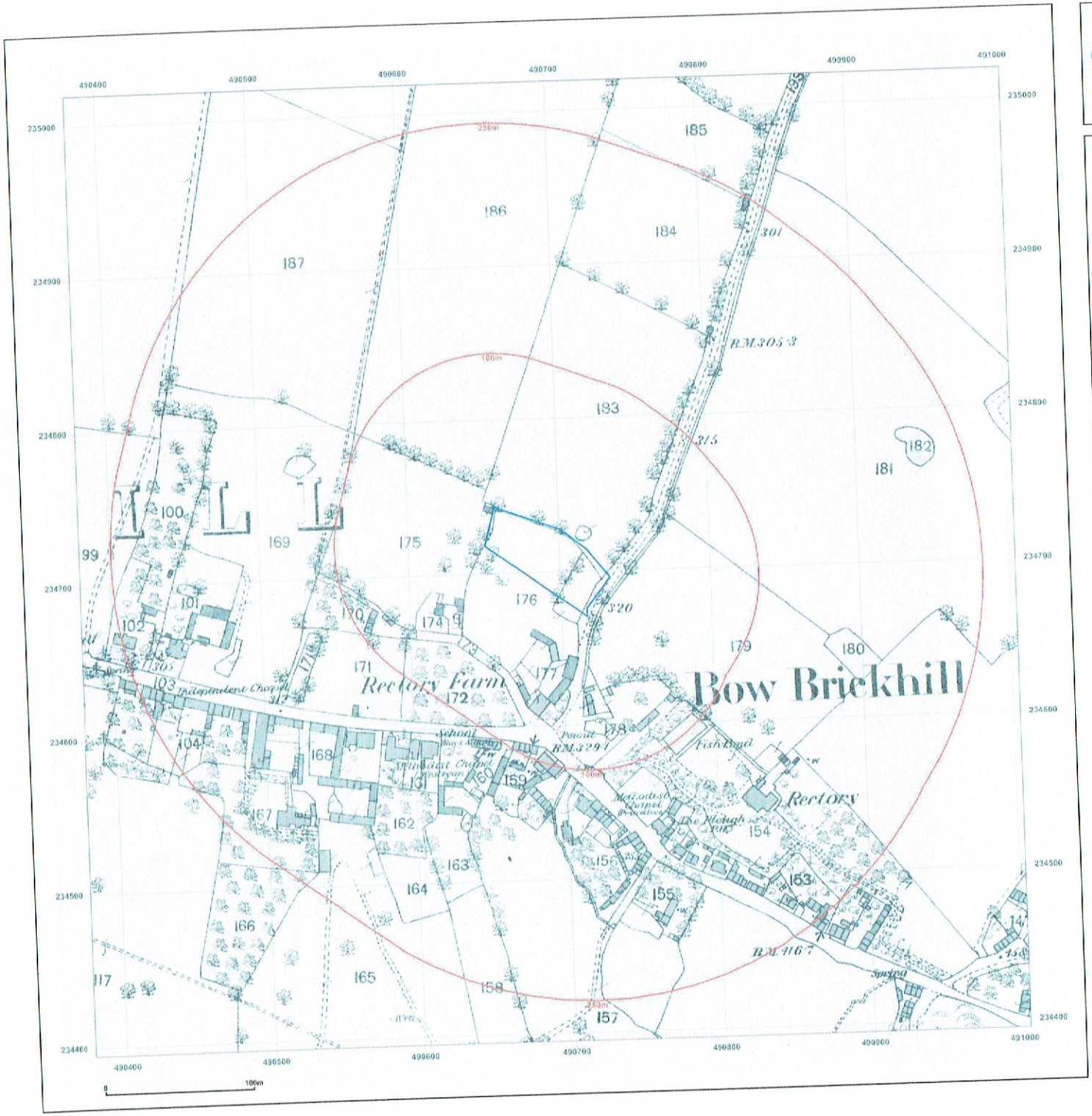
Capture Date: 16/11/2007

Site Area: 1.04ha

Recent site history - 1999 aerial photograph

Capture Date: 23/07/1999

Site Area: 1.04ha



Groundsure INSIGHTS

Site Details:

RECTORY FARM, WOBURN
SANDS ROAD, BOW
BRICKHILL, MK17 9JY

Client Ref: ampt
Report Ref: GS-7383039
Grid Ref: 490691, 234707

Map Name: County Series
Map date: 1881
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

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

Powered by OS

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

Production date: 21 December 2020

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

Groundsure INSIGHTS

Site Details:

RECTORY FARM, WOBURN
SANDS ROAD, BOW
BRICKHILL, MK17 9JY

Client Ref: ampt
Report Ref: GS-7383039
Grid Ref: 490691, 234707

Map Name: County Series
Map date: 1925
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S

Surveyed 1925
Revised 1925
Edition N/A
Copyright N/A
Levelled N/A

Powered by OS

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

Production date: 21 December 2020

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

Groundsure INSIGHTS

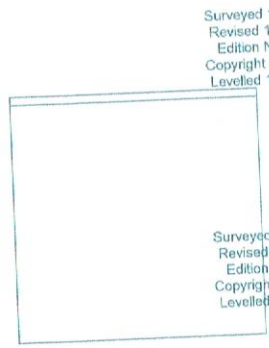
Site Details:

