

*GSM Industrial
Providence Works
Norton St
Miles Platting
M40 8EH*

Friday, 07 February 2025

Ref: rep-tjba-GSM-stable hills-slope stability-040225.docx

Subject: **Land south of Stable Hills, Chadwick Hall Road,
Rochdale.
OL11 4DJ.
Slope Stability Assessment.**

Dear Mr Mckeown,

Further to our instruction regarding a stability assessment, please find enclosed details to support the application.

A recent planning application was submitted on 20th September 2024, under application ref: 24/00927/FUL, for the: 'Erection of 2no. three storey detached dwellings and associated works including excavation and landscaping, creation of new vehicular access and car parking'.

On 4th October 2024, RMBC wrote to the applicant requesting a stability assessment as per the below letter:

INCOMPLETE PLANNING APPLICATION	
Application No:	24/00927/FUL
Application Type:	Full Planning Application
Proposal:	Erection of 2no. three storey detached dwellings and associated works including excavation and landscaping, creation of new vehicular access and car parking
Location:	Hillside And Land To South Of Stable Hills , Chadwick Hall Road, Rochdale, OL11 4DJ

I refer to the above planning application, received on 20 September 2024, I regret that your application as it is currently incomplete in respect of the following:-

- 1) For the purpose of clarity please can you amend the site address on the application form to "Hillside And Land To South Of Stable Hills, Chadwick Hall Road, Rochdale, OL11 4DJ"
- 2) Please can you confirm if they are market housing or self-build and also amend on the application form (page 9 & 11)
- 3) We will require the outline of the dwelling houses off the location plan
- 4) Existing site plan required at scale 1:500 or 1:200
- 5) We will require an existing and proposed topographical surveys
- 6) We will also require the following reports;
-A Slope stability assessment
-Planning statement

Tel: 01706 868288
Fax: 01706 868288
e-mail: office@tjba.co.uk

*Proprietor.
Timothy John Booth
BSc (Hons) C.Eng.C.Env. MICE
t/a T J Booth Associates*

VAT Reg. N^o 748 6510 09

Continued...

RMBC had indicated that a slope stability desk study would be sufficient to support the application, and T J Booth Associates were subsequently employed to provide the assessment.

Existing/Proposed Site.

The existing Application Site is served by a shared driveway to the front of the Stable Hills property, eventually turning into a private driveway to the east side of Stable Hills and leading to the Application Site.

The Application Site comprises a vegetated slope to the south side of Stable Hills. Ground elevation falls from c50.50m aOD to north boundary adjacent the Stable Hills rear garden, to around 36.50m aOD to the south boundary.

The surrounding land uses to the north, east, and west are made up of suburban housing development. The surrounding land use to the south of the Site comprises private grazing/recreational open space currently used for equine training & stables.

The River Roch meanders through the area flowing west nominally 120m south of the Application Site boundary.

Site Investigations.

The only Site investigations to date were undertaken by Mini Soil Surveys Ltd in July 2007, and comprised 3No. shallow window sample boreholes (BHs1-3), refer to Site Investigation Plan in the Appendix.

BH1 was undertaken to the east side of Stable Hills approximately 35 north of the Application Site. The stratigraphy comprised MADE GROUND to 600mm depth, above loose medium SAND to 1.5m, and a dense fine to medium SAND to 7m depth.

BH2 & BH3 were taken nominally to the northeast and northwest Application Site boundary respectively.

In BH2 a loose to med dense sand & shale MADE GROUND (colliery waste) was noted to 2.5m depth, above a medium dense fine to medium SAND to 5.5m, and a med dense to dense fine to medium SAND with weathered sandstone fragments increasing with depth to 8m.

The logs for BH3 recorded a topsoil MADE GROUND to 0.6m depth, over a firm very sandy CLAY to 1.5m, and a medium dense to dense fine to medium sand to 7m.

SPT values taken within the medium dense to dense SAND between 1.5-8m depth to the north side of the Application Site were between 12-39.

Topographic Surveys.

Surveys undertaken in 2017 and recently in 2024 have been compared and it is noted that earthworks have been undertaken in the intervening period with

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the formation of an access roadway into the slope and displacement of earth down the slope.

Landmark Envirocheck Ground & Mining Stability.

In 2017, a Landmark Envirocheck Ground & Mining Stability Report was obtained for a previous planning application on the same Application Site.

An updated report has been obtained from the Landmark Information Group in February 2025 (full report in Appendix).

The report reports on risks from Mining & Natural Cavities, Historical Land Uses (1:2500), Historical Land Uses (1:10000), & Ground Stability Data.

The data is tabulated below:

Landmark Ground Stability Report 2025		
Mining & Natural Cavities		
BGS Recorded Mineral Sites		10 records, closest 89m northwest, relating to a historic gravel pit. The next nearest record is 413m distant.
Coal Mining Affected Areas		The Application Site is within a coal mining affected area.
Mining Instability		The Application Site is within an inconclusive coal mining area.
Potential Mining Areas		17 total records, but only 3No within a 60m radius of the Application Site. All others are over c350m distant. Of the 3 records within a 60m radius, 1No refers to an on-site record (although it is labelled Chadwick Hall), and the other 2No record refer to Chadwick Hall & Norden but both are 59m northwest.
Historical Land Uses (1:2500)		
Potentially Contaminative Land Uses (1855-1909)		1 record noted as "extractive industries or potential excavations from 1855-1909", 64m south.
Potentially Contaminative Land Uses (1893-1915)		1 record noted as "extractive industries or potential excavations from 1893-1915", 65m south.
Potentially Contaminative Land		1 record noted as "extractive industries or potential excavations from 1906-1937", 65m

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Uses (1906-1937)	south.
Historical Land Uses (1:10000)	
Disturbed Ground	1 record, 555m west.
General Quarrying	3 records, closest 680m southwest.
Heap, unknown constituents	4 records, closest 770m northeast.
Mining and Quarrying General	3 records, closest 388m northwest.
Mining of Coal & Lignite	6 records, closest 473m west.
Quarrying of Sand and Clay, Operation of Sand & Gravel Pits	11 records, closest 85m northwest.
Former Marshes	1 record, 918m northeast.
Potentially Infilled Land (Non-Water)	25 records, closest 85m northwest.
Potentially Infilled Land (Water)	20 records, closest 152m northwest.
Ground Stability Data	
Potential for Collapsible Ground Stability Hazards	Application Site within an area defined as 'very low' hazard potential.
Potential for Compressible Ground Stability Hazards	Application Site within an area defined as 'no hazard'.
Potential for Ground Dissolution Stability Hazards	Application Site within an area defined as 'no hazard'.
Potential for Landslide Ground Stability Hazards	Application Site within an area defined as 'very low' hazard potential. Area approx. 3m south of the Application Site defined as 'high' hazard potential.
Potential for Running Sand Ground Stability Hazards	Application Site within an area defined as 'very low' hazard potential.
Potential for Shrinking or Swelling Clay Hazards	Application Site not within risk area.

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The 2017 version of the Landmark Ground & Mining Stability Report also included a satellite/ground motion map, which is no longer included in the above 2025 version of the report. The motion map details from 2017 are tabulated below:

Landmark Ground Stability Report 2017	
Motion Map Data	
Motion Map	Closest node points are: 5m east, 40m west, and within a 250m radius to the north/northeast of the Application Site. All node points are considered "stable".

Discussion.

Current site investigation records are limited and have only investigated the superficial fluvioglacial deposits on the upper Site boundary.

The data obtained from the investigations, as well as that obtained from the Landmark report, suggests the existing on-site superficial stratigraphy is of a stable nature.

Apart from the immediate upper soil, and some MADE GROUND noted to the northeast Site corner, natural SANDS were noted as medium dense to dense, often clayey/gravelly and comprising generally medium to high SPT values between 12-39 up to 8m deep.

The Landmark ground stability report database (2025) recorded an area defined as a 'high risk' potential for landslide off-site, but within a close distance to the south Site boundary. However, this is most likely a consequence of historic excavation & levelling of land to the south of the high-risk area, associated with historic construction of Rochdale Sewage Works c1890s. Although the area was noted as 'high risk', no evidence of past movement was noted in the Motion Map data included within the Landmark ground stability report from 2017. Apart from the high-risk landslide area noted above, no other issues were noted in the desk study close to the Application Site.

The Application Site itself was noted as very low to no risk with regards to ground stability related issues, from both man-made and natural ground conditions within the Landmark Report (2025).

The proposed dwellings will comprise of reinforced concrete & masonry construction, seated into the existing Site slope, approximately following the existing contours with retaining walls to the rear faces (refer to Site Plan & Sections in the appendix).

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The construction will reduce the overall weight of the soil in the slope, thus reducing ground pressures and therefore the risk of gross instability, however this will be subject to further investigation, detailed calculation, and further slope stability analysis undertaken as part of the Building Regulations & foundation/retaining wall design stage.

Conclusions/Recommendations.

From the above referring to the borehole logs and Landmark data search it has been shown that the risk to slope stability of the present hillside slope is very low.

The proposal to construct two dwellings into the hillside will reduce the overall slope mass and thus improve overall stability.

Further investigations should be undertaken in due course to establish the deeper stratigraphy and stability to support detailed design of retaining walls and foundations as part of the Building Regulation requirements, and a confirmation assessment provided on slope stability for the proposed use.

This study has not identified any issues with the existing Site regarding slope stability, that would give rise to the necessity of refusing planning consent.

It is concluded that the above details and conclusions are sufficient to enable planning permission to be granted for the application proposal in respect of the slope stability considerations, with the submission of more detailed information controlled by condition if considered necessary.

Signed.....



D.S. Slattery BSc (Hons).

T J Booth Associates.

Authorised...



