EmapSite

Masdar House, 1 Reading Road,
Eversley, RG27 0RP

Report Reference: EMS-530230_713173

Your Reference: EMS_530230_713173

Report Date 4 Mar 2019

Report Delivery Method: Email - pdf

Geo Insight

Address: Castle Street Buildings, Waterhouse Lane, Hull, HU1 2DA,

Dear Sir/ Madam,

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

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
Groundsure Geo Insight

Geo Insight

Address:	**Castle Street Buildings, Waterhouse Lane, Hull, HU1 2DA,**
Date:	**4 Mar 2019**
Reference:	**EMS-530230_713173**
Client:	**EmapSite**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	20-Apr-2016
Grid Reference:	509512,428484
Site Size:	0.2805ha

Groundsure
LOCATION INTELLIGENCE

emapsite™

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Overview of Findings

The Groundsure Geo Insight 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 and 1:10,000 Digital Geological Map of Great Britain, BGS Geosure data; BRITPITS database; Non-coal 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 1:10,000 Scale		
1.1 Artificial Ground	1.1 Is there any Artificial Ground/ Made Ground present beneath the study site at 1:10,000 scale?	No
1.2 Superficial Geology and Landslips	1.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site at 1:10,000 scale?*	Yes
	1.2.2 Are there any records of landslip within 500m of the study site boundary at 1:10,000 scale?	No
1.3 Bedrock, Solid Geology and linear features	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 of linear features within 500m of the study site boundary at 1:10,000 scale?	No

Section 2: Geology 1:50,000 Scale		
2.1 Artificial Ground	2.1.1 Is there any Artificial Ground/ Made Ground present beneath the study site?	No
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	No
2.2 Superficial Geology and Landslips	2.2.1 Is there any Superficial Ground/Drift Geology present beneath the study site?*	Yes
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	Yes
	2.2.3 Are there any records of landslip within 500m of the study site boundary?	No
	2.2.4 Are there any records relating to permeability of landslips within the study site* boundary?	No

Section 2: Geology 1:50,000 Scale

2.3 Bedrock, Solid Geology and linear features	2.3.1 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.	
	2.3.2 Are there any records relating to permeability of bedrock ground within the study site boundary?	Yes
	2.3.3 Are there any records of linear features within 500m of the study site boundary?	No

Section 3: Radon

3. Radon	3.1Is 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.
	3.2Radon Protection	No radon protective measures are necessary.

Section 4: Ground Workings	On-site	0-50m	51-250	251-500	501-1000
4.1 Historical Surface Ground Working Features from Small Scale Mapping	8	21	11	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	0	0
4.3 Current Ground Workings	0	0	0	0	1

Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	0	0
5.2 Coal Mining	0	0	0	0	0
5.3 Johnson Poole and Bloomer Mining Area	0	0	0	0	0
5.4 Non-Coal Mining*	0	0	0	0	0
5.5 Non–Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.6 Brine Extraction	0	0	0	0	0
5.7 Gypsum Extraction	0	0	0	0	0
5.8 Tin Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0

Section 6: Natural Ground Subsidence	On-site
6.1 Shrink-Swell Clay	Low
6.2 Landslides	Very Low
6.3 Ground Dissolution of Soluble Rocks	Negligible
6.4 Compressible Deposits	Moderate
6.5 Collapsible Deposits	Negligible
6.5 Running Sand	Moderate

Section 7: Borehole Records	On-site	0-50m	51-250
7 BGS Recorded Boreholes	2	13	162

Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250
8 Records of Background Soil Chemistry	4	0	0

Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500
9.1 Tunnels	0	0	0	Not Searched
9.2 Historical Railway and Tunnel Features	0	11	26	Not Searched
9.3 Historical Railways	0	0	0	Not Searched
9.4 Active Railways	0	0	0	Not Searched
9.5 Railway Projects	0	0	0	0

1:10,000 Scale Availability

1_10,000 Availability Legend

Site Outline

Full Coverage

Partial Coverage

No Coverage

50
250
Search Buffers (m)

Availability of 1:10,000 Scale Geology Mapping

The following information represents the availability of the key components of the 1:10,000 scale geological data.

ID	Distance	Artificial Coverage	Superficial Coverage	Bedrock Coverage	Mass Movement Coverage
1	0.0	No deposits are mapped	Full	Full	No coverage
2	460.0	No deposits are mapped	No coverage	No coverage	No coverage

Guidance: The 1:10,000 scale geological interpretation is the most detailed generally available from BGS and is the scale at which most geological surveying is carried out in the field. The database is presented as four types of geology (artificial, mass movement, superficial and bedrock), although not all themes are mapped or available on every map sheet. Therefore a coverage layer showing the availability of the four themes is presented above.

The definitions of coverage are as follows:

Geology	Full Coverage	Partial Coverage	No Coverage
Bedrock	The whole tile has been mapped	Some but not all the tile has been mapped	No coverage
Superficial	The whole tile has been mapped	Some but not all of the tile has been mapped	No coverage
Artificial	Some deposits are mapped on this tile	-	No deposits are mapped
Mass Movement	Some deposits are mapped on this tile	-	No coverage

1 Geology (1:10,000 scale).

1.1 Artificial Ground map (1:10,000 scale)

NW N NE

W E

SW S SE

Artificial Ground Legend

Site Outline

500
1000
Search Buffers (m)

Made Ground (undivided)

Worked Ground (undivided)

Infilled Ground

Disturbed Ground (undivided)

Landscaped Ground (undivided)

Reclaimed Ground

1. Geology 1:10,000 scale

1.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? No

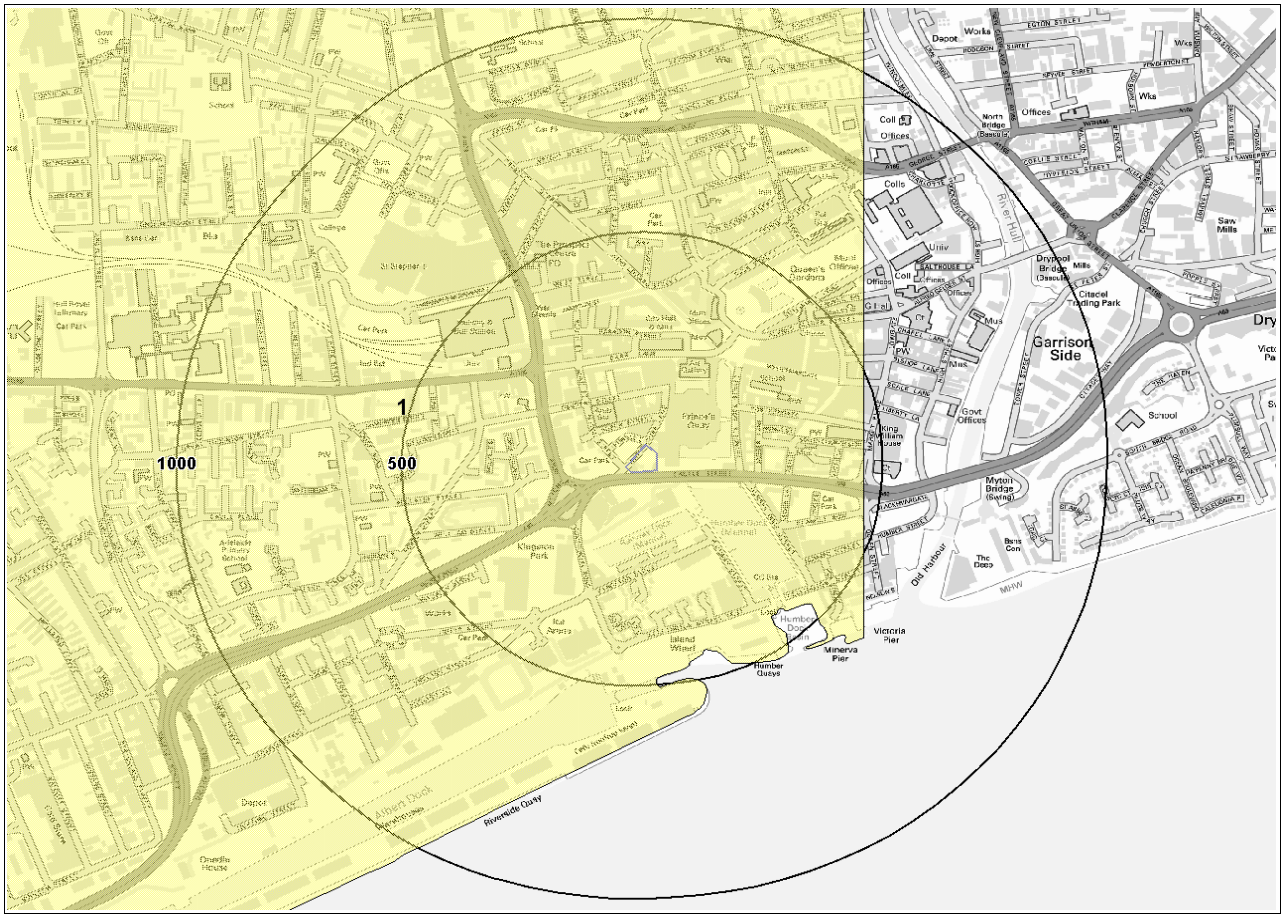
Database searched and no data found.

