BETTER SOLUTIONS, INTELLIGENTLY ENGINEERED

ENVIRONMENT

Wilson Bowden Developments Ltd
Markham Vale South
Duckmanton
Phase 1 Geo-Environmental Assessment

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY	
Site Address	Land off Chesterfield Road, Duckmanton, S44 5HU
Site Setting	The site has remained undeveloped agricultural land, a site walkover completed by BWB highlighted significant topographical changes across the site. Chesterfield road runs along the northern boundary, an unnamed brook marks the eastern boundary, the M1 runs along the western boundary, and further agricultural fields are present to the south. Two overhead powers lines cross the site. Historical the site has remained relatively undeveloped with a small quarry located in the north east corner of the site between the earliest maps from 1875 to 1916. A railway and embankment was located in the south of the site between 1897 and 1961 with the embankment removed by 1967. Off-site historical land uses have included collieries and associated infrastructure, open cast mining, landfilling, electrical substations, works and sewage works.
Published Ground Conditions	The site is understood to be underlain by the Pennine Middle Coal Measures Formation. No superficial deposits are mapped across the site. Made Ground is mapped to be present in the north east of site (Quarry area) and beneath the former railway line.
Geotechnical Appraisal	A significant earthworks exercise is anticipated to create many of the development plots. It is possible that competent sandstone is present at shallow depth and where these falls within cut, additional equipment may be required to break out rock. Shallow spread foundations are considered the most likely founding solution for the proposed development, but these may depend on the earthworks scheme. Foundations may require locally deepening in areas of thick Made Ground. Should competent PMCMF not be in economical reach then a ground improvement or a piled foundation may be required. The CA has identified 12 seams of coal worked at depths of between 110m and 720m, last works in 1991. A damage claim has been made for subsidence at a residential property immediately north of the site. No records of mine gas issues have been reported.
Regulatory Review	The regulatory review identified a number of landfills in close proximity to the site, no further records are considered likely to represent a significant risk to the site environs.
Preliminary Environmental Assessment	Limited sources of contamination have been identified on site, which are limited to a small quarry and former railway/embankment. Local off-site sources include landfills and a former (Coalite) chemical works. In regards to the proposed development, it is BWBs opinion that the site represents a low to moderate risk to human health and a low risk to controlled water. The risk to human health is predominately driven by the possibility of hazardous ground gases rising from the Made Ground on site and the possible migration of hazardous gases from the landfill located immediately north of the site.
Recommendations	An intrusive ground investigation is recommended to assess the environmental and geotechnical properties underlying the site. This should also include specific earthwork testing on site won materials that will be reused on site. Gas wells should be targeted notably along the northern margin of the site to assess for potential gas migrations from the landfills. An Earthworks Strategy, Specification and Materials Management Plan will likely be required prior to any development or enabling works commencing.

This summary should be read in conjunction with BWB's full report (ref. MVS-BWB-00-XX-YE-RP-0001_Ph1_P1) and reflects an assessment of the site based on information received by BWB at the time of production.

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1. INTRODUCTION

Instruction

1.1 BWB Consulting (BWB) was instructed by Wilson Bowden Developments Ltd (the Client) to carry out aPhase 1 Geo-Environmental Assessment. Details of the project brief are included in BWB proposal reference 190513/V1/0001/NTE2529/TJH/CR dated May 2019.

1.2 Conceptual development plans comprise 12 industrial units with associated parking, service yards, gatehouses, and attenuation ponds at land to the south of the A632 and the Markham Vale industrial redevelopment area.

1.3 A proposed development plan (ref: 17-060 MP01-002 Rev B, dated Augusto 2017), current at the time of writing is presented as **Appendix 1**.

Objectives

1.4 This report has been completed to present pertinent information into the environmental risks and liabilities associated with the site. It has been completed to fulfil the requirements of a preliminary risk assessment in accordance with BS10175: 2011+A2:2017 'Investigation of Potentially Contaminated Sites Code of Practice' and CLR11 'Model Procedures for the Management of Contaminated Land'. The objectives of the report are:

- To assess historical activities at the site with respect to their potential impact on the site environment;
- To characterise the environmental setting of the site, identify migration pathways and vulnerable receptors for contamination originating at the site, focusing on potential soil and groundwater liabilities;
- To assess historical and current surrounding land use in relation to known or potential off-site contamination issues that may impact the subject property;
- To review existing site investigation and remediation information available for the site;
- To develop a preliminary Conceptual Site Model (CSM); and
- To assess potential environmental liabilities associated with the site.

Scope of Works

1.5 The Scope of work included:

- Site visit to inspect the current site layout;
- Review of the following information:
  - Groundsure Report No. HMD 214-6027980/6027981 (**Appendix 3**);
  - Historical Ordnance Survey Mapping (**Appendix 4**);
  - British Geological Survey (BGS) exploratory hole records (www.bgs.co.uk);

- British Geological Survey (2012) 1:50 000 Scale Chesterfield Sheet 112 Solid and Drift;
- Coal Authority 'Coal Mining Report' (ref: HMD-214-6027983) (**Appendix 5**); and
- Zetica – regional unexploded bomb risk maps (www.zetica.com); and
- Environment Agency website (www.environment-agency.gov.uk).

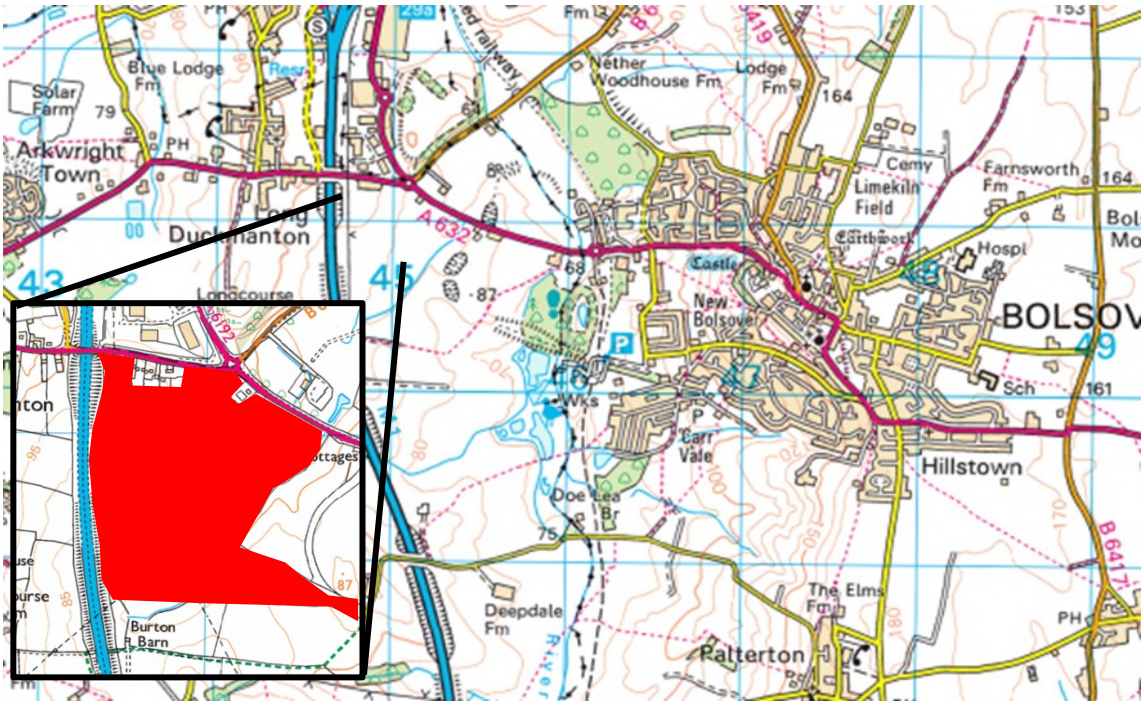
- Provide a summary of key risks that require further investigation in order to control the identified risks; and
- Produce a geo-environmental desk study (this report) providing qualitative contamination risk assessment and ground-related constraints to the proposed development.

2. THE SITE

Site Location

2.1 The site is located of Chesterfield Road, Duckmanton, S44 5HU, centred at National Grid reference 444946, 370798. The location of the site is shown in **Figure 2:1.**

Figure 2:1 Site Location Plan



Site Description

2.2 The layout of the site with the main features is presented as **Figure 2.** Photographs from the site inspection are presented in **Appendix 2.**

2.3 The site comprises an irregular shaped piece of land covering approximately 40.0 hectares. The site is undulating with an overall fall in elevation from approximately 90m Above Ordnance Datum (AOD) in the north west of the site to approximately 70m AOD in the north east.

Site Walkover

2.4 A site walkover was completed on 15th May 2019 by a representative of BWB. Photographs from the walkover are presented in Appendix 2 and individual photos are referenced within the following section.

2.5 The site comprises undulating arable farmland (Photograph 1) with two overhead power lines traversing the site in an approximately north-south alignment. A large stockpile of manure was noted adjacent to a pylon in the west of the site (Photograph 2). Vehicle access into the site can be gained via a padlocked gate in the north west

corner of the site, where a vehicle track then runs along the site boundary past a mobile phone mast (Photograph 3) to the stockpile of manure.

Site Surroundings

2.6 Adjacent to the northern boundary is a small number of residential properties and an electricity substation (Photograph 4). The eastern and south eastern site boundaries are formed by a brook which flows in a north easterly direction (Photograph 5). The northern boundary is otherwise formed by Chesterfield Road (Photograph 6) with land beyond which is being regenerated into Markham Vale Industrial Park and vacant Brownfield Land associated with the former Coalite Chemical Works. The M1 Motorway forms the boundary to the west with much of the land to the west, south and east being used for agriculture.

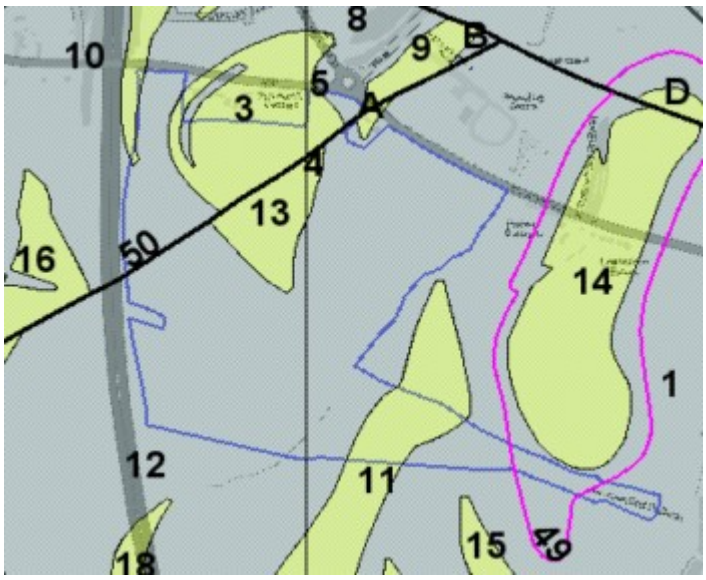
Potential Constraints to Ground Investigation

2.7 If future ground investigation works were undertaken while the site is still used for farming, compensation may need to be agreed between the farmer and client for any crop damage which can be limited although some damage will be unavoidable.

3. PUBLISHED GROUND CONDITIONS

3.1 The anticipated ground conditions for the site and controlled waters vulnerability is discussed within **Table 3:1** below.

Table 3:1 Published Ground Conditions

Geology	Information published by the BGS indicates that the site is directly underlain by the Pennine Middle Coal Measures Formation PMCMF, with the majority of this made up of mudstone, siltstone and sandstone with an area of sandstone covering the central and north area of the site. No superficial deposits are mapped across the site. Made Ground is mapped across the south of the site (running west to east) beneath a former railway line, with worked ground being mapped to the north east of the site. A fault is present in the central area, cutting across the site in a north east to south west direction. **Figure 3:1** below depicts the makeup of the bedrock geology. **Figure 3:1 Summary of Bedrock Geology**  **Key:** 1. PMCMF – mudstone, siltstone and sandstone. 3, 4 & 13. PMCMF – sandstone. 50. Fault (inferred). Site Boundary depicted by the blue line. A series of boreholes were advanced along the M1 route. In general, around 3 to 4m of weathered deposits were recorded over siltstone and mudstone. A thin weak coal seam was encountered between depths of circa 15 and 19m bgl.
Hydrogeology	The EA classifies the Bedrock of the PMCMF as a Secondary A Aquifer. There are no records of licensed discharges to groundwater with 250m of the site, no licensed groundwater abstractions within 500m and the site is not within an EA designated Source Protection Zone. The site is not within an EA designated Zone 2 or 3 floodplain.
Surface Waters	A small watercourse is located on site, the Groundsure Reports lists this as an inland river, which runs along the eastern boundary and is mapped to terminate in the south of the site.

	There are no licensed surface water abstraction points within 500m and no records of licensed discharges to surface water with 250m of the site. There is no water quality data for the water course located on site. Biological data for the River Doe Lea taken 300m east of the site grades it as C between 2005 and 2008 and D in 2009, Chemically it has been graded as C between 2005 and 2009.
Ground Gas & Radon	The site is not within a Radon affected area. Sources of ground gas are understood to be limited across the site, small areas of Made Ground located on site may have the potential to omit hazardous ground gases. There are no reports of mine gases being a recorded on the site.
Mining and Mineral Extraction	The Groundsure report lists three entries of non-coal mining activates on site, relating to the removal of iron ore (bedded) at a localised, small scale. The site is located within a Coal Authority reporting area, however the site is not within a Development High Risk Area. As part of this assessment a Coal Authority Coal Mining Report was obtained (presented as **Appendix 5**). A summary of the information is below – • The site may be affected by underground mining in 12 seams of coal between depths of 110m and 720., last worked in 1991; • The site is not in the proximity any current unground mining activates; • The site has not been subjected to open cast coal mining activities in the past; • There are currently no plans for any future underground or open cast coal mining at the site; • There are no recorded shafts on site; • A damage claim for alleged subsidence damage was made in January 1995 at The Salient Cottage, Chesterfield Road (immediately north of site), the claim was settled by repairs to the value of £377.66.

4. SITE HISTORY

4.1 Historical Ordnance Survey (OS) mapping for the site area has been reviewed. These maps and plans date from the 1875 OS County Series to the current 2014 OS Plans. The historical plans reviewed have been reproduced in **Appendix 4**. The key points of the historical development of the site and surrounding area are summarised below in **Tables 4:1** and **4:2.**

Table 4:1: Key Points of Development History

DATES	ON SITE	SIGNIFICANCE
1875 - 2014	The site is shown to comprise agricultural land, denoted by field boundaries. A small **QUARRY** is located in the northeast of the site with a track leading to Chesterfield Road. This feature is no longer mapped from 1916 and is assumed **INFILLED**. From 1897 a **RAILWAY LINE** including **EMBANKMENTS** is shown in the south of the site cutting east to west. Some railway sidings are noted to have been removed by 1961 with the railway shown to be dismantled by 1967. The embankments are removed by 1986. **OVERHEAD POWER LINES** (one running north to south & one running southwest to northeast) are mapped from 1967 and remain to the present day. A small ***water course*** is indicated approximately 75m south of the site before flowing along the eastern boundary in a north to south direction. This remains until the present day.	The **INFILLED QUARRY** and **RAILWAY EMBANKMNENT** could be a source of **MADE GROUND**, dependant on the source of the materials used it could represent a source of a number of contaminants, most notable **HAZARDOUS GROUND GASES**. It is considered likely that the materials from the embankment have been spread rather then removed from site. The powerlines are considered unlikely to represent a significant environmental concern however their construction may have results in localised **MADE GROUND** as discussed above. The ***water course*** could be impacted should any contaminants present on site become mobilised by the development of the site.

Table 4:2: Key Points of Surrounding Area Development History

Dates	On Site	Significance
1875 - 1898	The surrounding land is predominately utilised for ***agricultural uses***, the village of Long Duckmanton is located 450m west of the site. Two small ***ponds*** are mapped, one approximately 200m west and the second 475m east of the site (named as ***Mill Pond***). From 1897 a spur of the **RAILWAY** is mapped to run within 75m of the eastern site boundary feeding into **BOLSOVER COLLIERY** (700m east) and **MARKHAM COLLIERY** (700m north).	Limited significance due to the distance from site.
1921 - 1947	A **SEWAGE WORKS** is mapped approximately 400m east of the site. ***The Gait*** (water course) is mapped approximately 50m east of the site flowing south to north. The ***River Doe Lea*** is also indicated to be 350m east of the site, flowing south to north.	Limited significance due to the distance from site.
1950 - 1980	**OPENCAST** mining is mapped around the two collieries, with the works being mapped approximately 150m north and 250m east of the site. By 1966 the opencast areas are depicted as	The **ESS** may represent a source of **PCB's** which could impact upon the localised soils and groundwater.

	LANDFILLS with the northern landfill expanded to within 50m of the site. An **ELECTRICAL SUBSTATION** (ESS) is mapped immediately north of the site from 1961. From 1966 a **WORKS** is mapped 450m north of the site, later named as a **DEPOT** & **WORKS**. The Railway spur is labelled as dismantled. By 1971 the M1 motorway has been constructed including the creation of **EMBANKMENTS** immediately east of the site.	The **LANDFILLS and EMBANKMENTS (MADE GROUND)** could potentially represent a significant source of **HAZARDOUS GROUND GAS**. The **WORKS** refers to a former Coalite factory where numerous incidents occurred causing impact to the works area and surround lands. It is considered to represent a risk to controlled waters beneath the site.
1990 - 2014	The area of **LANDFILL** to the north is mapped as open land with trees and a ***settling pond***. ***Settling ponds*** are mapped 150m east of the site. By 2002 the **M1 COMMERCE PARK** is beginning to be developed, this now expands to within 75m of the northern site boundary and comprises **INDUSTIRAL UNITS** (warehousing).	Limited significance based upon the age of construction and known uses.

Aerial Photography

4.2 An aerial photo of the site dated 8th April 2017 is included within the Groundsure Report, it shows the site as its current layout, comprising agricultural fields with residential properties to the north and commercial units beyond. The M1 runs along the western boundary and agricultural land to the east and south.

Operational / Company Records

4.3 No operation records have been reviewed as part of this assessment.

Previous Investigation Reports

4.4 No previous reports have been completed by BWB or provided for review as part of this assessment.

5. REGULATORY SETTING

Permits Consents and Authorisations

5.1 A full listing of permits, consents and authorisations including discharge consents, pollution incidences and other environmental information included in the Groundsure® Report, is presented in **Appendix 4.**

5.2 Following a review of the Groundsure Report, just one entry is understood to represent a significant risk to the site. detailed below;

- One entry for a site registered as Contaminated Land under Part 2A, this refers to the Coalite factory indented within the historical mapping. From available online information this site was subject to a number of incidents which results in the release of dangerous chemicals which were subsequently linked with local resident's developing cancer. The Groundsure Report lists the site as being heavily contaminated with chlorinated solvents and other noxious compounds.

5.3 BWB understand the site above has been subject to remediation works, it is also considered that based upon the distance between the source (the Coalite works) and the subject site the risk to controlled waters beneath the site is reduced.

Landfilling and Waste Management

5.4 A full listing of EA, BGS and Local Authority recorded landfills are provided in the Groundsure® Report presented in **Appendix 4.**

5.5 The following facilities have been identified which have the potential to have a detrimental impact on site.

- One entry for an EA Landfill record relating to the railway cutting located approximately 150m east of the site (railway spur); and
- Two entries of historical landfills, one located 3m northeast of the site for inert industrial wastes and the second 65m west, again for inert industrial waste.

6. GEOTECHNICAL APPRAISAL

6.1 The Groundsure Report, site history, current site setting and geology setting have all been considered in order to provide an indication of the potential ground related constraints and opportunities in the context of the proposed development as set out in **Table 6:1** below

Table 6:1: Ground Related Constraints & Opportunities

POTENTIAL CONSTRAINT / OPPORTUNITY	EXPLANATION	POTENTIAL MITIGATION OPTIONS
Made Ground	The Groundsure® Report has identified Made Ground deposits on site. However, these are limited to areas of a former quarry and railway embankment. Due to its variability, Made Ground is not considered to be a suitable founding stratum.	Foundations may locally require deepening or where Made Ground thickness preclude shallow spread foundations, then ground improvement techniques or piles should be considered.
Topsoil	Topsoil is likely to be encountered across the site.	Existing topsoil may be utilised in areas soft landscaping within the proposed development. Surplus topsoil may be a sellable commodity. This is subject to chemical and physical suitability.
Preliminary Foundation Solution	The proposed development is anticipated to comprise the construction of up to 12 industrial units of varying size, at this time the new development is anticipated to be no higher than 3 stories.	Any Made Ground present on site is likely to be highly variable in nature and is unlikely to be a suitable founding medium. The shallow deposits of the PMCMF may be suitable to support shallow spread foundations. Alternatively, ground improvements or a piled foundation solution may be required for the most heavily loaded buildings; however, this is considered unlikely. Similarly, depending on the performance requirements of the floor slabs, lightly loaded ground bearing floor slabs maybe acceptable. However, where higher loads are required then ground improvement or a suspended solution may need to be considered.
Mineral Extraction	The Groundsure Report indicates localised iron ore extraction has occurred on site.	Intrusive investigation works are recommended in the area of the former quarry.
Overhead Services	Overhead power lines are known to be present on site.	These may require redirecting or transferring below ground for the proposed development to be constructed.
Earthworks	The site is undulating in nature.	An earthworks scheme will likely to be required to create development plateaus for the proposed units. For the above a Materials Management Plan, Earthworks Specification and

		Earthworks Strategy are likely to be required.
Ground Dissolution Hazards	The Groundsure Report indicates that the site has a negligible to low risk of shrink swell clay, landslides, ground dissolution, collapsible deposits and running sands.	None.
UXO	Zetica online bomb maps indicate the site is a low risk of UXO's.	None.

7. PRELIMINARY ENVIRONMENTAL RISK ASSESSMENT

Introduction

7.1 The risk posed by any contaminants in soil or groundwater will depend on the nature of the hazard, the probability of exposure, the pathway by which exposure occurs, and the likely effects on the receptors. A contaminant is defined as a substance that has the potential to cause harm, while a risk is considered to exist if such a substance is present in sufficient concentration to cause harm and a pathway exists for a receptor to be exposed to the substance.

7.2 The following sections discuss all the identified potential on and off site sources, pathways and receptors in the context of the proposed development and plausible pollutant linkages which may represent a risk to identified receptors such as human health and/or controlled waters from the data gained from the desk study. At this stage the assessment is qualitative and aimed to determine all pollutant linkages, irrespective of significance or allowing for uncertainty.

7.3 Three impact potentials exist for any given site; these are:

- The site impacting upon itself;
- The site impacting on its surroundings; and
- The surroundings impacting on the site.

7.4 All three impacts need to be considered in a risk assessment.

7.5 A Source, Pathway, Receptor analysis has been undertaken for the site based on the information provided in the preceding sections. This is presented as **Table 7:1** and further information about the risk classification scheme is included within **Appendix 5.**

7.6 **Sources (S);** These are potential or known sources of contamination that may relate to a former land use or present site feature or process (e.g. fuel storage tanks).

7.7 **Pathways (P);** A pathway is defined as a mechanism or route by which a contaminant comes into contact with, or otherwise affects a receptor. Pathways by which the identified receptors may be impacted upon in the context of the proposed development.

7.8 **Receptors (R);** Receptors are defined as people, living organisms, ecological systems, controlled waters, atmosphere, structures and utilities that could be adversely affected by contaminant(s).

Table 7:1 Preliminary Conceptual Site Model

SOURCE	PATHWAY	RECEPTOR	CON	PROB	RISK	MITIGATION/INVESTIGATION
S1: On site: Ground conditions and historical uses, most notably agricultural uses, infilled quarries and Made Ground as a result of railway embankments. Potential contaminants may include heavy metals, PAHs, TPH and hazardous ground gases.	**P1:** Direct contact, incidental ingestion and inhalation of particulates.	**R1**: Construction/services personnel	Md	Lw	M/L	A ground investigation is recommended in order to assess current concentrations of organic and inorganic contaminants within soils and groundwater at the site that are likely to impact construction workers and future site users via ingestion, direct contact, and inhalation pathways.
		R2: Future site users (commercial)	Md	Ul	L	
	P2: Vertical migration of contaminants in the soil leachate followed by lateral migration of groundwater.	**R3:** Secondary A Aquifer	Md	Lw	M/L	If present, it is likely that these contaminant linkages will be easily severed through remediation/mitigation measures such as the provision of a hardstanding surface layer, capping layers in areas of soft landscaping and ground gas/vapour protection measures.
		R4: Unnamed Brook (on site)	Md	Ul	L	
	P3: Migration and accumulation of ground gasses in enclosed spaces leading to asphyxiation or explosion.	**R1**: Construction/ services personnel	Md	Lw	M/L	Ground gas assessment in line with guidance detailed in CIRIA 665 and BS8485: 2015 should be undertaken to calculate the gassing regime beneath the site.
		R2: Future site users				
S2: Off site: Land uses including an ESS, the former Coalite Chemical Works and landfills. Potential contaminants may include chlorinated phenols, PAH compounds,	**P2:** Vertical migration of contaminants in the soil leachate.	**R3:** Underlying Secondary A Aquifer	Mi	Lw	L	The underlying ground conditions is anticipated to have a low permeability. Therefore, ground investigation with consideration to groundwater assessment is not considered to be required.
	P3: Migration and accumulation of ground gasses in enclosed spaces	**R1**: Construction/ services personnel	Md	Lw	M/L	Ground gas assessment in line with guidance detailed in CIRIA 665 and BS8485: 2015 should be undertaken to calculate the gassing regime beneath the site. This is most likely to impact the northern extents of the site.

SOURCE	PATHWAY	RECEPTOR	CON	PROB	RISK	MITIGATION/INVESTIGATION
heavy metals, PCBs and hazardous ground gases.	leading to asphyxiation or explosion.					
	P4: Air Carried contaminants	**R2**: Future site users	Sv	UL	M	Pollution incidents relating to the Coalite works may have resulted in air carried contaminants, leading to impact of the shallow soils across the site. These contaminants have been linked to cancer and therefore represent a risk to the end site users. Ground investigations are recommended and should include phenol testing to assess any possible risk to the human health.
VH = Very High, H = High, M = Moderate, M/L = Moderate/Low, L = Low, VL = Very Low KEY: Sv = Severe, Md = Medium, Mi = Mild, Mr = Minor Hi = High, Li = Likely, Lw = Low Likelihood, Ul = Unlikely						

8. ENVIRONMENTAL LIABILITY ASSESSMENT

Statutory Liability

8.1 The contaminated land regime has implications for those who cause or knowingly permit land to be contaminated, or who own or occupy land that is contaminated.

8.2 Contaminated land is defined in Section 78A(2) of Part IIA of the Environmental Protection Act 1990 as:

- 'Any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under land, that:

8.3 Significant harm is being caused or there is a significant possibility of such harm being caused; or

i. Pollution of controlled waters is being or is likely to be, caused.

ii. Harm is defined in Section 78(4) of the Environmental Protection Act 1990 as:

'Harm to the health of living organisms or other interference with ecological systems of which them form part and, in the case of man, includes harm to property'.

8.4 Once an area of land has been identified as contaminated land, appropriate persons will be identified as being responsible for the cost of cleaning up the land by the enforcing authority. The appropriate person will be liable for all or part of the remediation of the land. Two classes of appropriate person have been identified:

- Class A appropriate persons are those who cause or knowingly permit the pollutants to be in, on or under the land.
- Class B appropriate persons are the owners(s) or occupier(s) of the land.

8.5 Where no Class A appropriate persons can be identified, then Class B appropriate persons may become liable.

8.6 Based on the information available regarding the site, the potential for Statutory Authority action based on 'pollution of controlled waters' or 'significant harm' as defined by Part IIA of the Environmental Protection Act 1990 is considered to be **LOW** to **MODERATE**.

Third Party Liability

8.7 Based on the information contained in this report, it is the opinion of BWB that the potential for legal action by surrounding landowners, based on the potential for contamination to migrate off-site, is considered to be **LOW**.

Public Relations

The likelihood of public relations being tarnished due to contamination issues at the site are considered to be **LOW**.

9. CONCLUSION AND RECOMMENDATIONS

Conclusions

9.1 The site has remained undeveloped agricultural land, Chesterfield road runs along the northern boundary with an unnamed brook denoting the eastern boundary and the M1 running along the western boundary, further agricultural fields are present to the south. Two overhead powers lines are present on site.

9.2 Historically, the site has remained largely undeveloped with a small quarry located in the north east corner of the site between the earliest maps from 1875 to 1916. A railway and embankment was located in the south of the site between 1897 and 1961 with the embankment removed by 1967. Off-site historical land uses have included collieries and associated infrastructure, open cast mining, landfilling, electrical substations, works and sewage works. Coalite Chemical works was also historically located to the north east of the site closing in 2002. The Coalite site is known to have had a detrimental impact on the local environment with incidents having occurred that are reported to have impact local farmland. The Coalite site has been designated as Contaminated Land under Part 2A of the Environmental Protection Act 1990.

9.3 The site is understood to be underlain by the Pennine Middle Coal Measures Formation, no superficial deposits are mapped across the site. Made Ground is mapped to be present in the north east of site (Quarry area) and beneath the former railway line.

Environmental

9.4 Based on the information contained within this report there are limited sources contamination present on site limited to Made Ground associated with the former small quarry and railway lines. The off-site landfills and Coalite site are off site sources which could have impacted the site. In regards to the proposed development, it is BWBs opinion that the site represents a low to moderate risk to human health and a low risk to controlled water.

Geotechnical

9.5 Dependant on the proposed loadings of the final building positions shallow spread foundations are considered the most likely founding solution. These may require locally deepening in areas of thick Made Ground. Should competent PMCMF not be in economical reach then a ground improvement or a piled foundation may be required.

9.6 It is considered likely that the site will require significant earthworks to create developable plots.

9.7 The CA has identified 12 seams of coal worked at depths of between 110m and 720m, last works in 1991. A damage claim has been made for subsidence at a residential property immediately north of the site. No records of mine gas issues have been reported. Former Coal Mining is not considered as a significant risk at the site.

Recommendations

9.8 A ground investigation is recommended to assess the environmental and geotechnical properties of the underlying ground conditions and should include specific earthwork testing analysis for the reuse of site won materials. This assessment will also indicate the mitigation measures likely to be required during construction of the proposed development and suitability of the ground for certain foundation solutions.

9.9 Gas monitoring points should be positioned notably along the northern margins of the site to assess whether there is any migration of hazardous gases from the nearby landfills. Given the history of the nearby Coalite site, near surface soils should be chemically tested to confirm whether any significant impact has occurred, notably from chlorinated phenols.

9.10 An Earthworks Specification, Strategy and Materials Management Plan will likely be required.

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APPENDICES

Appendix 1: Proposed Development Plan

17-060 MP01-002 B

Gross Site Area
99.5 acres

Net Developable Area
66.1 acres

1
305K sqft Unit
293,000sqft Warehouse
12,000 sqft Offices
232 Car Parking with 4 Accessible

2
197K sqft Unit
186,000sqft Warehouse
11,000 sqft Offices
153 Car Parking with 4 Accessible

3
38K sqft Unit
33,200sqft Warehouse
4,800 sqft Offices
30 Car Parking with 2 Accessible

4
79K sqft Unit
74,000sqft Warehouse
5,000 sqft Offices
60 Car Parking with 3 Accessible

5
70K sqft Unit
64,000sqft Warehouse
6,000 sqft Offices
50 Car Parking with 3 Accessible

6
64K sqft Unit
59,000sqft Warehouse
5,000 sqft Offices
50 Car Parking with 3 Accessible

7
94K sqft Unit
86,600sqft Warehouse
7,400 sqft Offices
73 Car Parking with 4 Accessible

8
102K sqft Unit
96,000sqft Warehouse
6,000 sqft Offices
80 Car Parking with 4 Accessible

9
173K sqft Unit
165,000sqft Warehouse
8,000 sqft Offices
130 Car Parking with 7 Accessible

10
107K sqft Unit
100,000sqft Warehouse
7,000 sqft Offices
76 Car Parking with 4 Accessible

11
74K sqft Unit
68,000sqft Warehouse
6,000 sqft Offices
57 Car Parking with 3 Accessible

12
38K sqft Unit
33,200sqft Warehouse
4,800 sqft Offices
30 Car Parking with 2 Accessible

Unit 1
Warehouse 293,000 sqft
Offices (2st) 12,000 sqft
Total GIA 305,000sqft

Haunch Height 15m
Dock Access 30 no.
Level Access 4 no.
Car Parking 232no. (Incl disabled)

Unit 2
Warehouse 186,000 sqft
Office (2st) 11,000 sqft
Total GIA 197,000 sqft

Haunch Height 13.5m
Dock Access 18 no.
Level Access 2 no.
Car Parking 153no. (Incl disabled)

Unit 3
Warehouse 33,200 sqft
Office (2st) 4,800 sqft
Total GIA 38,000 sqft

Haunch Height 7.5m
Level Access 4 no.
Car Parking 30 no. (Incl disabled)

Unit 4
Warehouse 74,000 sqft
Office (2st) 5,000 sqft
Total GIA 79,000 sqft

Haunch Height 8.5m
Dock Level 8 no.
Level Access 2 no.
Car Parking 60 no. (Incl disabled)

Unit 5
Warehouse 64,000 sqft
Office (2st) 6,000 sqft
Total GIA 70,000 sqft

Haunch Height 8.5m
Level Access 7 no.
Car Parking 50no. (Incl disabled)

Unit 6
Warehouse 59,000 sqft
Office (2st) 5,000 sqft
Total GIA 64,000 sqft

Haunch Height 7.5m
Level Access 6 no.
Car Parking 50no. (Incl disabled)

Unit 7
Warehouse 86,600 sqft
Office (2st) 7,400 sqft
Total GIA 94,000 sqft

Haunch Height 8.5m
Dock Access 10no.
Level Access 2no.
Car Parking 73no. (Incl disabled)

Unit 8
Warehouse 96,000 sqft
Office (2st) 6,000 sqft
Total GIA 102,000 sqft

Haunch Height 10.5m
Dock Access 12no.
Level Access 2no.
Car Parking 80no. (Incl disabled)

Unit 9
Warehouse 165,000 sqft
Office (2st) 8,000 sqft
Total GIA 173,000 sqft

Haunch Height 10.5m
Dock Access 18no.
Level Access 2no.
Car Parking 130no. (Incl disabled)

Unit 10
Warehouse 100,000 sqft
Office (2st) 7,000 sqft
Total GIA 107,000 sqft

Haunch Height 10.5m
Dock Access 10 no.
Level Access 2 no.
Car Parking 76no. (Incl disabled)

Unit 11
Warehouse 68,000 sqft
Office (2st) 6,000 sqft
Total GIA 74,000 sqft

Haunch Height 8.5m
Dock Access 8 no.
Level Access 2 no.
Car Parking 57no. (Incl disabled)

Unit 12
Warehouse 33,200 sqft
Office (2st) 4,800 sqft
Total GIA 38,000 sqft

Haunch Height 7.5m
Level Access 4 no.
Car Parking 30no. (Incl disabled

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Land South of Chesterfield Road
Markham Vale

Illustrative Masterplan

CDE Reference:

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Project:	Dwg no:	Rev:
17-060	MP01-002	B

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Appendix 2: Site Photographs

Project Number: NTE2529 Project Name: Markham Vale South
Site Photographs: BWB Site Visit 15.05.2019



Photo 1—General view across the site looking north.



