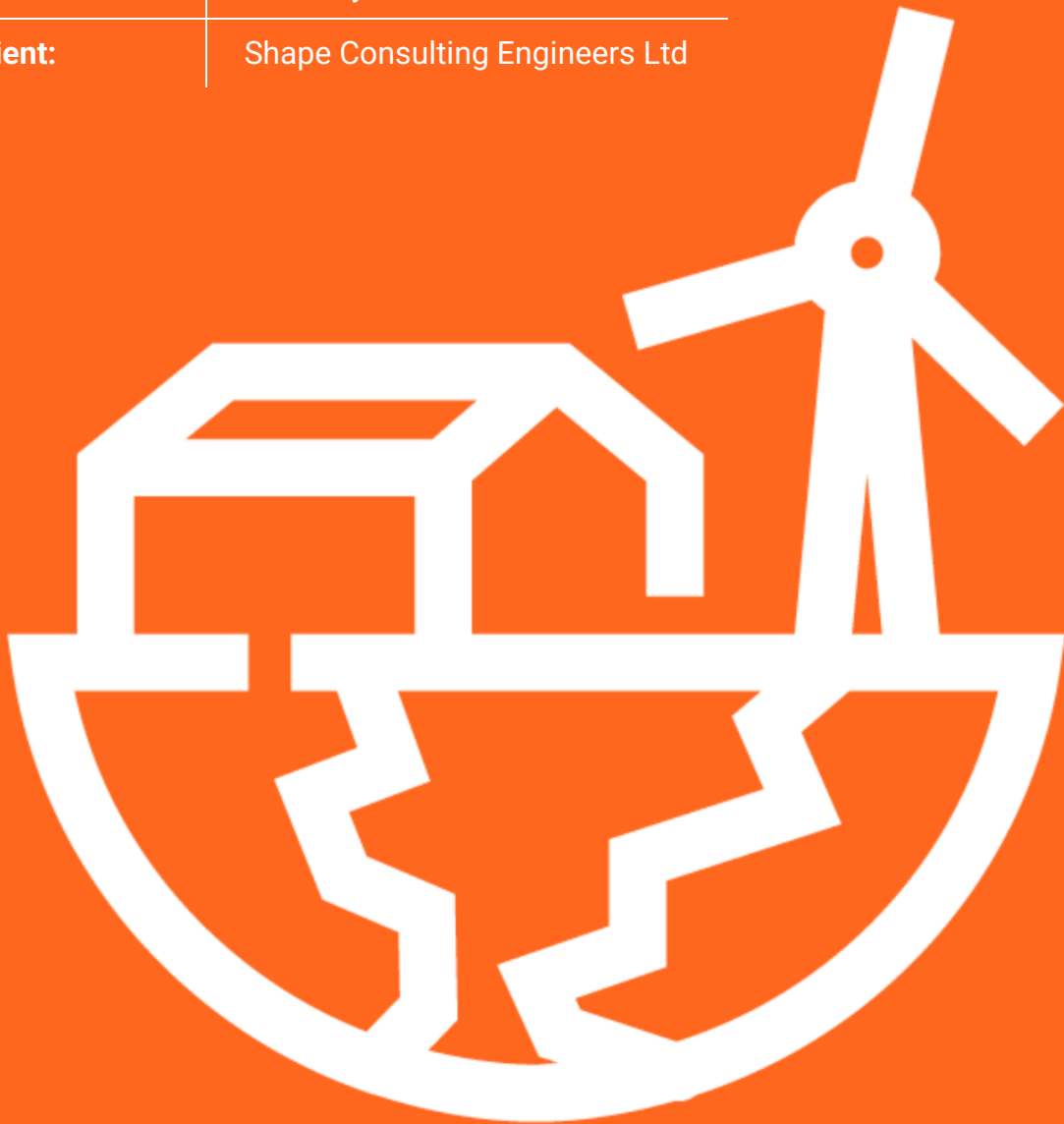


PHASE I GEOENVIRONMENTAL SITE ASSESSMENT

Site:	Land off Royle Road, Rochdale
References:	18-517-R1-2
Date:	February 2026
Client:	Shape Consulting Engineers Ltd





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QUALITY ASSURANCE

Report references

18-517-R1-2

REV REF	DESCRIPTION	DATE
R1-1	First issue	January 2026
R1-2	Proposed development amended	February 2026

WRITTEN BY	QUALIFICATION	POSITION
Sam Juhasz	BSc (Hons)	Graduate Consultant

REVIEWED BY	QUALIFICATION	POSITION
Andrew Garrity	BSc, MSc, FGS, MEnvSc, CSci	Associate Director

AUTHORISED BY	QUALIFICATION	POSITION
Stephanie Cox	BSc, FGS, MEnvSc, CEnv	Director



