

**GroundSure Environmental Data Report** Reference: HMD-24-174362

29	429.0	N	Electricity Sub Station	-	Electrical Features	Infrastructure And Facilities
30	475.0	NE	Electricity Sub Station	-	Electrical Features	Infrastructure And Facilities
31	493.0	E	A P M Fire Protection	59, Unwin Road, Cheltenham, GL51 6TN	Electronic Equipment	Industrial Products

### 3.2 Petrol and Fuel Sites

**Records of petrol or fuel sites within 500m of the study site:** **0**

Database searched and no data found.

### 3.3 Underground High Pressure Oil and Gas Pipelines

**Records of underground pipelines within 500m of the study site:** **0**

Database searched and no data found.

## 4. Geology

### 4.1 Artificial Ground and Made Ground

Database searched and no data found.

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

---

### 4.2 Superficial Ground and Drift Geology

Database searched and no data found.

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

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### 4.3 Bedrock and Solid Geology

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

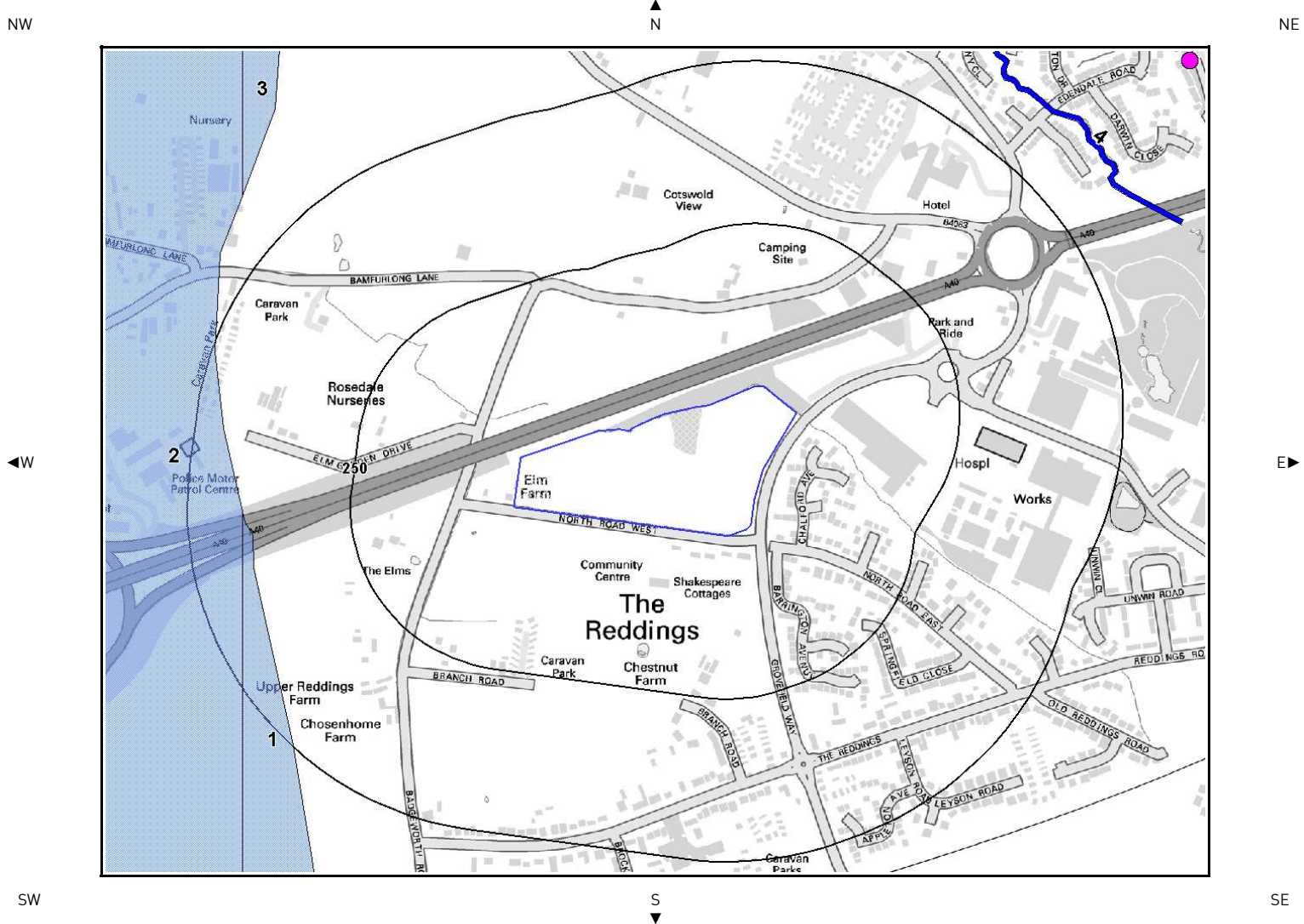
Distance (m)	Direction	LEX Code	Description	Rock Type
0.0	On Site	CHAM-MDST	Charmouth Mudstone Formation	Mudstone

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













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For more detailed geological and ground stability data please refer to the "GroundSure Geology and Ground Stability Report". Available from our website.