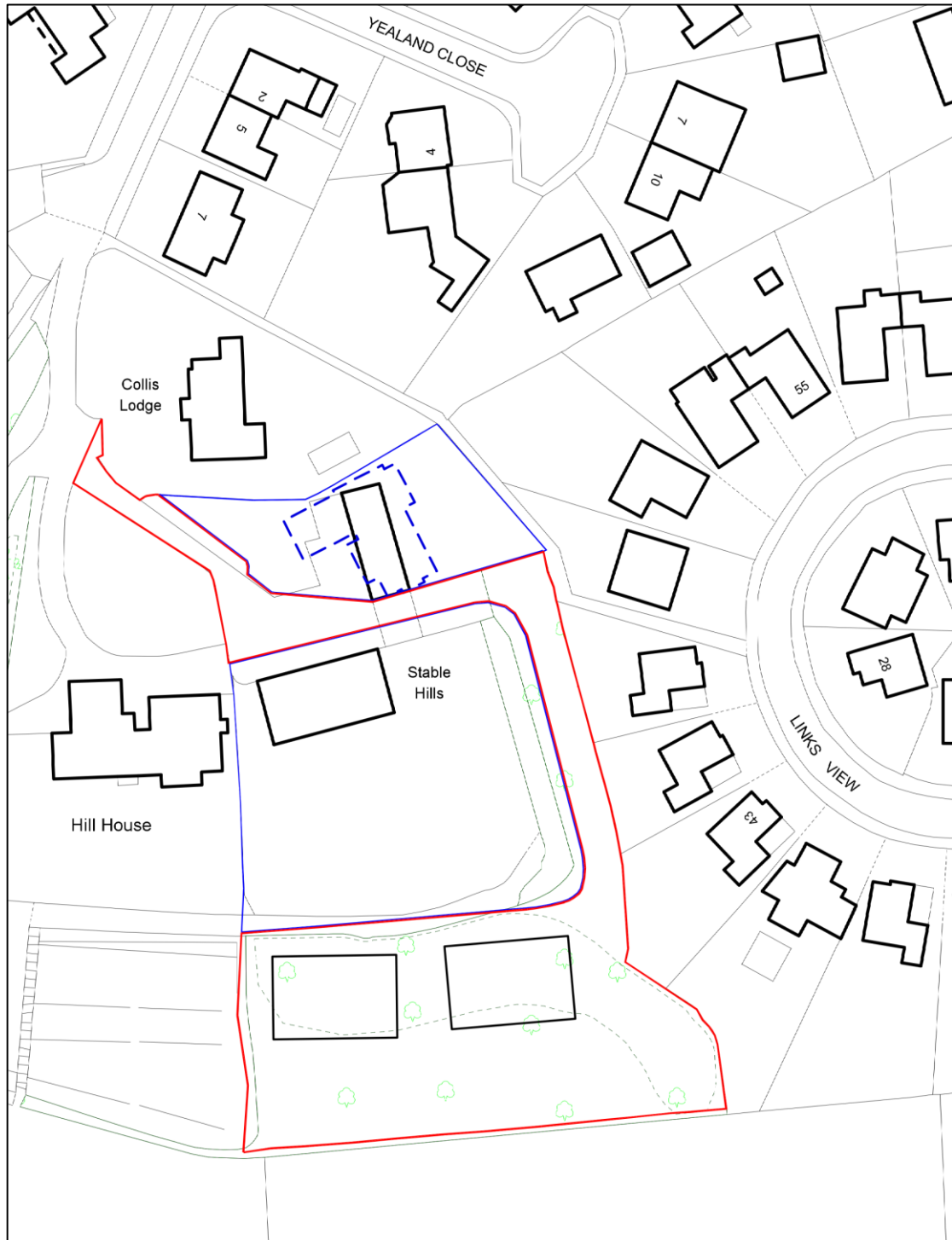
T J Booth BSc (Hons), C. Eng. C. Env. MICE.

T J Booth Associates.

Continued...

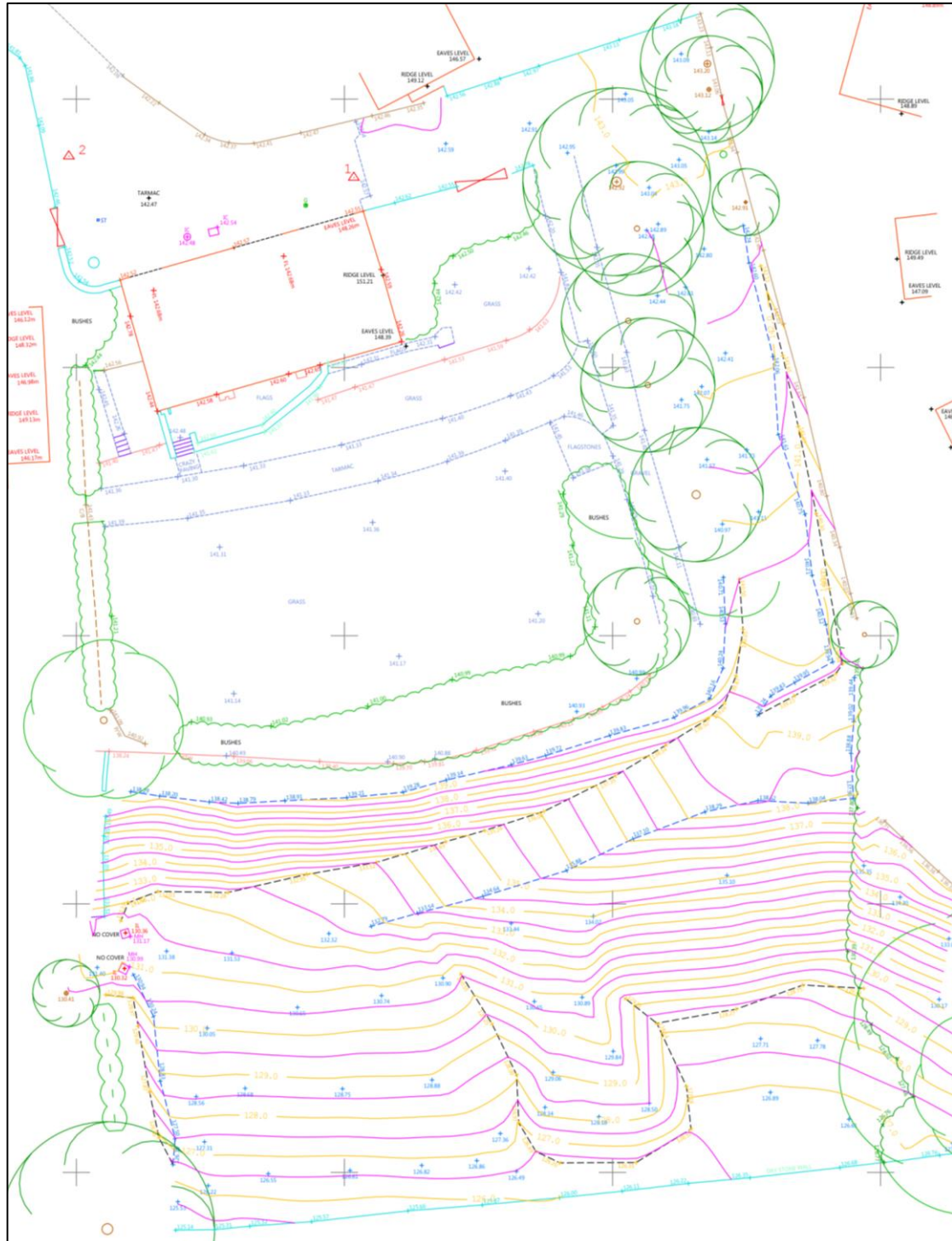
Appendix.

Site Location Plan.



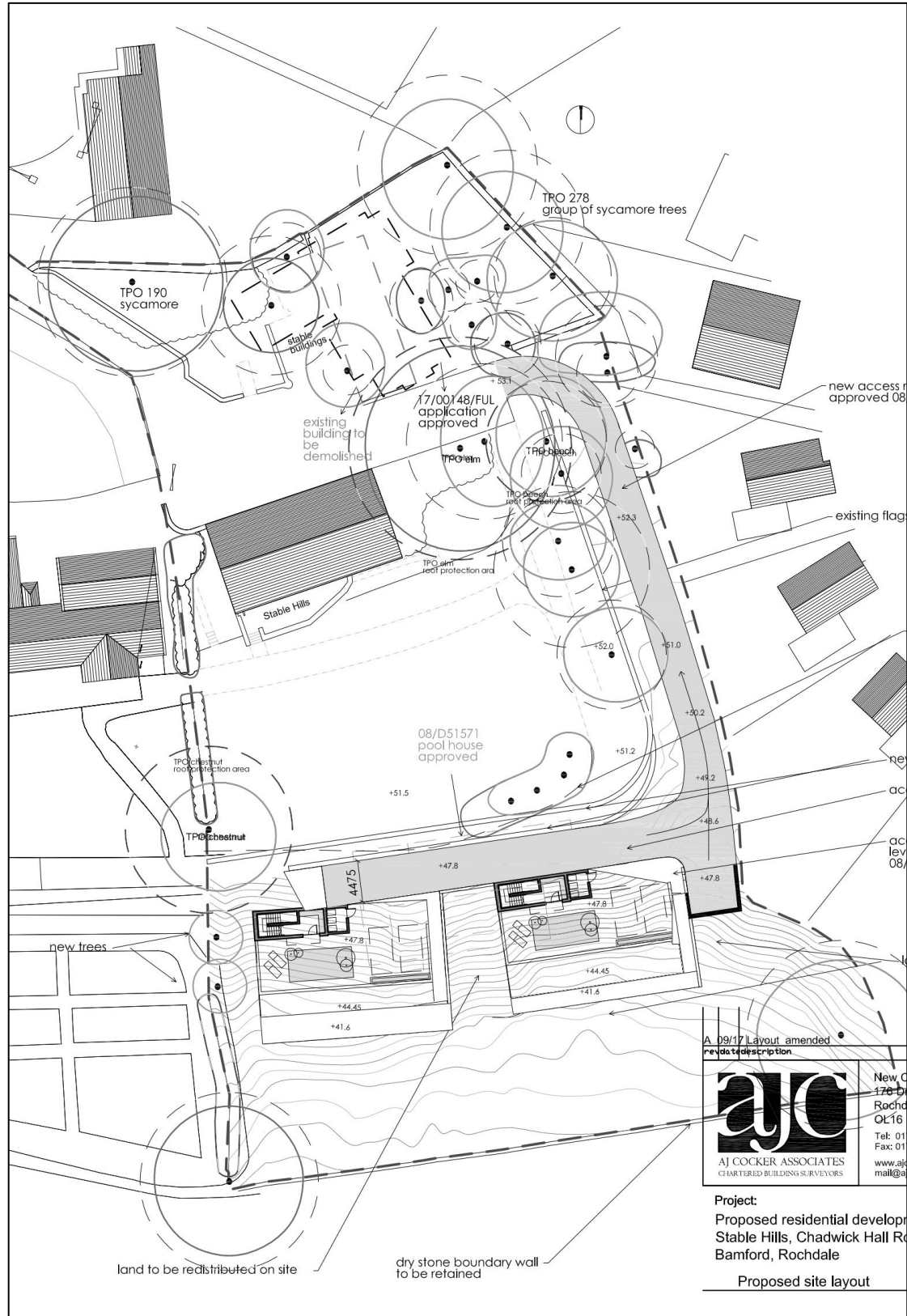
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Existing/Topographic Plan.

