EARTH ENVIRONMENTAL & GEOTECHNICAL

Phase I Geo-Environmental

Desk Study Report

Bank Street

Mirfield, Kirklees

WF14 9QF

December 2019

On behalf of

Peel Construction Limited

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BANK STREET, MIRFIELD

KIRKLEES

WF14 9QF

PHASE I GEO-ENVIRONMENTAL ASSESSMENT

FOR

PEEL CONSTRUCTION LIMITED

Earth Environmental & Geotechnical (Southern) Ltd.
Kingsbury House
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Melksham
Nr Bath
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Report No. B1142/19 **December 2019**

Report Title:	**Bank Street, Mirfield, Kirklees, WF14 9QF** **Phase I GeoEnvironmental Assessment**	
Report Reference:	**B1142/19**	
Client:	**Peel Construction Limited**	
Issue Date:	**9th December 2019**	
Drafted By:	**Robert Brown** **Geo-Environmental Consultant**	
Authorised By:	**Simon Leat** **Director**	

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1.0 INTRODUCTION

Appointment

1.1 Earth Environmental & Geotechnical was commissioned by Cadvis3d, acting on behalf of Peel Construction Limited (the Client) to undertake a Phase 1 Geo-Environmental Desk Study for a site adjacent to 41/43 Bank Street in Mirfield, Kirklees.

Terms of Reference

1.2 EEGSL was commissioned by the Client to undertake a Phase I Geo-Environmental Desk Study at the site in accordance with a proposal reference B1142 dated November 2019.

1.3 The objectives of this investigation are:

- *Undertake a desk-based review of the underlying geology and hydrology, current and historical site uses, potential contamination sources, radon potential, natural cavities and mining risks.*
- *Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site in relation to the future use and in relation to off-site receptors.*
- *Provide recommendations on Phase II Investigation (if required).*

Sources of Information

1.4 The Phase 1 Desk Study comprises of a review of the following information sources:

- British Geological Survey online maps.
- Google Earth imagery.
- Environment Agency online data.
- Historical Ordnance Survey maps.
- The site and surrounding areas environmental, geological and mining data presented in the site-specific Groundsure Reports (Appendix 1 & 2).

Limitations of the Study

1.5 The report is written in the context of an agreed scope of work and budget and should not be used in a different context. New information, improved practices or changes in legislation may require a reinterpretation of the report in whole or in part. EEGSL reserve the right to amend either conclusions or recommendations in light of any further information that may become available. This report is provided for the sole use by the client and is confidential to them.

1.6 Recommendations within this report are also based on records produced by others. It is assumed this information is accurate and no liability can be accepted for the accuracy of this information.

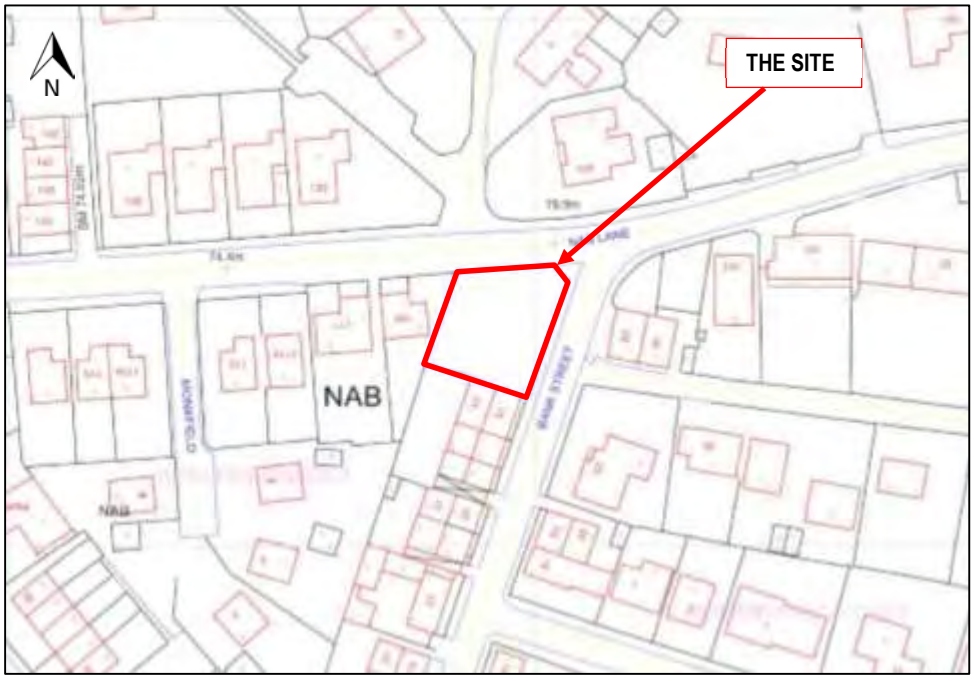
2.0 THE SITE

Site Location and Description

2.1 The site is an area of grassed land located at the junction between Bank Street and Nab Lane at approximate National Grid Reference is 419294, 420542 and postcode WF14 9QF.

2.2 The site location is shown in Figure 1 below.

Figure 1: Site Location Plan



2.3 The site is surrounded on all sides by residential development, slopes gently to the South and covers an area of 446 m^2. At the time of writing this report the site was a grassy public area with a tree in the North West corner and a footpath running diagonally South East – North West.

2.4 An aerial photograph of the site is presented in Figure 2 overleaf.

Figure 2: Aerial Photograph of Site

Proposed Development

2.5 It is proposed to construct two residential properties on site. Proposed development layout details are shown in Figure 3 below.

Figure 3: Proposed Development Details

Site Utility Services

2.6 A site service plan has been not provided by the Client. The status of all services should be checked with the statutory providers prior to any development (including site investigation) commencing.

3.0 ENVIRONMENTAL SETTING

3.1 The geology of the site is covered by British Geological Survey (BGS) online data and the site-specific Groundsure Geo-Insight report (Appendix 1).

3.2 Environmental conditions are covered by Environment Agency (EA) and British Geological Survey (BGS) online data, and the site-specific Groundsure Enviro-Insight report (Appendix 2).

Geology

3.3 The BGS states there is no Artificial/Made Ground and no Superficial/Drift geology beneath the site.

3.4 BGS records show the site is underlain by the Pennine Lower Coal Measures of Carboniferous age. The bedrock is described as interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part.

3.5 There is are no records of landslips or geological faults within 250m of the site.

3.6 The BGS rates the hazards from soluble rocks, compressible ground and running sand as negligible. A very low risk rating has been given to shrink-swell clays and collapsible deposits and a low rating to landslides.

3.7 There is one background soil chemistry record on site, recording levels of Arsenic = 35-45mg/kg, Cadmium = <1.8mg/kg, Chromium = 90-120mg/kg, Nickel = 15-30mg/kg and Lead = 100-200mg/kg.

3.8 There are several historical trial pit records located 125m-250m to the NE of the site, all of which have encountered weathered coal measures strata (clay with sandstone).

3.9 There are 30 records of historical surface ground working features within 250m of the site, the closest of which is an unspecified quarry located 87-95m to the SE, recorded 1938-1985.

3.10 There are no records of historical underground workings within 250m of the site.

3.11 There are 3 records of current ground workings within 250m of the site, the closest of which is 147m to SE (Stocks Bank Quarry), ,working sandstone (operations now ceased).

Railways and Tunnels

3.12 There are no historical or current railway features or tunnels within 250m of the site.

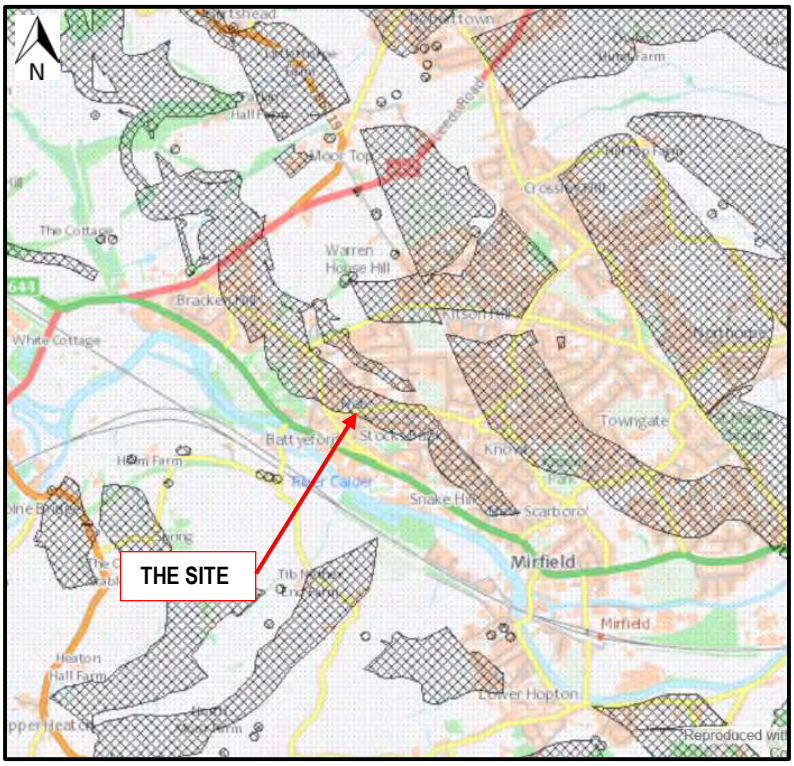
Mining

3.13 According to The Coal Authority the site lies in or in proximity to the coal mining reporting area as defined by the coal authority.

3.14 According to the Geo-Insight Report there are (inferred) coal seams 3m to S, 126m to NE, 210m to W and 218m to N.

3.15 According to the Coal Authority Interactive Map, the site is located within a Development High Risk Area, associated with probable unrecorded shallow workings.

Figure 4: Map Showing Development High Risk Area



3.16 The Coal Authority states that there are no none-coal mining areas within 50m of the study site boundary.

3.17 The site is not within an area of brine extraction, gypsum extraction or clay mining.

Radon Potential

3.18 The site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level. No radon protection measures are to be required as part of any new development on site.

Hydrogeology and Hydrology

3.19 The underlying bedrock is designated as a "Secondary A" aquifer. This designation is described as *"Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers"*.

3.20 There are no source protection zones, surface water abstraction licenses, groundwater abstraction licenses or potable water abstraction licenses within 250m of the site.

3.21 The Environment Agency/Natural Resources Wales identifies high leaching potential on site.

3.22 There are no watercourses within 250m of the site.

Industrial Land Use Information

3.23 Records of historical and current industrial land usage within 250m of the site are summarised in the following table:

Table 1 : Summary of Industrial Land Usage within 250m of Site

Description	Records within 250m of site	Details
Historical Potentially Contaminative Uses	48	Closest is 87m to SE unspecified quarry (1938)
Historical Tanks	1	250m to SW (1993)
Historical Energy Features	3	Closest is 185m to N electricity substation (1994)
Historical Petrol and Fuel Sites	0	-
Historical Garage and Motor Vehicle Repairs	0	-
Historical Military Sites	0	-
Potentially Infilled Land	30	Closest is 87m to SE unspecified quarry (1938)
Current Industrial Sites	13	Closest is 93m to W. Works.
Current Petrol and Fuel Site	0	-
National Grid Underground Electricity Cables	0	-
National Grid Gas Transmission Lines	0	-

Landfill and Waste Management Activity

3.24 There are no records of current landfill sites or waste management facilities within 250m of the site. There is one record of historical landfill sites 234m to the South. There is one record of licensed waste sites 229m to the South; operator: Mirfield Motor Spares Ltd.

Environmental Permits, Incidents and Registers

3.25 The Groundsure report indicates there are no records of environmental permits, incidents and registers within 250m of the site.

Environmentally Sensitive Sites

3.26 There are no records of environmentally sensitive sites within 500m of the site.

Archaeology

3.27 An archaeological assessment falls outside the brief of this report. Where considered necessary, advice should be sought from an archaeological specialist.

Potential Flood Risks

3.28 The site is not located within a floodplain.

Previous Site Investigations

3.29 EEGSL are not aware of any previous site investigation occurring at the assessment site.

4.0 SITE HISTORY

4.1 The historical development of the site has been determined by reference to historical plans, Google Earth imagery and the officers report from Bristol City Council. The reviewed historical plans comprise only readily available records and may be limited; however, the information available to date indicates that additional searches are unlikely to add to our understanding of the site. The earliest available historical mapping covering the site dates back to 1886.

4.2 The site history is summarised in the Table 2.

Table 2 : Summary of Site History

Date	Site	Surrounding Land Use
1855	Site appears to be occupied by small buildings	Assumed farmland and fields, other residential properties. Stocks Bank Quarry to the South East.
1893	Site is occupied by residential development.	More residential properties built, various mills built including Wellington Cotton Mill to the south west.
1907, 1922, 1933	No significant change	No significant change
1957	No significant change.	Stocks Bank Quarry disused.
1970-1977	No significant change	No significant change
1982-1984	Properties on site demolished, site vacant.	Continuous building of (assumed) residential properties.
1984-Present	Site vacant.	Mill buildings demolished and residential properties built.

4.3 Selected extracts from historical maps are presented in Figures 5,6, 7 and 8 overleaf.

Figure 5: OS Map Extract 1893

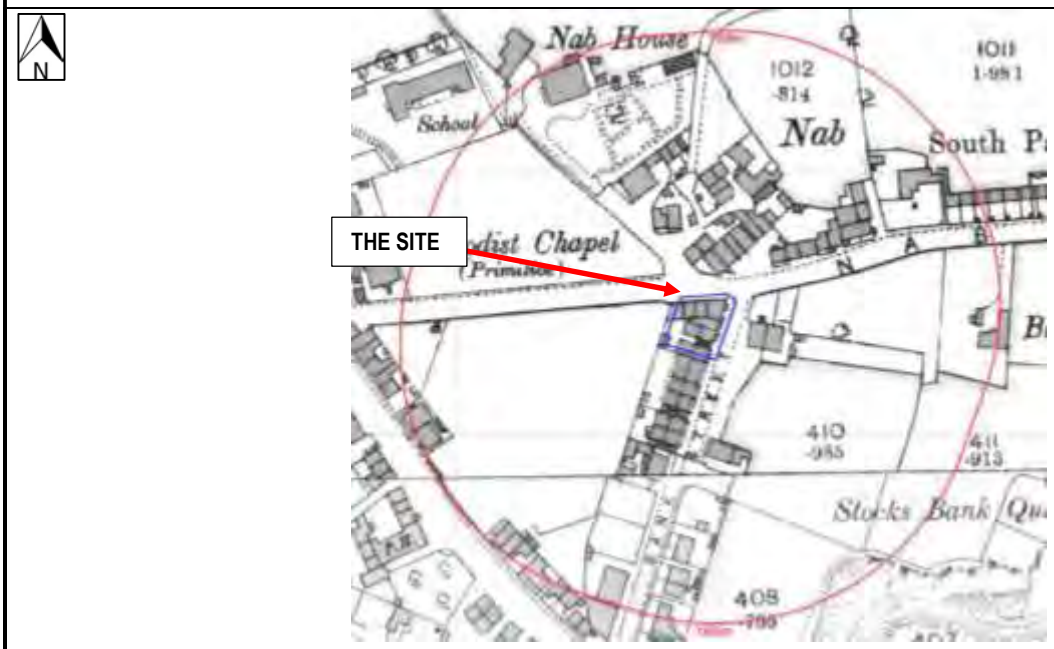


Figure 6: OS Map Extract 1957

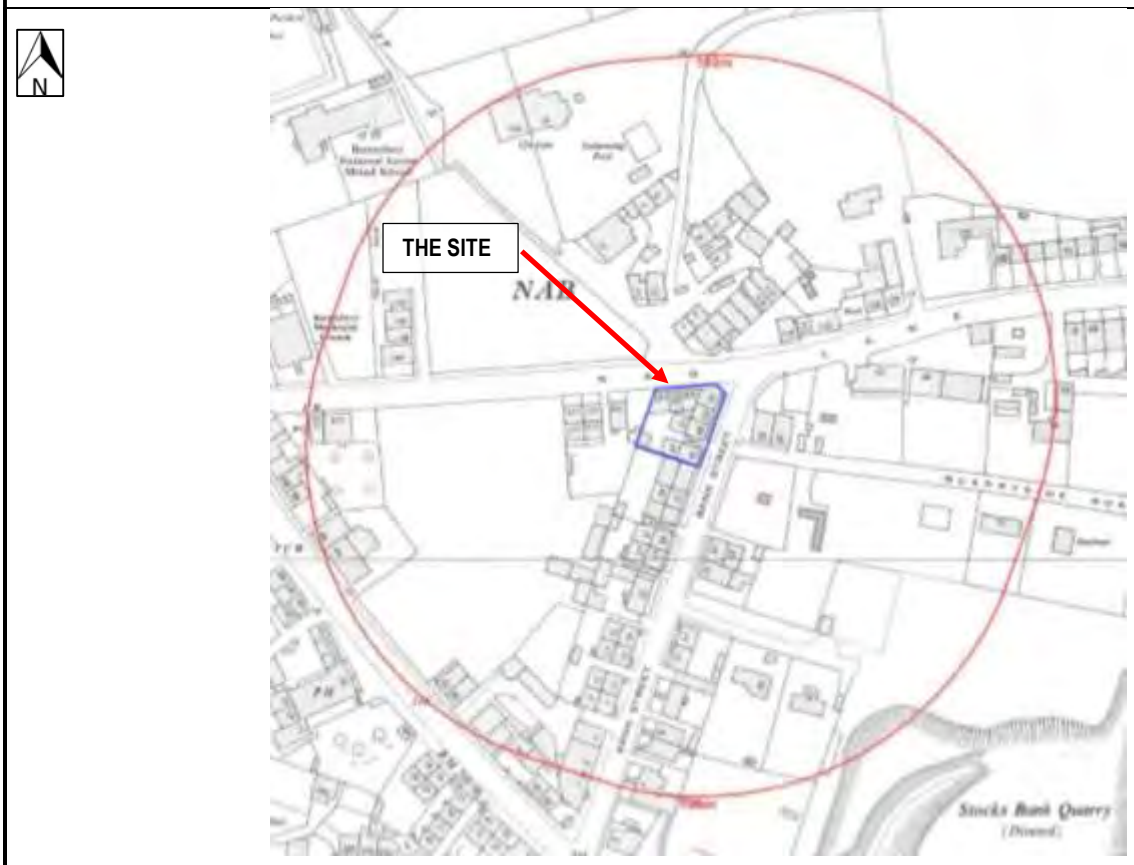


Figure 7: OS Map Extract 1982-1984

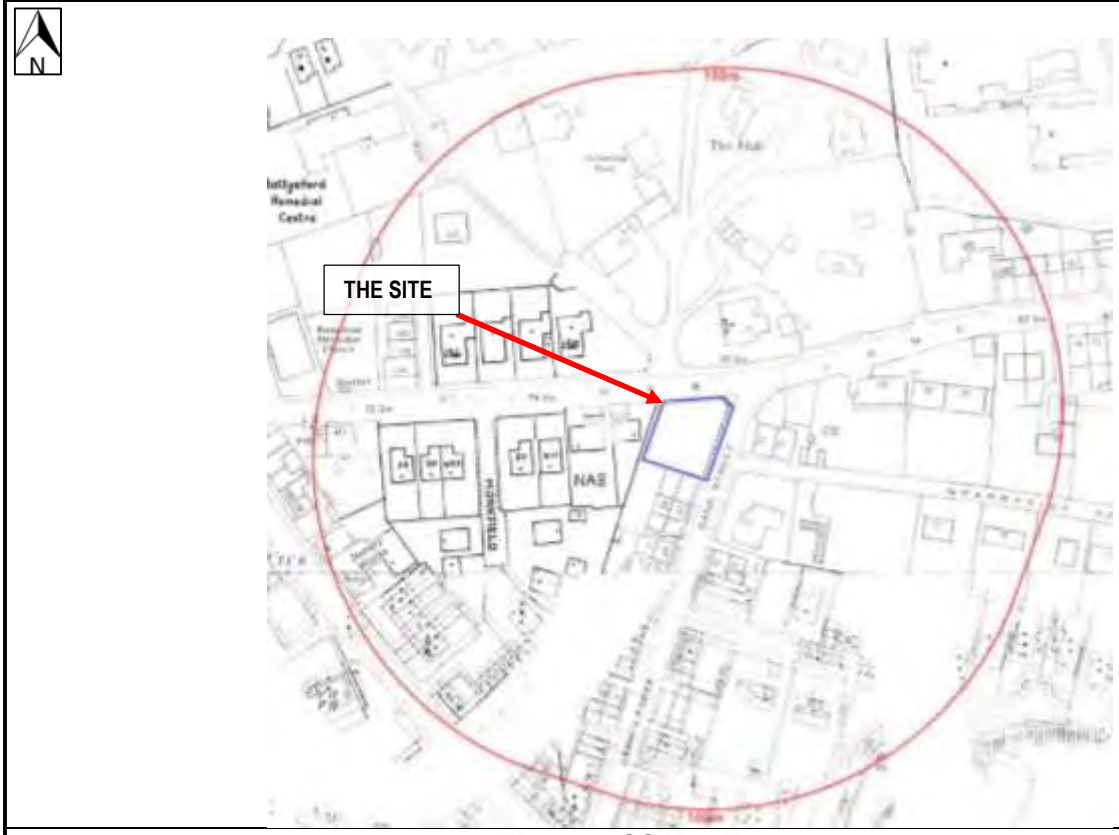
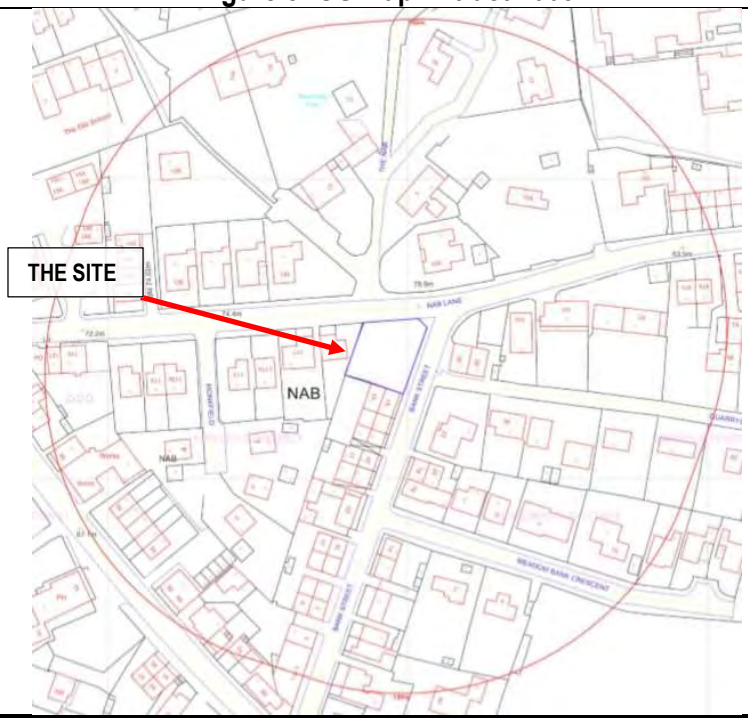


Figure 8: OS Map Extract 2003



5.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT

Introduction

5.1 The following paragraphs outline a Preliminary Risk Assessment (PRA) for the site based on the above desk study information as defined by DEFRA and the EA Model Procedures for the Management of Land Contamination, CLR11(2004).

5.2 Table 5 provides a Preliminary Conceptual Model (PCM) which considers the source-pathway-receptor linkages present alongside the likelihood, severity and risk level as defined within Table 3 and Table 4 below. The assessment of probability, a modified risk table, and certain consequence definitions are based on CIRIA C552 and CLR11.

5.3 Table 5 considers whether a pollution linkage is potentially present and provides a preliminary qualitative assessment of risk based on the information currently available. Where a possible linkage is identified, it does not necessarily mean that a significant risk exists but indicates that further information is required through appropriate site investigation to substantiate the conceptual model.

5.4 The PCM/PRA is based on a residential end use.

Table 3: Consequence, Probability and Risk

Probability	Consequence,	Risk
High Likelihood- There is a pollution linkage and an event either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution	Very High – acute risk to the human health likely to result in significant harm. Risk of severe or irreversible effect on ground/surface water quality. Catastrophic damage to buildings / property.	Very High – there is a high potential that the source-pathway-receptor scenarios may give rise to harm to human health or the environment and remedial action is likely to be required.
Likely – there is a pollution linkage and all the elements are present, which means that it is probable an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.	High – Severe or irreversible effect on human health. Temporary severe or irreversible effect on ground/surface water quality. Reduction of water quality rendering groundwater or surface water unfit to drink and/or substantial adverse impact on groundwater dependant environmental receptors.	High – it is likely that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, which may require remediation and/or control measures to mitigate risks
Low likelihood– there is a pollutant linkage and circumstances are possible for an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term	Moderate – Long term or short term moderate effect on human health. Moderate effect on ground/surface water quality, reversible with time. Reduced reliability of a supply at a groundwater or surface water abstraction source	Moderate – it is possible that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, however it is either relatively unlikely that such are would be severe, or if any harm were to occur it is more likely that harm would be mild.
Unlikely – there is a pollution linkage, but circumstances are such that it is doubtful that an event would occur even in the very long term.	Low – Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.) Slight effect on ground/surface water quality, reversible with time. Marginal reduced reliability of a supply at a groundwater or surface water abstraction source.	Low – it is possible that harm could arise at the source, however it is likely that they would at worst be mild.
		Very Low – it is unlikely that the source-pathway-receptor scenarios will give rise to an impact on human health or the environment.

Table 4: Estimation of Level of Risk by Comparison of Consequence and Probability

		Consequence			
		High	**Moderate**	**Low**	**Very low**
Probability	**High Likelihood**	Very High	High risk	Moderate risk	Moderate to low risk
	Likely	High risk	Moderate risk	Moderate to low risk	Low risk
	Low Likelihood	Moderate risk	Moderate to low risk	Low risk	Very low risk
	Unlikely	Moderate to low risk	Low risk	Very low risk	Very low risk

Potential Sources

5.5 The site has historically been used for residential purposes which is unlikely to be a source of significant contamination.

5.6 The following potential sources have been considered for the assessment site.

- Potentially contaminated Made Ground beneath the site related to previous residential development.
- Backfilled quarry to SE could generate land gas depending on type of material used to backfill the site.
- Potential for shallow depth coal mine workings beneath the site which could contain/generate land gas or mine gas, particularly if there are any voids present.

Potential Receptors

5.7 The following receptors have been considered as part of this assessment.

- Adjacent land users
- Future land users
- Construction workers during site development works

Potential Pathways

5.8 The following pathways have been considered as part of this assessment.

- Direct / dermal contact, ingestion, inhalation pathways of potentially contaminated soils;
- Vertical or lateral migration of contamination (including ground gas) on and off site.

