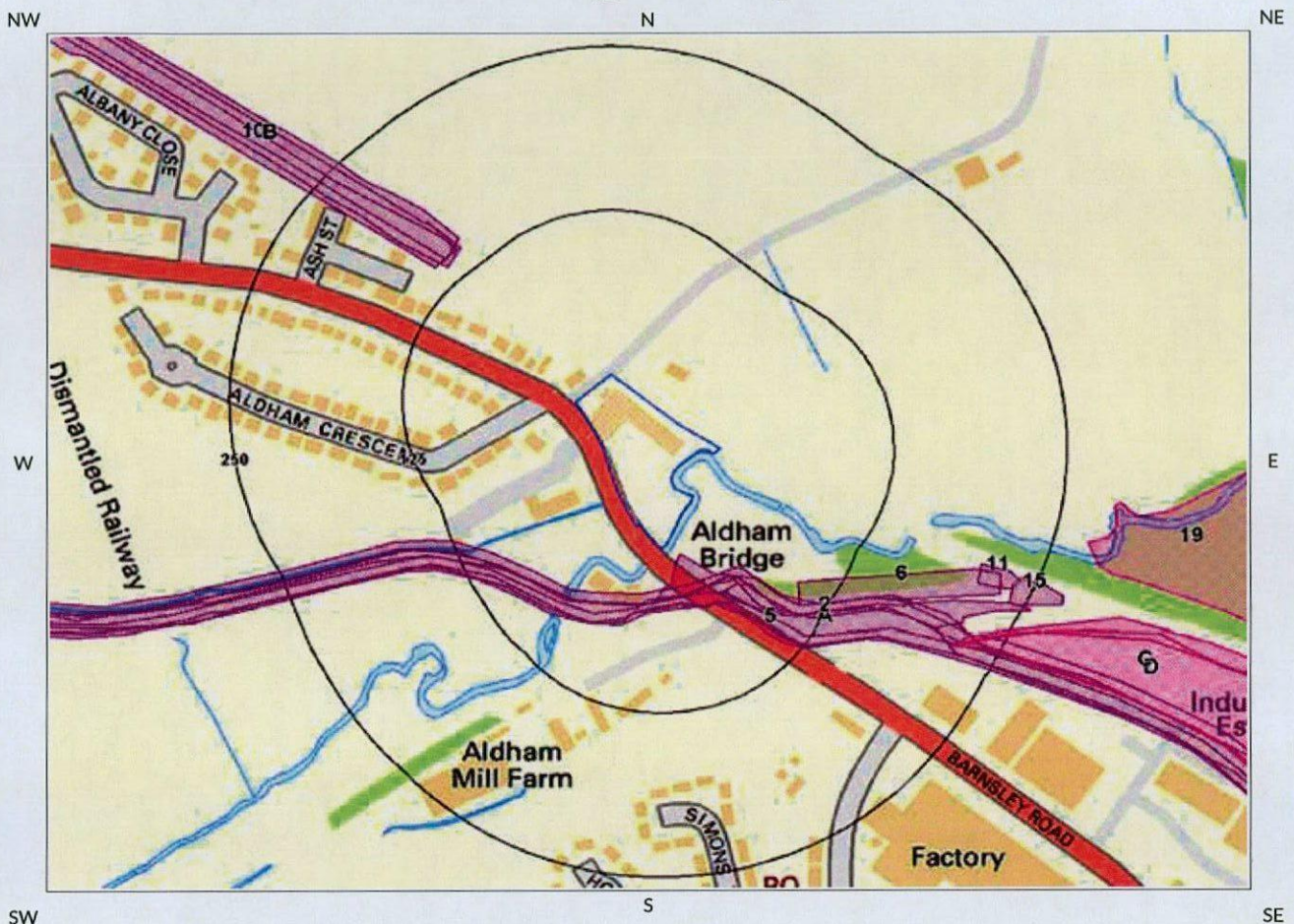


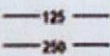
2 Ground Workings Map

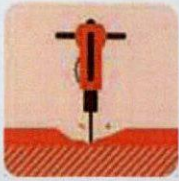


Ground Workings Legend

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



2 Ground Workings

2.1 Historical Surface Ground Working Features derived from Historical Mapping

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

Are there any Historical Surface Ground Working Features within 250m of the study site boundary? **Yes**

The following Historical Surface Ground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
1	13.0	SE	439173 404128	Canal	1966
2	32.0	S	439242 404035	Disused Canal	1951
3A	39.0	S	437756 404272	Canal	1948
4A	39.0	S	437756 404272	Canal	1904
5	40.0	S	439403 403810	Canal	1890
6	98.0	SE	438834 404370	Unspecified Heap	1977
7B	138.0	NW	438328 404743	Cuttings	1948
8B	138.0	NW	438328 404743	Cuttings	1904
9B	144.0	NW	438329 404749	Cuttings	1951
10	144.0	NW	438274 404771	Cuttings	1890
11	208.0	SE	438906 404378	Unspecified Pit	1948
12C	216.0	SE	439244 404135	Colliery	1890
13D	221.0	SE	439328 404032	Colliery	1948
14C	221.0	SE	439244 404132	Colliery	1904
15	236.0	SE	438932 404366	Pond	1977

