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Appendix No: 2

FSI Job No: 9144

BOREHOLE LOG

Property Address: 34 Queens Grove, London, NW8

Client Claim Ref: 34 Queens Grove


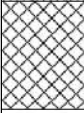
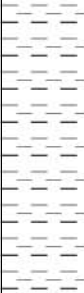
Survey date: 10/12/2014


Operative: SE1

Borehole ID: BH1

Hole Type: FA

Scale: 1:35

Water Strikes	Samples		Insitu Tests		Depth (m)	Legend	Stratum Description and Observations
	Type	Depth (m)	Type	Results			
					0.30		Dark brown Topsoil
					0.80		Dark brown clayey MADE GROUND containing brick and gravel
		1.00	V	104.00 104.00			Mid brown CLAY containing grey mottle Noted to contain orange sand pockets from 0.80m to 2.20m
		2.00	V	118.00 122.00			
		3.00	V	140.00			
		4.00	V	140.00			
		5.00	V	140.00			
		6.00	V	140.00	6.00		End of Borehole at 6.00 m

Key:  Water Strike D Disturbed Sample V Insitu vane test (kPa) MP Mackintosh Probe Test

Remarks: Borehole was closed at 6.00m as requested. Borehole was noted to be dry on completion.

N.b. Unless otherwise stated small vane paddle used. To convert MP to SPT divide average blows for 75mm by 1.5