Table 6 : Preliminary Conceptual Model

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
Contamination of the ground beneath site due to current and historical use.	Dermal contact, ingestion and inhalation of soils dust	Current Site Users	Unlikely	Low	Very low	Given the site has been used for residential purposes only, and is currently unused, it is assumed that potential for contamination is unlikely, and the risk considered **VERY LOW.**
		Future Site users	Unlikely	Low	Very low	Based on historical and current site usage (residential) it is assumed that potential for contamination is unlikely and the risk considered **VERY LOW.**
		Construction Workers	Unlikely	Low	Very low	Based on historical and current site usage (residential) it is assumed that potential for contamination is unlikely and the risk considered **VERY LOW.**
	Vertical or lateral migration of contamination (including ground gas) on and off site.	Current Site Users	Unlikely	Low	Very low	The site at the present day is unoccupied therefore the risk is considered **VERY LOW.**
		Adjacent land users	Low	Moderate	Moderate to Low	The closest source of land gas contamination is the quarry 87m to the East. Depending on type of backfill material the risk could be **MODERATE TO LOW.**
		Future land users	Low	Moderate	Moderate to Low	The closest source of contamination is a quarry 87m to the East. This quarry has been disused since between 1893 and 1957 and therefore is unlikely to pose a risk to the site. If mineworkings/voids are present beneath the site these could generate land gas. In this instance, unless proven otherwise the risk from land gas from coal mine workings is considered **MODERATE TO LOW**.
		Controlled Waters	Unlikely	Low	Very low	The current risk to controlled waters from contamination at the assessment site is considered **VERY LOW** based on current/historical site usage and distance to nearest surface water feature (>250m)
		Construction Workers	Unlikely	Moderate to Low	Low	The risk to construction workers from mobile contamination and ground gas is considered **MODERATE TO LOW**. However, it is expected that exposure duration will be short-term only, and assuming appropriate health and safety measures are adopted (in line with CDM and other relevant health and safety guidance) a **LOW** risk to construction workers is anticipated.

Preliminary Risk Assessment

5.9 The site has historically been used for residential purposes which is unlikely to be a source of significant soil contamination. The risk from soil contamination is considered low.

5.10 There is a risk land gas could be generated from the backfilled quarry to the SE of the site and also mine workings beneath the site. The risk from land gas is considered moderate to low.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 It is unlikely that there is contamination on the site as it has only been used for residential properties in the past, and these were demolished sometime between 1982 and 1984. Since then the site has been public ground.

6.2 The site is located within a development high risk areas as defined by the Coal Authority. It is recommended a Coal Mining Risk Assessment Report is undertaken to confirm whether additional works are required to prove/disprove the presence of workings. If works are required gas monitoring can be undertaken during these works.

6.3 Intrusive investigative works are also recommended to confirm foundation recommendations for the new building. Based on the anticipated ground conditions, conventional shallow depth foundations should be suitable, subject to confirmation of strength/density of near surface soils, depending on presence or not of coal mine workings.

APPENDIX 1

GEO-INSIGHT REPORT

Geo Insight

Address:	**LAND LOCATED AT JUNCTION WITH BANK STREET AND NAB LANE, MIRFIELD, WF14 9QF**
Date:	**29 Nov 2019**
Reference:	**GS-6492288**
Client:	**Earth Environmental & Geotechnical Ltd**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	26-Mar-2012
Grid Reference:	419293,420543
Site Size:	0.0461ha

Groundsure
LOCATION INTELLIGENCE

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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?*	No
	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?	Yes

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?*	No
	2.2.2 Are there any records of permeability of superficial ground within 500m of the study site?	No
	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?	Yes

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	0	0	30	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	0	0	2	7
4.3 Current Ground Workings	0	0	3	2	1

Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	0	0	2	5
5.2 Coal Mining	1	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 Cornwall and Devon Metalliferous Mining	0	0	0	0	0
5.9 Clay Mining	0	0	0	0	0

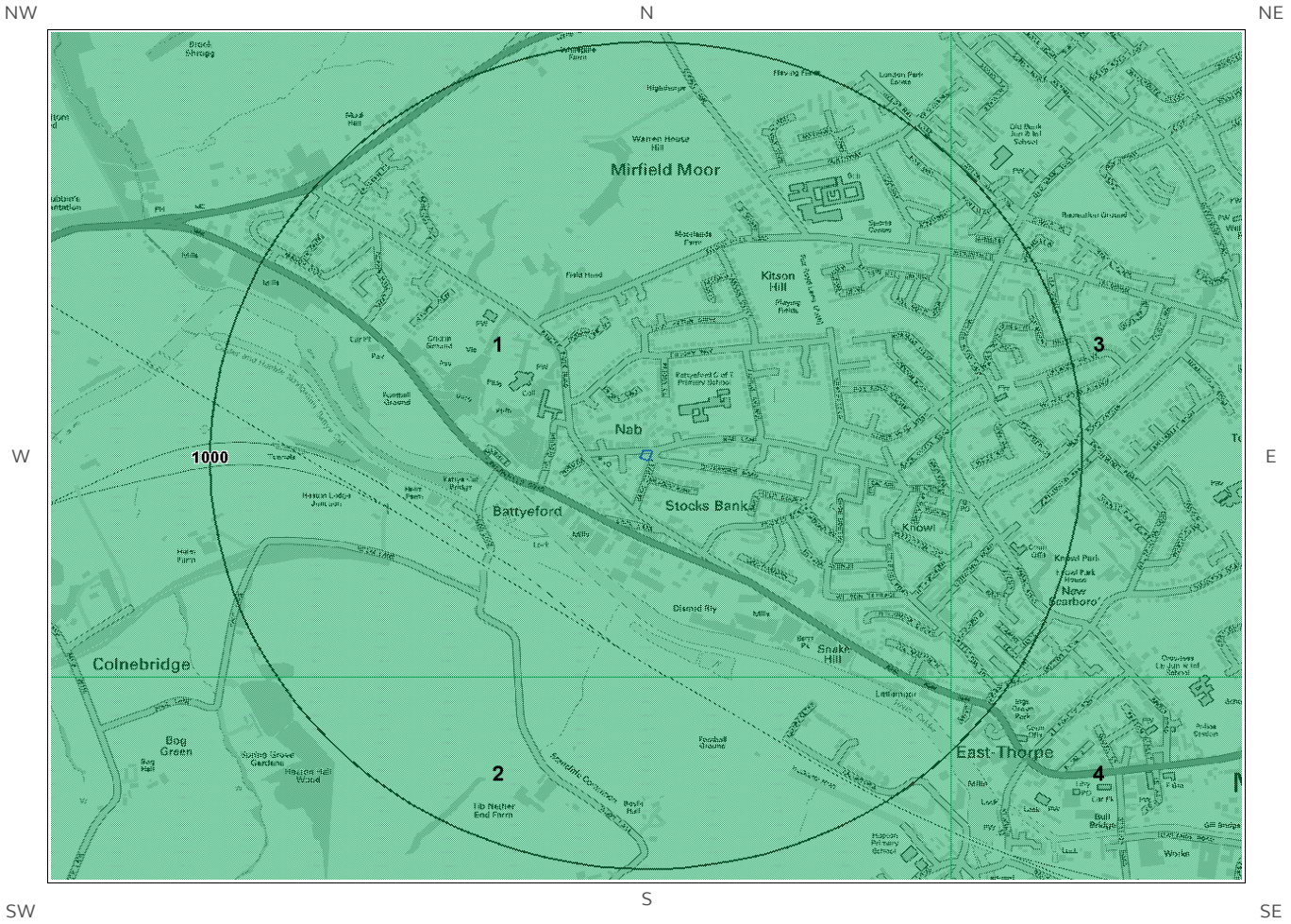
Section 6: Natural Ground Subsidence	On-site
6.1 Shrink-Swell Clay	Very Low
6.2 Landslides	Low
6.3 Ground Dissolution of Soluble Rocks	Negligible
6.4 Compressible Deposits	Negligible
6.5 Collapsible Deposits	Very Low
6.5 Running Sand	Negligible

Section 7: Borehole Records	On-site	0-50m	51-250
7 BGS Recorded Boreholes	0	0	16

Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250
8 Records of Background Soil Chemistry	1	2	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	0	0	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

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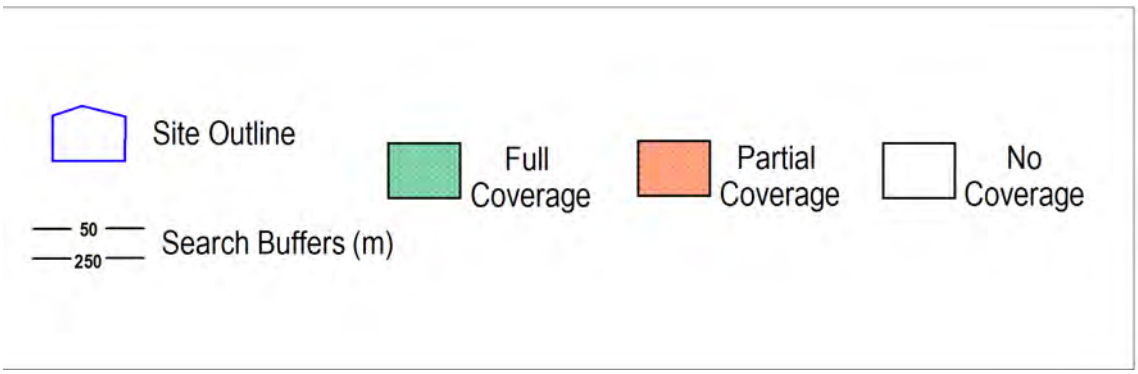


Availability of 1:10,000 Scale Geology Mapping

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	Some deposits are mapped	Full	Full	Some deposits are mapped
2	528.0	Some deposits are mapped	Full	Full	Some deposits are mapped
3	694.0	Some deposits are mapped	Full	Full	Some deposits are mapped
4	878.0	Some deposits are mapped	Full	Full	Some deposits are mapped

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

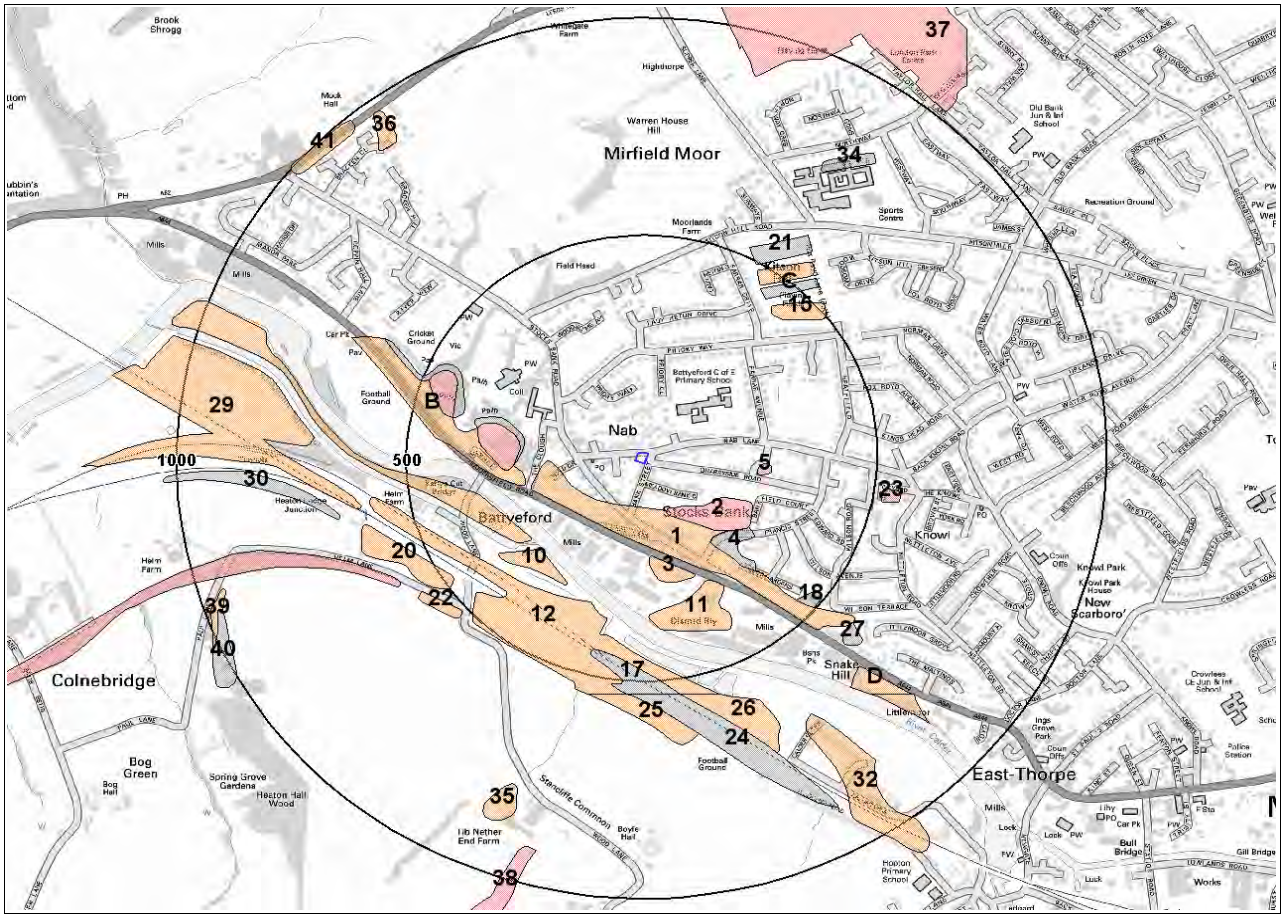
1 Geology (1:10,000 scale).

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

NW N NE

W E

SW S SE



Artificial Ground Legend

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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

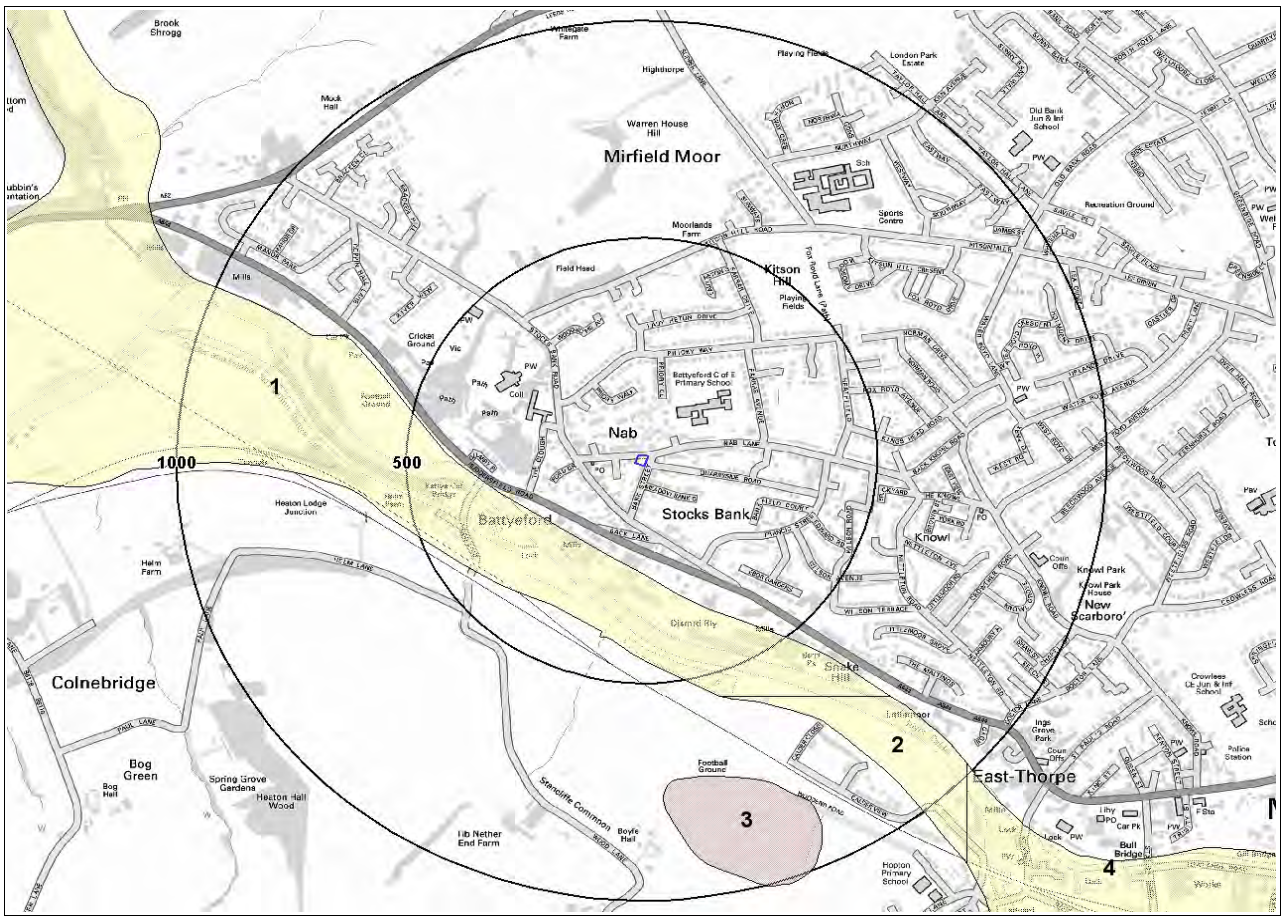
The following geological information represented on the mapping is derived from 1:10,000 scale BGS Geological mapping.

Are there any records of Artificial/ Made Ground within 500m of the study site boundary at 1:10,000 scale? Yes

ID	Distance	Direction	LEX Code	Description	Rock Description
1	100.0	S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	115.0	SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	211.0	S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	225.0	SE	WGR-VOID	Worked Ground (Undivided)	Void
5	241.0	E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6A	245.0	W	WGR-VOID	Worked Ground (Undivided)	Void
7B	245.0	W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8A	254.0	W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
9	289.0	SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
10	292.0	SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
11	300.0	SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
12	338.0	S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
13	390.0	W	WGR-VOID	Worked Ground (Undivided)	Void
14B	411.0	W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
15	420.0	NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
16C	438.0	NE	WGR-VOID	Worked Ground (Undivided)	Void
17	439.0	S	WGR-VOID	Worked Ground (Undivided)	Void
18	456.0	SE	WGR-VOID	Worked Ground (Undivided)	Void
19C	459.0	NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
20	479.0	SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
21	495.0	NE	WGR-VOID	Worked Ground (Undivided)	Void

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

NW N NE



W E

SW S SE

Artificial Ground Legend

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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	210.0	SW	ALV-XCSV	Alluvium - Clay, Sand And Gravel	Clay, Sand And Gravel

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

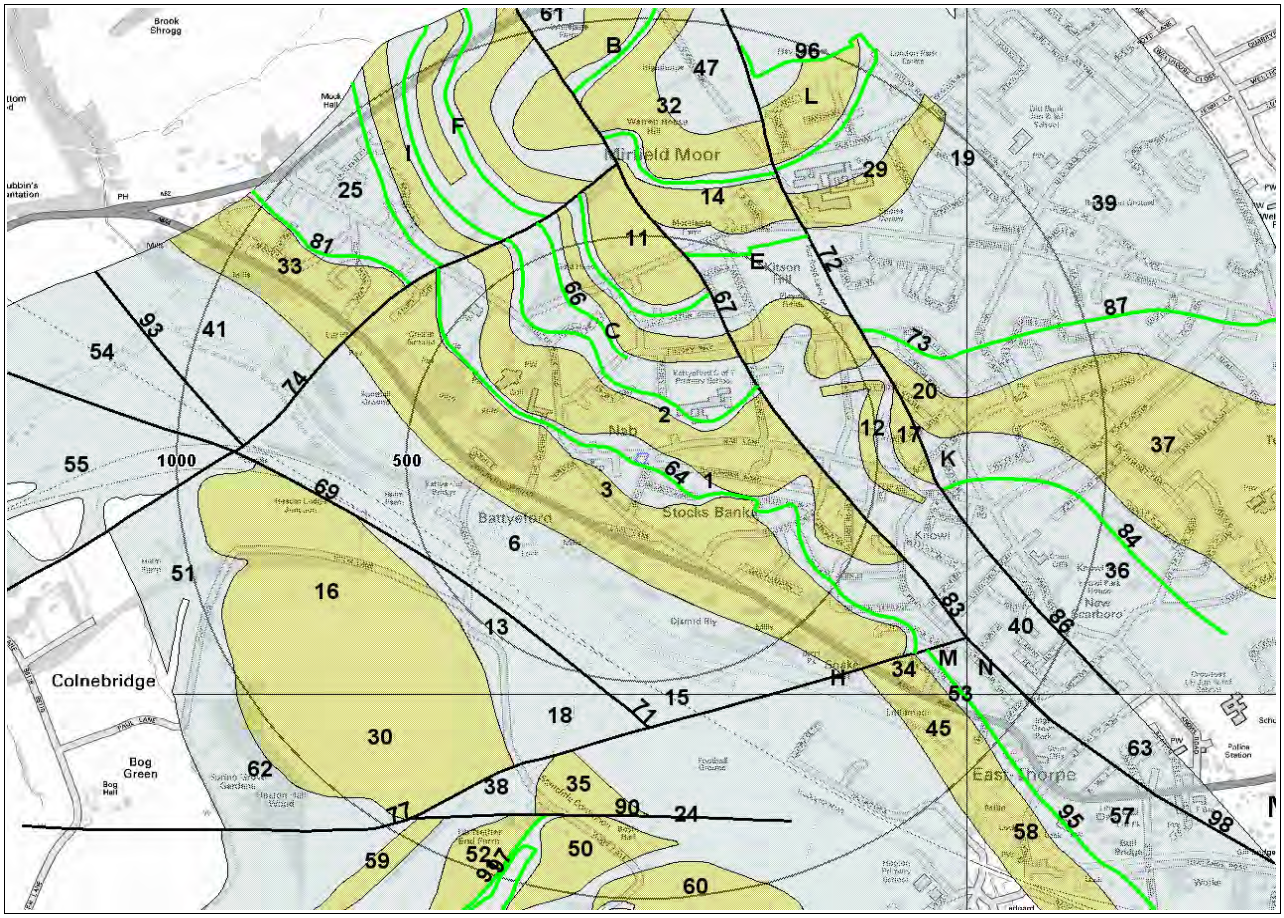
This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

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

NW N NE

W E

SW S SE



Bedrock and linear features Legend

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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	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	19.0	NE	STNR-SDST	Stanningley Rock - Sandstone	Langsettian Sub-age
3	69.0	SW	CLRK-SDST	Clifton Rock - Sandstone	Langsettian Sub-age
4C	102.0	NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
5	212.0	N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
6	227.0	SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
7D	276.0	N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
8	285.0	NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
9	296.0	NE	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
10E	333.0	NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
11	343.0	N	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
12	404.0	E	PLCM-SDST	Pennine Lower Coal Measures Formation - Sandstone	Langsettian Sub-age
13	448.0	SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-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? Yes

ID	Distance (m)	Direction	Category Description	Feature Description
64	5.0	SW	ROCK	Coal seam, inferred
65C	122.0	NE	ROCK	Coal seam, inferred
66	224.0	N	ROCK	Coal seam, inferred
67	285.0	NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
68D	317.0	N	ROCK	Coal seam, inferred
69	448.0	SW	FAULT	Normal fault, inferred; crossmarks on downthrow side

ID	Distance (m)	Direction	Category Description	Feature Description
70E	464.0	N	ROCK	Coal seam, inferred

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.

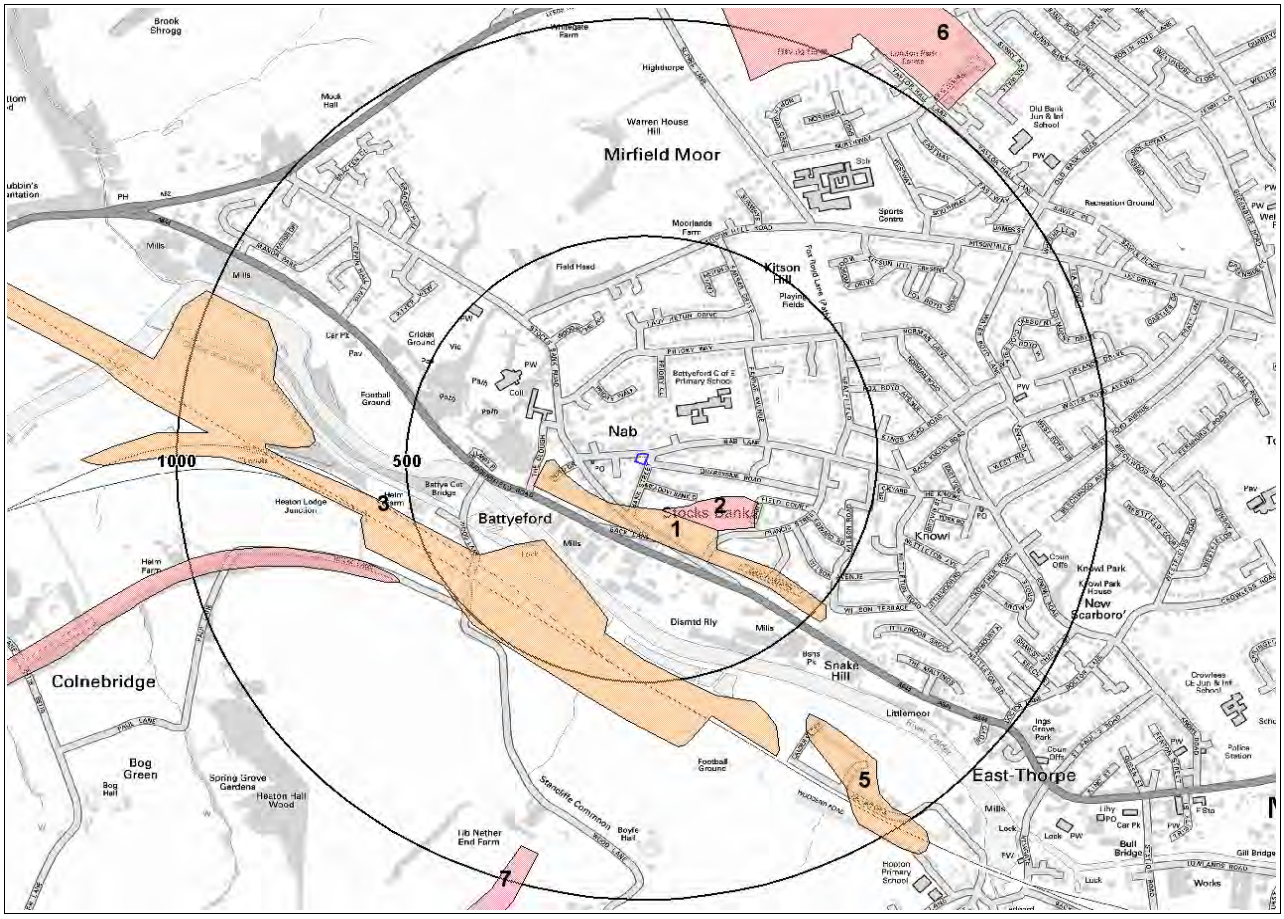
2 Geology 1:50,000 Scale

2.1 Artificial Ground map

NW N NE

W E

SW S SE



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Site Outline

500
1000
Search Buffers (m)

Made Ground (undivided)

Worked Ground (undivided)

Infilled Ground

Disturbed Ground (undivided)

Landscaped Ground (undivided)

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: 077

2.1.1 Artificial/ Made Ground

Are there any records of Artificial/ Made Ground within 500m of the study site boundary? Yes

ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	98.0	S	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
2	109.0	S	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT
3	270.0	SW	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

2.1.2 Permeability of Artificial Ground

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

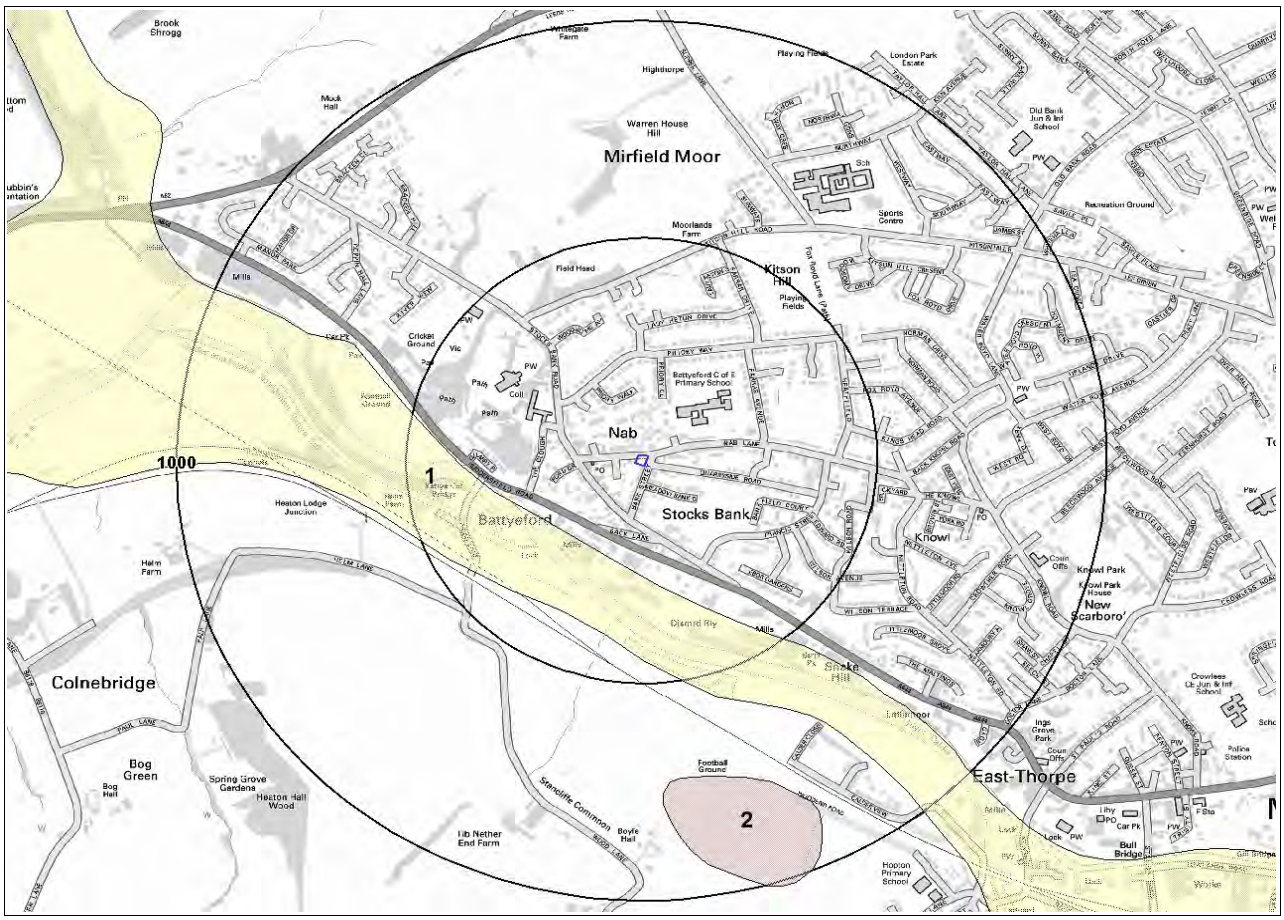
Database searched and no data found.