2.2 Historical Underground Working Features derived from Historical Mapping

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

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

The following Historical Underground Working Features are provided by GroundSure:

ID	Distance (m)	Direction	NGR	Use	Date
16C	216.0	SE	439244 404135	Colliery	1890
17D	221.0	SE	439328 404032	Colliery	1948
18C	221.0	SE	439244 404132	Colliery	1904
19	275.0	E	439328 404262	Colliery	1951
Not shown	428.0	E	439257 404629	Unspecified Workings	1977
Not shown	590.0	SE	439204 404152	Unspecified Shaft	1987
Not shown	590.0	SE	439204 404152	Unspecified Shaft	1977
Not shown	590.0	SE	439204 404152	Unspecified Shaft	1966
Not shown	892.0	SW	438199 403057	Colliery	1951

2.3 Current Ground Workings

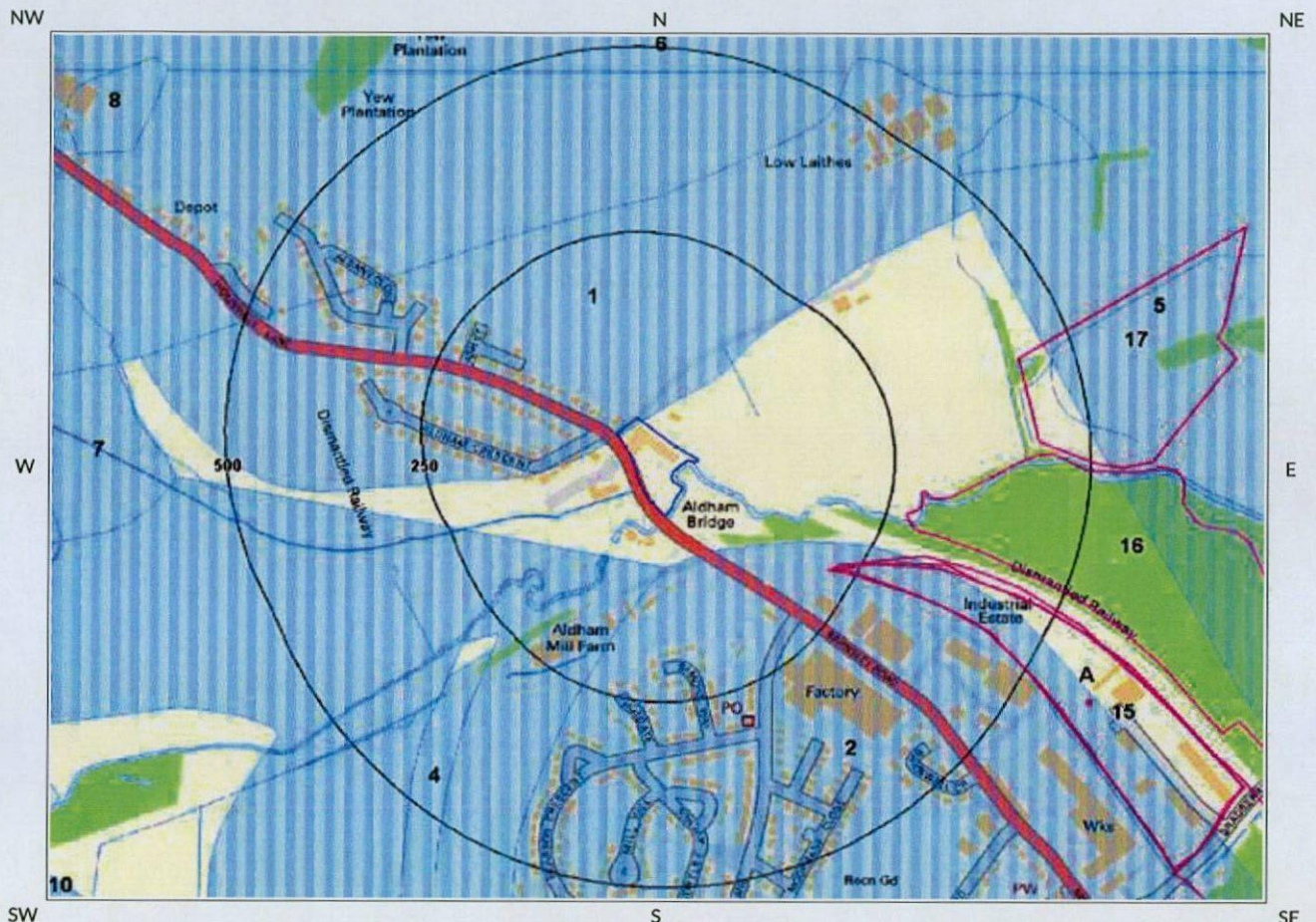
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