# 5. Hydrogeology and Hydrology: - Aquifer and Abstraction Licence Map



### Hydrogeology and Hydrology Legend

- |   |                    |   |   |   |                                   |
|---|--------------------|---|---|---|-----------------------------------|
|  | Site Outline       |  | Minor Aquifer - Low Leaching Potential          |  | Main River                        |
|  | Search Buffers (m) |  | Minor Aquifer - Intermediate Leaching Potential |  | Groundwater Abstraction Licence   |
|  |                    |  | Minor Aquifer - High Leaching Potential         |  | Surface Water Abstraction Licence |
|   |                    |  | Major Aquifer - Low Leaching Potential          |   |                                   |
|   |                    |  | Major Aquifer - Intermediate Leaching Potential |   |                                   |
|   |                    |  | Major Aquifer - High Leaching Potential         |   |                                   |


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# 5b. Hydrogeology and Hydrology: - SPZ and Potable Water Abstraction Map

NW

N

NE

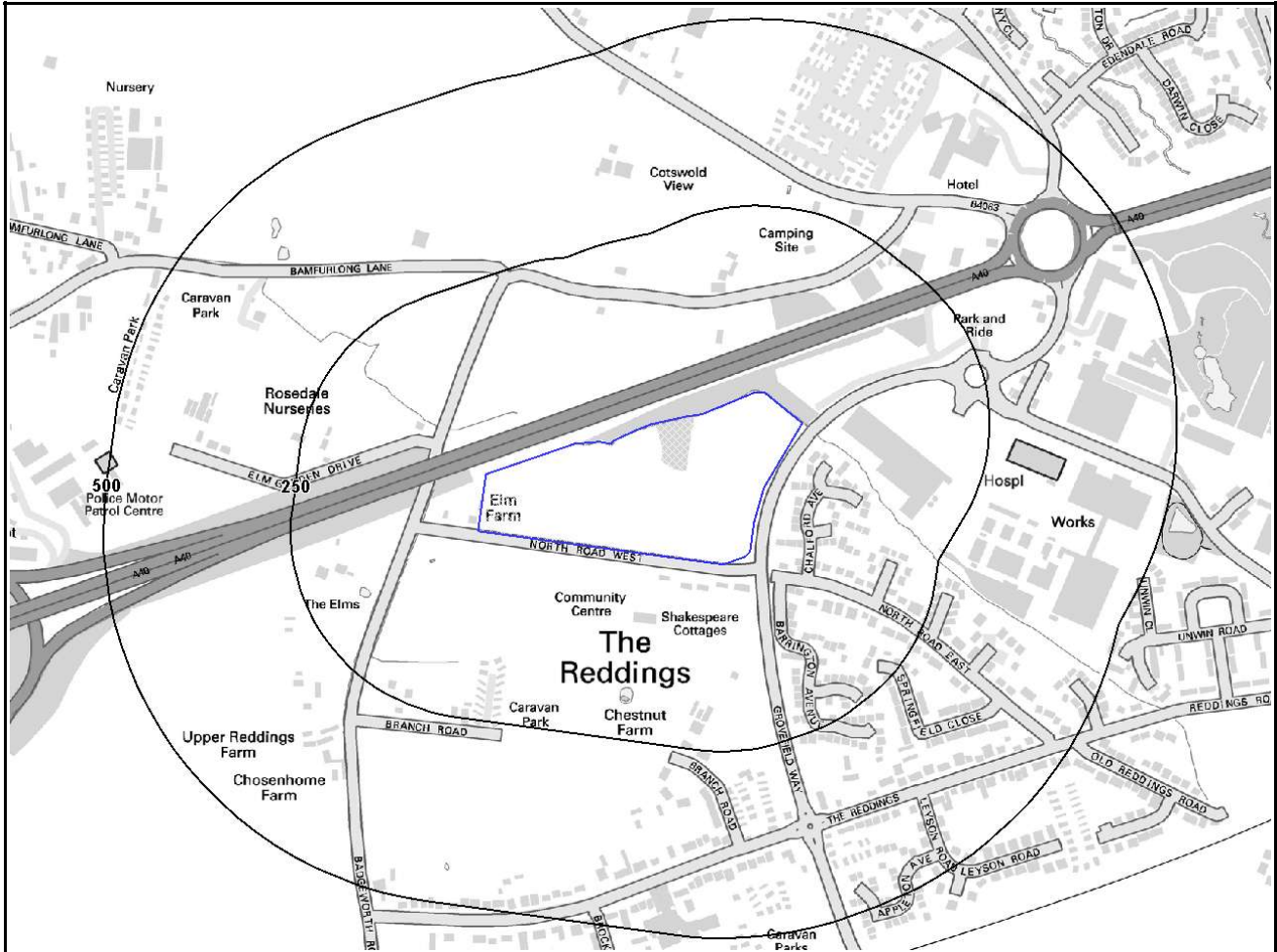
W

E

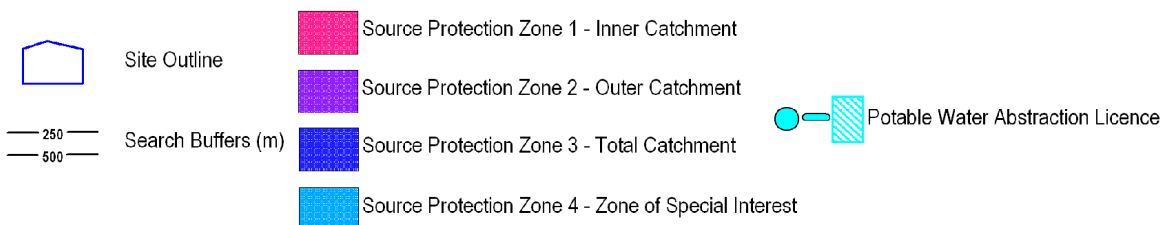
SW

S

SE



## Hydrogeology and Hydrology Legend


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## 5. Hydrogeology and Hydrology

### 5.1 Groundwater Vulnerability and Soil Classification

**Records of aquifer and soil classification within 200m of the study site:** **No**

Database searched and no data found.

### 5.2 Groundwater Abstraction Licences

**Are there any Groundwater Abstraction Licences within 2000m of the study site?** **No**

Database searched and no data found.

### 5.3 Surface Water Abstraction Licences

**Are there any Surface Water Abstraction Licences within 1000m of the study site?** **Yes**

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer and Abstraction Licence Map:

ID	Distance	Direction	NGR	Details		
5	809.0	NE	391450,222080	Licence No: 18/54/20/0411	Application No: A/54/20/496	
				Details: Dust suppression	Original Start Date: 1/11/2000	
				Direct Source: Surface Water Midlands Region	Expiry Date: 31/1/2005	
				Point: Trib Of Hatherley Brook At Gloucester	Issue No: 1	
				Road, Cheltenham	Version Start Date: 1/11/2000	
				Data Type: Point	Version End Date: -	

### 5.4 Source Protection Zones

**Are there any Source Protection Zones within 500m of the study site?** **No**

Database searched and no data found.