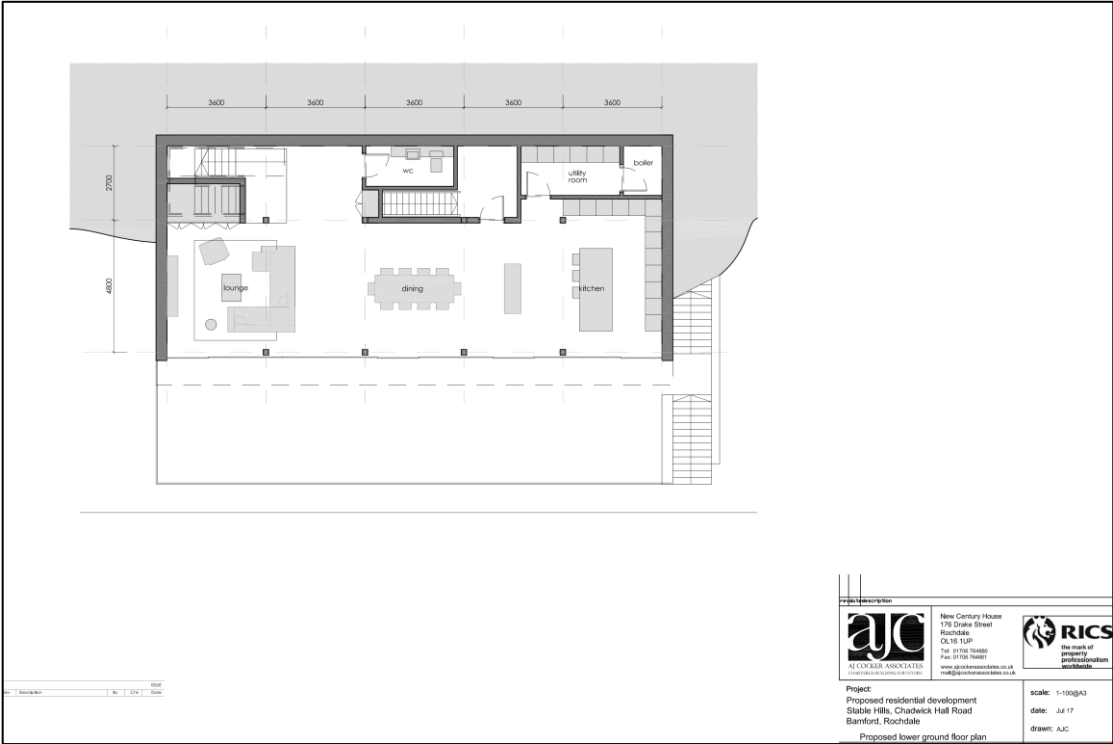
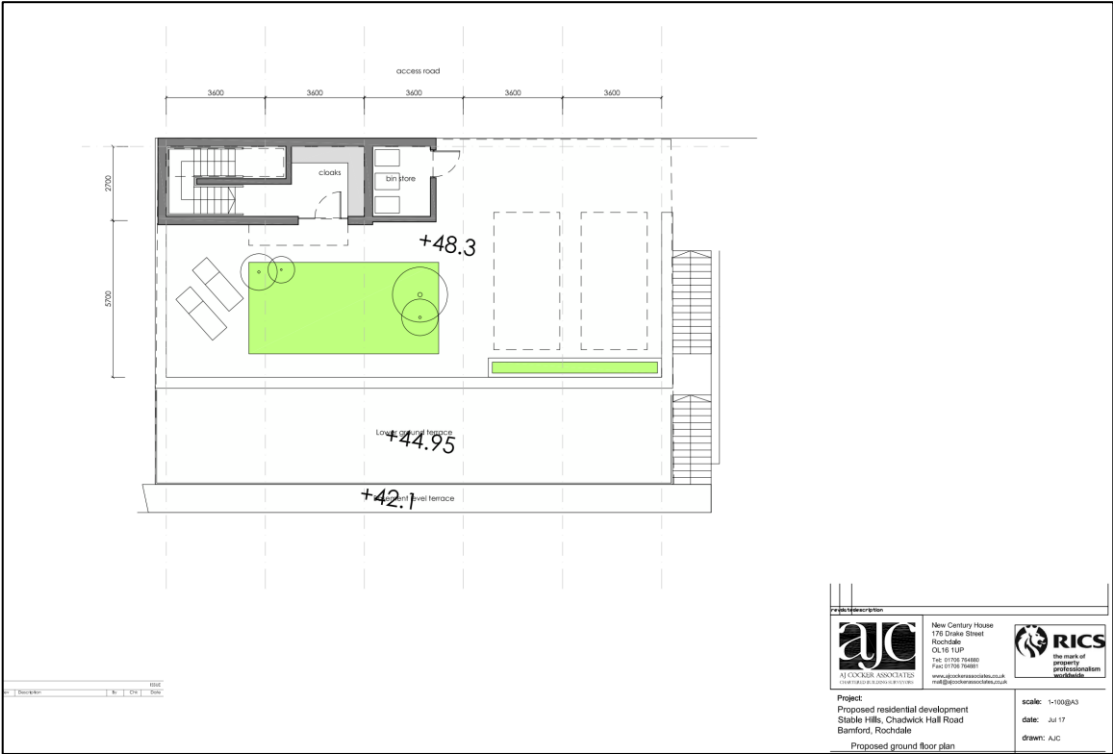


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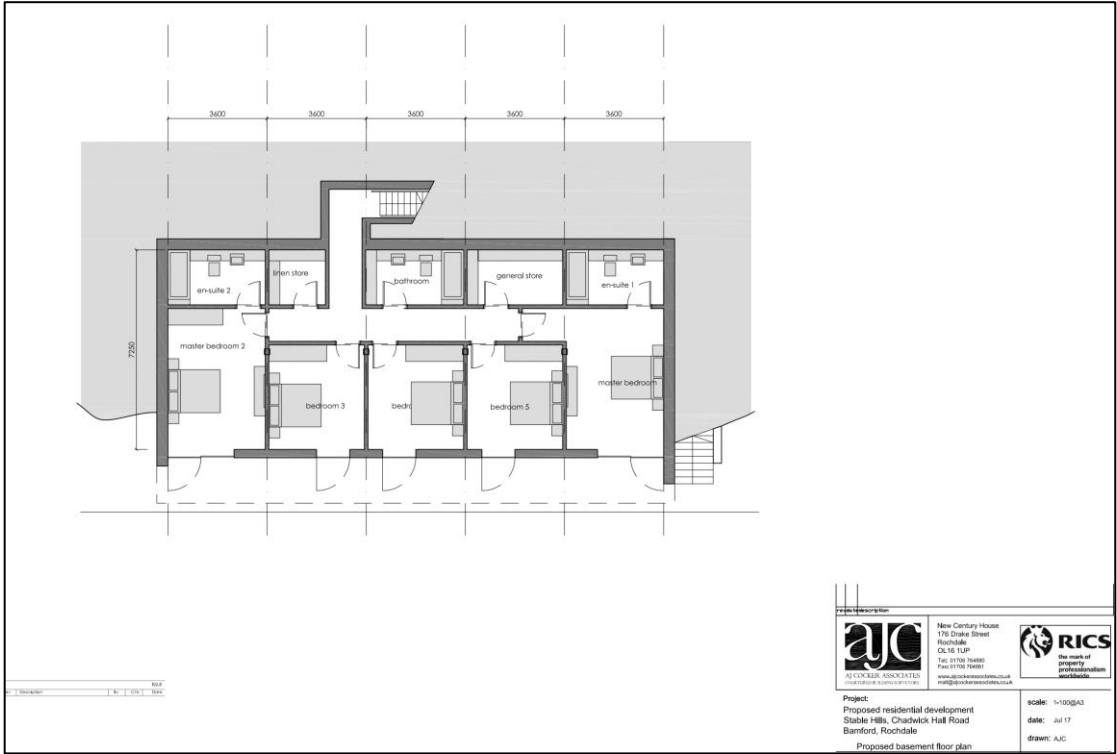
Proposed Plan.