Photo 2—Manure stockpile and pylon in the west of the site.



Photo 3—Access track and mobile phone mast in the north west of the site.



Photo 4—Electricity sub station adjacent to the northern site boundary.



Photo 5—Brook flowing along the eastern site boundary



Photo 6—A632, Chesterfield Road which forms the northern site boundary

Appendix 3: Groundsure Report

BWB Consulting Limited

5th Floor, Waterfront House, Station Street,
Nottingham, NG2 3DQ

Groundsure Reference:	HMD-214-6027980
Your Reference:	NTE2529_-_POR025802
Report Date	14 May 2019
Report Delivery Method:	Email - pdf

Enviro Insight

Address: LAND OFF CHESTERFEIDL ROAD, DUCKMANTON, S44 5HU

Dear Sir/ Madam,

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

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

Yours faithfully,

[redacted]

Managing Director
Groundsure Limited

Enc.
Groundsure Enviroinsight

Enviro Insight

Address:	**LAND OFF CHESTERFEIDL ROAD, DUCKMANTON, S44 5HU**
Date:	**14 May 2019**
Reference:	**HMD-214-6027980**
Client:	**BWB Consulting Limited**

NW N NE

W E

SW S SE



Aerial Photograph Capture date:	08-Apr-2017
Grid Reference:	444946,370798
Site Size:	39.9952ha

Report Reference: HMD-214-6027980
Client Reference: NTE2529_-_POR025802

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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	22	18	37	76
1.2 Additional Information – Historical Tank Database	3	1	2	25
1.3 Additional Information – Historical Energy Features Database	2	2	0	3
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	4	3
1.6 Historical military sites	0	0	0	0
1.7 Potentially Infilled Land	6	12	32	48

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	0
2.1.6 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	3
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	35
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	1	5	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	1	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	1	0	0	Not searched
3.1.2 Environment Agency/Natural Resources Wales Historic Landfill Sites	0	1	1	0	1	1
3.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	1
3.1.4 Records of Landfills in Local Authority and Historical Mapping Records	0	0	0	0	3	2
3.2 Landfill and Other Waste Sites Findings						
3.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	2	0	Not searched	Not searched
3.2.2 Environment Agency/Natural Resources Wales Licensed Waste Sites	0	0	3	1	3	2

Section 4: Current Land Use	On-site	0-50m	51-250	251-500
4.1 Current Industrial Sites Data	3	2	8	Not searched
4.2 Records of Petrol and Fuel Sites	0	0	0	1
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	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	5	0
6.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	2	2
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)	2	1	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	6	8	32	92	Not searched	Not searched
6.11 Surface water features within 250m of the study site	Yes	Yes	Yes	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	Limited potential
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	1
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	0	0
8.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
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	1	0	0	1	0	4
8.14 Records of Green Belt land	0	0	0	0	0	0

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	Very Low
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	Very Low
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	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.

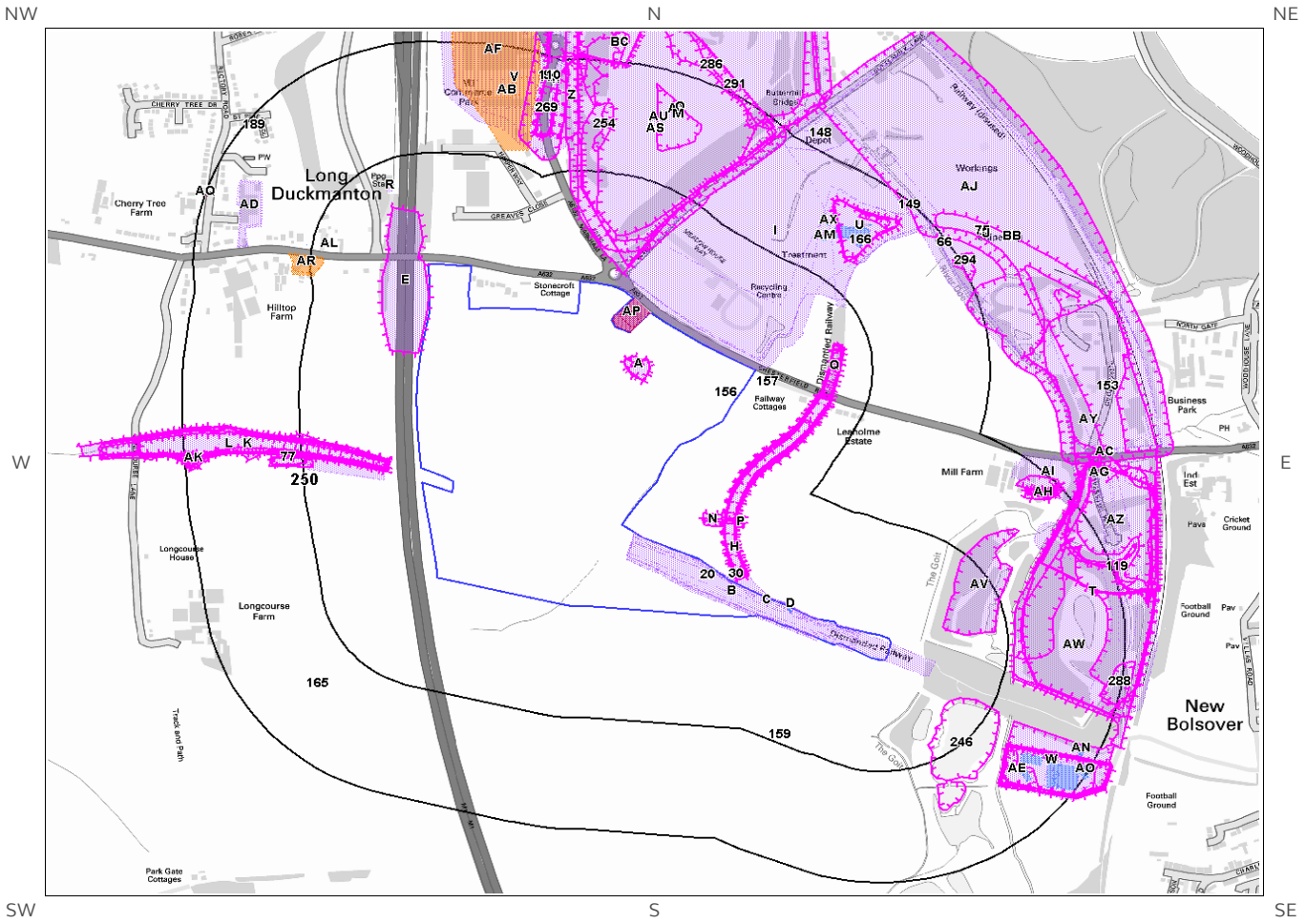
Note: Maps

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: 153

ID	Distance [m]	Direction	Use	Date
1AP	0	On Site	Electric Substation	1993
2A	0	On Site	Unspecified Quarry	1938
3A	0	On Site	Unspecified Quarry	1876
4A	0	On Site	Unspecified Ground Workings	1921
5A	0	On Site	Unspecified Quarry	1897
6A	0	On Site	Unspecified Quarry	1921
7B	0	On Site	Railway Sidings	1921
8B	0	On Site	Railway Sidings	1938
9B	0	On Site	Railway Sidings	1897
10B	0	On Site	Railway Sidings	1921
11C	0	On Site	Railway Sidings	1967
12B	0	On Site	Railway Sidings	1950
13C	0	On Site	Railway Buildings	1921
14C	0	On Site	Railway Building	1938
15D	0	On Site	Unspecified Tank	1950
16D	0	On Site	Unspecified Tank	1938
17D	0	On Site	Unspecified Tank	1921
18D	0	On Site	Unspecified Tank	1921
19D	0	On Site	Unspecified Tank	1914
20	0	On Site	Railway Sidings	1914
21B	0	On Site	Railway Sidings	1914
22A	0	On Site	Unspecified Quarry	1914
23I	1	NE	Coal Stocking Area	1973
24E	2	W	Cuttings	1990
25E	2	W	Cuttings	1973
26E	2	W	Cuttings	1982
27B	3	NE	Railway Building	1921
28F	10	NE	Cuttings	1921
29F	10	NE	Cuttings	1921
30	10	NE	Railway Building	1938
31H	12	NE	Cuttings	1914
32G	18	NE	Cuttings	1950
33G	18	NE	Cuttings	1967

34H	20	NE	Cuttings	1938
35H	20	NE	Cuttings	1897
36G	22	NE	Cuttings	1973
37I	24	NE	Coal Stocking Area	1993
38J	24	NE	Mineral Railway Sidings	1993
39J	26	NE	Railway Sidings	1973
40M	33	NE	Colliery	1950
41AS	54	NE	Refuse Heap	1967
42K	64	W	Cuttings	1914
43K	65	W	Cuttings	1921
44K	66	W	Cuttings	1921
45K	67	W	Cuttings	1950
46K	67	W	Cuttings	1897
47L	67	W	Cuttings	1938
48K	70	W	Refuse Heap	1990
49K	70	W	Refuse Heap	1982
50L	70	W	Cuttings	1973
51L	70	W	Cuttings	1967
52S	70	W	Railway Sidings	1973
53N	76	N	Unspecified Heap	1921
54M	78	N	Unspecified Workings	1993
55N	85	N	Unspecified Heap	1950
56O	103	N	Colliery	1993
57O	103	N	Colliery	1973
58AT	103	N	Refuse Heap	1973
59P	106	NE	Unspecified Heap	1921
60F	109	NE	Cuttings	1914
61F	109	NE	Cuttings	1938
62F	109	NE	Cuttings	1897
63P	113	NE	Unspecified Heap	1950
64AU	114	N	Refuse Heaps	1950
65AV	116	E	Settling Lagoons	1993
66	133	NE	Mineral Railway Sidings	1967
67Q	148	E	Cuttings	1993
68Q	148	E	Cuttings	1973
69Q	148	E	Cuttings	1950
70Q	152	E	Cuttings	1938
71Q	152	E	Cuttings	1897
72R	179	NW	Pumping Station	1982
73R	179	NW	Pumping Station	1990
74R	179	NW	Pumping Station	1973
75	224	NE	Railway Sidings	1950
76S	228	W	Unspecified Heap	1967
77	241	W	Unspecified Heap	1973
78T	263	E	Refuse Heap	1950
79AW	264	E	Unspecified Disused Tip	1993

80T	279	E	Refuse Heap	1967
81T	281	E	Refuse Heap	1973
82X	282	N	Colliery	1897
83V	291	NE	Unspecified Works	1967
84W	307	SE	Sewage Works	1993
85U	315	NE	Unspecified Pit	1914
86U	316	NE	Unspecified Pit	1897
87V	316	NE	Engineering Works	1973
88U	318	NE	Unspecified Pit	1938
89W	321	SE	Unspecified Works	1973
90W	321	SE	Sewage Works	1950
91W	321	SE	Unspecified Works	1967
92Y	321	NE	Railway Sidings	1921
93W	321	SE	Sewage Works	1938
94X	322	NE	Colliery	1914
95X	323	NE	Colliery	1938
96	323	NE	Railway Sidings	1938
97AA	323	NE	Railway Sidings	1897
98W	323	SE	Sewage Works	1914
99Z	325	N	Unspecified Ground Workings	1967
100W	325	SE	Sewing Works	1921
101W	325	SE	Sewage Works	1921
102W	325	SE	Sewage Works	1921
103X	326	NE	Railway Sidings	1950
104Y	326	NE	Colliery	1950
105V	326	NE	Railway Sidings	1967
106V	326	NE	Railway Sidings	1973
107Z	326	NE	Cuttings	1973
108AE	328	SE	Refuse Heap	1967
109AA	330	NE	Mineral Railway Sidings	1921
110	333	NE	Mineral Railway Sidings	1914
111U	344	NE	Unspecified Tanks	1993
112AB	349	N	Unspecified Depot	1990
113AB	349	N	Unspecified Depot	1982
114AD	365	W	Unspecified Factory	1967
115AC	365	NE	Colliery	1921
116AC	365	NE	Colliery	1921
117AY	366	NE	Colliery	1914
118AD	366	W	Unspecified Commercial/Industrial	1973
119	377	NE	Coal Stocking Area	1993
120AE	382	SE	Unspecified Tanks	1993
121AF	405	N	Depot and Works	1982
122AF	405	N	Depot and Works	1990
123W	417	SE	Unspecified Tanks	1973

124W	417	SE	Unspecified Tanks	1967
125AG	428	NE	Unspecified Ground Workings	1921
126AG	428	NE	Unspecified Ground Workings	1921
127W	428	SE	Unspecified Tanks	1993
128AH	429	NE	Unspecified Ground Workings	1921
129W	434	SE	Unspecified Tanks	1950
130AH	437	NE	Unspecified Ground Workings	1921
131AH	437	NE	Unspecified Ground Workings	1921
132AZ	438	NE	Unspecified Heaps	1938
133AI	439	NE	Unspecified Disused Mill	1897
134AI	439	NE	Flour Mill	1876
135AH	439	NE	Mill Pond	1897
136AH	439	NE	Mill Pond	1876
137BA	439	NE	Unspecified Ground Workings	1914
138AH	439	NE	Unspecified Ground Workings	1914
139AH	442	NE	Unspecified Ground Workings	1950
140AN	455	SE	Unspecified Tanks	1993
141AJ	455	NE	Unspecified Works	1993
142AJ	455	NE	Unspecified Works	1967
143AJ	455	NE	Unspecified Works	1973
144AK	459	W	Unspecified Pit	1921
145AK	461	W	Unspecified Pit	1967
146AK	461	W	Unspecified Pit	1973
147BB	468	NE	Colliery	1950
148	470	NE	Unspecified Depot	1993
149	484	NE	Railway Building	1973
150BC	484	N	Settling Pond	1993
151X	493	N	Colliery	1921
152X	493	N	Colliery	1921
153	498	E	Railway Sidings	1921

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: 31

ID	Distance (m)	Direction	Use	Date

154D	0	On Site	Unspecified Tank	1916
155D	0	On Site	Unspecified Tank	1898
156	0	On Site	Tank or Trough	1881
157	38	SE	Tank or Trough	1881
158AL	214	W	Tank or Trough	1881
159	236	SW	Tanks or Troughs	1881
160AL	259	W	Pump and Tank	1881
161AM	324	NE	Unspecified Tank	1988
162AM	327	NE	Unspecified Tank	1999
163U	345	NE	Tanks	1988
164U	348	NE	Tanks	1999
165	354	SW	Tank or Trough	1881
166	356	NE	Unspecified Tank	1999
167AM	360	NE	Unspecified Tank	1988
168AE	360	SE	Tanks	1991
169AX	362	NE	Unspecified Tank	1999
170U	371	NE	Tanks	1999
171AE	386	SE	Tanks	1991
172U	393	NE	Unspecified Tank	1988
173U	396	NE	Unspecified Tank	1999
174U	406	NE	Unspecified Tank	1988
175U	408	NE	Unspecified Tank	1999
176W	422	SE	Tanks	1961
177W	436	SE	Tanks	1996
178AN	461	SE	Tanks	1991
179AN	461	SE	Tanks	1986
180AN	463	SE	Tanks	1996
181AO	486	SE	Tanks	1991
182AO	486	SE	Tanks	1986
183AO	488	SE	Tanks	1996
184AO	496	SE	Unspecified Tank	1916

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: 7

ID	Distance (m)	Direction	Use	Date
185AP	0	On Site	Electricity Substation	1987
186AP	0	On Site	Electricity Substation	1988
187AP	3	NW	Electricity Substation	1967
188AP	19	SE	Electricity Substation	1999

189	476	NW	Electricity Substation	1973
190AQ	495	W	Gas Governor	1997
191AQ	495	W	Gas Governor	1997

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: 7

ID	Distance (m)	Direction	Use	Date
192AR	223	W	Garage	1997
193AR	244	W	Garage	1997
194AR	248	W	Garage	1967
195AR	248	W	Garage	1961
196V	269	N	Depot and Works	1994
197V	269	N	Depot and Works	1994
198AF	374	N	Depot and Works	1986

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: 98

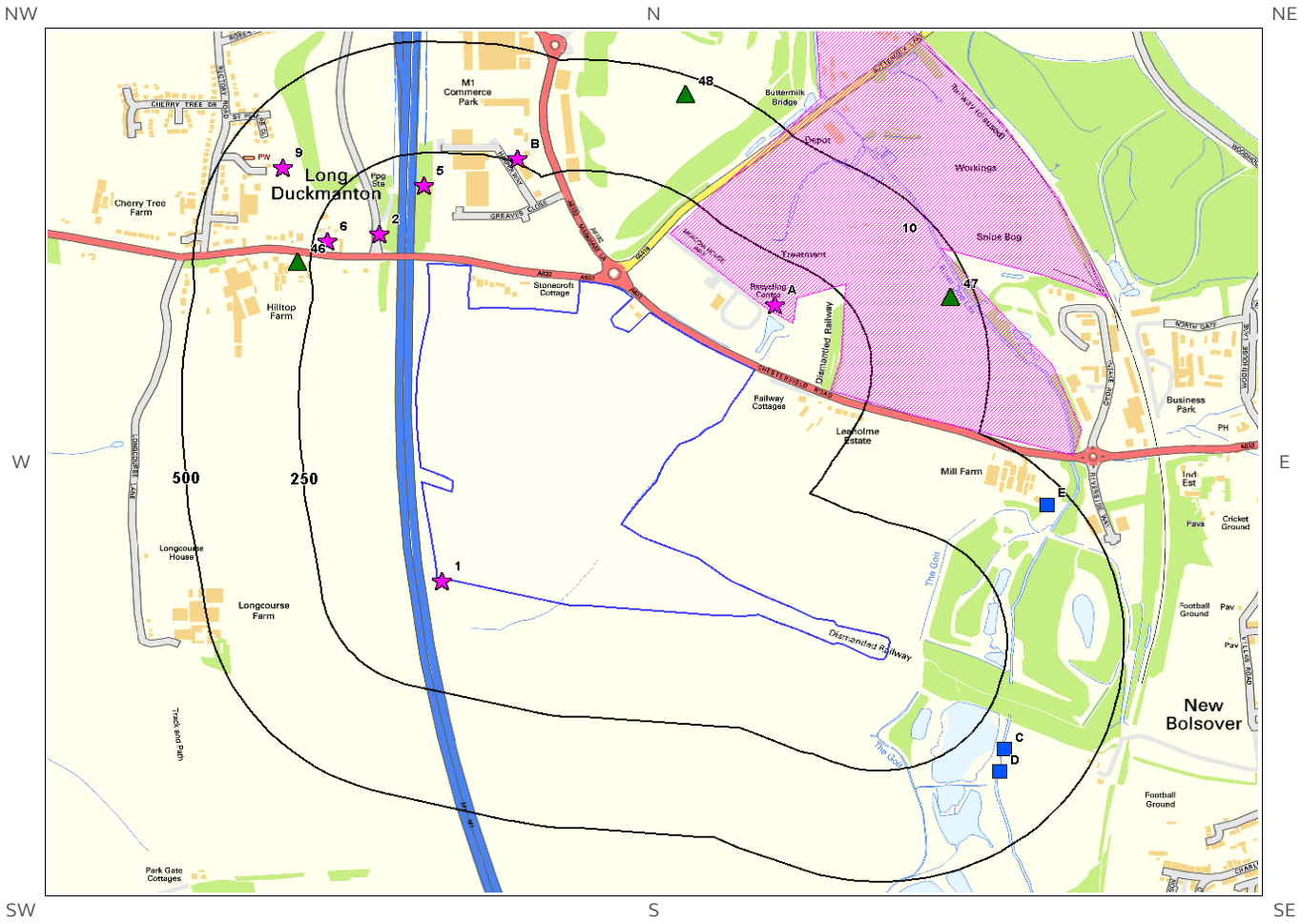
The following Historical Potentially Infilled Features derived from the Historical Mapping information is provided by Groundsure:

ID	Distance(m)	Direction	Use	Date
199A	0	On Site	Unspecified Quarry	1897
200A	0	On Site	Unspecified Ground Workings	1921
201A	0	On Site	Unspecified Quarry	1938
202A	0	On Site	Unspecified Quarry	1876
203A	0	On Site	Unspecified Quarry	1921
204A	0	On Site	Unspecified Quarry	1914
205E	2	W	Cuttings	1973
206E	2	W	Cuttings	1990
207E	2	W	Cuttings	1982
208F	10	NE	Cuttings	1921
209F	10	NE	Cuttings	1921
210H	12	NE	Cuttings	1914
211G	18	NE	Cuttings	1967
212G	18	NE	Cuttings	1950
213H	20	NE	Cuttings	1897
214H	20	NE	Cuttings	1938
215G	22	NE	Cuttings	1973
216M	33	NE	Colliery	1950
217AS	54	NE	Refuse Heap	1967
218K	64	W	Cuttings	1914
219K	65	W	Cuttings	1921
220K	66	W	Cuttings	1921
221K	67	W	Cuttings	1950
222K	67	W	Cuttings	1897
223K	67	W	Cuttings	1938
224K	70	W	Refuse Heap	1990
225K	70	W	Refuse Heap	1982
226L	70	W	Cuttings	1973
227L	70	W	Cuttings	1967
228N	76	N	Unspecified Heap	1921
229M	78	N	Unspecified Workings	1993
230N	85	N	Unspecified Heap	1950
231O	103	N	Colliery	1993
232O	103	N	Colliery	1973
233AT	103	N	Refuse Heap	1973

234P	106	NE	Unspecified Heap	1921
235F	109	NE	Cuttings	1914
236F	109	NE	Cuttings	1938
237F	109	NE	Cuttings	1897
238P	113	NE	Unspecified Heap	1950
239AU	114	N	Refuse Heaps	1950
240AV	116	E	Settling Lagoons	1993
241Q	148	E	Cuttings	1973
242Q	148	E	Cuttings	1993
243Q	148	E	Cuttings	1950
244Q	152	E	Cuttings	1897
245Q	152	E	Cuttings	1938
246	164	SE	Pond	1993
247S	228	W	Unspecified Heap	1967
248S	241	W	Unspecified Heap	1973
249T	263	E	Refuse Heap	1950
250AW	264	E	Unspecified Disused Tip	1993
251T	279	E	Refuse Heap	1967
252T	281	E	Refuse Heap	1973
253X	282	N	Colliery	1897
254	295	N	Pond	1950
255W	307	SE	Sewage Works	1993
256AX	315	NE	Unspecified Pit	1914
257U	316	NE	Unspecified Pit	1897
258U	318	NE	Unspecified Pit	1938
259W	321	SE	Sewage Works	1950
260AS	321	N	Pond	1950
261W	321	SE	Sewage Works	1938
262X	322	NE	Colliery	1914
263X	323	NE	Colliery	1938
264W	323	SE	Sewage Works	1914
265Z	325	N	Unspecified Ground Workings	1967
266W	325	SE	Sewage Works	1921
267W	325	SE	Sewage Works	1921
268Y	326	NE	Colliery	1950
269	326	NE	Cuttings	1973
270AE	328	SE	Refuse Heap	1967
271AC	365	NE	Colliery	1921
272AC	365	NE	Colliery	1921
273AY	366	NE	Colliery	1914
274U	408	NE	Ponds	1993
275AG	428	NE	Unspecified Ground Workings	1921
276AG	428	NE	Unspecified Ground Workings	1921
277AH	429	NE	Unspecified Ground	1921

			Workings	
278AH	437	NE	Unspecified Ground Workings	1921
279AH	437	NE	Unspecified Ground Workings	1921
280AZ	438	NE	Unspecified Heaps	1938
281AH	439	NE	Mill Pond	1897
282AH	439	NE	Mill Pond	1876
283BA	439	NE	Unspecified Ground Workings	1914
284AH	439	NE	Unspecified Ground Workings	1914
285AH	442	NE	Unspecified Ground Workings	1950
286	454	NE	Pond	1967
287AK	459	W	Unspecified Pit	1921
288	460	E	Pond	1967
289AK	461	W	Unspecified Pit	1967
290AK	461	W	Unspecified Pit	1973
291	468	NE	Pond	1950
292BB	468	NE	Colliery	1950
293BC	484	N	Settling Pond	1993
294	484	NE	Pond	1967
295X	493	N	Colliery	1921
296X	493	N	Colliery	1921

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:

0

Database searched and no data found.

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

3

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	
46	277	W	444403 371244	Address: Village Store, Co-operative Service Station, Chesterfield Road, Duckmanton, S44 5HU Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of Enforcement: No Enforcements Notified Comment: No Enforcements Notified
47	446	E	445795 371164	Address: Bolsover Colliery, Chesterfield Road, Bolsover, Chesterfield, Derbyshire, S44 6BT Process: Coal & Coke Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement Notified
48	455	N	445230 371621	Address: Rj Brudge, Seymour Lane, Chesterfield, S43 3DA Process: Quarry Processes Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of Enforcement: No Enforcement Notified Comment: No Enforcement 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:

35

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

ID	Distance (m)	Direction	NGR	Details	
11C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 1866 Permit Version: 11	Receiving Water: RIVER DOE LEA Status: VARIED UNDER EPR 2010 Issue date: 05/04/2016 Effective Date: 01-Jun-2017 Revocation Date: -
12C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 10	Receiving Water: RIVER DOE LEA Status: VARIED UNDER EPR 2010 Issue date: 05/04/2016 Effective Date: 05-Apr-2016 Revocation Date: 31/05/2017

ID	Distance (m)	Direction	NGR	Details	
13C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 3	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 15/03/2001 Effective Date: 15-Mar-2001 Revocation Date: 17/06/2001
14C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 4	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 18/06/2001 Effective Date: 18-Jun-2001 Revocation Date: 28/10/2001
15C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 5	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/10/2001 Effective Date: 29-Oct-2001 Revocation Date: 30/09/2002
16C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 9	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 14/10/2008 Effective Date: 01-Apr-2009 Revocation Date: 04/04/2016
17C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 3	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 15/03/2001 Effective Date: 15-Mar-2001 Revocation Date: 17/06/2001
18C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 4	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 18/06/2001 Effective Date: 18-Jun-2001 Revocation Date: 28/10/2001
19C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 1866 Permit Version: 7	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 15/03/2001 Effective Date: 01-Jan-2006 Revocation Date: 03/06/2007
20C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 4	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 18/06/2001 Effective Date: 18-Jun-2001 Revocation Date: 28/10/2001
21C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 6	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 22/01/2002 Effective Date: 01-Oct-2002 Revocation Date: 31/12/2005
22C	328	SE	445910	Address: BOLSOVER WWTW, BOLSOVER,	Receiving Water: RIVER DOE LEA

ID	Distance (m)	Direction	NGR	Details	
			370150	CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 10	Status: VARIED UNDER EPR 2010 Issue date: 05/04/2016 Effective Date: 05-Apr-2016 Revocation Date: 31/05/2017
23C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 11	Receiving Water: RIVER DOE LEA Status: VARIED UNDER EPR 2010 Issue date: 05/04/2016 Effective Date: 01-Jun-2017 Revocation Date: -
24C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 9	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 14/10/2008 Effective Date: 01-Apr-2009 Revocation Date: 04/04/2016
25C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 7	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 15/03/2001 Effective Date: 01-Jan-2006 Revocation Date: 03/06/2007
26C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 1866 Permit Version: 9	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 14/10/2008 Effective Date: 01-Apr-2009 Revocation Date: 04/04/2016
27C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 1866 Permit Version: 5	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/10/2001 Effective Date: 29-Oct-2001 Revocation Date: 30/09/2002
28C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 8	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 04/06/2007 Effective Date: 04-Jun-2007 Revocation Date: 31/03/2009
29C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 1866 Permit Version: 6	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 22/01/2002 Effective Date: 01-Oct-2002 Revocation Date: 31/12/2005
30C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 1866 Permit Version: 8	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 04/06/2007 Effective Date: 04-Jun-2007 Revocation Date: 31/03/2009
31C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE	Receiving Water: RIVER DOE LEA Status: VARIED UNDER EPR 2010

ID	Distance (m)	Direction	NGR	Details	
				Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 11	Issue date: 05/04/2016 Effective Date: 01-Jun-2017 Revocation Date: -
32C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 8	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 04/06/2007 Effective Date: 04-Jun-2007 Revocation Date: 31/03/2009
33C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 1866 Permit Version: 10	Receiving Water: RIVER DOE LEA Status: VARIED UNDER EPR 2010 Issue date: 05/04/2016 Effective Date: 05-Apr-2016 Revocation Date: 31/05/2017
34C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 5	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/10/2001 Effective Date: 29-Oct-2001 Revocation Date: 30/09/2002
35C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 7	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 15/03/2001 Effective Date: 01-Jan-2006 Revocation Date: 03/06/2007
36C	328	SE	445910 370150	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 6	Receiving Water: RIVER DOE LEA Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 22/01/2002 Effective Date: 01-Oct-2002 Revocation Date: 31/12/2005
37D	354	SE	445900 370100	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 2	Receiving Water: RIVER DOE LEA Status: TRANSFERRED FROM 1978 ORDER Issue date: 01/06/1981 Effective Date: 01-Jun-1981 Revocation Date: 14/03/2001
38D	354	SE	445900 370100	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 2	Receiving Water: RIVER DOE LEA Status: TRANSFERRED FROM 1978 ORDER Issue date: 01/06/1981 Effective Date: 01-Jun-1981 Revocation Date: 14/03/2001
39D	354	SE	445900 370100	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 1	Receiving Water: RIVER DOE LEA Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 21/01/1965 Effective Date: 21-Jan-1965 Revocation Date: 31/05/1981
40D	354	SE	445900 370100	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW	Receiving Water: RIVER DOE LEA Status: TRANSFERRED FROM 1978 ORDER Issue date: 01/06/1981

ID	Distance (m)	Direction	NGR	Details	
				STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 2	Effective Date: 01-Jun-1981 Revocation Date: 14/03/2001
41D	354	SE	445900 370100	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 1866 Permit Version: 1	Receiving Water: RIVER DOE LEA Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 21/01/1965 Effective Date: 21-Jan-1965 Revocation Date: 31/05/1981
42D	354	SE	445900 370100	Address: BOLSOVER WWTW, BOLSOVER, CARR VALE, NE DERBYSHIRE Effluent Type: SEWAGE DISCHARGES - STW STORM OVERFLOW/STORM TANK - WATER COMPANY Permit Number: 1866 Permit Version: 1	Receiving Water: RIVER DOE LEA Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 21/01/1965 Effective Date: 21-Jan-1965 Revocation Date: 31/05/1981
43E	451	NE	446000 370700	Address: NATIONAL COAL BOARD, BOLSOVER COLLI, ERY, NEAR CHESTERFIELD, NORTH EA, ST DERBYSHIRE. Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: 3114 Permit Version: 3	Receiving Water: RIVER DOE LEA Status: REVOKED - UNSPECIFIED Issue date: 06/02/1984 Effective Date: 06-Feb-1984 Revocation Date: 09/10/1995
44E	451	NE	446000 370700	Address: NATIONAL COAL BOARD, BOLSOVER COLLI, ERY, NEAR CHESTERFIELD, NORTH EA, ST DERBYSHIRE. Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: 3114 Permit Version: 2	Receiving Water: RIVER DOE LEA Status: TRANSFERRED FROM R(PP)A 1951-1961 Issue date: 13/05/1977 Effective Date: 13-May-1977 Revocation Date: 05/02/1984
45E	451	NE	446000 370700	Address: NATIONAL COAL BOARD, BOLSOVER COLLI, ERY, NEAR CHESTERFIELD, NORTH EA, ST DERBYSHIRE. Effluent Type: TRADE DISCHARGES - UNSPECIFIED Permit Number: 3114 Permit Version: 1	Receiving Water: RIVER DOE LEA Status: REVOKED - UNSPECIFIED Issue date: 17/10/1975 Effective Date: 17-Oct-1975 Revocation Date: 12/05/1977

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:

9

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	6	S	444710.0 370530.0	Incident Date: 13-Feb-2002 Incident Identification: 58004.0 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
2	124	NW	444576.0 371310.0	Incident Date: 22-Nov-2004 Incident Identification: 285243.0 Pollutant: Specific Waste Materials Pollutant Description: Electrical Equipment	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
3A	148	NE	445420.0 371150.0	Incident Date: 19-Jul-2002 Incident Identification: 93034.0 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Fumes	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
4A	148	NE	445420.0 371150.0	Incident Date: 19-Jul-2002 Incident Identification: 93034.0 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Fumes	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
5	177	N	444670.0 371420.0	Incident Date: 16-Jan-2002 Incident Identification: 52696.0 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
6	221	W	444465.0 371294.0	Incident Date: 10-Dec-2002 Incident Identification: 125389.0 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Food and Drink	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
7B	259	N	444870.0 371479.0	Incident Date: 20-Oct-2005 Incident Identification: 354876.0 Pollutant: Inert Materials and Wastes	Water Impact: Category 4 (No Impact) 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	
8B	259	N	444870.0 371479.0	Incident Date: 20-Oct-2005 Incident Identification: 354876.0 Pollutant: Specific Waste Materials Pollutant Description: Household Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
9	378	NW	444370.0 371460.0	Incident Date: 04-Apr-2002 Incident Identification: 68878.0 Pollutant: Contaminated Water Pollutant Description: Other Contaminated Water	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

0

Database searched and no data found.