1.2 Superficial Deposits and Landslips map (1:10,000 scale)

NW N NE

W E

SW S SE



Artificial Ground Legend

Site Outline

500
1000
Search Buffers (m)

1.2 Superficial Deposits and Landslips

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping

1.2.1 Superficial Deposits/ Drift Geology

Are there any records of Superficial Deposits/ Drift Geology within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TFD-XCZ	Tidal Flat Deposits - Clay And Silt	Clay And Silt

1.2.2 Landslip

Are there any records of Landslip within 500m of the study site boundary at 1:10,000 scale?

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 1:10,000 scale

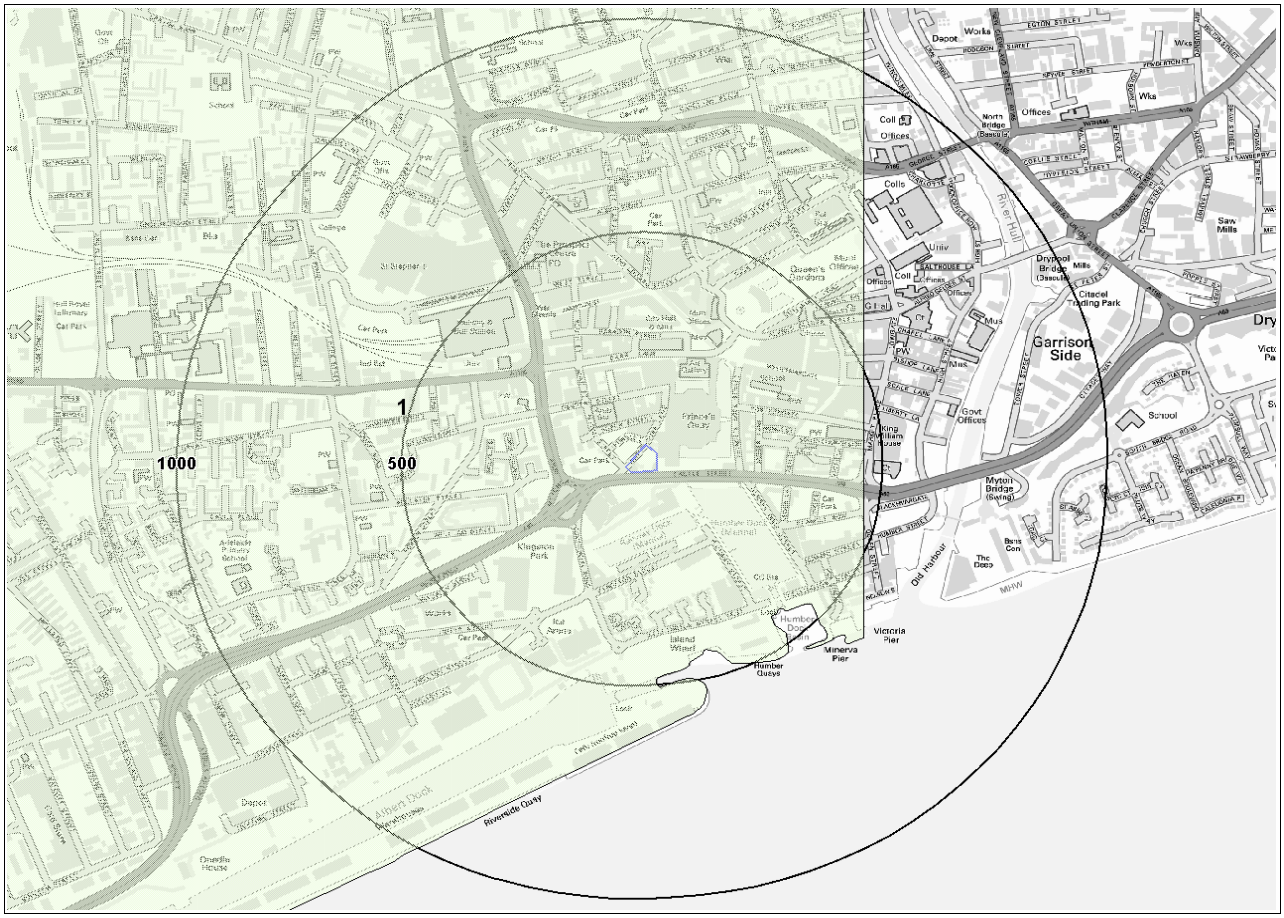
This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

1.3 Bedrock and linear features map (1:10,000 scale)

NW N NE

W E

SW S SE



Bedrock and linear features Legend

Site Outline

500
1000
Search Buffers (m)

1.3 Bedrock and linear features

The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

1.3.1 Bedrock/ Solid Geology

Records of Bedrock/Solid Geology within 500m of the study site boundary at 1:10,000 scale.

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
1	0.0	On Site	BCK-CHLK	Burnham Chalk Formation - Chalk	Santonian Age - Turonian Age

1.3.2 Linear features

Are there any records of linear features within 500m of the study site boundary at 1:10,000 scale? No

Database searched and no data found at this scale.

The geology map for the site and surrounding area are extracted from the BGS Digital Geological Map of great Britain at 1:10,000 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.

2 Geology 1:50,000 Scale

2.1 Artificial Ground map

NW N NE

W E

SW S SE

Site Outline

500
1000
Search Buffers (m)

Made Ground (undivided)

Disturbed Ground (undivided)

Worked Ground (undivided)

Landscaped Ground (undivided)

Infilled Ground

Reclaimed Ground

2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 080

2.1.1 Artificial/ Made Ground

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

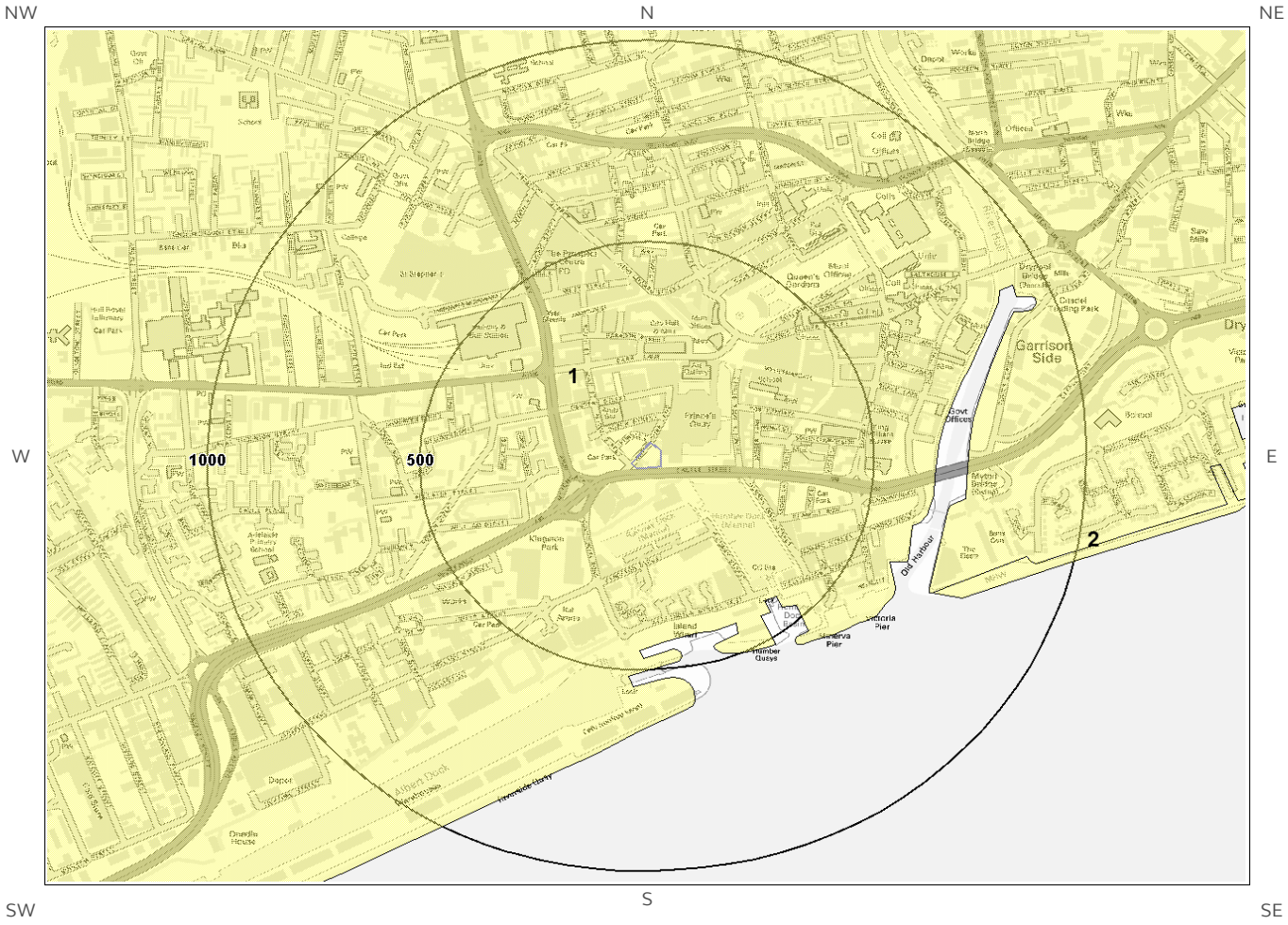
Database searched and no data found.