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

NW N NE

W E

SW S SE



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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	215.0	SW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

2.2.2 Permeability of Superficial Ground

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

Database searched and no data found.

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.

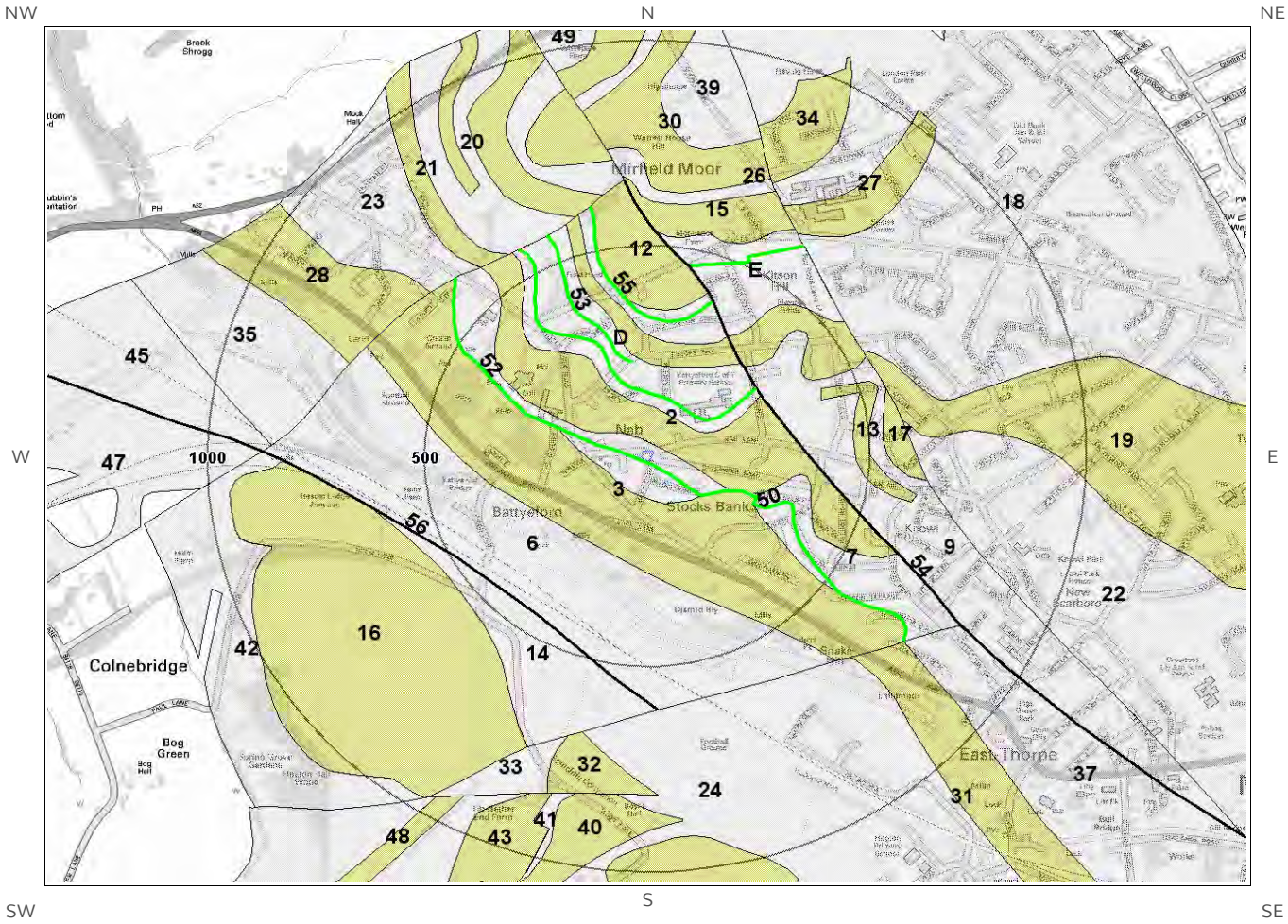
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

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)



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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: 077

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	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	17.0	NE	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
3	78.0	SW	CLRK-SDST	CLIFTON ROCK - SANDSTONE	WESTPHALIAN
4D	95.0	NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
5A	209.0	N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
6	235.0	SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
7	244.0	E	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8A	268.0	N	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
9	284.0	NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
10	295.0	NE	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
11E	330.0	NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
12	344.0	N	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
13	407.0	E	PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
14	447.0	SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

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	High	Low
17.0	NE	Fracture	High	Low

2.3.3 Linear features

Are there any records of linear features within 500m of the study site boundary? Yes

ID	Distance	Direction	Category Description	Feature Description
50	3.0	S	ROCK	Coal seam, inferred
51D	126.0	NE	ROCK	Coal seam, inferred
52	210.0	W	ROCK	Coal seam, inferred
53	218.0	N	ROCK	Coal seam, inferred
54	284.0	NE	FAULT	Fault, inferred
55	318.0	N	ROCK	Coal seam, inferred
56	447.0	SW	FAULT	Fault, inferred
57E	458.0	N	ROCK	Coal seam, inferred

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.

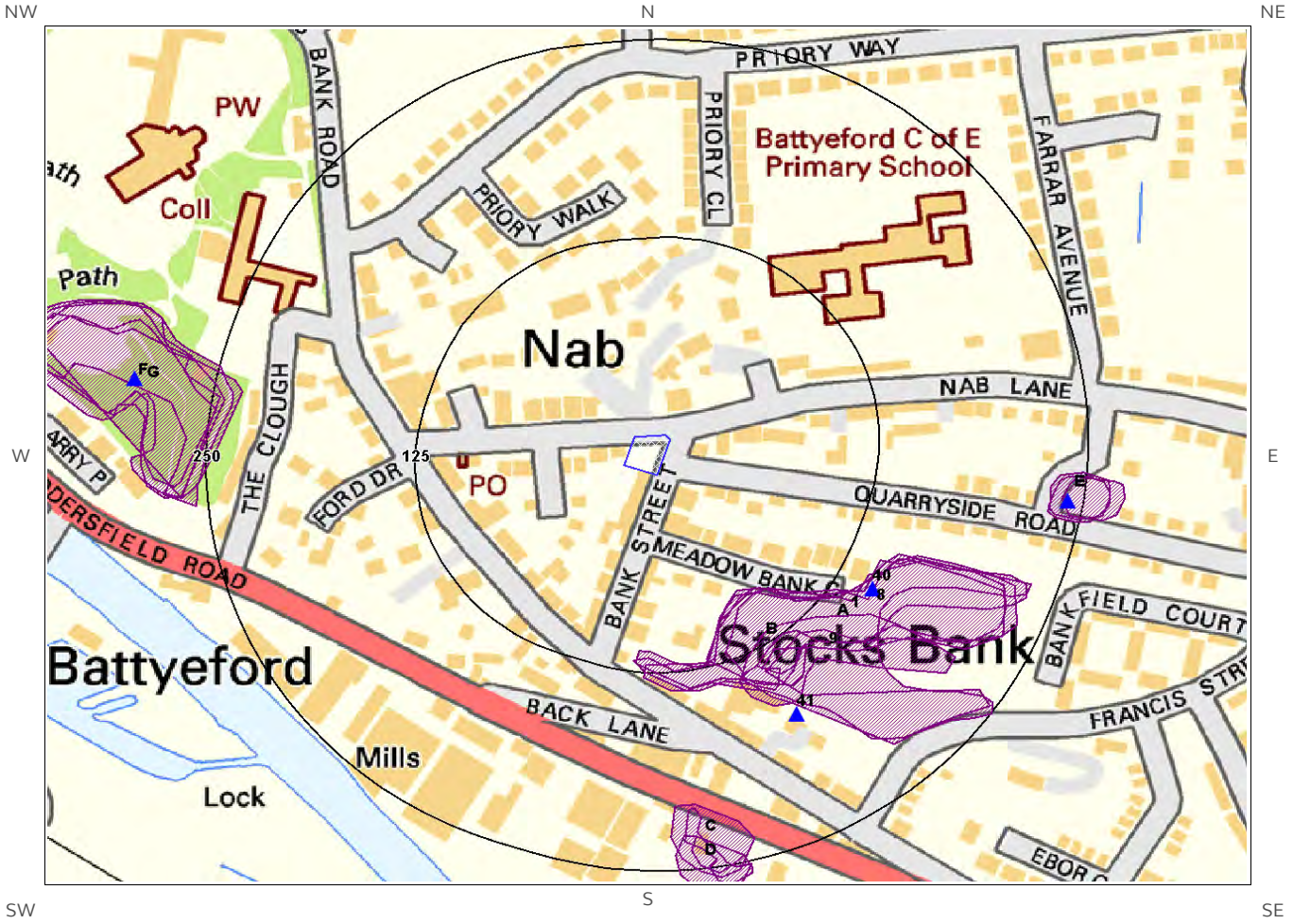
The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, 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.

---

4 Ground Workings map



Ground Workings Legend

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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
1	87.0	SE	419418 420437	Unspecified Quarry	1938
2A	89.0	SE	419398 420433	Unspecified Quarry	1931
3A	89.0	SE	419398 420433	Unspecified Quarry	1948
4A	89.0	SE	419398 420433	Unspecified Quarry	1905
5B	92.0	SE	419403 420430	Unspecified Disused Quarry	1966
6B	93.0	SE	419403 420418	Unspecified Disused Quarry	1975
7B	93.0	SE	419403 420418	Unspecified Quarry	1985
8	95.0	SE	419426 420440	Unspecified Quarry	1951
9	119.0	SE	419412 420411	Refuse Heap	1892
10	134.0	SE	419384 420408	Unspecified Ground Workings	1951
11C	209.0	S	419332 420297	Unspecified Heap	1938
12C	209.0	S	419332 420297	Unspecified Heap	1938
13C	212.0	S	419325 420294	Unspecified Ground Workings	1951
14D	228.0	S	419318 420282	Unspecified Heap	1966
15D	228.0	S	419318 420282	Unspecified Heap	1975
16D	228.0	S	419318 420282	Unspecified Heap	1985
17E	230.0	E	419552 420515	Unspecified Heap	1938
18E	230.0	E	419552 420515	Unspecified Heap	1938
19E	230.0	E	419551 420513	Unspecified Pit	1948
20E	230.0	E	419551 420513	Unspecified Pit	1931
21G	233.0	W	419028 420569	Unspecified Ground Workings	1892

ID	Distance (m)	Direction	NGR	Use	Date
22E	237.0	E	419560 420513	Unspecified Pit	1951
23F	237.0	W	418890 420639	Unspecified Quarry	1951
24F	237.0	W	418890 420639	Unspecified Quarry	1966
25F	237.0	W	418890 420639	Unspecified Quarry	1975
26G	242.0	W	418955 420572	Unspecified Quarry	1905
27G	242.0	W	418955 420572	Unspecified Quarry	1948
28G	242.0	W	418955 420572	Unspecified Quarry	1931
29G	246.0	W	418978 420576	Unspecified Quarry	1985
30G	246.0	W	418955 420580	Unspecified Quarry	1938

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? Yes

The following Historical Underground Working Features are provided by Groundsure:

ID	Distance (m)	Direction	NGR	Use	Date
Not shown	451.0	SW	418793 420304	Colliery	1892
Not shown	451.0	SW	418793 420304	Colliery	1905
Not shown	714.0	NE	420011 420868	Colliery	1892
Not shown	714.0	NE	420011 420868	Colliery	1931
Not shown	714.0	NE	420011 420868	Colliery	1948
Not shown	714.0	NE	420011 420868	Colliery	1905
Not shown	780.0	W	418461 420560	Tunnels	1985
Not shown	780.0	W	418461 420560	Tunnels	1975
Not shown	985.0	NW	418514 421338	Colliery	1892

4.3 Current Ground Workings

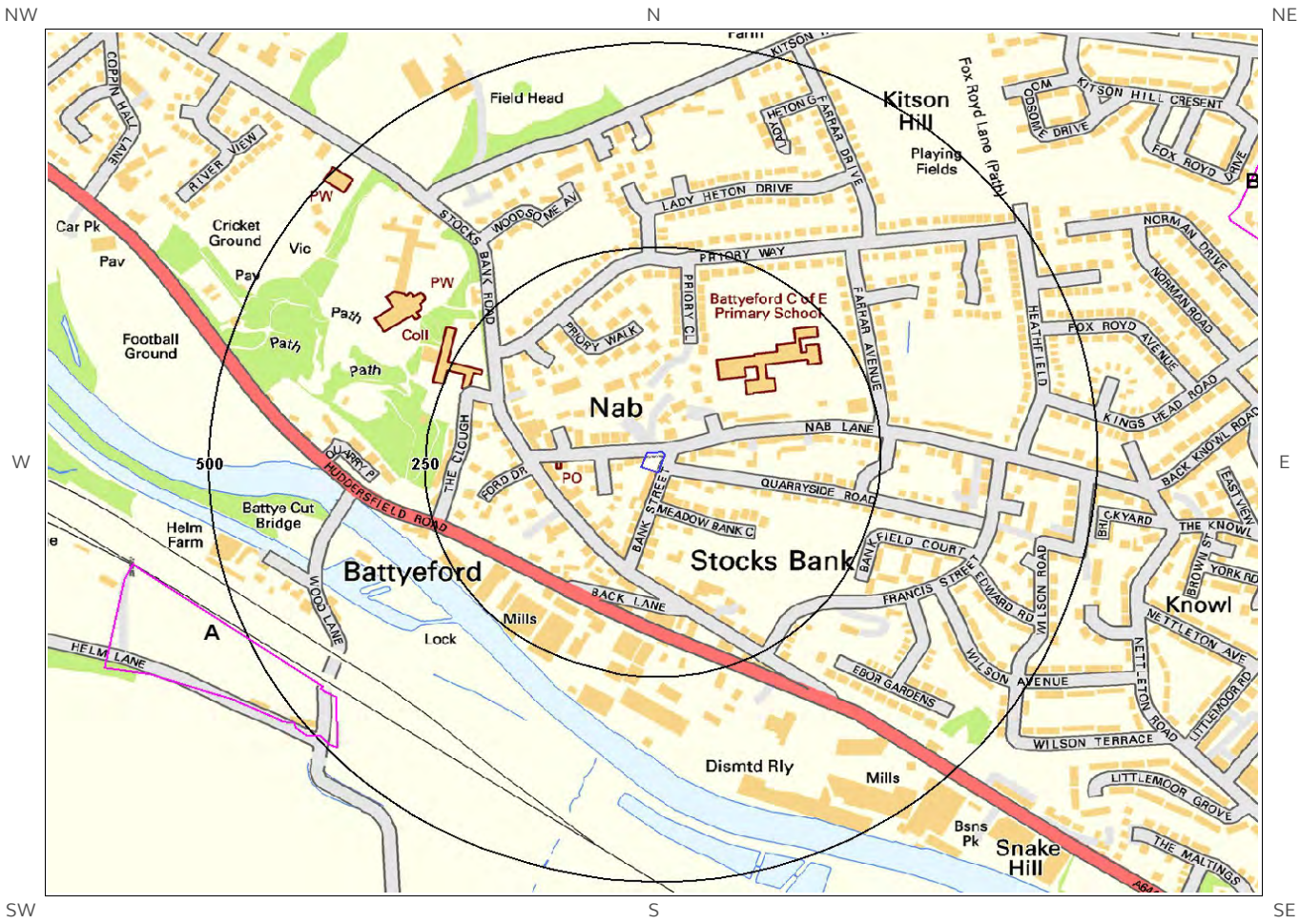
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

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
40	147.0	SE	419427 420456	Sandstone	Stocks Bank Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
41	173.0	SE	419382 420377	Sandstone	Bank Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
42E	241.0	E	419544 420512	Sandstone	Nab	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
43G	298.0	W	418986 420589	Sandstone	Wards End Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	458.0	W	418856 420712	Sandstone	Hall Banks Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	960.0	W	418384 420186	Sandstone	Whinchat Hall	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased

5 Mining, Extraction & Natural Cavities map



Mining, Extraction and Natural Cavities Legend

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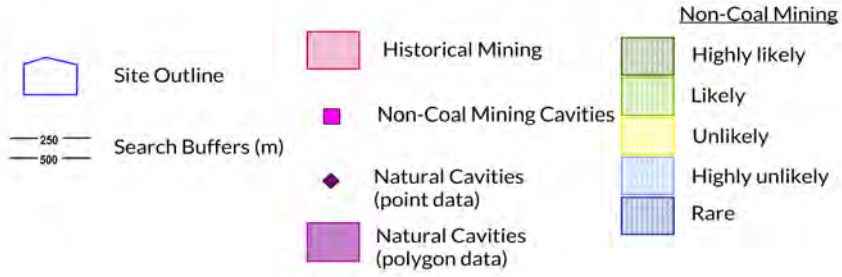


5 Mining, Extraction & Natural Cavities

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? Yes

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
1A	451.0	SW	418793 420304	Colliery	1892
2A	451.0	SW	418793 420304	Colliery	1905
3B	714.0	NE	420011 420868	Colliery	1892
4B	714.0	NE	420011 420868	Colliery	1905
5B	714.0	NE	420011 420868	Colliery	1948
6B	714.0	NE	420011 420868	Colliery	1931
Not shown	985.0	NW	418514 421338	Colliery	1892

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? 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 site lies in or in proximity to the coal mining reporting area as defined by the Coal Authority

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 Cornwall and Devon Metalliferous Mining

This dataset provides information on metalliferous mining areas in Cornwall/Devon and is derived from records held by Mining Searches UK.

Are there any Cornwall and Devon Metalliferous 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.

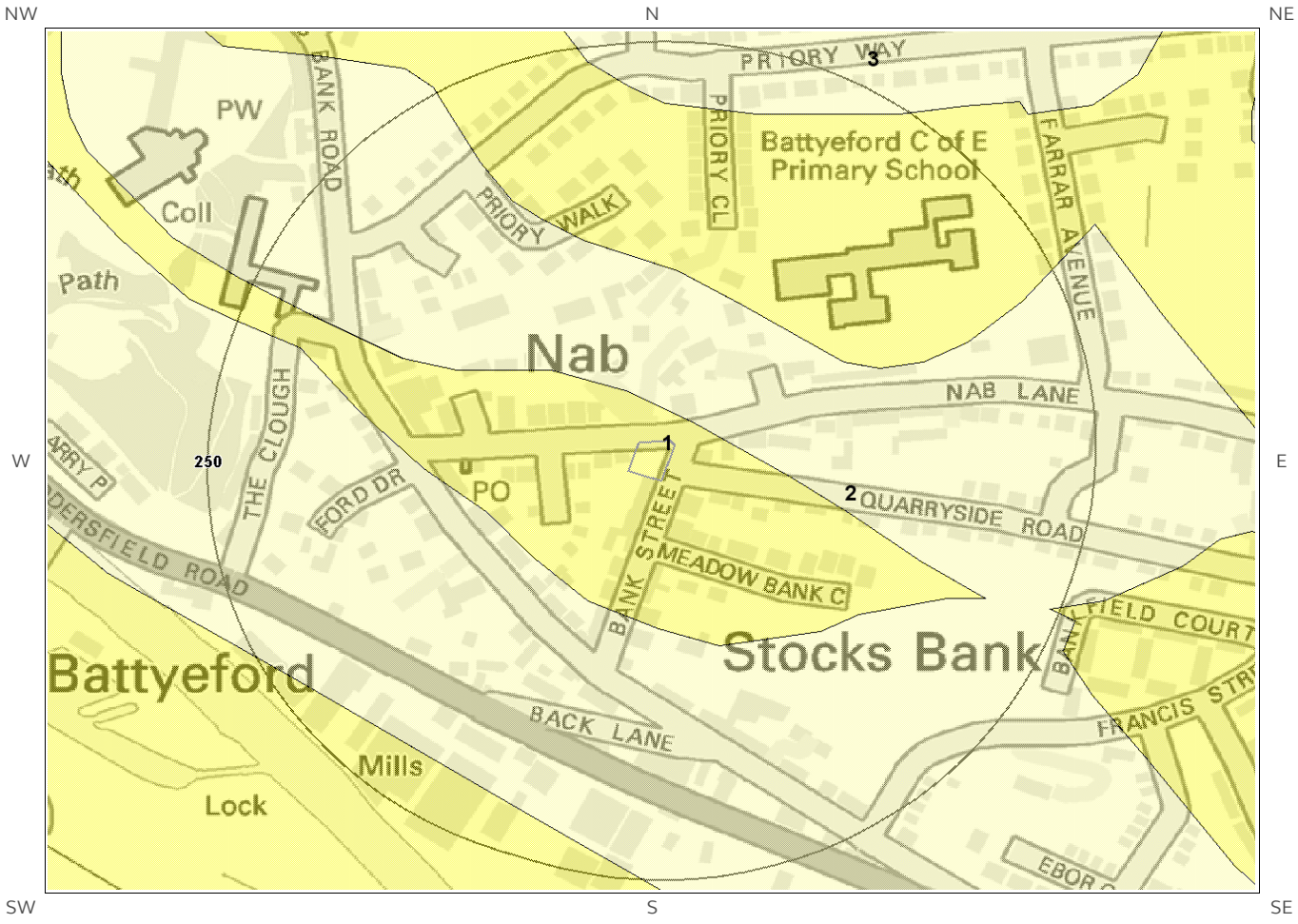
Are there any Clay Mining areas within 1000m of the study site boundary? No

Database searched and no data found.