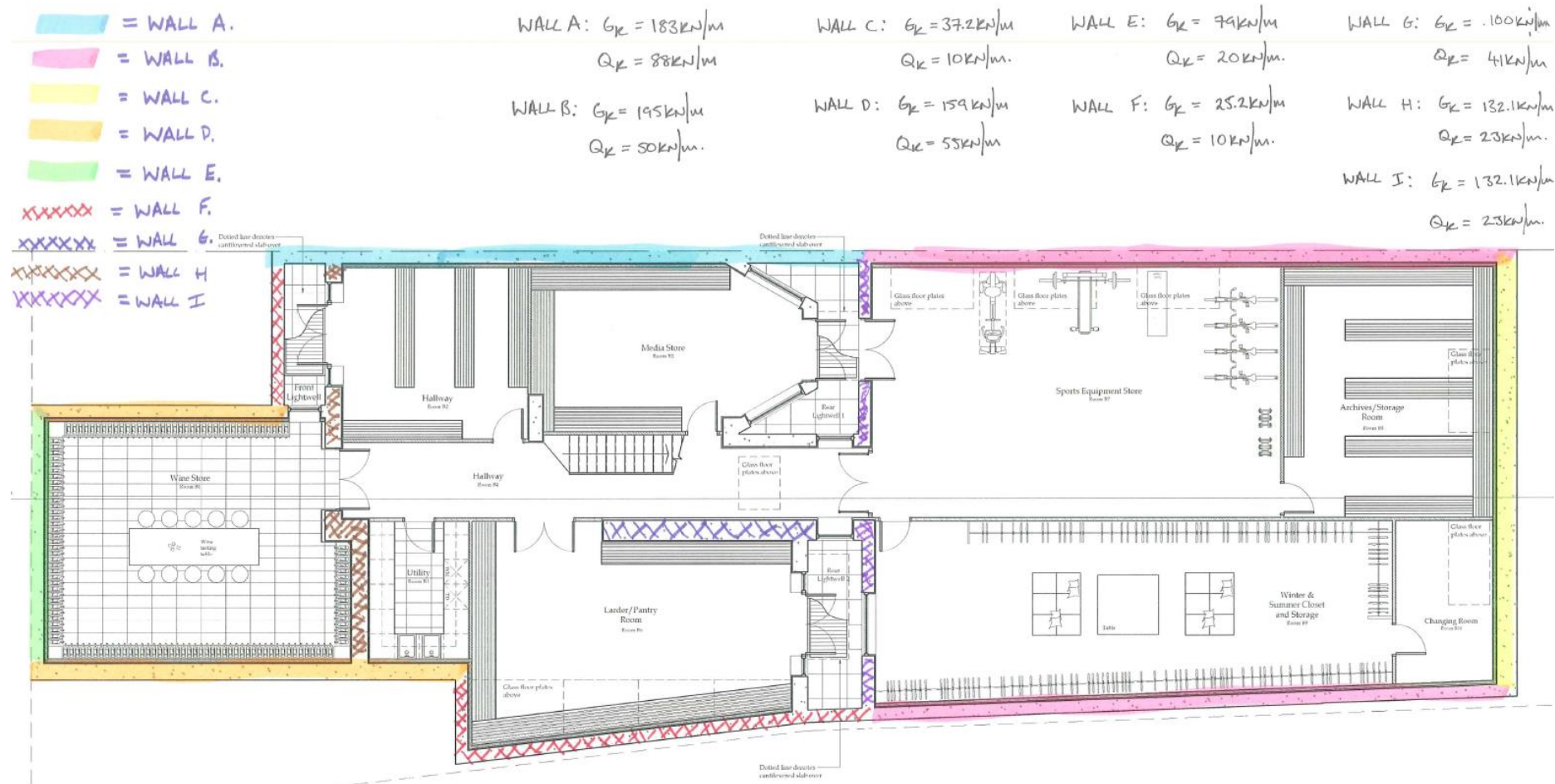


Figure D1. Layout of the proposed basement foundation plan

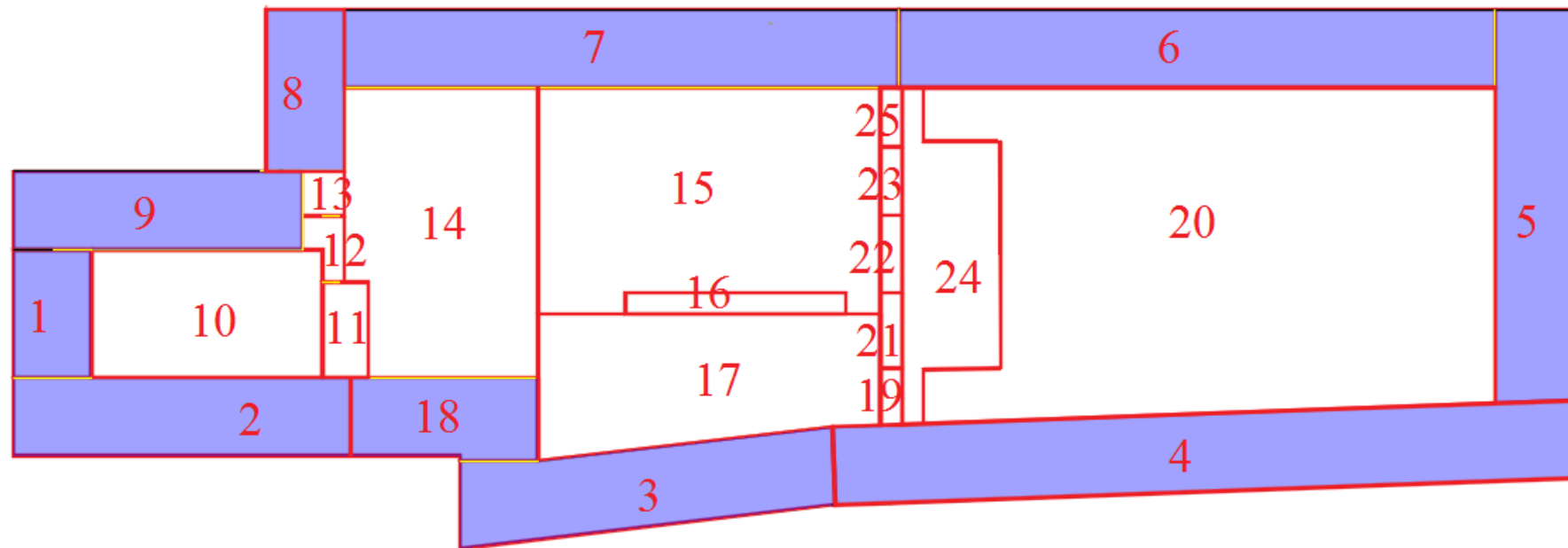


Figure D2. Detail of geometry introduced to PDISP

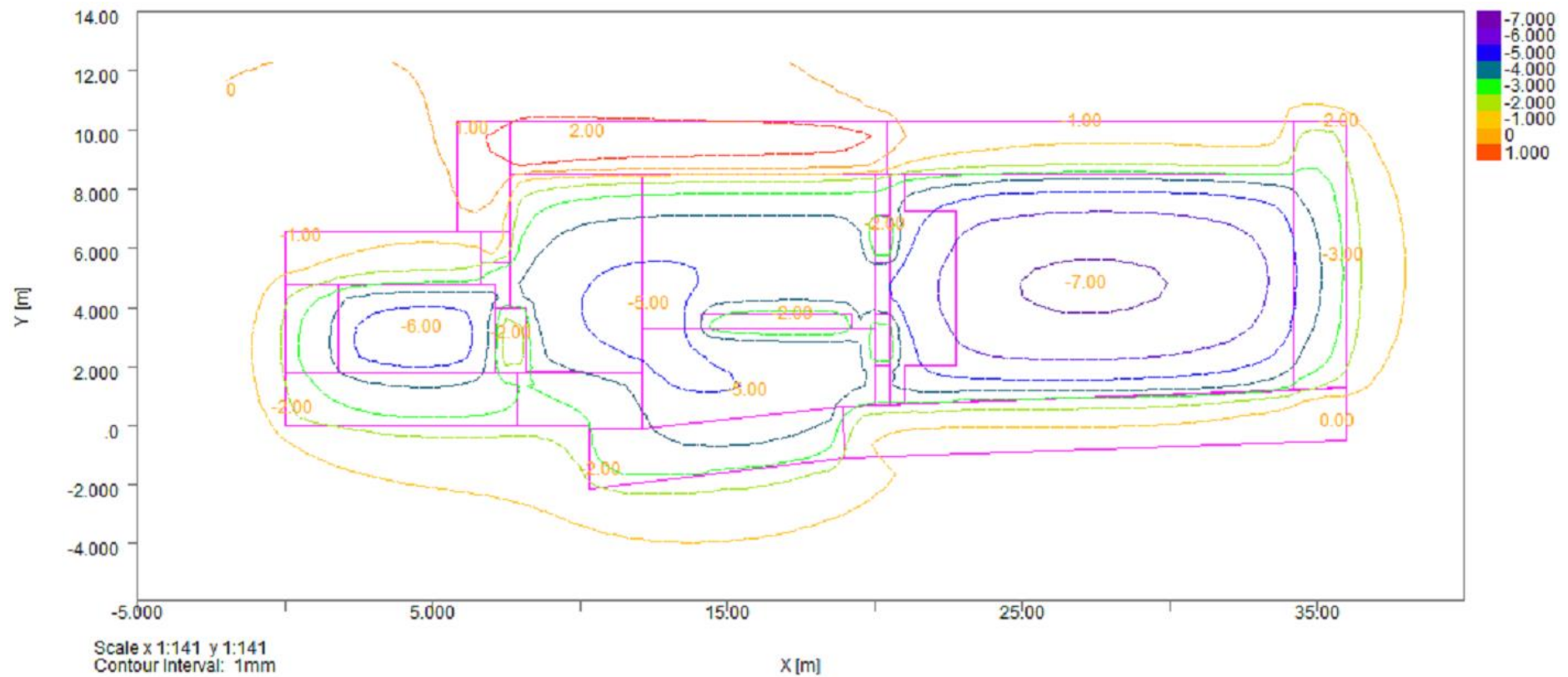


Figure D3. Short term (Stage 2) heave assessment contour

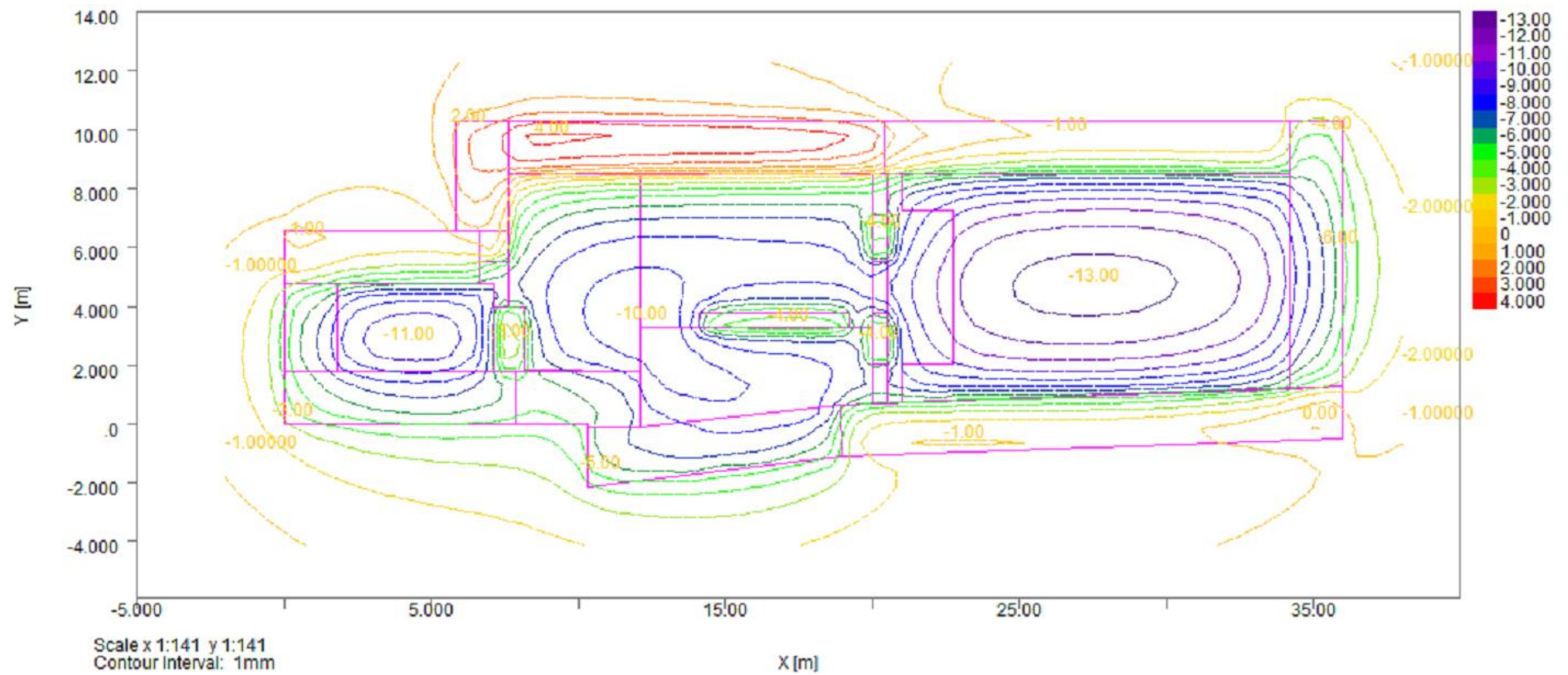


Figure D4. Long term (Stage 4) heave assessment contour



Gabriel GeoConsulting Ltd
HIGHFIELD HOUSE, ROLVENDEN ROAD,
CRANBROOK/BENENDEN, TN17 4EH

Groundsure Reference: GS-2113403
Your Reference: 16453

Report Date 21 May 2015

Report Delivery Method: Email - pdf

Groundsure Geoinsight

Address: 34, QUEENS GROVE, LONDON, NW8 6HN

Dear Sir/ Madam,

Thank you for placing your order with Groundsure. Please find enclosed the **Groundsure Geoinsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 08444 159000 quoting the above Groundsure reference number.

Yours faithfully,

Managing Director
Groundsure Limited

Enc.
Groundsure Geoinsight

Groundsure Geoinsight

Address: 34, QUEENS GROVE, LONDON, NW8 6HN

Date: 21 May 2015

Reference: GS-2113403

Client: Gabriel GeoConsulting Ltd



Aerial Photograph Capture date: 20-Apr-2013

Grid Reference: 526917,183729

Site Size: 0.05ha

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Overview of Findings

The Groundsure Geosight 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, Johnson Poole and Bloomer mining data 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.

Section 1:Geology

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 and 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