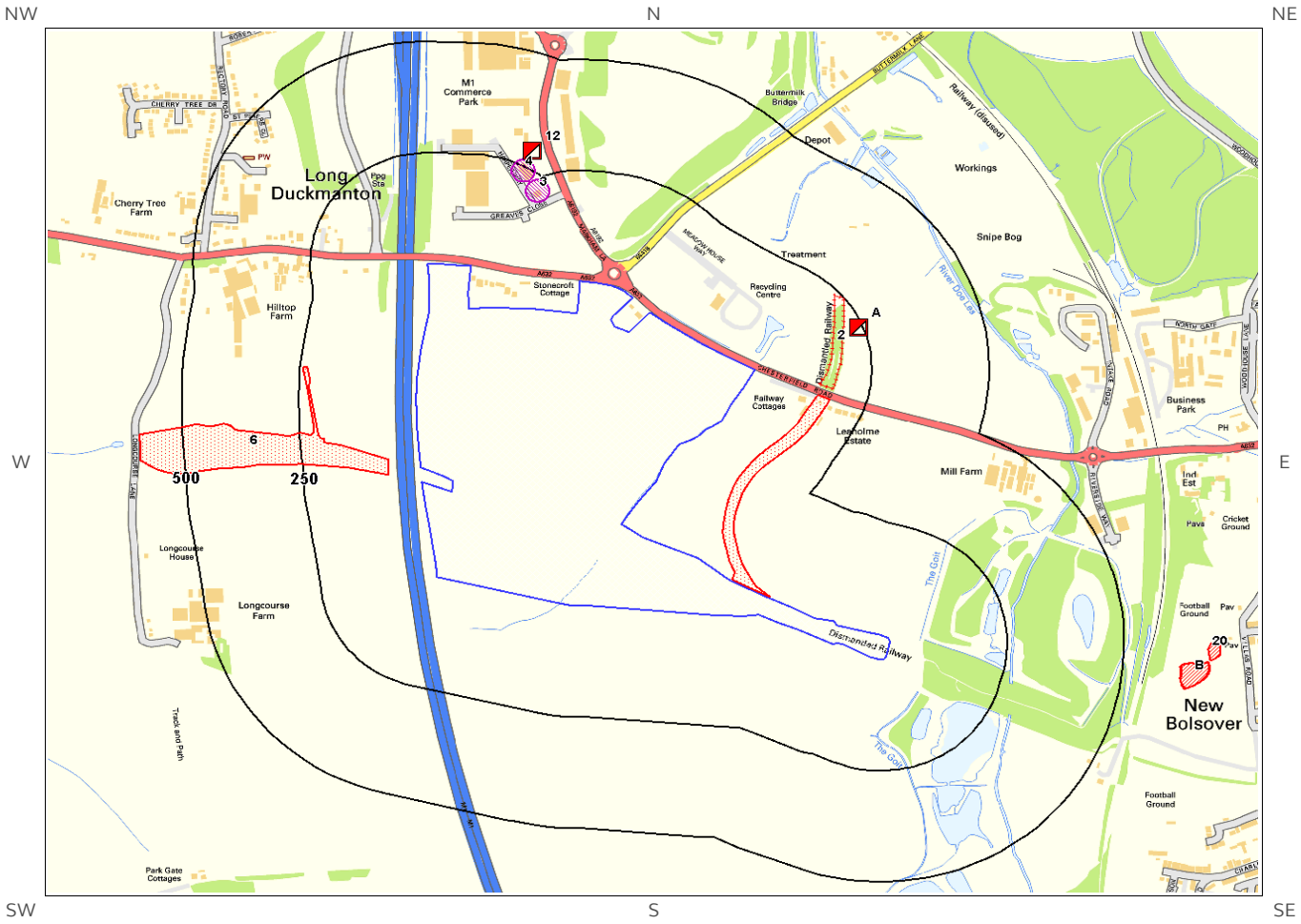
2.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

Records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site 1

The following records are represented as polygons on the Environmental Permits, Incidents and Registers Map:

ID	Distance (m)	Direction	NGR	Description	Location	Category	Year Identified
10	130	NE	445664 371499	Former Coalite site - heavily contaminated with chlorinated phenols and other noxious compounds	Buttermilk Lane, Bolsover	Potentially Contaminated Land	N/A

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	
2	141	E	445600 371100	Address: Disused Railway Cutting, Chesterfield Road, Bolsover, Derbyshire, S44 6AB Landfill Reference: 61932.0 Environmental Permitting Regulations (Waste) Reference: COA001 Landfill Type: A07: Industrial Waste Landfill (Factory curtilage)	Operator: Neville (C L) Ltd Status: Closure IPPC Reference: EPR Reference:

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

4

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	
5	3	NE		Site Address: Chesterfield Road A632, Railway Cottages, Near Bolsover Waste Licence: Yes Site Reference: 4400/LD23 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 06-Dec-1977 Licence Surrendered: 23-Dec-1986 Licence Holder Address: Derby Road, Chesterfield Operator: T I Chesterfield Licence Holder: T I Chesterfield Limited First Recorded: 31-Jul-1965 Last Recorded: 30-Nov-1986
6	67	W		Site Address: Off Longcourse Lane, Sutton-cum-Duckmanton, Chesterfield Waste Licence: Yes Site Reference: 4400/LS61 Waste Type: Inert, Industrial, Commercial, Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 14-Oct-1980 Licence Surrendered: 23-Dec-1986 Licence Holder Address: Station Road, Clowne, Chesterfield, Derbyshire Operator: Hargreaves Clearwaste Services Licence Holder: Hargreaves Clearwaste Services Limited First Recorded: 31-Dec-1980 Last Recorded: 30-Nov-1986
Not	841	SE		Site Address: New Byron Refuse Tip, Carr	Licence Issue: 15-Sep-1977

ID	Distance (m)	Direction	NGR	Details	
shown				Vale, Near Chesterfield, Derbyshire Waste Licence: Yes Site Reference: 4400/LB13 Waste Type: Inert, Industrial, Commercial, Household, Special, Liquid sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Surrendered: 23-Dec-1986 Licence Holder Address: County Surveyors Department, County Offices, Matlock, Derbyshire Operator: Bolsover Urban District Council Licence Holder: Derbyshire County Council First Recorded: 31-Dec-1970 Last Recorded: 30-Nov-1986
Not shown	1459	N		Site Address: Tip No 11-054, Markham Colliery, Chesterfield, Derbyshire Waste Licence: Yes Site Reference: 4400/LB04 Waste Type: Special, Liquid sludge Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: 14-Jun-1977 Licence Surrendered: 23-Dec-1986 Licence Holder Address: North Derbyshire Area, Bolsover, Chesterfield, Derbyshire Operator: National Coal Board Licence Holder: National Coal Board First Recorded: 31-Dec-1968 Last Recorded: 30-Nov-1986

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

1

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

ID	Distance (m)	Direction	NGR	Details	
Not shown	1071	SE	446300.0 369500.0	Address: New Byron Refuse Tip, Carr Vale, nr Chesterfield BGS Number: 1606.0	Risk: No risk to aquifer Waste Type: N/A

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

5

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
18B	621	E	446316 370318	Refuse Tip	1986 mapping	Polygon
19B	624	E	446317 370317	Refuse Tip	1970 mapping	Polygon
20	678	E	446358 370372	Refuse Tip	1961 mapping	Polygon
Not shown	1177	E	446857 370361	Refuse Tip	1986 mapping	Polygon
Not shown	1180	E	446859 370360	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:

2

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	
3	195	NE	444915 371407	Type of Site: Waste Transfer Facility/Vehicle Repair Workshop Site Address: Unit 35, M1 Conmerce Park, Markham Lane, Markham Vale, Chesterfield, Derbyshire, S44 5HN	Planning Application Reference: CW2/0215/144 Date: -	Further Details: Scheme comprises Demolition of an building and construction of a building together with external material handling bays for use as a waste transfer station. Construction of portable buildings for use as office and storage facilities and to use part of the site for general industrial use (including a Vehicle Repair Workshop). The associated works include sewer systems, landscaping, infrastructure, enabling and access roads. Data Source: Historic Planning Application Data Type: Point
4	216	NE	444884 371452	Type of Site: Waste Transfer Station Site Address: Erin Landfill Site, Markham Lane, Duckmanton, CHESTERFIELD, Derbyshire, S44 5HS	Planning Application Reference: CHE/07/00841/CPO Date: -	Further Details: Scheme comprises construction of new building and adjoining open storage area to be used as a waste reception, transfer, recycling and pre-treatment facility adjacent to the sites compound area. An application (ref: CHE/07/00841/CPO) for detailed plang permission was granted by Chesterfield B.C. Planning decision obtained Data Source: Historic Planning Application Data Type: Point

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

9

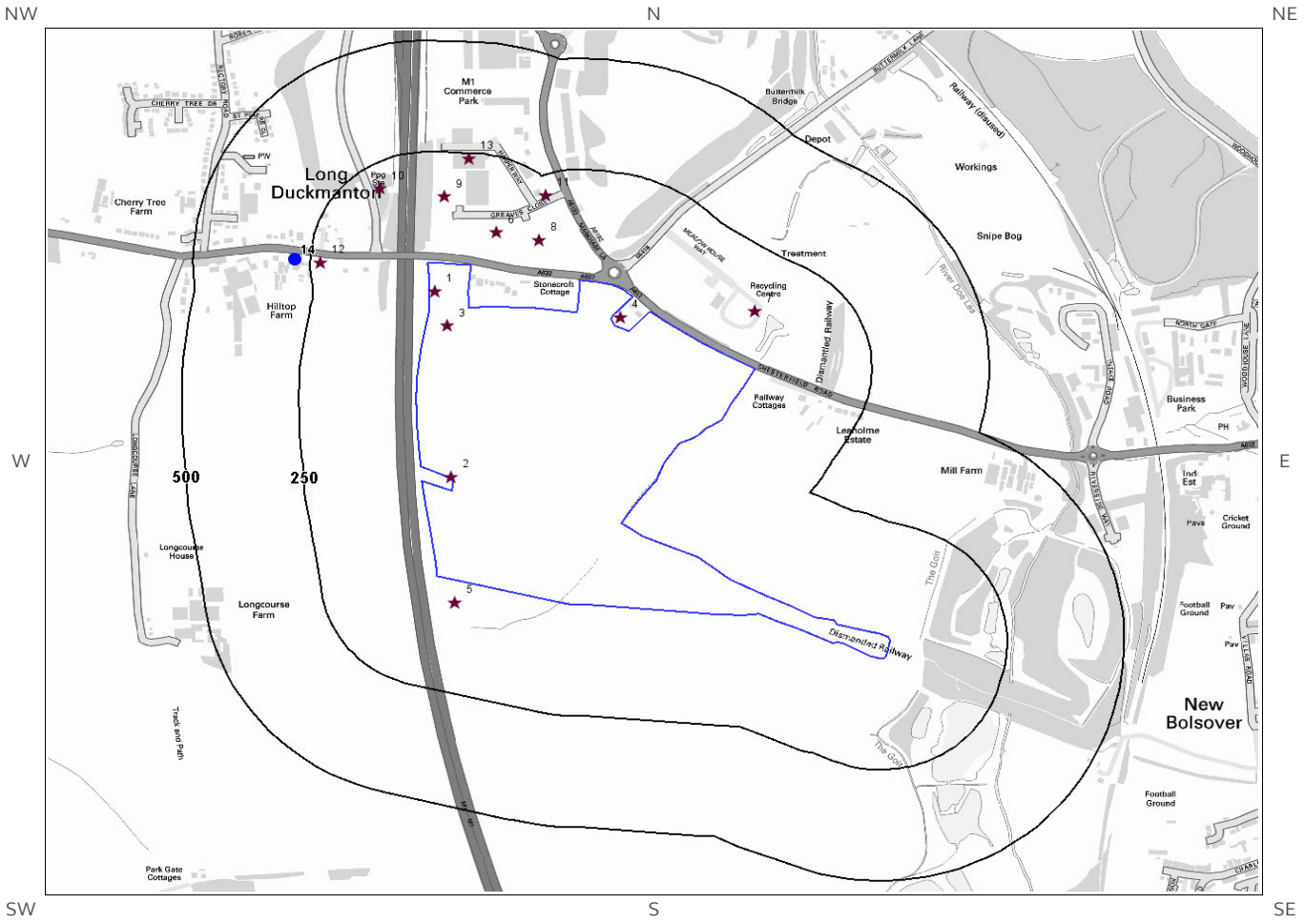
The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
9A	241	NE	445600 371100	Site Address: Disused Railway Cutting, P O Box 21, Chesterfield Road, Bolsover, Derbyshire, S44 6AB	Issue Date: 14/10/1991 Effective Date: - Modified: -

ID	Distance (m)	Direction	NGR	Details	
				Type: Industrial Waste Landfill (Factory curtilage) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: COA001 EPR reference: - Operator: Coalite Smokeless Fuels Ltd Waste Management licence No: 61932 Annual Tonnage: 0.0	Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure Site Name: Coalite Smokeless Fuels Correspondence Address: P O Box 21, Chesterfield, Derbyshire, S44 6AB
10A	241	NE	445600 371100	Site Address: Disused Railway Cutting, P O Box 21, Chesterfield Road, Bolsover, Derbyshire, S44 6AB Type: Industrial Waste Landfill (Factory curtilage) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: COA001 EPR reference: - Operator: Coalite Smokeless Fuels Waste Management licence No: 61932 Annual Tonnage: 0.0	Issue Date: 14/10/1991 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure Site Name: Coalite Smokeless Fuels Correspondence Address: P O Box 21, Chesterfield, Derbyshire, S44 6AB
11A	241	NE	445600 371100	Site Address: Disused Railway Cutting, P O Box 21, Chesterfield Road, Bolsover, Derbyshire, S44 6AB Type: Industrial Waste Landfill (Factory curtilage) Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: COA001 EPR reference: EA/EPR/VP3898ZD/A001 Operator: Neville (C L) Ltd Waste Management licence No: 61932 Annual Tonnage: 75000.0	Issue Date: 14/10/1991 Effective Date: - Modified: - Surrendered Date: - Expiry Date: 04/03/2009 Cancelled Date: - Status: Closure Site Name: Former Coalite Smokeless Fuels Site Correspondence Address: -
12	288	NE	444902 371497	Site Address: M1 Commerce Park, Markham Lane, Markham Vale, Chesterfield, Derbyshire, S44 5HS Type: Physical Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CPE003 EPR reference: EA/EPR/PB3531RP/V002 Operator: C P Environmental Limited Waste Management licence No: 65478 Annual Tonnage: 4999.0	Issue Date: 20/02/2006 Effective Date: 19/03/2013 Modified: 12/02/2015 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: Unit 35, M1 Commerce Park Correspondence Address: -
Not shown	643	N	444838 371879	Site Address: M1 Commerce Park, Markham Lane, Duckmanton, Chesterfield, Ne Derbyshire, S44 5HS Type: Physical Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KNI001 EPR reference: - Operator: A D I S Scaffolding Ltd Waste Management licence No: 65478 Annual Tonnage: 4999.0	Issue Date: 20/02/2006 Effective Date: - Modified: 16/03/2007 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified Site Name: M1 Commerce Park Correspondence Address: M1 Commerce Park, Markham Lane, Duckmanton, Chesterfield, N E Derbyshire, S44 5HS
Not shown	643	N	444838 371879	Site Address: M1 Commerce Park, Markham Lane, Duckmanton, Chesterfield, Derbyshire, S44 5HS Type: Physical Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: CPS003 EPR reference: EA/EPR/HP3798VP/T001 Operator: C P Skips Ltd Waste Management licence No: 65478 Annual Tonnage: 4999.0	Issue Date: 20/02/2006 Effective Date: 18/08/2010 Modified: 16/03/2007 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred Site Name: M1 Commerce Park Correspondence Address: -

ID	Distance (m)	Direction	NGR	Details	
Not shown	643	N	444838 371879	Site Address: M1 Commerce Park, Markham Lane, Duckmanton, Chesterfield, Ne Derbyshire, S44 5HS Type: Physical Treatment Facility Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: KNI001 EPR reference: - Operator: Knights Malcolm Waste Management licence No: 65478 Annual Tonnage: 0.0	Issue Date: 20/02/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued Site Name: M1 Commerce Park Correspondence Address: M1 Commerce Park, Markham Lane, Duckmanton, Chesterfield, N E Derbyshire, S44 5HS
Not shown	1381	W	443300 371300	Site Address: Arkwright Colliery Reclamation Site, Deepsic Lane, Arkwright Town, Chesterfield, Derbyshire, S44 8DN Type: Household, Commercial & Industrial Waste Landfill Size: >= 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RJB002 EPR reference: - Operator: U K Coal Mining Ltd Waste Management licence No: 61960 Annual Tonnage: 0.0	Issue Date: 13/12/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure Site Name: Harworth Mining Limited - Arkwright Colliery Reclamation Site Correspondence Address: Po Box 1010, Harworth Park, Blythe Road, Harworth, Doncaster, DN1 8DB
Not shown	1381	W	443300 371300	Site Address: Arkwright Colliery Reclamation Site, Deepsic Lane, Arkwright Town, Chesterfield, Derbyshire, S44 8DN Type: Household, Commercial & Industrial Waste Landfill Size: < 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RJB002 EPR reference: EA/EPR/AP3498ZE/A001 Operator: U K Coal Mining Ltd Waste Management licence No: 61960 Annual Tonnage: 250000.0	Issue Date: 13/12/1993 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Closure Site Name: Harworth Mining Limited - Arkwright Colliery Reclamation Site Correspondence Address: -

4. Current Land Use Map



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Site Outline

Search Buffers (m)

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	0	On Site	Mast	444695 371181	Derbyshire, S44	Telecommunications Features	Infrastructure and Facilities
2	0	On Site	Pylon	444730 370763	Derbyshire, S44	Electrical Features	Infrastructure and Facilities
3	0	On Site	Pylon	444722 371103	Derbyshire, S44	Electrical Features	Infrastructure and Facilities
4	13	SE	Electricity Sub Station	445091 371122	Derbyshire, S44	Electrical Features	Infrastructure and Facilities
5	49	S	Pylon	444737 370480	Derbyshire, S44	Electrical Features	Infrastructure and Facilities
6	91	NE	Holdsworth Coldstore	444826 371312	Greaves Close, Markham Vale, Chesterfield, Derbyshire, S44 5FB	Catering and Non Specific Food Products	Foodstuffs
7	116	NE	Recycling Centre	445377 371135	Derbyshire, S44	Recycling Centres	Infrastructure and Facilities
8	129	NW	Electricity Sub Station	444916 371296	Derbyshire, S44	Electrical Features	Infrastructure and Facilities
9	152	N	Pylon	444716 371394	Derbyshire, S44	Electrical Features	Infrastructure and Facilities
10	197	NW	Pumping Station	444578 371412	Derbyshire, S44	Water Pumping Stations	Industrial Features
11	207	N	Electricity Sub Station	444932 371397	Derbyshire, S44	Electrical Features	Infrastructure and Facilities
12	229	W	Kings Stands Sports	444450 371245	Chesterfield Road, Duckmanton, Chesterfield, Derbyshire, S44 5HX	Secondhand Vehicles	Motoring
13	240	N	Industrial Ancillaries Ltd	444766 371479	Harper Way, Markham Vale, Chesterfield, Derbyshire, S44 5JX	Industrial Repairs and Servicing	Repair and Servicing

4.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 1

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

ID	Distance (m)	Direction	NGR	Company	Address	LPG	Status
14	283	W	444397 371251	CO-OP	Chesterfield Road, Long Duckmanton, Chesterfield, Derbyshire, S44 5HT	No	Open

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.

5. Geology

5.1 Artificial Ground and Made Ground

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

Lex Code	Description	Rock Type
MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

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

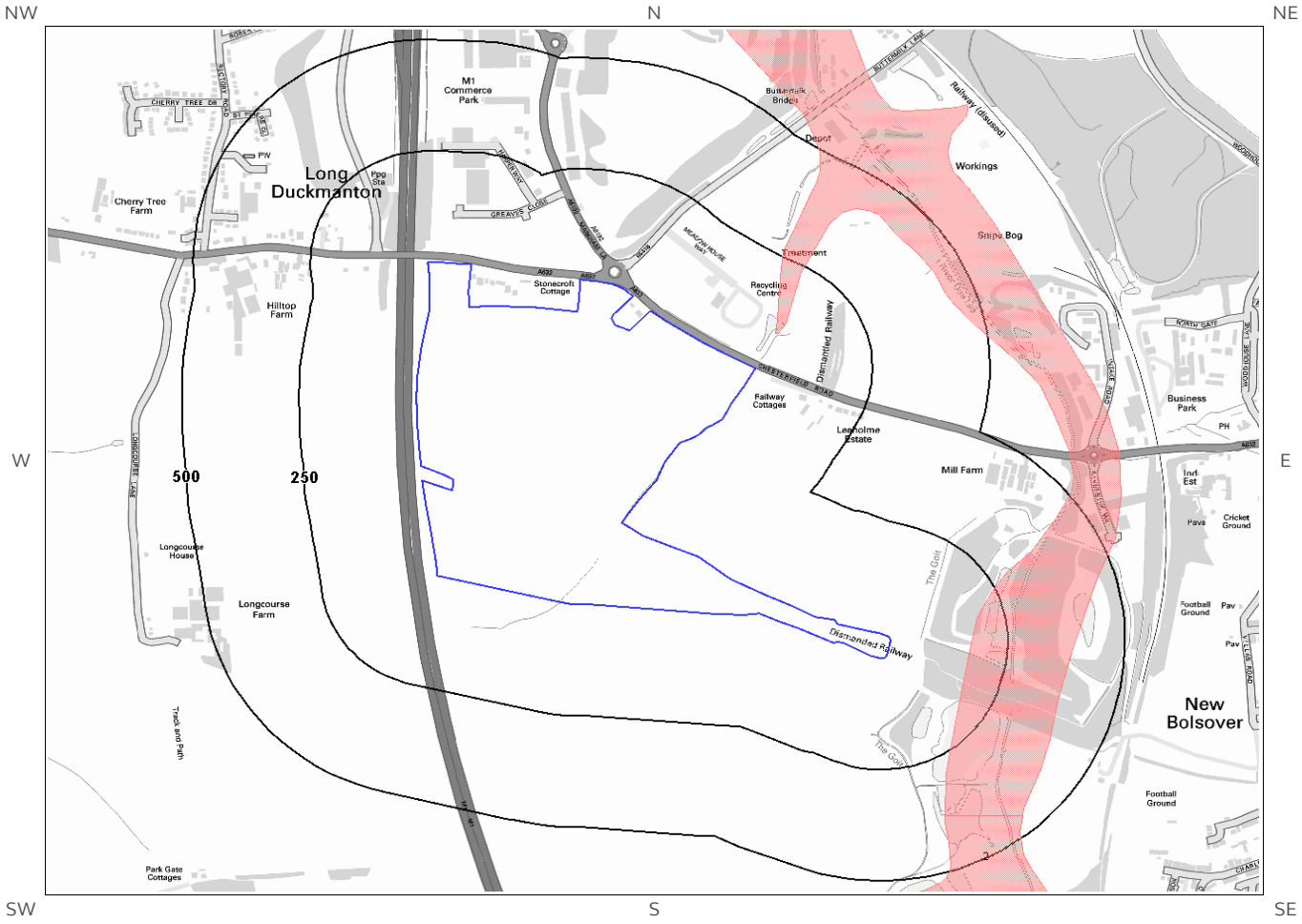
The database has been searched on site, including a 50m buffer.

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

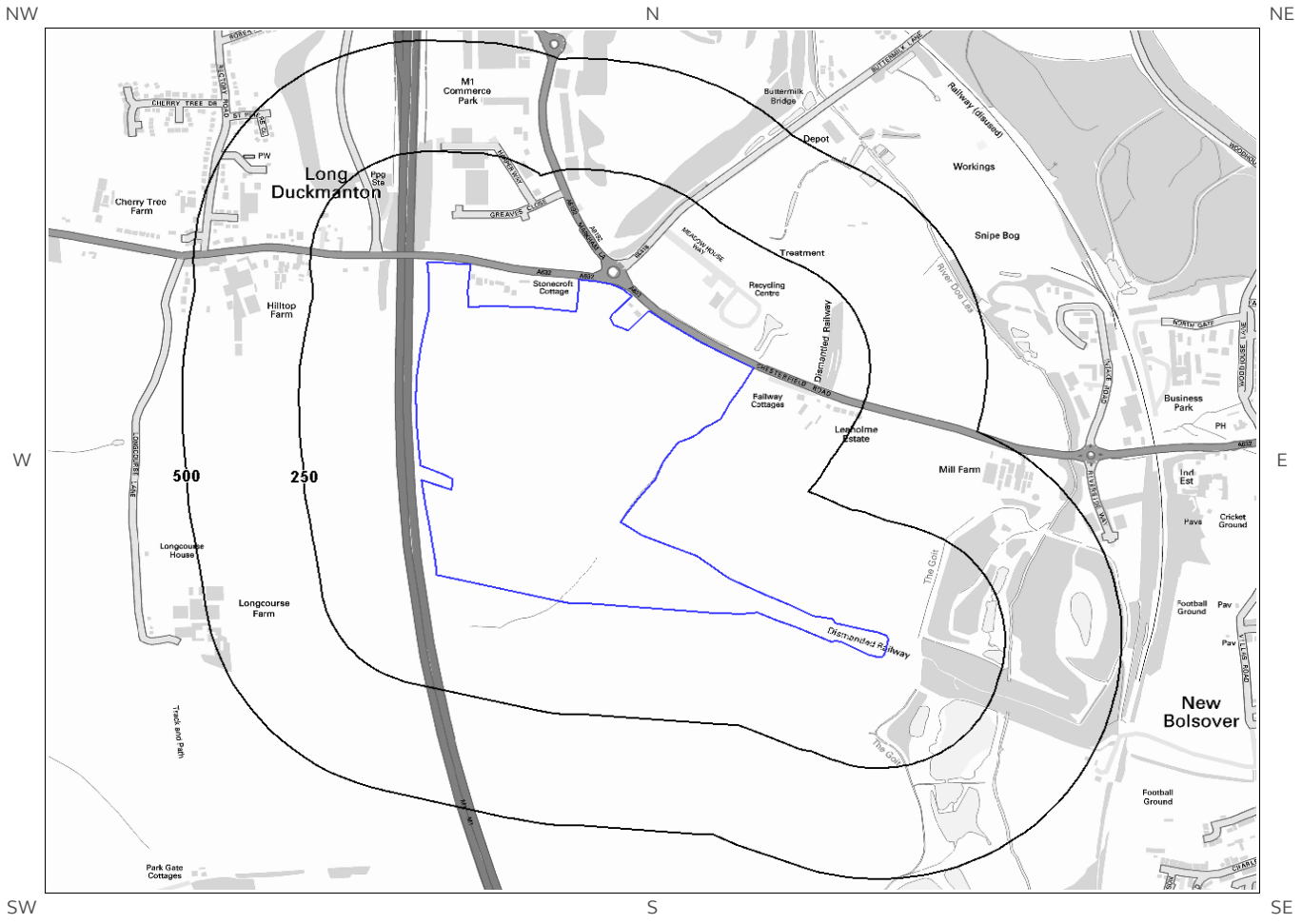
Secondary Aquifer - Undifferentiated Layers

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

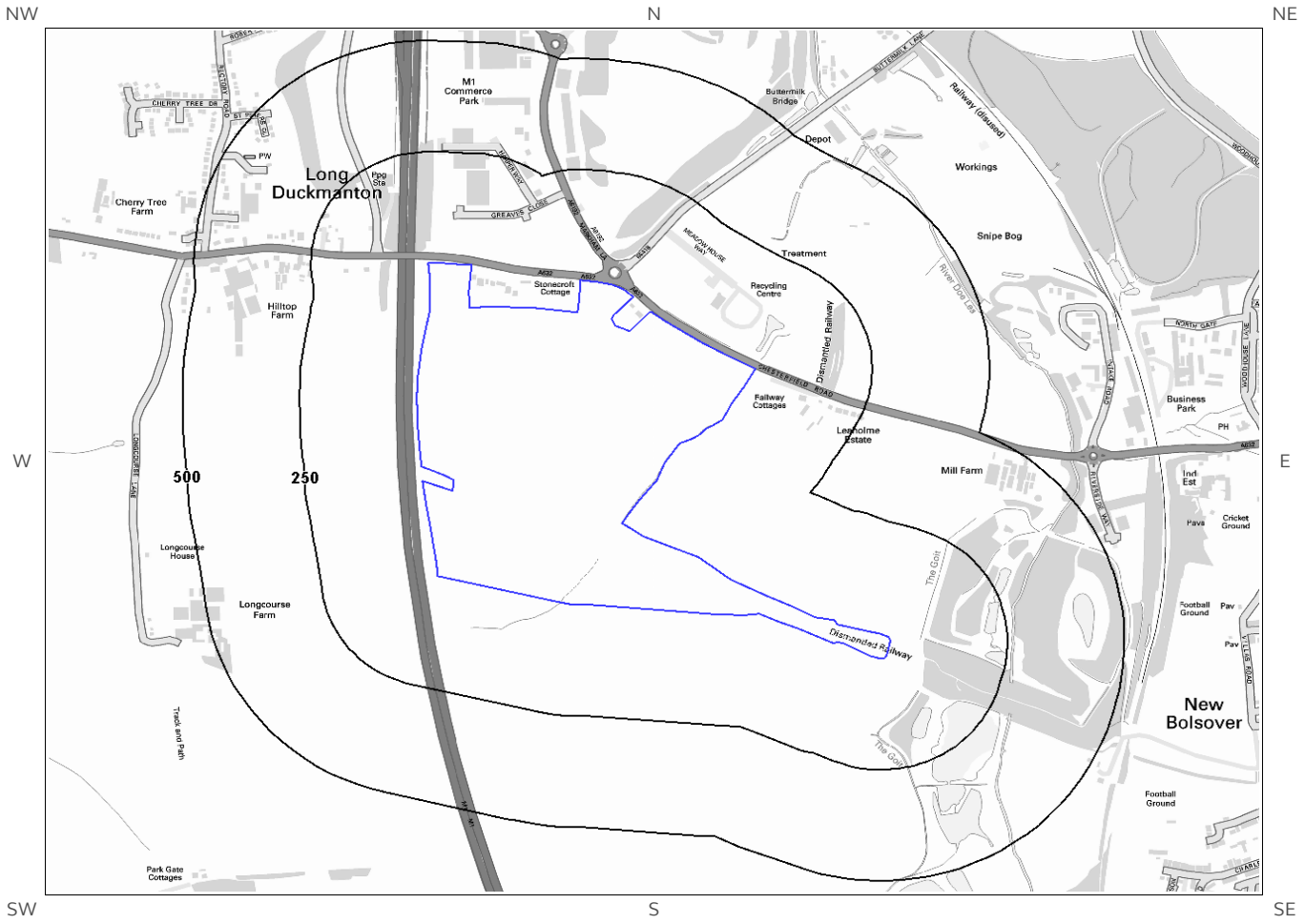
Source Protection Zone 2 - Outer Catchment

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

Potable Water Abstraction Licence

Site Outline

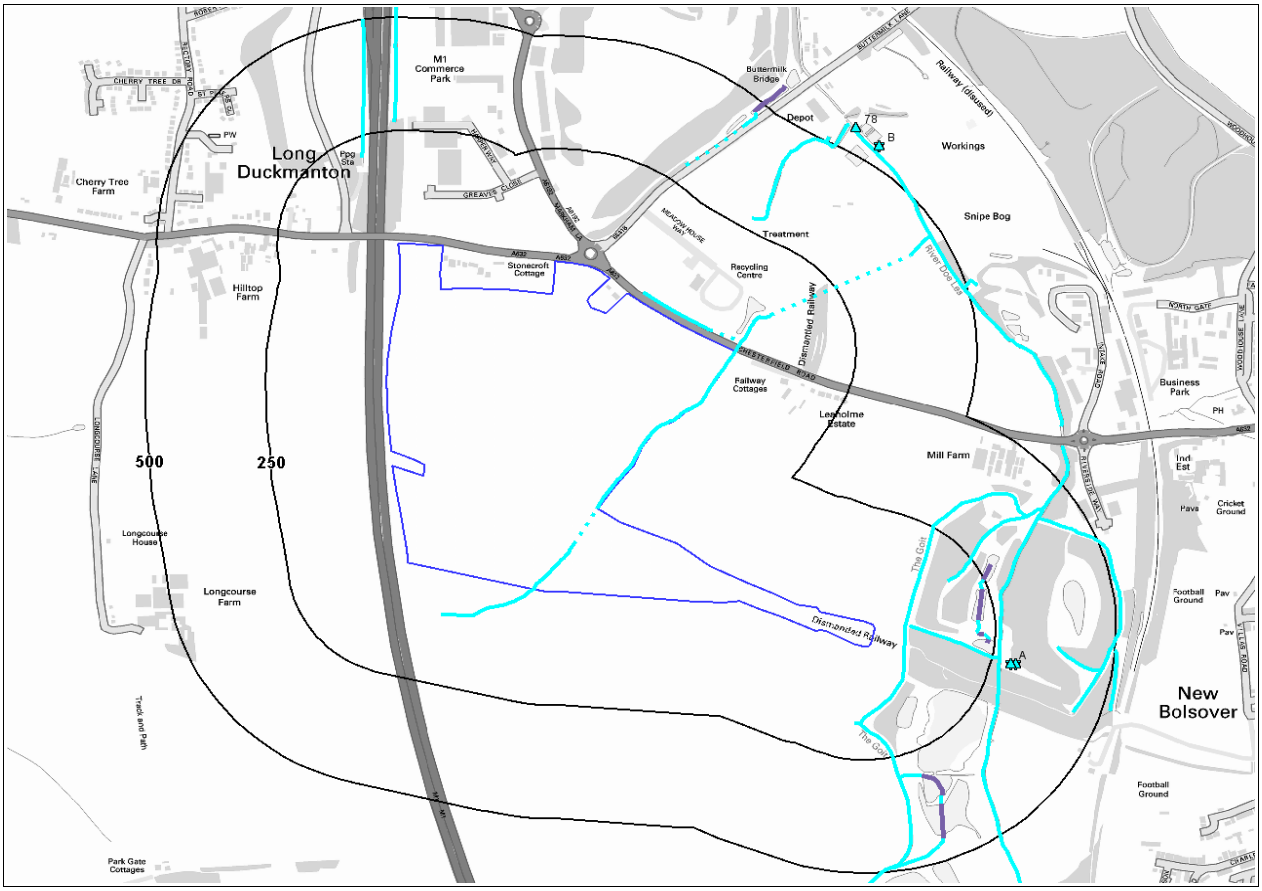
250
500
Search Buffers (m)

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	89	NE	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
2	377	S	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
2	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
3	352	S	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
4	473	S	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	
5A	650	NE	445800 371500	Status: Historical Licence No: 2/27/01/009 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: GROUNDWATERS Point: WELL Data Type: Point Name: COALITE SMOKELESS FUELS	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date:
6A	650	NE	445800 371500	Status: Historical Licence No: 2/27/01/009 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: GROUNDWATERS Point: WELL - MAGNESIAN LIMESTONE - BOLSOVER WOODHOUSE Data Type: Point Name: COALITE SMOKELESS FUELS	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date:
7A	650	NE	445800 371500	Status: Historical Licence No: 2/27/01/009 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: GROUNDWATERS Point: WELL Data Type: Point Name: COALITE SMOKELESS FUELS	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date:
8A	650	NE	445800 371500	Status: Historical Licence No: 2/27/01/009 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: GROUNDWATERS Point: WELL - MAGNESIAN LIMESTONE - BOLSOVER WOODHOUSE Data Type: Point Name: COALITE SMOKELESS FUELS	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date:
Not show n	693	N	444908 371919	Status: Active Licence No: NE/027/0001/001 Details: Heat Pump Direct Source: GROUNDWATERS Point: MINESHAFT NO.3 - COAL MEASURES - FORMER MARKHAM COLLIERY Data Type: Point Name: Alkane Energy PLC	Annual Volume (m^3): 108000 Max Daily Volume (m^3): 360 Original Application No: - Original Start Date: 19/06/2014 Expiry Date: 31/03/2029 Issue No: 1 Version Start Date: 19/06/2014 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	
10B	590	NE	445700 371500	Status: Historical Licence No: 2/27/01/008 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: SURFACE WATER Point: RIVER DOE LEA Data Type: Point Name: COALITE SMOKELESS FUELS	Annual Volume (m^3): - Max Daily Volume (m^3): - Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date:
11B	590	NE	445700 371500	Status: Historical Licence No: 2/27/01/008 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: SURFACE WATER Point: RIVER DOE LEA Data Type: Point Name: COALITE SMOKELESS FUELS	Annual Volume (m^3): - Max Daily Volume (m^3): - Application No: - Original Start Date: 20/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/01/1966 Version End Date:
Not shown	1005	SE	446350 369630	Status: Active Licence No: 2/27/01/015 Details: Lake & Pond Throughflow Direct Source: SURFACE WATER Point: TRIBUTARY OF RIVER DOE LEA Data Type: Point Name: VALE ANGLING CLUB	Annual Volume (m^3): 150300 Max Daily Volume (m^3): 423 Application No: - Original Start Date: 06/09/1979 Expiry Date: - Issue No: 101 Version Start Date: 02/05/2002 Version End Date:
Not shown	1875	NW	443500 372700	Status: Historical Licence No: 2/27/01/019 Details: General use relating to Secondary Category (Very Low Loss) Direct Source: SURFACE WATER Point: POOLS BROOK Data Type: Point Name: BRITISH COAL	Annual Volume (m^3): - Max Daily Volume (m^3): - Application No: - Original Start Date: 21/05/1991 Expiry Date: - Issue No: 100 Version Start Date: 21/05/1991 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/Low Leaching Potential	L	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal, or they have the ability to attenuate diffuse pollutants.
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.
23	E	Minor Aquifer/High Leaching Potential	H1	Soils which readily transmit liquid discharges because they are shallow or susceptible to rapid flow directly to rock, gravel or groundwater.