---

6 Natural Ground Subsidence

6.1 Shrink-Swell Clay map



Shrink Swell Clay Legend

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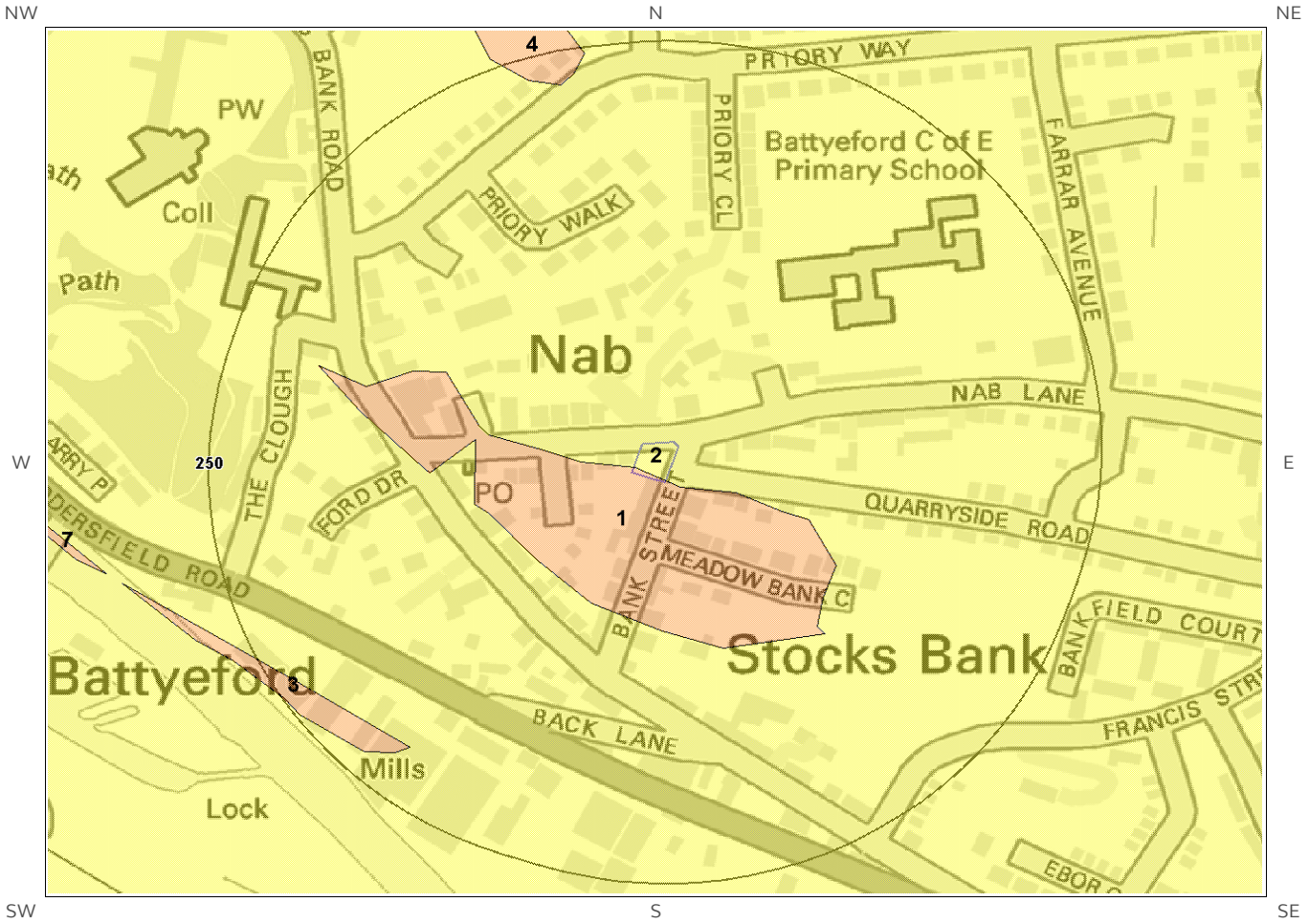
6.2 Landslides map



Landslides Legend

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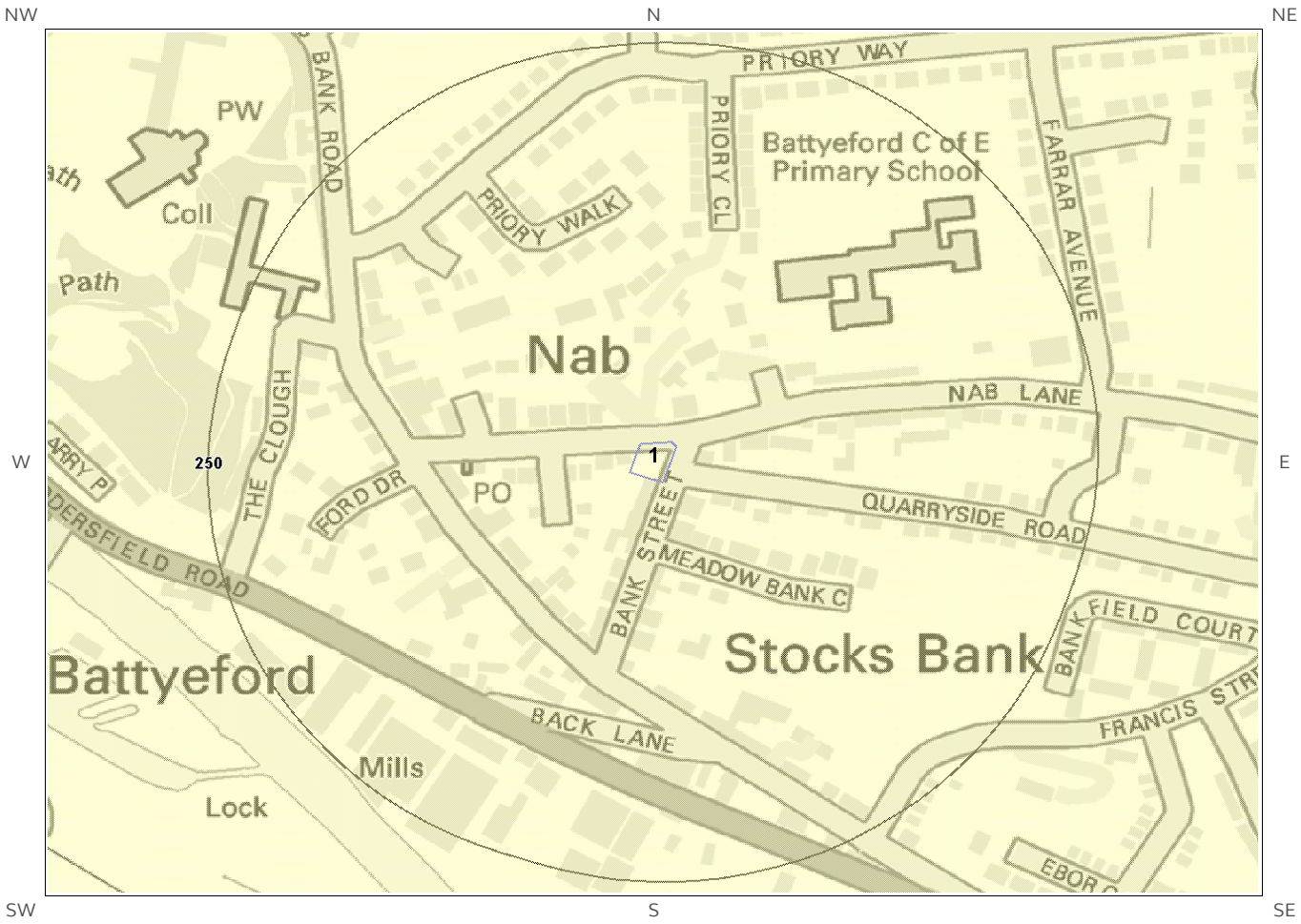
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

6.3 Ground Dissolution of Soluble Rocks map



Ground Dissolution Soluble Rocks Legend

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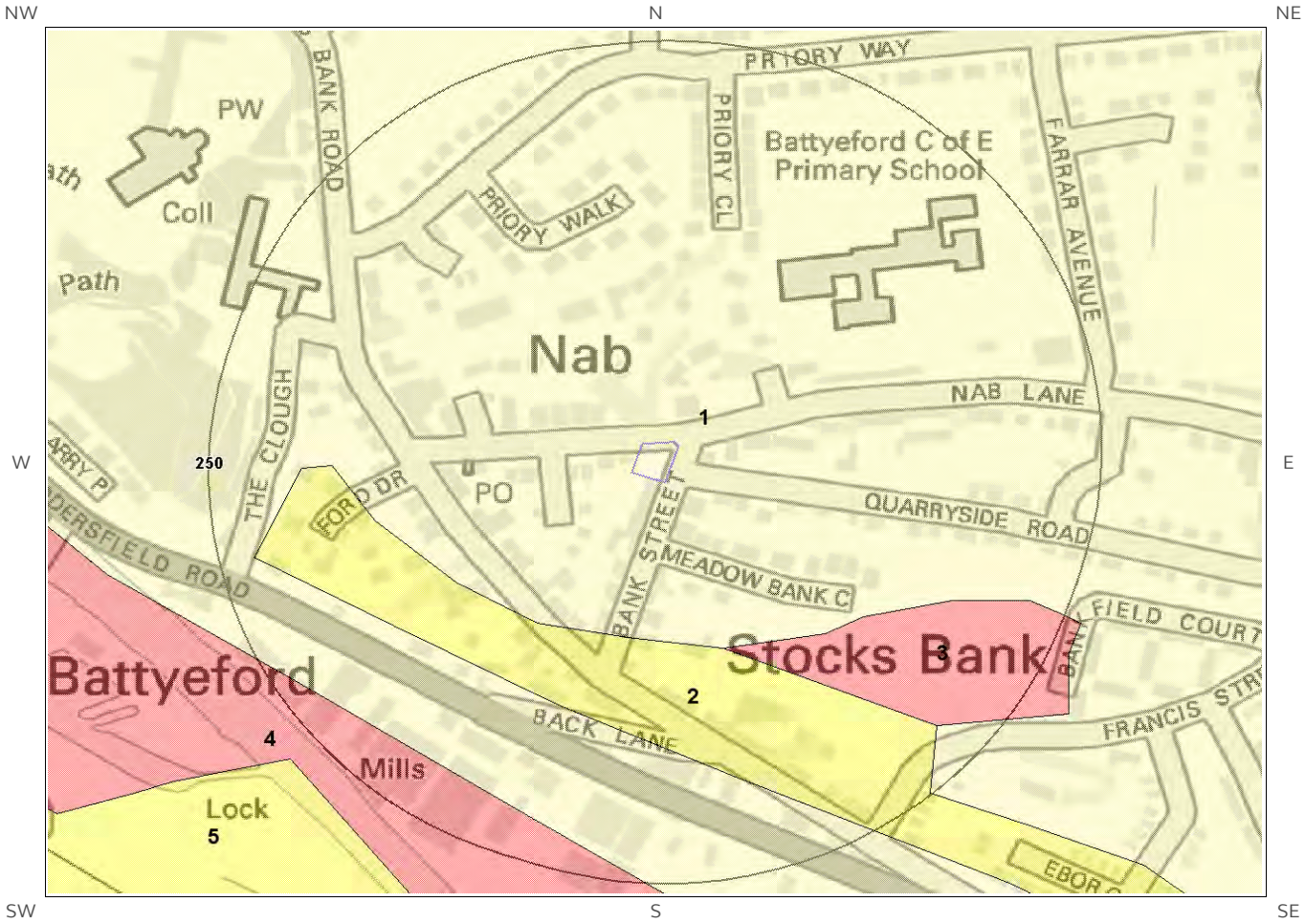
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

6.4 Compressible Deposits map



Compressible Deposits Legend

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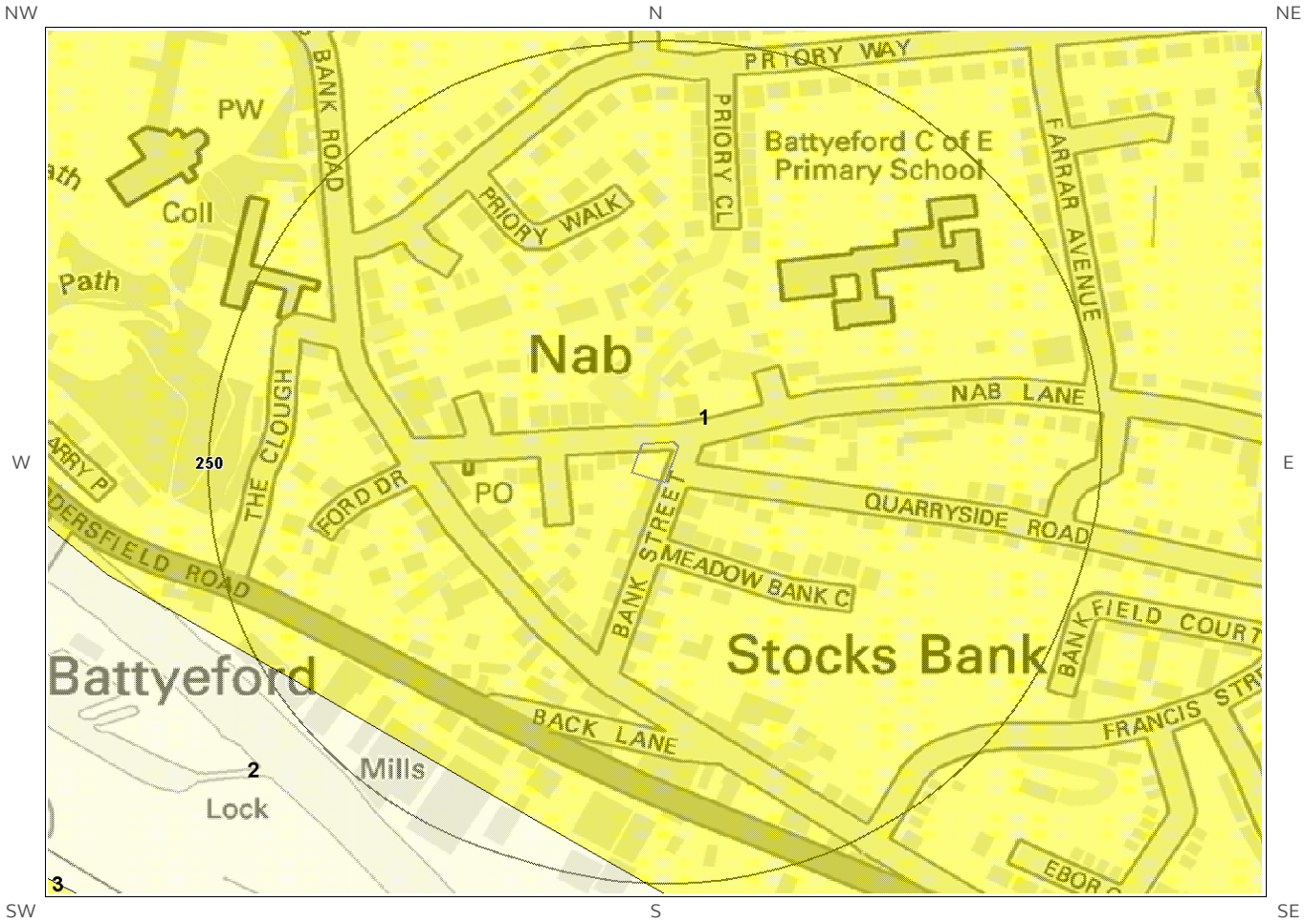
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

6.5 Collapsible Deposits map



Collapsible Deposits Legend

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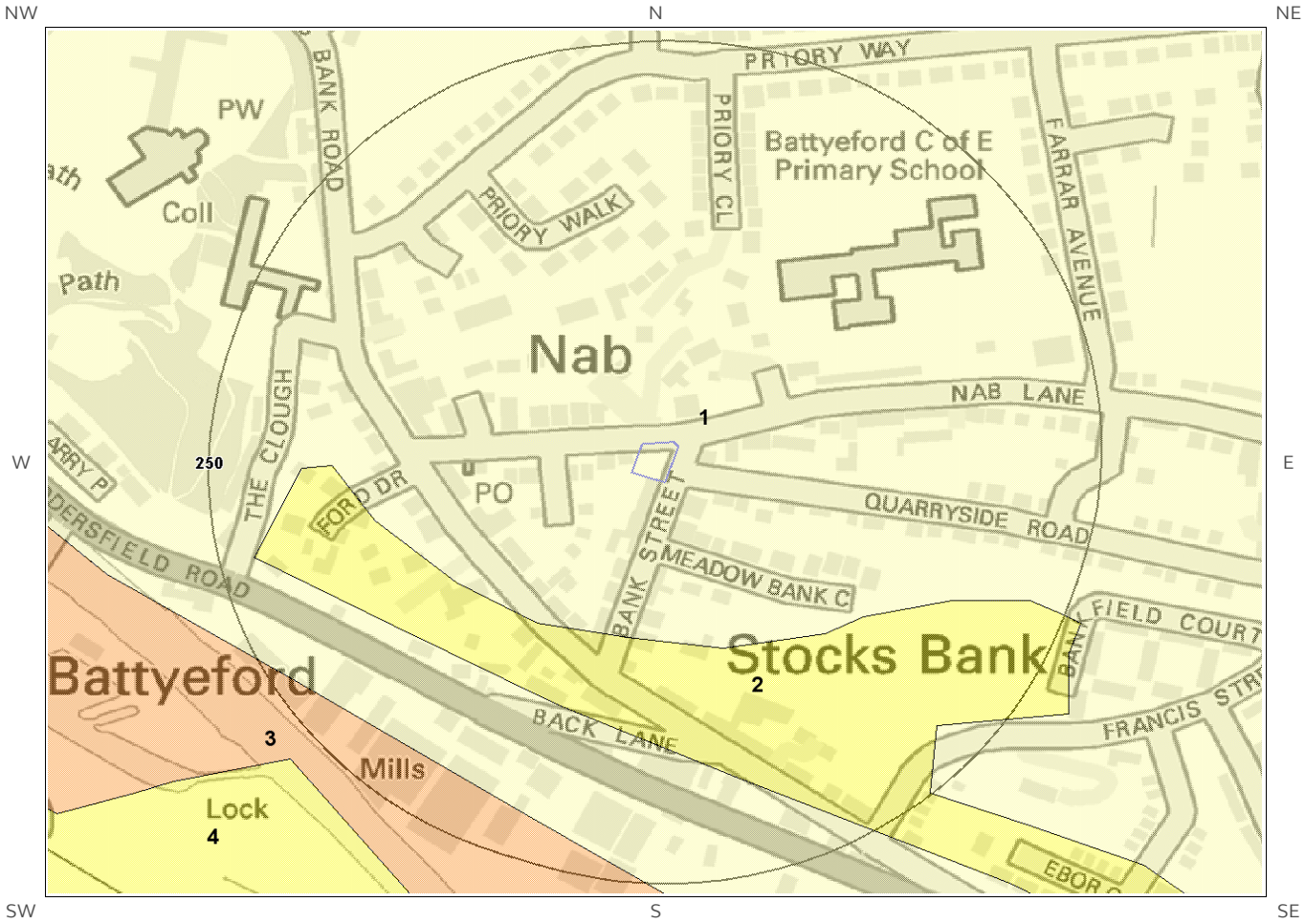
Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

6.6 Running Sand map



Running Sand Legend

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Site Outline

125
250
Search Buffers (m)

No Data / Null
Negligible
Very Low

Low
Moderate
High

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? Low

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	Very Low	Ground conditions predominantly low plasticity. 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 due to potential problems with shrink-swell clays.
2	17.0	NE	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.

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	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

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	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.

6.5 Collapsible Deposits

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

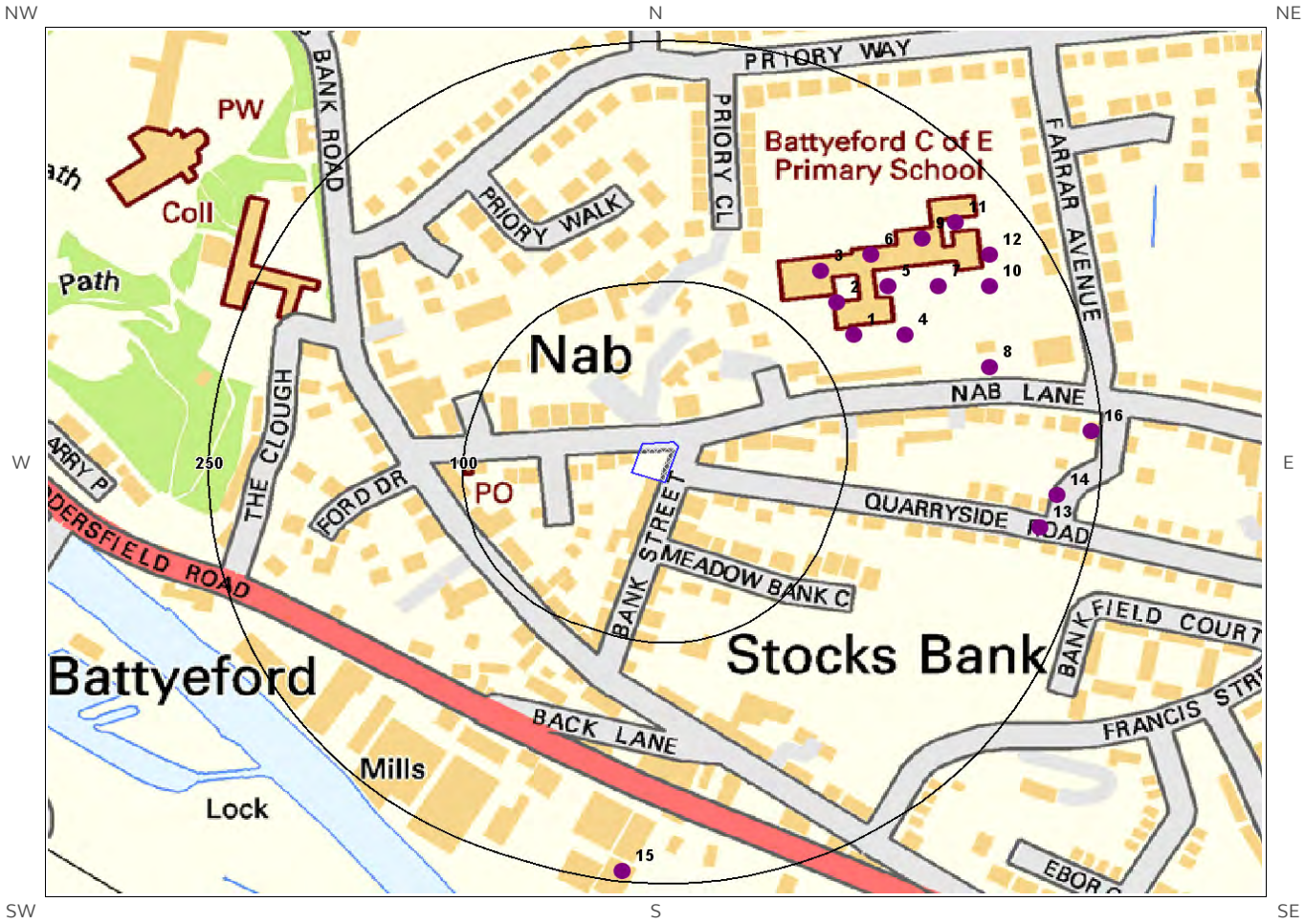
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

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	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.

7 Borehole Records map



Borehole Records Legend

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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: 16

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	125.0	NE	419410 420620	SE12SE74	2.13	BATTYEFORD SCH MIRFIELD 4
2	130.0	NE	419400 420640	SE12SE72	2.74	BATTYEFORD SCH MIRFIELD 2
3	137.0	NE	419390 420660	SE12SE71	2.44	BATTYEFORD SCH MIRFIELD 1
4	151.0	NE	419440 420620	SE12SE75	2.13	BATTYEFORD SCH MIRFIELD 5
5	159.0	NE	419430 420650	SE12SE76	4.57	BATTYEFORD SCH MIRFIELD 6
6	165.0	NE	419420 420670	SE12SE73	3.35	BATTYEFORD SCH MIRFIELD 3
7	183.0	NE	419460 420650	SE12SE78	4.57	BATTYEFORD SCH MIRFIELD 8
8	190.0	E	419490 420600	SE12SE82	2.44	BATTYEFORD SCH MIRFIELD 12
9	193.0	NE	419450 420680	SE12SE77	3.05	BATTYEFORD SCH MIRFIELD 7
10	209.0	NE	419490 420650	SE12SE81	3.05	BATTYEFORD SCH MIRFIELD 11
11	215.0	NE	419470 420690	SE12SE79	2.44	BATTYEFORD SCH MIRFIELD 9
12	219.0	NE	419490 420670	SE12SE80	3.05	BATTYEFORD SCH MIRFIELD 10
13	219.0	E	419520 420500	SE12SE294	1	NAB LANE MIRFIELD TP 2
14	226.0	E	419530 420520	SE12SE293	1	NAB LANE MIRFIELD TP 1
15	244.0	S	419273 420286	SE12SE900	No details	MIRFIELD WEST YORKSHIRE 2
16	244.0	E	419550 420560	SE12SE292	14	NAB LANE MIRFIELD 6

The borehole records are available using the hyperlinks below: Please note that if the donor of the borehole record has requested the information be held as commercial-in-confidence, the additional data will be held separately by the BGS and a formal request must be made for its release.

#1: scans.bgs.ac.uk/sobi_scans/boreholes/43612
#2: scans.bgs.ac.uk/sobi_scans/boreholes/43610
#3: scans.bgs.ac.uk/sobi_scans/boreholes/43609
#4: scans.bgs.ac.uk/sobi_scans/boreholes/43613
#5: scans.bgs.ac.uk/sobi_scans/boreholes/43614
#6: scans.bgs.ac.uk/sobi_scans/boreholes/43611
#7: scans.bgs.ac.uk/sobi_scans/boreholes/43616
#8: scans.bgs.ac.uk/sobi_scans/boreholes/43620
#9: scans.bgs.ac.uk/sobi_scans/boreholes/43615
#10: scans.bgs.ac.uk/sobi_scans/boreholes/43619
#11: scans.bgs.ac.uk/sobi_scans/boreholes/43617
#12: scans.bgs.ac.uk/sobi_scans/boreholes/43618
#13: scans.bgs.ac.uk/sobi_scans/boreholes/43832
#14: scans.bgs.ac.uk/sobi_scans/boreholes/43831
#16: scans.bgs.ac.uk/sobi_scans/boreholes/43830

8 Estimated Background Soil Chemistry

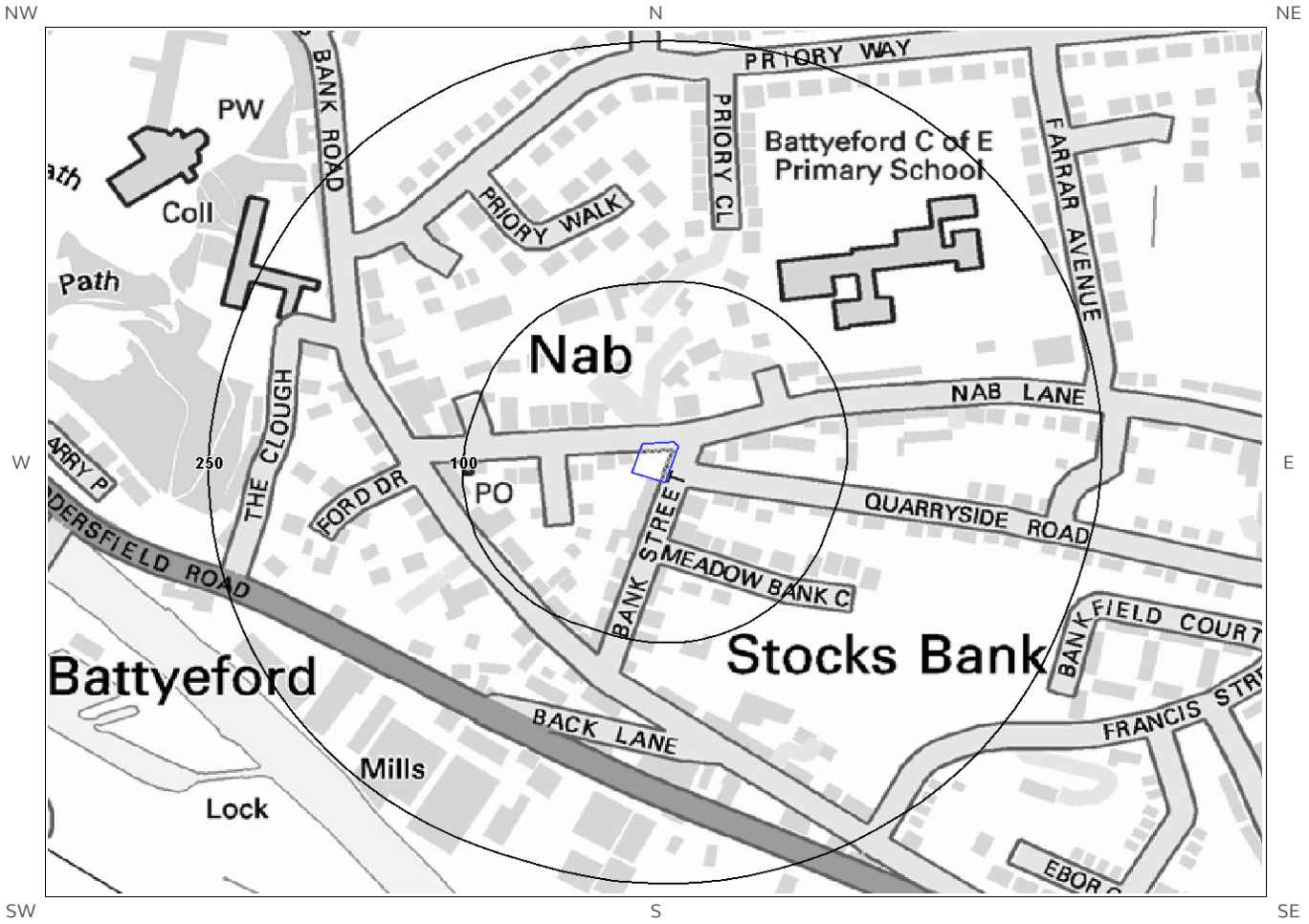
Records of background estimated soil chemistry within 250m of the study site boundary: 3

For further information on how this data is calculated and limitations upon its use, please see the Groundsure Geo Insight User Guide, available on request.