EXECUTIVE SUMMARY

SITE DESCRIPTION AND HISTORY

Site Address	Land off Royle Road, Rochdale, OL11 3ET.
Grid Reference	E 388580, N 411554
Site Area	1.55 ha.
Proposed Development	E3P understands that Shape Consulting Engineers Ltd intend to construct 75 self-contained apartments (Use Class C3), comprising 38 No.1-bedroom apartments and 37 No.2-bedroom apartments, with extra care light facilities, residents' facilities, associated landscaping, parking, a new access and internal access road.
Current Site Use	The subject site is an irregular shaped parcel of land located roughly 1.7 km southwest from Rochdale town centre. The site is currently attached to a large area of earthworks associated with the newly built housing estate just south of site. The site is comprised of two reinforced engineered slopes, with a plateau in the centre. The site has recently undergone retaining and engineering works to create the reinforced slope, with a combination of retaining walls, geogrid and compacted layers of site won and imported materials. Works to the toe and crest have not been completed by the developer.
Site History	Historical mapping suggests the site was formerly open agricultural land in the 1800s, with mapping dated circa 1928 shows the southeastern corner of the site being occupied by part of the adjacent Dunlop Mill. Recent aerial photography shows the former cotton mill having been demolished with earthworks on the reinforced slope being undertaken.

ENVIRONMENTAL SETTING

Geology	Superficial Geology	Glaciofluvial sands and gravels.
	Solid Geology	Pennine Upper Coal Measures Formation
	Faults	There is a fault located on-site, traversing the central sector Northeast to southwest- with the downthrown side to the northwest.
Hydrogeology	Both superficial and bedrock strata are classified as secondary A Aquifers. No groundwater abstractions have been identified within a 1 km radius.	
Hydrology	The Rochdale Canal is located approximately 300m southwest of the site. Sudden Brook is located at the base of the slope to the north of the site, the brook is culverted.	
Utility Locations	There is a combined sewer in the north of the site, and 6kV electrical cable in the centre of the site associated with the electrical substation. Telecommunications services are present in the western and sector.	
Landfill Sites and Waste Sites	A historical landfill is present across Edinburgh Way approximately 20m to the north of the site. An authorised landfill taking non-biodegradable waste registered by Wimpy Homes 150m to the east of the site.	
Radon	Less than 1% of homes are at or above the radon action level. Therefore, no radon mitigation measures will be required in any proposed buildings.	



Unexploded Ordnance	Dunlop Mills were a potential Luftwaffe target according to Zetica mapping. However, the site is in a low-risk area.
Hazardous Installations	An electrical substation is located just 1m north of site.
Coal Mining	The Mine Remediation Authority does not record the site as being in a High Risk Development area.

PREVIOUS REPORT

The following previous reports have been completed for the site:

- ✳ E3P – Phase I and Phase II Geo-environmental Site Assessment - October 2018
- ✳ E3P – Remediation and Enabling Works Strategy – November 2019
- ✳ Remedy Geotechnics - Geotechnical Design Report – North Boundary Reinforced Slope Design – June 2023

A full summary of findings is provided in section 3.5.

PRELIMINARY CONTAMINATED LAND ASSESSMENT

Potential Contamination Sources	Potential onsite sources of contamination include Made Ground associated with the (now demolished) former Dunlop Mills (Cotton Works) then the Royle Pennine Trading Estate. Offsite sources of contamination include the former cotton works, electrical substation, infilled reservoir and historical landfill sites.
Human Health Risk Assessment	Made ground associate with the former cotton mill is a potential source of heavy metals, PAHs, TPHs and asbestos. A ground investigation in 2018 recorded elevated concentrations of heavy metals and PAHs in the Made Ground and ACM was noted in stockpiles and bunds across the site. The overall risk to human health is considered to be low, as significant volumes of inert, naturally occurring material (class 6i) has been imported to create the reinforced slope. Site won naturally occurring sand has also been utilised to form the plateau. These materials will act as a capping layer breaking any potential exposure pathways.
Controlled Waters	The risk to controlled waters is considered to be low, due to the lack of significant sources of potential contamination. Sudden Brook, is culverted, breaking any potential exposure pathways. The superficial deposits are classified as a secondary A aquifer, which is low risk due to a lack of significant contamination sources.
Ground Gas Risk Assessment	The ground gas risk is considered to be low. There are no significant sources of ground gas considered to be present within the site boundary or within influencing distance of the site. Furthermore, the uplifting of the site with imported inert materials will reduce the risk of vertical migration of any potential ground gases to proposed structures.