Are there any BGS Current Ground Workings within 1000m of the study site boundary? **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	533.0	SE	439170 404215	Coal, Deep	Mitchell Main Colliery	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	767.0	NW	437950 404920	Clay & Shale	Stairfoot Brickworks	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Inactive
Not shown	879.0	NE	439390 405027	Sandstone	New Hall	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	913.0	NW	438000 405200	Clay & Shale	Stairfoot Brickworks No 2	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Inactive

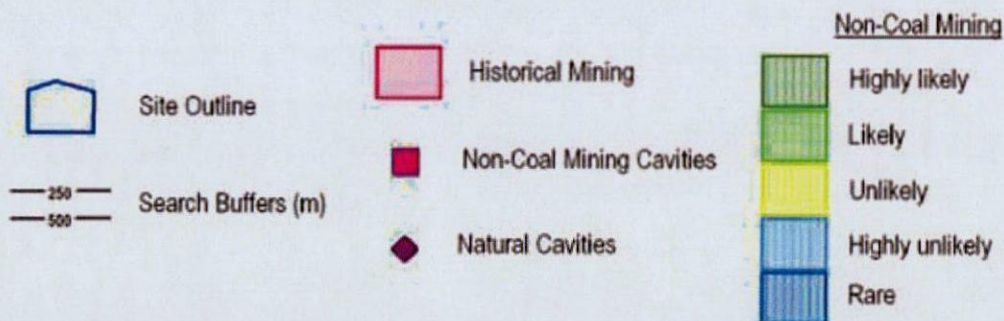
3 Mining, Extraction & Natural Cavities Map



Mining, Extraction and Natural Cavities Legend

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3 Mining, Extraction & Natural Cavities

3.1 Historical Mining

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

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

Yes

The following Historical Mining information is provided by GroundSure:

ID	Distance (m)	Direction	NGR	Details	Date
13A	216.0	SE	439244 404135	Colliery	1890
14A	221.0	SE	439244 404132	Colliery	1904
15	221.0	SE	439328 404032	Colliery	1948
16	275.0	E	439328 404262	Colliery	1951
17	428.0	E	439257 404629	Unspecified Workings	1977
18A	590.0	SE	439204 404152	Unspecified Shaft	1966
19A	590.0	SE	439204 404152	Unspecified Shaft	1987
20A	590.0	SE	439204 404152	Unspecified Shaft	1977
Not shown	892.0	SW	438199 403057	Colliery	1951

3.2 Coal Mining

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

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

Yes

The following Coal Mining information provided by the Coal Authority is not represented on Mapping:

Distance (m)	Direction	Details
0.0	On Site	The study site is located within the specified search distance of an identified mining area. Further details concerning this can be obtained from the Coal Authority Helpline on 0845 762 6848.

3.3 Johnson Poole and Bloomer

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

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

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

3.4 Non-Coal Mining

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

Are there any Non-Coal Mining areas within 1000m of the study site boundary? Yes

The following non-coal mining information is provided by the BGS:

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Sheffield Area	Vein Mineral/Iron ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
2	65.0	S	Sheffield Area	Vein Mineral/Iron ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
3	68.0	S	Not available	Iron Ore (Bedded)	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
4	280.0	SW	Sheffield Area	Vein Mineral/Iron ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
5	461.0	NE	Not available	Iron Ore (Bedded)	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
6	467.0	N	Not available	Iron Ore (Bedded)	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
7	565.0	W	Sheffield Area	Vein Mineral/Iron ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
8	727.0	NW	Sheffield Area	Vein Mineral/Iron ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
Not shown	786.0	W	Sheffield Area	Vein Mineral/Iron ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
10	890.0	SW	Sheffield Area	Vein Mineral/Iron ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.
Not shown	941.0	SW	Sheffield Area	Vein Mineral/Iron ore	Highly Unlikely - Localised small scale mining may have occurred but restricted in extent.

3.5 Non-Coal Mining Cavities

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

Are there any Non-Coal Mining cavities within 1000m of the study site boundary? Yes

The following Non-Coal Mining Cavities information provided by Peter Brett Associates:

ID	Distance (m)	Direction	NGR	Address	Superficial Deposits	Bedrock Deposits	Extracted Mineral
Not shown	840.0	NW	438000 405100	STAIRFOOT, South Yorkshire	-	-	Shale

3.6 Natural Cavities

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

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

Database searched and no data found.