2.1.2 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.

2.2 Superficial Deposits and Landslips map (1:50,000 scale)



Site Outline

500
1000
Search Buffers (m)

2.2 Superficial Deposits and Landslips

2.2.1 Superficial Deposits/ Drift Geology

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

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	TFD-XCZ	TIDAL FLAT DEPOSITS	CLAY AND SILT

2.2.2 Permeability of Superficial Ground

Are there any records relating to permeability of superficial ground within the study site boundary? Yes

Distance (m)	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Intergranular	Low	Very Low

2.2.3 Landslip

Are there any records of Landslip 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.

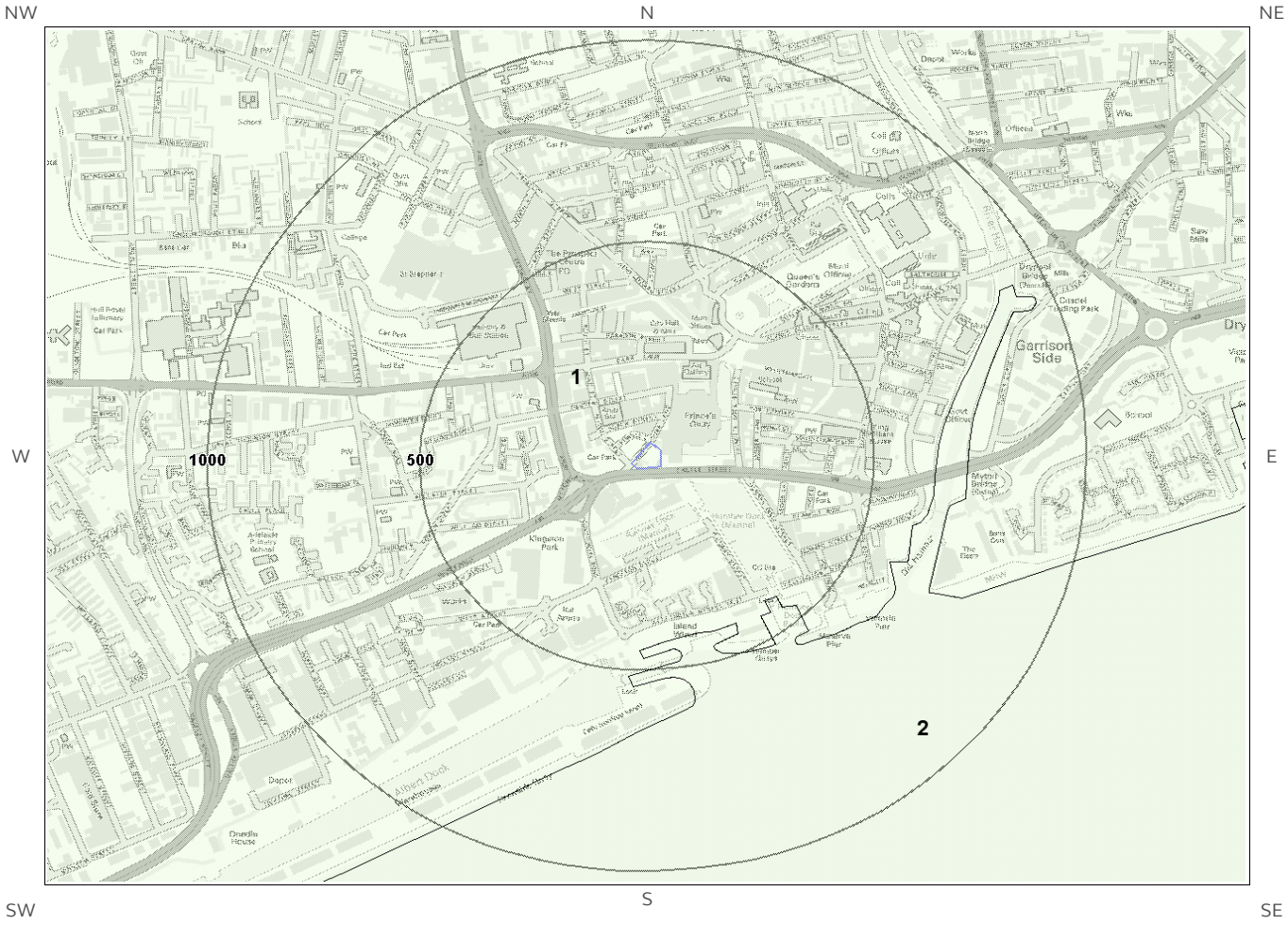
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

2.2.4 Landslip Permeability

Are there any records relating to permeability of landslips within the study site boundary? No

Database searched and no data found.

2.3 Bedrock and linear features map (1:50,000 scale)



Site Outline

500
1000
Search Buffers (m)

2.3 Bedrock, Solid Geology & linear features

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 080

2.3.1 Bedrock/Solid Geology

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

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
1	0.0	On Site	BCK-CHLK	BURNHAM CHALK FORMATION - CHALK	TURONIAN
2	412.0	SE	BCK-CHLK	BURNHAM CHALK FORMATION - CHALK	TURONIAN

2.3.2 Permeability of Bedrock Ground

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

Distance	Direction	Flow Type	Maximum Permeability	Minimum Permeability
0.0	On Site	Fracture	Very High	Very High

2.3.3 Linear features

Are there any records of linear features 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 nation wide coverage.

3 Radon Data

3.1 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.

The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supercede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square. As such, the radon atlas is considered indicative, whereas the data given in this report is considered definitive.

3.2 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.

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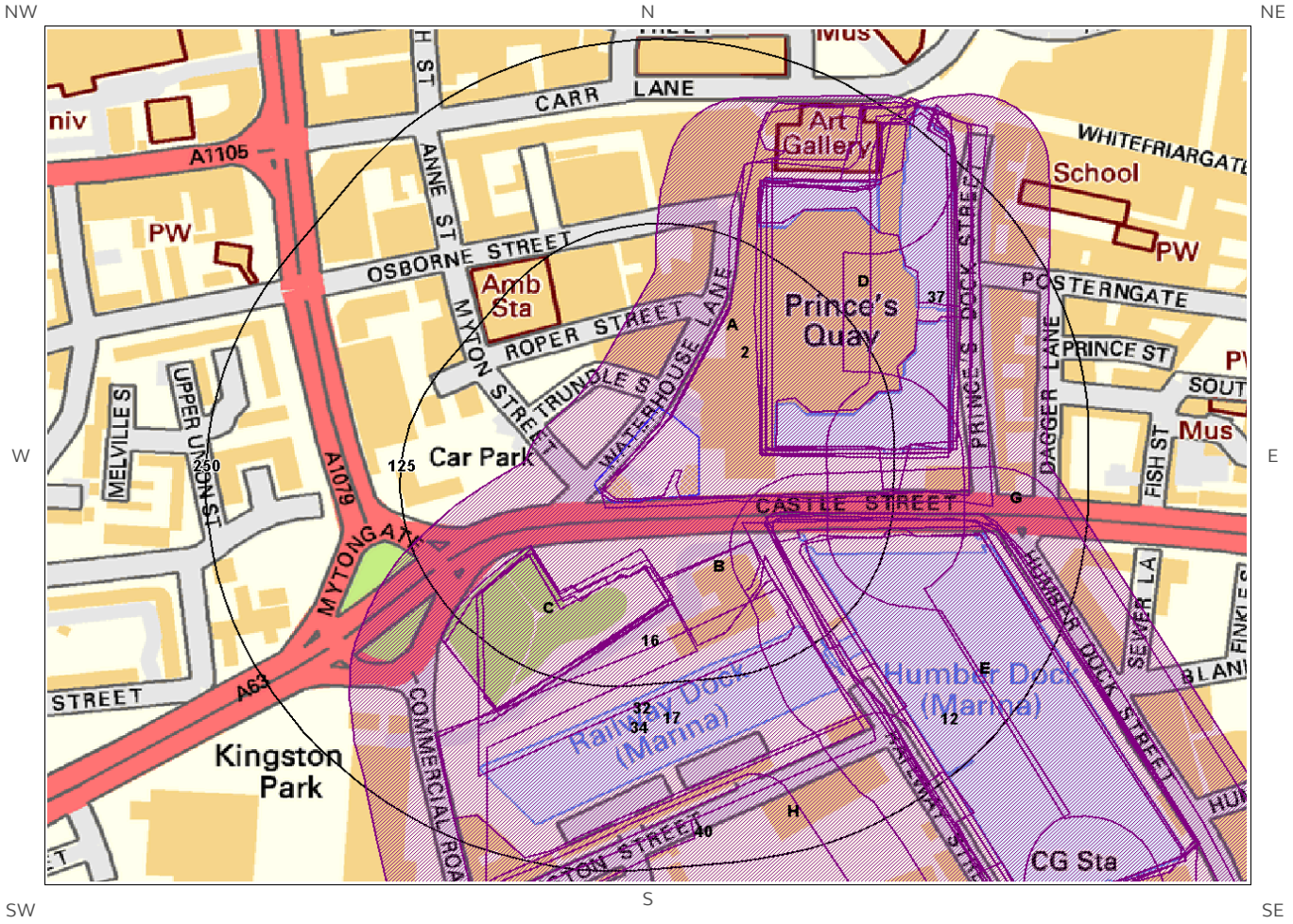
4 Ground Workings map