Distance (m)	Direction	Sample Type	Arsenic (As)	Cadmium (Cd)	Chromium (Cr)	Nickel (Ni)	Lead (Pb)
0.0	On Site	RuralSoil	35 - 45 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
17.0	NE	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	100 - 200 mg/kg
28.0	S	RuralSoil	35 - 45 mg/kg	<1.8 mg/kg	90 - 120 mg/kg	15 - 30 mg/kg	<100 mg/kg

*As this data is based upon underlying 1:50,000 scale geological information, a 50m buffer has been added to the search radius.

9 Railways and Tunnels map



Railways and Tunnels Legend

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- Site Outline
- Search Buffers (m): 250, 500
- Underground or Partially Underground Railway / Subway System
- Railway Tunnel (OS Mapping)
- Abandoned or Dismantled Railway (OpenStreetMap)
- Railway Track (OS Mapping)
- Railway Track (OpenStreetMap)
- High Speed 2
- High Speed 2 Revised Proposed Route
- Crossrail 1
- Railway and/or Tunnel Feature from Historical Mapping

9 Railways and Tunnels

9.1 Tunnels

This data is derived from OpenStreetMap and provides information on the possible locations of underground railway systems in the UK - the London Underground, the Tyne & Wear Metro and the Glasgow Subway.

Have any underground railway lines been identified within the study site boundary?	No
Have any underground railway lines been identified within 250m of the study site boundary?	No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

This data is derived from Ordnance Survey mapping and provides information on the possible locations of railway tunnels forming part of the UK overground railway network.

Have any other railway tunnels been identified within the site boundary?	No
Have any other railway tunnels been identified within 250m of the site boundary?	No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.2 Historical Railway and Tunnel Features

This data is derived from Groundsure's unique Historical Land-use Database and contains features relating to tunnels, railway tracks or associated works that have been identified from historical Ordnance Survey mapping.

Have any historical railway or tunnel features been identified within the study site boundary?	No
Have any historical railway or tunnel features been identified within 250m of the study site boundary?	No

Database searched and no data found.

Any records that have been identified are represented on the Railways and Tunnels map.

9.3 Historical Railways

This data is derived from OpenStreetMap and provides information on the possible alignments of abandoned or dismantled railway lines in proximity to the study site.

Have any historical railway lines been identified within the study site boundary?	No
Have any historical railway lines been identified within 250m of the study site boundary?	No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.4 Active Railways

These datasets are derived from Ordnance Survey mapping and OpenStreetMap and provide information on the possible locations of active railway lines in proximity to the study site.

Have any active railway lines been identified within the study site boundary?	No
Have any active railway lines been identified within 250m of the study site boundary?	No

Database searched and no data found.

Multiple sections of the same track may be listed in the detail above
Any records that have been identified are represented on the Railways and Tunnels map.

9.5 Railway Projects

These datasets provide information on the location of large scale railway projects High Speed 2 and Crossrail 1 .

Is the study site within 5km of the route of the High Speed 2 rail project?	No
Is the study site within 500m of the route of the Crossrail 1 rail project?	No

Further information on proximity to these routes, the project construction status and associated works can be obtained through the purchase of a Groundsure HS2 and Crossrail 1 Report.

The route data has been digitised from publicly available maps by Groundsure. The route as provided relates to the Crossrail 1 project only, and does not include any details of the Crossrail 2 project, as final details of the route for Crossrail 2 are still under consultation.

Please note that this assessment takes account of both the original Phase 2b proposed route and the amended route proposed in 2016. As the Phase 2b route is still under consultation, Groundsure are providing information on both options until the final route is formally confirmed. Practitioners should take account of this uncertainty when advising clients.

Contact Details

Groundsure Helpline

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info@groundsure.com

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Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email:**enquiries@bgs.ac.uk**
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries

British Gypsum

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Leicestershire
LE12 6HX

The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
https://www.gov.uk/government/organisations/public-health-england
Email: **enquiries@phe.gov.uk**
Main switchboard: 020 7654 8000

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Website:**http://www.peterbrett.com/home**

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Standard Terms and Conditions

Groundsure's Terms and Conditions can be viewed online at this link:
https://www.groundsure.com/terms-and-conditions-feb11-2019

APPENDIX 2

ENVIRO-INSIGHT REPORT

Enviro Insight

Address:	**LAND LOCATED AT JUNCTION WITH BANK STREET AND NAB LANE, MIRFIELD, WF14 9QF**
Date:	**29 Nov 2019**
Reference:	**GS-6492287**
Client:	**Earth Environmental & Geotechnical Ltd**

NW N NE

W E

SW S SE

Aerial Photograph Capture date:	26-Mar-2012
Grid Reference:	419293,420543
Site Size:	0.0461ha

Report Reference: GS-6492287
Client Reference: B1142

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main 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: Historical Industrial Sites	On-site	0-50	51-250	251-500
1.1 Potentially Contaminative Uses identified from 1:10,000 scale mapping	0	0	48	103
1.2 Additional Information – Historical Tank Database	0	0	1	7
1.3 Additional Information – Historical Energy Features Database	0	0	3	19
1.4 Additional Information – Historical Petrol and Fuel Site Database	0	0	0	0
1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database	0	0	0	3
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	0	0	30	64

Section 2: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
2.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
2.1.1 Records of historic IPC Authorisations	0	0	0	0
2.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
2.1.3 Records of Red List Discharge Consents	0	0	0	0
2.1.4 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
2.1.5 Records of List 2 Dangerous Substances Inventory sites	0	0	0	1
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	1
2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
2.1.8 Records of Licensed Discharge Consents	0	0	0	3
2.1.9 Records of Water Industry Referrals	0	0	0	0
2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site	0	0	0	0
2.2 Records of COMAH and NIHHS sites	0	0	0	0
2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents				
2.3.1 National Incidents Recording System, List 2	0	0	0	3
2.3.2 National Incidents Recording System, List 1	0	0	0	0
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 3: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-1500
3.1 Landfill Sites						
3.1.1 Environment Agency/Natural Resources Wales Registered Landfill Sites	0	0	0	1	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	0	1	0	2	4
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	0	3
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	1	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	1	4	0	10

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	0	0	13	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	0
4.3 National Grid Underground Electricity Cables	0	0	0	0
4.4 National Grid Gas Transmission Pipelines	0	0	0	0

Section 5: Geology	
5.1 Records of Artificial Ground and Made Ground present beneath the study site	None identified
5.2 Records of Superficial Ground and Drift Geology present beneath the study site	None identified
5.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 6: Hydrogeology and Hydrology	0-500m
6.1 Records of Strata Classification in the Superficial Geology within 500m of the study site	Identified
6.2 Records of Strata Classification in the Bedrock Geology within 500m of the study site	Identified

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
6.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	2	3
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	10
6.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
6.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
6.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
6.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	1	0	0	0	Not searched	Not searched

Section 6: Hydrogeology and Hydrology

	0-500m					
	On-site	0-50m	51-250	251-500	501-1000	1000-1500
6.9 Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site	No	No	No	Yes	Yes	Yes
6.10 Ordnance Survey MasterMap Water Network entries within 500m of the site	0	0	0	24	Not searched	Not searched
6.11 Surface water features within 250m of the study site	No	No	No	Not searched	Not searched	Not searched

Section 7: Flooding

7.1 Enviroment Agency Zone 2 floodplains within 250m of the study site	Identified
7.2 Environment Agency/Natural Resources Wales Zone 3 floodplains within 250m of the study site	Identified
7.3 Risk of flooding from Rivers and the Sea (RoFRaS) rating for the study site	Very Low
7.4 Flood Defences within 250m of the study site	None identified
7.5 Areas benefiting from Flood Defences within 250m of the study site	None identified
7.6 Areas used for Flood Storage within 250m of the study site	None identified
7.7 Maximum BGS Groundwater Flooding susceptibility within 50m of the study site	Potential at Surface
7.8 BGS confidence rating for the Groundwater Flooding susceptibility areas	Low

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
8.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
8.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
8.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
8.5 Records of Ramsar sites	0	0	0	0	0	0
8.6 Records of Ancient Woodlands	0	0	0	0	1	2
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	1
8.8 Records of World Heritage Sites	0	0	0	0	0	0
8.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0

Section 8: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
8.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
8.11 Records of National Parks	0	0	0	0	0	0
8.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
8.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	1
8.14 Records of Green Belt land	0	0	0	2	1	4

Section 9: Natural Hazards

9.1 Maximum risk of natural ground subsidence	Very Low
9.1.1 Maximum Shrink-Swell hazard rating identified on the study site	Very Low
9.1.2 Maximum Landslides hazard rating identified on the study site	Low
9.1.3 Maximum Soluble Rocks hazard rating identified on the study site	Negligible
9.1.4 Maximum Compressible Ground hazard rating identified on the study site	Negligible
9.1.5 Maximum Collapsible Rocks hazard rating identified on the study site	Very Low
9.1.6 Maximum Running Sand hazard rating identified on the study site	Negligible
9.2 Radon	
9.2.1 Is the property in a Radon Affected Area as defined by the Health Protection Agency (HPA) and if so what percentage of homes are above the Action Level?	The site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
9.2.2 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.

Section 10: Mining

10.1 Coal mining areas within 75m of the study site	Identified
10.2 Non-Coal Mining areas within 50m of the study site boundary	None identified
10.3 Brine affected areas within 75m of the study site	None identified

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between Groundsure and the Client. The document contains the following sections:

1. Historical Industrial Sites

Provides information on past land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. Potentially Infilled Land features are also included. This search is conducted using radii of up to 500m.

2. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

3. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

4. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure gas pipelines and underground electricity transmission lines.

5. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

6. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licences, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

7. Flooding

Provides information on river and coastal flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

8. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

9. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence and radon..

10. Mining

Provides information on areas of coal and non-coal mining and brine affected areas.

11. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, Groundsure provide a free Technical Helpline (08444 159000) for further information and guidance.

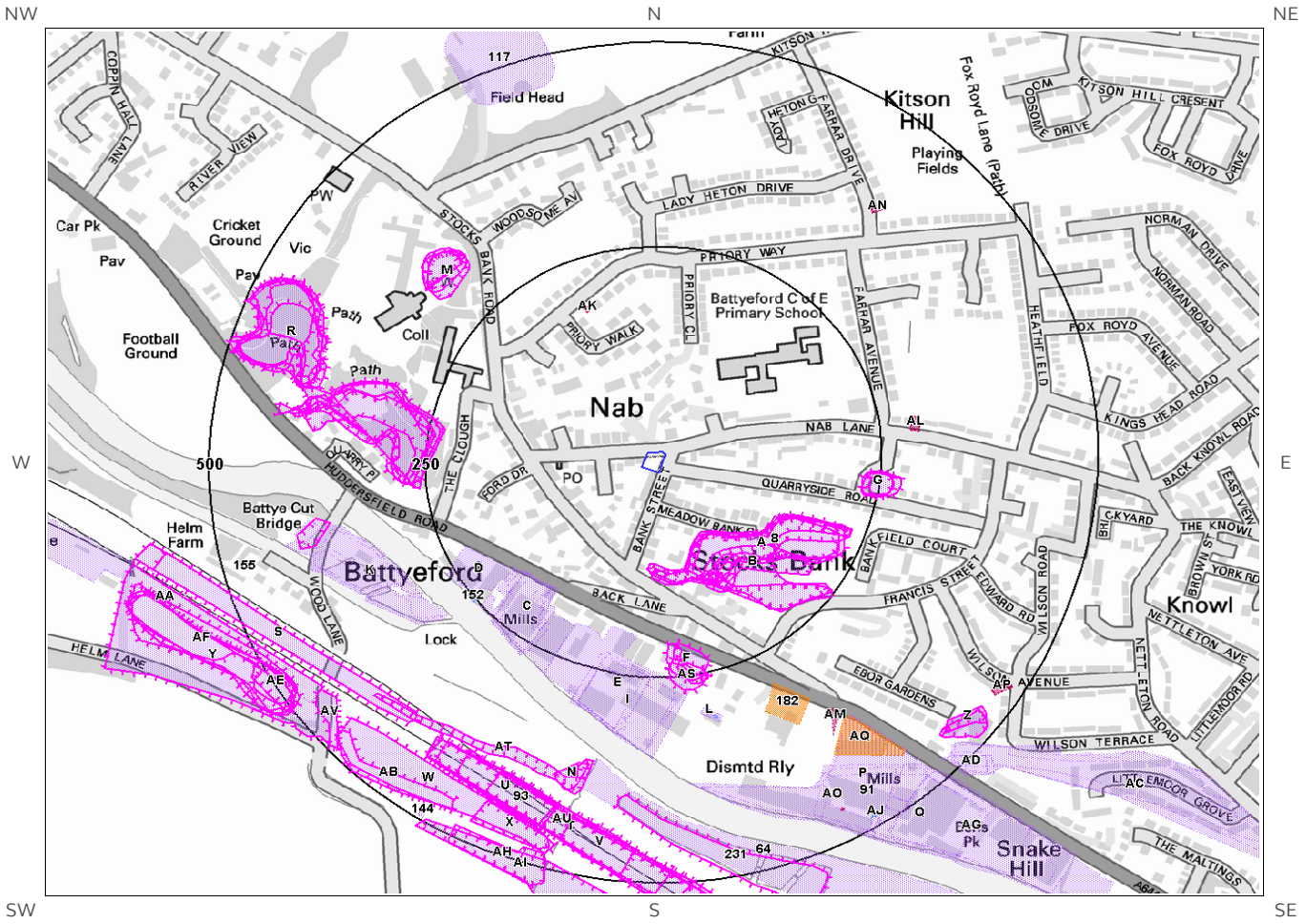
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as “Not Shown”.

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Historical Land Use



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Site Outline

250
500
Search Buffers (m)

Historical 1:10,000 and 1:10,560 scale mapping

Industrial Land Use

Potentially Infilled Land

Historical 1:2,500, 1:1,250 and 1:500 scale mapping

Energy Features

Petrol Stations

Historical military sites

Tanks

Garages

1. Historical Industrial Sites

1.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

The systematic analysis of data extracted from standard 1:10,560 and 1:10,000 scale historical maps provides the following information:

Records of sites with a potentially contaminative past land use within 500m of the search boundary: 151

ID	Distance [m]	Direction	Use	Date
1A	87	SE	Unspecified Quarry	1938
2A	89	SE	Unspecified Quarry	1948
3A	89	SE	Unspecified Quarry	1905
4A	89	SE	Unspecified Quarry	1931
5A	92	SE	Unspecified Disused Quarry	1966
6B	93	SE	Unspecified Disused Quarry	1975
7B	93	SE	Unspecified Quarry	1985
8	95	SE	Unspecified Quarry	1951
9B	119	SE	Refuse Heap	1892
10AR	134	SE	Unspecified Ground Workings	1951
11C	178	SW	Unspecified Mill	1951
12C	180	SW	Unspecified Mill	1938
13C	181	SW	Unspecified Mill	1985
14C	181	SW	Unspecified Mill	1966
15C	181	SW	Unspecified Mill	1975
16C	182	SW	Unspecified Mill	1931
17C	182	SW	Unspecified Mill	1948
18D	191	SW	Unspecified Mill	1985
19D	191	SW	Unspecified Mill	1975
20D	191	SW	Unspecified Mill	1966
21E	194	S	Sands Mill	1948
22E	194	S	Unspecified Mills	1905
23E	194	S	Unspecified Mills	1892
24F	209	S	Unspecified Heap	1938
25F	209	S	Unspecified Heap	1938
26F	212	S	Unspecified Ground Workings	1951
27E	227	S	Sands Mill	1951
28F	228	S	Unspecified Heap	1966
29AS	228	S	Unspecified Heap	1985
30F	228	S	Unspecified Heap	1975
31G	230	E	Unspecified Heap	1938
32G	230	E	Unspecified Heap	1938

33G	230	E	Unspecified Pit	1931
34G	230	E	Unspecified Pit	1948
35E	231	S	Sands Mill	1931
36I	232	S	Unspecified Mill	1975
37J	233	W	Unspecified Ground Workings	1892
38G	237	E	Unspecified Pit	1951
39H	237	W	Unspecified Quarry	1951
40H	237	W	Unspecified Quarry	1975
41H	237	W	Unspecified Quarry	1966
42I	238	S	Sands Mill	1938
43J	242	W	Unspecified Quarry	1948
44J	242	W	Unspecified Quarry	1905
45J	242	W	Unspecified Quarry	1931
46I	243	S	Unspecified Mill	1966
47J	246	W	Unspecified Quarry	1985
48J	246	W	Unspecified Quarry	1938
49K	289	SW	Boat Building Yard	1938
50L	290	S	Unspecified Tank	1938
51K	293	SW	Unspecified Yard	1948
52K	293	SW	Boat Building Yard	1931
53K	293	SW	Unspecified Yard	1905
54L	295	S	Unspecified Tank	1951
55M	297	NW	Unspecified Pit	1892
56K	301	SW	Boat Building Yard	1951
57M	308	NW	Unspecified Pit	1966
58M	308	NW	Unspecified Pit	1951
59M	315	NW	Unspecified Pit	1948
60M	315	NW	Unspecified Pit	1931
61M	315	NW	Unspecified Pit	1938
62M	315	NW	Unspecified Pit	1938
63O	350	W	Unspecified Mill	1892
64	354	S	Unspecified Commercial/Industrial	1938
65AT	359	S	Unspecified Ground Workings	1951
66N	365	S	Unspecified Heap	1975
67N	365	S	Unspecified Heap	1985
68O	366	W	Cuttings	1966
69P	368	SE	Unspecified Mills	1948
70P	368	SE	Unspecified Mills	1905
71P	368	SE	Unspecified Mills	1892
72P	368	SE	Unspecified Mills	1931
73Q	369	SE	Unspecified Mills	1975
74Q	369	SE	Unspecified Mills	1985
75R	384	W	Unspecified Ground Workings	1892

76AO	386	S	Unspecified Mill	1951
77R	391	W	Unspecified Quarry	1985
78R	393	W	Unspecified Quarry	1905
79R	393	W	Unspecified Ground Workings	1931
80R	393	W	Unspecified Ground Workings	1948
81S	396	SW	Unspecified Pit	1966
82S	396	SW	Unspecified Pit	1985
83S	396	SW	Unspecified Pit	1975
84U	397	SW	Cuttings	1966
85AU	401	SW	Cuttings	1951
86T	402	SW	Cuttings	1892
87T	402	SW	Cuttings	1905
88T	402	SW	Cuttings	1948
89T	402	SW	Cuttings	1931
90T	402	SW	Cuttings	1938
91	404	SE	Unspecified Mills	1938
92U	405	SW	Cuttings	1985
93	405	SW	Cuttings	1975
94R	407	W	Unspecified Quarry	1938
95Q	413	SE	Unspecified Mills	1966
96V	428	S	Cuttings	1985
97V	428	S	Cuttings	1966
98V	428	S	Cuttings	1975
99W	437	SW	Unspecified Heap	1985
100W	437	SW	Unspecified Heap	1975
101X	444	SW	Unspecified Heap	1951
102X	444	SW	Unspecified Heap	1966
103Z	450	SE	Unspecified Quarry	1951
104AV	451	SW	Refuse Heap	1892
105Y	451	SW	Colliery	1892
106Y	451	SW	Colliery	1905
107AG	452	SE	Unspecified Mills	1951
108Z	453	SE	Unspecified Quarry	1975
109Z	453	SE	Unspecified Quarry	1985
110Z	453	SE	Unspecified Quarry	1966
111AA	454	SW	Railway Sidings	1892
112AA	454	SW	Railway Sidings	1905
113AA	454	SW	Railway Sidings	1948
114AA	454	SW	Railway Sidings	1931
115AB	459	SW	Unspecified Ground Workings	1951
116AB	459	SW	Unspecified Ground Workings	1966
117	461	N	Nursery	1966
118AC	474	SE	Railway Sidings	1938

119AC	475	SE	Railway Sidings	1948
120AC	475	SE	Railway Sidings	1931
121AC	475	SE	Railway Sidings	1905
122AD	477	SE	Railway Station	1931
123AD	477	SE	Railway Station	1905
124AD	477	SE	Railway Station	1948
125AC	478	SE	Railway Sidings	1966
126AC	478	SE	Railway Sidings	1951
127AE	480	SW	Refuse Heap	1905
128AE	480	SW	Refuse Heap	1892
129AF	480	SW	Unspecified Heaps	1985
130AF	480	SW	Unspecified Heaps	1966
131AF	480	SW	Unspecified Heaps	1975
132AG	481	SE	Unspecified Mills	1938
133Y	482	SW	Unspecified Heap	1951
134AH	483	S	Unspecified Heap	1975
135AH	483	S	Unspecified Heap	1985
136AH	483	S	Unspecified Heap	1966
137Q	483	SE	Unspecified Mills	1931
138Q	483	SE	Unspecified Mills	1948
139Q	483	SE	Unspecified Mills	1905
140AD	483	SE	Railway Station	1938
141T	485	S	Cuttings	1975
142T	485	S	Cuttings	1985
143T	485	S	Cuttings	1966
144	487	SW	Railway Building	1938
145Y	488	SW	Unspecified Heap	1938
146Y	488	SW	Unspecified Heap	1938
147AI	489	S	Unspecified Heap	1948
148AI	489	S	Unspecified Heap	1931
149Y	490	SW	Unspecified Heap	1948
150Y	490	SW	Unspecified Heap	1931
151AD	491	SE	Railway Station	1951

1.2 Additional Information – Historical Tank Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical tanks within 500m of the search boundary: 8

ID	Distance (m)	Direction	Use	Date
152	250	SW	Tanks	1933
153L	303	S	Unspecified Tank	1933

154Z	468	SE	Unspecified Tank	1907
155	475	W	Unspecified Tank	1957
156AJ	481	SE	Tanks	1933
157AJ	481	SE	Tanks	1922
158AJ	486	SE	Unspecified Tank	1957
159AJ	486	SE	Unspecified Tank	1957

1.3 Additional Information – Historical Energy Features Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical energy features within 500m of the search boundary: 22

ID	Distance (m)	Direction	Use	Date
160AK	185	N	Electricity Substation	1994
161AK	185	N	Electricity Substation	1970
162AK	186	N	Electricity Substation	1984
163AL	283	E	Electricity Substation	1970
164AL	284	E	Electricity Substation	1996
165AL	284	E	Electricity Substation	1981
166AL	284	E	Electricity Substation	1984
167AL	284	E	Electricity Substation	1990
168AM	350	SE	Electricity Substation	1996
169AM	360	SE	Electricity Substation	1983
170AM	360	SE	Electricity Substation	1972
171AN	378	NE	Electricity Substation	1970
172AN	378	NE	Electricity Substation	1984
173AN	378	NE	Electricity Substation	1981
174AN	378	NE	Electricity Substation	1990
175AN	379	NE	Electricity Substation	1996
176AO	460	SE	Electricity Substation	1972
177AO	460	SE	Electricity Substation	1996
178AO	461	SE	Electricity Substation	1983
179AP	467	SE	Electricity Substation	1983
180AP	468	SE	Electricity Substation	1996
181AP	468	SE	Electricity Substation	1972

1.4 Additional Information – Historical Petrol and Fuel Site Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical petrol stations and fuel sites within 500m of the search boundary: 0

Database searched and no data found.

1.5 Additional Information – Historical Garage and Motor Vehicle Repair Database

The systematic analysis of data extracted from High Detailed 1:1,250 and 1:2,500 scale historical maps provides the following information.

Records of historical garage and motor vehicle repair sites within 500m of the search boundary: 3

ID	Distance (m)	Direction	Use	Date
182	289	SE	Garage	1982
183AQ	368	SE	Garage	1983
184AQ	369	SE	Garage	1972

1.6 Historical military sites

Certain military installations were not noted on historic mapping for security reasons. Whilst not all military land is necessarily of concern, Groundsure has researched and digitised a number of Ordnance Factories and other military industrial features (e.g. Ordnance Depots, Munitions Testing Grounds) which may be of contaminative concern. This research was drawn from a number of different sources, and should not be regarded as a definitive or exhaustive database of potentially contaminative military installations. The boundaries of sites within this database have been estimated from the best evidence available to Groundsure at the time of compilation.

Records of historical military sites within 500m of the search boundary: 0

Database searched and no data found.