3.7 Brine Extraction

This dataset provides information from the Brine Compensation Board which has been discontinued and is now covered by the Coal Authority.

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

Database searched and no data found.

3.8 Gypsum Extraction

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

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

Database searched and no data found.

3.9 Tin Mining

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

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

Database searched and no data found.

3.10 Clay Mining

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

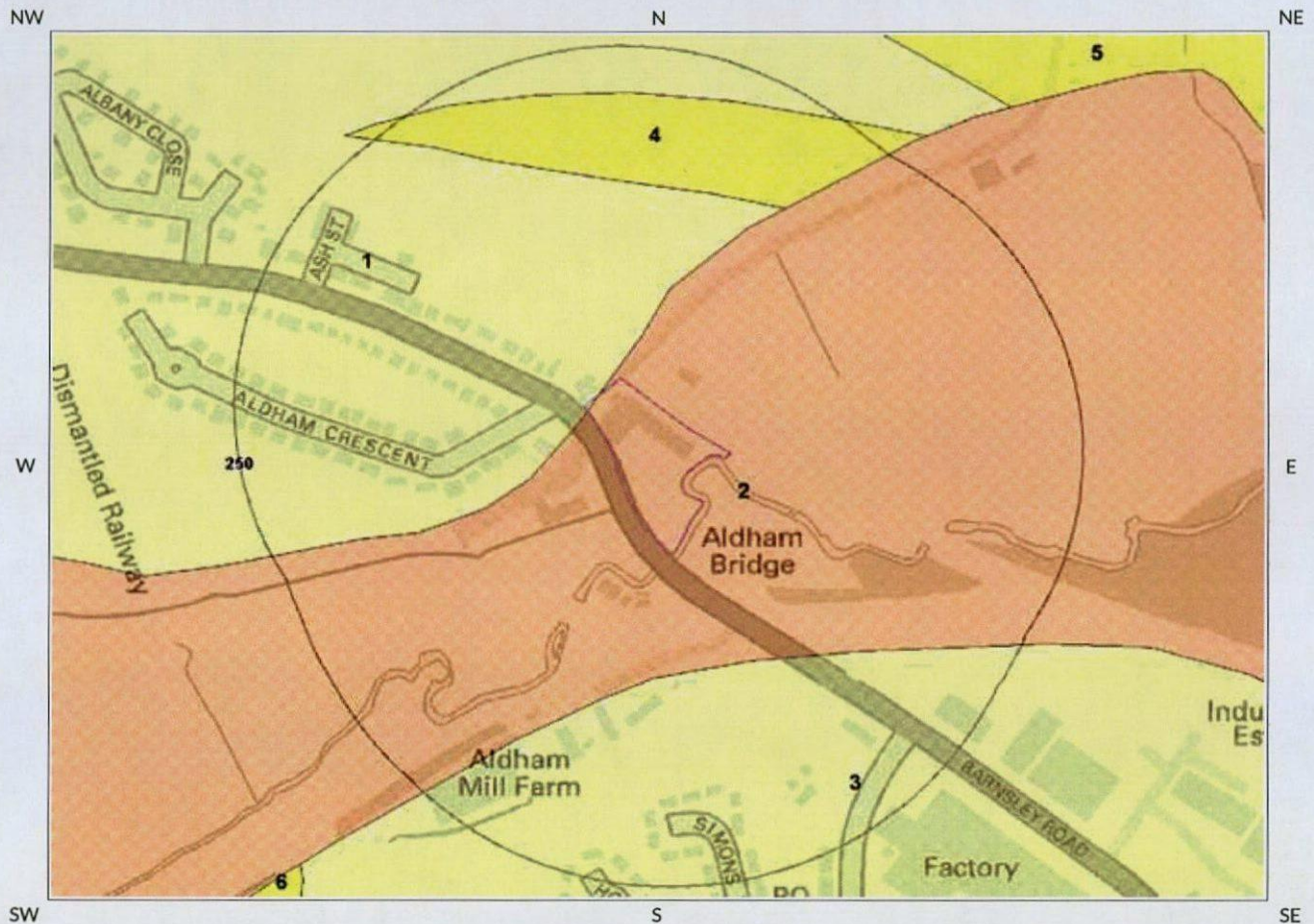
Are there any Clay Mining areas within 1000m of the study site boundary?

No

Database searched and no data found.