RECTORY FARM, WOBURN
SANDS ROAD, BOW
BRICKHILL, MK17 9JY

Client Ref: ampt
Report Ref: GS-7383039
Grid Ref: 490691, 234707

Map Name: National Grid
Map date: 1972-1977
Scale: 1:2,500
Printed at: 1:2,500

N
W E
S



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

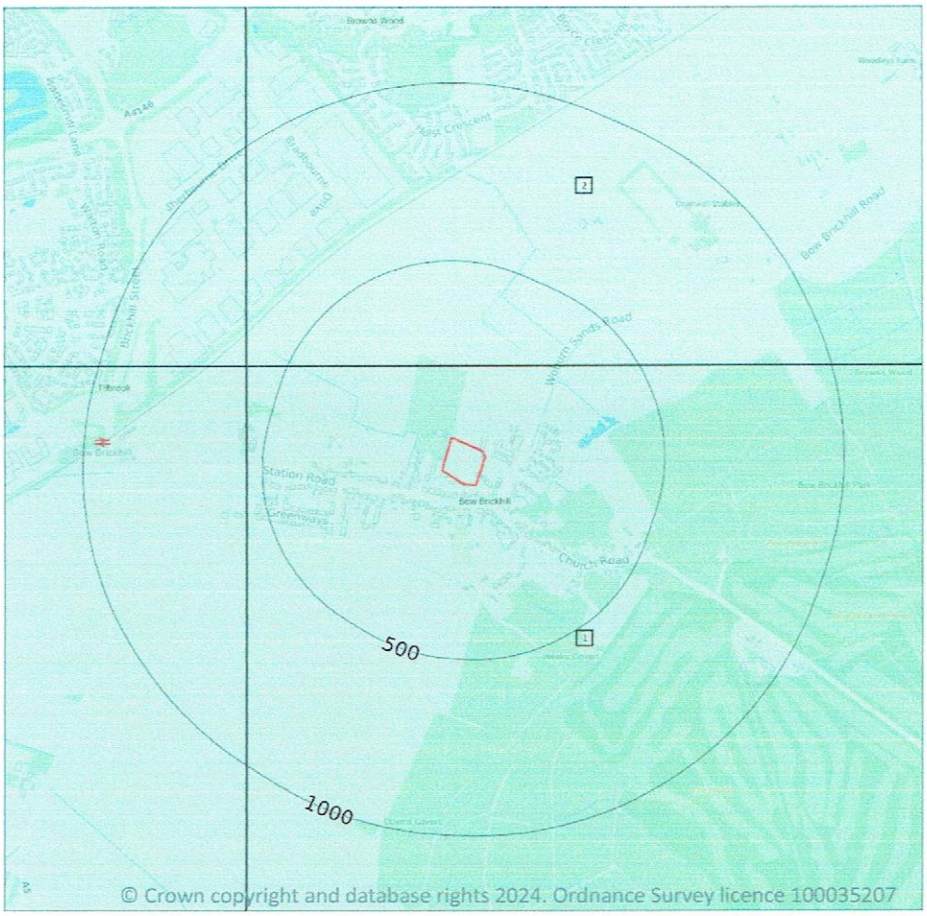
Production date: 21 December 2020

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

OS MasterMap site plan

Site Area: 1.04ha

1 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

1.1 10k Availability

Records within 500m	2

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 11 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**Full**	**SP93SW**
2	205m N	Full	Full	Full	No coverage	SP93NW

This data is sourced from the British Geological Survey.

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

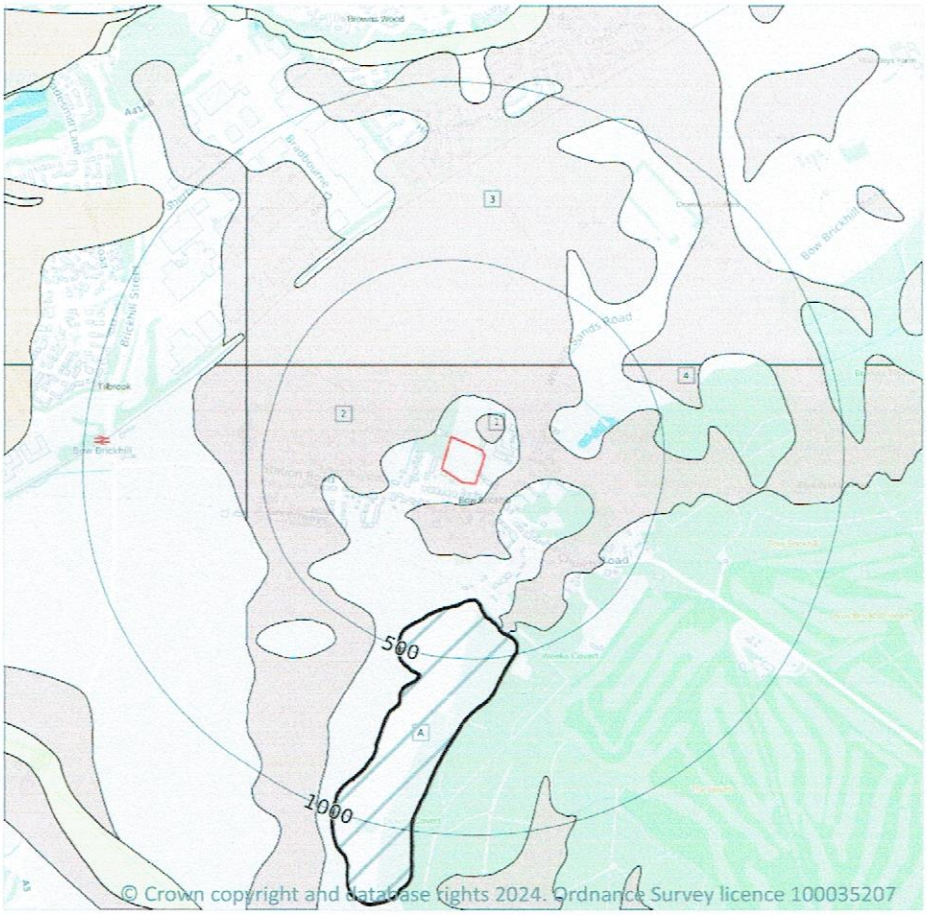
1.2 Artificial and made ground (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

1.3 Superficial geology (10k)

Records within 500m 5

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 13 >**

ID	Location	LEX Code	Description	Rock description
1	28m NE	HEAD-XSC	Head - Sand And Clay	Sand And Clay
2	42m SE	HEAD-XSC	Head - Sand And Clay	Sand And Clay
3	205m N	HEAD-XCZSV	Head - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel

ID	Location	LEX Code	Description	Rock description
A	326m S	SUPNM-UKNOWN	Superficial Theme Not Mapped [for Digital Map Use Only] - Unknown/unclassified Entry	Unknown/unclassified Entry
4	451m NE	HEAD-XSC	Head - Sand And Clay	Sand And Clay

This data is sourced from the British Geological Survey.

1.4 Landslip (10k)

Records within 500m	1

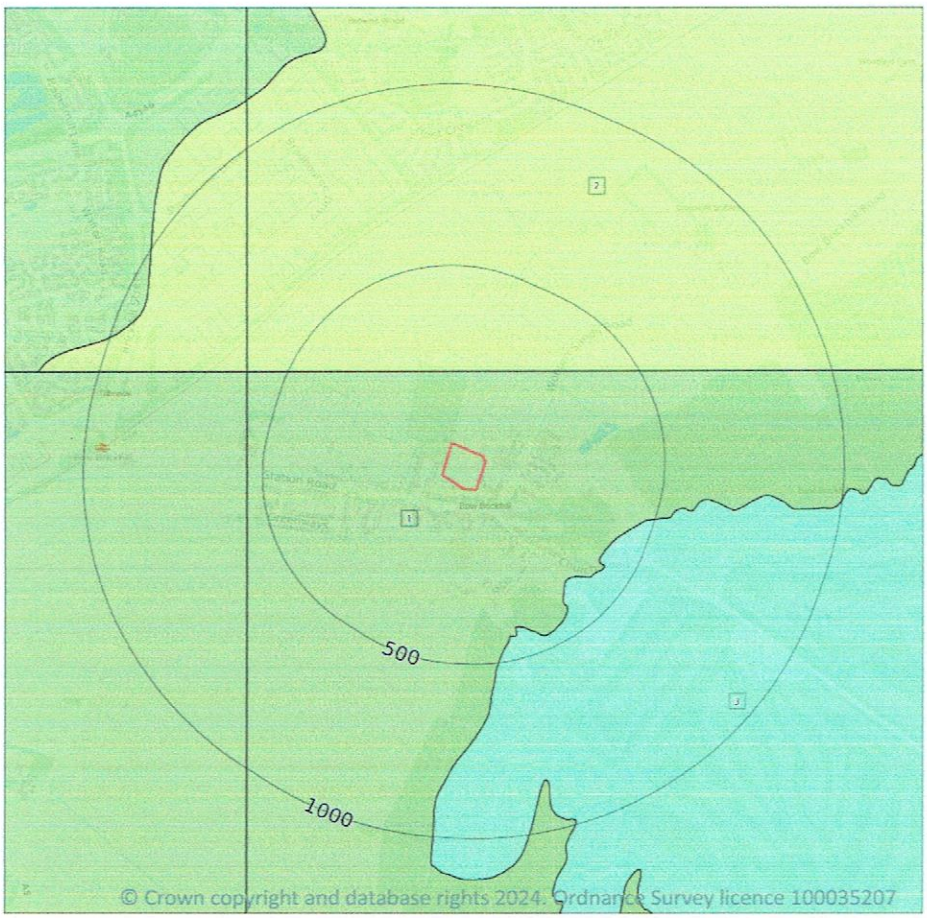
Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 13 >**