### 5.5 Potable Water Abstraction Licences

**Are there any Potable Water Abstraction Licences within 2000m of the study site?** **No**

Database searched and no data found.

### 5.6 River Quality

**Is there any Environment Agency information on river quality within 500m of the study site?** **No**

Database searched and no data found.

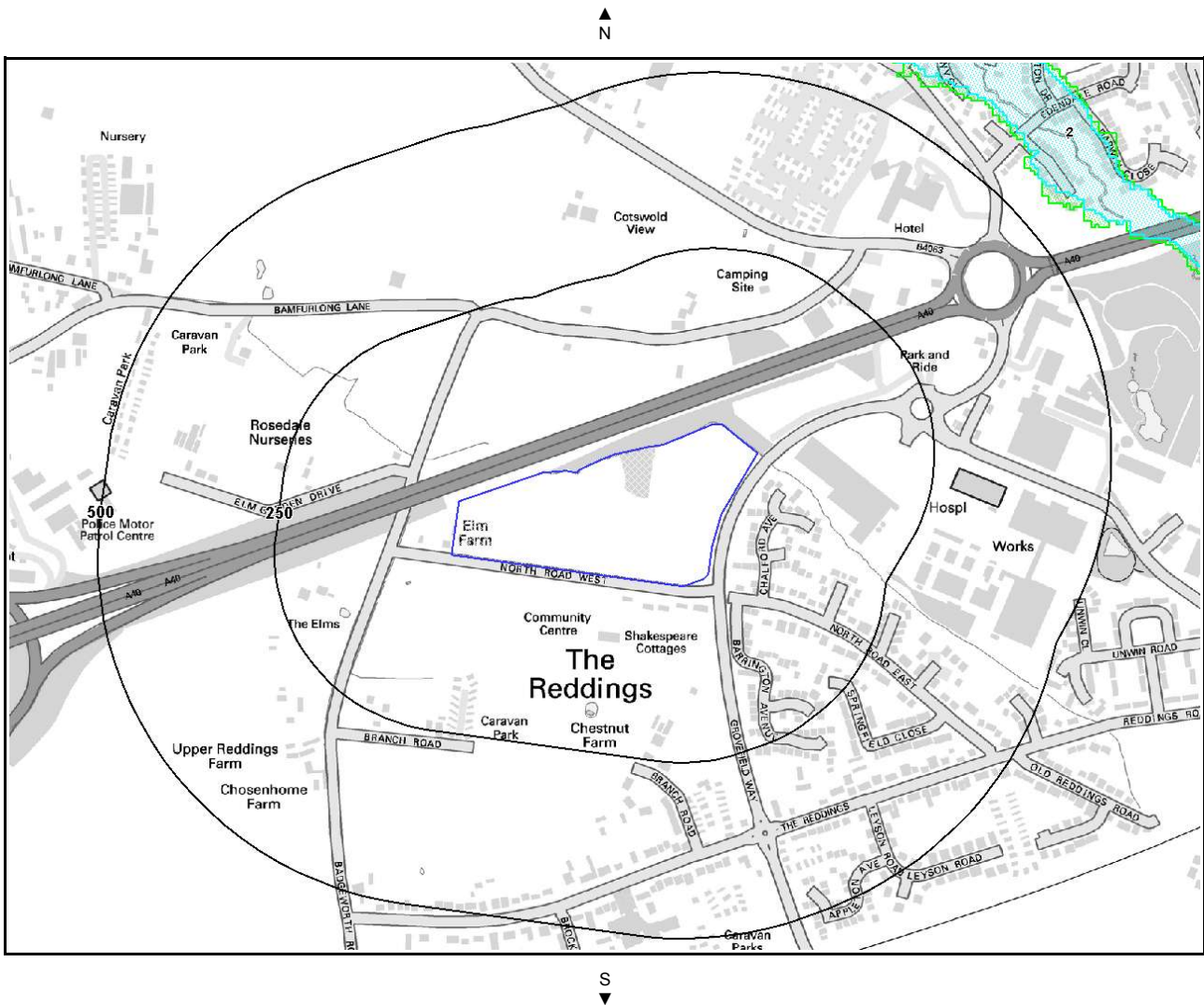
### 5.7 Main Rivers

**Are there any Main Rivers within 500m of the study site?** **No**









Database searched and no data found.



# 6. Surface Water Flood Map



### Flood Legend

-  Site Outline
-  250 Search Buffers (m)
-  500 Search Buffers (m)
-  Zone 2 Floodplain
-  Zone 3 Floodplain
-  Flood Storage Area
-  Area Benefiting from Flood Defences
-  Flood Defences



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## 6. Flooding

### 6.1 Zone 2 Flooding

Zone 2 floodplain estimates the annual probability of flooding as one in one thousand (0.1%) or greater from rivers and the sea but less than 1% from rivers or 0.5% from the sea. Alternatively, where information is available they may show the highest known flood level.

**Is the site within 250m of an Environment Agency indicative Zone 2 floodplain?** **No**

Guidance: More detailed information may be available from the Environment Agency through their floodline (0845 988 1188) or by ordering an Environment Agency Flood Report from the local Environment Agency Office.

Database searched and no data found.

---

### 6.2 Zone 3 Flooding

Zone 3 estimates the annual probability of flooding as one in one hundred (1%) or greater from rivers and a one in two hundred (0.5%) or greater from the sea. Alternatively, where information is available they may show the highest known flood level.

**Is the site within 250m of an Environment Agency indicative Zone 3 floodplain?** **No**

Guidance: More detailed information may be available from the Environment Agency through their floodline (0845 988 1188) or by ordering an Environment Agency Flood Report from the local Environment Agency Office.