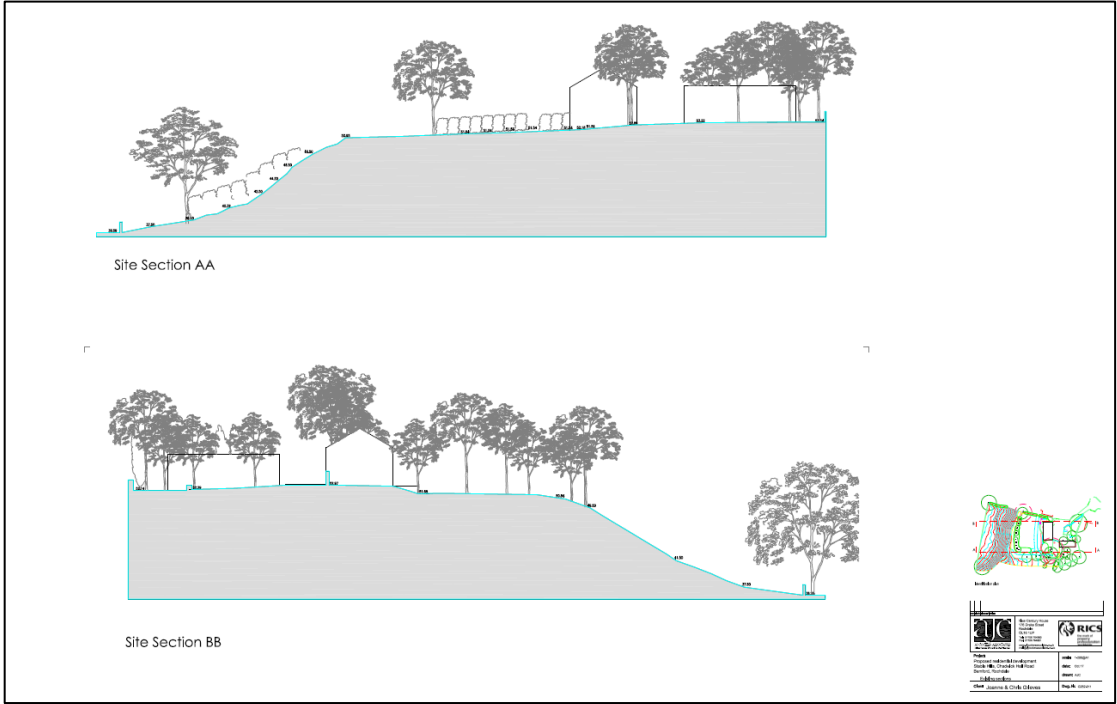
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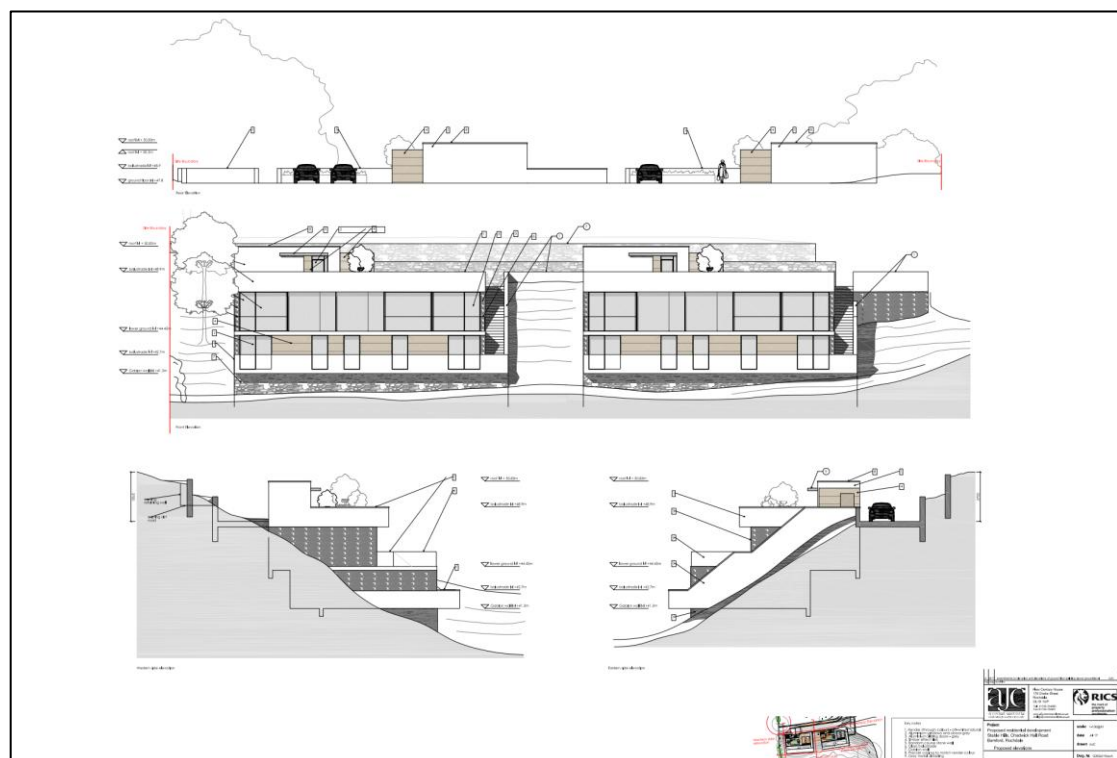
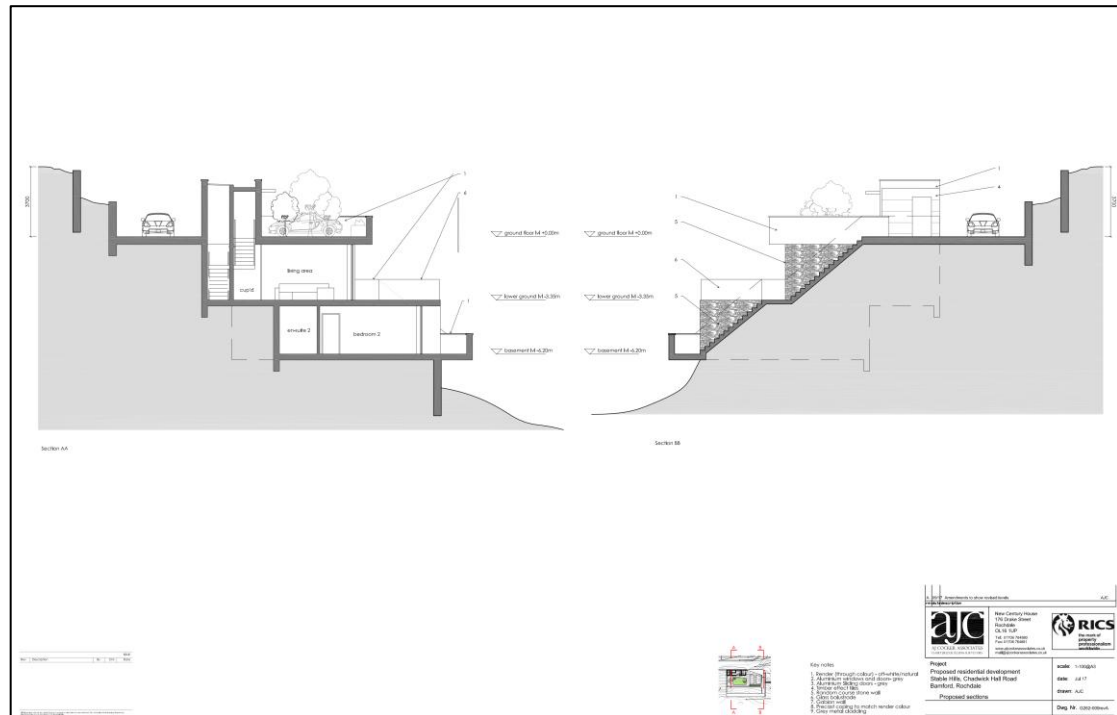
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Existing Cross Sections (2017 topo).

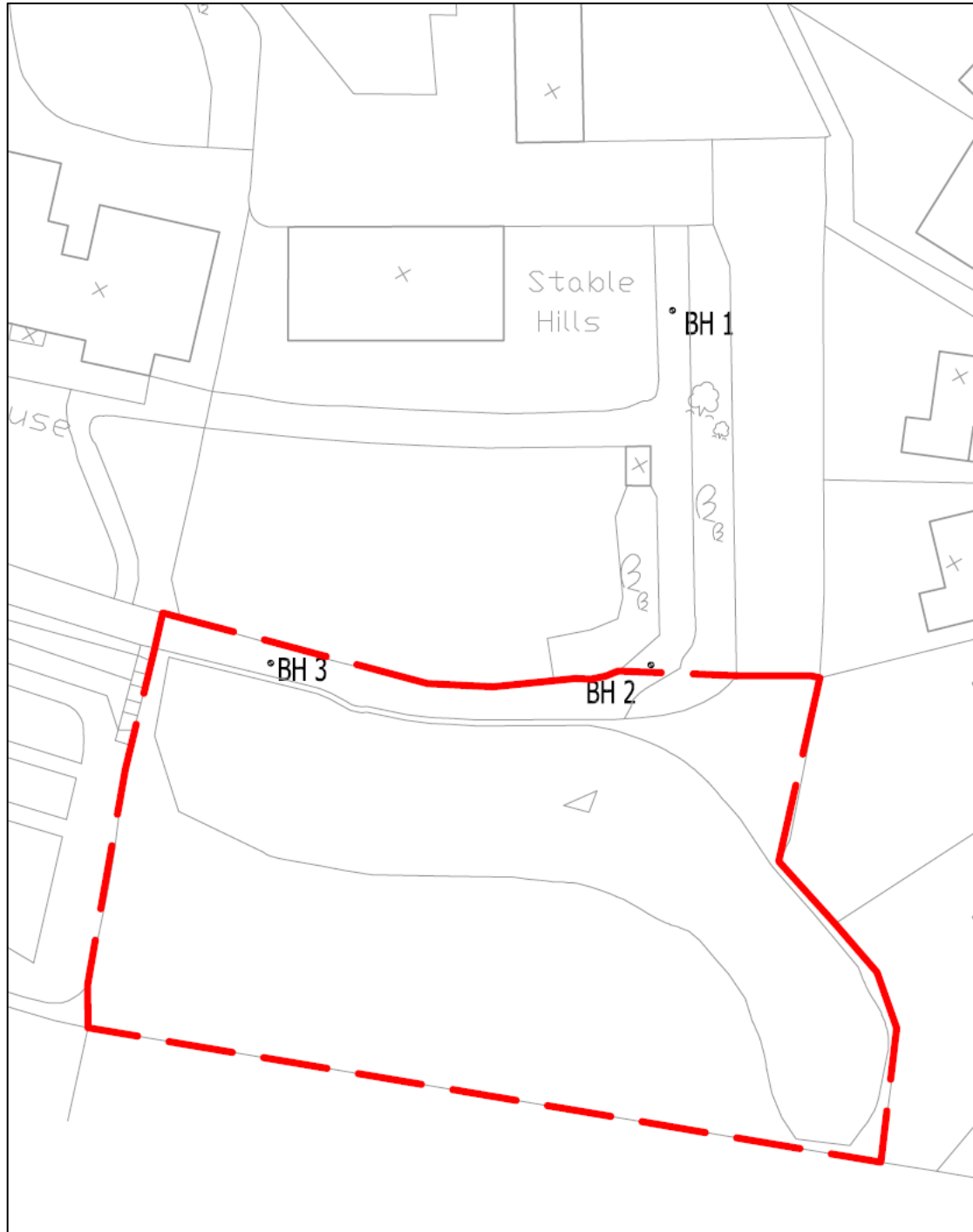


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Site Investigation Plan.



Continued...

Borehole Logs.

MINI ■ SOIL ■ SURVEYS			
MINI SOIL SURVEYS (NORTHERN) LTD 12 Beech Walk, Leigh, Lancs. WN7 3LH		tel. 01942 269769 fax. 01942 262132	
Site:- STABLE HILLS ROCHDALE			
Job No. NTH 009		Date:- 3/7/07 BH No.1 of 3	
Description	Depth	Leg	Test/ Depth Value
Brown/dark brown slightly clayey sand and gravel with cobbles and some cinder. MADE GROUND.			0.4 DS
Loose brown/dark brown medium SAND with some fine gravel and shale fragments. (possibly made ground)	0.60		0.6 DS
			1.2 SPT N = 6
Medium dense becoming dense brown/light brown fine to medium SAND with some stiff clay bands, (not noticable with depth) and some sand and mixed gravel bands	1.50		2.4 SPT N = 15
			3.0 DS
			3.6 SPT N = 19
			4.8 SPT N = 23
			6.0 SPT N = 23
			6.6 SPT N = 33
	7.00		
SPT @ 1.2m 1/1/1,2,1,2 SPT @ 2.4m 3/2/3,4,4,4 SPT @ 3.6m 4/5/4,5,4,6 SPT @ 4.8m 6/6/6,5,6,6 SPT @ 6.0m 6/6/5,6,6,6 SPT @ 6.6m 7/7/8,8,8,9 Borehole wet from casual water on site. Standing water on completion 6.7m			
Key: SPT (standard penetration test). SV (shear vane). DS (disturbed sample). U38 (38mm undisturbed sample).			

Continued...