ID	Location	LEX Code	Description	Rock description
A	326m S	SLIP-UKNOWN	Landslide Deposits	Unknown/unclassified Entry

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

1.5 Bedrock geology (10k)

Records within 500m **3**

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 15 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**OXC-MDST**	**Oxford Clay Formation - Mudstone**	**Oxfordian Age - Callovian Age**
2	205m N	STWE-MDST	Stewartby Member And Weymouth Member (undifferentiated) - Mudstone	Oxfordian Age - Callovian Age
3	362m SE	WBS-SDST	Woburn Sands Formation - Sandstone	Albian Age - Aptian Age

This data is sourced from the British Geological Survey.

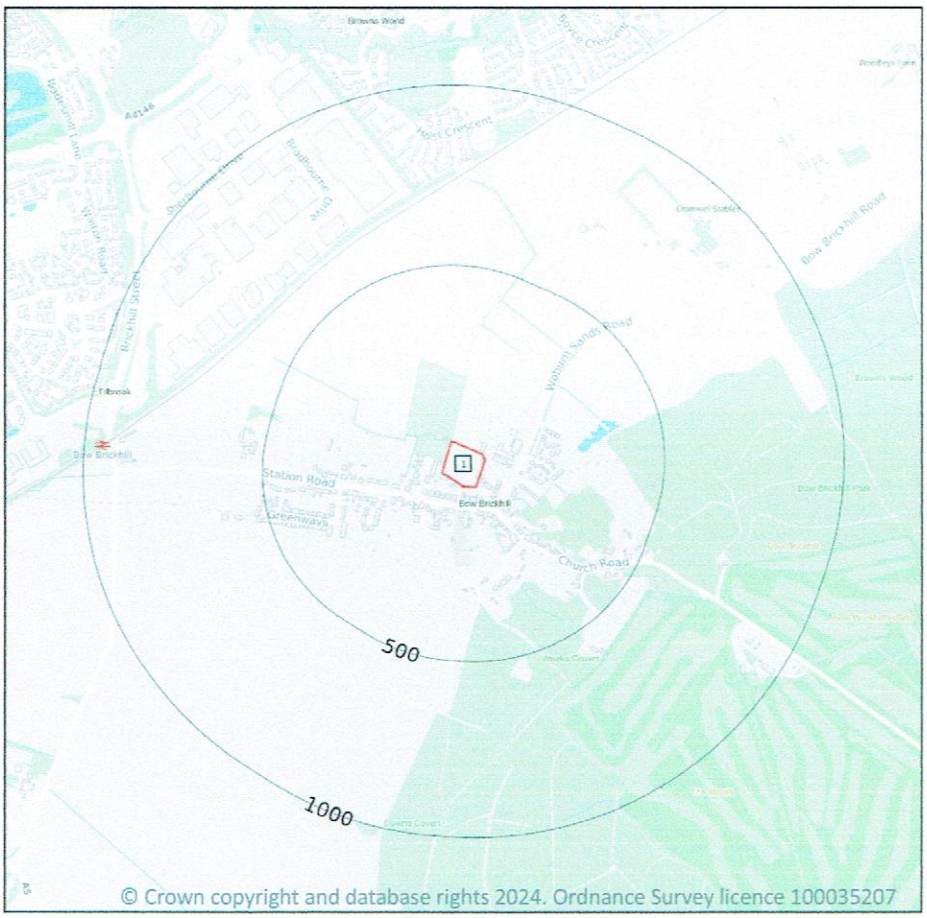
1.6 Bedrock faults and other linear features (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

2 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

2.1 50k Availability

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 17 >**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW220_leighton_buzzard_v4

This data is sourced from the British Geological Survey.

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

2.2 Artificial and made ground (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

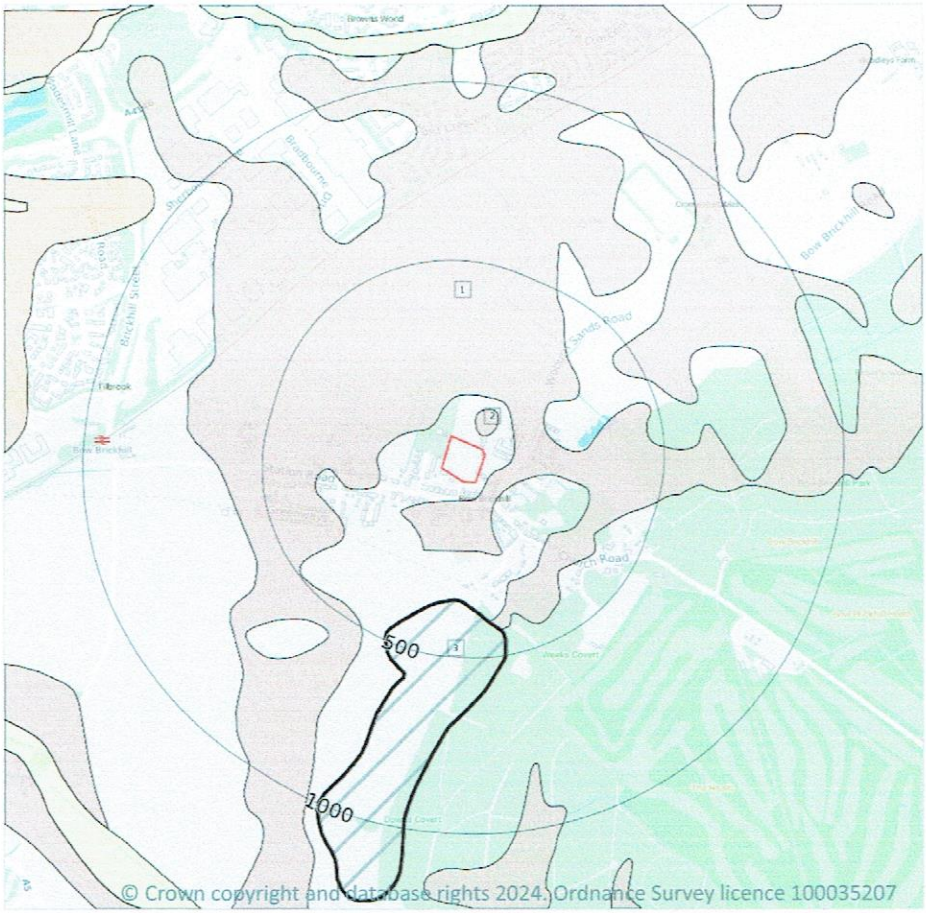
2.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