Potable Water Infrastructure	Elevated concentrations of hydrocarbons may be present within the Made Ground which may result in the need to barrier pipe for potable water supplies. A full UKWIR pipeline assessment will be required to confirm the pipeline material choice.
-------------------------------------	---

PRELIMINARY GEOTECHNICAL ASSESSMENT

Initial Geotechnical Assessment	⚠ There may be relict foundations, utilities and underground obstructions within the southern sector associated with the former cotton mill. It is anticipated that any relic foundations or substructures will have been grubbed out in their entirety during the enabling works for the residential development adjacent to the southern boundary but there could be existing sub-structures within the slope area. ⚠ The upper and lower reinforced slopes have been engineered to a design specification however a slope stability analysis exercise should be undertaken to ensure the proposed development will not induce slope failure. ⚠ Further cut and fill and artificial levelling may be necessary to create the appropriate development platforms for the proposed development. ⚠ Any intrusive works should consider the present of geotextile reinforcement and the compacted or engineered soils. The integrity of the slope construction may be compromised by any intrusive works including piling. ⚠ Any works undertaken at the slope toe or crest should be undertaken with care in order not to induce slope failure.
Civil And Structural Constraints	Relict foundations and subterranean hazards may remain in-situ from historical buildings which may require grubbing out prior to the proposed development.
Abnormal Foundations	Abnormal foundations will most likely be required due to the engineered slope and plateau on which the proposed development is located. The foundation solution will be designed by a structural engineer.

RECOMMENDATION

Based on the findings of the Geoenvironmental site assessment and the various conclusions drawn, a carefully designed intrusive site investigation is recommended so as not to damage geo-grid membranes and therefore not to compromise slope stability. Investigation is needed to assess the level of contamination within soils and groundwater, and to assess the risk from ground gas.



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APPENDIX I: LIMITATIONS

APPENDIX II: GLOSSARY

APPENDIX III: CIRIA 552 RISK CLASSIFICATION

APPENDIX IV: DRAWINGS

APPENDIX V: HISTORICAL MAP

DRAWING LIST

18-517-001 - Site Location Plan
18-517-002 - Proposed Development Plan
18-517-003 - Historical Features Plan



1. INTRODUCTION

1.1. BACKGROUND

Shape Consulting Engineers Limited has commissioned E3P to undertake a Phase I Geoenvironmental Site Assessment at Land off Royle Road, Rochdale.

This report is required to determine potential contaminated land and geotechnical liabilities for the proposed site redevelopment.

1.2. PROPOSED DEVELOPMENT

E3P understands that Shape Consulting Engineers Ltd intends to construct 75 self-contained apartments (Use Class C3), comprising 38 No.1-bedroom apartments and 37 No.2-bedroom apartments, with extra care light facilities, residents' facilities, associated landscaping, parking, a new access and internal access road.

Drawing 18-517-002 (APPENDIX IV) identifies the proposed development layout.

A snapshot of the proposed development layout is indicated in Figure 1.1.

Figure 1.1 Proposed development





1.3. OBJECTIVES

The objectives of the geoenvironmental investigation are as follows:

- ✦ Review historical plans, geology, hydrogeology, site sensitivity, floodplain issues, mining records and any local authority information available to complete a desk study in line with Environment Agency (EA) document Land Contamination: Risk Management (LCRM) (updated June 2025).
- ✦ Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site concerning the site's future use and in relation to off-site receptors.
- ✦ Assess the desk study information and, where possible, provide preliminary recommendations concerning foundations, pavement construction, general geotechnical issues, floor slabs and coal mining-related issues.
- ✦ Provide recommendations regarding future works required.

1.4. SCOPE OF WORKS

The scope of works includes the elements included in Table 1.1.

Table 1.1 **Scope of Works**

Preliminary Reporting	✦ Phase 1 Geoenvironmental Assessment
Assessment and Reporting	✦ Factual and interpretative reporting
	✦ Contamination risk assessment and conceptual site model
	✦ Geotechnical assessment and interpretation

1.5. LIMITATIONS

The limitations of this report are presented in APPENDIX I.

1.6. RISK CLASSIFICATION

The description of risk classification and the likely action required as set out in CIRIA C552 are included in APPENDIX III.

1.7. CONFIDENTIALITY

E3P has prepared this report solely for the use of the client and those parties with whom a warranty agreement has been executed or with whom an assignment has been agreed. Should any third party wish to use or rely upon the report's contents, written approval must be sought from E3P; a charge may be levied against such consent.



2. SITE DESCRIPTION

2.1. SITE DETAILS

Table 2.1 Site Details

Site Address	Land off Royle Road, Rochdale, OL11 3ET
National Grid Reference	N 388774, E 411705
Site Area	1.55 Ha

The Glossary presented in APPENDIX II defines all acronyms used within the report.

A site location map is presented in APPENDIX IV as Drawing 18-571-001.