1.4 Radon data	1.4.1 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
	1.4.2 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

Section 2:Ground Workings	On-site	0-50m	51-250	251-500	501-1000
2.1 Historical Surface Ground Working Features from Small Scale Mapping	0	0	0	Not Searched	Not Searched
2.2 Historical Underground Workings from Small Scale Mapping	0	0	0	33	16
2.3 Current Ground Workings	0	0	0	0	0

Section 3: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
3.1 Historical Mining	0	0	0	16	8
3.2 Coal Mining	0	0	0	0	0
3.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
3.4 Non-Coal Mining	0	0	0	0	0
3.5 Non-Coal Mining Cavities	0	0	0	0	0
3.6 Natural Cavities	0	0	0	0	0
3.7 Brine Extraction	0	0	0	0	0
3.8 Gypsum Extraction	0	0	0	0	0
3.9 Tin Mining	0	0	0	0	0
3.10 Clay Mining	0	0	0	0	0

Section 4: Natural Ground Subsidence	On-site
4.1 Shrink Swell Clay	Moderate-High
4.2 Landslides	Very Low
4.3 Ground Dissolution of Soluble Rocks	Negligible
4.4 Compressible Deposits	Negligible
4.5 Collapsible Deposits	Very Low
4.6 Running Sand	Negligible

Section 5: Borehole Records	On-site	0-50m	51-250
5 BGS Recorded Boreholes	0	0	1

Section 6: Estimated Background Soil Chemistry	On-site	0-50m	51-250
6 Records of Background Soil Chemistry	1	0	5

Section 7: Railways and Tunnels	On-site	0-50m	51-250	251-500
7.1 Tunnels	0	0	1	Not Searched
7.2 Historical Railway and Tunnel Features	0	0	0	Not Searched
7.3 Historical Railways	0	0	0	Not Searched
7.4 Active Railways	0	0	0	Not Searched

Section 7:Railways and Tunnels	On-site	0-50m	51-250	251-500
7.5 Railway Projects	0	0	0	2