1.7 Potentially Infilled Land

Records of Potentially Infilled Features from 1:10,000 scale mapping within 500m of the study site: 94

The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

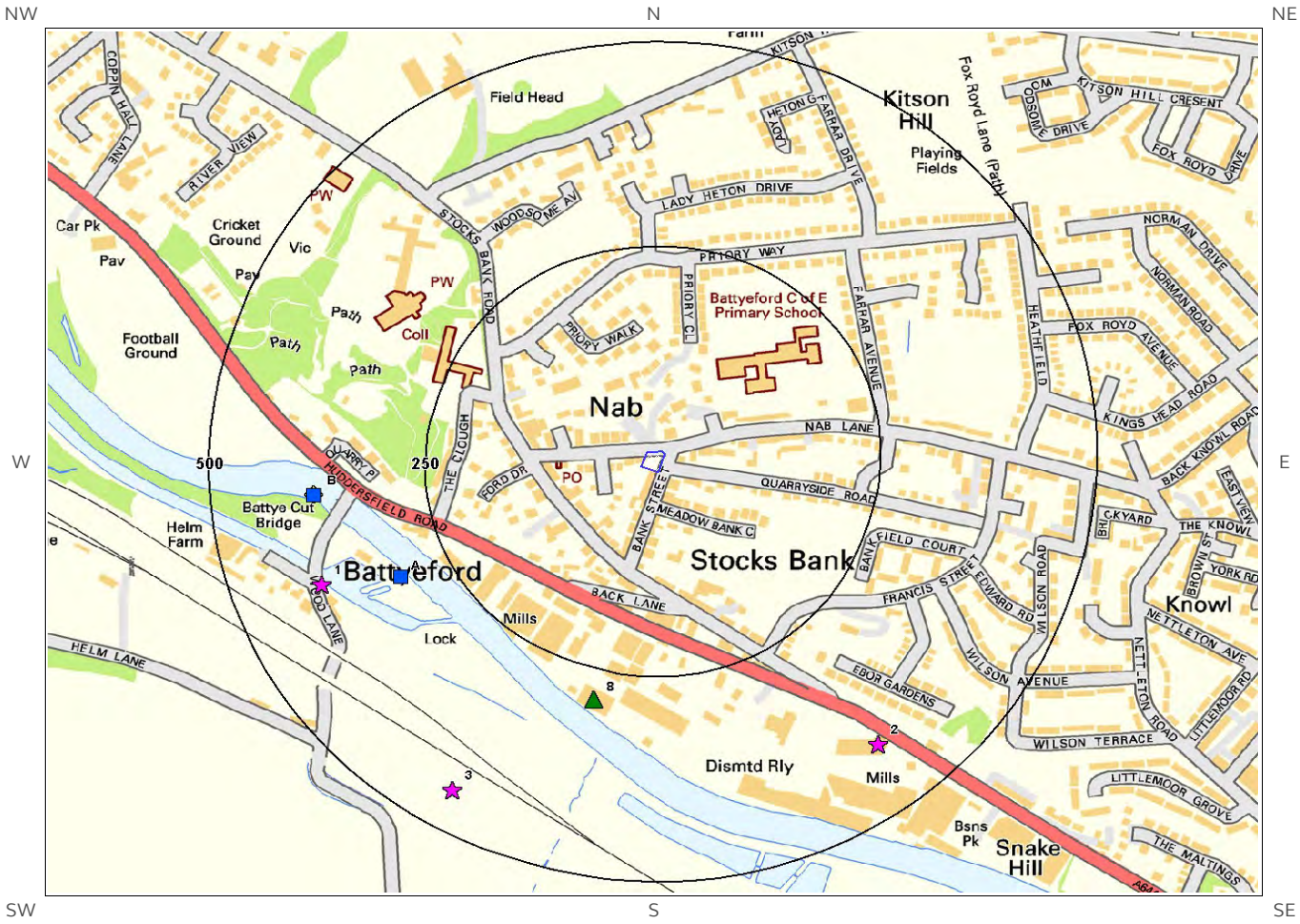
ID	Distance(m)	Direction	Use	Date
185A	87	SE	Unspecified Quarry	1938
186A	89	SE	Unspecified Quarry	1948
187A	89	SE	Unspecified Quarry	1905
188A	89	SE	Unspecified Quarry	1931
189A	92	SE	Unspecified Disused Quarry	1966
190B	93	SE	Unspecified Disused Quarry	1975
191B	93	SE	Unspecified Quarry	1985
192A	95	SE	Unspecified Quarry	1951

193B	119	SE	Refuse Heap	1892
194AR	134	SE	Unspecified Ground Workings	1951
195F	209	S	Unspecified Heap	1938
196F	209	S	Unspecified Heap	1938
197F	212	S	Unspecified Ground Workings	1951
198F	228	S	Unspecified Heap	1975
199F	228	S	Unspecified Heap	1966
200AS	228	S	Unspecified Heap	1985
201G	230	E	Unspecified Heap	1938
202G	230	E	Unspecified Heap	1938
203G	230	E	Unspecified Pit	1948
204G	230	E	Unspecified Pit	1931
205J	233	W	Unspecified Ground Workings	1892
206G	237	E	Unspecified Pit	1951
207H	237	W	Unspecified Quarry	1975
208H	237	W	Unspecified Quarry	1966
209H	237	W	Unspecified Quarry	1951
210J	242	W	Unspecified Quarry	1905
211J	242	W	Unspecified Quarry	1948
212J	242	W	Unspecified Quarry	1931
213J	246	W	Unspecified Quarry	1985
214J	246	W	Unspecified Quarry	1938
215M	297	NW	Unspecified Pit	1892
216M	308	NW	Unspecified Pit	1951
217M	308	NW	Unspecified Pit	1966
218M	315	NW	Unspecified Pit	1948
219M	315	NW	Unspecified Pit	1931
220M	315	NW	Unspecified Pit	1938
221M	315	NW	Unspecified Pit	1938
222AT	359	S	Unspecified Ground Workings	1951
223N	365	S	Unspecified Heap	1975
224N	365	S	Unspecified Heap	1985
225O	366	W	Cuttings	1966
226R	384	W	Unspecified Ground Workings	1892
227R	391	W	Unspecified Quarry	1985
228R	393	W	Unspecified Ground Workings	1948
229R	393	W	Unspecified Quarry	1905
230R	393	W	Unspecified Ground Workings	1931
231	395	S	Ponds	1985
232S	396	SW	Unspecified Pit	1975
233S	396	SW	Unspecified Pit	1985

234S	396	SW	Unspecified Pit	1966
235U	397	SW	Cuttings	1966
236AU	401	SW	Cuttings	1951
237T	402	SW	Cuttings	1905
238T	402	SW	Cuttings	1948
239T	402	SW	Cuttings	1892
240T	402	SW	Cuttings	1931
241T	402	SW	Cuttings	1938
242U	405	SW	Cuttings	1985
243U	405	SW	Cuttings	1975
244R	407	W	Unspecified Quarry	1938
245V	428	S	Cuttings	1966
246V	428	S	Cuttings	1975
247V	428	S	Cuttings	1985
248W	437	SW	Unspecified Heap	1975
249W	437	SW	Unspecified Heap	1985
250X	444	SW	Unspecified Heap	1951
251X	444	SW	Unspecified Heap	1966
252Z	450	SE	Unspecified Quarry	1951
253Y	451	SW	Colliery	1905
254Y	451	SW	Colliery	1892
255AV	451	SW	Refuse Heap	1892
256Z	453	SE	Unspecified Quarry	1966
257Z	453	SE	Unspecified Quarry	1975
258Z	453	SE	Unspecified Quarry	1985
259AB	459	SW	Unspecified Ground Workings	1951
260AB	459	SW	Unspecified Ground Workings	1966
261AE	480	SW	Refuse Heap	1905
262AE	480	SW	Refuse Heap	1892
263AF	480	SW	Unspecified Heaps	1975
264AF	480	SW	Unspecified Heaps	1985
265AF	480	SW	Unspecified Heaps	1966
266AF	482	SW	Unspecified Heap	1951
267AH	483	S	Unspecified Heap	1985
268AH	483	S	Unspecified Heap	1975
269AH	483	S	Unspecified Heap	1966
270T	485	S	Cuttings	1985
271T	485	S	Cuttings	1975
272T	485	S	Cuttings	1966
273AF	488	SW	Unspecified Heap	1938
274AF	488	SW	Unspecified Heap	1938
275AI	489	S	Unspecified Heap	1931
276AI	489	S	Unspecified Heap	1948
277AF	490	SW	Unspecified Heap	1931

278AF	490	SW	Unspecified Heap	1948

2. Environmental Permits, Incidents and Registers Map



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- Site Outline
- Search Buffers (m) — 250 — 500
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- Part A(1) Authorised Processes and Historic IPC Authorisations
- Part A(2) and Part B Authorised Processes
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents and Enforcements

2. Environmental Permits, Incidents and Registers

2.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency/Natural Resources Wales and Local Authorities reveal the following information:

2.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

2.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

2.1.3 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

2.1.4 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

2.1.5 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

1

The following List 2 Dangerous Substance Inventory Site records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
4B	381	W	418900	Name: New List 2 Water Site 12	Authorised Substances: Tributyltin

ID	Distance (m)	Direction	NGR	Details
			420500	Status: Active Receiving Water: River Calder

2.1.6 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

1

The following Part A(2) and Part B Activities are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
8	289	S	419224 420249	Address: Caldercote Ltd, Unit 2, Sands Industrial Estate, Huddersfield Road, Mirfield, WF14 9DQ Process: Coating Processes Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified

2.1.7 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

2.1.8 Records of Licensed Discharge Consents within 500m of the study site:

3

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
5A	310	SW	419000 420400	Address: BATTYE CUT, WOOD LANE, BATTYEFORD, MIRFIELD Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: C5171 Permit Version: 2	Receiving Water: LAND ADJACENT TO BATTYE CUT Status: TRANSFERRED FROM COPA 1974 Issue date: 26/07/2012 Effective Date: 26-Jul-2012 Revocation Date:
6A	310	SW	419000 420400	Address: BATTYE CUT, WOOD LANE, BATTYEFORD, MIRFIELD Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: C5171 Permit Version: 1	Receiving Water: LAND ADJACENT TO BATTYE CUT Status: TRANSFERRED FROM COPA 1974 Issue date: 26/07/1988 Effective Date: 26-Jul-1988 Revocation Date: 25/07/2012
7B	381	W	418900 420500	Address: HELM FARM, MIRFIELD Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: C5634	Receiving Water: RIVER CALDER Status: TRANSFERRED FROM COPA 1974 Issue date: 06/07/1989 Effective Date: 06-Jul-1989 Revocation Date:

ID	Distance (m)	Direction	NGR	Details
				Permit Version: 1

2.1.9 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

2.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

2.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

2.3 Environment Agency/Natural Resources Wales Recorded Pollution Incidents

2.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

3

The following NIRS List 2 records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Details	
1	397	W	418909.0 420391.0	Incident Date: 06-Sep-2002 Incident Identification: 105873.0 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
2	418	SE	419552.0 420196.0	Incident Date: 13-Aug-2001 Incident Identification: 23883.0 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
3	451	SW	419060.0 420140.0	Incident Date: 14-Aug-2001 Incident Identification: 24009.0 Pollutant: Inert Materials and Wastes	Water Impact: Category 3 (Minor) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)

ID	Distance (m)	Direction	NGR	Details
				Pollutant Description: Construction and Demolition Materials and Wastes

2.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

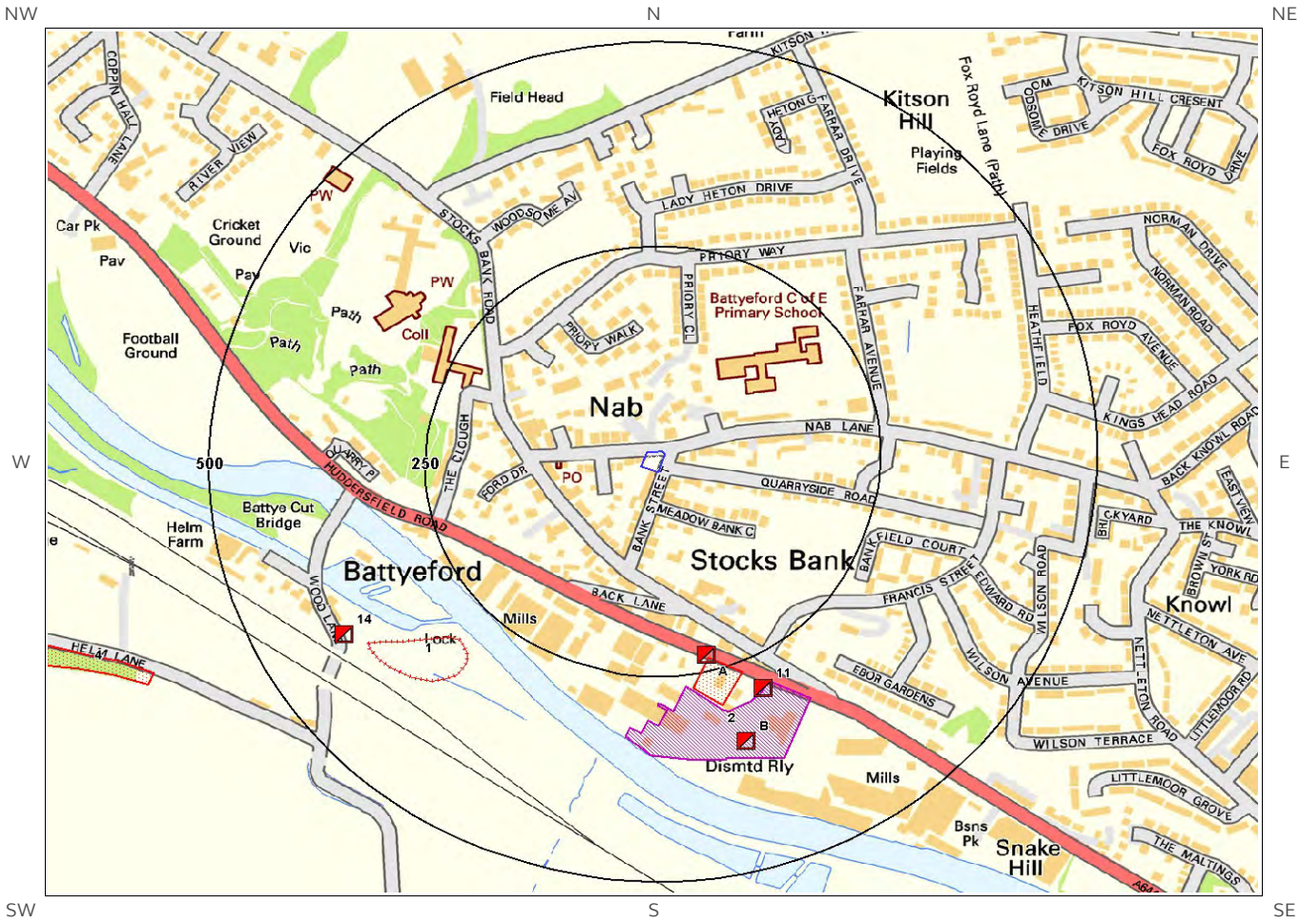
Database searched and no data found.

2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

Records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site 0

Database searched and no data found.

3. Landfill and Other Waste Sites Map



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Site Outline

250
500
Search Buffers (m)

EA/NRW Active Landfill

EA/NRW Historic Landfill

BGS / DoE Survey Landfill

Historic and Planned Waste Sites

EA/NRW Licensed Waste Site

Local Authority/Historical Mapping Landfill Records

3. Landfill and Other Waste Sites

3.1 Landfill Sites

3.1.1 Records from Environment Agency/Natural Resources Wales landfill data within 1000m of the study site:

1

The following Environment Agency/Natural Resources Wales landfill records are represented as polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
1	298	SW	418935 420331	Address: Land/premises At, Wood Lane, Battyeford, Mirfield, Dewsbury, West Yorkshire, WF14 0ED Landfill Reference: 61005.0 Environmental Permitting Regulations (Waste) Reference: BRI013 Landfill Type: A06: Landfill taking other wastes	Operator: British Waterways Board Status: Issued IPPC Reference: EPR Reference:

3.1.2 Records of Environment Agency/Natural Resources Wales historic landfill sites within 1500m of the study site:

7

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
3A	234	S		Site Address: Sandsfield, Huddersfield Road, Battyeford Waste Licence: - Site Reference: 4700/0181 Waste Type: Inert, Commercial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Holder Address: Meadow Bank, Mirfield Operator: - Licence Holder: Messrs J W Blackburn First Recorded: 01-Jan-1944 Last Recorded: -
4	618	SW		Site Address: Colne Bridge Cutting, Helm Lane, Colnebridge Waste Licence: Yes Site Reference: WDL/101 Waste Type: Industrial, Commercial, Household, Liquid sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 19-May-1982 Licence Surrendered: 11-Dec-1992 Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 01-Jan-1983 Last Recorded: 31-Dec-1988
Not shown	915	W		Site Address: Colne Bridge Cutting, Helm Lane, Colnebridge	Licence Issue: 19-May-1982 Licence Surrendered: 11-Dec-1992

ID	Distance (m)	Direction	NGR	Details	
				Waste Licence: Yes Site Reference: WDL/101 Waste Type: Industrial, Commercial, Household, Liquid sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 01-Jan-1983 Last Recorded: 31-Dec-1988
Not shown	1015	NE		Site Address: Taylor Hall Lane Landfill, Taylor Hall Lane, Dewsbury, Mirfield, West Yorkshire Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 01-Apr-1996 Licence Surrendered: Licence Holder Address: Tom Dando Close, Normanton, West Yorkshire Operator: Webfell Waste Management Limited Licence Holder: Webfell Waste Management Limited First Recorded: - Last Recorded: -
Not shown	1135	NE		Site Address: Old Bank Road, Mirfield Waste Licence: Yes Site Reference: 84 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 03-Jul-1978 Licence Surrendered: 05-Mar-1993 Licence Holder Address: - Operator: - Licence Holder: Mr R Cooke First Recorded: 01-Jan-1945 Last Recorded: 30-Apr-1993
Not shown	1401	N		Site Address: Land at Fall Road, Roberttown, Mirfield Waste Licence: Yes Site Reference: 4700/0276 Waste Type: Inert, Commercial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 26-Aug-1981 Licence Surrendered: 22-Nov-1988 Licence Holder Address: Fall Road, Mirfield Operator: - Licence Holder: R Haigh Esquire First Recorded: 31-Dec-1981 Last Recorded: 31-Dec-1988
Not shown	1419	W		Site Address: Colne Bridge Cutting, Helm Lane, Colnebridge Waste Licence: Yes Site Reference: WDL/101 Waste Type: Industrial, Commercial, Household, Liquid sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 19-May-1982 Licence Surrendered: 11-Dec-1992 Licence Holder Address: - Operator: - Licence Holder: - First Recorded: 01-Jan-1983 Last Recorded: 31-Dec-1988

3.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

3.1.4 Records of Landfills from Local Authority and Historical Mapping Records within 1500m of the study site:

3

The following landfill records are represented as points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
Not	1015	NE	419997	Refuse Tip	1970 mapping	Polygon

ID	Distance (m)	Direction	NGR	Site Address	Source	Data Type
shown			421344			
Not shown	1015	NE	419997 421344	Refuse Tip	1957 mapping	Polygon
Not shown	1094	NE	419958 421432	Refuse Tip	1970 mapping	Polygon

3.2 Other Waste Sites

3.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

1

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details		
2	264	S	419367 420225	Type of Site: Scrap Yard Site Address: N/A	Planning Application Reference: N/A Date: 1994	Further Details: N/A Data Source: Historic Mapping Data Type: Polygon

3.2.2 Records of Environment Agency/Natural Resources Wales licensed waste sites within 1500m of the study site:

15

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

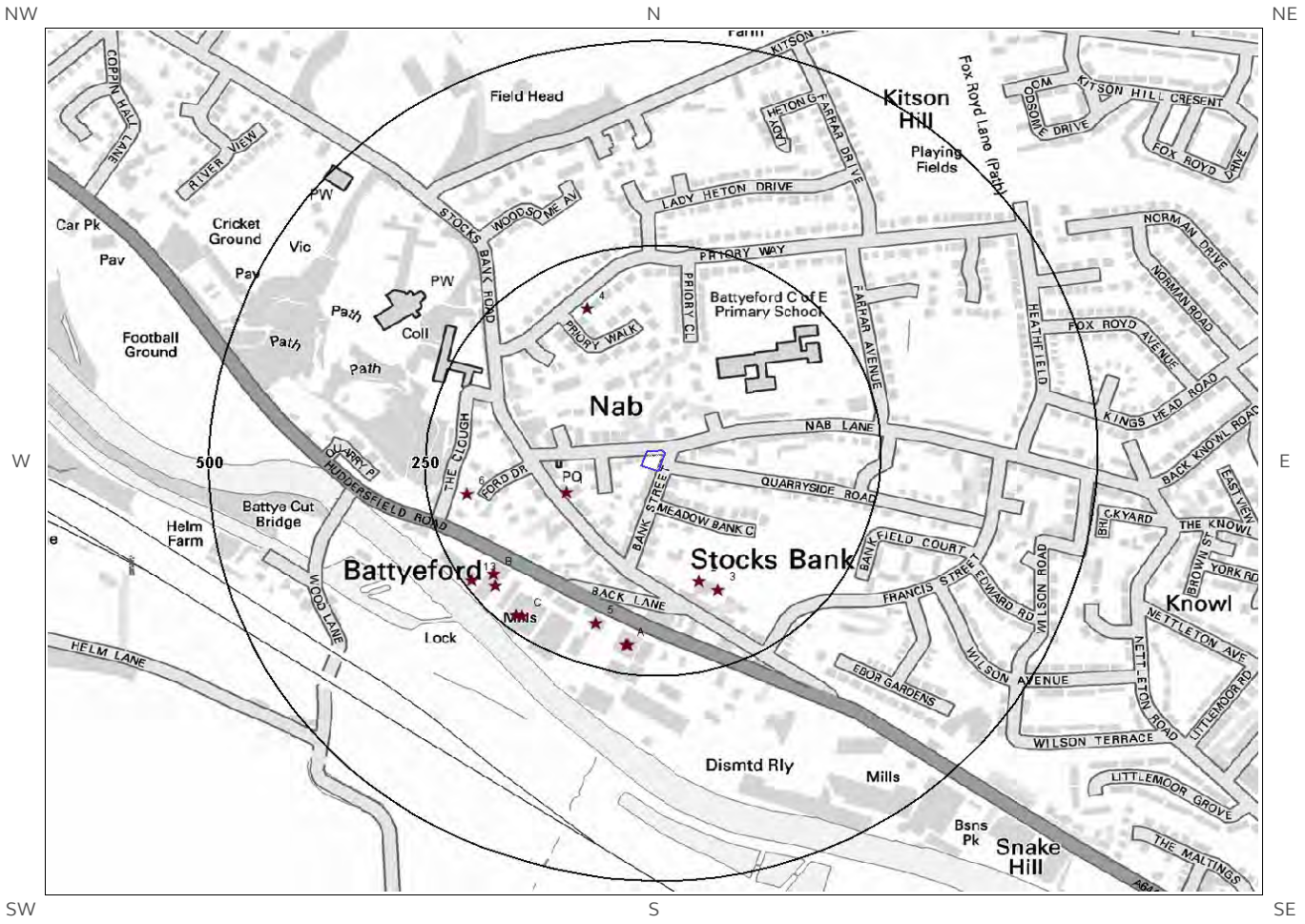
ID	Distance (m)	Direction	NGR	Details	
10A	229	S	419354 420306	Site Address: 157, Huddersfield Road, Mirfield, West Yorkshire, WF14 9DQ Type: ELV Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 000169 EPR reference: EA/EPR/ZP3592ZX/A001 Operator: Mirfield Motor Spares Ltd Waste Management licence No: 65376 Annual Tonnage: 2500.0	Issue Date: 23/06/2004 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Mirfield Motor Spares Ltd Correspondence Address: -
11	290	SE	419420 420265	Site Address: Land/premises At, Huddersfield Road, Mirfield, Dewsbury, West Yorkshire, WF14 9DQ Type: Metal Recycling Site (Vehicle Dismantler) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SSM001 EPR reference: EA/EPR/XP3795ZN/A001 Operator: Charles W J Saunders Waste Management licence No: 61006 Annual Tonnage: 2500.0	Issue Date: 10/01/1991 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: S S Motor Spares Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details	
12B	344	S	419400 420200	Site Address: Land/premises At, Huddersfield Road, Mirfield, Mirfield, West Yorkshire, WF14 9DQ Type: ELV Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 000219 EPR reference: EA/EPR/EP3192ZB/A001 Operator: Ss Components Ltd Waste Management licence No: 65414 Annual Tonnage: 2500.0	Issue Date: 16/03/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Ss Components Ltd Correspondence Address: -
13B	344	S	419400 420200	Site Address: Land/premises At, Huddersfield Road, Mirfield, Mirfield, West Yorkshire, WF14 9DQ Type: ELV Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 000219 EPR reference: EA/EPR/EP3192ZB/A001 Operator: S S Components Ltd Waste Management licence No: 65414 Annual Tonnage: 2500.0	Issue Date: 16/03/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Ss Components Ltd Correspondence Address: -
14	400	SW	418935 420331	Site Address: Land/premises At, Wood Lane, Battyeford, Mirfield, Dewsbury, West Yorkshire, WF14 0ED Type: Landfill taking other wastes Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BRI013 EPR reference: EA/EPR/XP3195ZS/A001 Operator: British Waterways Board Waste Management licence No: 61005 Annual Tonnage: 5000.0	Issue Date: 22/07/1991 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Battyeford Lock Correspondence Address: -
Not shown	1044	W	418236 420579	Site Address: Knowles Mill, Unit 17a, Knowles Street, Bradford, West Yorkshire, BD4 6HA Type: ELV Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 000224 EPR reference: EA/EPR/WP3092ZW/A001 Operator: Broadbent John Waste Management licence No: 65429 Annual Tonnage: 2500.0	Issue Date: 01/09/2005 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Mr John Broadbent Correspondence Address: -
Not shown	1044	W	418236 420579	Site Address: Knowles Mill, Unit 17a, Knowles Street, Bradford, West Yorkshire, BD4 6HA Type: ELV Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HEM001 EPR reference: EA/EPR/EB3904LA/T001 Operator: Hemingway Paul Waste Management licence No: 65429 Annual Tonnage: 2500.0	Issue Date: 01/09/2005 Effective Date: 10/02/2017 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: V W Audi Correspondence Address: -
Not shown	1069	NE	419800 421500	Site Address: Taylor Hall Lane, Mirfield, Dewsbury, West Yorkshire Type: Landfill taking Non-Biodegradeable Wastes Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WEB001 EPR reference: - Operator: Webfell Waste Management Limited Waste Management licence No: 61059	Issue Date: 01/04/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: Taylor Hall Lane Landfill Correspondence Address: Tom Dando Close, Normanton, West Yorkshire, WF6 1TP

ID	Distance (m)	Direction	NGR	Details	
				Annual Tonnage: 0.0	
Not shown	1069	NE	419800 421500	Site Address: Taylor Hall Lane, Mirfield, Dewsbury, West Yorkshir Type: Landfill taking Non-Biodegradeable Wastes Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WEB001 EPR reference: EA/EPR/FP3695ZA/A001 Operator: Webfell Waste Management Ltd Waste Management licence No: 61059 Annual Tonnage: 74999.0	Issue Date: 01/04/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired Site Name: Taylor Hall Lane Landfill Correspondence Address: -
Not shown	1224	SE	420200 419700	Site Address: Newgate, Mirfield, Dewsbury, West Yorkshire Type: Household, Commercial & Industrial Waste Landfill Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BIF003 EPR reference: UP3195ZQ/S002 Operator: Biffa Waste Services Limited Waste Management licence No: 60994 Annual Tonnage: 250000.0	Issue Date: 31/07/1980 Effective Date: - Modified: - Surrendered Date: 23/10/2000 Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Fold Head Mills Correspondence Address: -
Not shown	1224	SE	420200 419700	Site Address: Newgate, Mirfield, Dewsbury, West Yorkshir Type: Household, Commercial & Industrial Waste Landfill Size: >= 25000 tonnes < 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: BIF003 EPR reference: EA/EPR/UP3195ZQ/S002 Operator: Biffa Waste Services Ltd Waste Management licence No: 60994 Annual Tonnage: 250000.0	Issue Date: 31/07/1980 Effective Date: - Modified: - Surrendered Date: Oct 23 2000 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: Fold Head Mills Correspondence Address: -
Not shown	1382	E	420660 420830	Site Address: Valley House Transfer & Treatment Facility, Knowsthorpe Lane, Leeds, West Yorkshire, LS9 0PH Type: Physico-Chemical Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 000021 EPR reference: EA/EPR/XP3892ZH/V005 Operator: Silver Lining Industries Ltd Waste Management licence No: 65279 Annual Tonnage: 74999.0	Issue Date: 06/04/2005 Effective Date: - Modified: 25/07/2012 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Valley House Transfer And Treatment Facility Correspondence Address: -
Not shown	1404	S	418986 419160	Site Address: Aireborough Waste Traders, Hallam Street, Guiseley, Leeds, West Yorkshire, LS20 8AG Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RSH002 EPR reference: EA/EPR/GB3800UR/T001 Operator: Paley Groundworks (Civils) Limited Waste Management licence No: 65136 Annual Tonnage: 4999.0	Issue Date: 29/05/1992 Effective Date: 06/02/2019 Modified: 11/11/2013 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: Ramsey Skip Hire Ltd Correspondence Address: -
Not shown	1404	S	418986 419160	Site Address: Aireborough Waste Traders, Hallam Street, Guiseley, Leeds, West Yorkshire, LS20 8AG Type: Household, Commercial & Industrial Waste T Stn Size: < 25000 tonnes Environmental Permitting Regulations	Issue Date: 29/05/1992 Effective Date: 06/02/2019 Modified: 11/11/2013 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred

ID	Distance (m)	Direction	NGR	Details	
				(Waste) Licence Number: RSH002 EPR reference: EA/EPR/GB3800UR/T001 Operator: Paley Groundworks (Civills) Limited Waste Management licence No: 65136 Annual Tonnage: 4999.0	Site Name: Ramsey Skip Hire Ltd Correspondence Address: -
Not shown	1441	W	417850 420350	Site Address: J G Motors, Colnebridge Road, Bradley, Huddersfield, West Yorkshire, HD5 0RH Type: ELV Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 000155 EPR reference: EA/EPR/HP3892ZA/S002 Operator: Wood John Waste Management licence No: 65344 Annual Tonnage: 0.0	Issue Date: 12/07/2004 Effective Date: - Modified: - Surrendered Date: Mar 4 2009 12:00AM Expiry Date: - Cancelled Date: - Status: Surrendered Site Name: J G Motors Correspondence Address: -

4. Current Land Use Map



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Site Outline

Search Buffers (m)
250
500

Current Industrial Sites

Petrol & Fuel Sites

Electricity Transmission Cables

Gas Transmission Pipelines

4. Current Land Uses

4.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 13

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	93	W	Works	419192 420503	West Yorkshire, WF14	Unspecified Works Or Factories	Industrial Features
2	141	S	Sando's Ice Cream	419345 420395	56, Stocks Bank Road, Mirfield, West Yorkshire, WF14 9PZ	Food and Beverage Industry Machinery	Industrial Products
3	160	SE	Works	419367 420384	West Yorkshire, WF14	Unspecified Works Or Factories	Industrial Features
4	188	N	Electricity Sub Station	419216 420727	West Yorkshire, WF14	Electrical Features	Infrastructure and Facilities
5	198	S	R W Motors	419225 420343	Rear of 209, Huddersfield Road, Mirfield, West Yorkshire, WF14 9DL	Vehicle Repair, Testing and Servicing	Repair and Servicing
6	204	W	Darren R Naylor	419077 420501	2, The Clough, Mirfield, West Yorkshire, WF14 9DN	Conservatories	Consumer Products
7A	215	S	R K Fabrications UK Ltd	419261 420317	Unit 1 Sands Mill, Huddersfield Road, Mirfield, West Yorkshire, WF14 9DQ	Metals Manufacturers, Fabricators and Stockholders	Industrial Products
8A	215	S	Hypergraph Laboratory Supplies	419263 420316	Sands Mill, Huddersfield Road, Mirfield, West Yorkshire, WF14 9DQ	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
9B	215	SW	Techserv	419108 420403	Perseverance Mills, Huddersfield Road, Mirfield, West Yorkshire, WF14 9DL	Tools Including Machine Shops	Industrial Products
10B	223	SW	Works	419110 420389	West Yorkshire, WF14	Unspecified Works Or Factories	Industrial Features
11C	229	SW	Kelcol Bedding Company Ltd	419140 420352	Wellington Mills, Huddersfield Road, Mirfield, West Yorkshire, WF14 9DL	Beds and Bedding	Consumer Products
12C	232	SW	D S M	419134 420353	Riverside Works 209, Huddersfield Road, Mirfield, West Yorkshire, WF14 9DL	Ropes, Nets and Cordage	Industrial Products
13	241	SW	Howarth's Garage	419082 420396	245-247, Huddersfield Road, Mirfield, West Yorkshire, WF14 9DL	Vehicle Repair, Testing and Servicing	Repair and Servicing

4.2 Petrol and Fuel Sites

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

Database searched and no data found.