2.2. CURRENT SITE USE

A site walkover has not been completed due to the ongoing slope engineering works; however, an assessment of the current site use is provided in Table 2.2.



Table 2.2 Site Description

FEATURE	DESCRIPTION	PHOTOGRAPHIC RECORD
Occupancy/Use	The subject site is a large irregular shaped parcel of land, adjacent to the recently constructed residential development located at the southern site boundary. The site is currently undeveloped, with enabling works having been completed in December 2025 to provide the reinforced slope. No structures are present within the site boundary. Royle Road traverses the northern sector from east to west.	
Structures	Temporary site cabins are present in the southwestern corner of the site and are associated with the residential development located to the south. There are no permanent structures located within the site boundary.	
Retaining Structures	A retaining wall built as part of the adjacent residential development encroaches into the western sector of the site, traversing from south to north.	
Access	Vehicular and pedestrian access can be gained via Royle Barn Road at the site's western boundary. Pedestrian access can be gained via the adjacent housing development, although it is anticipated that access from this direction will be limited in the future.	
Slope	The site comprises a reinforced slope which has been engineered to an approved design. The slope comprises an upper and lower slope with a plateau between the two levels and a development platform at the crest of the upper slope.	
Vegetation/Ecology	The final engineered slope will have grassed areas of POS at the plateau and crest. No vegetation is present due to the enabling works for the reinforced slope.	



FEATURE	DESCRIPTION	PHOTOGRAPHIC RECORD
Hazardous Material and Storage	There is no hazardous material storage at the site surface. There is no bulk fuel storage for the proposed reinforced slope.	
Asbestos-Containing Material (ACM)	Made Ground has been placed at the base of the slope as part of the enabling works, which may contain ACM and asbestos loose fibres. ACM recorded as part of the remediation works for the residential development located to the south of the site has also been placed at the toe of the slope as agreed with the Rochdale MBC EHO.	
Waste Storage	No waste storage has been undertaken at the site.	
Drainage	A formal drainage survey has not been completed; however, it is anticipated there is drainage installed within the engineered slope. A combined sewer is known to be located at the toe of the slope.	



2.3. SURROUNDING LAND USE

The immediate surrounding area land uses are summarised in Table 2.3.

Table 2.3 **Surrounding Land Uses**

DIRECTION	DESCRIPTION
North	Edinburgh Way (A664), Electricity Substation, Car Dealership
East	Embankment, Railway, Industrial and Commercial Units
South	Residential Dwellings
West	Supermarket, Fuel Station, Residential Dwellings



3. SITE HISTORY

3.1. ON-SITE HISTORICAL DEVELOPMENT

A review of historical mapping and historical aerial imagery pertinent to the site is summarised in Table 3.1. In addition, historical site features are presented in Drawing No 18-517-003 in APPENDIX IV.

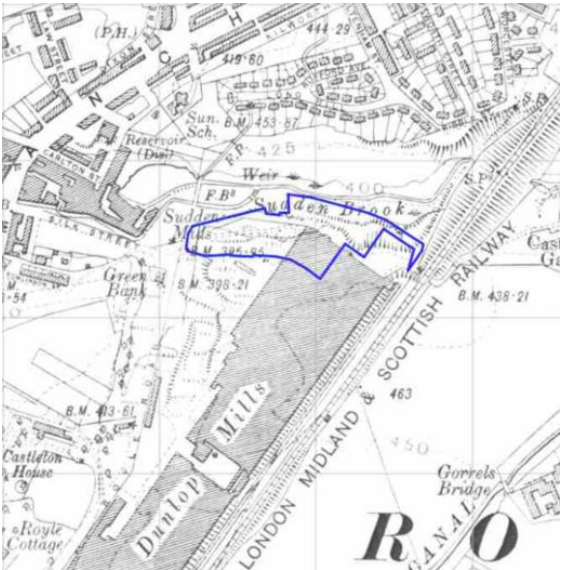
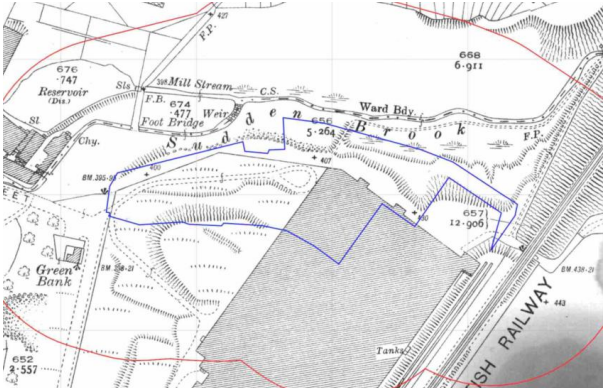
Table 3.1 Historical Development

MAP EDITION	DISCUSSION	MAP EXCERPT
1851 1:10,560	There is a wooded area marked Castleton Gales located in the eastern sector of the site. A road appears to run along the southern boundary and joins up with a railway track to the east of site. There is a field boundary through the central sector of the site bearing north to south. A footpath is present in the southern and southwestern sectors.	