1 Geology

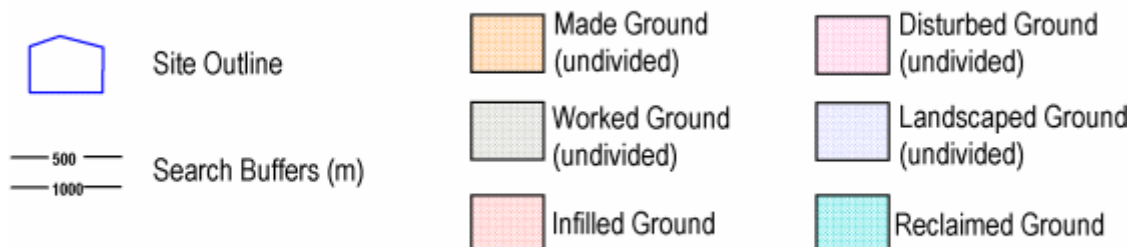
1.1 Artificial Ground Map



Artificial Ground Legend



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1 Geology

1.1 Artificial Ground

1.1.1 Artificial/ Made Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No:256

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.

1.2 Superficial Deposits and Landslips Map



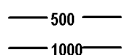
Superficial Deposits and Landslips
Legend



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Site Outline



Search Buffers (m)

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? No

Database searched and no data found.

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

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

Database searched and no data found.

This Geology shows the main components as discrete 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



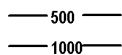
Bedrock and Faults Legend



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Site Outline



Search Buffers (m)

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:256

1.3.1 Bedrock/ Solid Geology

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

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	LC-CLSISA	London Clay Formation - Clay, Silt And Sand	No Details

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	Mixed	Moderate	Very Low

1.3.3 Faults

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

Database searched and no data found.

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 discrete 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.

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

1.4 Radon Data

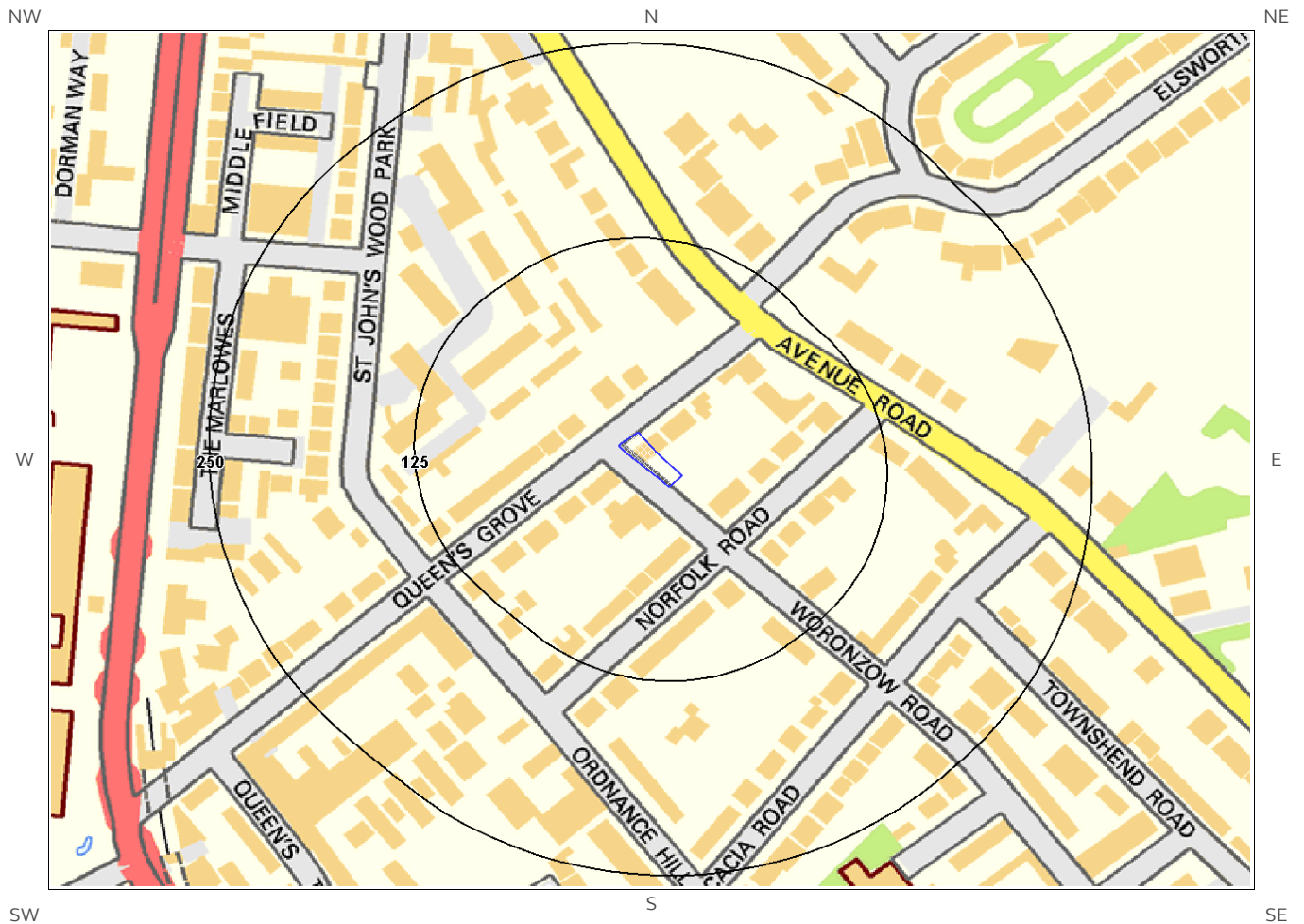
1.4.1 Radon Affected Areas

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

1.4.2 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

2 Ground Workings Map



Ground Workings Legend



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- | | | | |
|--|--------------------|--|----------------------------------|
| | Site Outline | | Historic Surface Ground Workings |
| | Search Buffers (m) | | Historic Underground Workings |
| | | | Current Ground Workings |

2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

This dataset is based on Groundsure's unique Historical Land Use Database derived from 1:10,560 and 1:10,000 scale historical mapping.