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
71A	293	E	445949 370313	River Name: Doe Lea Reach: Stockley Brook Bolsover Stw End/Start of Stretch: End of Stretch NGR	C	C	C	C	D
72A	302	E	445959 370313	River Name: Doe Lea Reach: Bolsover Stw Coalite End/Start of Stretch: Start of Stretch NGR	C	C	C	C	D
73B	541	NE	445675 371458	River Name: Doe Lea Reach: Bolsover Stw Coalite End/Start of Stretch: End of Stretch NGR	C	C	C	C	D

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
74A	293	E	445949 370313	River Name: River Doe Lea Reach: Stockley Brook Bolsover Stw End/Start of Stretch: End of Stretch NGR	B	B	B	B	-
75A	302	E	445959 370313	River Name: River Doe Lea Reach: Bolsover Stw Coalite End/Start of Stretch: Start of Stretch NGR	D	C	C	C	C
76B	541	NE	445675 371458	River Name: River Doe Lea Reach: Coalite Hawke Brook End/Start of Stretch: Start of Stretch NGR	C	-	C	D	D
77B	541	NE	445675 371458	River Name: River Doe Lea Reach: Bolsover Stw Coalite End/Start of Stretch: End of Stretch NGR	D	C	C	C	C
78	551	NE	445627 371497	River Name: River Doe Lea Reach: Bolsover Stw Coalite End/Start of Stretch: Sample Point NGR	D	C	C	C	C
Not shown	1331	S	446100 369100	River Name: River Doe Lea Reach: Stockley Brook Bolsover Stw End/Start of Stretch: Sample Point NGR	B	B	B	B	-
Not shown	1497	N	445241 372683	River Name: River Doe Lea Reach: Coalite Hawke Brook End/Start of Stretch: Sample Point NGR	C	-	C	D	D

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	0	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	On Site			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
2	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
3	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
22	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
23	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
24	0 On Site	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
4	19 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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	19 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
25	19 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
26	19 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
6	24 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
27	24 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
7	29 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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
28	29 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
8	62 E	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
29	62 E	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
9	63 E	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
30	63 E	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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	72 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
31	72 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
11	102 SE	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
32	102 SE	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
12	108 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
33	108 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
13	170 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
14	170 S	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.2
34	170 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.5
35	170 S	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.2
15	183 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
36	183 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
16	204 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.4
37	204 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.4
17	213 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
38	213 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
18	214 E	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
19	214 E	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.6
39	214 E	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
40	214	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	E			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.6
20	226 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
41	226 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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	235 E	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 8.5
42	235 E	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 8.5
22	238 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
43	238 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
23	248 NE	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 15.8
44	248 NE	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 15.8
24	253 NE	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
45	253 NE	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
25	260 E	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.7
46	260 E	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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): 4.7
26	265 E	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.7
47	265 E	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.7
27	269 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.5
Not shown	269 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.5
28	271 E	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
49	271 E	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
29	278 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0
50	278 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.0
30	293 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
51	293 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Not provided Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
31	294 SE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9
52	294 SE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.9

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
32	296 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 7.6
33	296 SE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.9
34	296 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.8
53	296 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 7.6
54	296 SE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.9
Not shown	296 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.8
35	299 S	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
Not shown	299 S	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.0
36	307 S	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.8
Not shown	307 S	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 17.8
37	342 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	342 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
38	347	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	N			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.3
Not shown	347 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.3
39	363 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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	363 SE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
40	379 SE	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 26.0
Not shown	379 SE	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 26.0
41	380 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
62	380 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
42	396 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
63	396 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
43	400 NE	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
64	400 NE	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
44	416 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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
45	416 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
65	416 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
66	416 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
46	418 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
67	418 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
47	420 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.1
68	420 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.1
48	424 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	424 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
49	428 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.5
Not shown	428 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.5
50	432 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
71	432 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
51	435 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.7
72	435 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.7
52	442 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	442 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
53	446 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.2
Not shown	446 N	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.2
54	447 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
75	447 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
55	453 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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	453 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
56	454 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
77	454	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
	NE			Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
57	462 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
Not shown	462 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: Underground Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
58	465 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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	465 S	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
59	474 NE	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 8.1
60	474 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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	474 NE	-	Lake, loch or reservoir.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 8.1
Not shown	474 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
61	477 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.0
82	477 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.0
62	478 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.5
83	478 NE	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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): 5.5
63	488 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
84	488 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
64	492 S	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
Not shown	492 S	The Goit	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 2.1
65	493 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
66	493 E	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.0
86	493 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided
87	493 E	River Doe Lea	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 5.0
67	494 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.2
68	494 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.7
88	494 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 6.2
89	494 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 1.7

ID	Distance/ Direction	Name	Type of Watercourse	Additional Details
69	497 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.7
90	497 NE	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): 4.7
70	500 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother 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	500 E	-	Inland river not influenced by normal tidal action.	Catchment Area: Don and Rother Relationship to Ground Level: On ground surface Permanence: Watercourse contains water year round (in normal conditions) Average Width in Watercourse Section (m): Not Provided

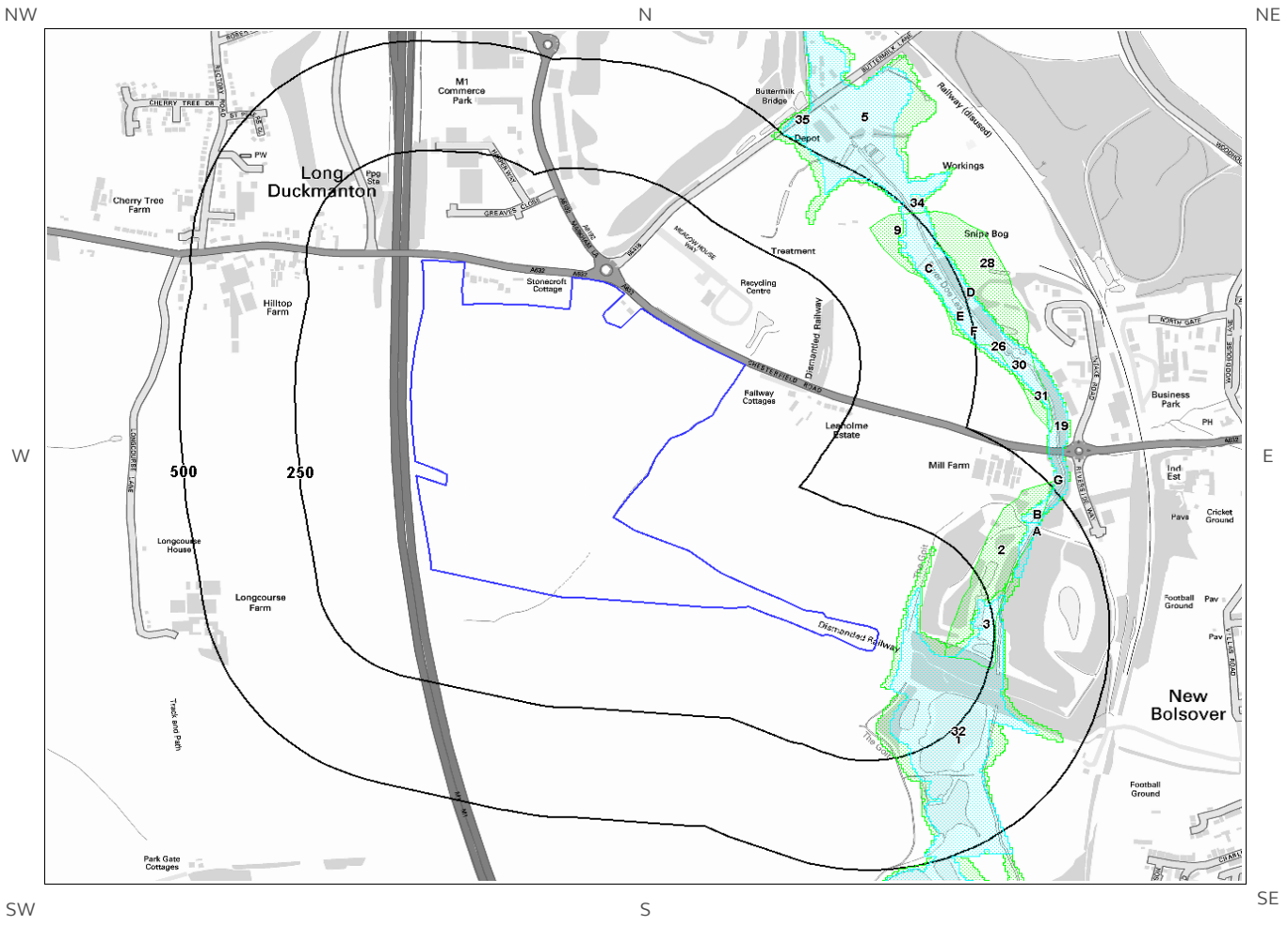
6.11 Surface Water Features

Surface water features within 250m of the study site Identified

The following surface water records are not represented on mapping:

Distance (m)	Direction
0	On Site
0	On Site
0	On Site
19	NE
25	NE
37	NE
63	E
72	E
100	SE
137	SE
173	SE
183	NE
186	NW
195	S
201	E
204	E
213	E
226	E
238	E
245	NE

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



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Site Outline

100
250
Search Buffers (m)

Zone 2 Floodplain

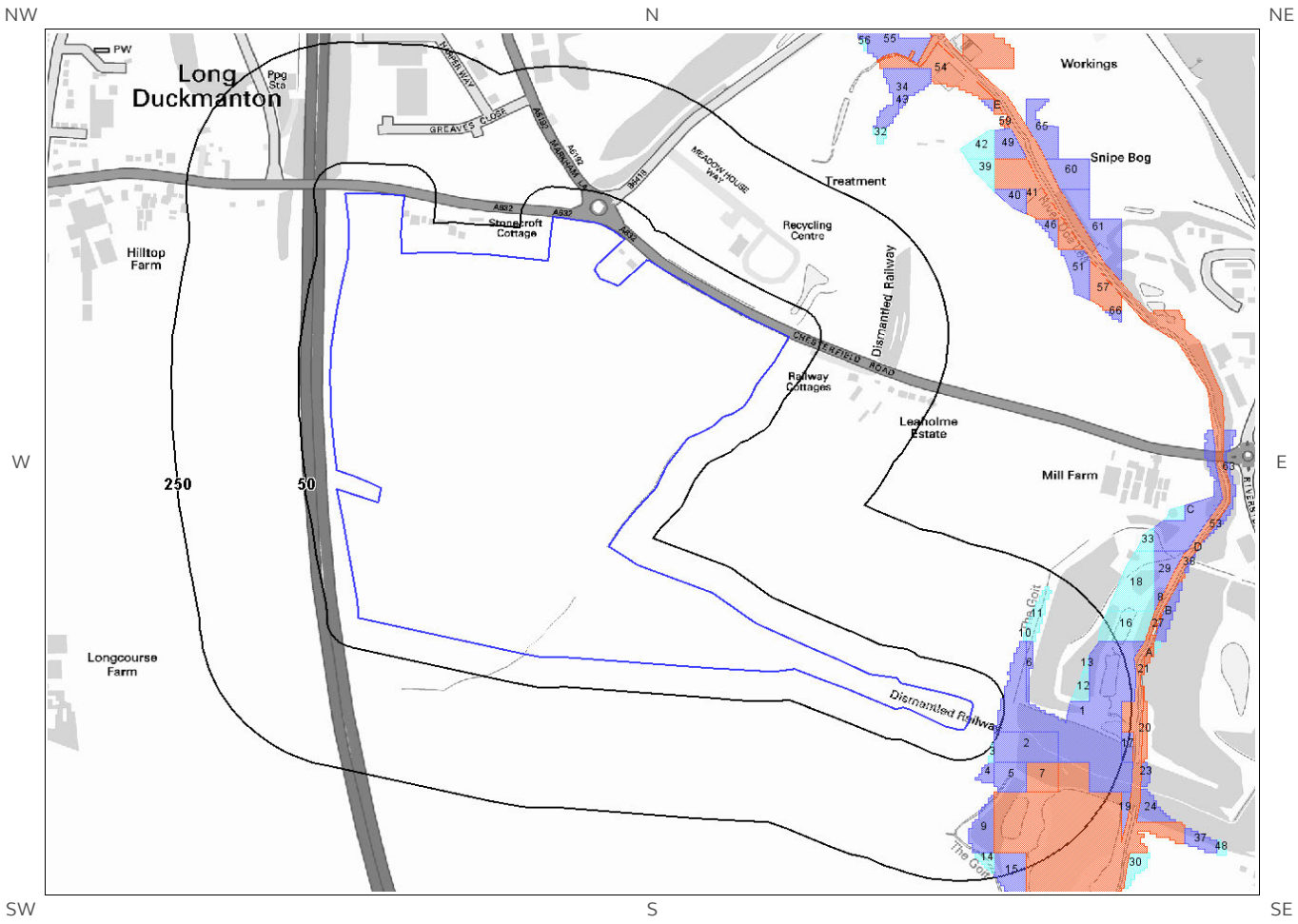
Zone 3 Floodplain

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	39	E	21-Feb-2019	Zone 2 - (Fluvial /Tidal Models)
2	148	E	21-Feb-2019	Zone 2 - (Fluvial /Tidal Models)
3	148	E	21-Feb-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	52	E	21-Feb-2019	Zone 3 - (Fluvial /Tidal 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.

Any relevant data within 250m is represented on the RoFRaS Flood map. Data to 50m is reported in the table below.

ID	Distance (m)	Direction	RoFRas flood Risk
1	39.0	E	Medium
2	43.0	E	Medium
3	48.0	SE	Low

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

Limited potential

Where limited potential for groundwater flooding to occur is indicated, this means that although given the geological conditions there may be a groundwater flooding hazard, unless other relevant information, e.g. records of previous flooding, suggests groundwater flooding has occurred before in this area, you need take no further action in relation to groundwater flooding hazard.

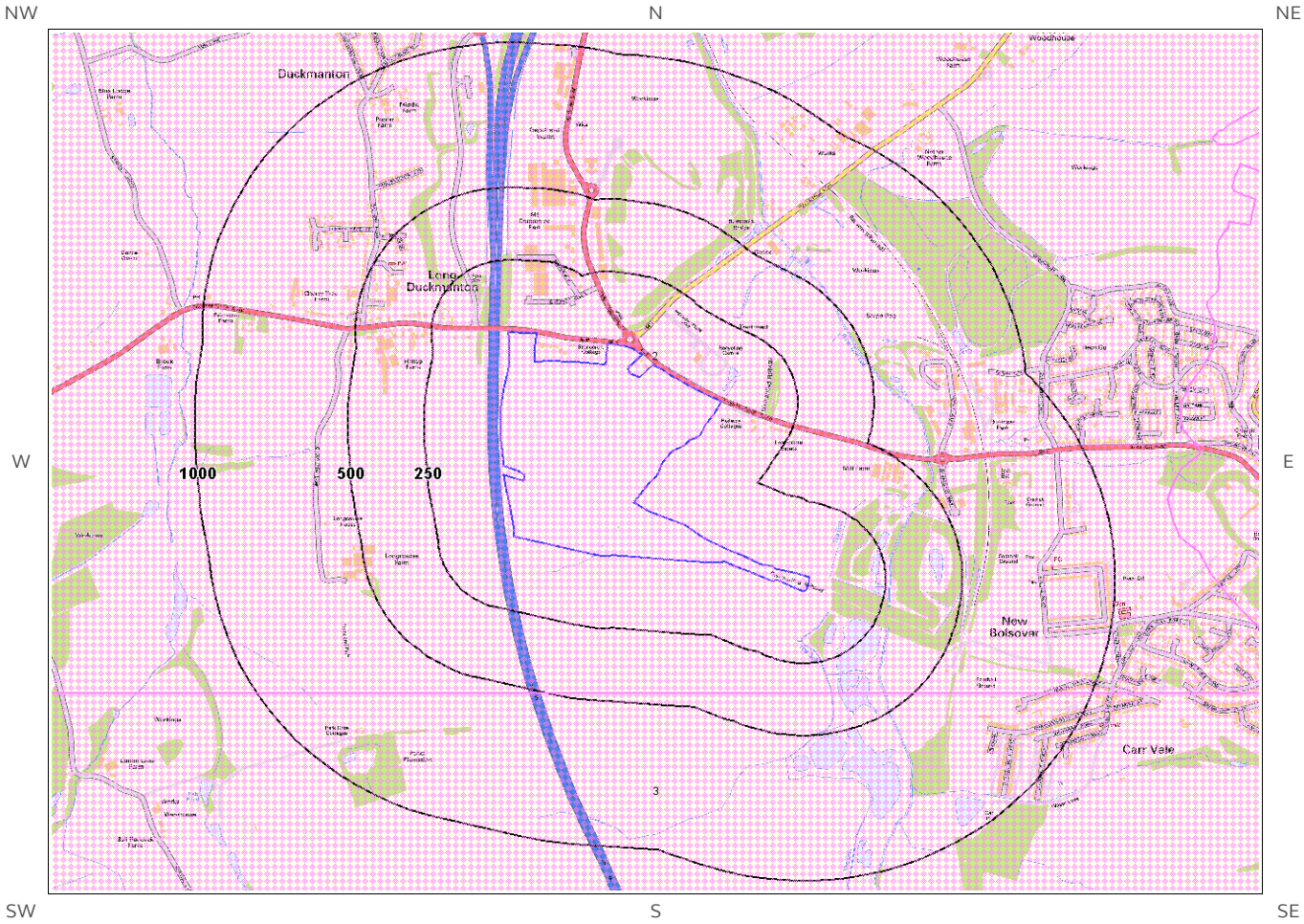
7.8 Groundwater Flooding Confidence Areas

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:

1

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Natural Resources Wales are represented as polygons on the Designated Environmentally Sensitive Sites Map:

ID	Distance (m)	Direction	SSSI Name	Data Source
Not shown	1116	S	Doe Lea Stream Section	Natural England

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:

0

Database searched and no data found.

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

0

Database searched and no data found.

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:

6

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	0	On Site	Changed	DEFRA
3	352	S	Changed	DEFRA
4	1202	E	Existing	DEFRA
Not shown	1721	E	Existing	DEFRA
Not shown	1729	E	Existing	DEFRA
Not shown	1780	E	Changed	DEFRA

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

0

Database searched and no data found.

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 — Very Low

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

Hazard
Very low potential for compressible deposits to be present. 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 — Very Low

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

Hazard
Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. 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 — Identified

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

Distance (m)	Direction	Name	Commodity	Assessment of likelihood
0.0	On Site	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
0.0	On Site	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

Past underground mine workings may occur. The rock types present in these areas are such that small mineral veins may be present on which it is possible that small scale mining has been undertaken and/or it is possible that limited underground extraction of other materials may have occurred. All such occurrences are likely to be of minor localised extent and infrequent. It should be noted, however, that there is always the possibility of the existence of other sub-surface excavations, such as wells, cess pits, follies, air raid shelters/bunkers and other military structures etc. that could affect surface ground stability but which are outside the scope of this dataset. However, if in a coalfield area you should still consider a Coal Authority mining search for the area of interest.

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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Keyworth, Nottingham NG12 5GG
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Fax: 0115 936 3276.
Email:
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enquiries@bgs.ac.uk

Environment Agency
National Customer Contact Centre, PO Box 544
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Tel: 03708 506 506
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Email: enquiries@environment-agency.gov.uk

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Public information access office
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133-155 Waterloo Road, London, SE1 8UG
www.gov.uk/phe
Email:**enquiries@phe.gov.uk**
Main switchboard**: 020 7654 8000**

The Coal Authority
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DX 716176 Mansfield 5
www.coal.gov.uk

Ordnance Survey
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SO16 0AS
Tel: 08456 050505

Local Authority
Authority: North East Derbyshire District Council
Phone: 01246 231111
Web: http://www.ne-derbyshire.gov.uk/
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Gemapping PLC
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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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https://www.groundsure.com/terms-and-conditions-feb11-2019

BWB Consulting Limited

5th Floor, Waterfront House, Station Street,
Nottingham, NG2 3DQ

Groundsure Reference:	HMD-214-6027981
Your Reference:	NTE2529_-_POR025802
Report Date	14 May 2019
Report Delivery Method:	Email - pdf

Geo Insight

Address: LAND OFF CHESTERFEIDL ROAD, DUCKMANTON, S44 5HU

Dear Sir/ Madam,

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

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

Yours faithfully,

[redacted]

Managing Director
Groundsure Limited

Enc.
Groundsure Geo Insight

Geo Insight

Address:	**LAND OFF CHESTERFEIDL ROAD, DUCKMANTON, S44 5HU**
Date:	**14 May 2019**
Reference:	**HMD-214-6027981**
Client:	**BWB Consulting Limited**

NW N NE

W E



SW S SE

Aerial Photograph Capture date:	08-Apr-2017
Grid Reference:	444946,370798
Site Size:	39.9952ha

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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?	Yes
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?	Yes
	2.1.2 Are there any records relating to permeability of artificial ground within the study site*boundary?	Yes
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	6	12	32	Not Searched	Not Searched
4.2 Historical Underground Workings from Small Scale Mapping	0	1	2	2	10
4.3 Current Ground Workings	1	0	0	0	12

Section 5: Mining, Extraction & Natural Cavities	On-site	0-50m	51-250	251-500	501-1000
5.1 Historical Mining	0	1	2	2	10
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*	2	0	0	2	0
5.5 Non–Coal Mining Cavities	0	0	0	0	0
5.5 Natural Cavities	0	0	0	0	0

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

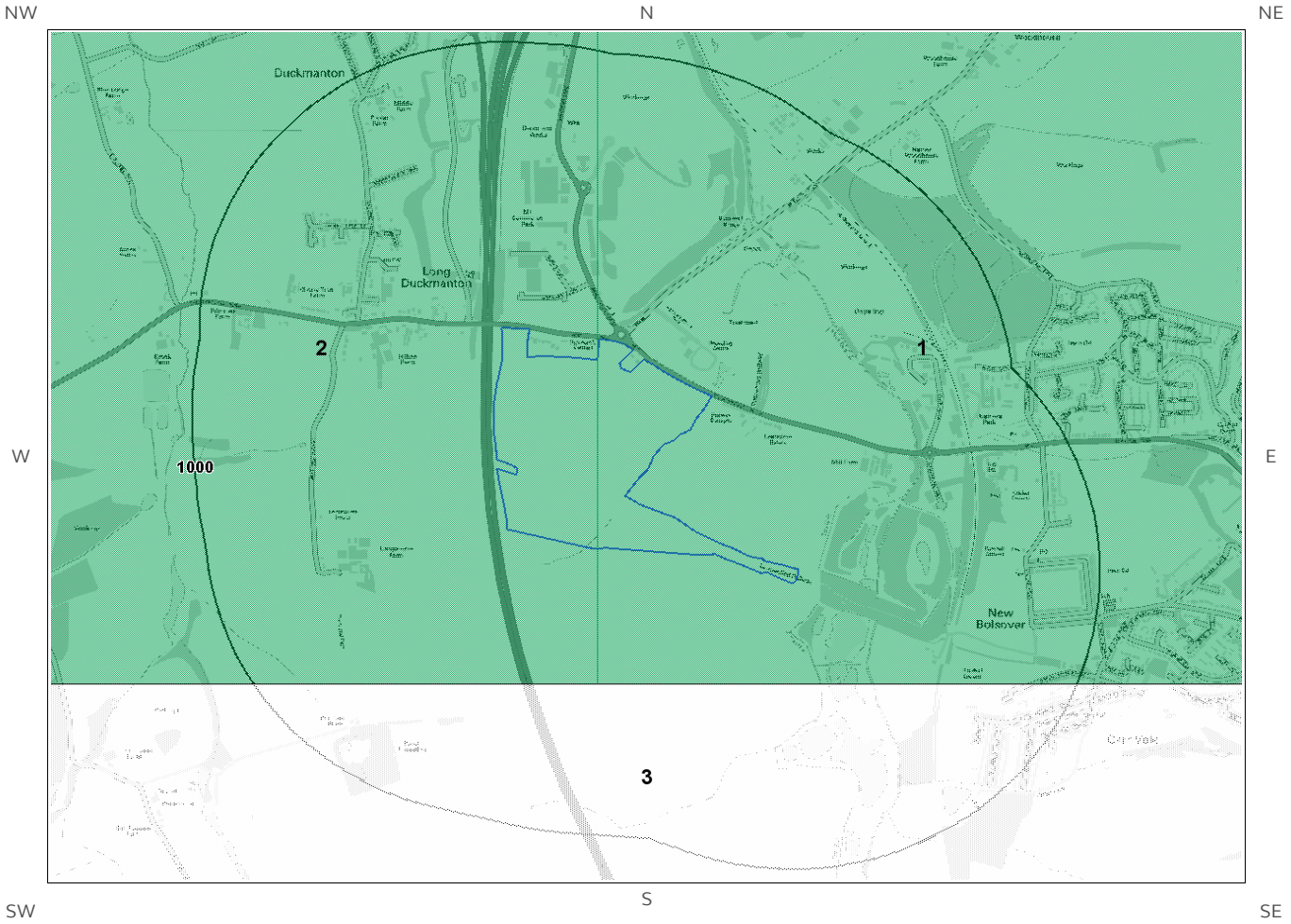
Section 6: Natural Ground Subsidence	On-site
6.1 Shrink-Swell Clay	Very Low
6.2 Landslides	Low
6.3 Ground Dissolution of Soluble Rocks	Negligible
6.4 Compressible Deposits	Very Low
6.5 Collapsible Deposits	Very Low
6.5 Running Sand	Very Low

Section 7: Borehole Records	On-site	0-50m	51-250
7 BGS Recorded Boreholes	1	11	14

Section 8: Estimated Background Soil Chemistry	On-site	0-50m	51-250
8 Records of Background Soil Chemistry	26	5	0

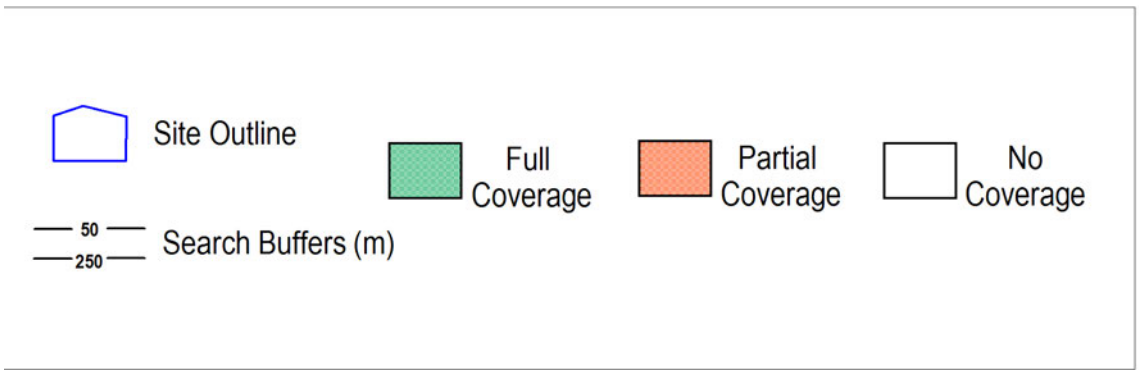
Section 9: Railways and Tunnels	On-site	0-50m	51-250	250-500
9.1 Tunnels	0	0	0	Not Searched
9.2 Historical Railway and Tunnel Features	11	6	5	Not Searched
9.3 Historical Railways	6	2	2	Not Searched
9.4 Active Railways	0	0	0	Not Searched
9.5 Railway Projects	2	1	3	9

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	0.0	Some deposits are mapped	Full	Full	No coverage
3	352.0	No deposits are mapped	No coverage	No coverage	No coverage

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

The definitions of coverage are as follows:

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

1 Geology (1:10,000 scale).

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



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Artificial Ground Legend

Site Outline

500
1000
Search Buffers (m)

Made Ground (undivided)

Worked Ground (undivided)

Infilled Ground

Disturbed Ground (undivided)

Landscaped Ground (undivided)