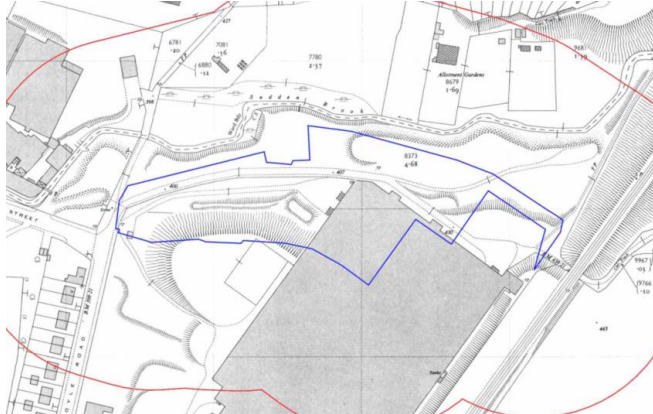
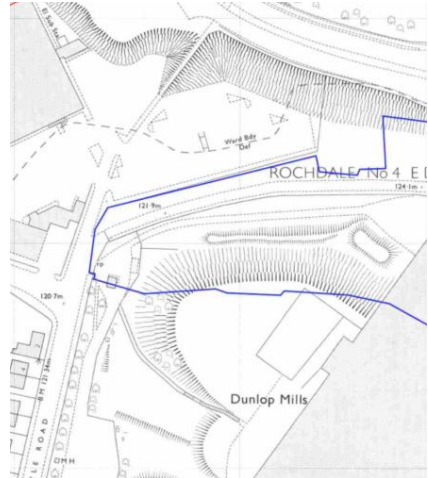


MAP EDITION	DISCUSSION	MAP EXCERPT
1891 1:2,500	There is a long surface water body, likely to be a pond, marked within the northeastern sector.	
1910 1:2,500	There is marshland marked within the water body in the northeastern sector.	



MAP EDITION	DISCUSSION	MAP EXCERPT
1928 1:10,560	The southern sector of the site is now occupied by the northwestern tip of Dunlop Mills.	
1930 1:2,500	There is significant sloping marked within the northern, northeastern and southwestern sectors with markings indicating the topography to fall from south to north. The western half of the site is marked as rough pasture. A circular track is marked in the western sector.	



MAP EDITION	DISCUSSION	MAP EXCERPT
1958 1:2,500	The sloping in the southwestern sector is more pronounced and markings in the central western sector indicate raised areas of potential material piling. The marshland is no longer marked in the northeastern sector, and markings indicate the area to comprise a possible refuse heap. There is a new track marked in the centre of the site. There are two small glass roofed structures marked along the northwestern edge of the Dunlop Mill building which encroaches into the subject site. A small square structure is present on the southwestern boundary.	
1975 1:1,250 (Western Sector)	There is sloping marked in the far northern sector likely comprising the embankment for the road to the north.	



MAP EDITION	DISCUSSION	MAP EXCERPT
1976 1:1,250 (Eastern Sector)	The markings surrounding the former marshland are no longer present, with sparse vegetation marked there instead.	
1999 Aerial Imagery	The track marked within the western and central sectors comprises visible hardstanding, with a car park present to the west of the mill. The northeastern and southwestern sectors can be seen to be vegetated with trees and rough grassland.	



MAP EDITION	DISCUSSION	MAP EXCERPT
2019 Aerial Imagery	The mill building has been demolished with hardstanding remaining visible in the south eastern sector of the site. The trees in the northeastern sector have been removed, while the southwestern sector is more densely vegetated than in the previous imagery.	
2023 Aerial Imagery	The former mill hardstanding areas have been excavated. Ongoing enabling works are visible in the area of the reinforced slope.	



MAP EDITION	DISCUSSION	MAP EXCERPT
2025 Aerial Imagery	The plateau between the upper and lower reinforced slopes can be seen in the centre of the site. The vegetation in the northern and northeastern sectors has been cleared.	



3.2. OFF-SITE HISTORICAL DEVELOPMENT

A review of potentially contaminative uses identified on historical Ordnance Survey maps within a 100m radius of the Site is summarised in Table 3.2.