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? No

Database searched and no data found.

2.2 Historical Underground Working Features derived from Historical Mapping

This data is derived from the Groundsure unique Historical Land Use Database. It contains data derived from 1:10,000 and 1:10,560 historical Ordnance Survey Mapping and includes some natural topographical features (Shake Holes for example) as well as manmade features that may have implications for ground stability. Underground and mining features have been identified from surface features such as shafts. The distance that these extend underground is not shown.

Are there any Historical Underground Working Features within 1000m of the study site boundary? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	285.0	N	527362 184138	Tunnel	1973
Not shown	285.0	N	527362 184138	Tunnel	1968
Not shown	285.0	N	527362 184138	Tunnel	1989
Not shown	285.0	N	527368 184142	Tunnels	1957
Not shown	379.0	N	527018 184178	Tunnel	1989
Not shown	379.0	N	527018 184178	Tunnel	1973
Not shown	379.0	N	527018 184178	Tunnel	1968
Not shown	381.0	N	527028 184182	Tunnels	1957
Not shown	384.0	NW	526740 184111	Air Shaft	1973
Not shown	384.0	NW	526740 184111	Air Shaft	1968
Not shown	411.0	NE	527156 184083	Air Shaft	1957
Not shown	411.0	NE	527156 184083	Air Shaft	1940

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	411.0	NE	527156 184083	Air Shaft	1968
Not shown	411.0	NE	527156 184083	Air Shaft	1989
Not shown	411.0	NE	527156 184083	Air Shaft	1973
Not shown	413.0	NE	527162 184082	Air Shaft	1894
Not shown	422.0	N	526989 184174	Air Shaft	1940
Not shown	424.0	N	526978 184220	Tunnel	1957
Not shown	424.0	N	526978 184220	Tunnel	1973
Not shown	424.0	N	526978 184220	Tunnel	1989
Not shown	424.0	N	526978 184220	Tunnel	1968
Not shown	439.0	W	526471 183522	Tunnel	1957
Not shown	439.0	W	526452 183836	Tunnel	1968
Not shown	439.0	W	526471 183522	Tunnel	1989
Not shown	439.0	W	526471 183522	Tunnel	1973
Not shown	446.0	W	526440 183785	Air Shafts	1940
Not shown	451.0	W	526434 183717	Air Shafts	1940
Not shown	452.0	W	526471 183522	Tunnel	1968
Not shown	458.0	W	526434 183659	Air Shaft	1940
Not shown	463.0	NW	526465 183953	Air Shaft	1920
Not shown	467.0	NW	526463 183954	Air Shaft	1957
Not shown	467.0	NW	526463 183954	Air Shaft	1940
Not shown	467.0	NW	526463 183954	Air Shaft	1968
Not shown	546.0	NW	526483 184398	Tunnel	1973
Not shown	546.0	NW	526483 184398	Tunnel	1968
Not shown	546.0	NW	526483 184398	Tunnel	1957
Not shown	614.0	NW	526504 184237	Air Shaft	1957
Not shown	620.0	NW	526499 184237	Air Shaft	1920
Not shown	623.0	NW	526496 184238	Air Shaft	1940
Not shown	632.0	S	526830 183092	Air Shaft	1940
Not shown	739.0	S	527048 182848	Tunnels	1989

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	739.0	S	527048 182848	Tunnels	1973
Not shown	743.0	S	527008 182885	Tunnels	1957
Not shown	743.0	S	527008 182885	Tunnel	1940
Not shown	743.0	S	527011 182886	Tunnels	1968
Not shown	795.0	NW	526471 184430	Air Shaft	1957
Not shown	798.0	NW	526462 184429	Air Shaft	1940
Not shown	861.0	NE	527589 184287	Air Shafts	1989
Not shown	899.0	NE	527650 184271	Air Shafts	1989