4 Natural Ground Subsidence

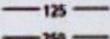
4.1 Shrink-Swell Clay Map



Shrink Swell Clay Legend

Mapping sourced from  **Ordnance Survey**

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 Site Outline
 Search Buffers (m)
125
250

 No Data / Null
 Negligible
 Very Low

 Low
 Moderate
 High

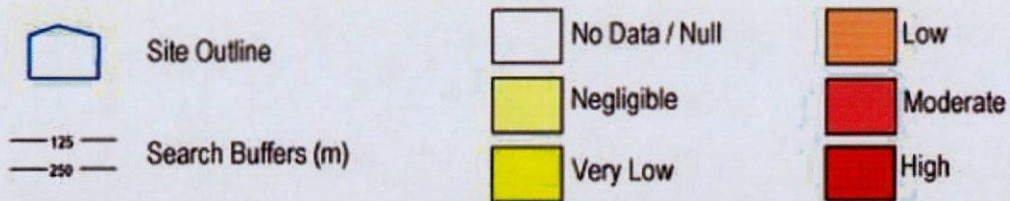
4.2 Landslides Map



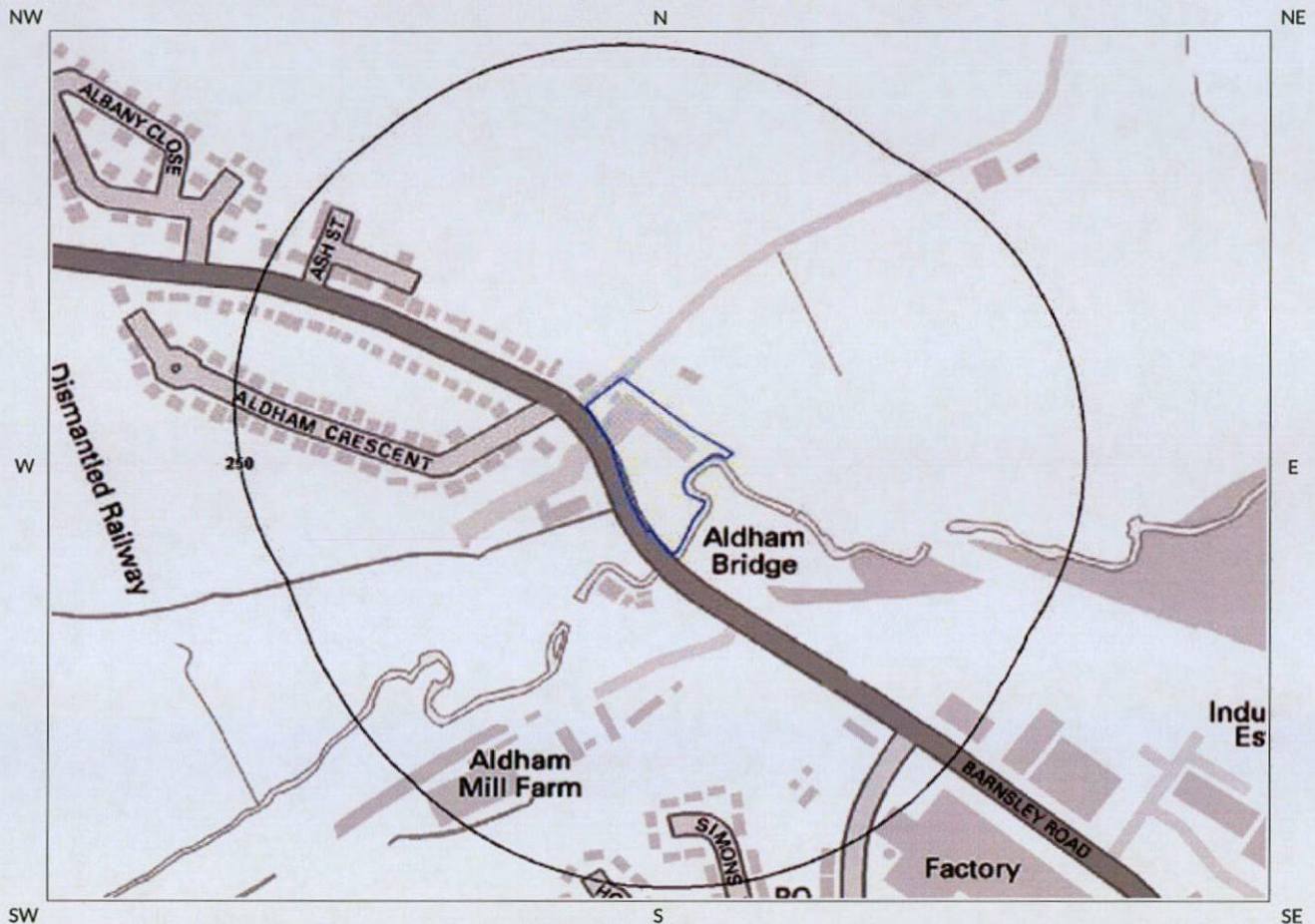
Landslides Legend

Mapping sourced from  Ordnance Survey

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4.3 Ground Dissolution Soluble Rocks Map

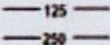


Ground Dissolution
Soluble Rocks Legend

Mapping
sourced from
 Ordnance
Survey

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 Site Outline

 Search Buffers (m)