Ground Workings Legend

Site Outline

125
250
Search Buffers (m)

Historic Surface Ground Workings

Historic Underground Workings

Current Ground Workings

4 Ground Workings

4.1 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? Yes

ID	Distance (m)	Direction	NGR	Use	Date
1A	0.0	On Site	509570 428592	Dock	1948
2	0.0	On Site	509566 428593	Dock	1890
3A	0.0	On Site	509570 428592	Dock	1938
4A	0.0	On Site	509570 428592	Dock	1908
5A	0.0	On Site	509572 428594	Dock	1929
6B	0.0	On Site	506808 427496	Dock	1948
7B	0.0	On Site	506808 427496	Dock	1906
8A	0.0	On Site	509572 428594	Dock	1929
9E	29.0	SE	509731 428308	Dock	1994
10C	33.0	S	509450 428371	Burial Ground	1994
11C	33.0	S	509450 428371	Burial Ground	1981
12	34.0	SE	509645 428126	Dock	1890
13C	40.0	S	509448 428383	Disused Burial Ground	1906
14C	40.0	S	509448 428383	Disused Burial Ground	1948
15D	40.0	E	509645 428598	Disused Docks	1981
16	42.0	SE	509500 428352	Dock	1908
17	43.0	SE	509528 428308	Dock	1890
18D	43.0	E	509645 428608	Dock	1952
19C	45.0	S	509459 428365	Disused Burial Ground	1938
20C	45.0	S	509459 428365	Burial Ground	1908
21C	45.0	S	509462 428369	Disused Burial Ground	1929

ID	Distance (m)	Direction	NGR	Use	Date
22C	45.0	S	509459 428365	Disused Burial Ground	1948
23E	46.0	E	509721 428304	Dock	1971
24E	46.0	SE	509721 428302	Dock	1952
25D	47.0	E	509645 428598	Dock	1971
26F	48.0	SE	509672 428299	Dock	1948
27F	48.0	SE	509672 428299	Dock	1938
28F	48.0	SE	509672 428299	Dock	1908
29	49.0	E	509694 428610	Ponds	1994
30F	52.0	E	509672 428301	Dock	1929
31F	52.0	E	509672 428301	Dock	1929
32	59.0	SE	509506 428320	Dock	1971
33E	59.0	SE	509724 428300	Disused Dock	1981
34	79.0	SE	509508 428293	Dock	1981
35G	82.0	E	509755 428393	Dock	1906
36G	82.0	E	509755 428393	Dock	1948
37	161.0	NE	509694 428587	Quay	1994
38H	180.0	SE	508226 427425	Docks	1981
39H	180.0	SE	508226 427425	Docks	1971
40	192.0	S	508197 427406	Docks	1952

4.2 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? No

Database searched and no data found.

4.3 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? Yes

The following Current Ground Workings information is provided by British Geological Survey:

ID	Distance (m)	Direction	NGR	Commodity Produced	Pit Name	Type of working	Status
Not shown	766.0	E	510300 428600	Marine Sand & Gravel	Tower Street Wharf	Sea, river or canal wharf where mineral commodities are unloaded and stored	Ceased

5 Mining, Extraction & Natural Cavities map

Mining, Extraction and Natural Cavities Legend

Site Outline

Search Buffers (m) — 250 — 500

Historical Mining

Non-Coal Mining Cavities

Natural Cavities (point data)

Natural Cavities (polygon data)

Non-Coal Mining

- Highly likely
- Likely
- Unlikely
- Highly unlikely
- Rare

5 Mining, Extraction & Natural Cavities

5.1 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? No

Database searched and no data found.

5.2 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.

5.3 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.

5.4 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.

5.5 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.

5.6 Natural Cavities

This dataset provides information based on the Peter Brett Associates natural cavities database. The dataset is made up of points and polygons. Where polygons are used these represent an area in which it is expected the cavities could be found. It does not indicate that cavities are present everywhere within the polygon, and caution should be used in the interpretation of this data.

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

Database searched and no data found.

5.7 Brine Extraction

This data provides information from 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.

5.8 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.

5.9 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.

5.10 Clay Mining

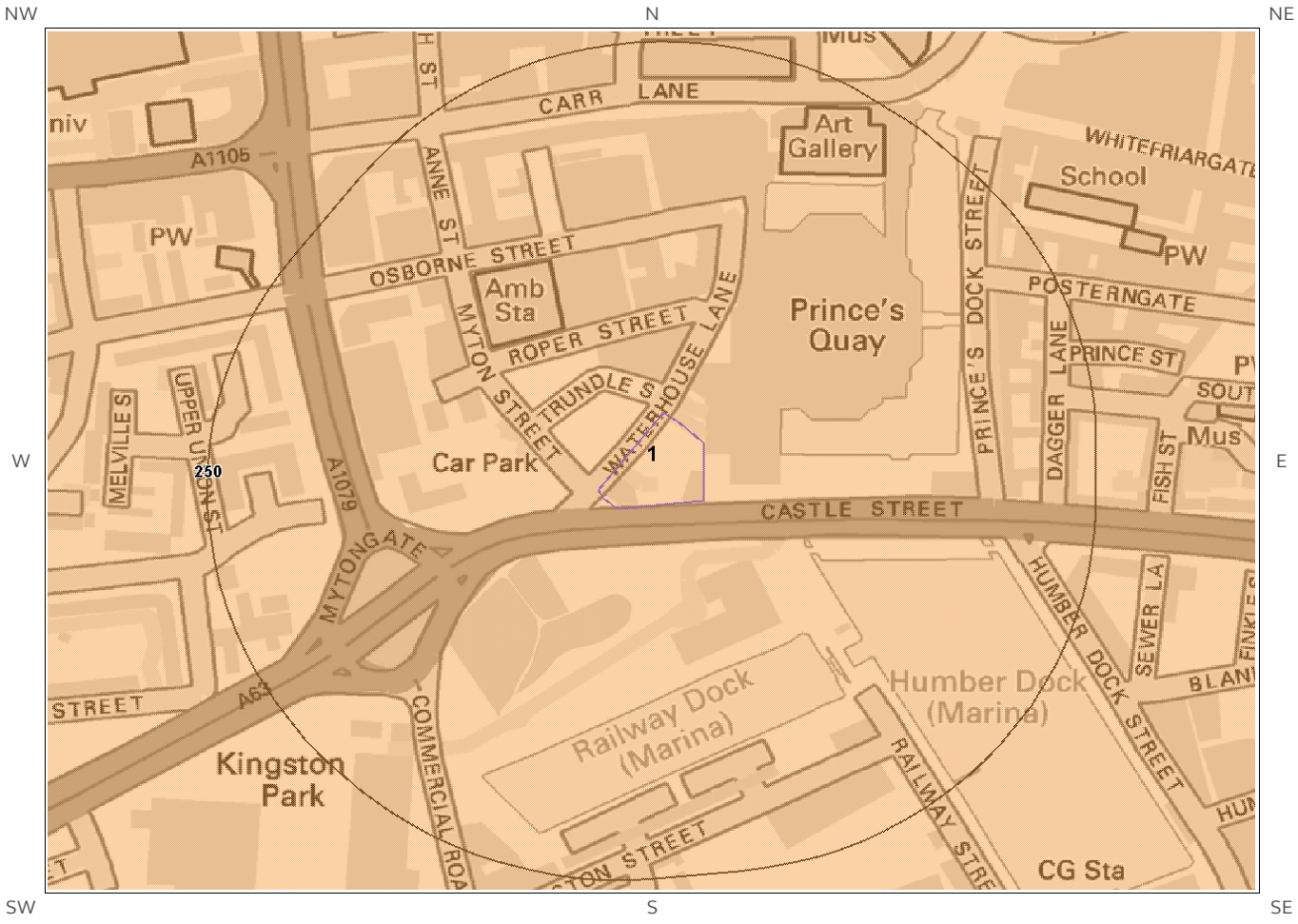
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

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

Database searched and no data found.