Database searched and no data found.

---

### 6.3 Areas benefiting from Flood Defences

**Are there any areas benefiting from Flood Defences within 250m of the study site?** **No**

Guidance: More detailed information may be available from the Environment Agency through their floodline (0845 988 1188) or by ordering an Environment Agency Flood Report from the local Environment Agency Office.

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### 6.4 Areas used for Storage Areas

**Are there any areas used for Flood Storage within 250m of the study site?** **No**

Guidance: More detailed information may be available from the Environment Agency through their floodline (0845 988 1188) or by ordering an Environment Agency Flood Report from the local Environment Agency Office.

---

### 6.5. Groundwater Flooding Susceptibility Areas

**Are there any British Geological Survey groundwater flooding susceptibility flood areas within 50m of the centre of the study site?** **No**

**What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?** **Not Applicable**

---

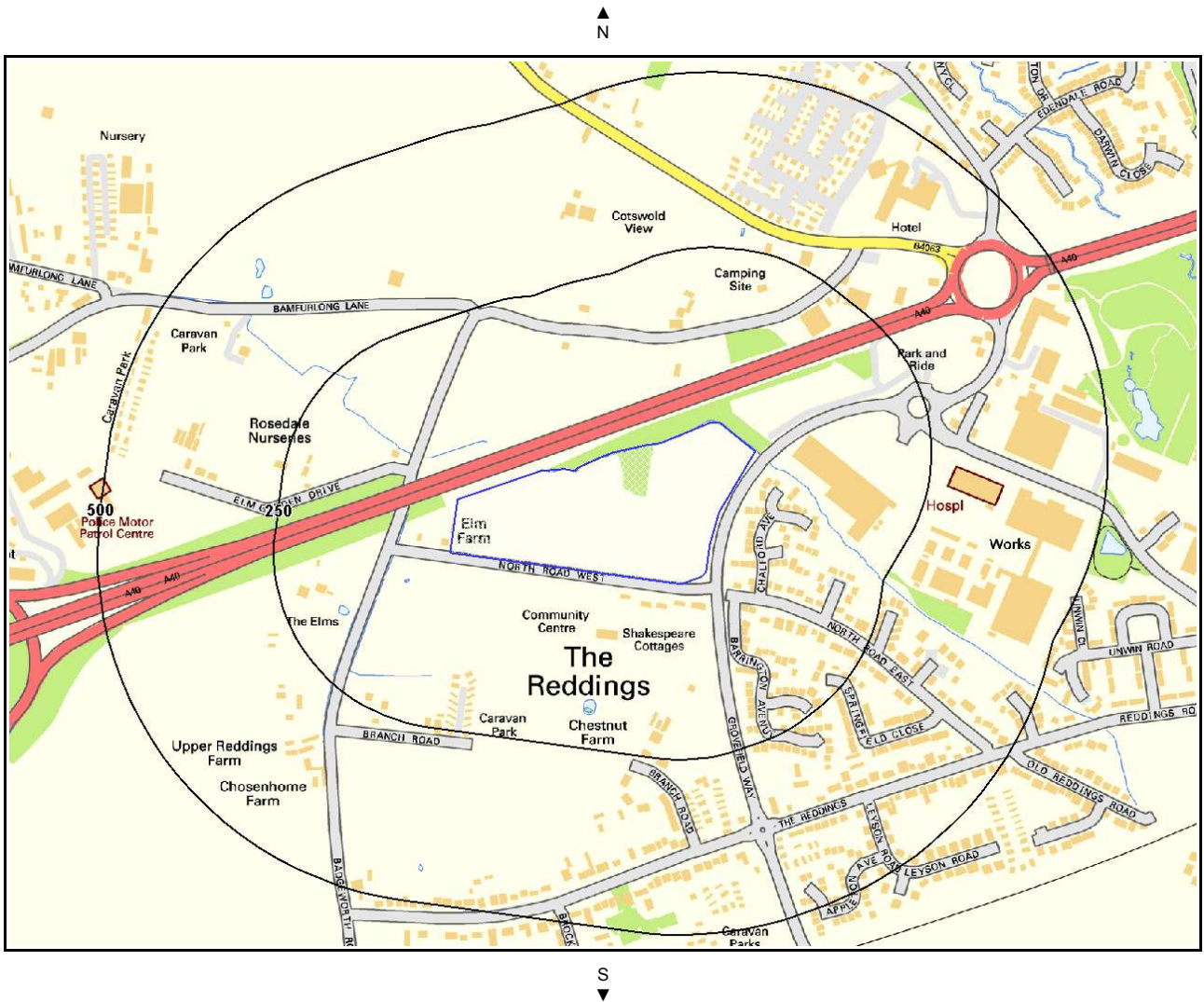


**Notes:**

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

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










# 7. Ecological Designated Sites Map



### Ecological Designated Sites Legend



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- |   |                    |   |     |   |        |  |     |   |                      |
|---|--------------------|---|-----|---|--------|--|-----|---|----------------------|
|  | Site Outline       |  | SAC |  | SSSI   |  | NNR |  | World Heritage Sites |
|  | Search Buffers (m) |  | SPA |  | Ramsar |  | LNR |   |                      |

# 7. Ecological Designated Sites

**Presence of sites of ecological value within 1000m of the study site?** **Yes**

**Records of Sites of Special Scientific Interest (SSSI) within 1000m of the study site:** **1**

The following Sites of Special Scientific Interest (SSSI) records provided by English Nature/Countryside Council for Wales are represented as polygons on the Ecological Designated Sites Map:

ID	Distance	Direction	SSSI Name	Data Source
Not shown	684.0	S	Badgeworth	Natural England

**Records of National Nature Reserves (NNR) within 1000m of the study site:** **0**

Database searched and no data found.

**Records of Special Areas of Conservation (SAC) within 1000m of the study site:** **0**

Database searched and no data found.

**Records of Special Protection Areas (SPA) within 1000m of the study site:** **0**

Database searched and no data found.