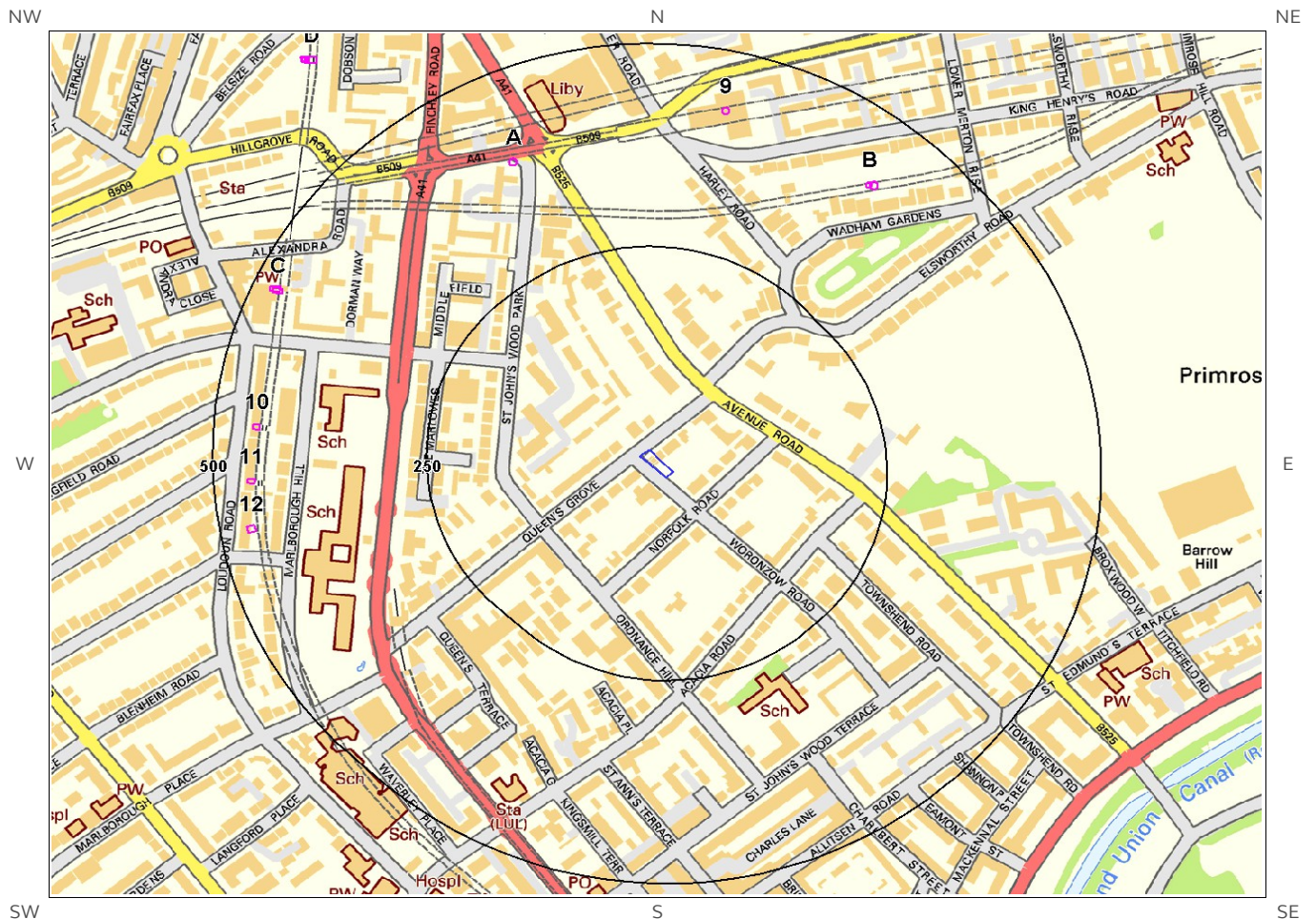
2.3 Current Ground Workings

This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? No

Database searched and no data found.

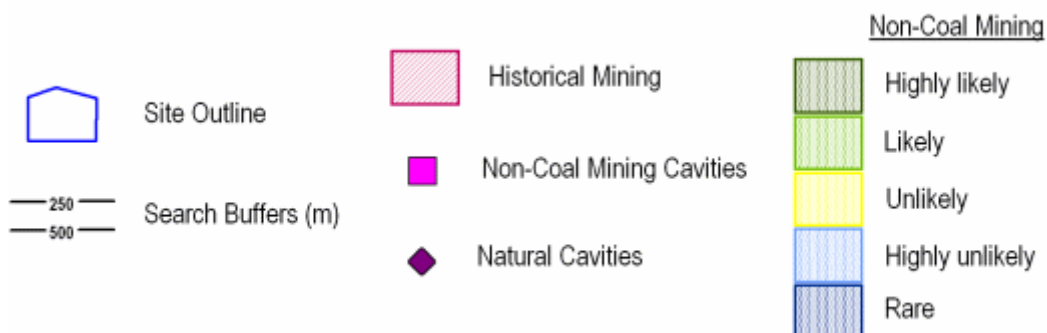
3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and
Natural Cavities Legend

Mapping
sourced from
 Ordnance
Survey®

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3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

This dataset is derived from Groundsure unique Historical Land-use Database that are indicative of mining or extraction activities.

Are there any Historical Mining areas within 1000m of the study site boundary? Yes

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
1A	384.0	NW	526740 184111	Air Shaft	1973
2A	384.0	NW	526740 184111	Air Shaft	1968
3B	411.0	NE	527156 184083	Air Shaft	1973
4B	411.0	NE	527156 184083	Air Shaft	1968
5B	411.0	NE	527156 184083	Air Shaft	1989
6B	411.0	NE	527156 184083	Air Shaft	1957
7B	411.0	NE	527156 184083	Air Shaft	1940
8B	413.0	NE	527162 184082	Air Shaft	1894
9	422.0	N	526989 184174	Air Shaft	1940
10	446.0	W	526440 183785	Air Shafts	1940
11	451.0	W	526434 183717	Air Shafts	1940
12	458.0	W	526434 183659	Air Shaft	1940
13C	463.0	NW	526465 183953	Air Shaft	1920
14C	467.0	NW	526463 183954	Air Shaft	1968
15C	467.0	NW	526463 183954	Air Shaft	1957
16C	467.0	NW	526463 183954	Air Shaft	1940
17D	614.0	NW	526504 184237	Air Shaft	1957
18D	620.0	NW	526499 184237	Air Shaft	1920
19D	623.0	NW	526496 184238	Air Shaft	1940
Not shown	632.0	S	526830 183092	Air Shaft	1940

ID	Distance (m)	Direction	NGR	Details	Date
Not shown	795.0	NW	526471 184430	Air Shaft	1957
Not shown	798.0	NW	526462 184429	Air Shaft	1940
Not shown	861.0	NE	527589 184287	Air Shafts	1989
Not shown	899.0	NE	527650 184271	Air Shafts	1989

3.2 Coal Mining

This dataset provides information as to whether the study site lies within a known coal mining affected area as defined by the coal authority.

Are there any Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.3 Johnson Poole and Bloomer

This dataset provides information as to whether the study site lies within an area where JPB hold information relating to mining.

Are there any JPB Mining areas within 1000m of the study site boundary? No

The following information provided by JPB is not represented on mapping: Database searched and no data found.

3.4 Non-Coal Mining

This dataset provides information as to whether the study site lies within an area which may have been subject to non-coal historic mining.

Are there any Non-Coal Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.5 Non-Coal Mining Cavities

This dataset provides information from the Peter Brett Associates (PBA) mining cavities database (compiled for the national study entitled "Review of mining instability in Great Britain, 1990" PBA has also continued adding to this database) on mineral extraction by mining.

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.6 Natural Cavities

This dataset provides information based on Peter Brett Associates natural cavities database.

Are there any Natural Cavities within 1000m of the study site boundary? No

Database searched and no data found.

3.7 Brine Extraction

This data provides information from the Coal Authority issued on behalf of the Cheshire Brine Subsidence Compensation Board.

Are there any Brine Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.8 Gypsum Extraction

This dataset provides information on Gypsum extraction from British Gypsum records.

Are there any Gypsum Extraction areas within 1000m of the study site boundary? No

Database searched and no data found.

3.9 Tin Mining

This dataset provides information on tin mining areas and is derived from tin mining records. This search is based upon postcode information to a sector level.