 No Data / Null

 Negligible

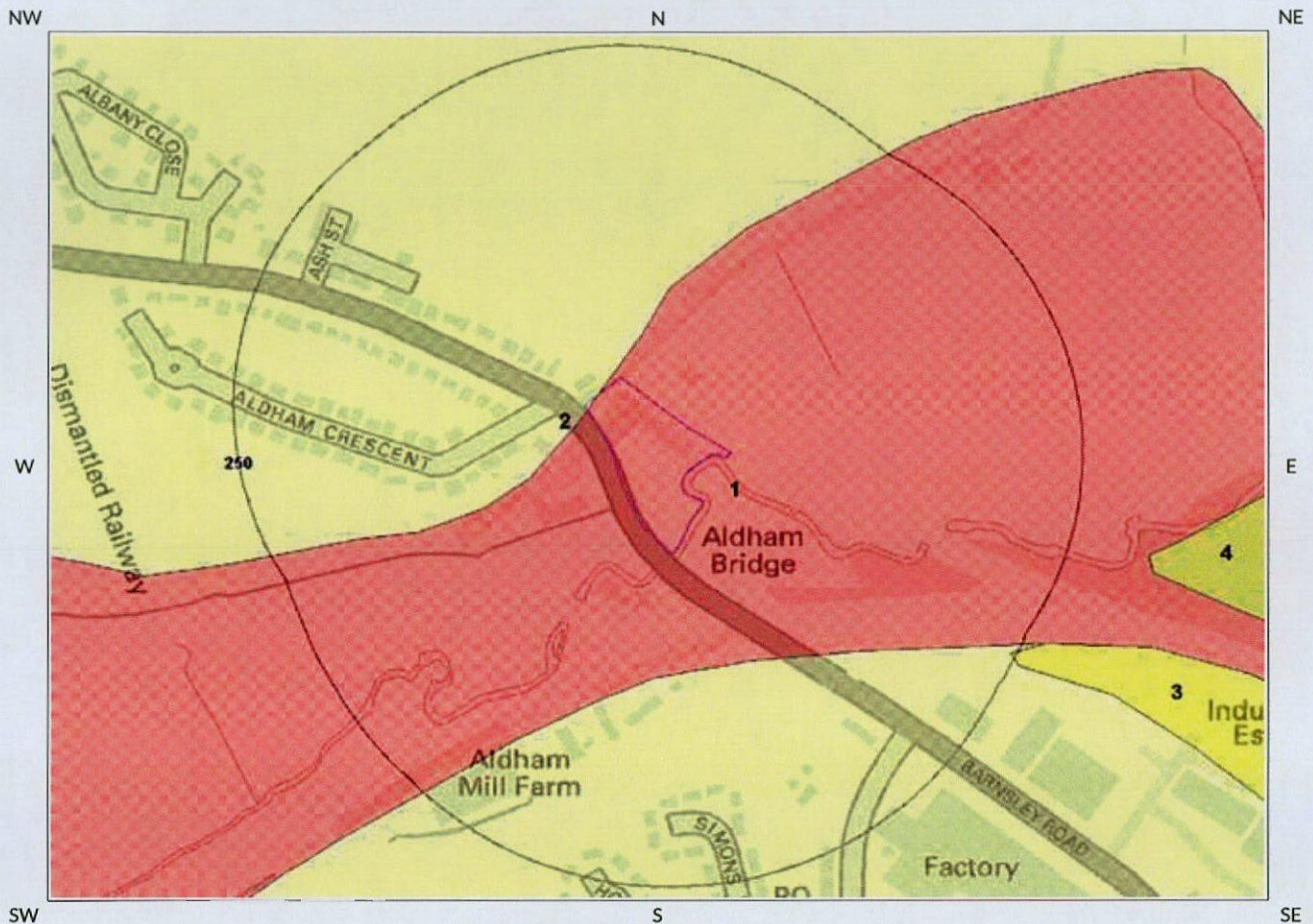
 Very Low

 Low

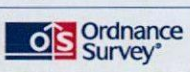
 Moderate

 High

4.4 Compressible Deposits Map