4.3 National Grid High Voltage Underground Electricity Transmission Cables

This dataset identifies the high voltage electricity transmission lines running between generating power plants and electricity substations. The dataset does not include the electricity distribution network (smaller, lower voltage cables distributing power from substations to the local user network). This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high voltage underground electricity transmission cables within 500m of the study site: 0

Database searched and no data found.

4.4 National Grid High Pressure Gas Transmission Pipelines

This dataset identifies high-pressure, large diameter pipelines which carry gas between gas terminals, power stations, compressors and storage facilities. The dataset does not include the Local Transmission System (LTS) which supplies gas directly into homes and businesses. This information has been extracted from databases held by National Grid and is provided for information only with no guarantee as to its completeness or accuracy. National Grid do not offer any warranty as to the accuracy of the available data and are excluded from any liability for any such inaccuracies or errors.

Records of National Grid high pressure gas transmission pipelines within 500m of the study site: 0

Database searched and no data found.

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5. Geology

5.1 Artificial Ground and Made Ground

Database searched and no data found.

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

5.2 Superficial Ground and Drift Geology

Database searched and no data found.

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

5.3 Bedrock and Solid Geology

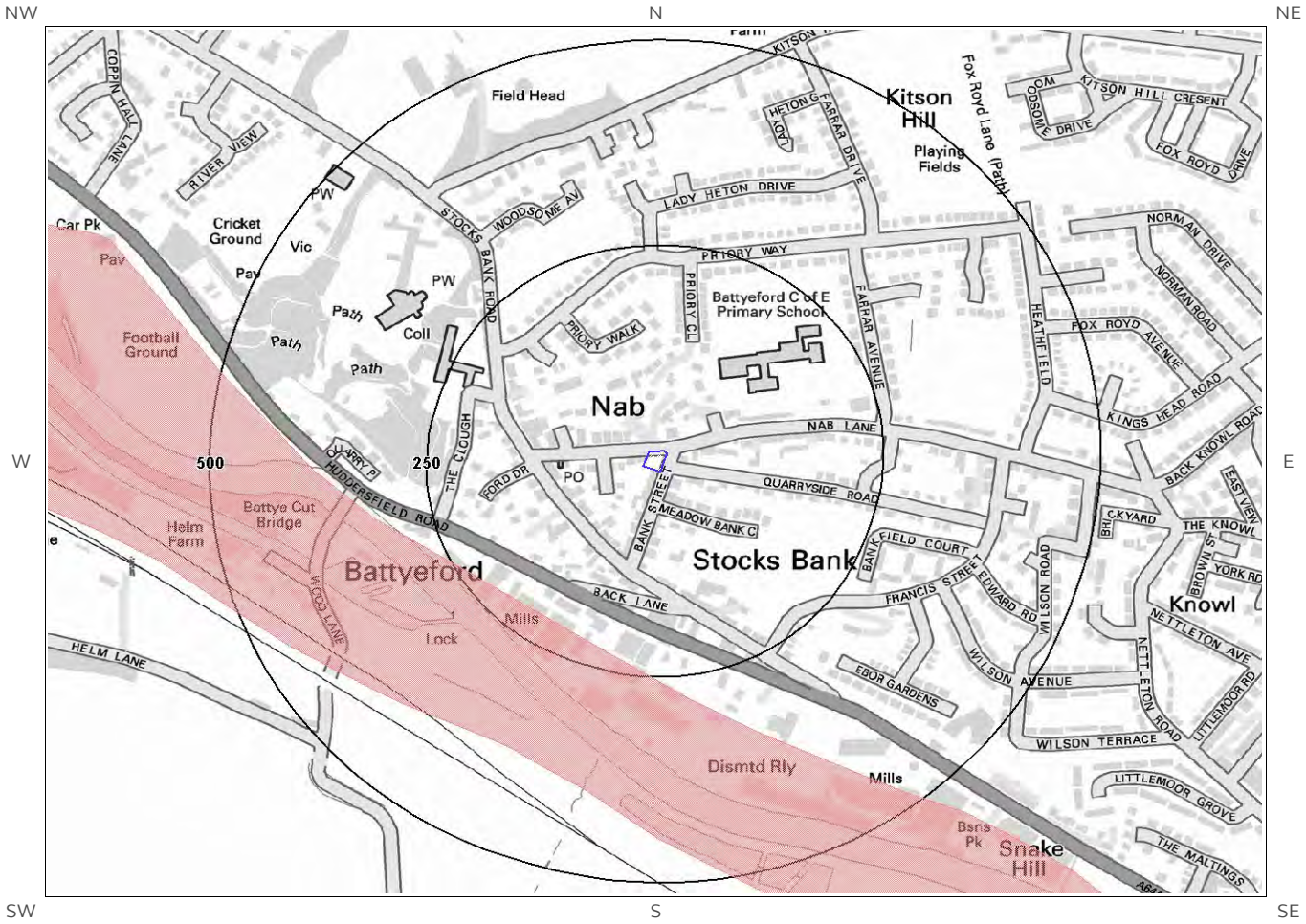
The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION	MUDSTONE, SILTSTONE AND SANDSTONE
PLCM-SDST	PENNINE LOWER COAL MEASURES FORMATION	SANDSTONE

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

6 Hydrogeology and Hydrology

6a. Aquifer Within Superficial Geology



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Site Outline

250 — 500 — Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

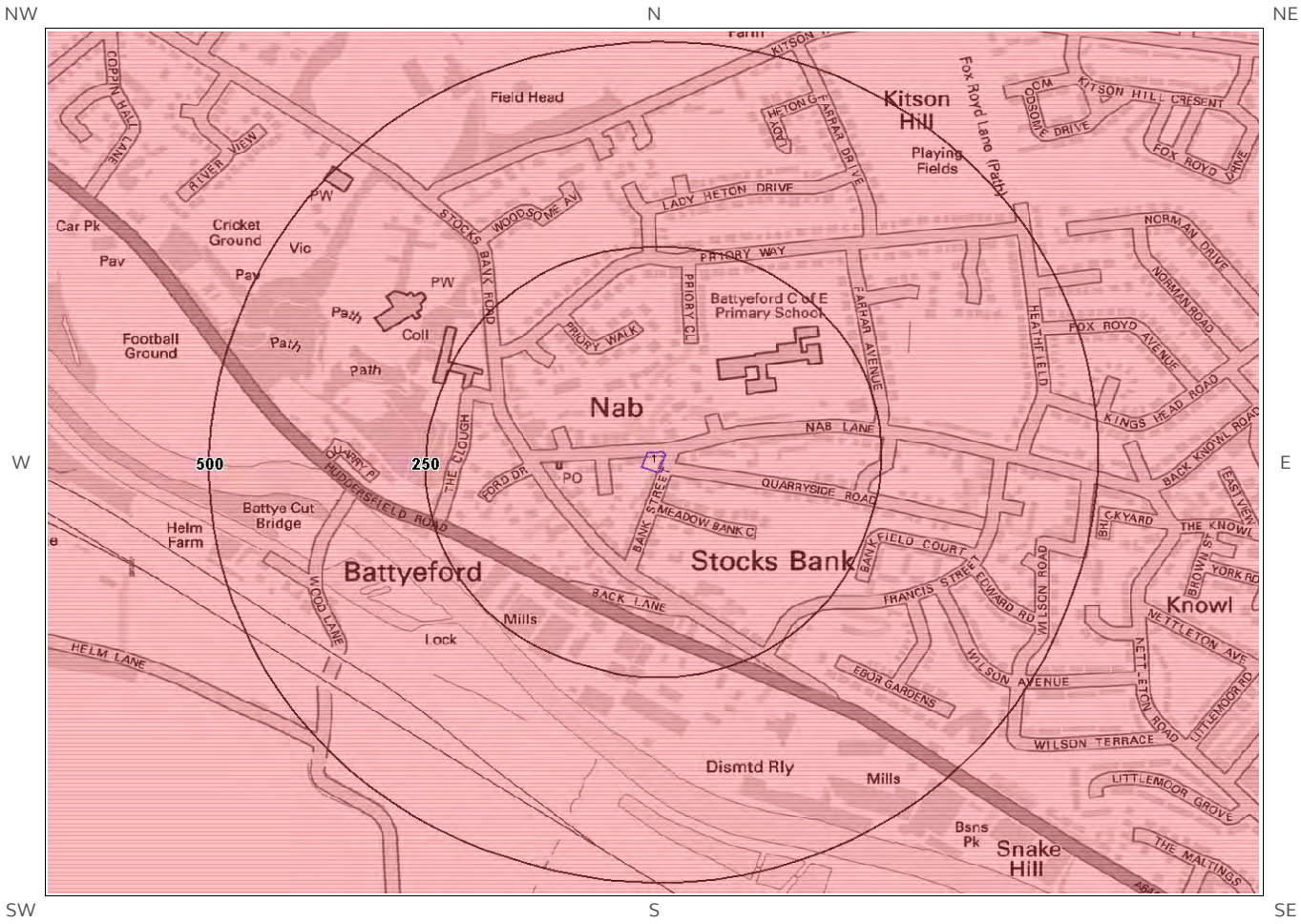
Secondary (B) Aquifer - Lower Permeability Layers

Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

6b. Aquifer Within Bedrock Geology and Abstraction Licences



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Site Outline

250 — 500 — Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Groundwater Abstraction Licence

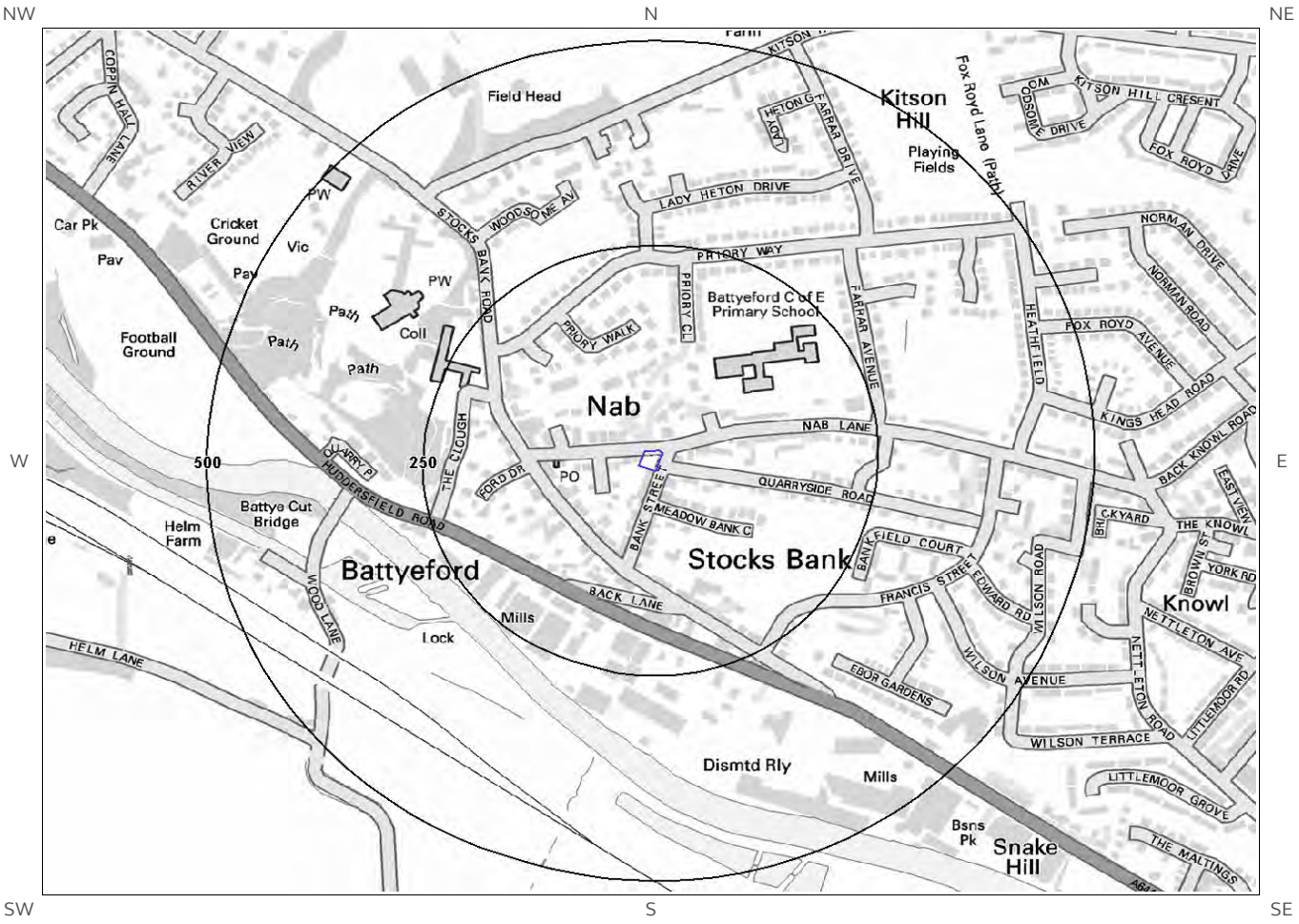
Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

Surface Water Abstraction Licence

6c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licences



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Site Outline

250 / 500 Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

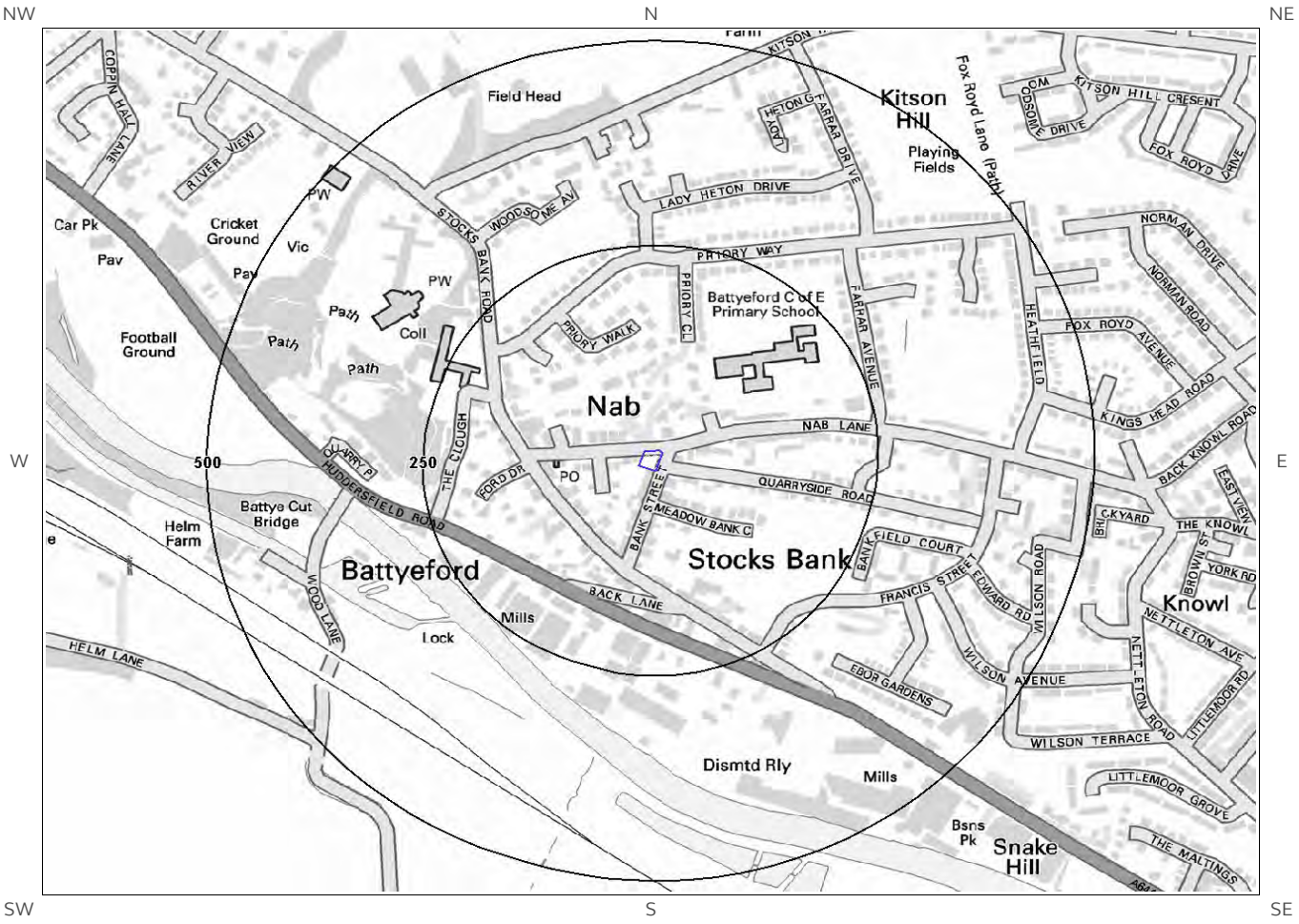
Source Protection Zone 2 - Outer Catchment

Source Protection Zone 3 - Total Catchment

Source Protection Zone 4 - Zone of Special Interest

Potable Water Abstraction Licence

6d. Hydrogeology – Source Protection Zones within confined aquifer



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Source Protection Zone 1 - Inner Catchment

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

Source Protection Zone 3C - Total Catchment within Confined Aquifer

Site Outline

Potable Water Abstraction Licence

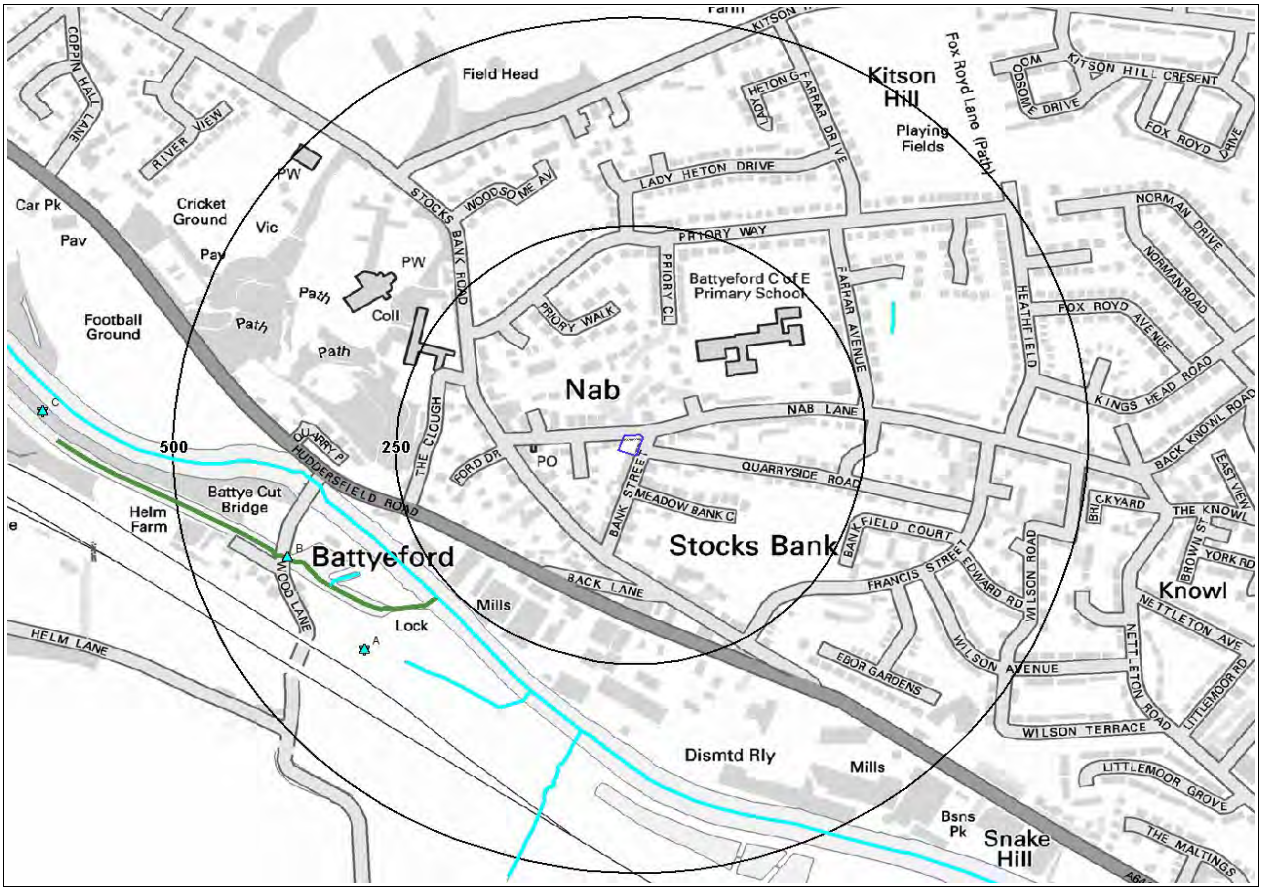
250 500 Search Buffers (m)

6e. Hydrology – Watercourse Network and River Quality

NW N NE

W E

SW S SE



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Watercourse type

- Tidal River
- Inland River
- Canal
- Lock or Flight of Locks
- Lake, Reservoir, or Marsh
- Foreshore
- Drain or Transfer

Watercourse level

- On ground surface
- Underground or Elevated
- Level unknown

- Site Outline
- 250 / 500 Search Buffers (m)
- General Quality Assessment: Biology
- General Quality Assessment: Chemistry

6.Hydrogeology and Hydrology

6.1 Aquifer within Superficial Deposits

Records of strata classification within the superficial geology at or in proximity to the property Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (6a):

ID	Distance (m)	Direction	Designation	Description
1	215	SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.2 Aquifer within Bedrock Deposits

Records of strata classification within the bedrock geology at or in proximity to the property Yes

From 1 April 2010, the Environment Agency/Natural Resources Wales's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the Groundsure Enviro Insight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	Designation	Description
1	0	On Site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

6.3 Groundwater Abstraction Licences

Groundwater Abstraction Licences within 2000m of the study site — Identified

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details	
Not shown	828	S	419300 419700	Status: Historical Licence No: 2/27/13/090 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: WELL - COAL MEASURES - COLNSBRIDGE BRADLEY Data Type: Point Name: DEWS	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 26/03/1974 Version End Date:
Not shown	828	S	419300 419700	Status: Historical Licence No: 2/27/13/090 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: -- WELL Data Type: Point Name: DEWS	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 26/03/1974 Version End Date:
Not shown	1799	W	417500 420800	Status: Historical Licence No: 2/27/12/186 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE Data Type: Point Name: BOTTOMLEY & SON LIMITED	Annual Volume (m^3): 109,090 Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/07/1998 Version End Date:
Not shown	1799	W	417500 420800	Status: Active Licence No: 2/27/12/186 Details: Boiler Feed Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - BRADLEY Data Type: Point Name: E BOTTOMLEY & SONS LTD	Annual Volume (m^3): 109,090 Max Daily Volume (m^3): - Original Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 102 Version Start Date: 03/03/2008 Version End Date:
Not shown	1925	NE	420920 421600	Status: Historical Licence No: 2/27/13/231 Details: General Farming & Domestic Direct Source: GROUNDWATERS Point: BOREHOLE - COAL MEASURES - MIRFIELD Data Type: Point Name: JOHN L BARBER & SON	Annual Volume (m^3): 25,000 Max Daily Volume (m^3): 103 Original Application No: - Original Start Date: 08/09/2008 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 08/09/2008 Version End Date:

6.4 Surface Water Abstraction Licences

Surface Water Abstraction Licences within 2000m of the study site — Identified

The following Surface Water Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (6b):

ID	Distance (m)	Direction	NGR	Details	
Not	1045	W	418300	Status: Historical	Annual Volume (m^3): 57,825

ID	Distance (m)	Direction	NGR	Details	
shown			420900	Licence No: 2/27/13/049 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: NUNBROOK BECK Data Type: Point Name: JOHN COTTON (MIRFIELD) LTD	Max Daily Volume (m³): 327 Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date:
Not shown	1045	W	418300 420900	Status: Active Licence No: 2/27/13/049 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: NUNBROOK BECK - MIRFIELD Data Type: Point Name: JOHN COTTON (MIRFIELD) LTD	Annual Volume (m³): 57,825 Max Daily Volume (m³): 327 Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date:
Not shown	1379	W	417900 420500	Status: Historical Licence No: 2/27/13/071 Details: General use relating to Secondary Category (Medium Loss) Direct Source: SURFACE WATER Point: RIVER CALDER Data Type: Point Name: HOLLIDAY DYES & CHEMICALS LTD	Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/03/1982 Version End Date:
Not shown	1379	W	417900 420500	Status: Historical Licence No: 2/27/13/071 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER CALDER Data Type: Point Name: HOLLIDAY DYES & CHEMICALS LTD	Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 17/03/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/03/1982 Version End Date:
Not shown	1579	W	417700 420500	Status: Active Licence No: 2/27/13/201 Details: Transfer Between Sources (Pre Water Act 2003) Direct Source: SURFACE WATER Point: RIVER CALDER - DALTON WORKS - HUDDERSFIELD Data Type: Point Name: SYNGENTA LTD	Annual Volume (m³): 1,136,500 Max Daily Volume (m³): 27,300 Application No: - Original Start Date: 21/10/1999 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2006 Version End Date:
Not shown	1579	W	417700 420500	Status: Historical Licence No: 2/27/12/267 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER CALDER - DALTON WORKS - HUDDERSFIELD Data Type: Point Name: ZENECA FINE CHEMICAL MANUFACTURING ORGANISATION	Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 24/02/1971 Expiry Date: - Issue No: 101 Version Start Date: 21/11/1999 Version End Date:
Not shown	1579	W	417700 420500	Status: Historical Licence No: 2/27/12/267 Details: Transfer between sources Direct Source: SURFACE WATER Point: RIVER CALDER - DALTON WORKS - HUDDERSFIELD Data Type: Point Name: ZENECA FINE CHEMICAL MANUFACTURING ORGANISATION	Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 24/02/1971 Expiry Date: - Issue No: 101 Version Start Date: 21/11/1999 Version End Date:
Not shown	1579	W	417700 420500	Status: Historical Licence No: 2/27/12/267 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER CALDER - DALTON WORKS HUDDERSFIELD	Annual Volume (m³): - Max Daily Volume (m³): - Application No: - Original Start Date: 24/02/1971 Expiry Date: - Issue No: 101 Version Start Date: 21/11/1999

ID	Distance (m)	Direction	NGR	Details	
				Data Type: Point Name: ZENECA FINE CHEMICAL MANUFACTURING ORGANISATION	Version End Date:
Not shown	1799	W	417500 420800	Status: Active Licence No: 2/27/12/185 Details: Boiler Feed Direct Source: SURFACE WATER Point: RIVER CALDER - BRADLEY Data Type: Point Name: E BOTTOMLEY & SONS LTD	Annual Volume (m^3): 109,090 Max Daily Volume (m^3): 1,364 Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 102 Version Start Date: 03/03/2008 Version End Date:
Not shown	1799	W	417500 420800	Status: Historical Licence No: 2/27/12/185 Details: Boiler Feed Direct Source: SURFACE WATER Point: RIVER CALDER Data Type: Point Name: E BOTTOMLEY & SON LTD	Annual Volume (m^3): 109,090 Max Daily Volume (m^3): 1,364 Application No: - Original Start Date: 28/04/1966 Expiry Date: - Issue No: 101 Version Start Date: 16/01/2006 Version End Date:

6.5 Potable Water Abstraction Licences

Potable Water Abstraction Licences within 2000m of the study site — None identified

Database searched and no data found.