Are there any Tin Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

3.10 Clay Mining

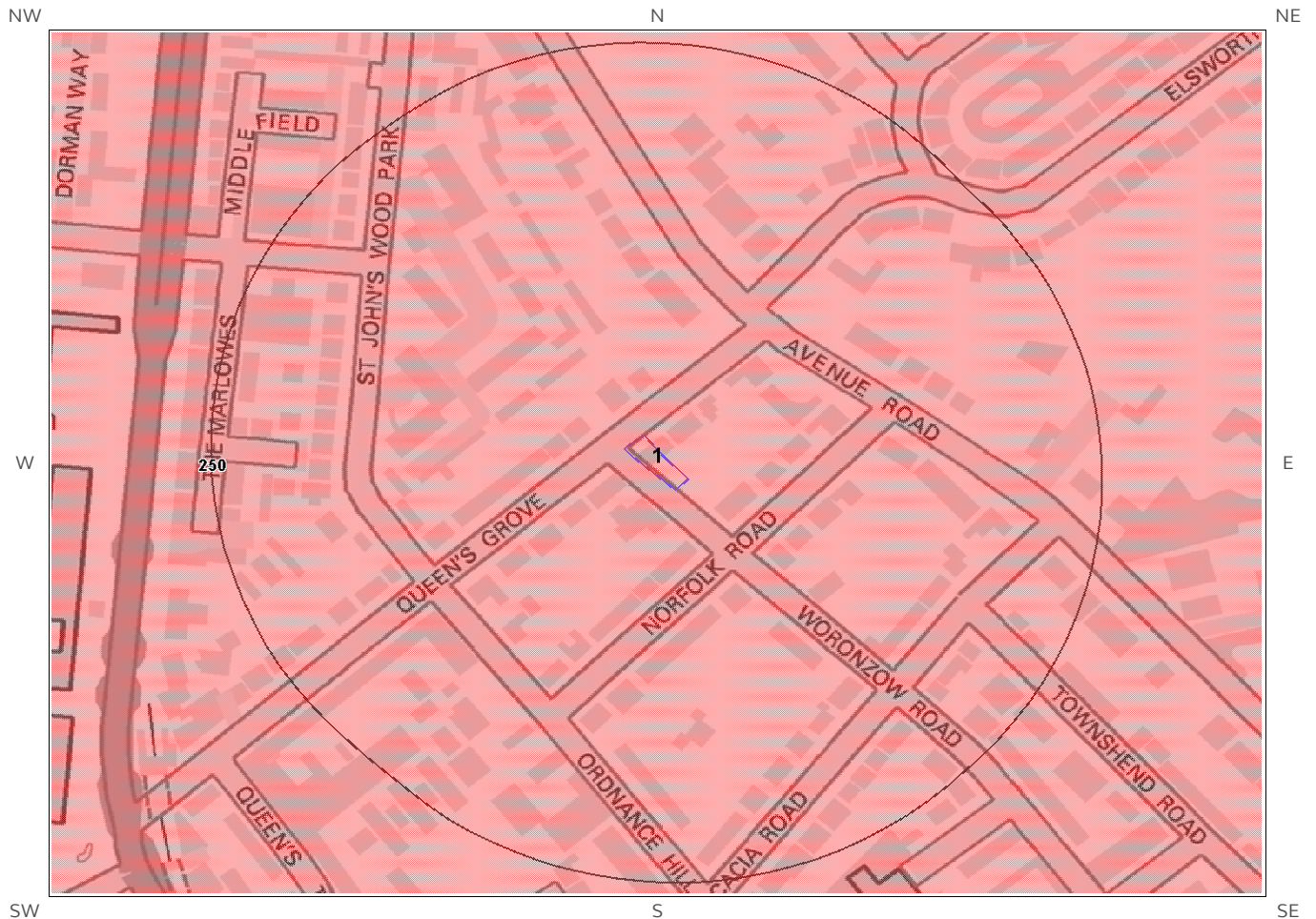
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

4 Natural Ground Subsidence

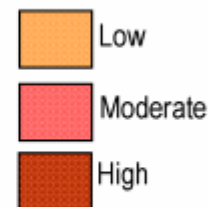
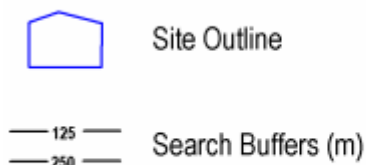
4.1 Shrink-Swell Clay Map