MINI ■ SOIL ■ SURVEYS			
MINI SOIL SURVEYS (NORTHERN) LTD 12 Beech Walk, Leigh, Lancs. WN7 3LH		tel. 01942 269769 fax. 01942 262132	
Site:- STABLE HILLS ROCHDALE			
Job No. NTH 009		Date:- 3/7/07 BH No.2 of 3	
Description	Depth	Leg	Test/ Depth Value
Loose occasionally medium dense light grey/brown slightly clayey sand and shale fragments with some fragmented coal. MADE GROUND (possibly colliery waste)			0.3 DS
			0.6 DS
			1.2 SPT N = 8
Medium dense wet orange/brown fine to medium SAND with some gravel and laminated clay bands.	2.50		2.4 SPT N = 12
			3.0 DS
			3.6 SPT N = 22
Medium dense becoming dense light brown fine to medium SAND with some gravel bands and weathered sandstone fragments, increasing with depth.	5.50		4.8 SPT N = 16
			6.0 SPT N = 20
			6.6 SPT N = 34
	8.00		7.2 SPT N = 39
SPT @ 1.2m 2/2/2,1,2,3 SPT @ 2.4m 2/3/2,3,3,4 SPT @ 3.6m 4/5/5,6,6,5 SPT @ 4.8m 4/3/4,4,4,4 SPT @ 6.0m 5/5/5,5,5,5 SPT @ 6.6m 7/8/8,9,8,9 SPT @ 7.2m 8/9/9,10,10,10 Water encountered @ 2.5m. Standing on completion @ 3.1m			
Key: SPT (standard penetration test). SV (shear vane). DS (disturbed sample). U38 (38mm undisturbed sample).			

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MINI ■ SOIL ■ SURVEYS 				
MINI SOIL SURVEYS (NORTHERN) LTD 12 Beech Walk, Leigh, Lancs. WN7 3LH Site:- STABLE HILLS ROCHDALE tel. 01942 269769 fax. 01942 262132				
Job No. NTH 009		Date:- 3/7/07		BH No.3 of 3
Description	Depth	Leg	Test/ Depth	Value
Vegetation over brown/dark brown sandy topsoil with gravel and roots. MADE GROUND.			0.3 DS	
Firm brown very sandy CLAY with some mixed gravel and frequent fine to medium sand bands.	0.60		0.6 DS	
			1.2 SPT N = 8	
Medium dense becoming dense brown fine to medium SAND with some firm clay inclusions and mixed gravel bands, increasing with depth.	1.50		2.4 SPT N = 17	
			3.0 DS	
			3.6 SPT N = 21	
			4.8 SPT N = 22	
			6.0 SPT N = 26	
			6.6 SPT N = 34	
	7.00			
SPT @ 1.2m 1/2/2,2,2,2 SPT @ 2.4m 3/4/4,5,4,4 SPT @ 3.6m 5/6/6,5,5,5 SPT @ 4.8m 5/7/5,5,6,6 SPT @ 6.0m 5/6/6,7,6,7 SPT @ 6.6m 7/8/8,10,8,8 Samples moist to 3.0m. No standing water.				
Key: SPT (standard penetration test). SV (shear vane). DS (disturbed sample). U38 (38mm undisturbed sample).				

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Landmark Ground Stability Report (2025).



Envirocheck® Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:

368876837_1_1

Customer Reference:

GSM-stable hills-ground stability-040225

National Grid Reference:

387800, 412670

Slice:

A

Site Area (Ha):

0.23

Search Buffer (m):

1000

Site Details:

Land at Stable Hills
off Chadwick Hall Road
Rochdale
OL11 4DD

Client Details:

Mr T Booth
TJ Booth Associates
20a Eastgate Street
Rochdale
Lancashire
OL16 1DH



Order Number: 368876837_1_1

Date: 04-Feb-2025

rpr_ec_datasheet v53.0

A Landmark Information Group Service

Report Section and Details	Page Number
Summary	-
The Summary section provides an overview of the data contained within the report, detailing the number of data set features or the existence of a data set in relation to the buffer selected. For ease of reference, the report is broken down into 4 sections of data; Mining and Natural Cavities Data, Historical Land Use Information (1:2,500), Historical Land Use Information (1:10,000) and Ground Stability Data (1:50,000).	
Mining and Natural Cavities Data	1
The Mining and Natural Cavities Data section features data sets related to the existence of mining areas and their potential hazards; and details of naturally formed cavities. Data sets within this section are not plotted, with the exception of BGS Recorded Mineral Sites and Potential Mining Areas which feature on the Historical Land Use Information (1:10,000) map.	
Historical Land Use Information (1:2,500)	6
The Historical Land Use Information (1:2,500) section contains data captured from analysis carried out by Landmark of 1:1,250 and 1:2,500 scale historical Ordnance Survey mapping, identifying areas where, historically, the land uses were potentially contaminative. For the purpose of this Envirocheck module, only historical data relating to mining and ground stability has been included and plotted on the corresponding Historical Land Use Information (1:2,500) map. This section also includes the Subterranean Features data set, which details various man-made and man-used underground spaces obtained from the Subterranea Britannica society.	
Historical Land Use Information (1:10,000)	7
The Historical Land Use (1:10,000) section covers data captured from the systematic analysis carried out by Landmark of 1:10, 560 and 1:10,000 scale historical Ordnance Survey mapping dating back to the mid-19th century, identifying potentially contaminative past industrial land uses. For the purpose of this Envirocheck module, only data relating to mining and ground stability has been included and plotted on the accompanying Historical Land Use Information (1:10,000) map.	
Ground Stability Data (1:50,000)	11
The Ground Stability (1:50,000) section includes the BGS Geosure data suite, reporting features to 250m and plotted onto 3 separate maps. Also reported is brine subsidence, brine mining and salt mining data sets, of which Brine Pumping and Salt Mining Related Features are plotted, and subsidence insurance claims and insurance investigations data, which is not plotted.	
Historical Map List	13
The Historical Map List section details the historical mapping that has been analysed for your site, in relation to the Historical Land Use Information sections.	
Data Currency	14
Data Suppliers	15
Useful Contacts	16

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The brine subsidence data relating to the Droitwich area as provided in this report is derived from JPB studies and physical monitoring undertaken annually over more than 35 years. For more detailed interpretation contact enquiries@jpb.co.uk. JPB retain the copyright and intellectual rights to this data and accept no liability for any loss or damage, including in direct or consequential loss, arising from the use of this data.

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Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Mining and Natural Cavities Data					
BGS Recorded Mineral Sites	pg 1		1	1	11
Coal Mining Affected Areas	pg 3	Yes	n/a	n/a	n/a
Man Made Mining Cavities					
Mining Instability	pg 3	Yes	n/a	n/a	n/a
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential Mining Areas	pg 3	1	2	7	7
Historical Land Use Information (1:2,500)					
Extractive Industries or Potential Excavations from 1855-1909 (100m)	pg 6		1	n/a	n/a
Extractive Industries or Potential Excavations from 1893-1915 (100m)	pg 6		1	n/a	n/a
Extractive Industries or Potential Excavations from 1906-1937 (100m)	pg 6		1	n/a	n/a
Extractive Industries or Potential Excavations from 1924-1949 (100m)				n/a	n/a
Extractive Industries or Potential Excavations from 1950-1980 (100m)				n/a	n/a
Subterranean Features (100m)				n/a	n/a
Historical Land Use Information (1:10,000)					
Air Shafts					
Disturbed Ground	pg 7				1
General Quarrying	pg 7				3
Heap, unknown constituents	pg 7				4
Mineral Railway					
Mining & quarrying general	pg 7			1	2
Mining of coal & lignite	pg 7			1	5
Quarrying of sand & clay, operation of sand & gravel pits	pg 7		1		10
Former Marshes	pg 8				1
Potentially Infilled Land (Non-Water)	pg 8		1	2	22
Potentially Infilled Land (Water)	pg 9		1	1	18
Ground Stability Data (1:50,000)					
CBSCB Compensation District			n/a	n/a	n/a
Brine Pumping Related Features					
Brine Subsidence Solution Area					
Potential for Collapsible Ground Stability Hazards	pg 11	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 11	Yes	Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 11	Yes		n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 11	Yes	Yes	n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 11	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 12	Yes	Yes	n/a	n/a
Salt Mining Related Features					

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Summary

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Mining and Natural Cavities Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	BGS Recorded Mineral Sites Site Name: Hill House Gravel Pit Location: Broadhalgh, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96523 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Old Lawrence Rock Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	89	1	387747 412776
2	BGS Recorded Mineral Sites Site Name: Sandy Brow Sand Pit Location: Mitchell Hey, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96435 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	413	1	388128 412973
3	BGS Recorded Mineral Sites Site Name: Marland Sand Pit Location: Marland, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96522 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	676	1	387182 412313
3	BGS Recorded Mineral Sites Site Name: Marland Location: Marland, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96521 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7NE (SW)	679	1	387165 412338
4	BGS Recorded Mineral Sites Site Name: Sandy Brow Sand Pit Location: Mitchell Hey, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 243047 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	775	1	388460 413134
5	BGS Recorded Mineral Sites Site Name: Sandy Brow Sand Pit Location: Mitchell Hey, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96505 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	825	1	388196 413434

Continued...

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	BGS Recorded Mineral Sites Site Name: Meadow Croft Location: Broadhalgh, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96508 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A12NW (W)	846	1	386947 412914
7	BGS Recorded Mineral Sites Site Name: Brimrod Brick Field Location: Mitchell Hey, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 243051 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	890	1	388591 412193
8	BGS Recorded Mineral Sites Site Name: West Hill Gravel Pit Location: Mitchell Hey, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 243048 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand and Gravel Positional Accuracy: Located by supplier to within 10m	A14SE (E)	902	1	388735 412612
9	BGS Recorded Mineral Sites Site Name: Oaken House Sand Pit Location: Mitchell Hey, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96507 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	933	1	388639 413145
10	BGS Recorded Mineral Sites Site Name: Sandy Brow Sand Pit Location: Mitchell Hey, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96506 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A19NW (NE)	934	1	388357 413464
11	BGS Recorded Mineral Sites Site Name: Oaken House Sand Pit Location: Mitchell Hey, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96503 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: Glaciofluvial Deposits, Devensian Commodity: Sand Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	952	1	388631 413197

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	BGS Recorded Mineral Sites Site Name: Ping Wood Location: Marland, Rochdale, Lancashire Source: British Geological Survey, National Geoscience Information Service Reference: 96520 Type: Opencast Status: Ceased Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Carboniferous Geology: Pennine Lower Coal Measures Formation Commodity: Sandstone Positional Accuracy: Located by supplier to within 10m	A7NW (SW)	975	1	386969 412092
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13SW (NW)	0	2	387797 412675
	Mining Instability Mining Evidence: Inconclusive Coal Mining Source: Ove Arup & Partners Boundary Quality: As Supplied	A13SW (NW)	0	3	387797 412675
	Non Coal Mining Areas of Great Britain No Hazard				
13	Potential Mining Areas Name: Chadwick Hall Ceased Operation: 1873 Commodity: Not Supplied Reference: 2139 Alternate: Tunnel Name/Mine: Not Supplied Custodian: Not Supplied	A13SW (NW)	0	4	387797 412675
14	Potential Mining Areas Name: Chadwick Hall Ceased Operation: 1857 Commodity: Coal; Seam unnamed Reference: Not Supplied Alternate: Not Supplied Name/Mine: Not Supplied Custodian: Geo. Heywood Son and Hughes, Queen Street, Oldham.	A13NW (N)	59	4	387780 412748
15	Potential Mining Areas Name: Norden Ceased Operation: Not Supplied Commodity: Coal Reference: Not Supplied Alternate: Not Supplied Name/Mine: Not Supplied Custodian: Not Supplied	A13NW (N)	59	4	387780 412748
16	Potential Mining Areas Name: Brimrod Ceased Operation: 1867 Commodity: Coal; Royley Reference: Not Supplied Alternate: Not Supplied Name/Mine: Not Supplied Custodian: The Borough Surveyor, Town Hall, Rochdale.	A14SW (E)	348	4	388182 412672
17	Potential Mining Areas Name: Sparth Bottoms Ceased Operation: 1849 Commodity: Coal; Probably Royley Reference: Not Supplied Alternate: Not Supplied Name/Mine: Not Supplied Custodian: Geo. Heywood Son and Hughes, Queen Street, Oldham.	A14SW (E)	348	4	388182 412672
18	Potential Mining Areas Name: Rochdale and Sparth Bottoms Ceased Operation: 1852 Commodity: Coal; Royley Reference: Not Supplied Alternate: Not Supplied Name/Mine: Not Supplied Custodian: The Borough Surveyor, Town Hall, Rochdale.	A14SW (E)	348	4	388182 412672

Continued...