Compressible Deposits Legend

Mapping sourced from  Ordnance Survey

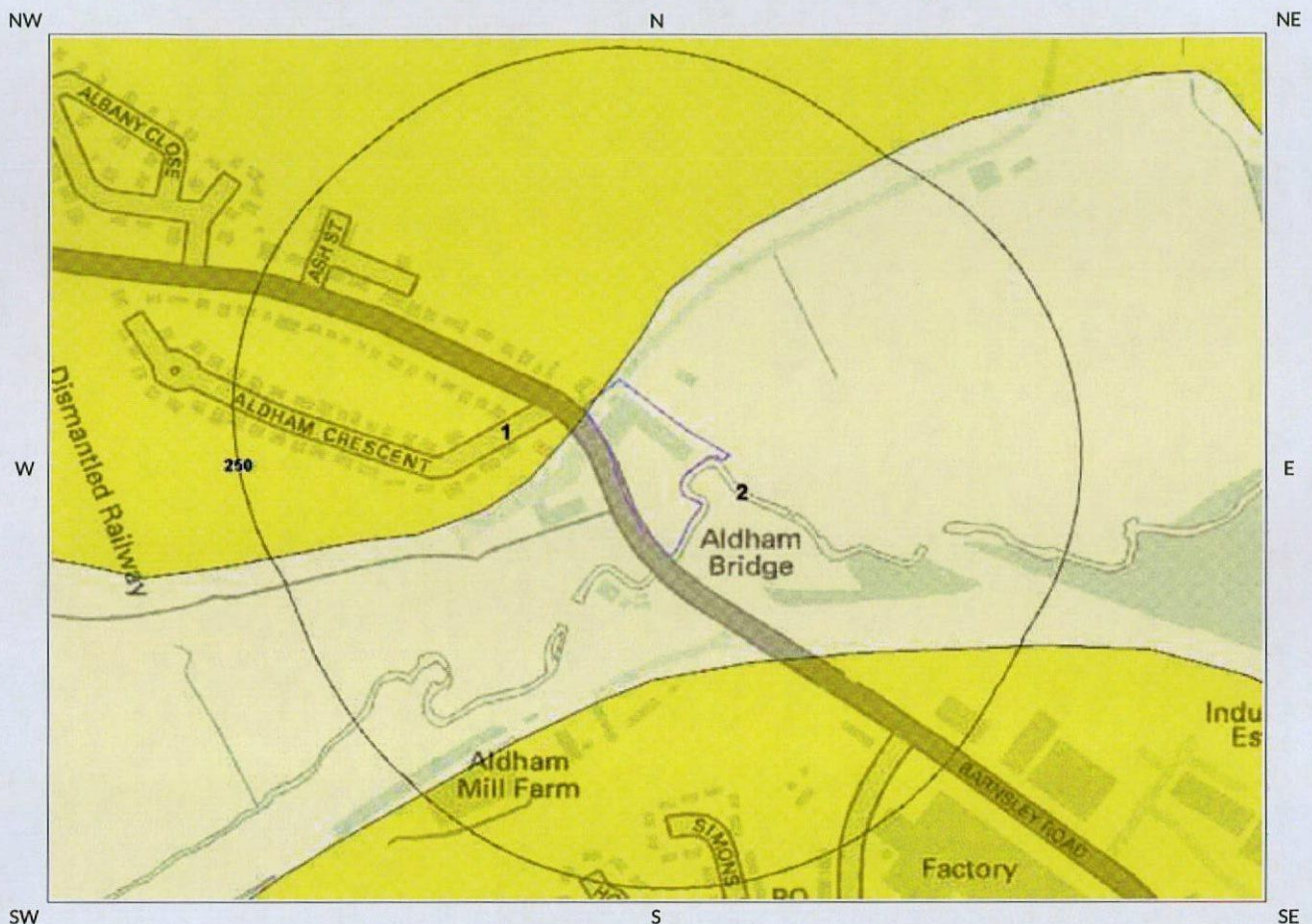
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 Site Outline
 Search Buffers (m)