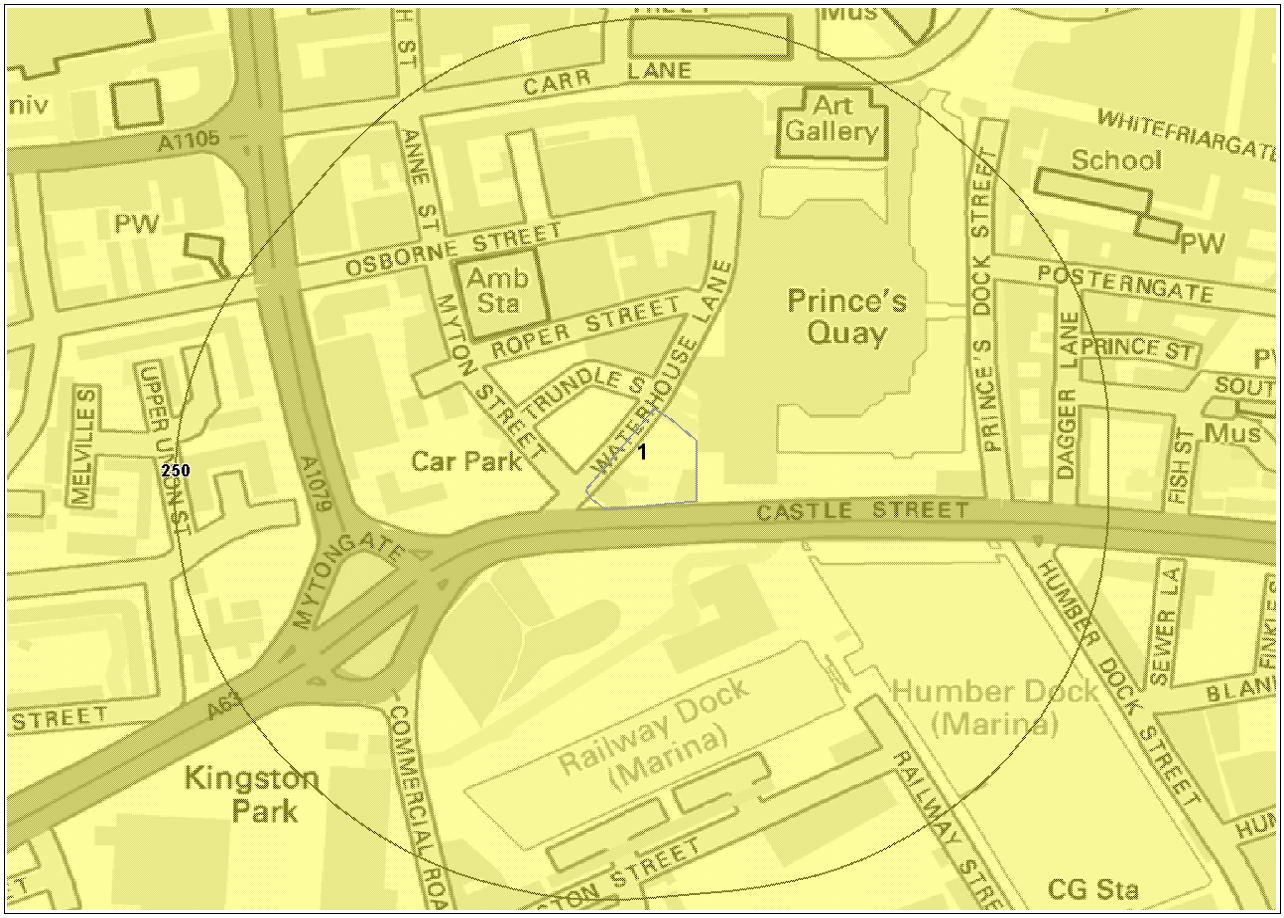
6 Natural Ground Subsidence

6.1 Shrink-Swell Clay map



Shrink Swell Clay Legend

6.2 Landslides map



Landslides Legend

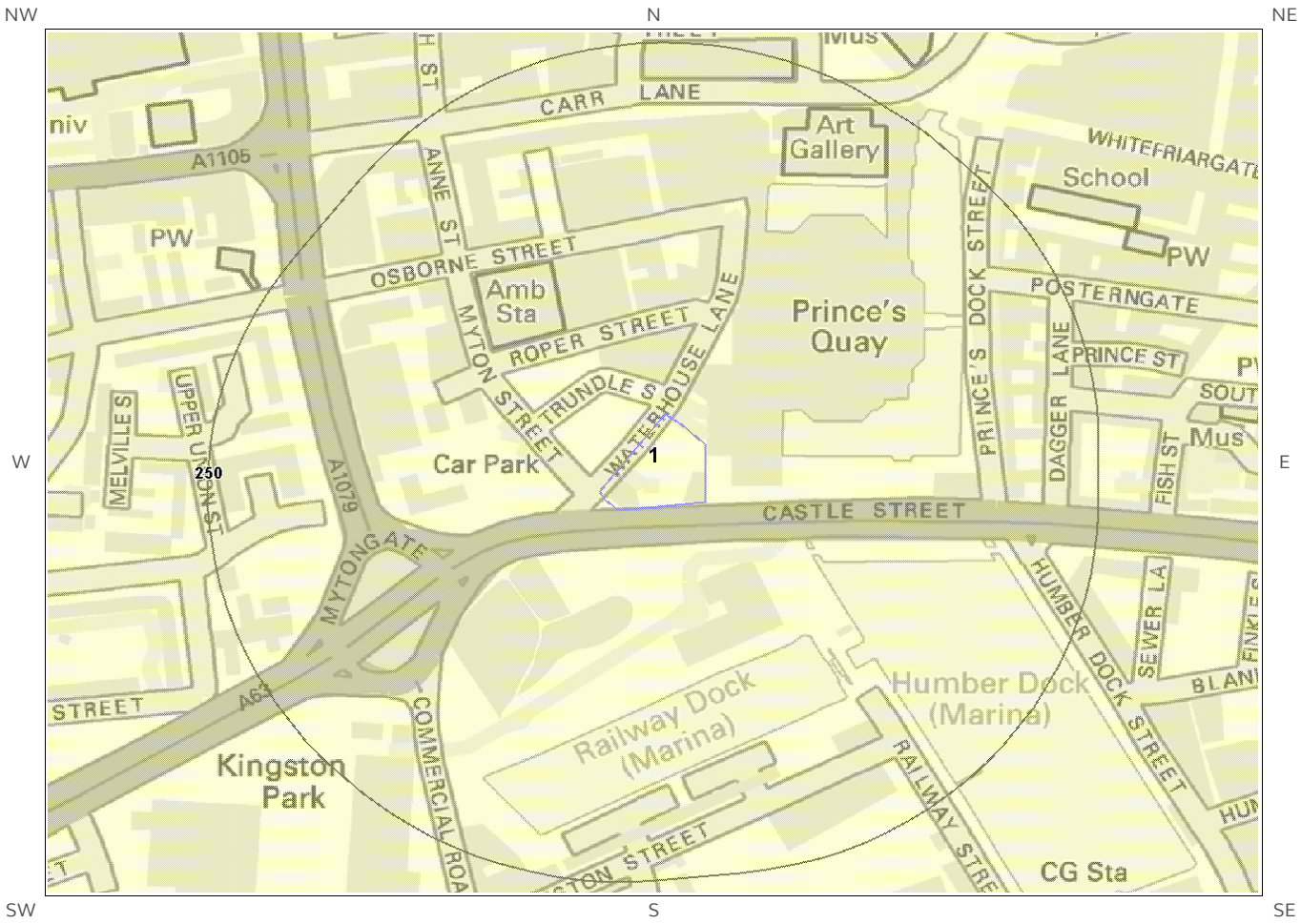
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