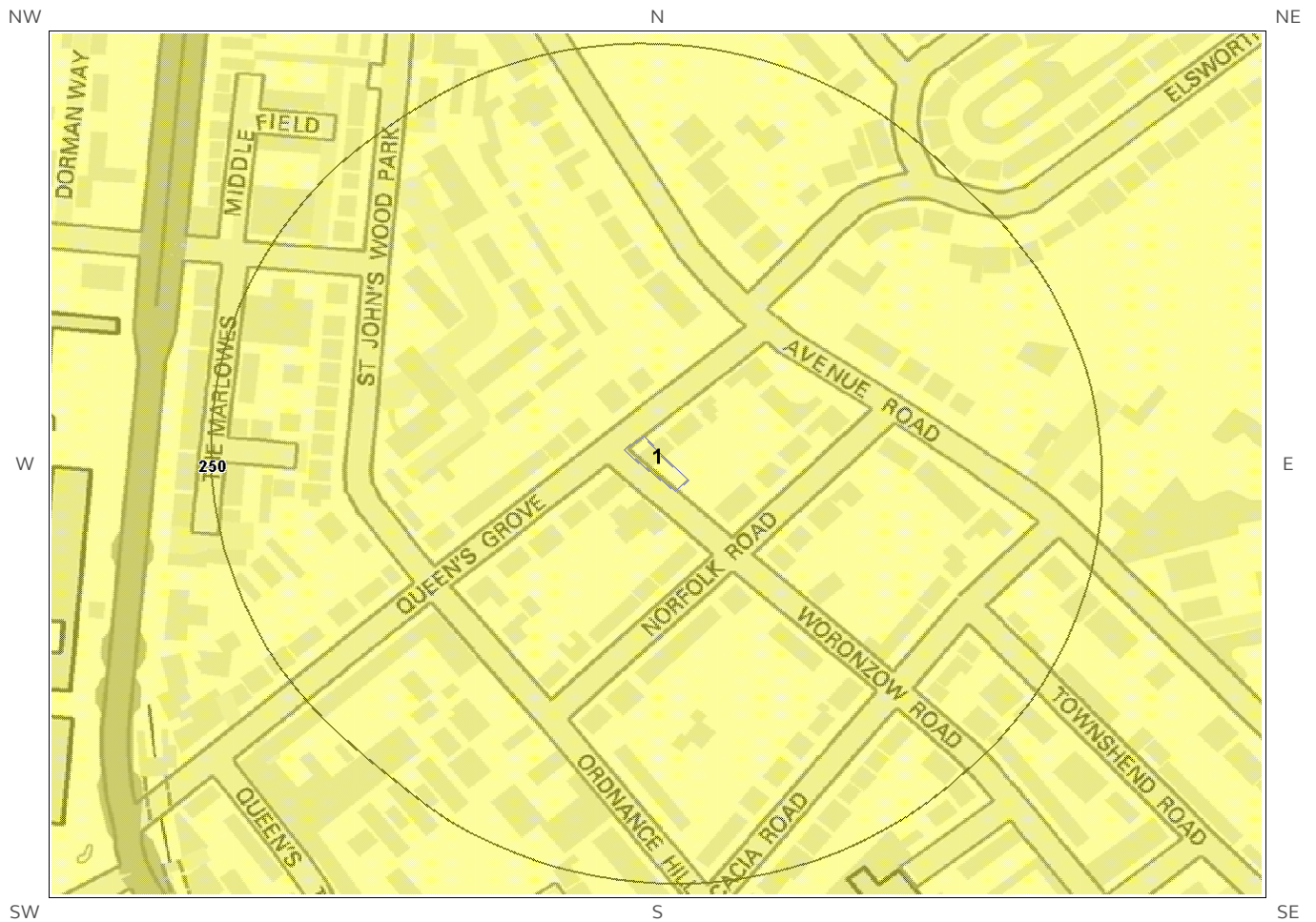
Shrink Swell Clay Legend



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4.2 Landslides Map



Landslides Legend



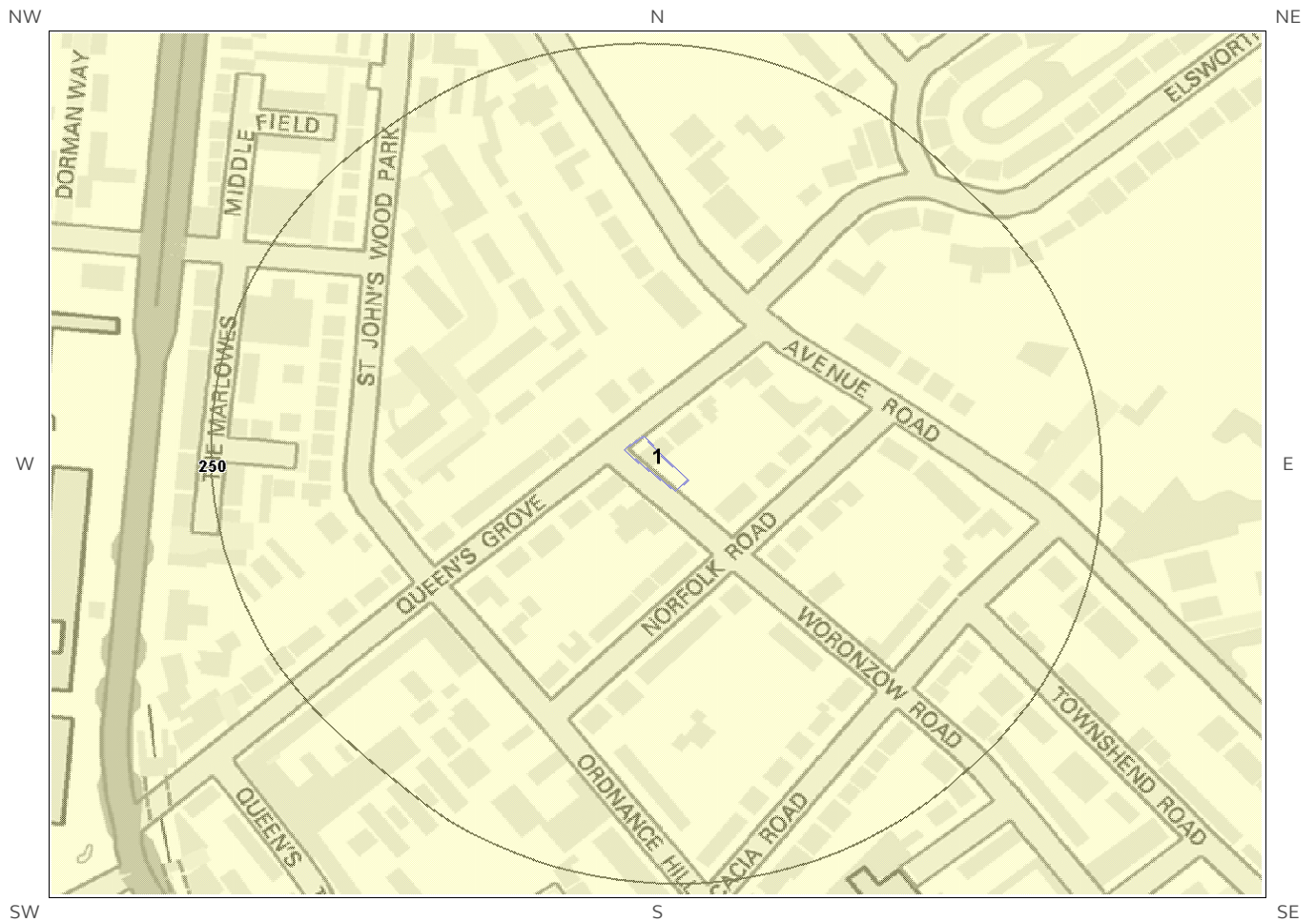
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4.3 Ground Dissolution Soluble Rocks Map



4.4 Compressible Deposits Map



Compressible Deposits Legend



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