Reclaimed Ground

1. Geology 1:10,000 scale

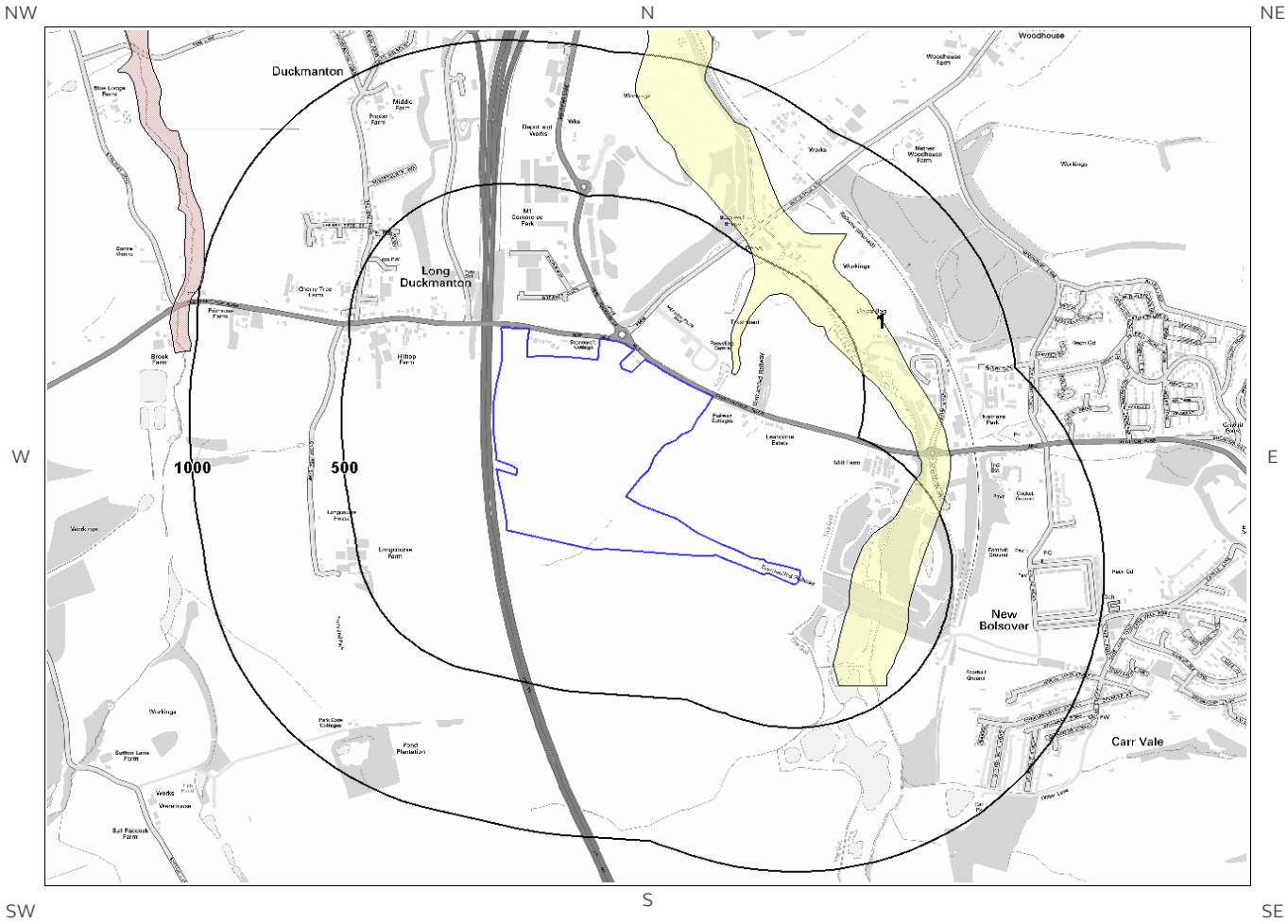
1.1 Artificial Ground

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

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

ID	Distance	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	0.0	On Site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	0.0	On Site	WGR-VOID	Worked Ground (Undivided)	Void
4	0.0	On Site	WGR-VOID	Worked Ground (Undivided)	Void
5	5.0	NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6	77.0	W	WMGR-ARTDP	Infilled Ground	Artificial Deposit
7	90.0	N	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8	105.0	SE	LSGR-UKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry

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



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	101.0	NE	ALV-XVSZC	Alluvium - Gravel, Sand, Silt And Clay	Gravel, Sand, Silt And Clay

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

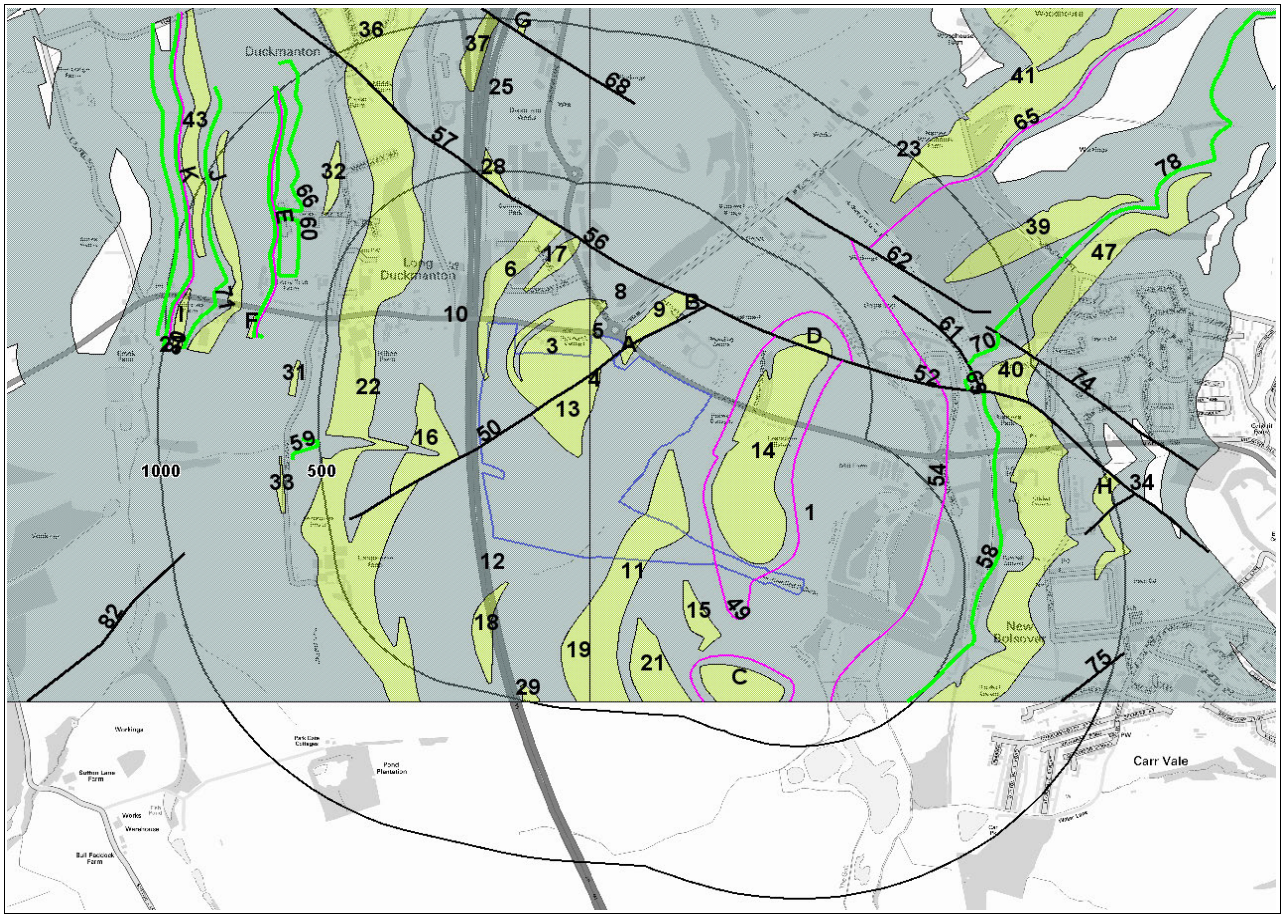
This Geology shows the main components as discrete layers, these are: Artificial / Made Ground, Superficial / Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

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	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
2	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
3	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
4	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
5	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
6	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
7A	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
8	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
9	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
10	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
11	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
12	0.0	On Site	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
13	0.0	On Site	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
14	7.0	NE	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
15	55.0	S	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
16	71.0	W	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
17	110.0	N	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
18	132.0	S	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
19	146.0	S	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
20B	150.0	NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age

ID	Distance (m)	Direction	LEX Code	Description	Rock Age
21	188.0	S	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
22	201.0	W	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
23	219.0	NE	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
24C	282.0	S	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
25	293.0	N	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
26D	301.0	NE	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
27	325.0	W	PMCM-MDSS	Pennine Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
28	414.0	N	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian Sub-age
29	448.0	S	PMCM-SDST	Pennine Middle Coal Measures Formation - Sandstone	Bolsovian Sub-age - Duckmantian 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

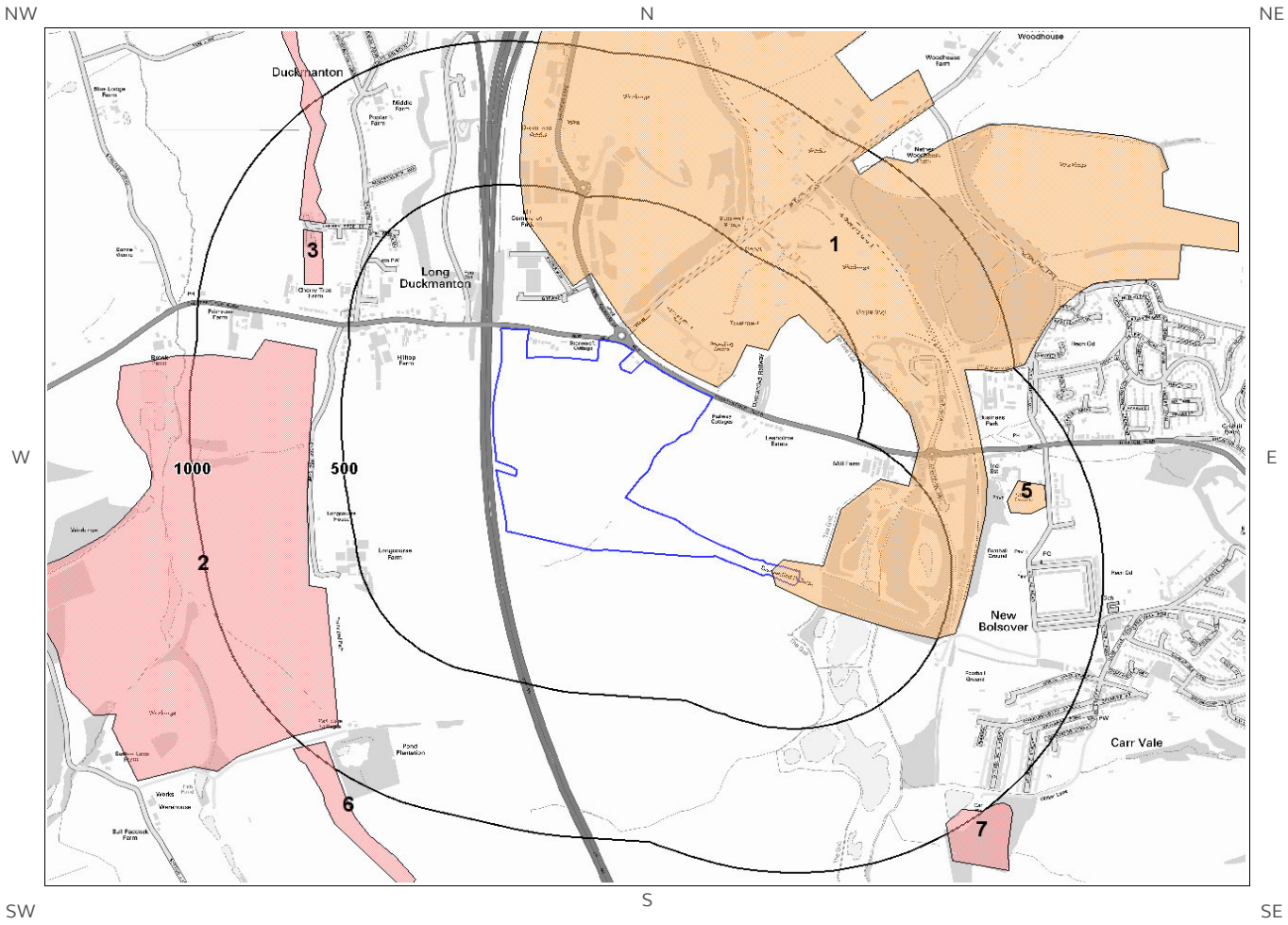
ID	Distance (m)	Direction	Category Description	Feature Description
48A	0.0	On Site	FAULT	Normal fault, inferred
49	0.0	On Site	FOSSIL_HORIZON	Fossil horizon, marine band
50	0.0	On Site	FAULT	Normal fault, inferred
51B	150.0	NE	FAULT	Normal fault, inferred
52	219.0	NE	FAULT	Normal fault, inferred
53C	251.0	S	FOSSIL_HORIZON	Fossil horizon, marine band
54	270.0	SE	FOSSIL_HORIZON	Fossil horizon, marine band
55D	273.0	NE	FOSSIL_HORIZON	Fossil horizon, marine band
56	293.0	N	FAULT	Normal fault, inferred
57	294.0	N	FAULT	Normal fault, inferred
58	486.0	SE	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



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Site Outline

500
1000
Search Buffers (m)

Made Ground (undivided)

Disturbed Ground (undivided)

Worked Ground (undivided)

Landscaped Ground (undivided)

Infilled Ground

Reclaimed Ground

2. Geology 1:50,000 scale

2.1 Artificial Ground

The following geological information represented on the mapping is derived from 1:50,000 scale BGS Geological mapping, Sheet No: 112

2.1.1 Artificial/ Made Ground

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

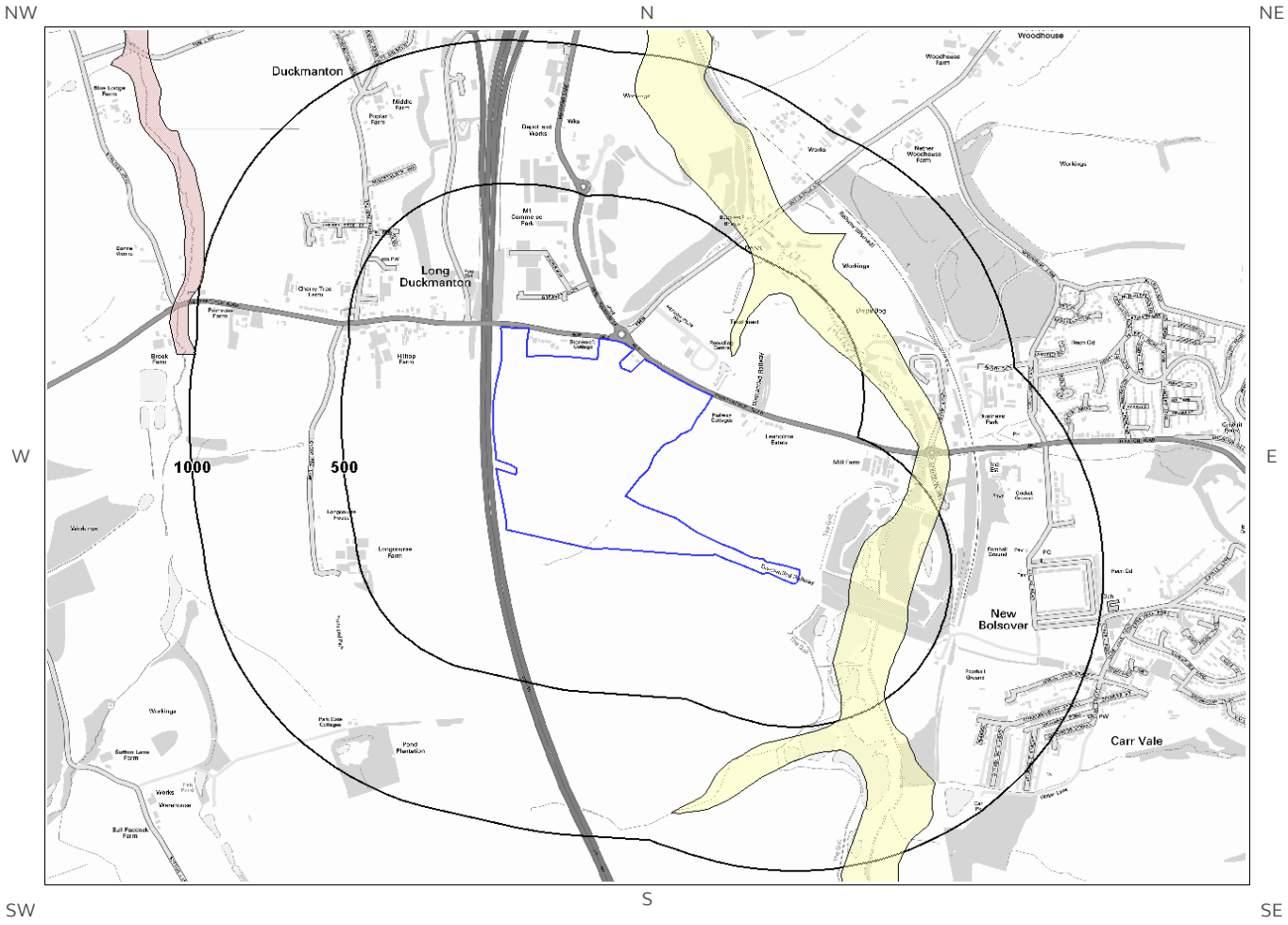
ID	Distance (m)	Direction	LEX Code	Description	Rock Description
1	0.0	On Site	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

2.1.2 Permeability of Artificial Ground

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

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

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



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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	152.0	NE	ALV-XVSZC	ALLUVIUM	GRAVEL, SAND, SILT AND CLAY

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.

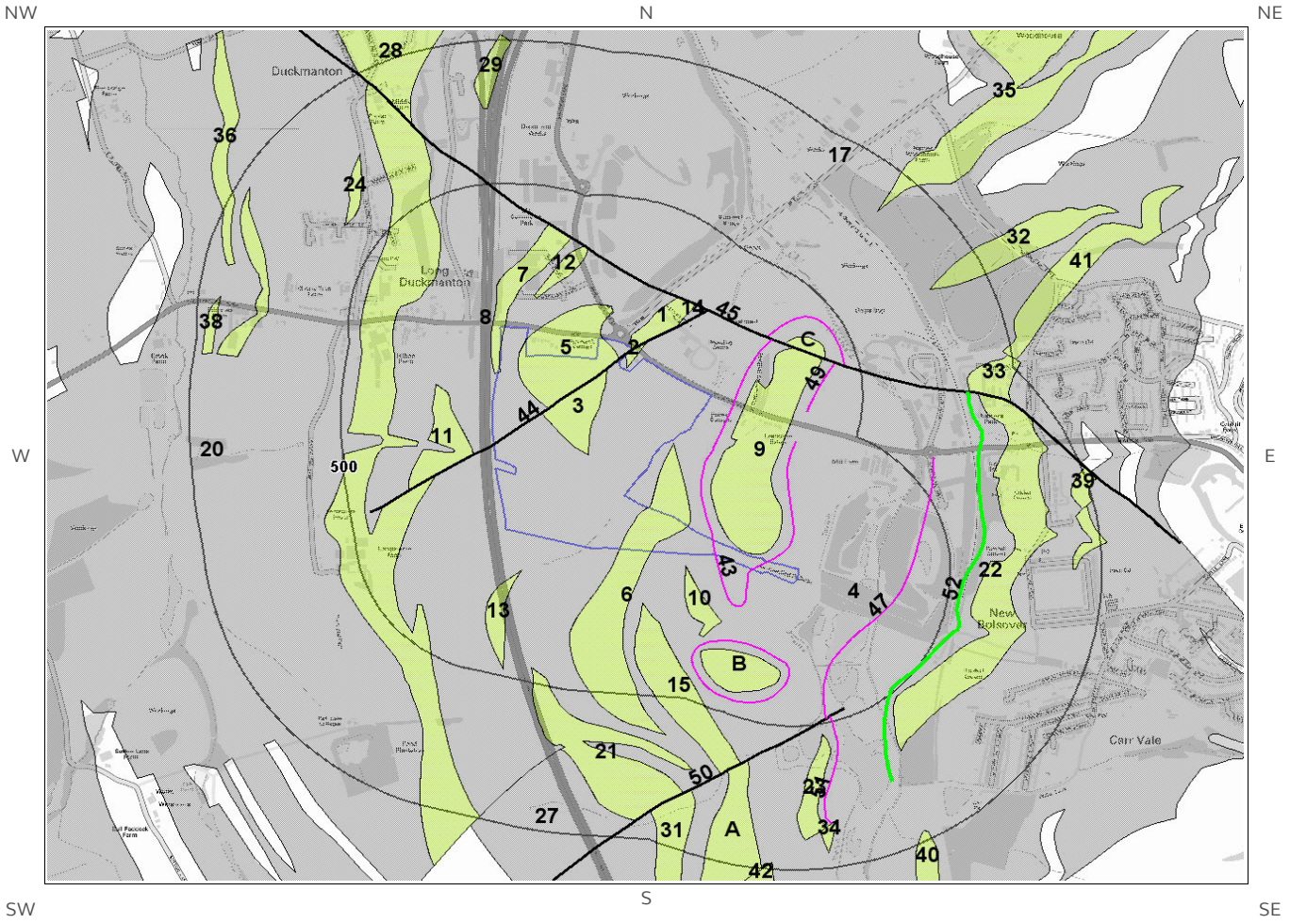
This Geology shows the main components as discrete layers, there are: Artificial/ Made Ground, Superficial/ Drift Geology and Landslips. These are all displayed with the BGS Lexicon code for the rock unit and BGS sheet number. Not all of the main geological components have nationwide coverage.

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: 112

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	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
2	0.0	On Site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
3	0.0	On Site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
4	0.0	On Site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
5	0.0	On Site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
6	0.0	On Site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
7	0.0	On Site	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
8	0.0	On Site	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
9	7.0	NE	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
10	39.0	S	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
11	71.0	W	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
12	110.0	N	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
13	126.0	S	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
14	150.0	NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
15	180.0	S	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
16	200.0	W	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
17	219.0	NE	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
18B	282.0	S	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
19C	301.0	NE	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - SANDSTONE	WESTPHALIAN
20	361.0	W	PMCM-MDSS	PENNINE MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Distance	Direction	LEX Code	Rock Description	Rock Age
21	450.0	S	PMCM-SDST	PENNINE MIDDLE COAL MEASURES FORMATION - 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	Moderate	Low
0.0	On Site	Fracture	High	Moderate
0.0	On Site	Fracture	High	Moderate
0.0	On Site	Fracture	High	Moderate
0.0	On Site	Fracture	High	Moderate
0.0	On Site	Fracture	High	Moderate
0.0	On Site	Fracture	Moderate	Low
7.0	NE	Fracture	High	Moderate
39.0	S	Fracture	High	Moderate

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
43	0.0	On Site	FOSSIL_HORIZON	Marine band
44	0.0	On Site	FAULT	Fault, inferred
45	219.0	NE	FAULT	Fault, inferred
46B	251.0	S	FOSSIL_HORIZON	Marine band
47	270.0	SE	FOSSIL_HORIZON	Marine band
48C	272.0	NE	FOSSIL_HORIZON	Marine band
49	321.0	E	FOSSIL_HORIZON	Marine band
50	468.0	S	FAULT	Fault, inferred
51	480.0	S	FOSSIL_HORIZON	Marine band
52	486.0	SE	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.

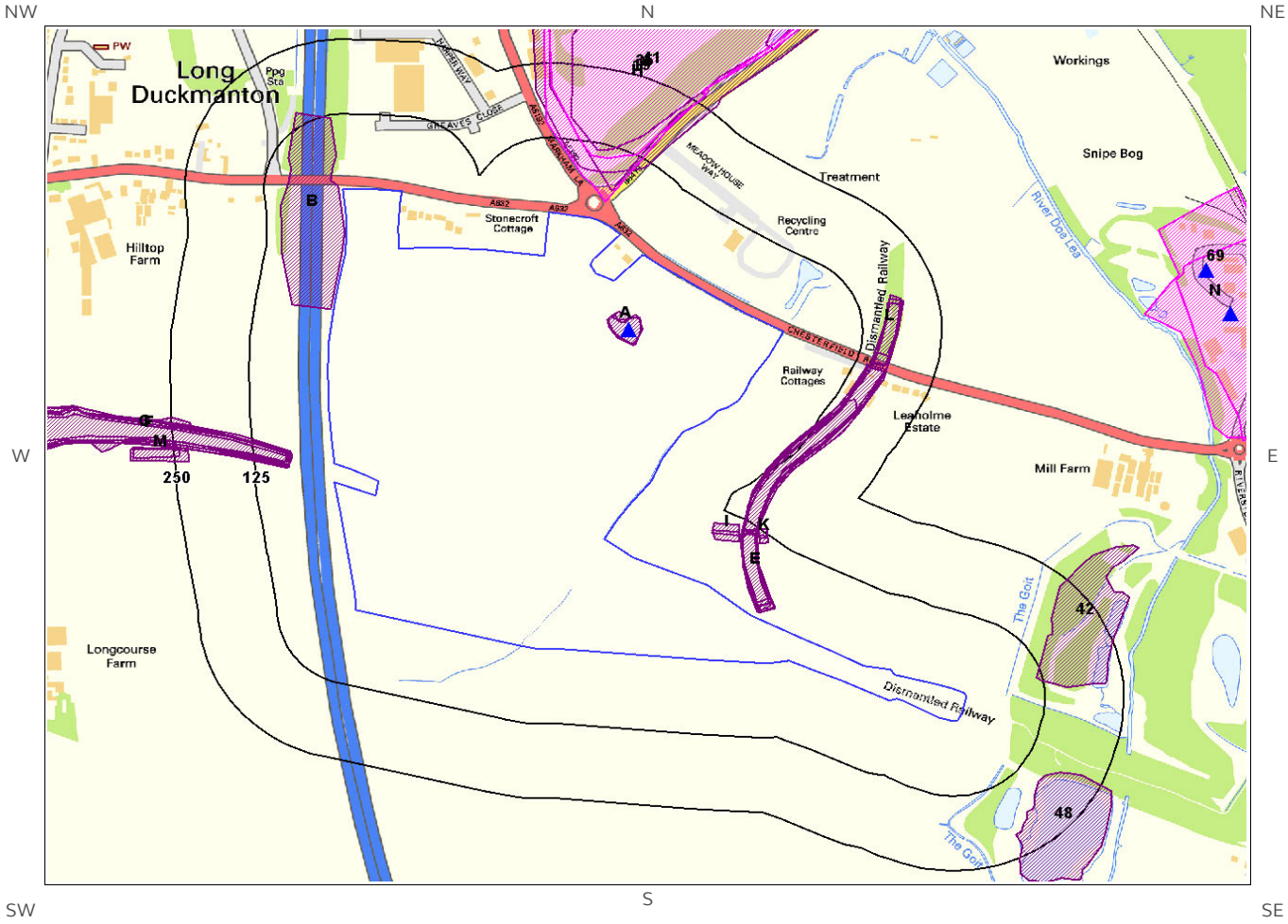
The radon data in this report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland,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

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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
1A	0.0	On Site	445126 371010	Unspecified Ground Workings	1921
2A	0.0	On Site	445126 371010	Unspecified Quarry	1876
3A	0.0	On Site	445126 371010	Unspecified Quarry	1897
4A	0.0	On Site	445126 371010	Unspecified Quarry	1938
5A	0.0	On Site	445127 371007	Unspecified Quarry	1914
6A	0.0	On Site	445125 371005	Unspecified Quarry	1921
7B	2.0	W	444632 371206	Cuttings	1973
8B	2.0	W	444632 371206	Cuttings	1982
9B	2.0	W	444632 371206	Cuttings	1990
10C	10.0	NE	445399 370797	Cuttings	1921
11C	10.0	NE	445399 370794	Cuttings	1921
12E	12.0	NE	445337 370600	Cuttings	1914
13D	18.0	NE	445348 370747	Cuttings	1967
14D	18.0	NE	445348 370747	Cuttings	1950
15E	20.0	NE	445334 370607	Cuttings	1897
16E	20.0	NE	445334 370607	Cuttings	1938
17D	22.0	NE	445337 370720	Cuttings	1973
18H	33.0	NE	445259 371781	Colliery	1950
19	54.0	NE	445212 371593	Refuse Heap	1967
20F	64.0	W	444332 370827	Cuttings	1914
21F	65.0	W	444289 370822	Cuttings	1921

ID	Distance (m)	Direction	NGR	Use	Date
22F	66.0	W	444290 370828	Cuttings	1921
23F	67.0	W	444331 370833	Cuttings	1950
24G	67.0	W	444290 370828	Cuttings	1938
25G	67.0	W	444290 370828	Cuttings	1897
26F	70.0	W	444267 370831	Refuse Heap	1990
27F	70.0	W	444267 370831	Refuse Heap	1982
28G	70.0	W	444267 370831	Cuttings	1967
29G	70.0	W	444267 370831	Cuttings	1973
30I	76.0	N	445286 370663	Unspecified Heap	1921
31H	78.0	N	445257 372024	Unspecified Workings	1993
32I	85.0	N	445286 370673	Unspecified Heap	1950
33J	103.0	N	445257 372024	Colliery	1993
34J	103.0	N	445257 372024	Colliery	1973
35	103.0	N	445119 371831	Refuse Heap	1973
36K	106.0	NE	445346 370658	Unspecified Heap	1921
37C	109.0	NE	445406 370807	Cuttings	1914
38C	109.0	NE	445406 370809	Cuttings	1897
39C	109.0	NE	445406 370809	Cuttings	1938
40K	113.0	NE	445345 370667	Unspecified Heap	1950
41	114.0	N	445191 371655	Refuse Heaps	1950
42	116.0	E	445858 370528	Settling Lagoons	1993
43L	148.0	E	445541 371007	Cuttings	1993
44L	148.0	E	445541 371007	Cuttings	1973
45L	148.0	E	445540 371007	Cuttings	1950
46L	152.0	E	445541 371002	Cuttings	1938
47L	152.0	E	445541 371002	Cuttings	1897
48	164.0	SE	445822 370141	Pond	1993
49M	228.0	W	444389 370797	Unspecified Heap	1967
50M	241.0	W	444384 370801	Unspecified Heap	1973

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
51H	33.0	NE	445259 371781	Colliery	1950
52J	103.0	N	445257 372024	Colliery	1973
53J	103.0	N	445257 372024	Colliery	1993
Not shown	323.0	NE	445006 371863	Colliery	1938
Not shown	326.0	NE	444932 371901	Colliery	1950
Not shown	508.0	N	444899 372141	Colliery	1982
Not shown	508.0	N	444858 372141	Unspecified Mine	1967
Not shown	508.0	N	444899 372141	Colliery	1973
Not shown	508.0	N	444899 372141	Colliery	1990
60N	571.0	E	446086 371036	Unspecified Mine	1973
61N	571.0	E	446086 371036	Colliery	1993
Not shown	600.0	N	444920 371933	Colliery	1921
63N	611.0	NE	446103 371081	Colliery	1897
Not shown	835.0	SE	446231 369420	Disused Colliery	1950
Not shown	966.0	N	445088 372266	Colliery	1938

4.3 Current Ground Workings

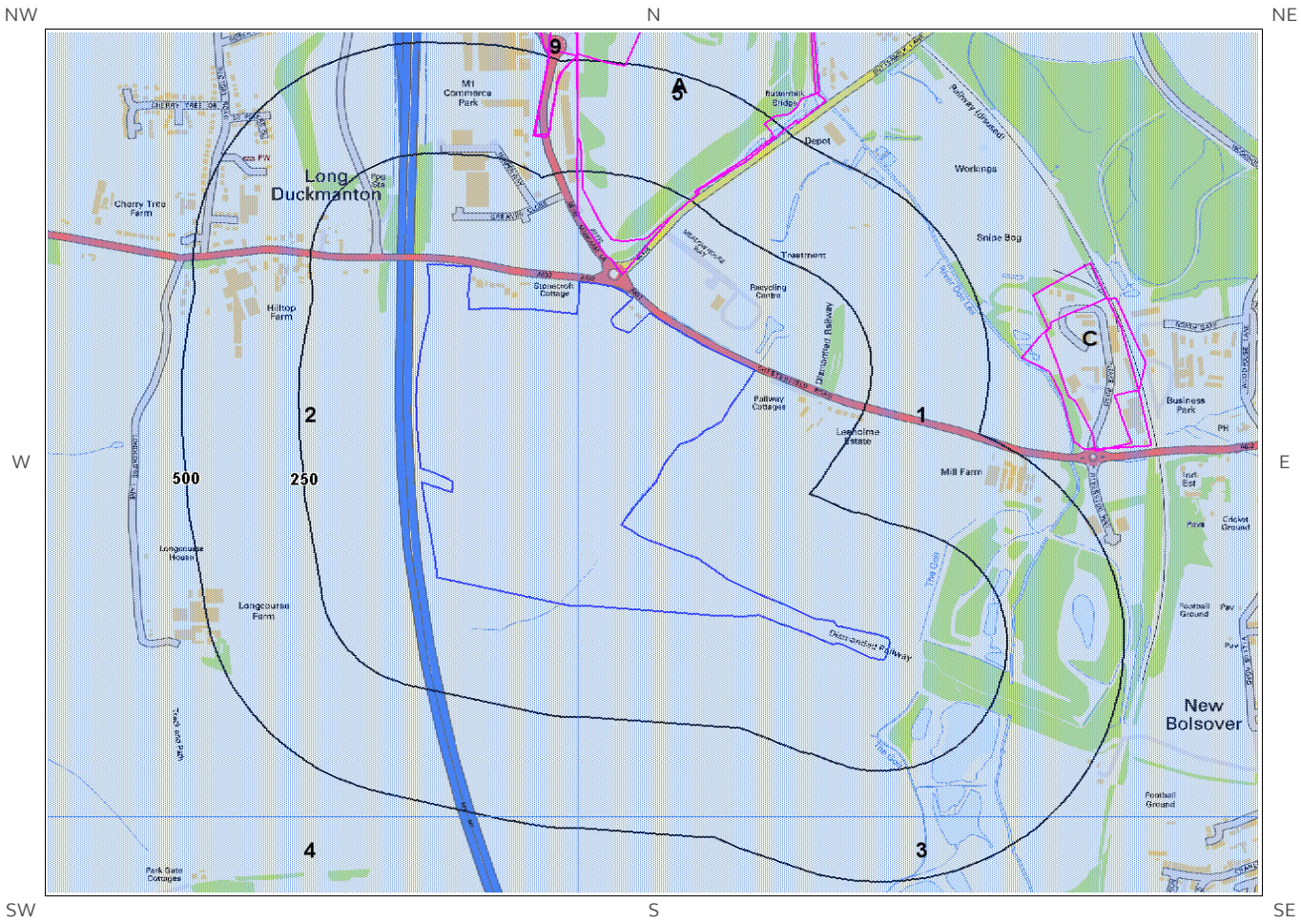
This dataset is derived from the BGS BRITPITS database covering active; inactive mines; quarries; oil wells; gas wells and mineral wharves; and rail deposits throughout the British Isles.