Table 3.2 Surrounding Historical Development

SURROUNDING FEATURE	DISTANCE	DATES	DIRECTION
Dunlop Mills <i>Then Royle Pennine Trading Estate</i>	0m	Pre-1928 – Pre-1988 Pre-1988 – Pre-2013	East
Electrical Substation	10m	Pre-1984 - Present	North
Railway track	25m	Pre-1891 - Present	East
Castleton Lower Mill <i>Then Sudden Mill</i> <i>Then car park</i>	50m	Pre-1891 – Pre-1930 Pre-1930 – Pre1971 Pre-1971 – Present	West
Reservoir <i>Then infilled</i> <i>Then supermarket</i>	55m	Pre-1891 – Pre-1968 Pre 1968 – Pre 1976 Pre 1976 – Present	Northwest
Electrical Substation	80m	Pre1971 - Present	Northwest
Tanks	82m	Pre-1930 – Pre-2013	Southeast

3.3. PLANNING HISTORY

E3P has reviewed online planning records held by Rochdale Borough Council and has found environmentally pertinent information as is listed in Table 3.3.

Table 3.3 Planning History

PLANNING REFERENCE	PLANNING TITLE	PERTINENT DOCUMENTS AND FINDINGS
18/01407/OUT	Outline application (including means of Access) with all other matters reserved for the redevelopment of the site including the erection of 9 no. industrial units (use class B1, B2 and B8)	Phase I & II Geo Environmental Site Assessment (Ref: 11-778-R1 Dated October 2018) Remediation and Enabling Works Strategy (Ref: 11-778-R2 Dated November 2018) Findings discussed in Section 3.5.
18/01399/FUL	Erection of 201 dwellings and a block of 24 apartments including the demolition of existing structures together with associated ground works to the north of the site, public open space, landscaping and vehicular access from Royle Road	Decision granted August 2020

3.4. ANECDOTAL INFORMATION

A web-based search of the subject site has recovered the following photographs, courtesy of Britain From Above:

Table 3.4 **Summary of Anecdotal Information**

PLATE EPW016796
– BRITAIN FROM
ABOVE, 1926

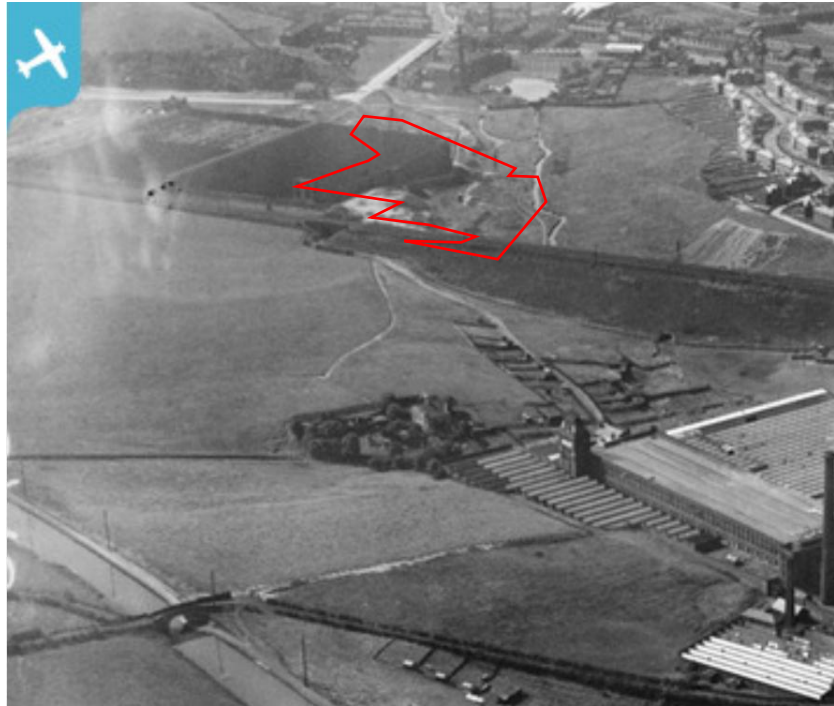
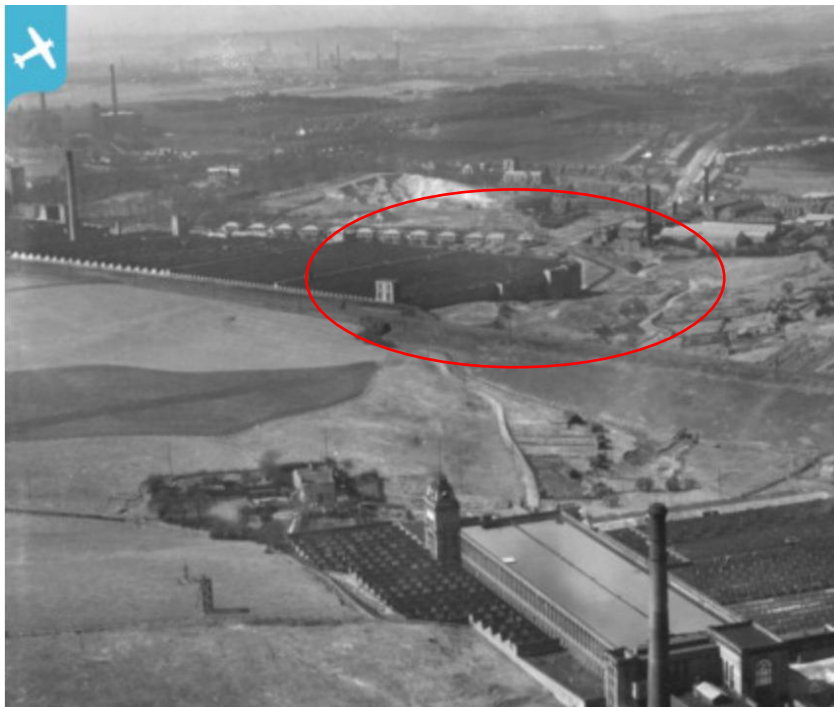