6.3 Ground Dissolution of Soluble Rocks map



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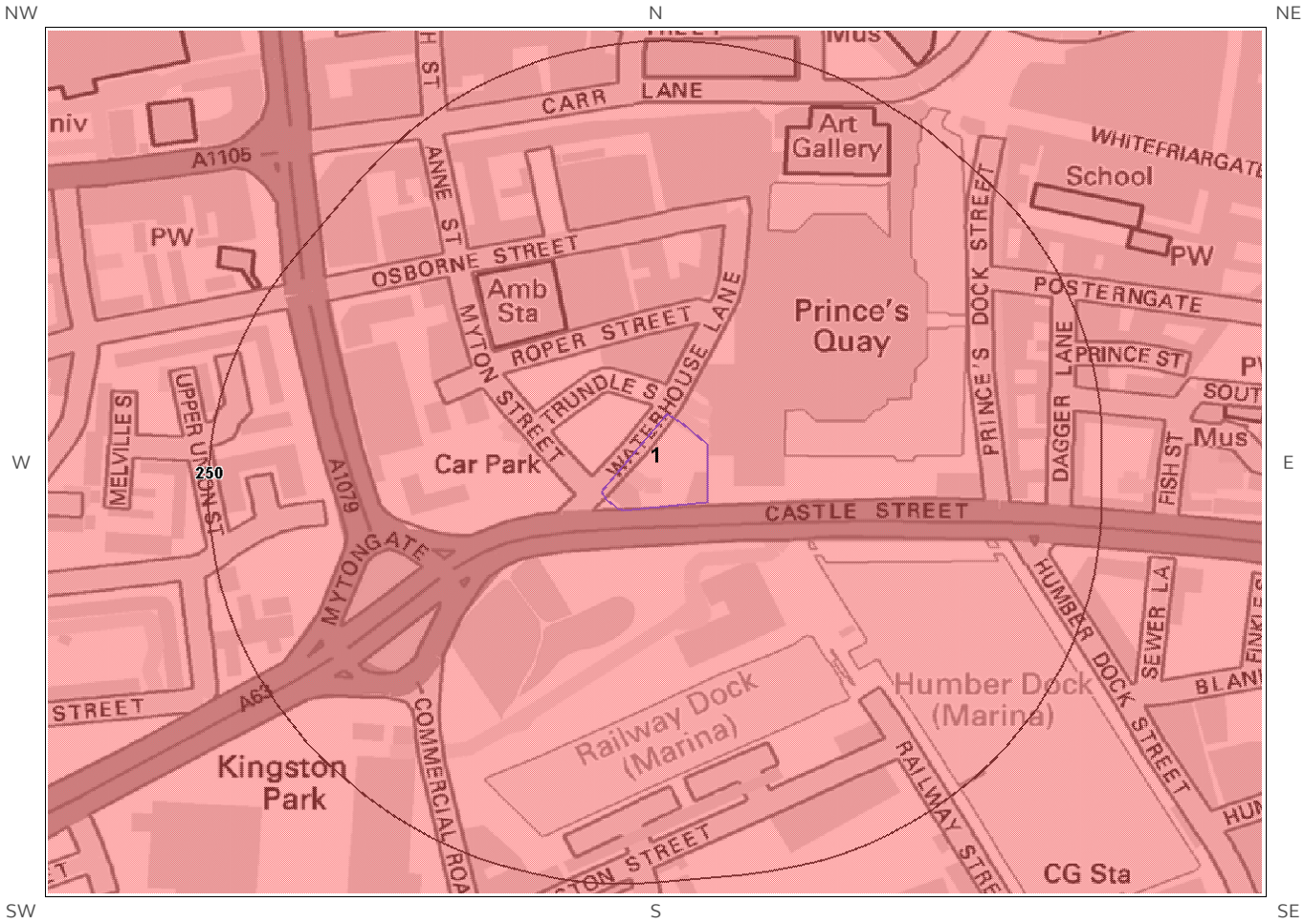
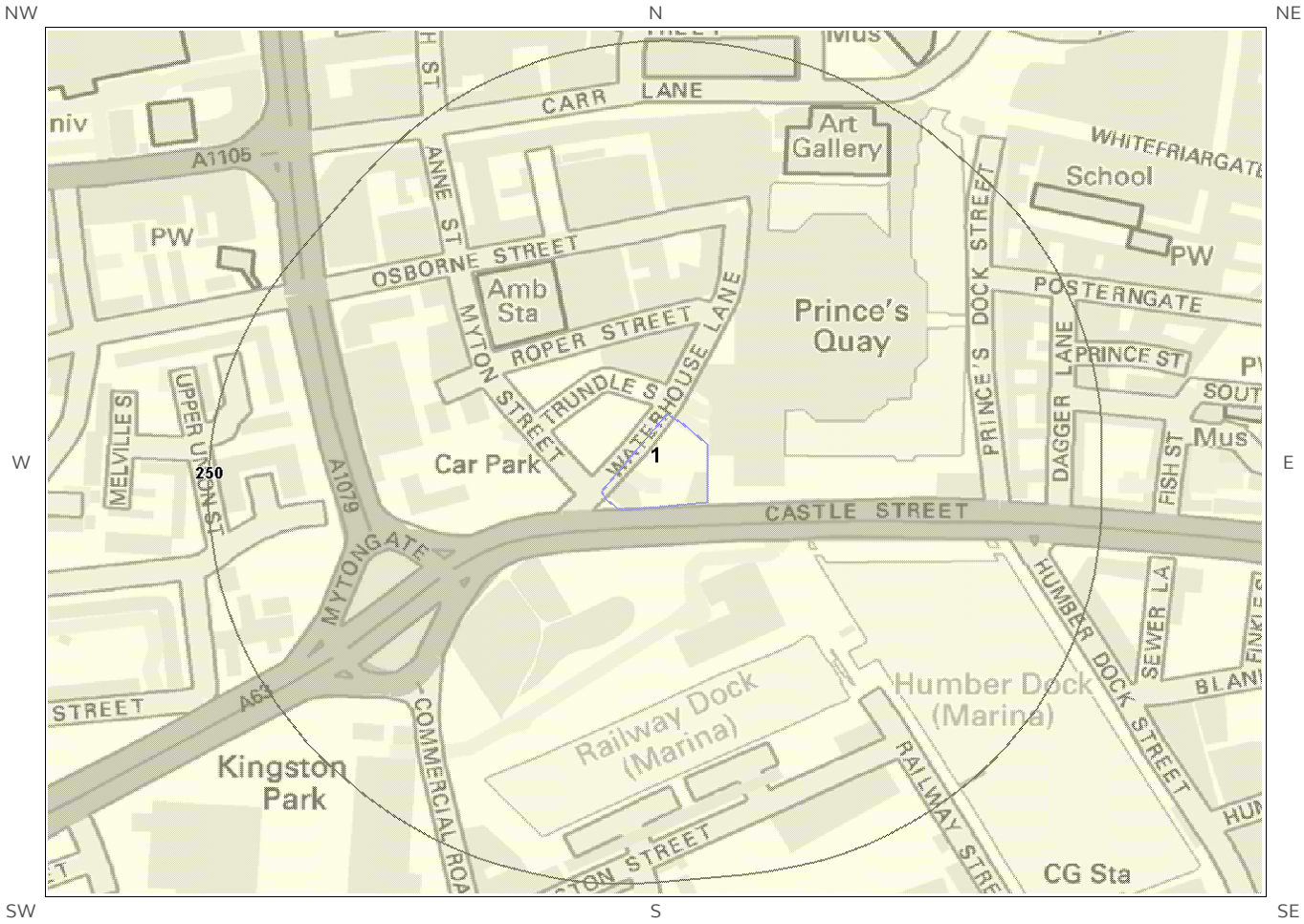
Ground Dissolution Soluble Rocks Legend