2.4 Superficial geology (50k)

Records within 500m **2**

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 19 >**

ID	Location	LEX Code	Description	Rock description
1	28m SE	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL
2	36m NE	HEAD-XCZSV	HEAD	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

2.5 Superficial permeability (50k)

Records within 50m	2

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

Location	Flow type	Maximum permeability	Minimum permeability
28m SE	Mixed	High	Very Low
36m NE	Mixed	High	Very Low

This data is sourced from the British Geological Survey.

2.6 Landslip (50k)

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 19** >

ID	Location	LEX Code	Description	Rock description
3	334m S	SLIP-C	LANDSLIDE DEPOSITS	CLAY

This data is sourced from the British Geological Survey.

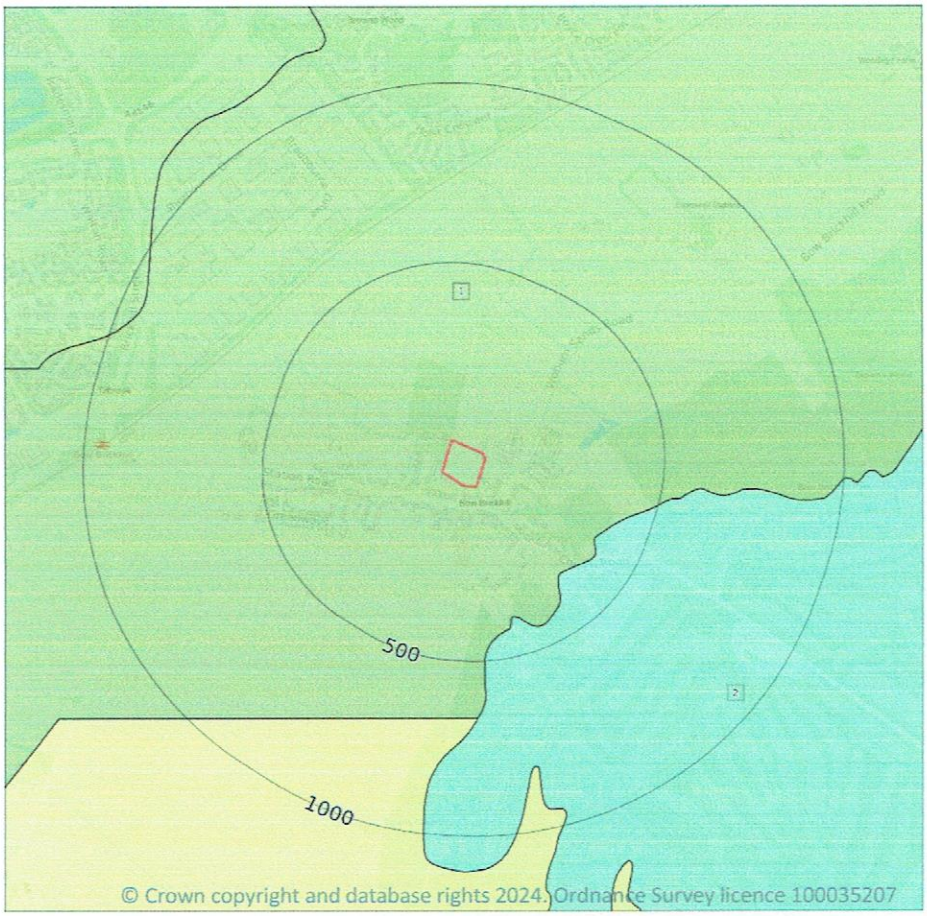
2.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

2.8 Bedrock geology (50k)

Records within 500m **2**

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 21 >**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**OXC-MDST**	**OXFORD CLAY FORMATION - MUDSTONE**	**CALLOVIAN**
2	342m SE	WBS-SDST	WOBURN SANDS FORMATION - SANDSTONE	APTIAN

This data is sourced from the British Geological Survey.

2.9 Bedrock permeability (50k)

Records within 50m	1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Fracture**	**Low**	**Very Low**

This data is sourced from the British Geological Survey.