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	Potential Mining Areas Name: Sparth Bottoms Ceased Operation: 1851 Commodity: Coal; Royley Reference: Not Supplied Alternate: Not Supplied Name/Mine: Winstanley and Ashworth, 42 Deansgate, Manchester.A. Knowles and Sons Ltd., Pendlebury, Manchester. Custodian:	A14SW (E)	348	4	388182 412672
20	Potential Mining Areas Name: Rochdale Ceased Operation: Not Supplied Commodity: Coal; Seam unnamed Reference: Not Supplied Alternate: Not Supplied Name/Mine: Winstanley and Ashworth, 42 Deansgate, Manchester. Custodian:	A14SW (E)	348	4	388182 412672
21	Potential Mining Areas Name: Meadowcroft Ceased Operation: 1853 Commodity: Coal; Seam unnamed Reference: Not Supplied Alternate: Deep Name/Mine: Winstanley and Ashworth, 42 Deansgate, Manchester. Custodian:	A12NE (W)	385	4	387377 412679
22	Potential Mining Areas Name: Hill House Ceased Operation: Not Supplied Commodity: Coal; Mountain Reference: Not Supplied Alternate: Not Supplied Name/Mine: Henry Yarwood, Heybrook House, Rochdale. Custodian:	A18SE (N)	450	4	387801 413150
23	Potential Mining Areas Name: Rochdale (District) Ceased Operation: 1835 Commodity: Coal; Probably Royley Reference: Not Supplied Alternate: Coptrod Name/Mine: The Borough Surveyor, Town Hall, Rochdale. Custodian:	A19SW (NE)	578	4	388186 413147
24	Potential Mining Areas Name: Smethurst Hall Ceased Operation: 1931 Commodity: Fireclay Reference: 10323 Alternate: Nos. 1, 2 Name/Mine: Not Supplied Custodian:	A8SW (S)	711	4	387790 411944
25	Potential Mining Areas Name: Birtle-cum-Bamford Ceased Operation: Not Supplied Commodity: Coal Reference: Not Supplied Alternate: Not Supplied Name/Mine: Not Supplied Custodian:	A12NW (W)	789	4	386976 412755
26	Potential Mining Areas Name: Heywood Ceased Operation: Not Supplied Commodity: Coal Reference: Not Supplied Alternate: Not Supplied Name/Mine: Not Supplied Custodian:	A12SW (W)	848	4	386972 412353
27	Potential Mining Areas Name: Holmes Ceased Operation: 1874 Commodity: Coal; Royley Reference: 115 Alternate: Not Supplied Name/Mine: Not Supplied Custodian:	A19SE (NE)	888	4	388588 413143

Continued...

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	Potential Mining Areas Name: Fentons Ceased Operation: Not Supplied Commodity: Coal; Seam unnamed Reference: Not Supplied Alternate: Not Supplied Name/Mine: Custodian: E.H. Taylor, Market Steps, Yorkshire Street, Rochdale.	A19SE (NE)	888	4	388588 413143
29	Potential Mining Areas Name: Bagslate Moor and Whittaker Moss Ceased Operation: 1892 Commodity: Coal; Sand Rock Reference: 2748 Alternate: Berry Name/Mine: Alternate: New Name/Mine: Custodian: Not Supplied	A17NE (NW)	946	4	387385 413556

Continued...

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	Extractive Industries or Potential Excavations from 1855-1909 Use: Roch Mills Sewage Farm First Map Published 1890 Date: Last Map Published Not Applicable Date:	A13SW (S)	64	-	387794 412594
31	Extractive Industries or Potential Excavations from 1893-1915 Use: Sewage Farm (Rochdale Corporation) First Map Published 1910 Date: Last Map Published Not Applicable Date:	A13SW (S)	65	-	387791 412593
32	Extractive Industries or Potential Excavations from 1906-1937 Use: Sewage Farm (Rochdale Corporation) First Map Published 1930 Date: Last Map Published 1930 Date:	A13SW (S)	65	-	387794 412593

Continued...

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
33	Disturbed Ground Use: Not Supplied Date of Mapping: 1851	A12SE (W)	555	-	387211 412607
34	General Quarrying Use: Not Supplied Date of Mapping: 1851	A7NE (SW)	680	-	387167 412331
35	General Quarrying Use: Not Supplied Date of Mapping: 1851	A12NW (W)	841	-	386951 412914
36	General Quarrying Use: Not Supplied Date of Mapping: 1851	A7NW (SW)	932	-	387012 412105
37	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1932	A19SW (NE)	770	-	388358 413249
38	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1956	A19SW (NE)	780	-	388372 413250
39	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1932	A14NE (E)	820	-	388598 412967
40	Heap, unknown constituents Use: Not Supplied Date of Mapping: 1911	A14SE (E)	980	-	388787 412436
41	Mining & quarrying general Use: Not Supplied Date of Mapping: 1894	A13NW (NW)	388	-	387513 412986
42	Mining & quarrying general Use: Not Supplied Date of Mapping: 1894	A9NE (SE)	879	-	388533 412129
43	Mining & quarrying general Use: Not Supplied Date of Mapping: 1851	A12NW (W)	891	-	386874 412763
44	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1851	A12SE (W)	473	-	387291 412631
45	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1894	A17SE (NW)	611	-	387416 413191
46	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1851	A14SE (E)	836	-	388670 412673
47	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1851	A12NW (W)	892	-	386887 412860
48	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1851	A14NE (E)	902	-	388734 412728
49	Mining of coal & lignite Use: Not Supplied Date of Mapping: 1851	A17NE (NW)	911	-	387247 413440
50	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1851	A13NW (NW)	85	-	387751 412773
51	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1851	A7NE (SW)	678	-	387183 412307
52	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1894	A19SW (NE)	767	-	388450 413135
53	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1851	A19NW (NE)	826	-	388201 413432

Continued...

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
54	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1894	A9NE (SE)	845	-	388526 412177
55	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1851	A19SE (NE)	928	-	388637 413137
56	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1851	A19NW (NE)	935	-	388359 413463
57	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1851	A9NE (SE)	935	-	388663 412229
58	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1851	A19SE (NE)	951	-	388631 413194
59	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1911	A8SW (S)	951	-	387726 411705
60	Quarrying of sand & clay, operation of sand & gravel pits Use: Not Supplied Date of Mapping: 1894	A14SE (E)	952	-	388777 412536
61	Former Marshes Use: Former Marsh Date of Mapping: 1894	A19SW (NE)	918	-	388469 413348
62	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A13NW (NW)	85	-	387751 412773
63	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A13NW (NW)	388	-	387513 412986
64	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12SE (W)	473	-	387291 412631
65	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A17SE (NW)	611	-	387416 413191
66	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7NE (SW)	678	-	387183 412307
67	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7NE (SW)	680	-	387167 412331
68	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A19SW (NE)	767	-	388450 413135
69	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A19NW (NE)	826	-	388201 413432
70	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A14SE (E)	836	-	388670 412673
71	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12NW (W)	841	-	386951 412914
72	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A9NE (SE)	845	-	388526 412177
73	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A9NE (SE)	854	-	388542 412185
74	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A9NE (SE)	879	-	388533 412129

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
75	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12NW (W)	891	-	386874 412763
76	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12NW (W)	892	-	386887 412860
77	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A14NE (E)	902	-	388734 412728
78	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A17NE (NW)	911	-	387247 413440
79	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A19SE (NE)	928	-	388637 413137
80	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A7NW (SW)	932	-	387012 412105
81	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A19NW (NE)	935	-	388359 413463
82	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A9NE (SE)	935	-	388663 412229
83	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A19SE (NE)	951	-	388631 413194
84	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A8SW (S)	951	-	387726 411705
85	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A14SE (E)	952	-	388777 412536
86	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A14NE (E)	988	-	388785 412934
87	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13NW (NW)	152	-	387693 412823
88	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A14NW (E)	397	-	388224 412737
89	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1851	A14NW (E)	583	-	388367 412904
90	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1851	A19SW (NE)	631	-	388196 413206
91	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (NE)	635	-	388216 413195
92	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A14NW (E)	652	-	388463 412841
93	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1851	A14NW (NE)	668	-	388441 412950
94	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1911	A17SE (NW)	694	-	387309 413214
95	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A18NW (N)	702	-	387713 413394

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
96	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A18NE (N)	713	-	387866 413412
97	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (NE)	726	-	388345 413201
98	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A9SW (SE)	821	-	388177 411916
99	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A9SW (SE)	832	-	388170 411900
100	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A9SW (SE)	894	-	388404 411973
101	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1851	A12NW (W)	896	-	386873 412795
102	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A9NE (SE)	903	-	388496 412048
103	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1911	A17SW (NW)	926	-	386918 413070
104	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1851	A9SW (SE)	952	-	388264 411812
105	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1932	A19SE (NE)	995	-	388585 413335
106	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1851	A9SW (SE)	999	-	388213 411738

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Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
107	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	387797 412675
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	83	1	387764 412670
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	106	1	387658 412705
108	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	83	1	387764 412670
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	387797 412675
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	387797 412675
109	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	387797 412675
110	Potential for Landslide Ground Stability Hazards Hazard Potential: High Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	3	1	387794 412649
111	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	11	1	387826 412650
112	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	77	1	387693 412722
113	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	83	1	387764 412670
114	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	106	1	387658 412705
115	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	125	1	387678 412565
116	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	137	1	387646 412587
117	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	184	1	387579 412710
118	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	218	1	387781 412438
119	Potential for Landslide Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	242	1	387540 412565
120	Potential for Landslide Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (W)	242	1	387524 412633
121	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	387797 412675