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
66A	0.0	On Site	445131 371007	Sandstone	Railway Cottages	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	661.0	E	446300 370580	Clay & Shale	Bolsover Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	667.0	E	446330 370460	Clay & Shale	Bolsover Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
69	676.0	E	446046 371107	Coal, Deep	Bolsover Colliery, No. 3 Shaft	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	679.0	N	444928 371901	Coal, Deep	Markham Colliery No. 2	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	686.0	N	444895 371915	Abandoned Mine Methane	Markham Colliery Methane Plant	Wellsite, or other surface plant, extracting liquid or gas. Working may be for brine, oil or natural gas	Ceased
Not shown	705.0	N	444909 371931	Coal, Deep	Markham Colliery No. 3	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
73N	708.0	E	446085 371034	Coal, Deep	Bolsover Colliery, No. 2 Shaft	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	743.0	E	446119 371057	Coal, Deep	Bolsover Colliery, No 1 Shaft	Working is wholly underground, access by shaft, adit or drift. Working may be termed Colliery, Mine, Drift Mine, Slant, Level, Adit or Ingoing Eye (Ingaun Ee - Scots)	Ceased
Not shown	745.0	NE	446344 370705	Sand & Gravel	Sutton Mill Gravel Pit	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	874.0	NE	446256 371042	Sandstone	Over Woodhouse Quarry	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	992.0	SE	446225 369544	Clay & Shale	New Byron Brick Works	A surface mineral working. It may be termed Quarry, Sand Pit, Clay Pit or Opencast Coal Site	Ceased
Not shown	997.0	SE	446287 369584	Clay & Shale	New Byron Brick Works	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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Site Outline

Search Buffers (m) — 250 — 500

Historical Mining

Non-Coal Mining Cavities

Natural Cavities (point data)

Natural Cavities (polygon data)

Non-Coal Mining

Highly likely

Likely

Unlikely

Highly unlikely

Rare

5 Mining, Extraction & Natural Cavities

5.1 Historical Mining

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

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

The following Historical Mining information is provided by Groundsure:

ID	Distance (m)	Direction	NGR	Details	Date
5	33.0	NE	445259 371781	Colliery	1950
6A	103.0	N	445257 372024	Colliery	1973
7A	103.0	N	445257 372024	Colliery	1993
8	323.0	NE	445006 371863	Colliery	1938
9	326.0	NE	444932 371901	Colliery	1950
10B	508.0	N	444899 372141	Colliery	1990
11B	508.0	N	444899 372141	Colliery	1973
12B	508.0	N	444899 372141	Colliery	1982
13B	508.0	N	444858 372141	Unspecified Mine	1967
14C	571.0	E	446086 371036	Unspecified Mine	1973
15C	571.0	E	446086 371036	Colliery	1993
Not shown	600.0	N	444920 371933	Colliery	1921
17C	611.0	NE	446103 371081	Colliery	1897
Not shown	835.0	SE	446231 369420	Disused Colliery	1950
Not shown	966.0	N	445088 372266	Colliery	1938

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? Yes

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

ID	Distance (m)	Direction	Name	Commodity	Assessment of likelihood
1	0.0	On Site	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
2	0.0	On Site	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
3	352.0	S	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered
4	473.0	S	Not available	Iron Ore (Bedded)	Localised small scale underground mining may have occurred. Potential for difficult ground conditions are unlikely or localised and are at a level where they need not be considered

5.5 Non-Coal Mining Cavities

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

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

Database searched and no data found.

5.6 Natural Cavities

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

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

Database searched and no data found.

5.7 Brine Extraction

This data provides information from the Cheshire Brine Subsidence Compensation Board.

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

Database searched and no data found.

5.8 Gypsum Extraction

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

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

Database searched and no data found.

5.9 Tin Mining

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

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

Database searched and no data found.

5.10 Clay Mining

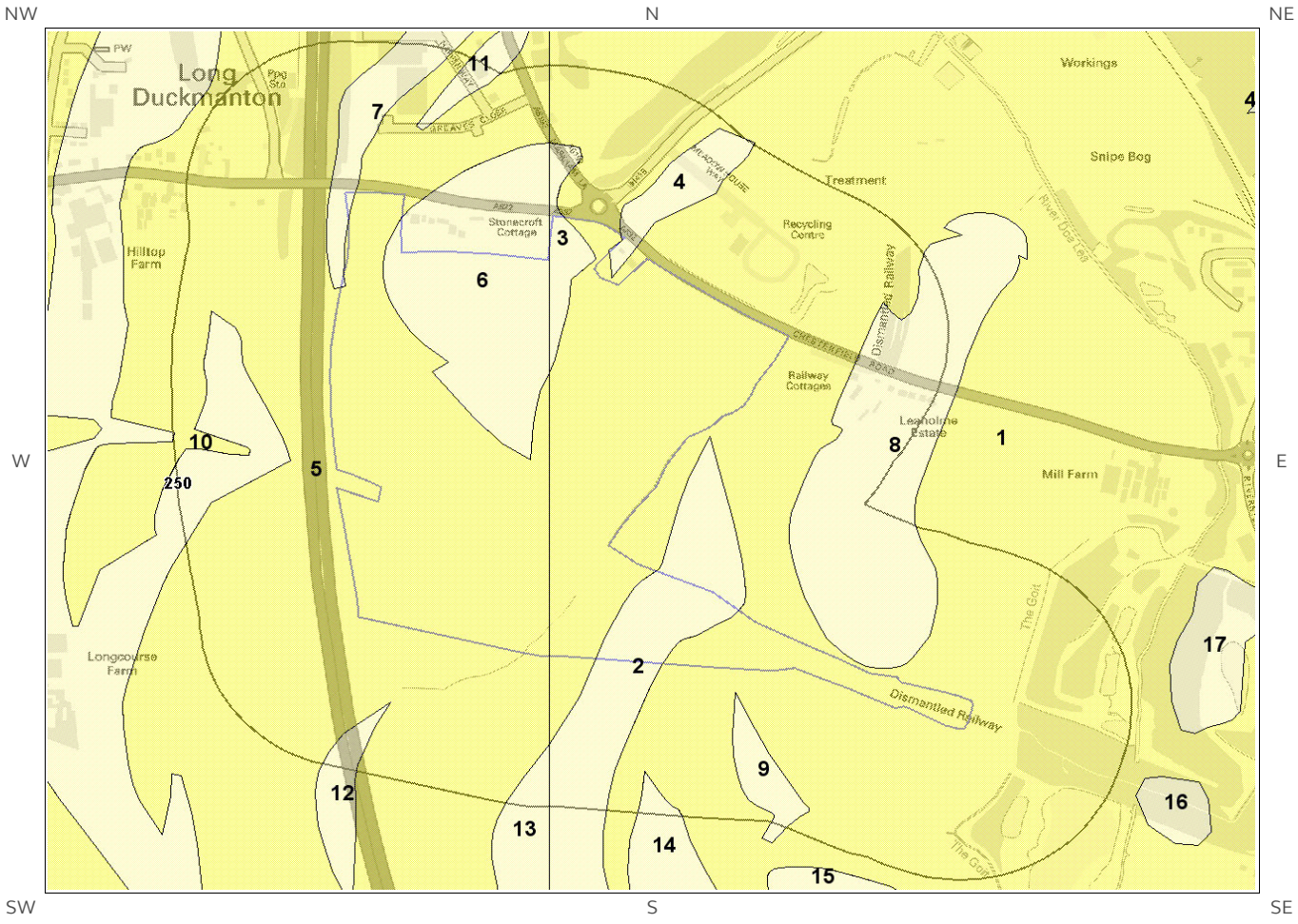
This dataset provides information on Kaolin and Ball Clay mining from relevant mining records.

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

Database searched and no data found.

6 Natural Ground Subsidence

6.1 Shrink-Swell Clay map

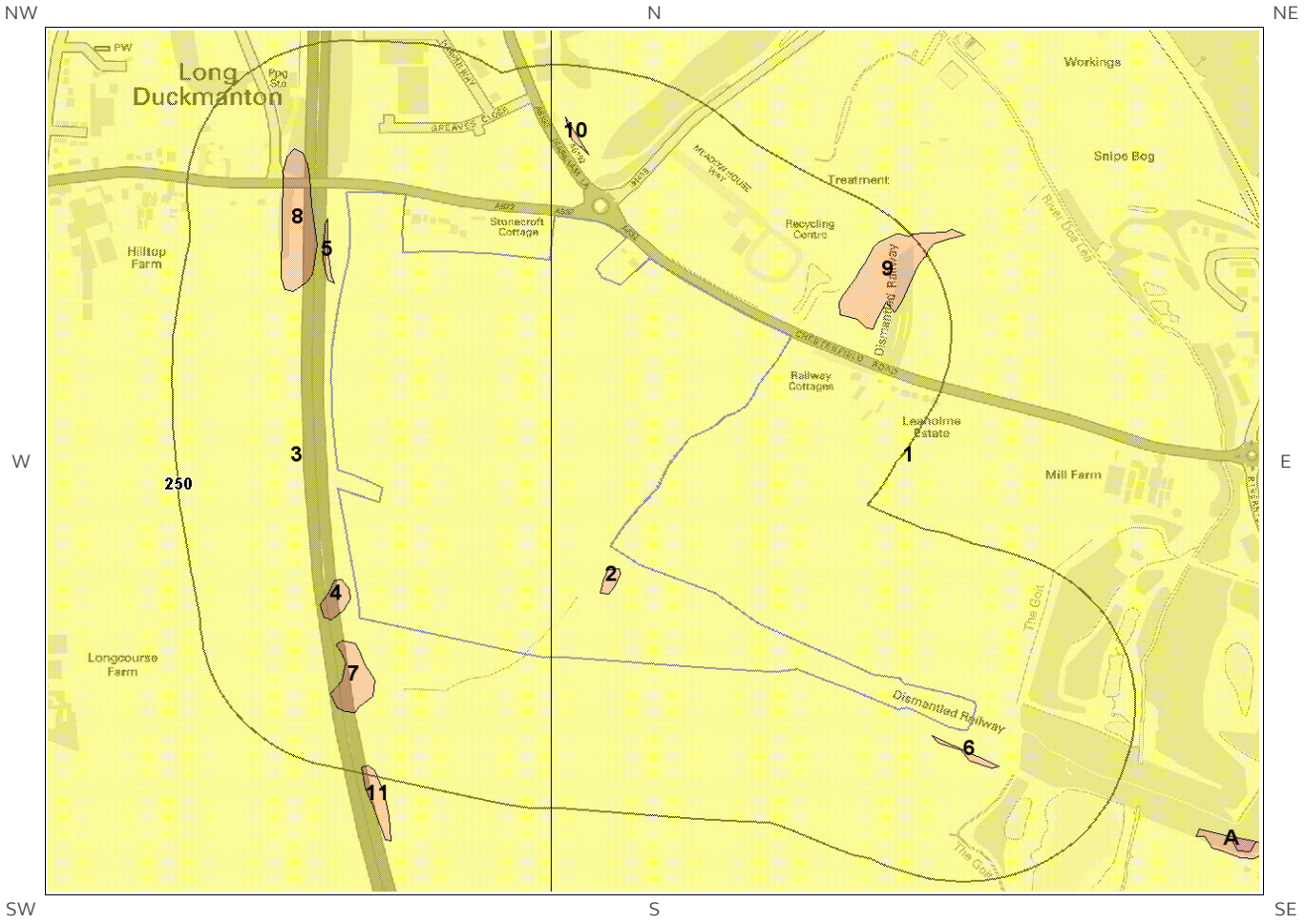


Shrink Swell Clay Legend

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6.2 Landslides map

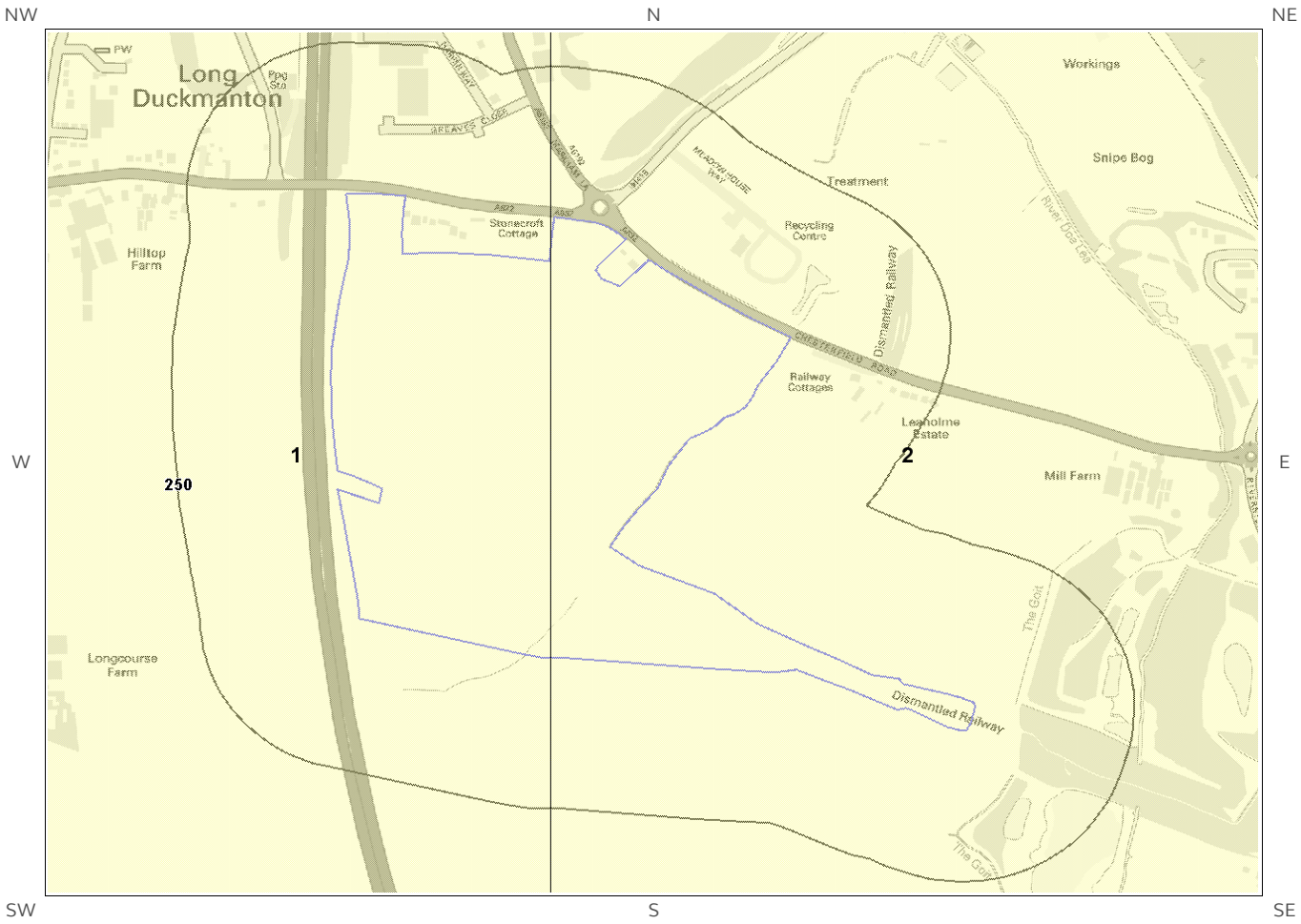


Landslides Legend

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6.3 Ground Dissolution of Soluble Rocks map

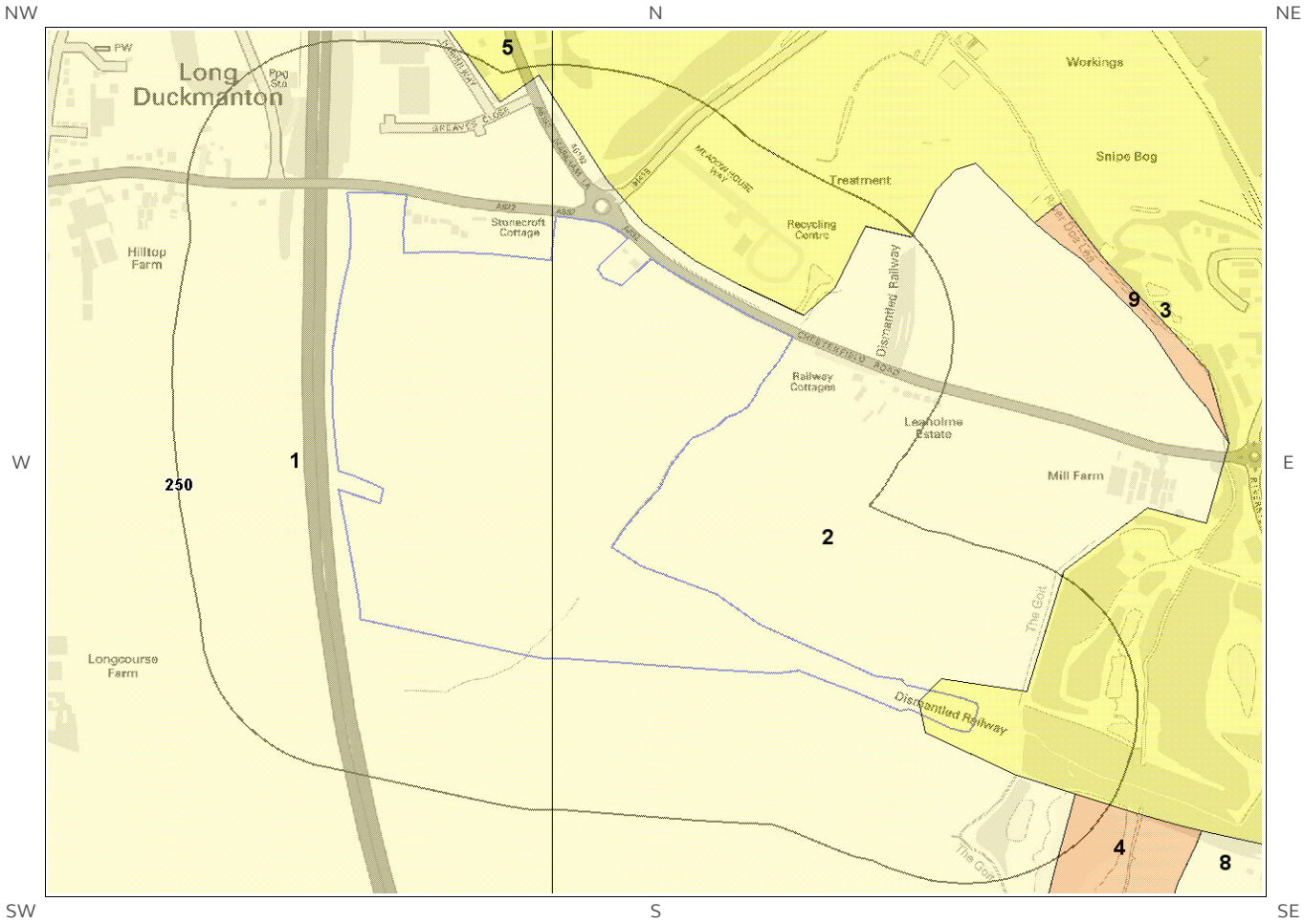


Ground Dissolution Soluble Rocks Legend

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6.4 Compressible Deposits map

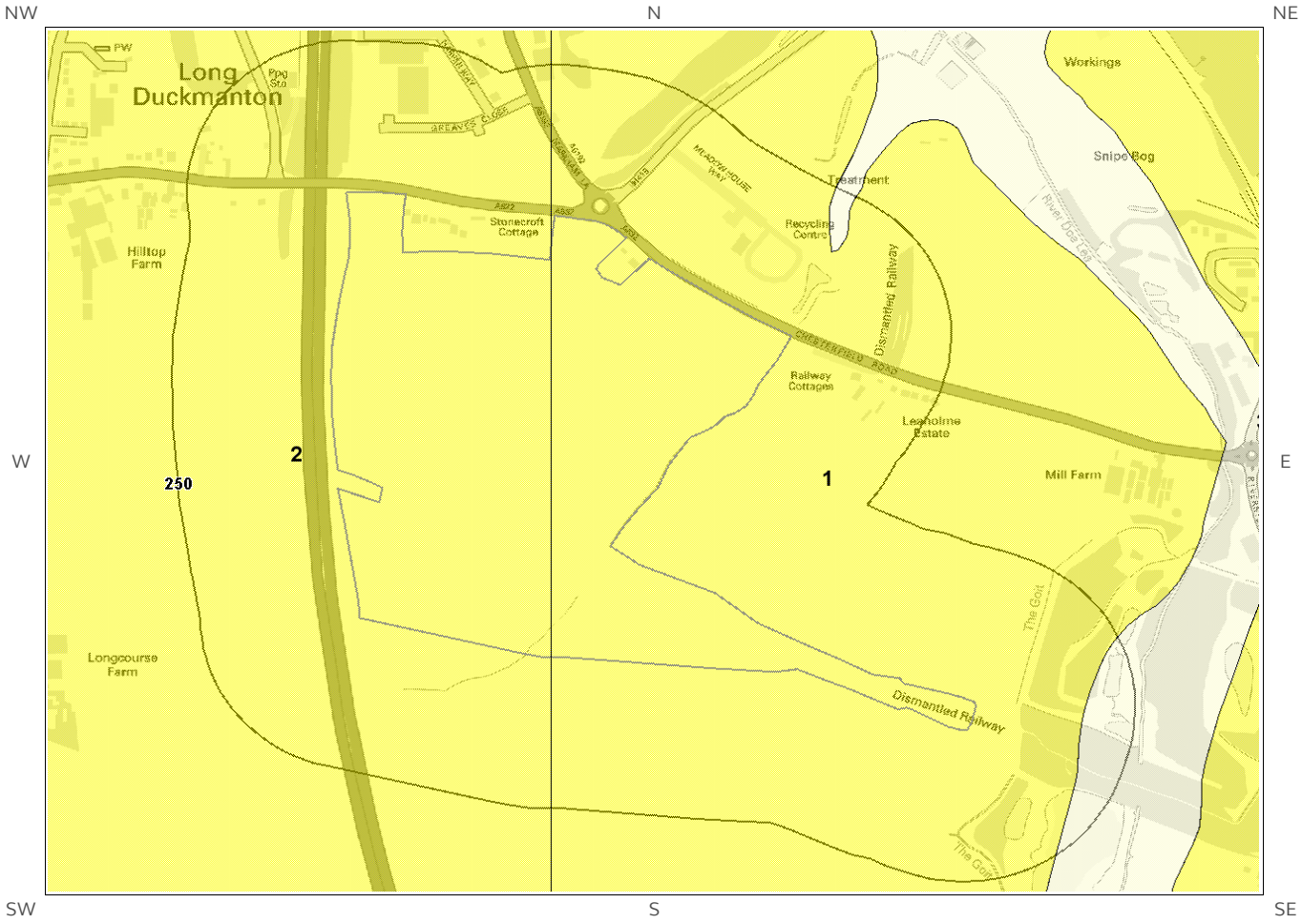


Compressible Deposits Legend

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6.5 Collapsible Deposits map

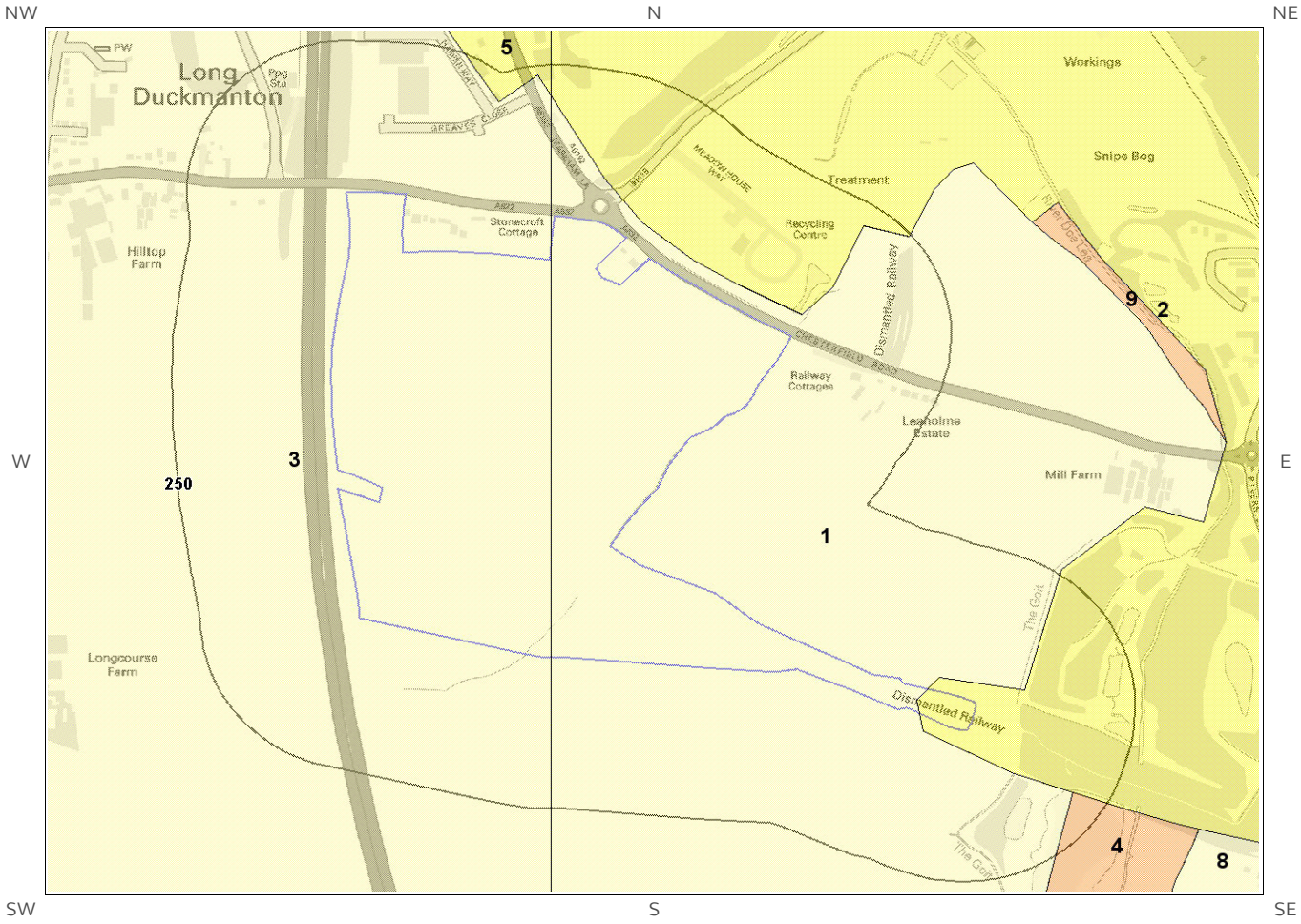


Collapsible Deposits Legend

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6.6 Running Sand map



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Running Sand Legend



6 Natural Ground Subsidence

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

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

What is the maximum hazard rating of natural subsidence within the study site*[*] boundary? 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	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
3	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
4	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
5	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.

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

ID	Distance (m)	Direction	Hazard Rating	Details
6	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
7	0.0	On Site	Negligible	Ground conditions predominantly non-plastic. No special actions required to avoid problems due to shrink-swell clays. No special ground investigation required, and increased construction costs or increased financial risks are unlikely likely due to potential problems with shrink-swell clays.
8	7.0	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.
9	39.0	S	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	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.
2	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.
3	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.

ID	Distance (m)	Direction	Hazard Rating	Details
4	11.0	W	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.
5	15.0	W	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.
6	25.0	SW	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.
7	42.0	S	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.

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.
2	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.
2	0.0	On Site	Negligible	No indicators for compressible deposits identified. No special actions required to avoid problems due to compressible deposits. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with compressible deposits.
3	0.0	On Site	Very Low	Very low potential for compressible deposits to be present. 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:

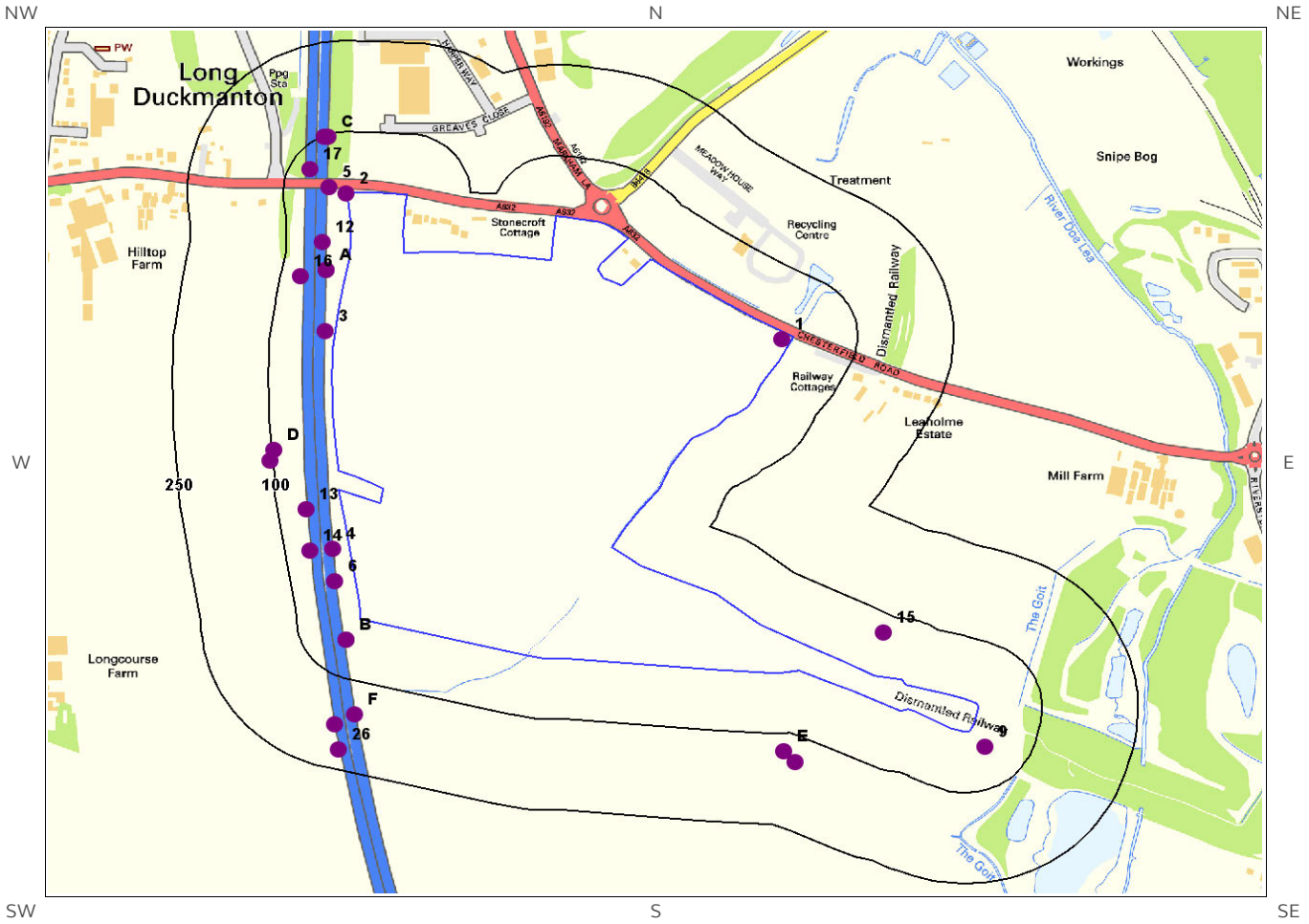
ID	Distance (m)	Direction	Hazard Rating	Details
1	0.0	On Site	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present. No special ground investigation required or increased construction costs or increased financial risk due to potential problems with collapsible deposits.
2	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.
2	0.0	On Site	Very Low	Very low potential for running sand problems if water table rises or if sandy strata are exposed to water. 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.
3	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: 26

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
1	0.0	On Site	445359 370999	SK47SE53	11	BOLSOVER COLLIERY TUPTON 3/4 DRIFT D 90'S INTAKE
2	3.0	W	444677 371240	SK47SW342	21	M1 WIDENING JUNCTION 21-30 PRELIMINARY GI CONTRACT 2 RC1237
3	17.0	W	444644 371013	SK47SW336	2	A6182/M1 JUNCTION 29A PHASE 2 MARKHAM EMPLOYMENT GOWTH ZONE
4	26.0	W	444657 370653	SK47SW354	3	NOTTINGHAMSHIRE/DERBYSHIRE COA NMCS2 UPGRADE D104B
5	31.0	W	444650 371250	SK47SW141	19	LONDON-YKS M'WAY BH627
6	32.0	W	444660 370600	SK47SW139	8	LONDON-YKS M'WAY BH625
7A	33.0	W	444646 371114	SK47SW357	2	NOTTINGHAMSHIRE/DERBYSHIRE COA NMCS2 UPGRADE D105B1
8A	33.0	W	444646 371114	SK47SW356	1	NOTTINGHAMSHIRE/DERBYSHIRE COA NMCS2 UPGRADE D105B
9	35.0	SE	445676 370327	SK47SE63	9	BOLSOVER D92'S SUPPLY GATE DRIFT
10B	43.0	SW	444677 370503	SK47SW341	22	M1 WIDENING JUNCTION 21-30 PRELIMINARY GI CONTRACT 2 RC1235
11B	43.0	SW	444677 370503	SK47SW337	12	M1 WIDENING JUNCTION 21-30 PRELIMINARY GI CONTRACT 2 CP1235
12	45.0	W	444640 371160	SK47SW140	12	LONDON-YKS M'WAY BH626
13	56.0	W	444615 370719	SK47SW334	3	A6182/M1 JUNCTION 29A PHASE 2 MARKHAM EMPLOYMENT GOWTH ZONE
14	63.0	W	444620 370650	SK47SW353	2	NOTTINGHAMSHIRE/DERBYSHIRE COA NMCS2 UPGRADE D104A
15	69.0	NE	445518 370516	SK47SE62	Not available	BOLSOVER D92'S LOADO-GATE DRIFT
16	69.0	W	444606 371103	SK47SW355	2	NOTTINGHAMSHIRE/DERBYSHIRE COA NMCS2 UPGRADE D105A
17	70.0	NW	444620 371280	SK47SW142	15	LONDON TO YORKSHIRE MOTORWAY 628