**Records of Ramsar sites within 1000m of the study site:** **0**

Database searched and no data found.

**Records of Local Nature Reserves (LNR) within 1000m of the study site:** **0**

Database searched and no data found.

**Records of World Heritage Sites within 1000m of the study site:** **0**

Database searched and no data found.

## 8. Natural Hazards Findings

### 8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information, please obtain a GroundSure Geology and Ground Stability Report. Available from our website. The following information has been found:

#### 8.1.1 Shrink Swell

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

#### 8.1.2 Landslides

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

#### 8.1.3 Soluble Rocks

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

#### 8.1.4 Compressible Ground

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

#### 8.1.5 Collapsible Rocks

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

#### 8.1.6 Running Sand

What is the maximum Running Sand\* hazard rating identified on the study site? **Negligible**

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## 9. Mining

### 9.1 Coal Mining

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

No

Database searched and no data found.

---

### 9.2 Shallow Mining

What is the hazard of subsidence relating to shallow mining onsite? ( this includes a 150m buffer)

Negligible

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# 10. Contacts

## GroundSure Helpline

Telephone: 01273 819700  
info@groundsure.com



## British Geological Survey (England & Wales)

Kingsley Dunham Centre  
Keyworth, Nottingham NG12 5GG  
Tel: 0115 936 3143. Fax: 0115 936 3136. [www.bgs.ac.uk](http://www.bgs.ac.uk)  
BGS Geological Hazards Reports and general geological enquiries



## Environment Agency

Lower Severn  
Riversmeet House - Newtown Industrial Estate, Northway Lane,  
Tewkesbury, Gloucestershire, GL20 8JQ Tel: (01684) 850 951  
Midlands Region Tel: (0121) 711 2324



## The Coal Authority

200 Lichfield Lane, Mansfield, Notts NG18 4RG  
Tel: 0845 762 6848. DX 716176 Mansfield 5  
[www.coal-authority.co.uk](http://www.coal-authority.co.uk)  
Coal mining reports and related enquiries



## Ordnance Survey

Romsey Road  
Southampton SO16 4GU  
Tel: 08456 050505



## Local Authority

Cheltenham Borough Council Tel: 01242 262626

## Get Mapping PLC

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



## Acknowledgements

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Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, English Nature who retain the Copyright and Intellectual Property Rights for the data.

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This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

# GroundSure Geology & Ground Stability Report

**Address:** Grovefield Way, CHELTENHAM, GL51 6RF

**Date:** Jul 22, 2008

**GroundSure Reference:** HMD-24-174363

**Your Reference:** 722048/MB



**Brought to you by GroundSure**

# Aerial Photograph of Study Site



Aerial photography supplied by Getmapping PLC.  
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**Site Name:** Grovefield Way, CHELTENHAM, GL51 6RF  
**Grid Reference:** 390648,221452



# Overview of Findings

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

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

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

Report Section	Number of records found within (X) m of the study site boundary
<b>1. Geology</b>	
Description	
1.1 Artificial Ground,	
1.1.1 Is there any Artificial Ground /Made Ground present beneath the study site? *	No
1.1.2 Are there any records relating to permeability of artificial ground within the study site* boundary?	No
1.2 Superficial Geology & Landslips	
1.2.1 Is there any Superficial Ground /Drift Geology present beneath the study site? *	No
1.2.2 Are there any records relating to permeability of superficial geology within the study site* boundary?	No
1.2.3 Are there any records of landslip within 500m of the study site boundary?	No
1.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No
1.3 Bedrock, Solid Geology & Faults	
1.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
1.3.2 Are there any records relating to permeability of bedrock within the study site* boundary?	Yes
1.3.3 Are there any records of faults within 500m of the study site boundary?	No
1.3.4 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The property is not in a radon Affected Area, as less than 1% of properties are above the Action Level
1.3.5 Is the property in an area where Radon Protection Measures are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?	No radon protective measures are necessary

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

Source:Scale 1:50,000 BGS Sheet No:216

<b>2. Ground Workings</b>	on-site	0-50	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	0	-	-
2.2 Historical Underground Workings Features from Small Scale Mapping	0	0	0	0	0
2.3 Current Ground Workings	0	0	0	0	0

<b>3. Mining, Extraction &amp; Natural Cavities</b>	on-site	0-50	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	0	0
3.2 Coal Mining	0	0	0	0	0
3.3 Shallow Mining*	1	-	-	-	-
3.4 Non – Coal Mining Cavities	0	0	0	0	0
3.5 Natural Cavities	0	0	0	0	0
3.6 Brine Extraction	0	0	0	0	0
3.7 Gypsum Extraction	0	0	0	0	0
3.8 Tin Mining	0	0	0	0	0
3.9 Clay Mining	0	0	0	0	0