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Ground Stability Data (1:50,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
122	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	83	1	387764 412570
123	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	174	1	387720 412486
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	3	1	387794 412649
124	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (SW)	8	1	387777 412639
125	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	184	1	387579 412710
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (NW)	0	1	387797 412675

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The following mapping has been analysed for Historical Land Use Information (1:2,500):

1:2,500	Mapsheets	Published Date
Lancashire And Furness	088_08	1890
Lancashire And Furness	088_04	1893
Lancashire And Furness	088_04	1910
Lancashire And Furness	088_08	1910
Lancashire And Furness	088_04	1930
Lancashire And Furness	088_08	1930
Ordnance Survey Plan	SD8812	1958

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheets	Published Date
Lancashire And Furness	088_00	1851
Yorkshire	258_00	1854
Lancashire And Furness	088_NE	1894
Lancashire And Furness	088_NE	1911
Lancashire And Furness	088_NE	1932
Ordnance Survey Plan	SD81SE	1956
1:10,000	Mapsheets	Published Date
Ordnance Survey Plan	SD81SE	1993

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Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	March 2024	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	February 2023	Annual Rolling Update
Man Made Mining Cavities Stantec UK Ltd	December 2023	Bi-Annually
Mining Instability Ove Arup & Partners	June 1998	Not Applicable
Natural Cavities Stantec UK Ltd	December 2023	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	Version	Update Cycle
Subterranean Features Landmark Information Group Limited	July 2023	Bi-Annually
Ground Stability Data (1:50,000)	Version	Update Cycle
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB) Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011 November 2020	As notified
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	As notified
Brine Subsidence Solution Area Johnson Poole & Bloomer	December 2020	

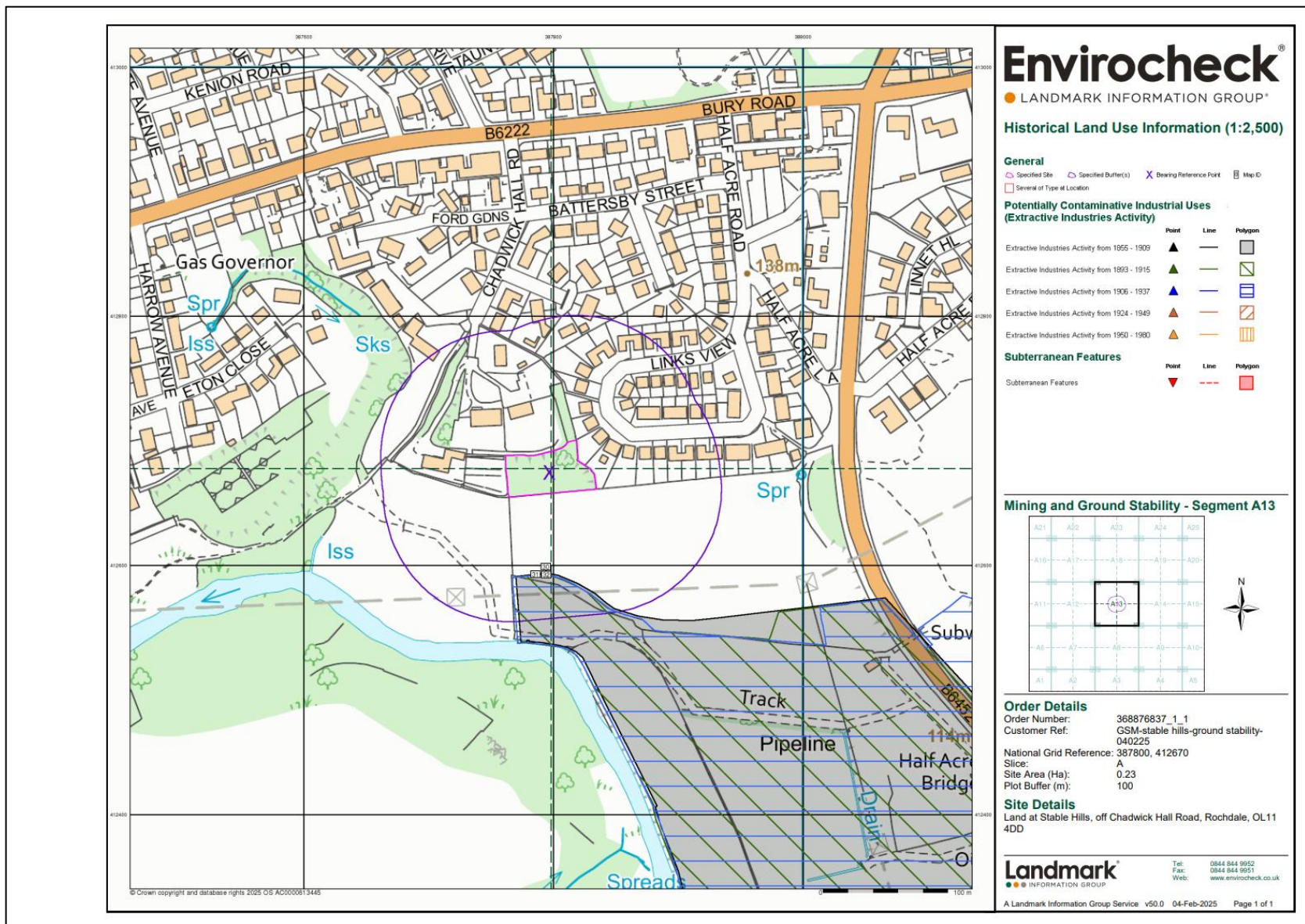
A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	 British Geological Survey NATURAL ENVIRONMENT RESEARCH COUNCIL
The Coal Authority	 The Coal Authority
Ove Arup	
Stantec UK Ltd	
Wardell Armstrong	
Johnson Poole & Bloomer	

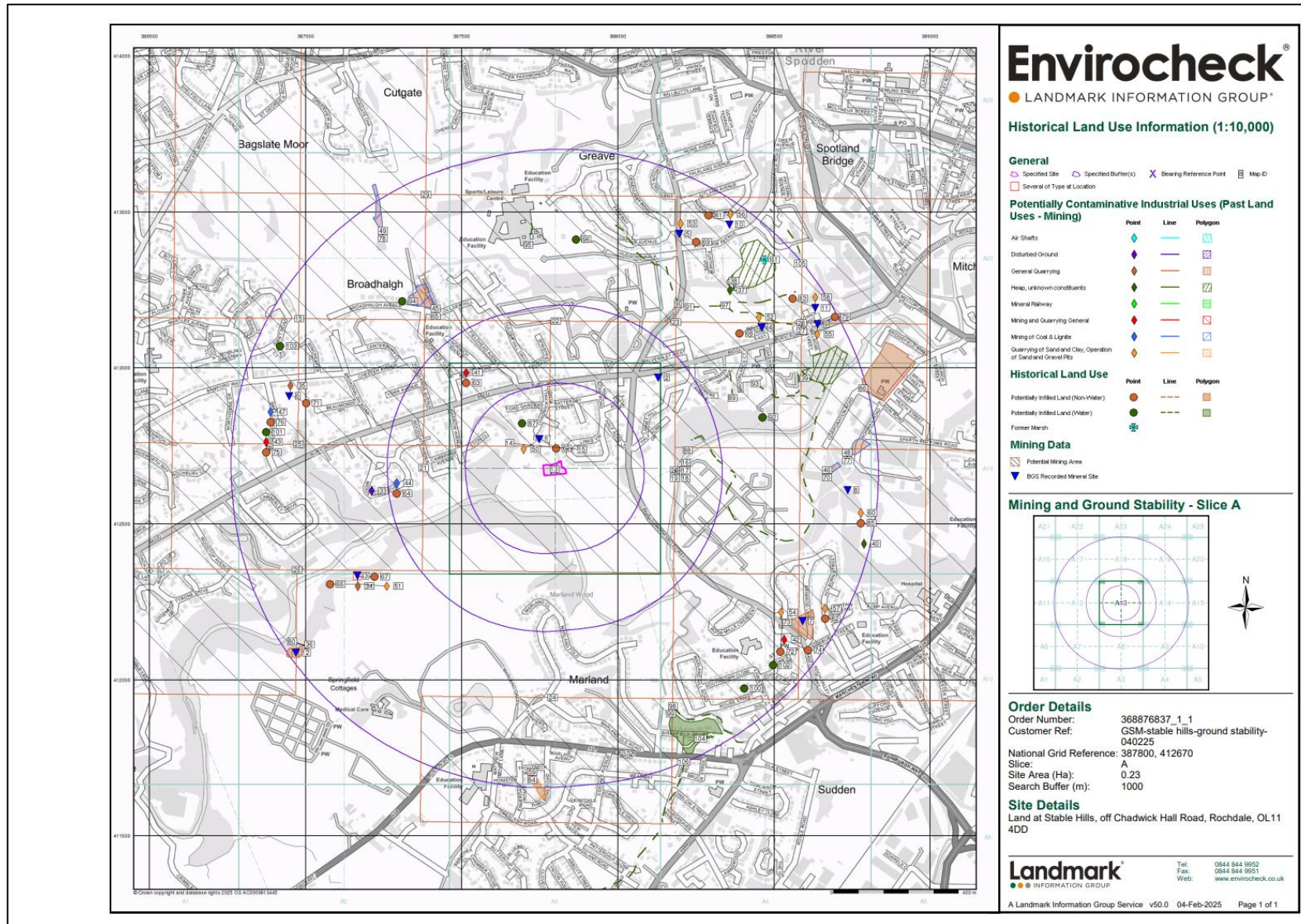
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Contact	Name and Address	Contact Details
1	British Geological Survey - Enquiry Service British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	The Coal Authority - Property Searches 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
3	Ove Arup & Partners Central Square, Forth Street, Newcastle upon Tyne, Tyne and Wear, NE1 3PL	Telephone: 0191 261 6080 Fax: 0191 261 7879
4	Landmark Information Group Limited Landmark Information Group, Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0330 036 6627 Fax: 0844 844 9951 Email: customerservice@promap.co.uk Website: www.landmark.co.uk
-	Landmark Information Group Limited Landmark Information Group, Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0330 036 6618 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk

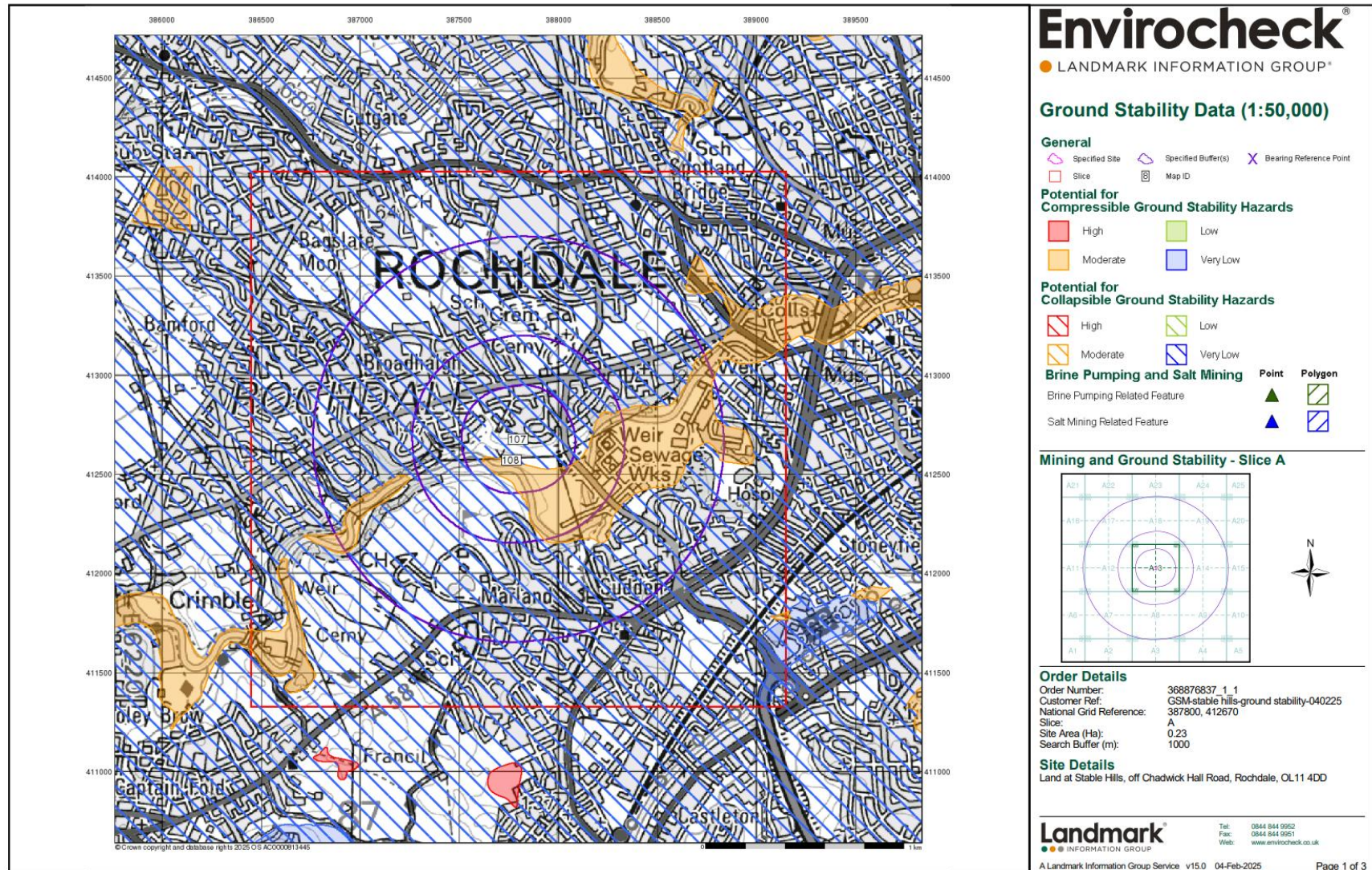
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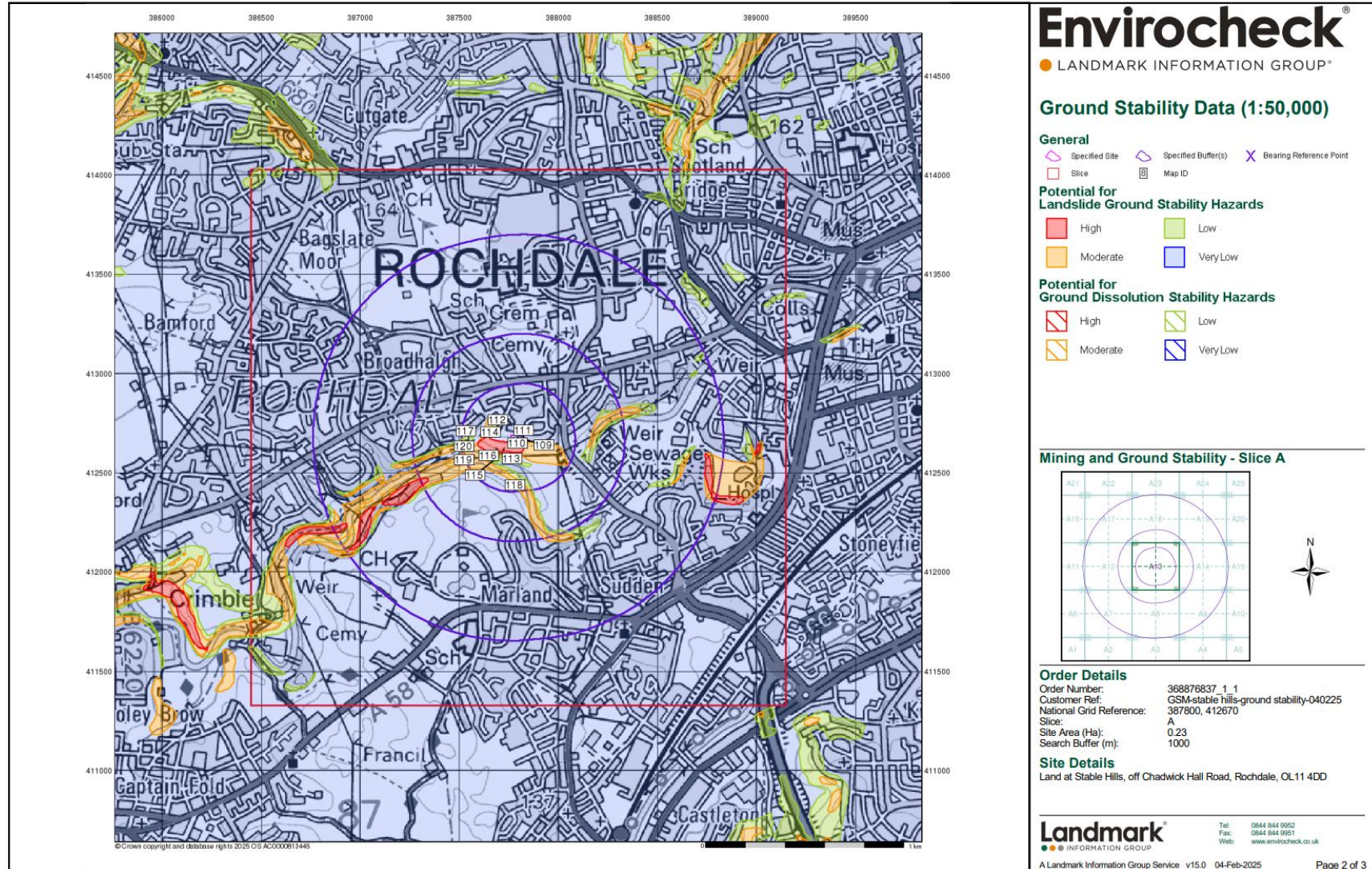
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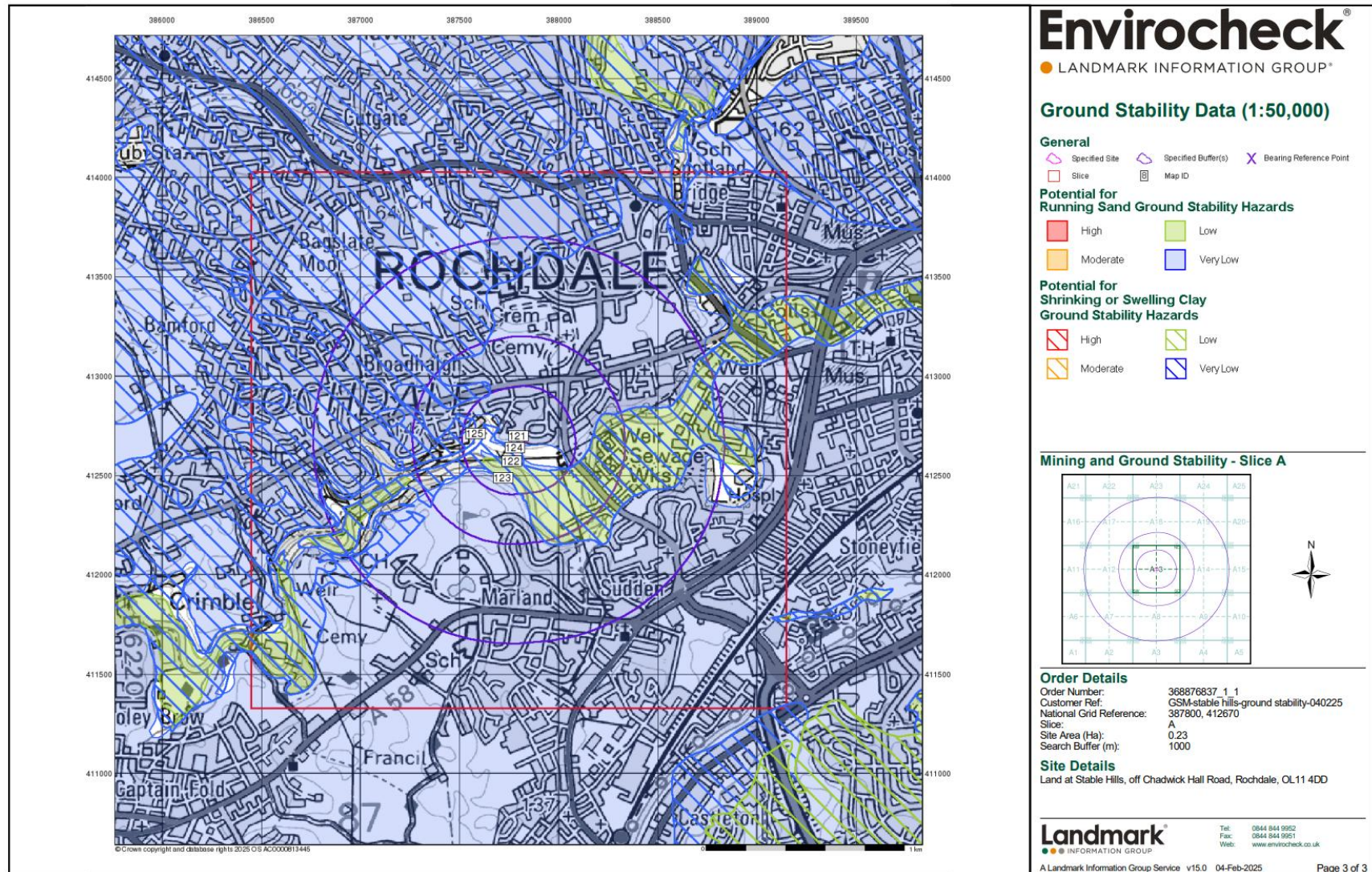
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Landmark Motion Map (2017).