PLATE EAW004236
– BRITAIN FROM
ABOVE, 1947



3.5. PREVIOUS REPORTS

The following previous site investigation reports have been provided to E3P for review:

Table 3.5 Previous Reports

AUTHOR	TITLE/REFERENCE	CLIENT	DATE
E3P	Phase I and Phase II Geo-Environmental Site Assessment Ref: 11-778-R1 Dated October 2018	Countryside Properties	October 2018
E3P	Remediation and Enabling Works Strategy Ref: 11-778-R2 Dated November 2018	Countryside Properties	November 2018
Remedy Geotechnics	Geotechnical Design Report – North Boundary Reinforced Slope Design Ref: 22.016_GDR_001. Rev C2	Countryside Partnerships	June 2023

The key findings of the previous site investigation reports are summarised below, and where necessary, data has been used to support the E3P geoenvironmental site assessment.

The previous reports include areas of the adjacent residential development (former Dunlop Mill).

The previous reports contain data for a much larger area than the subject site, encompassing the large parcel of land adjacent to the southern boundary (former Dunlop Mill).

Phase I and Phase II Geo-Environmental Site Assessment- October 2018

- ✿ The initial CSM noted the likely presence of Made Ground and ACM in the northern sector, which may be source of heavy metals, PAHs and loose asbestos fibres.
- ✿ The intrusive investigation in the area of the subject site encountered shallow Made Ground overlying naturally occurring SAND.
- ✿ Laboratory analysis recorded asbestos fibres and elevated PAHs and non-volatile TPHs in the area of the subject site (northern area of the Ground Investigation), mainly associated with a bund in the western sector of the subject site.

Remediation and Enabling Works Strategy – November 2018

- ✿ The strategy details how the adjacent residential development will be delivered to ensure the development does not present a risk to human health or controlled waters for future site users or the wider environment.

Geotechnical Design Report – North Boundary Reinforced Slope Design

This report details the engineering specifications including material types, engineering methodologies and verification procedures for the reinforced slope. The specification requires a 6I material, which will require importing from a suitable source. No 6I material is present within the site boundary or in the adjacent residential development.

4. ENVIRONMENTAL SETTING

4.1. GEOLOGY

Online records indicate the area is underlain by the geological sequence presented in Table 4.1.

Table 4.1 Summary of Underlying Geology

GEOLOGICAL UNIT	CLASSIFICATION	DESCRIPTION	AQUIFER CLASSIFICATION
Superficial	Glaciofluvial Deposits	SAND AND GRAVEL	Secondary A
Solid	Pennine Lower Coal Measures	MUDSTONE, SILTSTONE AND SANDSTONE	Secondary B

Recent aerial imagery indicates earthworks in the vicinity of site, and a review of previous reports confirm the presence of Made Ground across site.

E3P has reviewed the BGS database, which identified a borehole in close proximity, from which to compare the published geology above.

The borehole logs are summarised in Table 4.2 below.

Table 4.2 Summary of BGS Borehole Records

LOCATION	DEPTH	MADE GROUND	DRIFT	SOLID
SD81SE684, 28m North	9.14	N/A	Topsoil 0.00-0.46m Silty clayey SAND 0.46-1.98m SAND and GRAVEL 1.98-3.96m Sandy SILT and CLAY 3.96-9.14m	N/A
SD81SE683, 28m North	7.47	N/A	Topsoil 0.00-0.46m Silty clayey SAND 0.46-1.45m Clayey SILT 1.45-7.47m	N/A
SD81SE676, 57m North	3.80	Silty gravelly SAND with gravels of cinder, brick, glass, rubber and timber 0.00-3.80m	N/A	N/A

LOCATION	DEPTH	MADE GROUND	DRIFT	SOLID
SD81SE681, 58m North	12.19	N/A	Topsoil 0.00-0.23m PEAT 0.23-2.74 SAND and GRAVEL 2.74-3.96m Sandy silty CLAY 3.96-5.49m Sandy SILT 5.49-10.52m Silty sandy CLAY 10.52-12.19m	N/A
SD81SE686, 75m North	15.00	Sandy gravelly clay 0.00-1.80m Clayey gravelly sand with brick fragments 1.80-3.30m	SAND 3.30-6.80m Clayey SAND 6.80-13.00m CLAY 13.00-15.00m	N/A

The BGS mapping also identifies the location of faults that cross the site, as presented in Table 4.3.