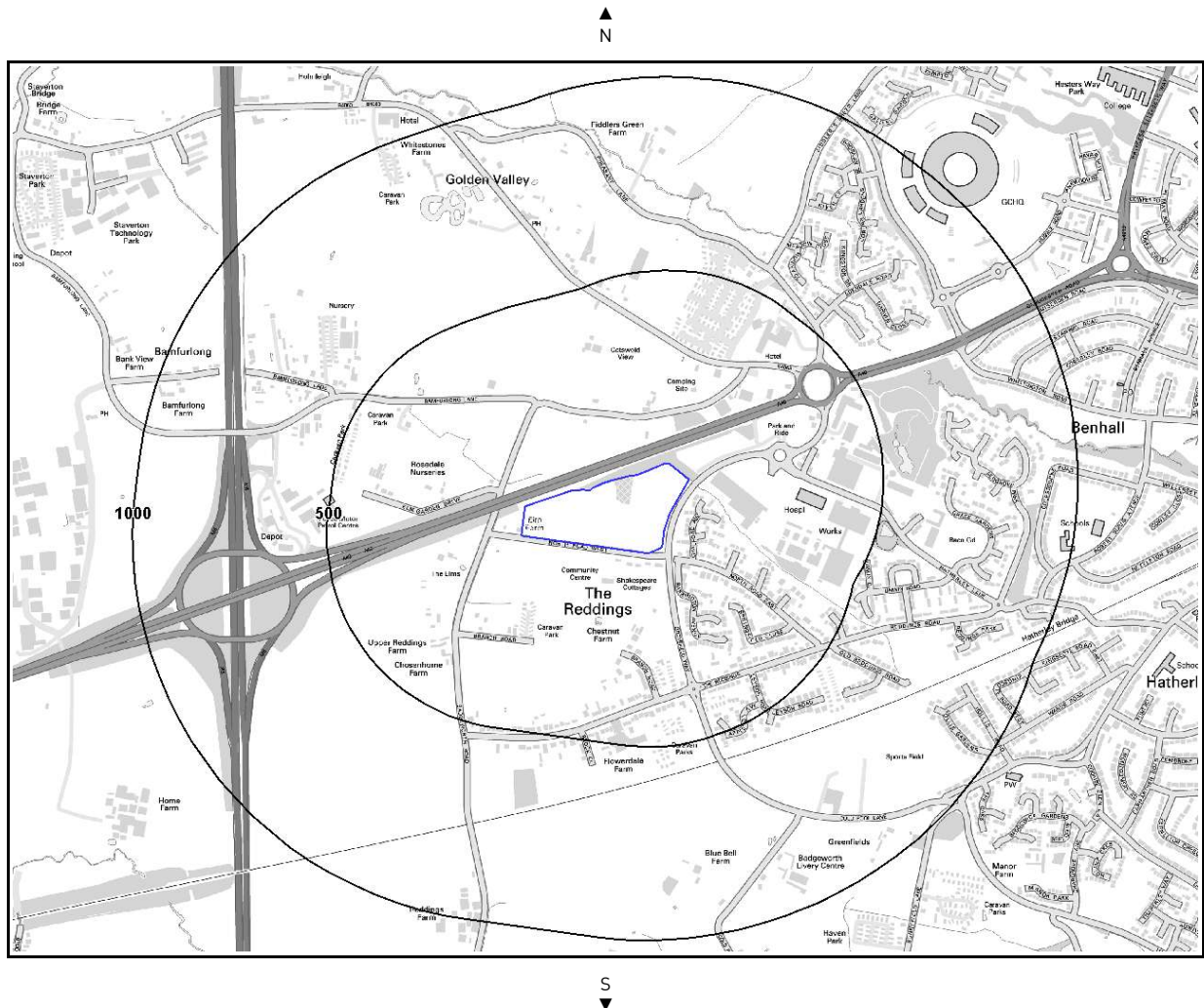
\*This includes an automatically generated 150m buffer zone around the site

<b>4. Natural Ground Subsidence</b>	on-site*	0-50	51-250	251-500	501-1000
4.1 Shrink-Swell Clay	Low	-	-	-	-
4.2 Landslides	Low	-	-	-	-
4.3 Ground Dissolution of Soluble Rocks	Negligible	-	-	-	-
4.4 Compressible Deposits	Negligible	-	-	-	-
4.5 Collapsible Deposits	Negligible	-	-	-	-
4.6 Running Sand	Negligible	-	-	-	-

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

<b>5. Borehole Records</b>	on-site	0-50	51-250	251-500	501-1000
5.1 BGS Recorded Boreholes	1	0	0	-	-









# 1.1 Artificial Ground Map



## Artificial Ground Legend



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	Site Outline		Made Ground (undivided)		Disturbed Ground (undivided)
	Search Buffers (m)		Worked Ground (undivided)		Landscaped Ground (undivided)
			Infilled Ground		Reclaimed Ground

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

---

# 1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:216

## 1.1.1 Artificial/Made Ground

**Are there any records of Artificial/Made Ground within 500m of the study site boundary:** **No**

Database searched and no data found.