6.6 Source Protection Zones

Source Protection Zones within 500m of the study site — None identified

Database searched and no data found.

6.7 Source Protection Zones within Confined Aquifer

Source Protection Zones within the Confined Aquifer within 500m of the study site — None identified

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

6.8 Groundwater Vulnerability and Soil Leaching Potential

Environment Agency/Natural Resources Wales information on groundwater vulnerability and soil leaching potential within 500m of the study site Identified

Distance (m)	Direction	Classification	Soil Vulnerability Category	Description
0	On Site	Minor Aquifer/High Leaching Potential	HU	Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.

6.9 River Quality

Environment Agency/Natural Resources Wales information on river quality within 1500m of the study site Identified

6.9.1 Biological Quality:

Biological Quality data describes water quality in terms of 83 groups of macroinvertebrates, some of which are pollution sensitive. The results are graded from A ('Very Good') to F ('Bad').

The following Biological Quality records are shown on the Hydrology Map (6e):

ID	Distance (m)	Direction	NGR	River Quality Grade	Biological Quality Grade				
					2005	2006	2007	2008	2009
13A	372	SW	418994 420296	River Name: Calder Reach: Huddersfield Outfallbatteyford Marina End/Start of Stretch: End of Stretch NGR	E	E	E	E	E
14C	648	W	418633 420581	River Name: Calder Reach: Huddersfield Outfallbatteyford Marina End/Start of Stretch: Start of Stretch NGR	E	E	E	E	E
Not shown	1226	SE	420100 419600	River Name: Calder Reach: Batteyford Marina Newgate End/Start of Stretch: Start of Stretch NGR	E	E	E	E	E

6.9.2 Chemical Quality:

Chemical quality data is based on the General Quality Assessment Headline Indicators scheme (GQAHI). In England, each chemical sample is measured for ammonia and dissolved oxygen. In Wales, the samples are measured for biological oxygen demand (BOD), ammonia and dissolved oxygen. The results are graded from A ('Very Good') to F ('Bad').

The following Chemical Quality records are shown on the Hydrology Map (6e):

					Chemical Quality Grade				
ID	Distance (m)	Direction	NGR	River Quality Grade	2005	2006	2007	2008	2009
16A	372	SW	418994 420296	River Name: River Calder Reach: Batteyford Marina Newgate End/Start of Stretch: Start of Stretch NGR	C	C	C	C	C
17A	372	SW	418994 420296	River Name: River Calder Reach: Huddersfield Outfall Batteyford Marina End/Start of Stretch: End of Stretch NGR	C	C	C	C	C
18B	394	W	418907 420406	River Name: River Calder Reach: Batteyford Marina Newgate End/Start of Stretch: Sample Point NGR	C	C	C	C	C
19B	394	W	418907 420406	River Name: River Calder Reach: Huddersfield Outfall Batteyford Marina End/Start of Stretch: Sample Point NGR	C	C	C	C	C
20B	394	W	418907 420406	River Name: Calder & Hebble Navigatio Reach: Newgate Shepley Bridge Lock End/Start of Stretch: Sample Point NGR	C	C	C	C	C
21C	648	W	418633 420581	River Name: River Calder Reach: Huddersfield Outfall Batteyford Marina End/Start of Stretch: Start of Stretch NGR	C	C	C	C	C
Not shown	1196	SE	420075 419619	River Name: Calder & Hebble Navigatio Reach: Newgate Shepley Bridge Lock End/Start of Stretch: Start of Stretch NGR	C	C	C	C	C

6.10 Ordnance Survey MasterMap Water Network

Ordnance Survey MasterMap Water Network entries within 500m of the study site

This watercourse information is provided by Ordnance Survey MasterMap Water Network. The data provides a detailed centre line following the curve of the waterway precisely, so all distances provided in the report should be understood as measurements to the centreline rather than a measurement to the nearest point of the watercourse. Underground watercourses are inferred from entry and exit points so caution is advised in using these to indicate precise locations of underground watercourses when planning site investigation and development.

The following Ordnance Survey MasterMap Water Network records are represented on the Hydrology Map (6e):

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
1	268 SW	River Calder Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 35.0
16	268 SW	River Calder Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 35.0
2	269 SW	River Calder Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 33.1
3	269 SW	Calder and Hebble Navigation Alternative Name: -	Canal. A manmade watercourse for inland navigation.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 10.3
17	269 SW	River Calder Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 33.1
18	269 SW	Calder and Hebble Navigation Alternative Name: -	Canal. A manmade watercourse for inland navigation.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 10.3
4	304 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
5	304 S	River Calder Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 35.0
19	304 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	304 S	River Calder Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 35.0
6	307 NE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
21	307 NE	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions)

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
				Average Width in Watercourse Section (m): Not Provided
7	316 SW	Calder and Hebble Navigation Alternative Name: -	Canal. A manmade watercourse for inland navigation.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 19.0
22	316 SW	Calder and Hebble Navigation Alternative Name: -	Canal. A manmade watercourse for inland navigation.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 19.0
8	327 SW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.7
23	327 SW	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.7
9	335 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
10	335 S	River Calder Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 35.0
Not shown	335 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	335 S	River Calder Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 35.0
11	362 SW	Calder and Hebble Navigation Alternative Name: -	Canal. A manmade watercourse for inland navigation.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 16.6
26	362 SW	Calder and Hebble Navigation Alternative Name: -	Canal. A manmade watercourse for inland navigation.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 16.6
12	489 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 0.3
Not shown	489 S	- Alternative Name: -	Inland river not influenced by normal tidal action.	Catchment Area: Aire and Calder Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 0.3

6.11 Surface Water Features

Surface water features within 250m of the study site	None identified

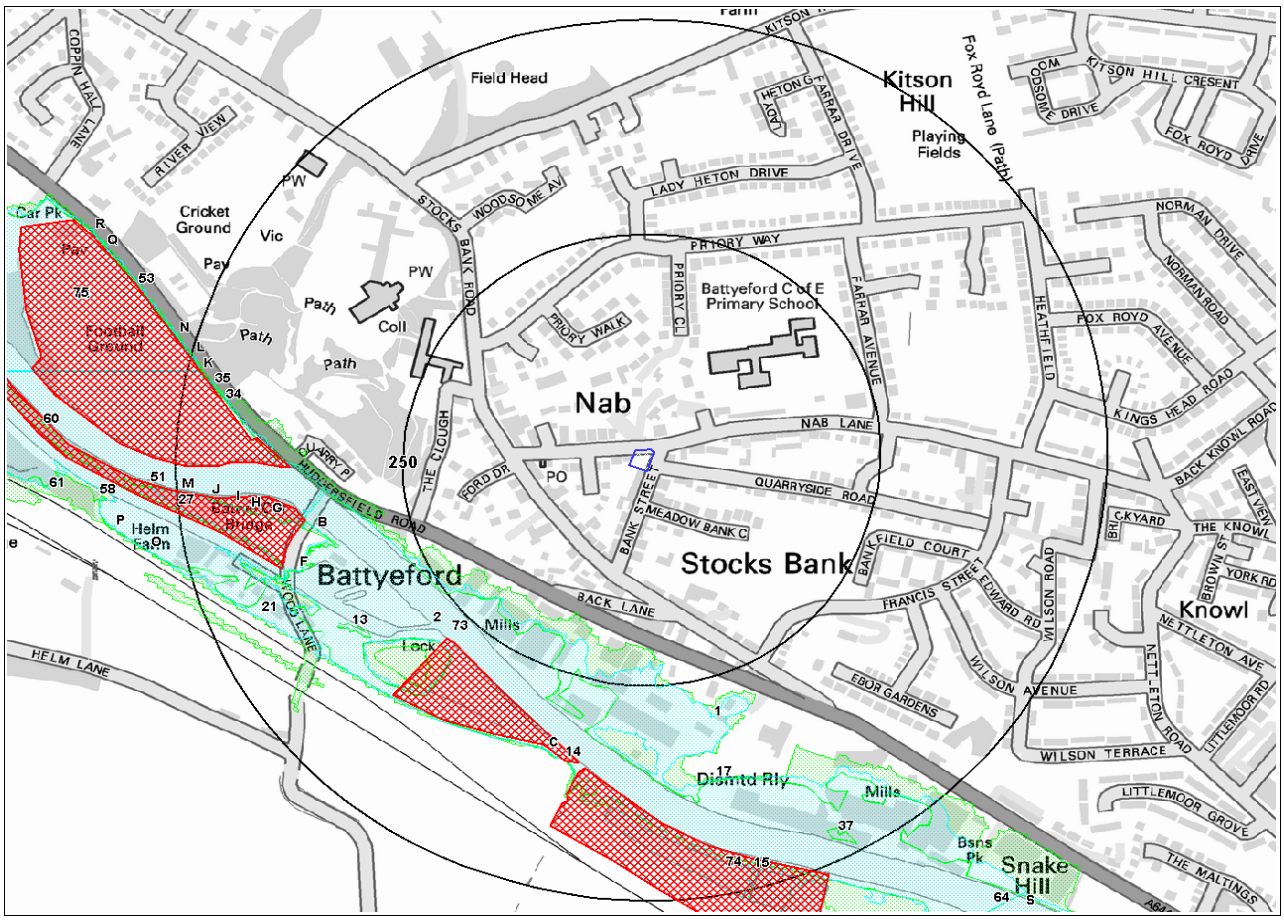
Database searched and no data found.

7a. Environment Agency/Natural Resources Wales Flood Map for Planning (from rivers and the sea)

NW N NE

W E

SW S SE



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Site Outline

100 / 250 Search Buffers (m)

Zone 2 Floodplain

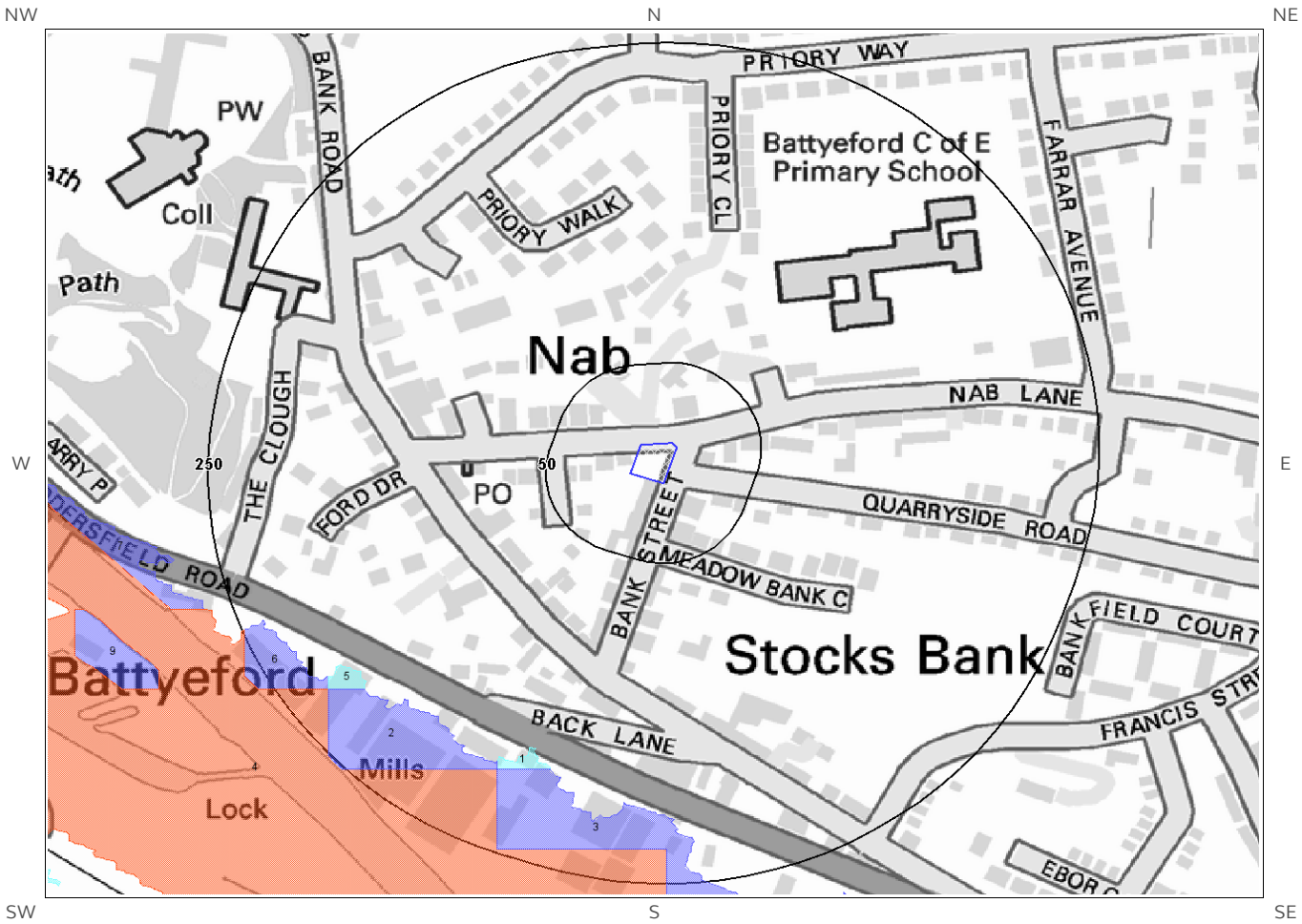
Zone 3 Floodplain

Flood Defences

Area used for Flood Storage

Area Benefiting from Flood Defences

7b. Environment Agency/Natural Resources Wales Risk of Flooding from Rivers and the Sea (RoFRaS) Map



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Site Outline

100 / 250 Search Buffers (m)

RoFRaS Rating

- Very Low
- Low
- Medium
- High

7 Flooding

7.1 River and Coastal Zone 2 Flooding

Environment Agency/Natural Resources Wales Zone 2 floodplain within 250m — Identified

Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea. Any relevant data is represented on Map 7a – Flood Map for Planning:

ID	Distance (m)	Direction	Update	Type
1	181	S	19-Nov-2019	Zone 2 - (Fluvial /Tidal Models)
2	210	SW	19-Nov-2019	Zone 2 - (Fluvial /Tidal Models)

7.2 River and Coastal Zone 3 Flooding

Environment Agency/Natural Resources Wales Zone 3 floodplain within 250m — Identified

Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year. Any relevant data is represented on Map 7a – Flood Map for Planning.

ID	Distance (m)	Direction	Update	Type
1	207	SW	19-Nov-2019	Zone 3 - (Fluvial Models)

7.3 Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating

Highest risk of flooding onsite — Very Low

The Environment Agency/Natural Resources Wales RoFRaS database provides an indication of river and coastal flood risk at a national level on a 50m grid with the flood rating at the centre of the grid calculated and given above. The data considers the probability that the flood defences will overtop or breach by considering their location, type, condition and standard of protection.

RoFRaS data for the study site indicates the property is in an area with a Very Low (less than 1 in 1000) chance of flooding in any given year.

7.4 Flood Defences

Flood Defences within 250m of the study site — None identified

Database searched and no data found.

7.5 Areas benefiting from Flood Defences

Areas benefiting from Flood Defences within 250m of the study site — None identified

7.6 Areas benefiting from Flood Storage

Areas used for Flood Storage within 250m of the study site — None identified

7.7 Groundwater Flooding Susceptibility Areas

7.7.1 British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site — Identified

Clearwater Flooding or Superficial Deposits Flooding — Clearwater Flooding

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

7.7.2 Highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions

Potential at Surface

Where potential for groundwater flooding to occur at surface is indicated, this means that given the geological conditions in the area groundwater flooding hazard should be considered in all land-use planning decisions. It is recommended that other relevant information e.g. records of previous incidence of groundwater flooding, rainfall, property type, and land drainage information be investigated in order to establish relative, but not absolute, risk of groundwater flooding.

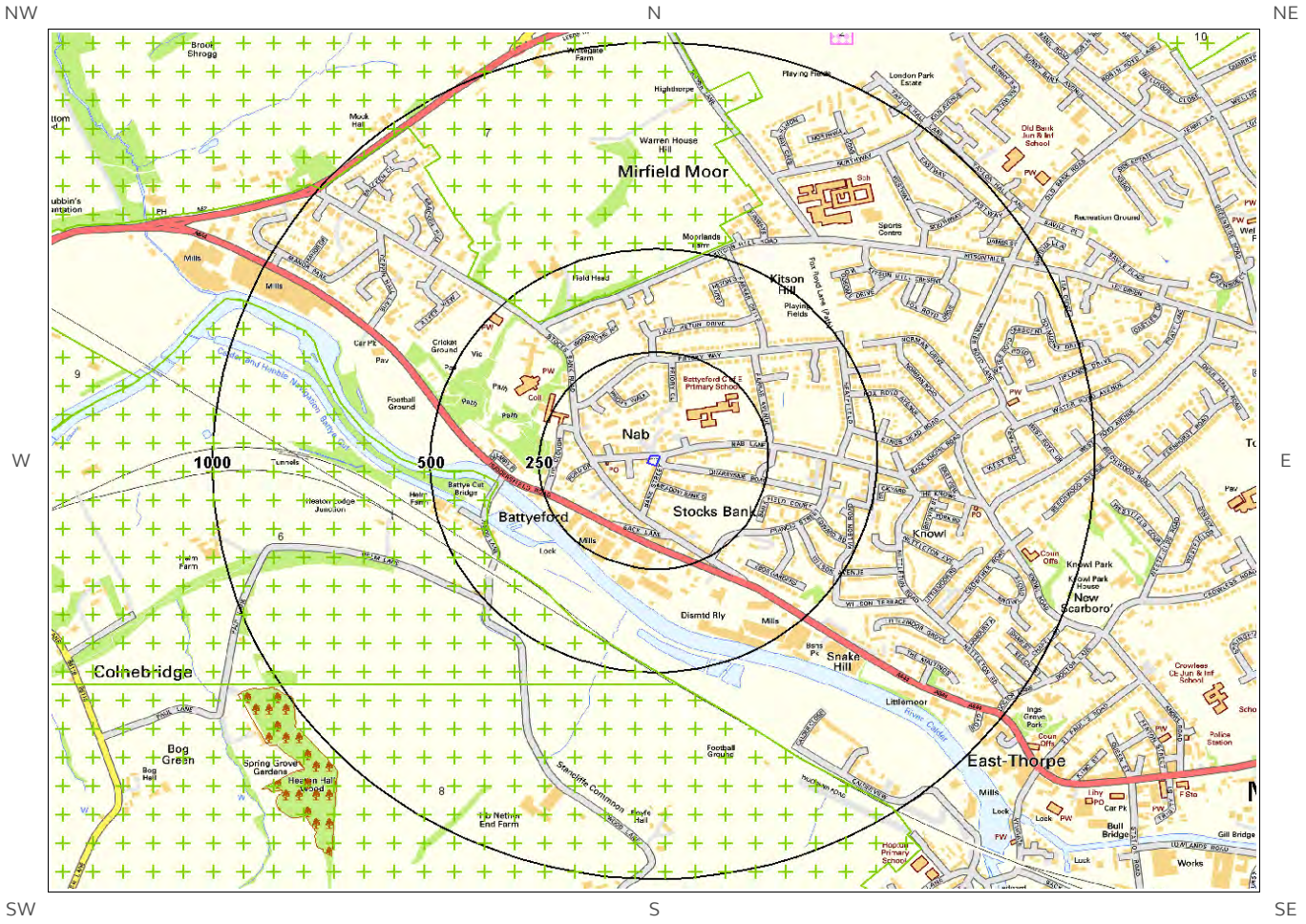
7.8 Groundwater Flooding Confidence Areas

British Geological Survey confidence rating in this result — Low

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

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

8. Designated Environmentally Sensitive Sites Map



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Site Outline

100 / 250 Search Buffers (m)

AONB

National Park

SSSI

Special Protection Areas

Nitrate Vulnerable Zones

Green Belt

Environmentally Sensitive Areas

Special Areas of Conservation

World Heritage Sites

Nitrate Sensitive Areas

Ancient Woodland

National Nature Reserve

Local Nature Reserves

Ramsar Sites

8. Designated Environmentally Sensitive Sites

Designated Environmentally Sensitive Sites within 2000m of the study site	Identified

8.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

8.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

8.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

8.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

8.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

8.6 Records of Ancient Woodland within 2000m of the study site:

3

The following records of Designated Ancient Woodland provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	Ancient Woodland Name	Data Source
3	994	SW	HEATON HALL WOOD	Ancient Replanted Woodland
Not shown	1805	NW	Unknown	Ancient Replanted Woodland
Not shown	1991	SE	BRIERY BANK	Ancient Replanted Woodland

8.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

1

The following Local Nature Reserve (LNR) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	LNR Name	Data Source
Not shown	1220	NE	Sunny Bank Ponds	Natural England

8.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

8.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

8.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

8.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

8.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

1

The following Nitrate Vulnerable Zone records produced by DEFRA are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	NVZ Name	Data Source
2	1073	N	Existing	DEFRA

8.14 Records of Green Belt land within 2000m of the study site:

7

Green Belt data contains Ordnance Survey data © Crown copyright and database right [2015].

ID	Distance	Direction	Green Belt Name	Local Authority Name
6	347	W	Liverpool, Manchester and West Yorks Greenbelt	Kirklees District (B)
7	401	N	Liverpool, Manchester and West Yorks Greenbelt	Kirklees District (B)
8	528	S	Liverpool, Manchester and West Yorks Greenbelt	Kirklees District (B)
9	1184	W	Liverpool, Manchester and West Yorks Greenbelt	Calderdale District (B)
10	1529	NE	Liverpool, Manchester and West Yorks Greenbelt	Kirklees District (B)
Not shown	1618	SE	Liverpool, Manchester and West Yorks Greenbelt	Kirklees District (B)
Not shown	1880	W	Liverpool, Manchester and West Yorks Greenbelt	Kirklees District (B)

9. Natural Hazards Findings

9.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a Groundsure Geo Insight, available from our website. The following information has been found:

9.1.1 Shrink Swell

Maximum Shrink-Swell*[*] hazard rating identified on the study site — Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly low plasticity. 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 due to potential problems with shrink-swell clays.

9.1.2 Landslides

Maximum Landslide* hazard rating identified on the study site — Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
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.

9.1.3 Soluble Rocks

Maximum Soluble Rocks* hazard rating identified on the study site — Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
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.

* This indicates an automatically generated 50m buffer and site.

9.1.4 Compressible Ground

Maximum Compressible Ground* hazard rating identified on the study site — Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
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.

9.1.5 Collapsible Rocks

Maximum Collapsible Rocks* hazard rating identified on the study site — Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
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.

9.1.6 Running Sand

Maximum Running Sand** hazard rating identified on the study site — Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
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.

* This indicates an automatically generated 50m buffer and site.

9.2 Radon

9.2.1 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 site 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.

9.2.2 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.

10. Mining

10.1 Coal Mining

Coal mining areas within 75m of the study site — Identified

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

Distance (m)	Direction	Details
0	On Site	The site lies in or in proximity to the coal mining reporting area as defined by the Coal Authority

10.2 Non-Coal Mining

Non-Coal Mining areas within 50m of the study site boundary — None identified

Database searched and no data found.

10.3 Brine Affected Areas

Brine affected areas within 75m of the study site — None identified
Guidance: No Guidance Required.

Contact Details

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info@groundsure.com

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Fax: 0115 936 3276.
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BGS Geological Hazards Reports and general geological enquiries:
enquiries@bgs.ac.uk

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Email:**enquiries@phe.gov.uk**
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DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey
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Authority: Kirklees Council
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Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England/Natural Resources Wales who retain the Copyright and Intellectual Property Rights for the data.
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Standard Terms and Conditions

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https://www.groundsure.com/terms-and-conditions-feb11-2019

APPENDIX 3

REPORT LIMITATIONS

LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget and staff resources allocated to the project.

Other than that expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd provides no other representation or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important factor in determining the scope and level of the services. Should the purpose for which the report is used, or the proposed use of the site change, this report will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2019 and should be read in light of any subsequent changes in legislation, statutory requirements and industry best practices. Ground conditions can also change over time and further investigations or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd and the client.

The observations and conclusions described in this report are based solely upon the services that were provided pursuant to the agreement between the client and Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified.

No responsibility can be accepted for errors within third party items presented in this report. Further Earth Environmental & Geotechnical Ltd was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site.