2.10 Bedrock faults and other linear features (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

3 Boreholes

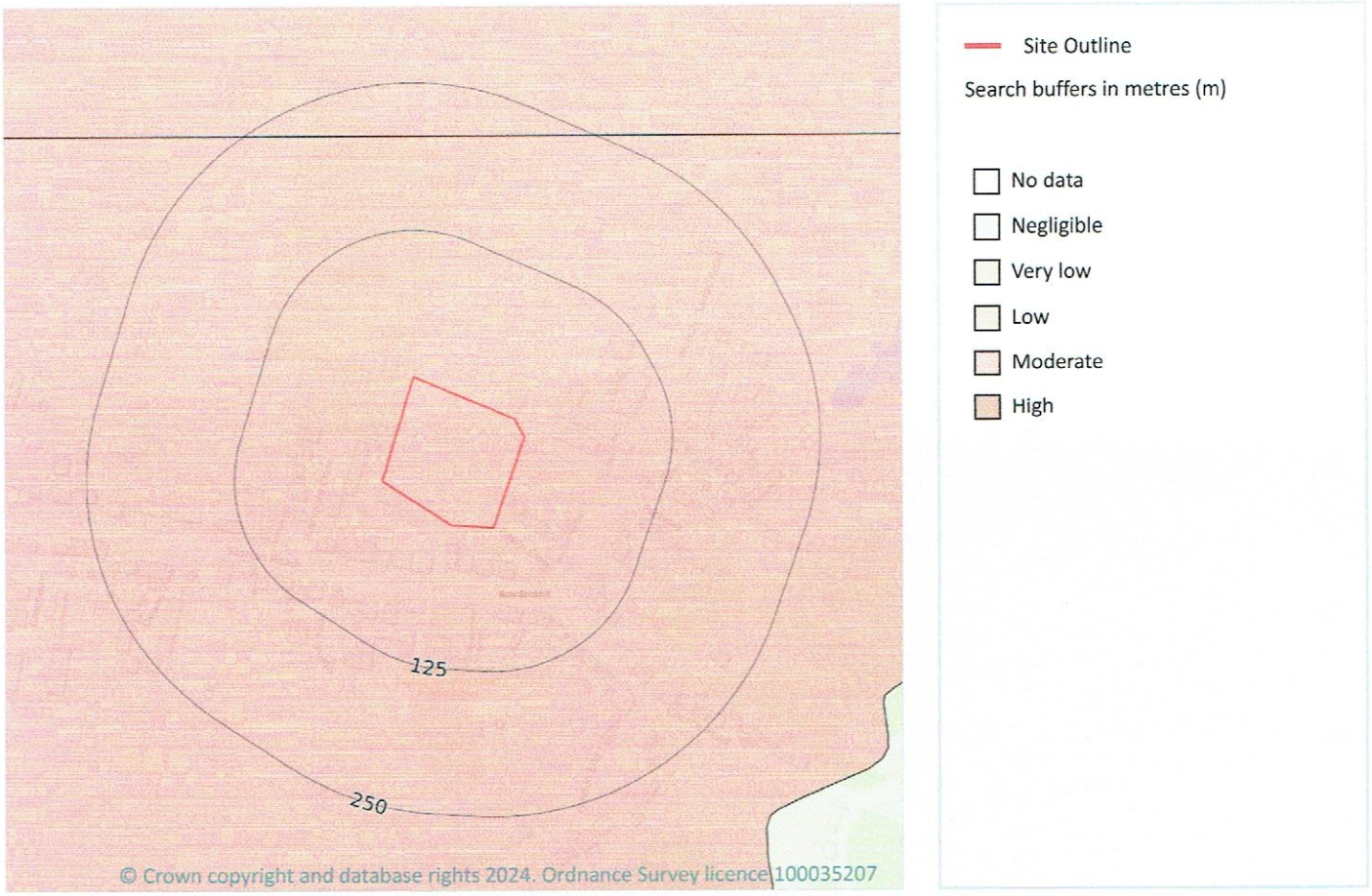
3.1 BGS Boreholes

Records within 250m	0

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

This data is sourced from the British Geological Survey.

4 Natural ground subsidence - Shrink swell clays



4.1 Shrink swell clays

Records within 50m	1

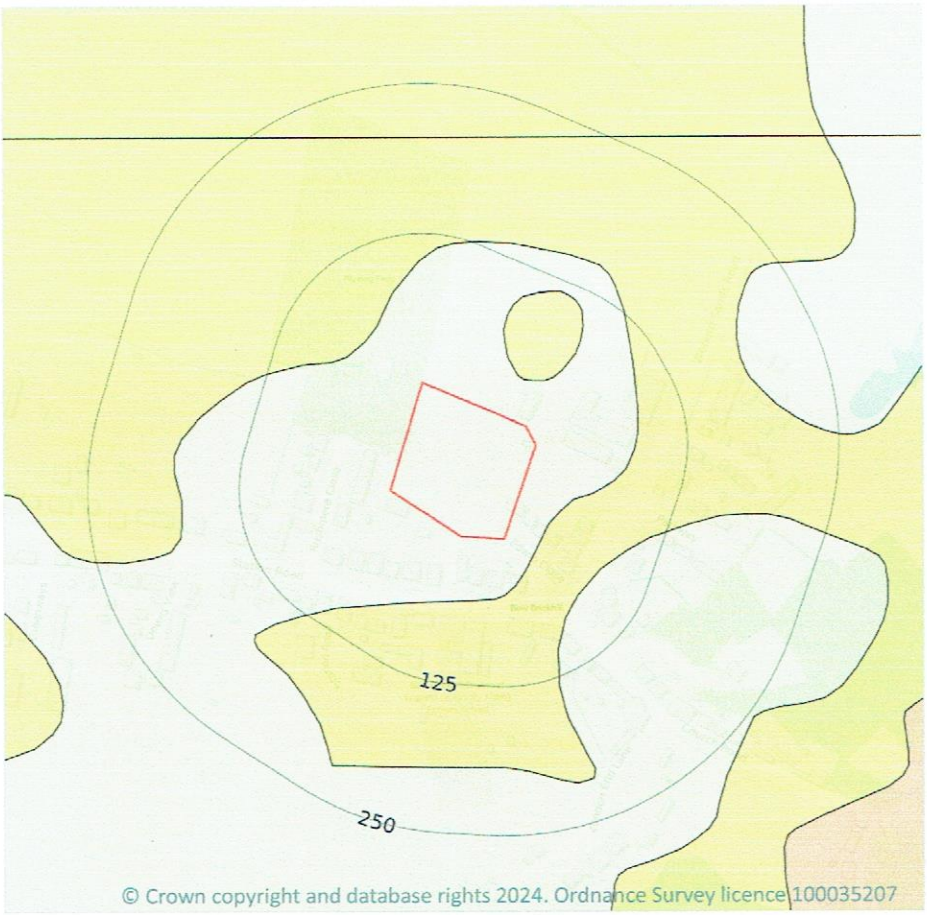
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 24 >**

Location	Hazard rating	Details
On site	**Moderate**	**Ground conditions predominantly high plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

4.2 Running sands

Records within 50m	3

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

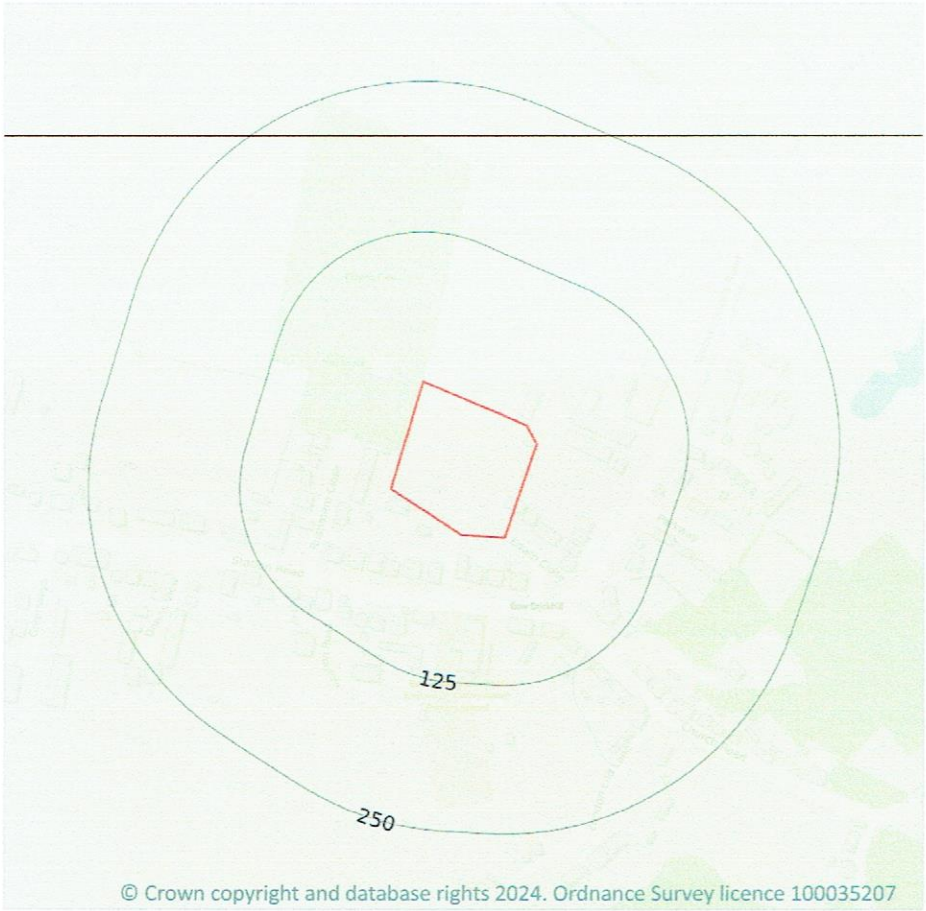
Features are displayed on the Natural ground subsidence - Running sands map on **page 25 >**