6.4 Compressible Deposits map



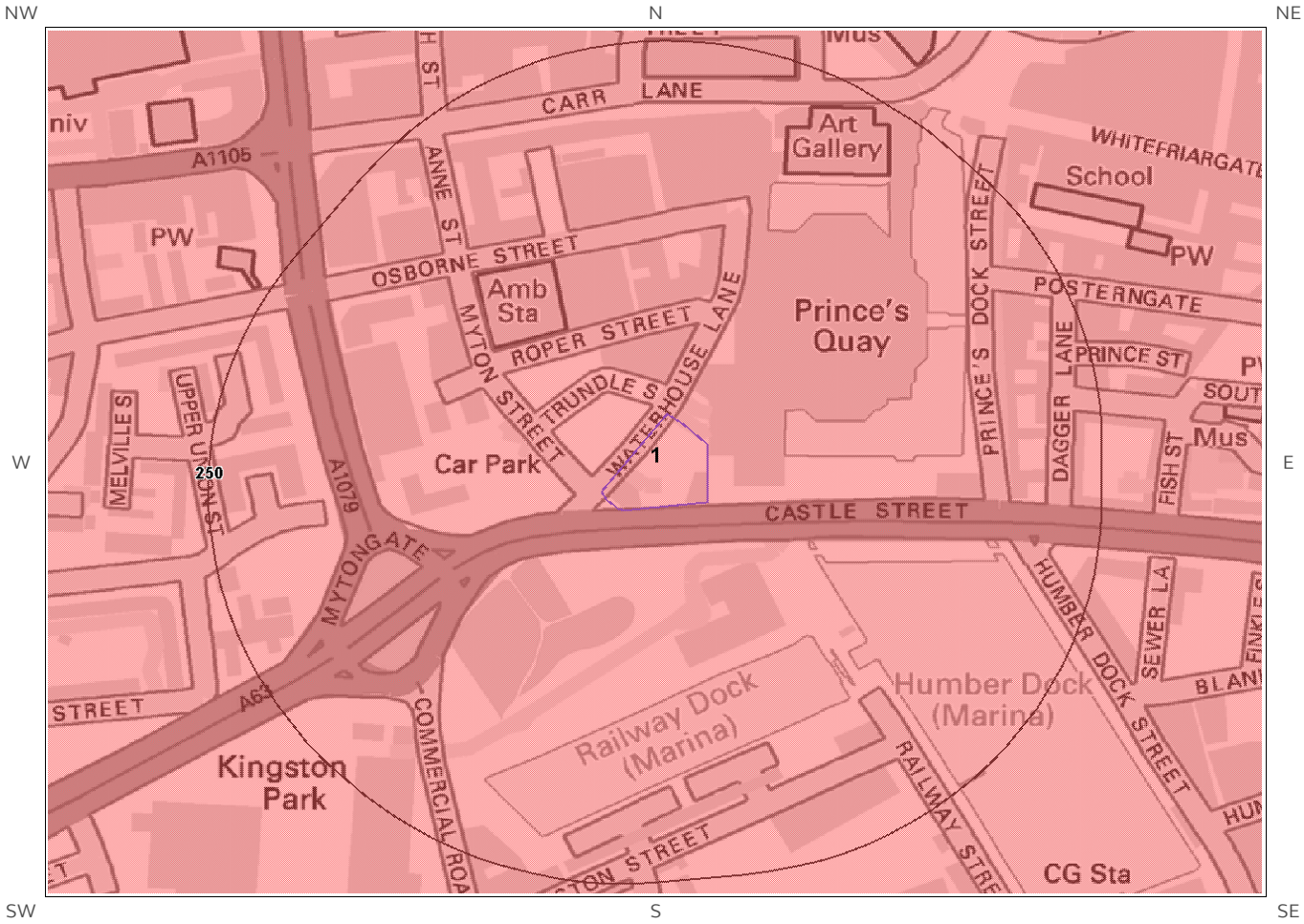
Compressible Deposits Legend

6.5 Collapsible Deposits map



Collapsible Deposits Legend

6.6 Running Sand map



Running Sand Legend

6 Natural Ground Subsidence

The National Ground Subsidence rating is obtained through the 6 natural ground stability hazard datasets, which are supplied by the British Geological Survey (BGS).

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

What is the maximum hazard rating of natural subsidence within the study site*[*] boundary? Moderate

6.1 Shrink-Swell Clays

The following Shrink Swell information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

6.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

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

6.3 Ground Dissolution of Soluble Rocks

The following Ground Dissolution information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

6.4 Compressible Deposits

The following Compressible Deposits information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Moderate	Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build - consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property - possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

6.5 Collapsible Deposits

The following Collapsible Rocks information provided by the British Geological Survey:

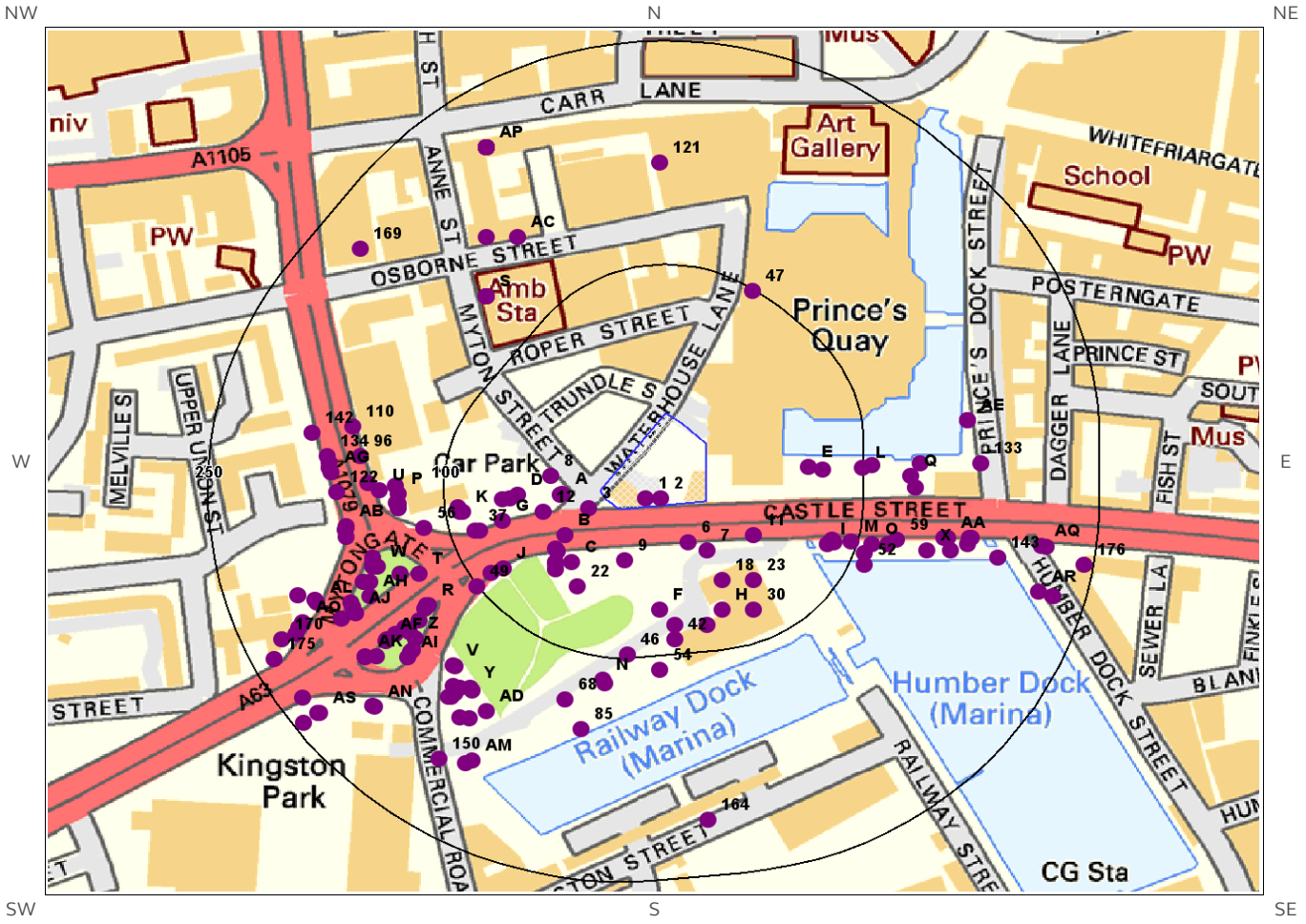
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Negligible	No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

6.6 Running Sands

The following Running Sands information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Moderate	Significant potential for running sand problems with relatively small changes in ground conditions. Avoid large amounts of water entering the ground (for example through pipe leakage or soak-aways). Do not dig (deep) holes into saturated ground near the property without technical advice. For new build - consider the consequences of soil and groundwater conditions during and after construction. For existing property - possible increase in insurance risk from running sand, for example, due to water leakage, high rainfall events or flooding.

7 Borehole Records map



Borehole Records Legend

Site Outline

Borehole Locations

125
250
Search Buffers (m)

7 Borehole Records

The systematic analysis of data extracted from the BGS Borehole Records database provides the following information.

Records of boreholes within 250m of the study site boundary: 177

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	0.0	On Site	509501 428465	TA02NE1135	42.5	A63 CASTLE STREET IMPROVEMENT HULL 35
2	0.0	On Site	509511 428465	TA02NE649	5.0	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 23
3	13.0	SW	509465 428458	TA02NE1113	5.45	A63 CASTLE STREET IMPROVEMENT HULL WS13
4A	25.0	W	509448 428468	TA02NE646	6.0	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 21
5A	26.0	W	509447 428467	TA02NE647	4.5	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 21A
6	27.0	S	509528 428435	TA02NE1114	5.45	A63 CASTLE STREET IMPROVEMENT HULL WS14
7	33.0	S	509540 428430	TA02NE866	3.8	POST HOUSE HOTEL HULL MARINA TP1
8	33.0	W	509441 428480	TA02NE1089	1.2	A63 CASTLE STREET IMPROVEMENT HULL SCPT24A
9	35.0	S	509488 428423	TA02NE1048	40.0	A63 CASTLE STREET IMPROVEMENT HULL 36
10B	36.0	SW	509450 428440	TA02NE529	12.19	HULL S RING ROAD STAGE 2 1
11	38.0	SE	509570 428440	TA02NE530	18.14	HULL S RING ROAD STAGE 2 2
12	40.0	W	509436 428456	TA02NE1130	3.7	A63 CASTLE STREET IMPROVEMENT HULL TP13
13B	47.0	SW	509444 428431	TA02NE645	20.55	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 20
14C	47.0	SW	509454 428422	TA02NE1060	20.0	A63 CASTLE STREET IMPROVEMENT HULL 47
15C	47.0	SW	509445 428429	TA02NE1125	5.45	A63 CASTLE STREET IMPROVEMENT HULL WS26
16D	53.0	W	509420 428467	TA02NE1047	25.0	A63 CASTLE STREET IMPROVEMENT HULL 34
17C	53.0	SW	509444 428422	TA02NE1090	1.2	A63 CASTLE STREET IMPROVEMENT HULL SCPT25
18	54.0	S	509550 428410	TA02NE862	20.0	POST HOUSE HOTEL HULL MARINA 5