ID	Distance (m)	Direction	NGR	BGS Reference	Drilled Length	Borehole Name
18C	95.0	N	444649 371333	SK47SW350	12	NOTTINGHAMSHIRE/DERBYSHIRE COA NMCS2 UPGRADE M40
19D	97.0	W	444565 370817	SK47SW338	4	M1 WIDENING JUNCTION 21-30 PRELIMINARY GI CONTRACT 2 CP1236
20C	97.0	N	444643 371333	SK47SW23	63	BOLSOVER COLLIERY NO.15 NGBH
21D	104.0	W	444559 370799	SK47SW339	5	M1 WIDENING JUNCTION 21-30 PRELIMINARY GI CONTRACT 2 CP1236A
22E	130.0	S	445362 370320	SK47SE18	126	BOLSOVER COLLIERY 10
23E	142.0	S	445380 370302	SK47SE145	59	BOLSOVER COLLIERY UNDERGROUND NO.10
24F	157.0	S	444690 370380	SK47SW138	9	LONDON-YKS M'WAY BH624
25F	179.0	S	444659 370364	SK47SW333	21	A6182/M1 JUNCTION 29A PHASE 2 MARKHAM EMPLOYMENT GOWTH ZONE
26	219.0	S	444665 370322	SK47SW340	15	M1 WIDENING JUNCTION 21-30 PRELIMINARY GI CONTRACT 2 RC1234

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/728386
#2: scans.bgs.ac.uk/sobi_scans/boreholes/18913905
#3: scans.bgs.ac.uk/sobi_scans/boreholes/18913671
#4: scans.bgs.ac.uk/sobi_scans/boreholes/19511310
#5: scans.bgs.ac.uk/sobi_scans/boreholes/767632
#6: scans.bgs.ac.uk/sobi_scans/boreholes/767630
#7A: scans.bgs.ac.uk/sobi_scans/boreholes/19511313
#8A: scans.bgs.ac.uk/sobi_scans/boreholes/19511312
#9: scans.bgs.ac.uk/sobi_scans/boreholes/728396
#10B: scans.bgs.ac.uk/sobi_scans/boreholes/18913904
#11B: scans.bgs.ac.uk/sobi_scans/boreholes/18913900
#12: scans.bgs.ac.uk/sobi_scans/boreholes/767631
#13: scans.bgs.ac.uk/sobi_scans/boreholes/18913669
#14: scans.bgs.ac.uk/sobi_scans/boreholes/19511309
#15: scans.bgs.ac.uk/sobi_scans/boreholes/728395
#16: scans.bgs.ac.uk/sobi_scans/boreholes/19511311
#17: scans.bgs.ac.uk/sobi_scans/boreholes/767633
#18C: scans.bgs.ac.uk/sobi_scans/boreholes/19511306
#19D: scans.bgs.ac.uk/sobi_scans/boreholes/18913901
#20C: scans.bgs.ac.uk/sobi_scans/boreholes/767513
#21D: scans.bgs.ac.uk/sobi_scans/boreholes/18913902
#22E: scans.bgs.ac.uk/sobi_scans/boreholes/728351
#23E: scans.bgs.ac.uk/sobi_scans/boreholes/728478
#24F: scans.bgs.ac.uk/sobi_scans/boreholes/767629
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8 Estimated Background Soil Chemistry

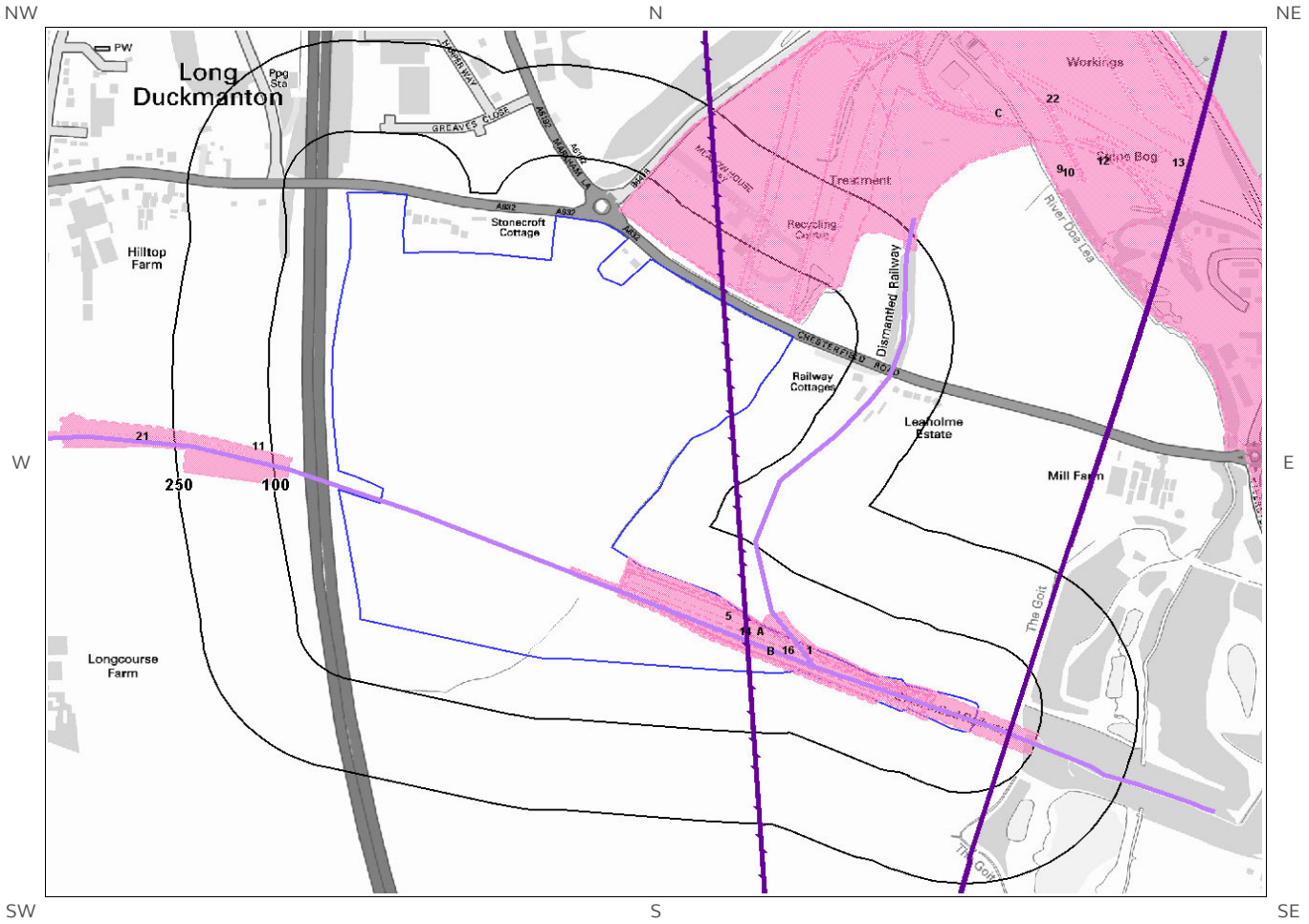
Records of background estimated soil chemistry within 250m of the study site boundary: 31

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	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
0.0	On Site	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
4.0	NE	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
9.0	E	RuralSoil	15 - 25 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
13.0	NE	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
20.0	NE	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg	<100 mg/kg
47.0	NE	RuralSoil	<15 mg/kg	<1.8 mg/kg	60 - 90 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? Yes

Have any historical railway or tunnel features been identified within 250m of the study site boundary? Yes

ID	Distance (m)	Direction	NGR	Details	Date
1	0	On Site	445348 370512	Railway Sidings	1967
2A	0	On Site	445348 370512	Railway Sidings	1950
3A	0	On Site	445353 370503	Railway Sidings	1921
4B	0	On Site	445327 370488	Railway Sidings	1914
5	0	On Site	445281 370534	Railway Sidings	1914
6A	0	On Site	445309 370513	Railway Sidings	1938

ID	Distance (m)	Direction	NGR	Details	Date
7A	0	On Site	445309 370513	Railway Sidings	1897
8A	0	On Site	445351 370501	Railway Sidings	1921
14	0	On Site	445308 370509	Railway Sidings	1916
15B	0	On Site	445349 370494	Railway Sidings	1898
16	0	On Site	445447 370456	Railway Sidings	1961
9	24	NE	445417 371285	Mineral Railway Sidings	1993
17C	25	NE	445645 371374	Mineral Railway Sidings	1987
18C	25	NE	445645 371374	Mineral Railway Sidings	1988
10	26	NE	445337 371290	Railway Sidings	1973
19C	27	NE	445378 371390	Railway Sidings	1967
20C	27	NE	445378 371389	Railway Sidings	1993
11	70	W	444412 370831	Railway Sidings	1973
12	133	NE	446045 371068	Mineral Railway Sidings	1967
21	138	W	444016 370830	Railway Sidings	1967
22	163	NE	445382 371421	Railway Sidings	1961
13	224	NE	445590 371284	Railway Sidings	1950

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? Yes

Have any historical railway lines been identified within 250m of the study site boundary? Yes

Distance (m)	Direction	Status
0	On Site	Abandoned
0	On Site	Razed
0	On Site	Razed
0	On Site	Razed
0	On Site	Dismantled
0	On Site	Abandoned
38	E	Razed
38	E	Abandoned
197	E	Razed

Distance (m)	Direction	Status
197	E	Abandoned

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? Yes

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

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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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East Leake
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Leicestershire
LE12 6HX

The Coal Authority

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

Public Health England

Public information access office
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https://www.gov.uk/government/organisations/public-health-england
Email: **enquiries@phe.gov.uk**
Main switchboard: 020 7654 8000

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Appendix 4: Historical Ordnance Survey Plans



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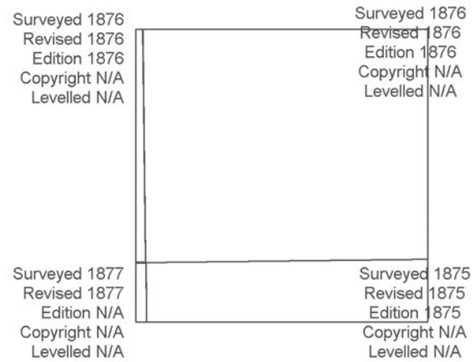
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Grid Ref: 445161, 370798

Map Name: County Series
Map date: **1875-1877**
Scale: 1:10,560
Printed at: 1:10,560

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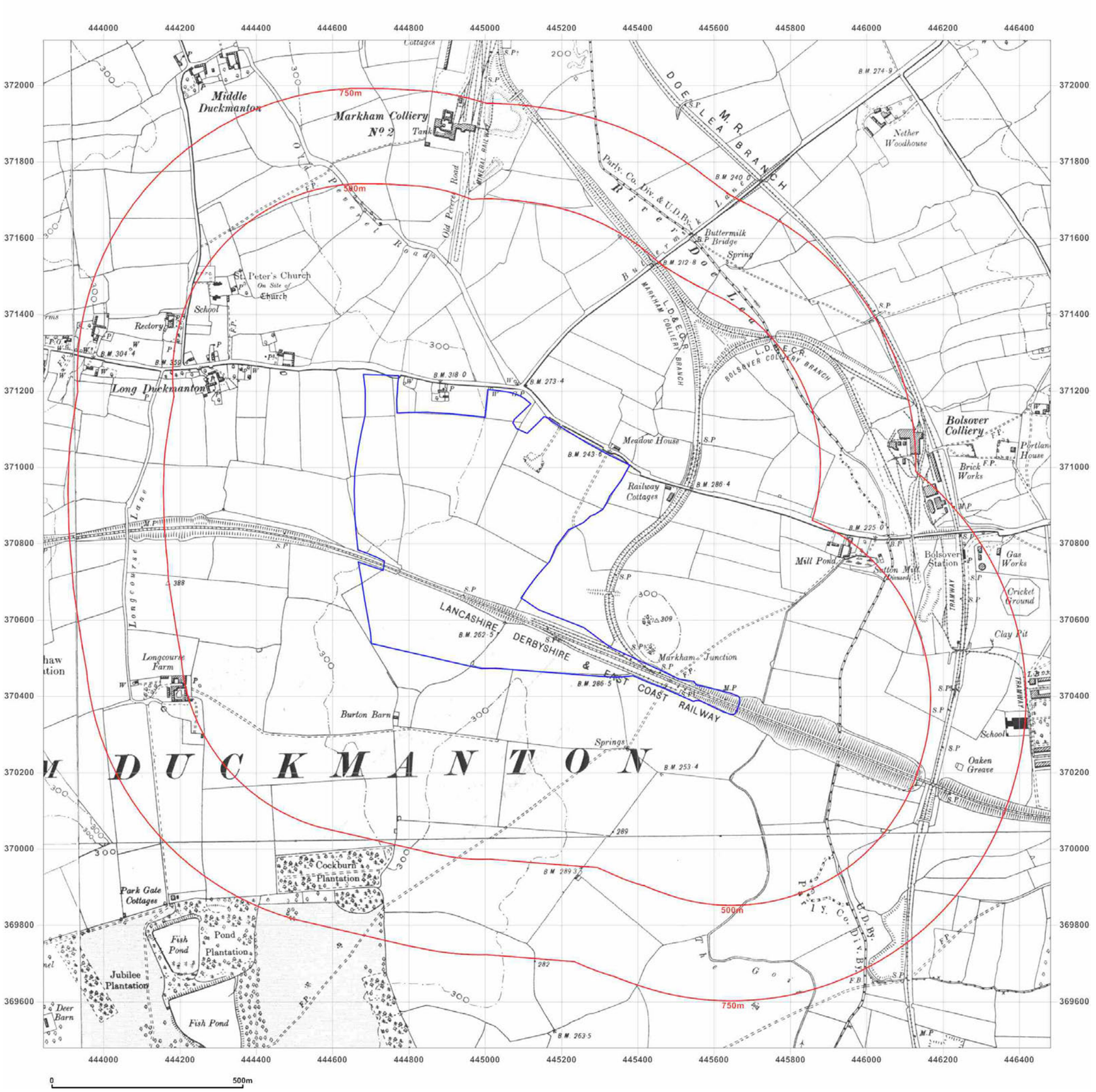
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Grid Ref: 445161, 370798

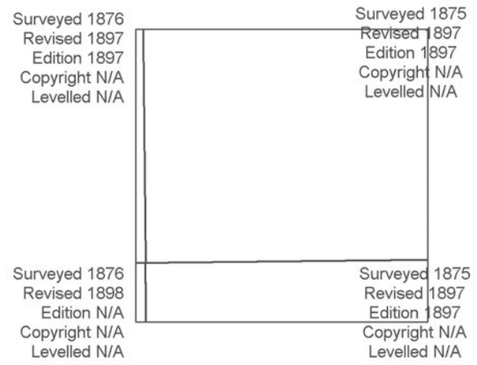
Map Name: County Series

Map date: **1897-1898**

Scale: 1:10,560

Printed at: 1:10,560

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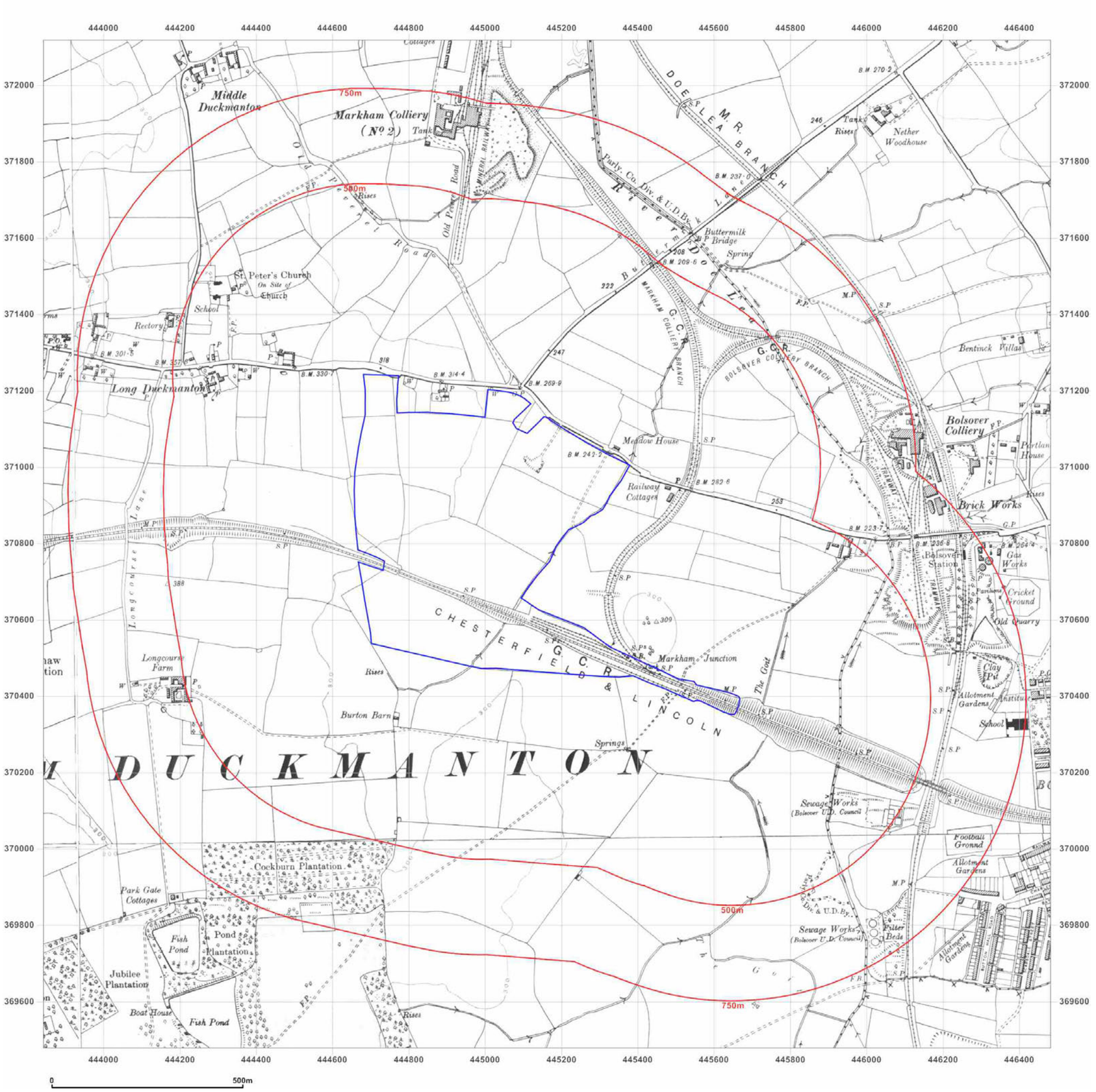
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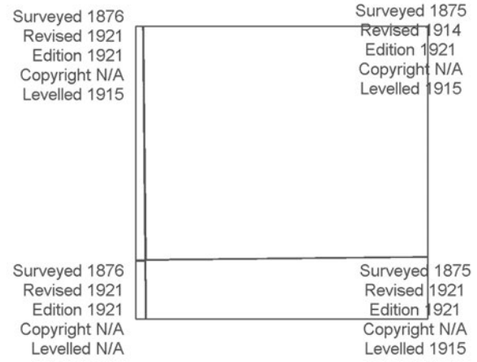
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Client Ref: NTE2529_-_POR025802
Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: County Series
Map date: **1921**
Scale: 1:10,560
Printed at: 1:10,560

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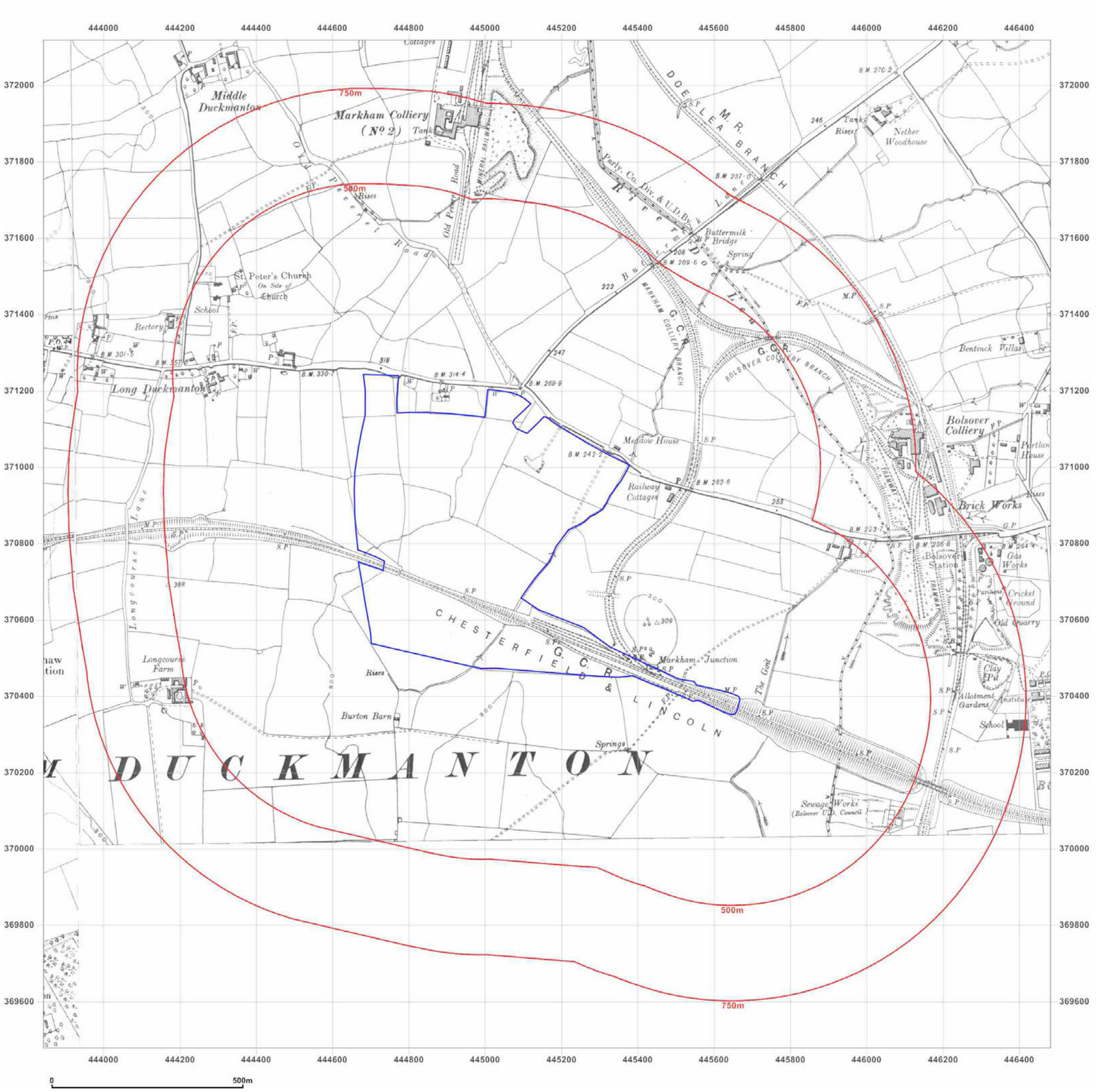
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Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: County Series

Map date: **1921**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1875
Revised 1921
Edition 1921
Copyright N/A
Levelled 1915

Surveyed 1876
Revised 1921
Edition 1921
Copyright N/A
Levelled 1915

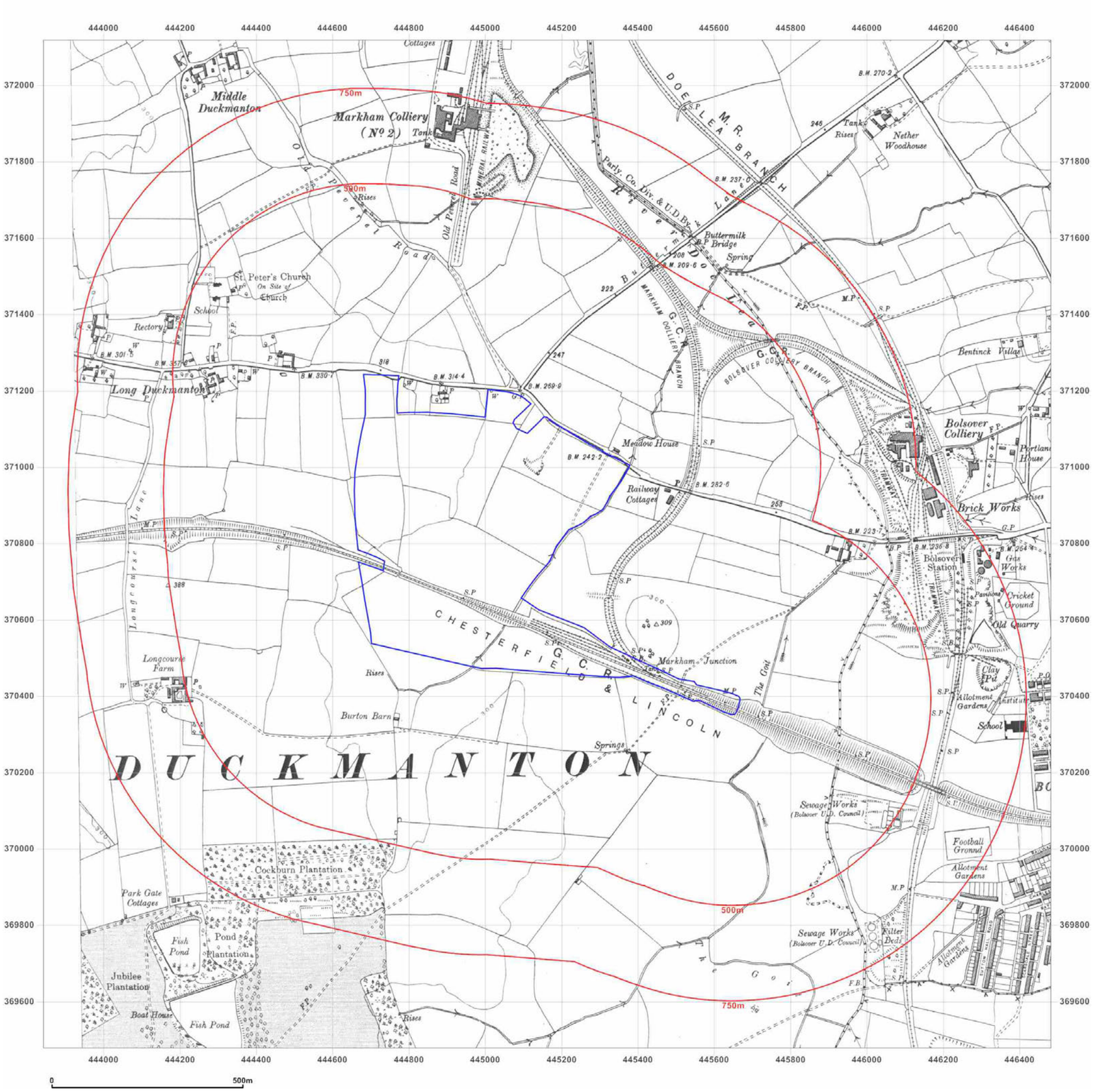
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Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: County Series

Map date: **1921**

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Surveyed 1875
Revised 1921
Edition 1921
Copyright N/A
Levelled 1915

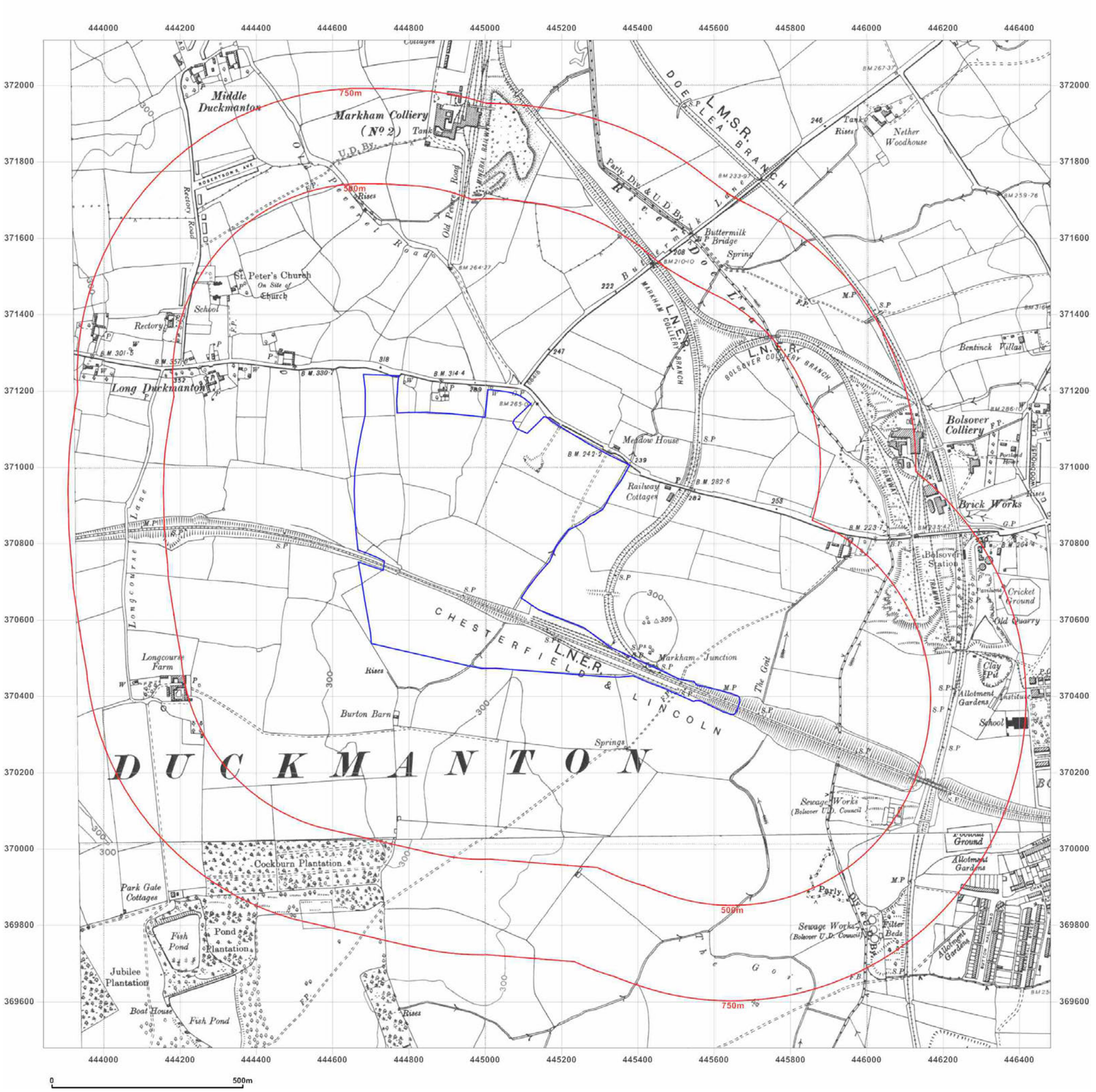
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Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

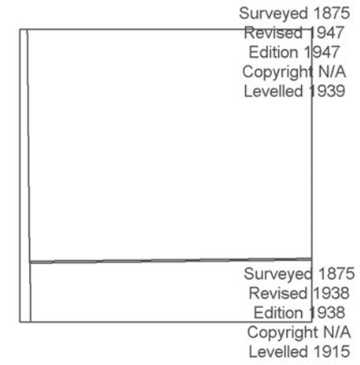
Map Name: County Series

Map date: **1947**

Scale: 1:10,560

Printed at: 1:10,560

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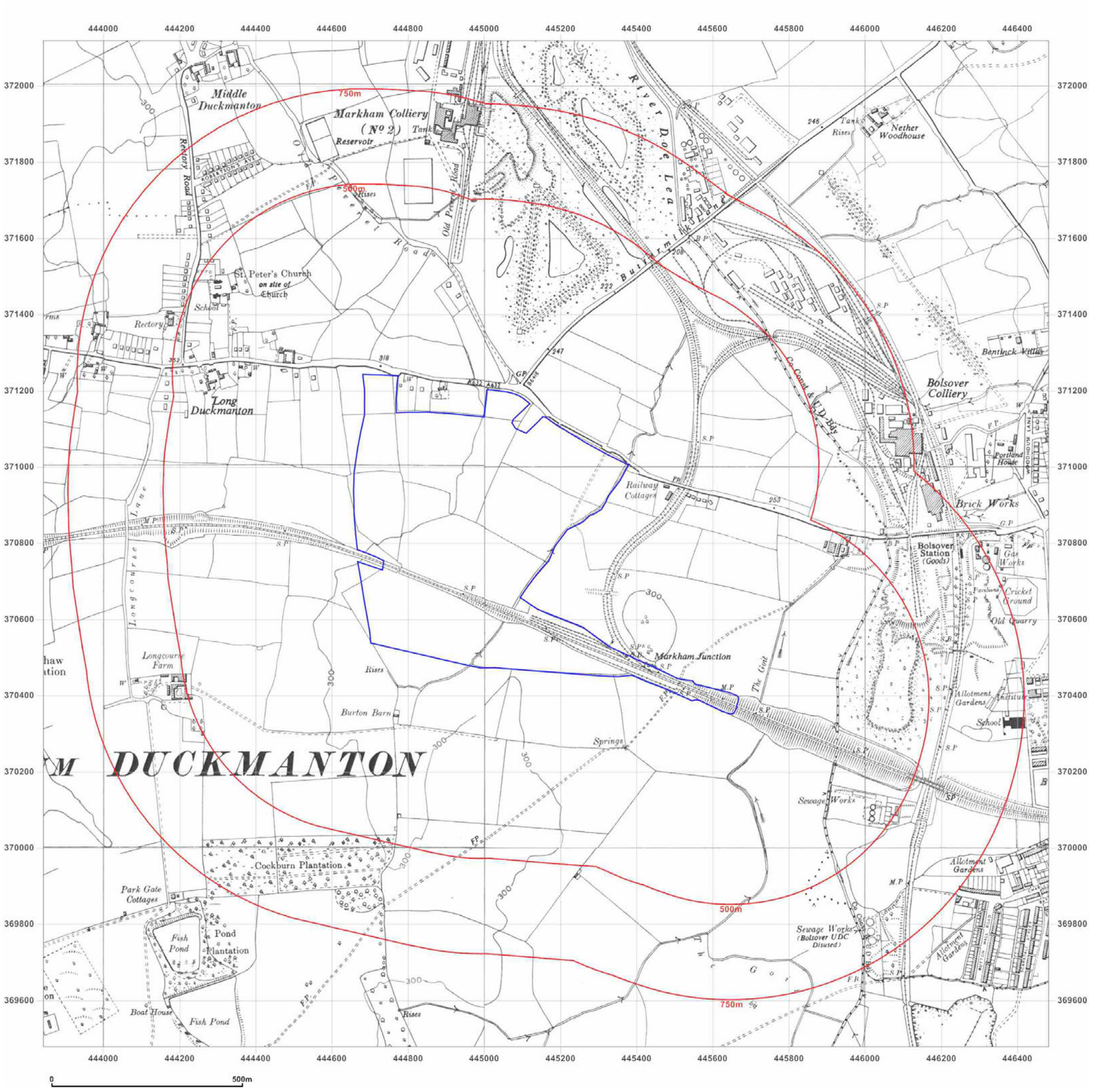
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Client Ref: NTE2529_-_POR025802
Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: Provisional
Map date: **1950-1955**
Scale: 1:10,560
Printed at: 1:10,560