Location	Hazard rating	Details
On site	**Negligible**	**Running sand conditions are not thought to occur whatever the position of the water table. No identified constraints on lands use due to running conditions.**

Location	Hazard rating	Details
28m SE	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
36m NE	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



Site Outline

Search buffers in metres (m)

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

4.3 Compressible deposits

Records within 50m	1

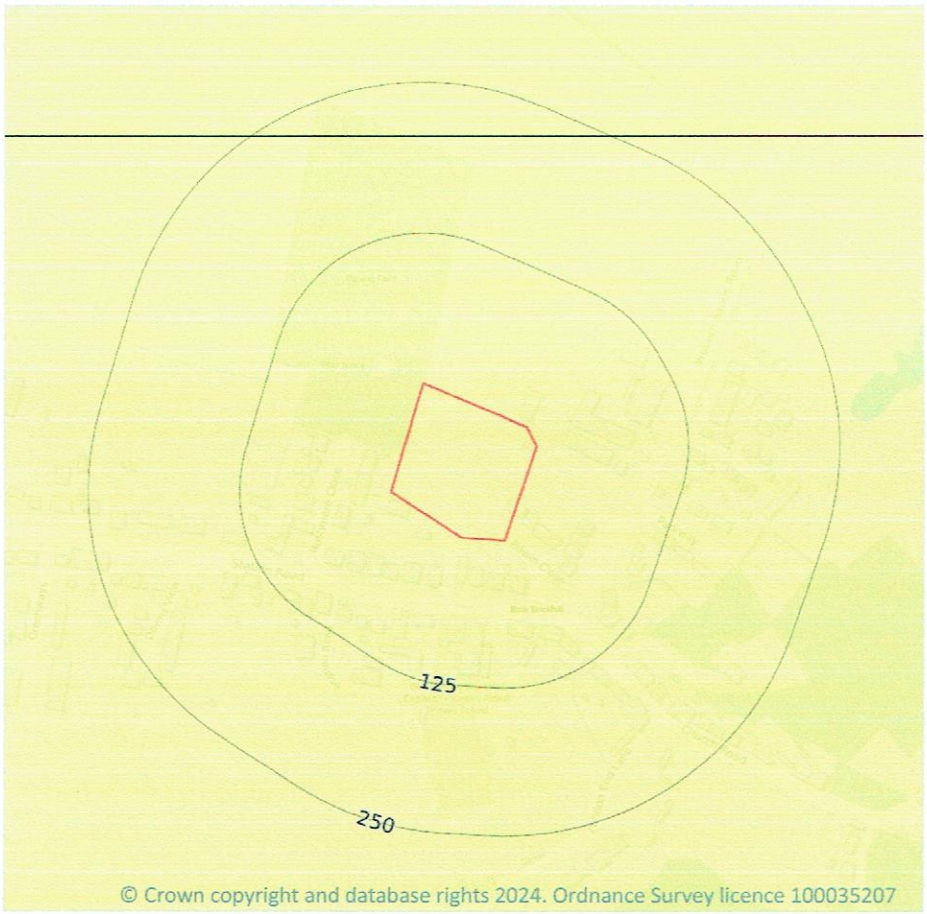
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 27 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

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

4.4 Collapsible deposits

Records within 50m	1

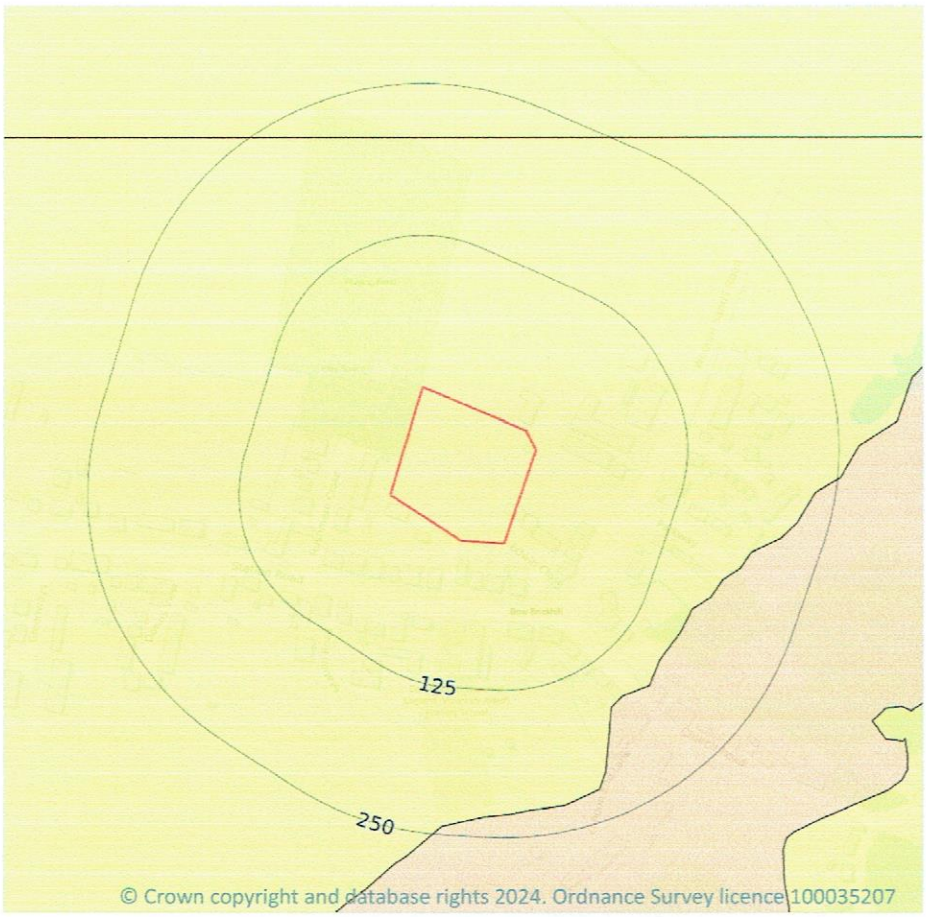
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 28 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