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
19C	54.0	SW	509444 428421	TA02NE1129	4.15	A63 CASTLE STREET IMPROVEMENT HULL TP11
20C	57.0	SW	509444 428417	TA02NE656	5.4	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET TT 01
21D	58.0	W	509415 428465	TA02NE1045	23.7	A63 CASTLE STREET IMPROVEMENT HULL 32
22	59.0	SW	509458 428406	TA02NE648	20.05	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 22
23	61.0	SE	509570 428410	TA02NE865	20.3	POST HOUSE HOTEL HULL MARINA 8
24D	63.0	W	509410 428464	TA02NE1046	40.5	A63 CASTLE STREET IMPROVEMENT HULL 33
25E	65.0	E	509605 428486	TA02NE1131	4.0	A63 CASTLE STREET IMPROVEMENT HULL TP14
26G	66.0	W	509410 428450	TA02NE664	2.9	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET TP 6
27F	70.0	S	509510 428390	TA02NE867	4.0	POST HOUSE HOTEL HULL MARINA TP2
28H	74.0	S	509550 428390	TA02NE864	20.0	POST HOUSE HOTEL HULL MARINA 7
29E	74.0	E	509614 428484	TA02NE1092	1.2	A63 CASTLE STREET IMPROVEMENT HULL SCPT27
30	79.0	S	509570 428390	TA02NE861	20.0	POST HOUSE HOTEL HULL MARINA 4
31J	80.0	SW	509411 428418	TA02NE1088	1.2	A63 CASTLE STREET IMPROVEMENT HULL SCPT24
32F	81.0	S	509520 428380	TA02NE863	20.0	POST HOUSE HOTEL HULL MARINA 6
33G	82.0	W	509396 428443	TA02NE663	1.5	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET TP 5
34I	82.0	E	509617 428434	TA02NE1115	5.0	A63 CASTLE STREET IMPROVEMENT HULL WS16
35H	83.0	S	509540 428380	TA02NE860	31.45	POST HOUSE HOTEL HULL MARINA 3
36I	84.0	E	509620 428437	TA02NE1091	1.2	A63 CASTLE STREET IMPROVEMENT HULL SCPT26
37	84.0	W	509393 428443	TA02NE644	17.05	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 19
38I	86.0	E	509621 428435	TA02NE1116	5.45	A63 CASTLE STREET IMPROVEMENT HULL WS17
39J	88.0	SW	509403 428415	TA02NE643	20.05	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 18
40K	89.0	W	509385 428456	TA02NE1111	5.0	A63 CASTLE STREET IMPROVEMENT HULL WS12

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
41K	90.0	W	509384 428456	TA02NE1084	1.2	A63 CASTLE STREET IMPROVEMENT HULL SCPT20
42	91.0	S	509520 428370	TA02NE859	30.0	POST HOUSE HOTEL HULL MARINA 2
43K	91.0	W	509383 428456	TA02NE1112	5.0	A63 CASTLE STREET IMPROVEMENT HULL WS12A
44K	92.0	W	509382 428459	TA02NE1062	21.0	A63 CASTLE STREET IMPROVEMENT HULL SBP02
45M	96.0	E	509632 428436	TA02NE650	11.5	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 24
46	98.0	S	509490 428360	TA02NE868	4.0	POST HOUSE HOTEL HULL MARINA TP3
47	99.0	NE	509569 428604	TA02NE442	-1.0	KINGSTON UPON HULL SI K
48L	99.0	E	509639 428485	TA02NE1049	30.5	A63 CASTLE STREET IMPROVEMENT HULL 37
49	101.0	SW	509394 428406	TA02NE1103	5.45	A63 CASTLE STREET IMPROVEMENT HULL WS5
50L	105.0	E	509645 428487	TA02NE1132	2.4	A63 CASTLE STREET IMPROVEMENT HULL TP16
51M	106.0	E	509640 428428	TA02NE527	21.0	HULL VICTORIA DOCK 10
52	109.0	SE	509640 428420	TA02NE531	26.82	HULL S RING ROAD STAGE 2 3
53O	109.0	E	509645 428434	TA02NE1117	3.45	A63 CASTLE STREET IMPROVEMENT HULL WS18
54	110.0	S	509510 428350	TA02NE858	30.0	POST HOUSE HOTEL HULL MARINA 1
55N	116.0	S	509474 428343	TA02NE1043	16.1	A63 CASTLE STREET IMPROVEMENT HULL 30
56	116.0	W	509360 428445	TA02NE661	1.2	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET TP 4
57N	118.0	S	509475 428341	TA02NE1044	10.7	A63 CASTLE STREET IMPROVEMENT HULL 30A
58O	119.0	E	509655 428434	TA02NE1118	5.0	A63 CASTLE STREET IMPROVEMENT HULL WS19
59	124.0	E	509661 428437	TA02NE1093	1.2	A63 CASTLE STREET IMPROVEMENT HULL SCPT28
60T	129.0	SW	509357 428414	TA02NE62	36.58	CLOVER DAIRIES NILE STREET HULL
61P	129.0	W	509344 428468	TA02NE1108	2.2	A63 CASTLE STREET IMPROVEMENT HULL WS10
62P	129.0	W	509344 428461	TA02NE1110	5.45	A63 CASTLE STREET IMPROVEMENT HULL WS11
63P	130.0	W	509344 428458	TA02NE662	2.3	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET TP 4A

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
64Q	130.0	E	509670 428480	TA02NE532	29.26	HULL S RING ROAD STAGE 2 4
65P	130.0	W	509343 428462	TA02NE641	16.5	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 16
66P	131.0	W	509342 428473	TA02NE1109	5.0	A63 CASTLE STREET IMPROVEMENT HULL WS10A
67Q	133.0	E	509673 428472	TA02NE1051	46.0	A63 CASTLE STREET IMPROVEMENT HULL 39
68	133.0	S	509450 428330	TA02NE869	4.2	POST HOUSE HOTEL HULL MARINA TP4
69R	134.0	SW	509363 428393	TA02NE1026	20.0	A63 CASTLE STREET IMPROVEMENT HULL 15
70R	135.0	SW	509362 428393	TA02NE1102	5.0	A63 CASTLE STREET IMPROVEMENT HULL WS3
71R	135.0	SW	509362 428393	TA02NE1086	1.2	A63 CASTLE STREET IMPROVEMENT HULL SCPT22
72Q	136.0	E	509676 428488	TA02NE1050	27.0	A63 CASTLE STREET IMPROVEMENT HULL 38
73R	137.0	SW	509361 428391	TA02NE1025	20.0	A63 CASTLE STREET IMPROVEMENT HULL 14
74S	138.0	NW	509400 428600	TA02NE31	6.09	CENTRAL AMBULANCE STATION OSBOURNE STREET 53
75S	138.0	NW	509400 428600	TA02NE29	12.19	CENTRAL AMBULANCE STATION OSBOURNE STREET 51
76S	138.0	NW	509400 428600	TA02NE30	6.09	CENTRAL AMBULANCE STATION OSBOURNE STREET 52
77S	138.0	NW	509400 428600	TA02NE28	6.09	CENTRAL AMBULANCE STATION OSBOURNE STREET 50
78T	140.0	SW	509345 428414	TA02NE640	28.3	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 15
79U	141.0	W	509332 428470	TA02NE1107	5.0	A63 CASTLE STREET IMPROVEMENT HULL WS9
80X	144.0	E	509680 428430	TA02NE533	21.34	HULL S RING ROAD STAGE 2 6
81R	144.0	SW	509357 428383	TA02NE1030	40.0	A63 CASTLE STREET IMPROVEMENT HULL 18A
82V	148.0	SW	509379 428353	TA02NE642	20.05	A63 TRUNK ROAD IMPROVEMENT CASTLE STREET 17
83U	148.0	W	509325 428475	TA02NE1106	5.45	A63 CASTLE STREET IMPROVEMENT HULL WS8
84V	148.0	SW	509380 428352	TA02NE1037	48.0	A63 CASTLE STREET IMPROVEMENT HULL 24
85	150.0	S	509460 428310	TA02NE871	2.1	POST HOUSE HOTEL HULL MARINA TP7
86W	151.0	W	509331 428419	TA02NE1127	0.8	A63 CASTLE STREET IMPROVEMENT HULL TP5