N
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Surveyed 1950
Revised 1950
Edition N/A
Copyright 1950
Levelled N/A

Surveyed 1950
Revised 1950
Edition N/A
Copyright 1950
Levelled N/A

Surveyed 1950
Revised 1950
Edition N/A
Copyright 1950
Levelled N/A

Surveyed N/A
Revised 1954
Edition N/A
Copyright 1955
Levelled N/A

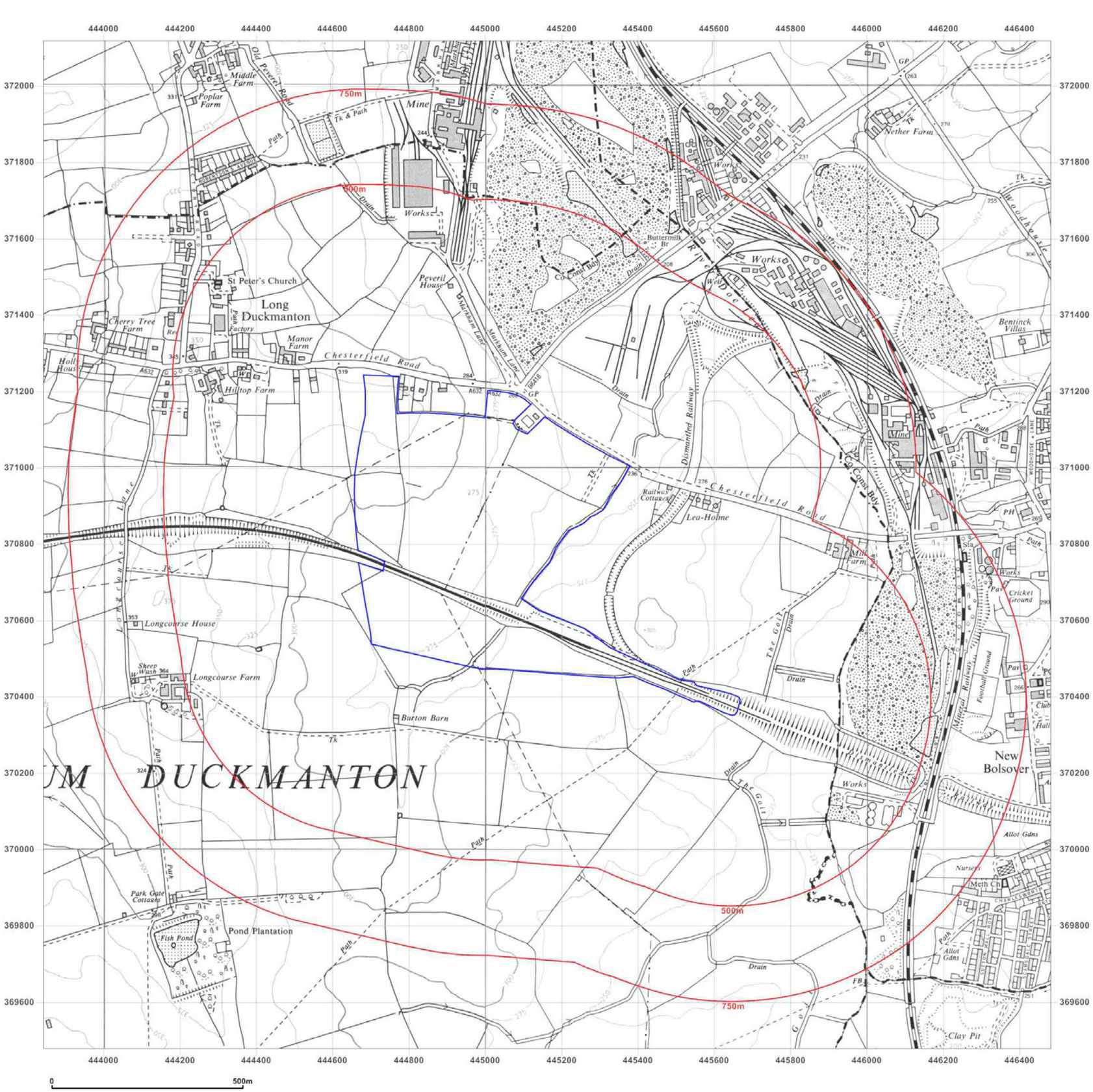
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Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: Provisional

Map date: **1966-1967**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1967
Revised 1967
Edition N/A
Copyright 1967
Levelled N/A

Surveyed 1967
Revised 1967
Edition N/A
Copyright 1967
Levelled N/A

Surveyed 1967
Revised 1967
Edition N/A
Copyright 1967
Levelled N/A

Surveyed 1966
Revised 1966
Edition N/A
Copyright 1966
Levelled N/A

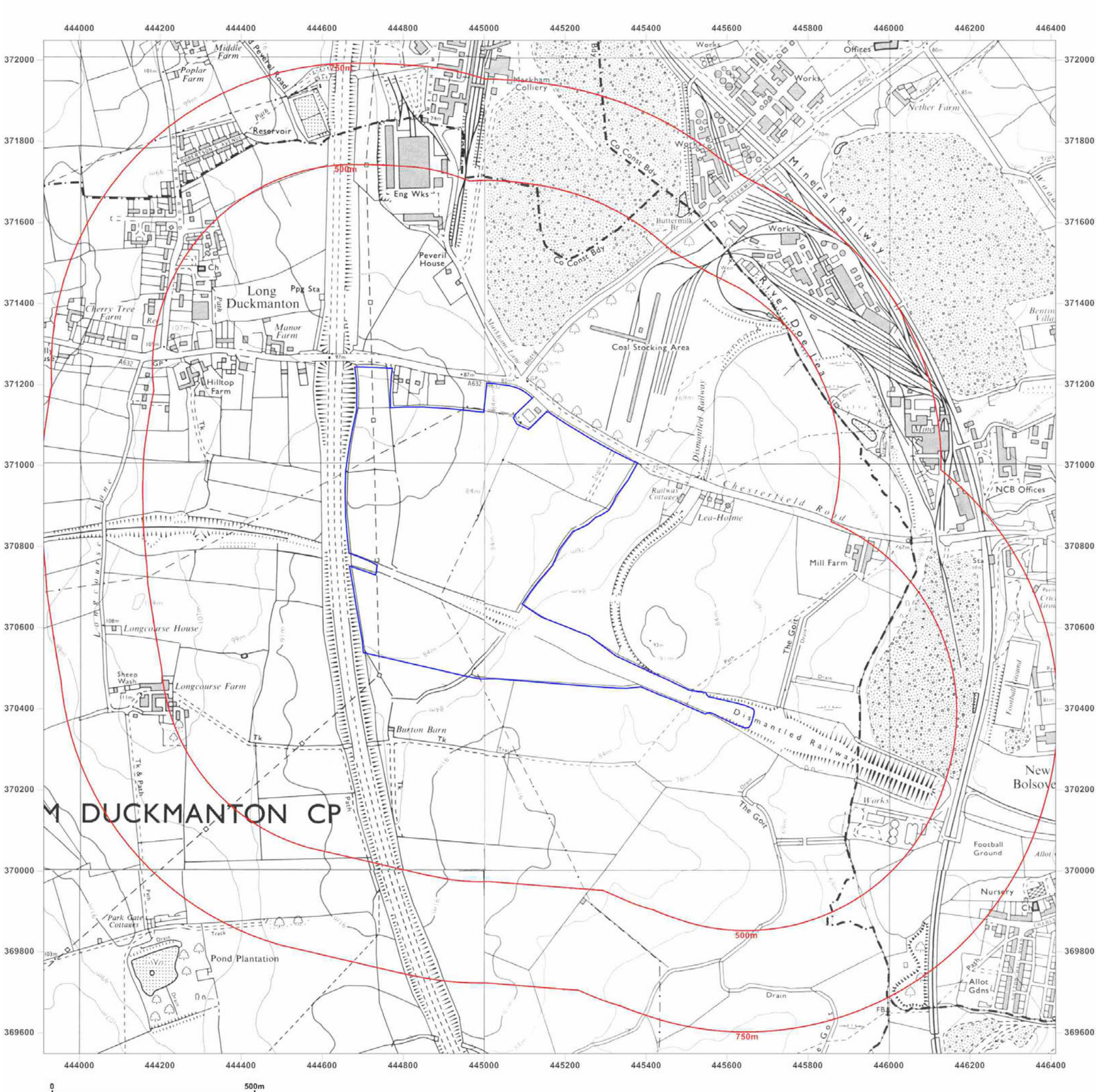
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Client Ref: NTE2529_-_POR025802
Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: National Grid

Map date: **1971-1974**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1973
Revised 1973
Edition N/A
Copyright 1973
Levelled N/A

Surveyed 1973
Revised 1973
Edition N/A
Copyright 1973
Levelled N/A

Surveyed 1974
Revised 1974
Edition N/A
Copyright 1974
Levelled 1973

Surveyed 1971
Revised 1971
Edition N/A
Copyright 1971
Levelled N/A

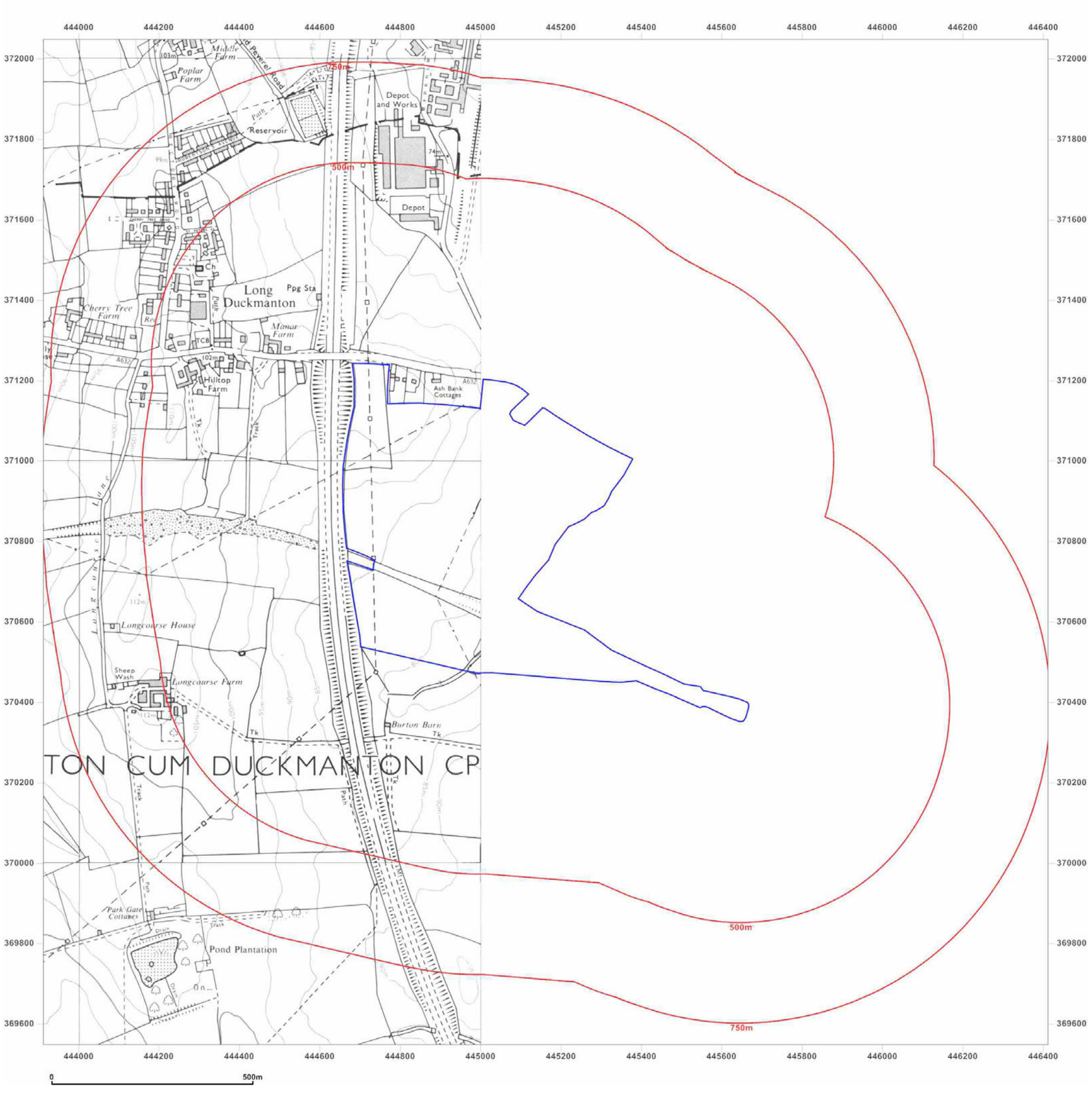
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Production date: 14 May 2019

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Client Ref: NTE2529_-_POR025802
Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: National Grid

Map date: **1980-1982**

Scale: 1:10,000

Printed at: 1:10,000

N
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Surveyed 1977
Revised 1982
Edition N/A
Copyright 1982
Levelled 1981

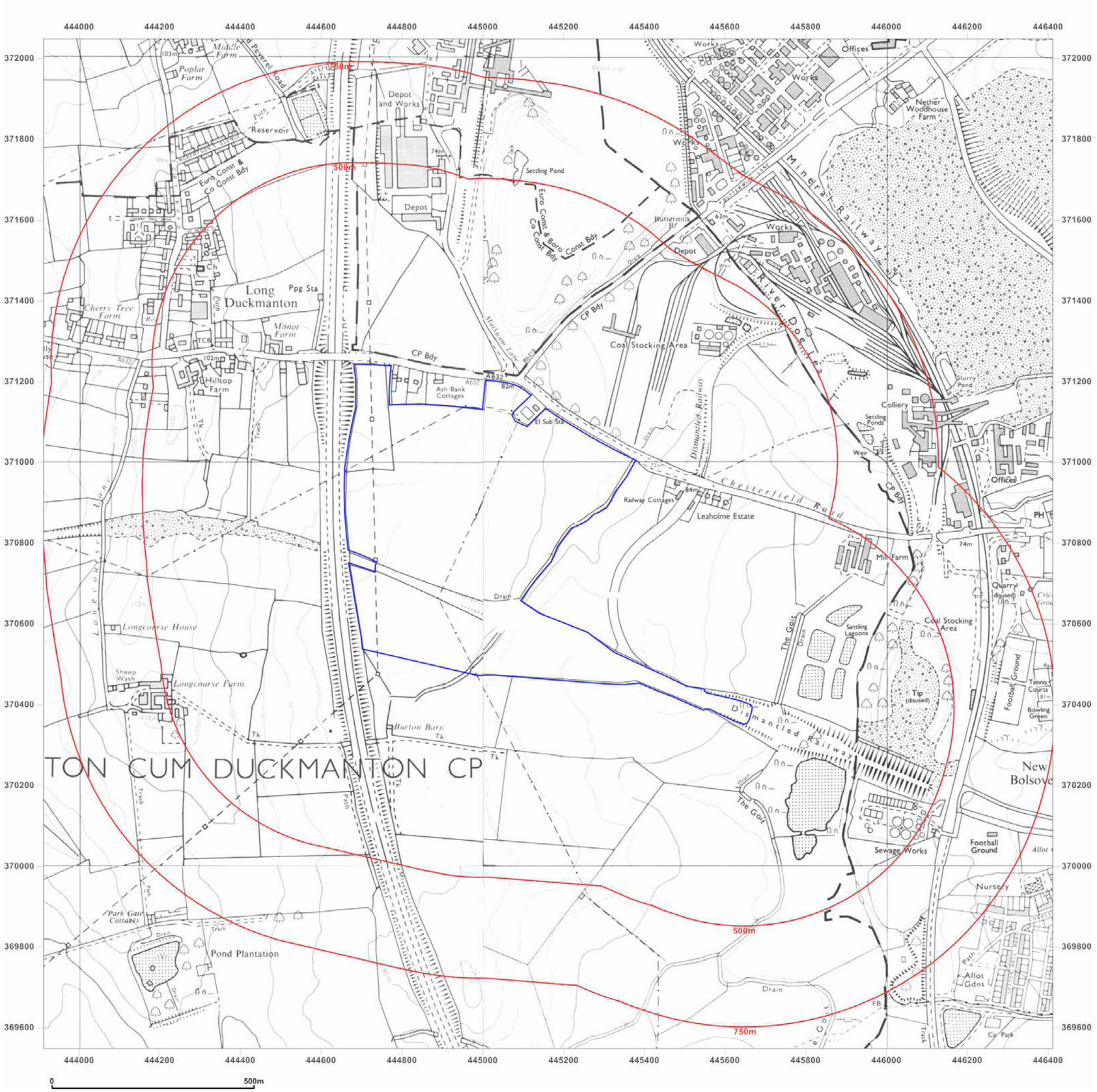
Surveyed 1976
Revised 1980
Edition N/A
Copyright 1980
Levelled 1981

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Production date: 14 May 2019

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Client Ref: NTE2529_-_POR025802
Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: National Grid

Map date: **1990-1993**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1977
Revised 1990
Edition N/A
Copyright 1990
Levelled 1981

Surveyed 1991
Revised 1993
Edition N/A
Copyright 1993
Levelled 1981

Surveyed 1976
Revised 1992
Edition N/A
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Levelled 1981

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Revised 1992
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Levelled 1981

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Site Details:

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Client Ref: NTE2529_-_POR025802
Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: 1:10,000 Raster

Map date: **2002**

Scale: 1:10,000

Printed at: 1:10,000

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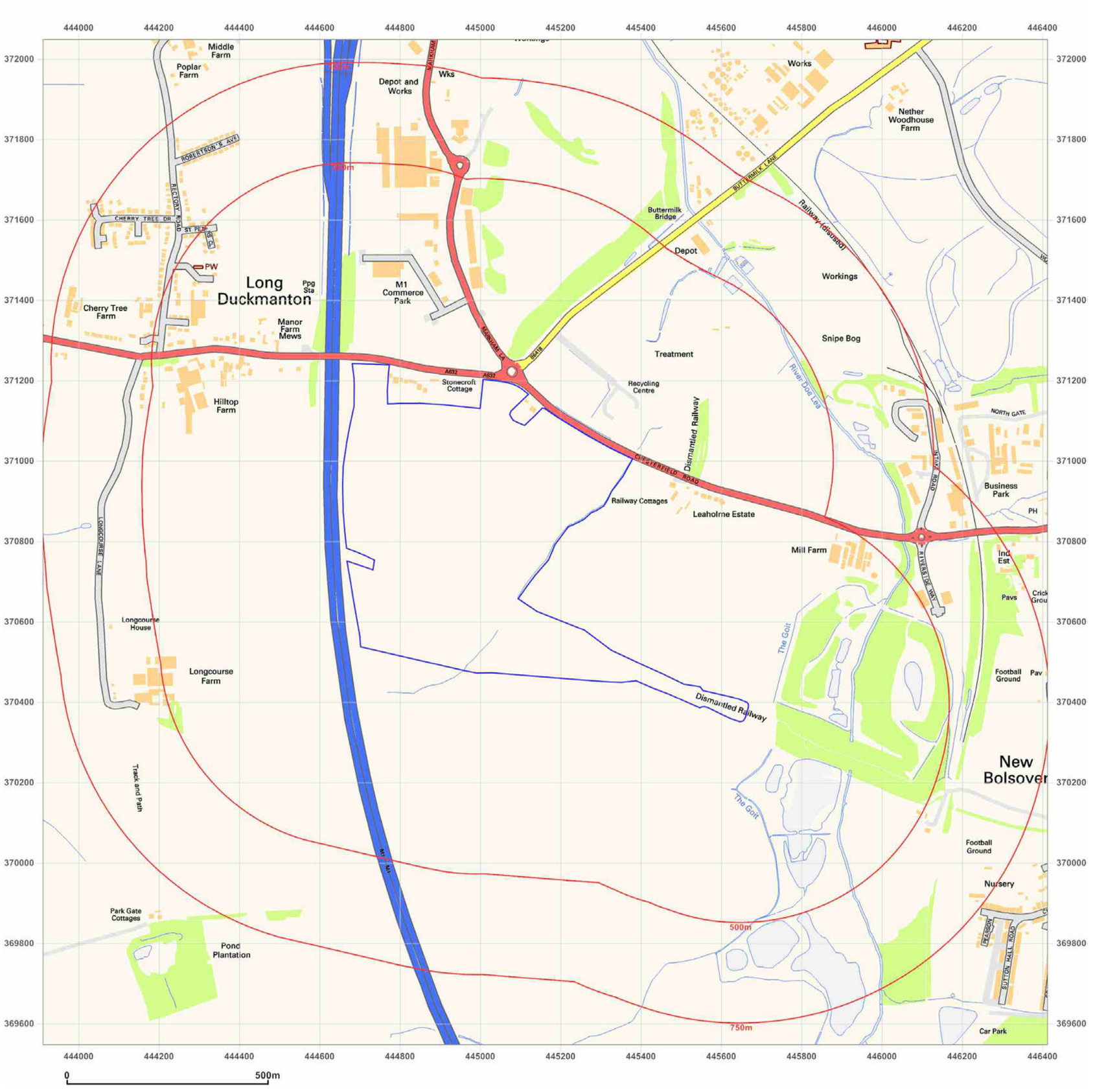
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Site Details:

LAND OFF CHESTERFEIDL ROAD, DUCKMANTON, S44 5HU

Client Ref: NTE2529_-_POR025802
Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: National Grid
Map date: **2010**
Scale: 1:10,000
Printed at: 1:10,000

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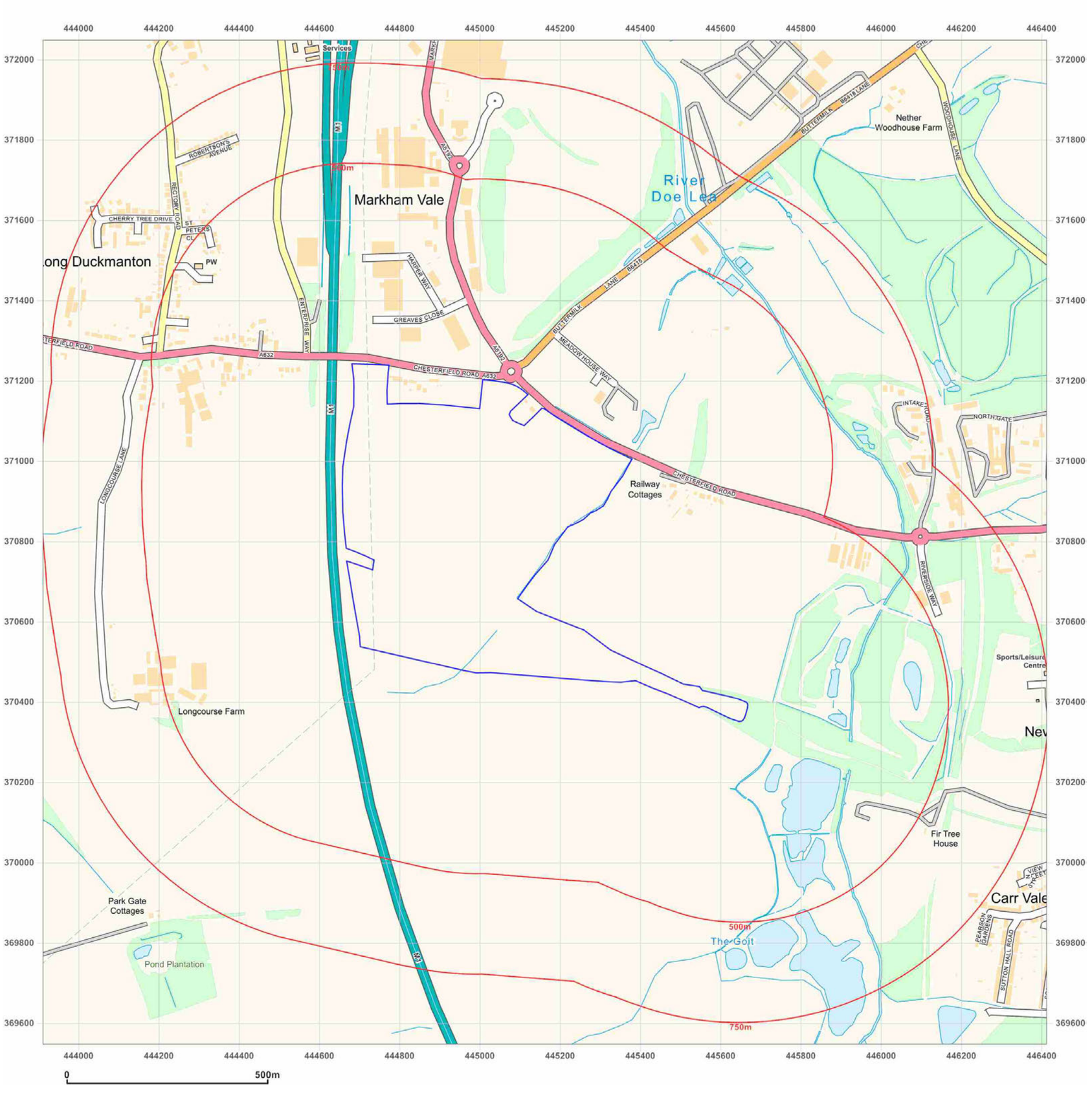
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Groundsure INSIGHTS

Site Details:

LAND OFF CHESTERFEIDL ROAD, DUCKMANTON, S44 5HU

Client Ref: NTE2529_-_POR025802
Report Ref: HMD-214-6027982
Grid Ref: 445161, 370798

Map Name: National Grid
Map date: **2014**
Scale: 1:10,000
Printed at: 1:10,000

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Appendix 5: Coal Authority Report

The Coal Authority

CON29M
coal mining report

LAND OFF CHESTERFEIDL ROAD, DUCKMANTON, S44 5HU, DERBYSHIRE

Known or potential coal mining risks

Past underground coal mining	Page 3
Future underground coal mining	Page 3
Coal mining subsidence	Page 4
Withdrawal of support	Page 5
Payments to owners of former copyhold land	Page 5

Further action

These additional reports can give further detail on the risks identified:

- Subsidence claims history
- Subsidence claims 50m buffer report

For more information please see our Further action reports on page 8

Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. It is unlikely that these features will impact on the stability of the enquiry boundary.

© Coal Authority

Enquiry boundary

The map image is too large for this page and will be sent in a separate document

We can confirm that the location is
on the coalfield

This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.

Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

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1 Past underground coal mining

The property is in a surface area that could be affected by underground mining in 12 seams of coal at 110m to 720m depth, and last worked in 1991.

Any movement in the ground due to coal mining activity associated with these workings should have stopped by now.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9 Coal mining subsidence

A damage notice or claim for alleged subsidence damage was made in January 1995 for THE SALIENT CHESTERFIELD ROAD, DUCKMANTON, CHESTERFIELD, DERBYSHIRE, S44 5HT. The claim was settled by repairs to the value of £377.66.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

There are a further 2 claims within 50 metres of the property boundary that do not match the property address. These are shown on the enquiry boundary plot.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

If further subsidence damage claims information is required, please visit www.groundstability.com.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

The property is in an area where notices to withdraw support were given in 1976.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 Payments to owners of former copyhold land

The property is in an area where a relevant notice (or notices) dated 1990 has (or have) been published under the Coal Industry Act 1975/Coal Industry Act 1994. However, no notice of a retained interest has been given.

The property is in an area where a relevant notice (or notices) dated 1990 has (or have) been published under the Coal Industry Act 1975/Coal Industry Act 1994. However, no notice of a retained interest has been given.

Statutory cover

Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

The owner therefore shouldn't incur cost or liability from repairs caused by the withdrawal of support from land and/or property in connection with lawful coal mining operations. Usually these actions will not need to involve your insurance company or mortgage lender.

Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call 01623 646 333. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary

Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings

Further action reports

Subsidence claims history - gives unique copies of original documents from the subsidence claim file in the Coal Authority archives . To order this report, use the boundary and address of where the claim was made.

For more information and to order this report please visit:
https://www2.groundstability.com/subsidence-claims-history

Subsidence claims 50m buffer report - gives information on coal mining subsidence claims within 50 metres of the property boundary. To order this report, use the same boundary as the CON29M mining report.

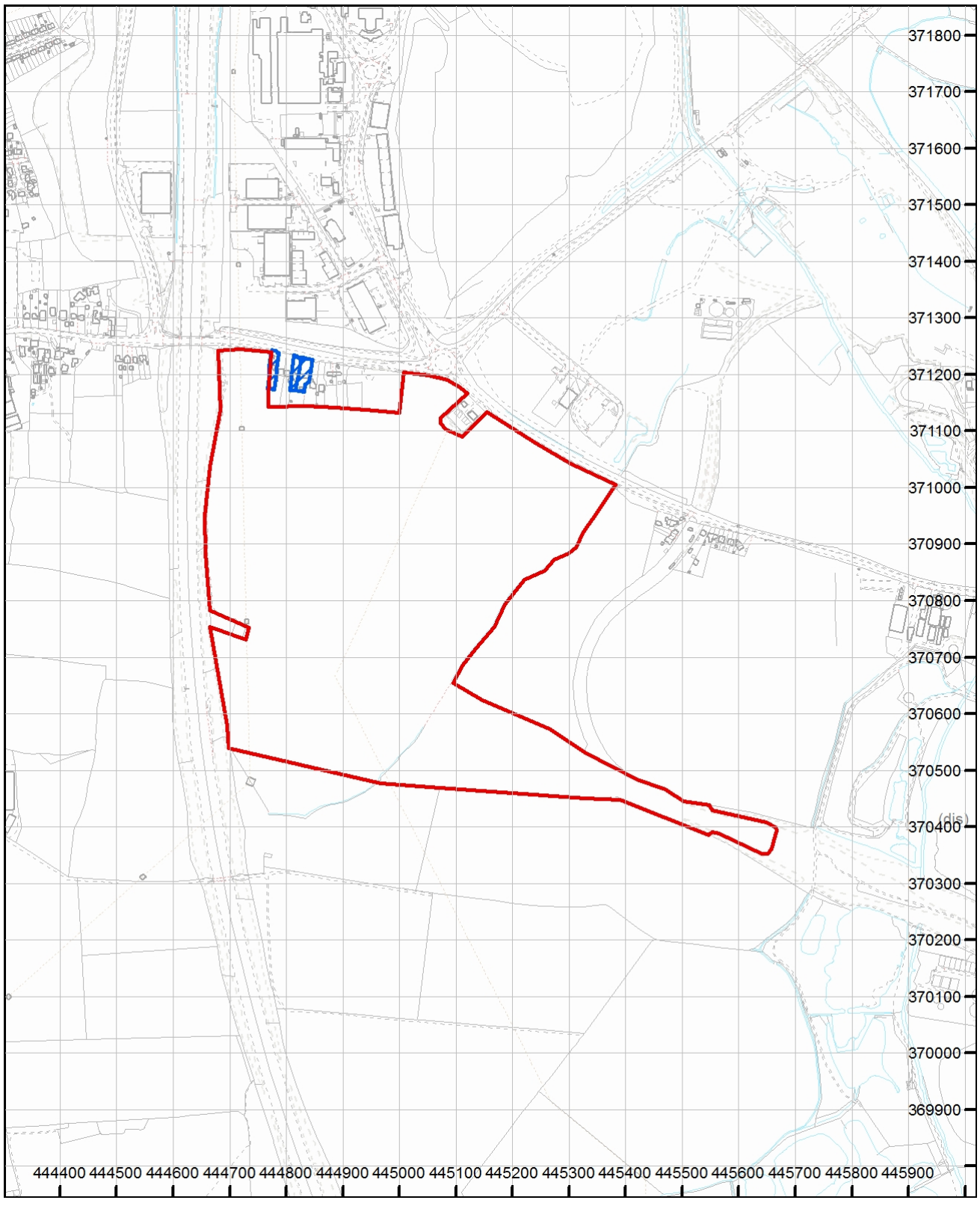
For more information and to order this report please visit:
https://www2.groundstability.com/subsidence-50m-buffer

Enquiry boundary

Key

Approximate position of enquiry boundary shown

Coal claims



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