4.5 Landslides

Records within 50m	1

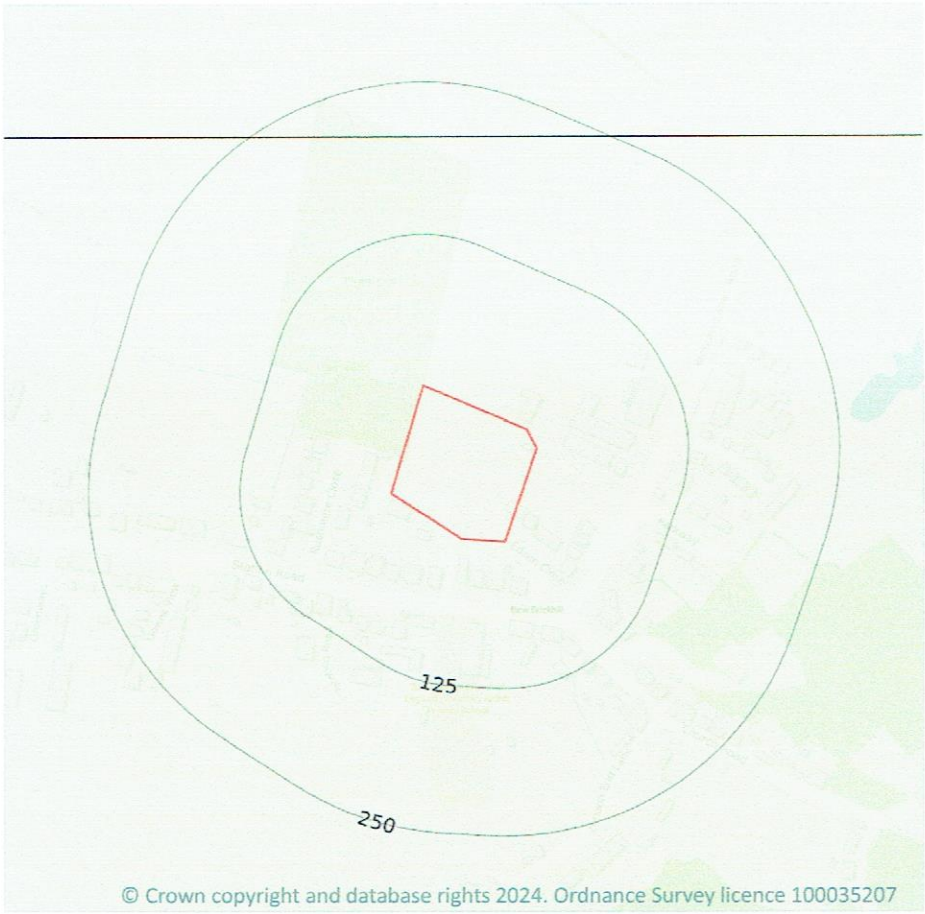
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 29 >**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



Site Outline

Search buffers in metres (m)

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

4.6 Ground dissolution of soluble rocks

Records within 50m	1

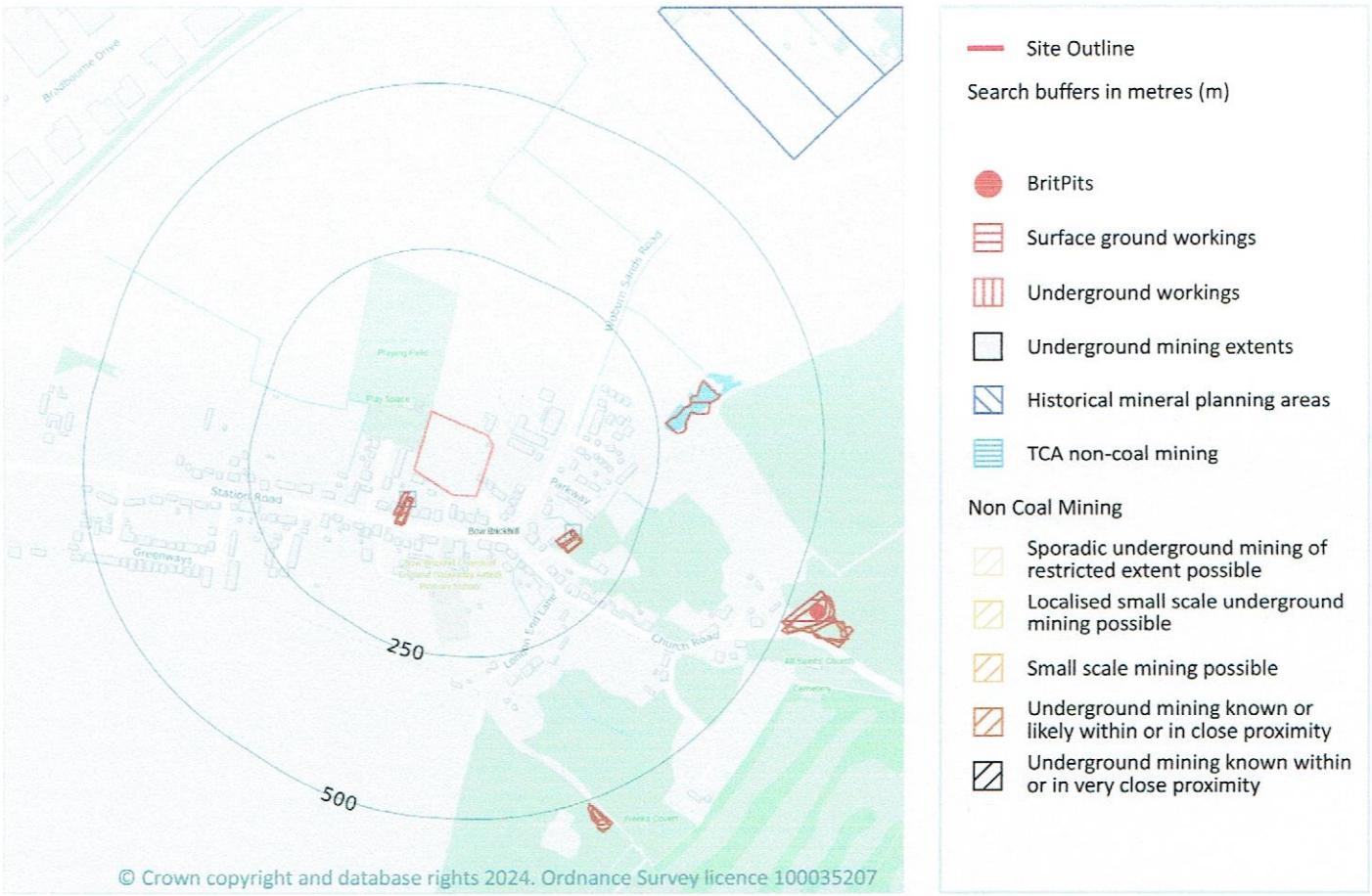
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 30 >**

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

This data is sourced from the British Geological Survey.