 No Data / Null
 Negligible
 Very Low

 Low
 Moderate
 High

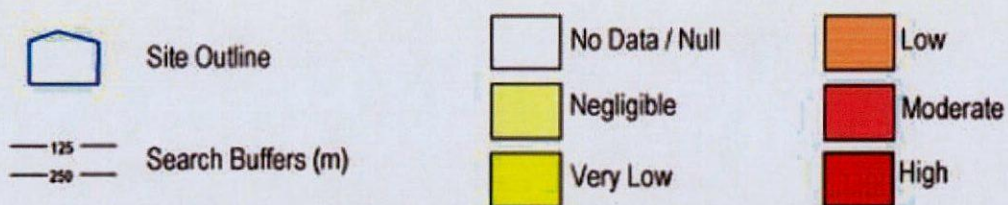
4.5 Collapsible Deposits Map



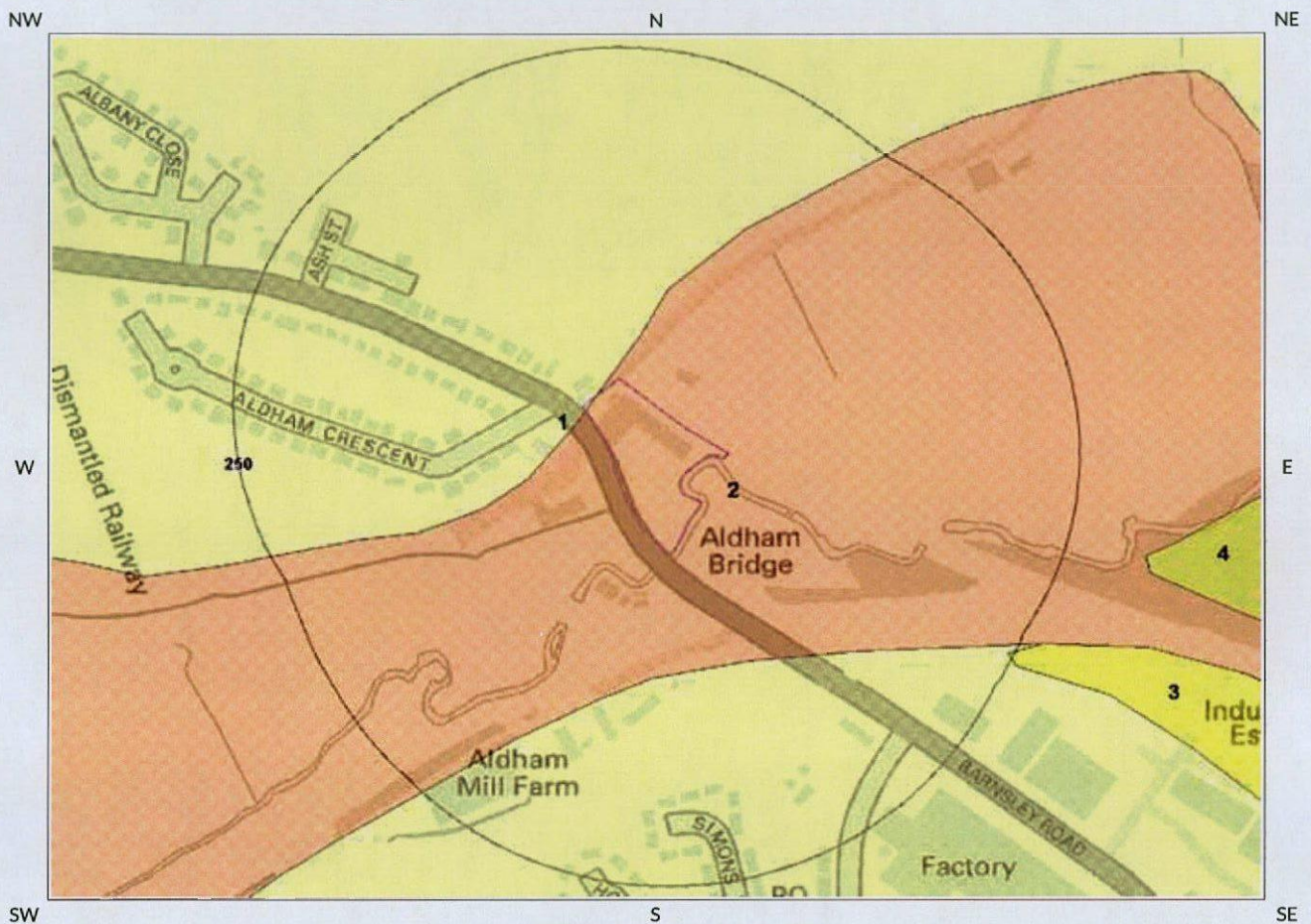
Collapsible Deposits Legend

Mapping sourced from  **Ordnance Survey**

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4.6 Running Sand Map



Running Sand Legend

Mapping sourced from  Ordnance Survey

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 Site Outline
 Search Buffers (m)
125
250

 No Data / Null
 Negligible
 Very Low

 Low
 Moderate
 High



4 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

4.1 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	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
2	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.

4.2 Landslides

The following Landslides information provided by the British Geological Survey:

ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.
2	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

ID	Distance (m)	Direction	Hazard Rating	Details
3	31.0	NE	Low	Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property - no significant increase in insurance risk due to natural slope instability problems.

4.3 Ground Dissolution of Soluble Rocks

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

Distance (m)	Direction	Hazard Rating	Details
0	On site	Null-Negligible	Soluble rocks are not present in the search area. 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.

4.4 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.
2	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.

4.5 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	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	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.

4.6 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	Negligible	No indicators for running sand identified. No special actions required to avoid problems due to running sand. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with running sand.
2	0.0	On Site	Low	Possibility of running sand problems after major changes in ground conditions. Normal maintenance to avoid leakage of water-bearing services or water bodies (ponds, swimming pools) should reduce likelihood of problems due to running sand. For new build - consider possibility of running sand into trenches or excavations if water table is high or sandy strata are exposed to water. Avoid concentrated water inputs to site. Unlikely to be an increase in construction costs due to potential for running sand. For existing property - no significant increase in insurance risk due to running sand problems is likely.