## 1.1.2 Permeability of Artificial Ground

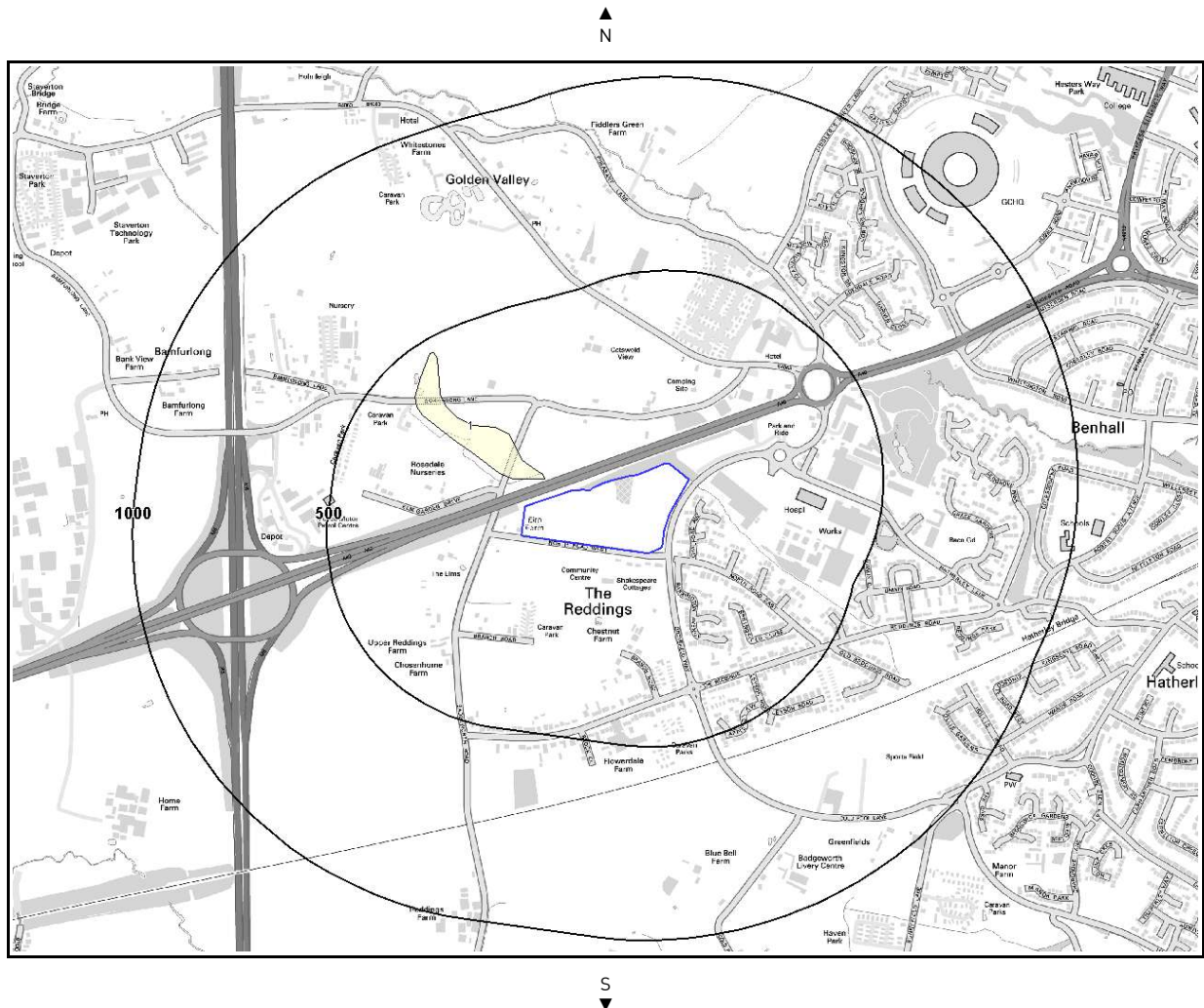
**Are there any records relating to permeability of artificial ground within the study site\* boundary:** **No**

Database searched and no data found.

---

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



# 1.2 Superficial Deposits and Landslips Map



## Superficial and Landslips Legend



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-  Site Outline
-  Search Buffers (m)

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

## 1.2 Superficial Deposits and Landslips

### 1.2.1 Superficial Deposits/Drift Geology

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

ID	Distance (m)	Direction	Lex Code	Description	Rock Description
1	52.0	N	ALV-CSSG	Alluvium	Clay, Silt, Sand and Gravel

### 1.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site\* boundary: **No**

Database searched and no data found.

### 1.2.3 Landslip

Database searched and no data found.

Are there any records of Landslip within 500m of the study site boundary? **No**

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

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

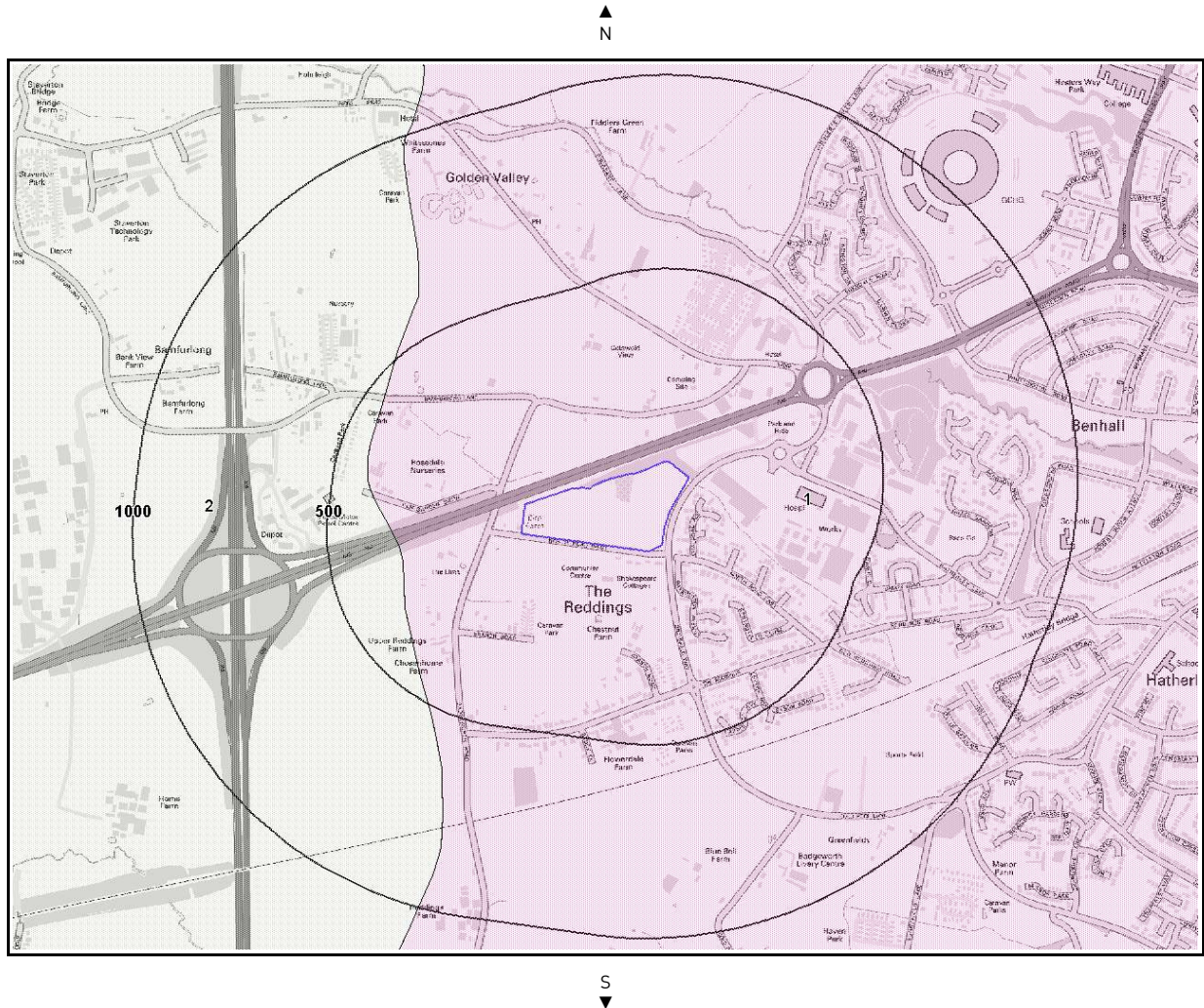
### 1.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site\* boundary: **No**




Database searched and no data found.