5 Mining and ground workings



5.1 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

5.2 Surface ground workings

Records within 250m	10

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

Features are displayed on the Mining and ground workings map on page 32 >

ID	Location	Land Use	Year of mapping	Mapping scale
A	34m SW	Pond	1950	1:10560
A	34m SW	Pond	1900	1:10560
A	38m SW	Pond	1950	1:10560
A	38m SW	Pond	1924	1:10560
A	38m SW	Pond	1898	1:10560
A	42m SW	Pond	1950	1:10560
B	140m SE	Fish Pond	1950	1:10560
B	140m SE	Fish Pond	1900	1:10560
B	149m SE	Fish Pond	1924	1:10560
B	150m SE	Fish Pond	1898	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

5.3 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

5.4 Underground mining extents

Records within 500m	0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

5.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

5.6 Non-coal mining

Records within 1000m	0

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

This data is sourced from the British Geological Survey.

5.7 JPB mining areas

Records on site	0

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

This data is sourced from Johnson Poole and Bloomer.

5.8 The Coal Authority non-coal mining

Records within 500m	0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

5.9 Researched mining

Records within 500m	1

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

Location	Mineral type
86m SE	Stone

This data is sourced from Groundsure.

5.10 Mining record office plans

Records within 500m	0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

5.11 BGS mine plans

Records within 500m	0

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

5.12 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

5.13 Brine areas

Records on site	0

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

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

5.14 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

5.15 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

5.16 Clay mining

Records on site	0

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

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

6 Ground cavities and sinkholes

6.1 Natural cavities

Records within 500m	0

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

This data is sourced from Stantec UK Ltd.

6.2 Mining cavities

Records within 1000m	0

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

This data is sourced from Stantec UK Ltd.

6.3 Reported recent incidents

Records within 500m	0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

6.4 Historical incidents

Records within 500m	0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.

This data is sourced from Groundsure.

6.5 National karst database

Records within 500m	0

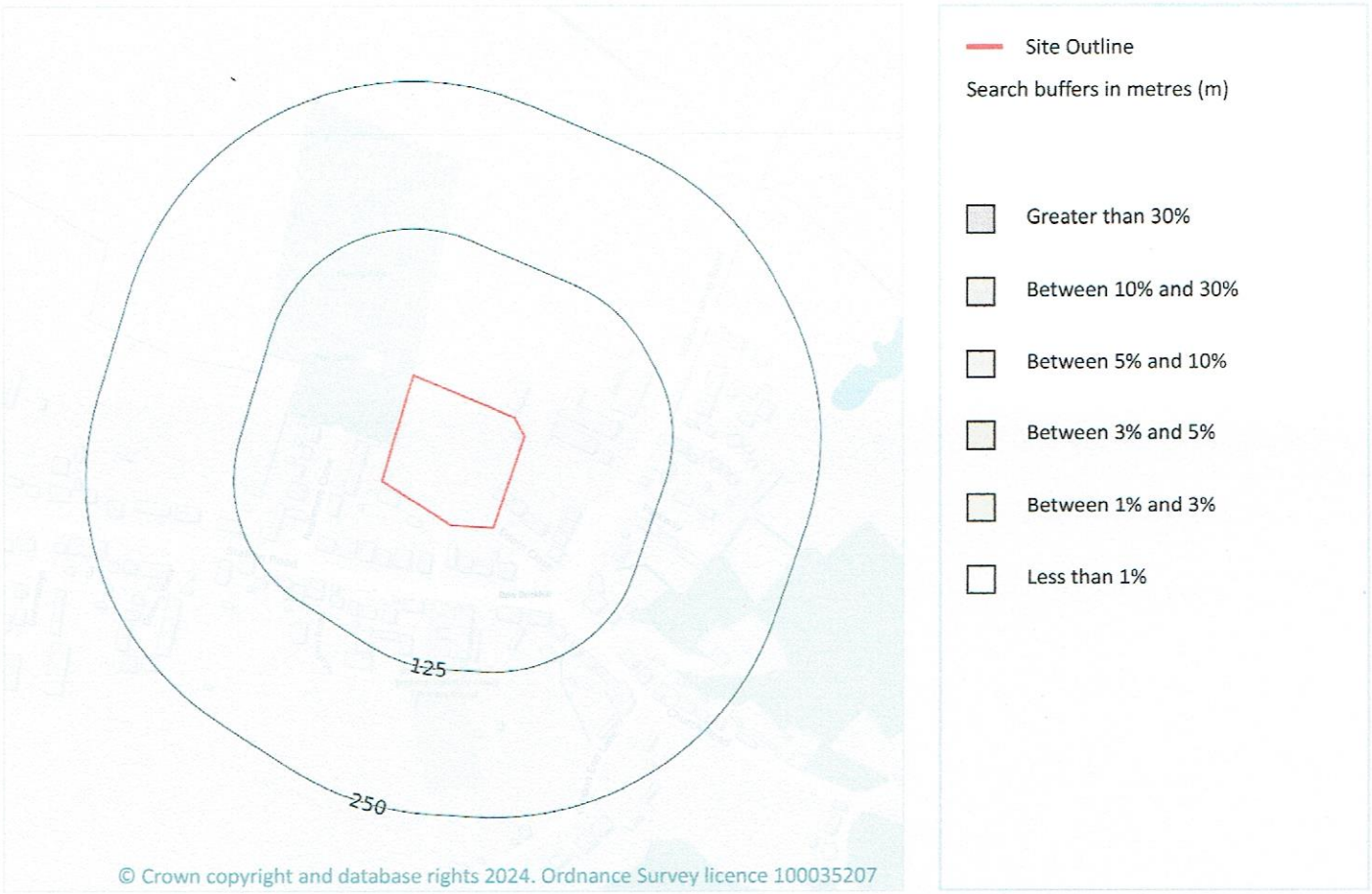
This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.

7 Radon



7.1 Radon

Records on site	1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on **page 39 >**

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

This data is sourced from the British Geological Survey and UK Health Security Agency.

8 Soil chemistry

8.1 BGS Estimated Background Soil Chemistry

Records within 50m 4

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
28m SE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
36m NE	15 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
43m W	15 - 25 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg

This data is sourced from the British Geological Survey.

8.2 BGS Estimated Urban Soil Chemistry

Records within 50m 0

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

This data is sourced from the British Geological Survey.

8.3 BGS Measured Urban Soil Chemistry

Records within 50m	0

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

This data is sourced from the British Geological Survey.

9 Railway infrastructure and projects

9.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

9.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

9.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

9.4 Historical railway and tunnel features

Records within 250m	0

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

This data is sourced from Ordnance Survey/Groundsure.

9.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

9.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

9.7 Railways

Records within 250m	0

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

This data is sourced from Ordnance Survey and OpenStreetMap.

9.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

9.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

9.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

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