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

# 1.3 Bedrock and Faults Map



### Bedrock & Faults Deposits Legend

-  Site Outline
-  500 Search Buffers (m)
-  1000 Search Buffers (m)



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

## 1.3 Bedrock, Solid Geology & Faults

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:216

### 1.3.1 Bedrock/Solid Geology

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

ID	Distance [m]	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	CHAM-MDST	Charmouth Mudstone Formation - Mudstone	Pliensbachian / Sinemurian
2	313.0	W	RLS-MDLM	Rugby Limestone Member - Mudstone and Limestone, Interbedded	Sinemurian / Hettangian

### 1.3.2 Permeability of Bedrock Ground

**Are there any records relating to permeability of bedrock ground within the study site\* boundary:** **Yes**

Distance (m)	Direction	Flow type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Low	Low

### 1.3.3 Faults

Database searched and no data found.

**Are there any records of Faults within 500m of the study site boundary?** **No**

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

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

### 1.3.4 Radon Affected Areas

**Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?**

The property is not in a radon Affected Area, as less than 1% of properties are above the Action Level

### 1.3.5 Radon Protection

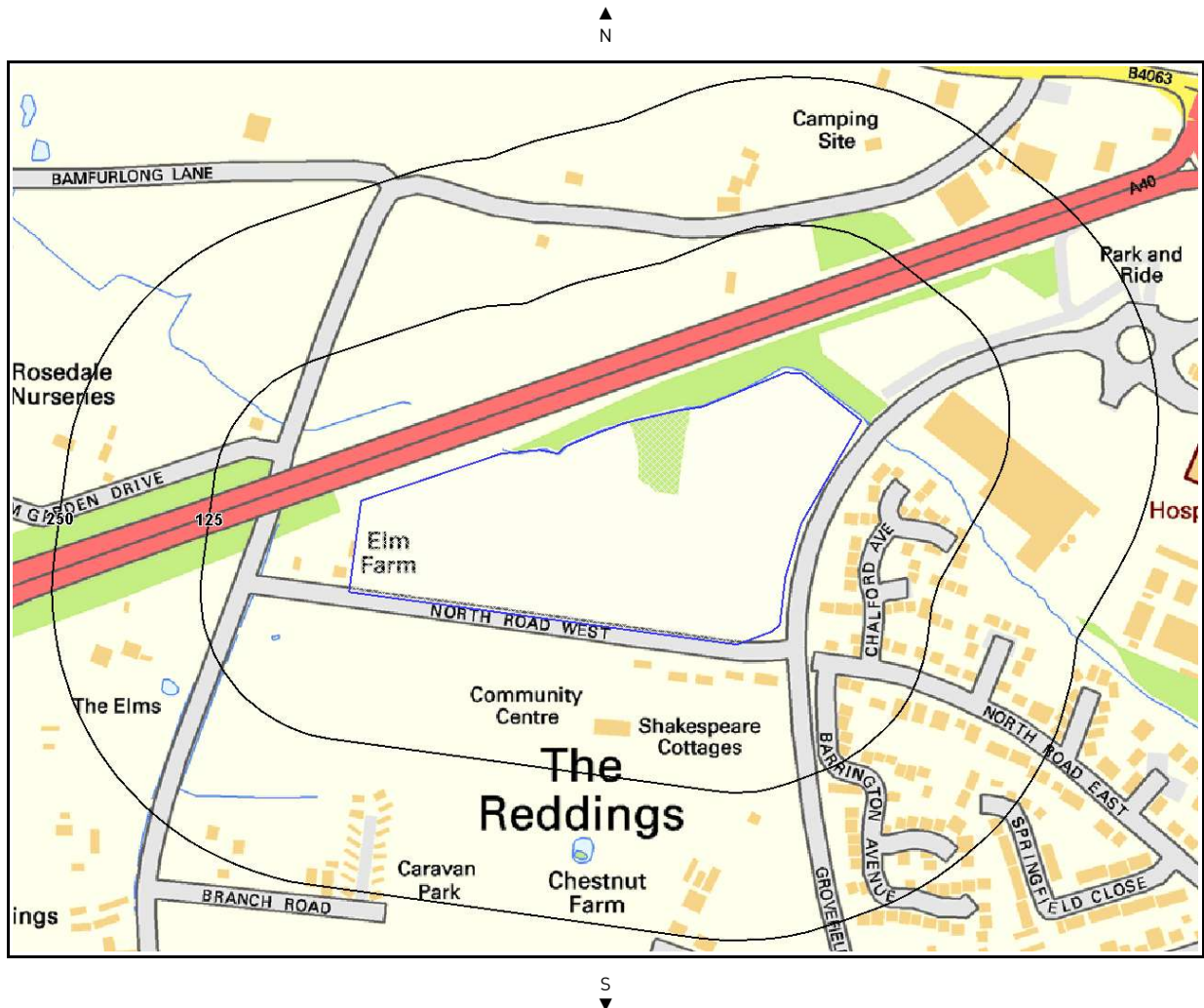
**Is the property in an area where Radon Protection are required for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment?**

No radon protective measures are necessary



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



## 2. Ground Workings Map






### Ground Workings Legend

-  Site Outline
-  Search Buffers (m)

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-  Historic Surface Ground Workings
-  Historic Underground Workings
-  Current Ground Workings