Table 4.3 Faulting

DESCRIPTION	GEOLOGICAL MAP EXCERPT
There is a fault located on-site, traversing north east to south west through the central sector, with the downthrown side to the northwest.	

4.2. HYDROGEOLOGY

The Groundsure report indicates that the site is not located within a groundwater source protection zone. Furthermore, there are no groundwater/potable abstractions within 1 km of the site.

Based on the local topography and the location of historical surface watercourses, it is likely that shallow groundwater, if present will flow in a northerly direction following the topographical gradient towards Sudden Brook located approximately 1m north of the site.

4.3. HYDROLOGY

Surface water features within 50 m of the subject site are summarised in Table 4.5.

Table 4.5 Surface Water Features

SURFACE WATER FEATURE	EA CLASSIFICATION	QUALITY	DISTANCE (m)	DIRECTION
Sudden Brook – Roch (Spodden to Irwell)	River	Moderate	1.0	North

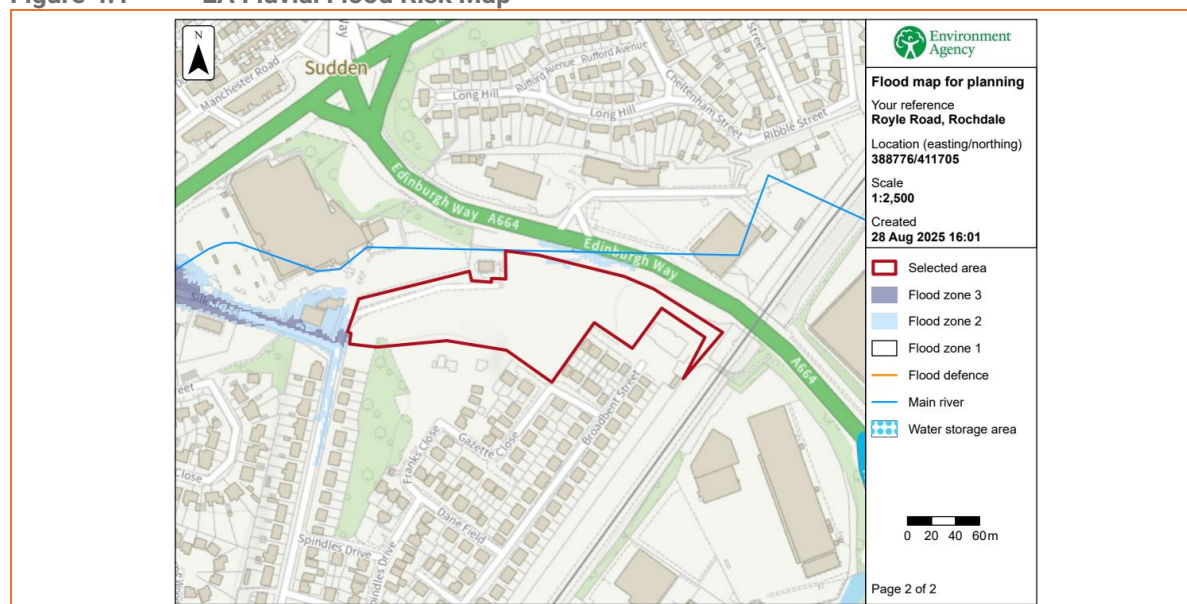
It should be noted that Sudden Brook, although recorded by the Groundsure to be 1 m north of the site is not marked on post 1975 mapping, indicating it was culverted to construct Edinburgh Way/Rochdale Bypass to the north of the site.

The site is located within a currently defined “Flood Risk Zone 1”, defined as land assessed as having less than 1 in 1,000 annual probability of river or sea flooding (<0.1%) and, as such, is considered to be unaffected by river flooding. There are minor areas within the northern and western sectors which fall within Flood Risk Zone 2, where there is considered to be between a 1% and 0.1% (between 1 in 100 and 1 in 1,000) chance of flooding from rivers.

In addition, the Groundsure report states there is a moderate potential for groundwater flooding at the Site.

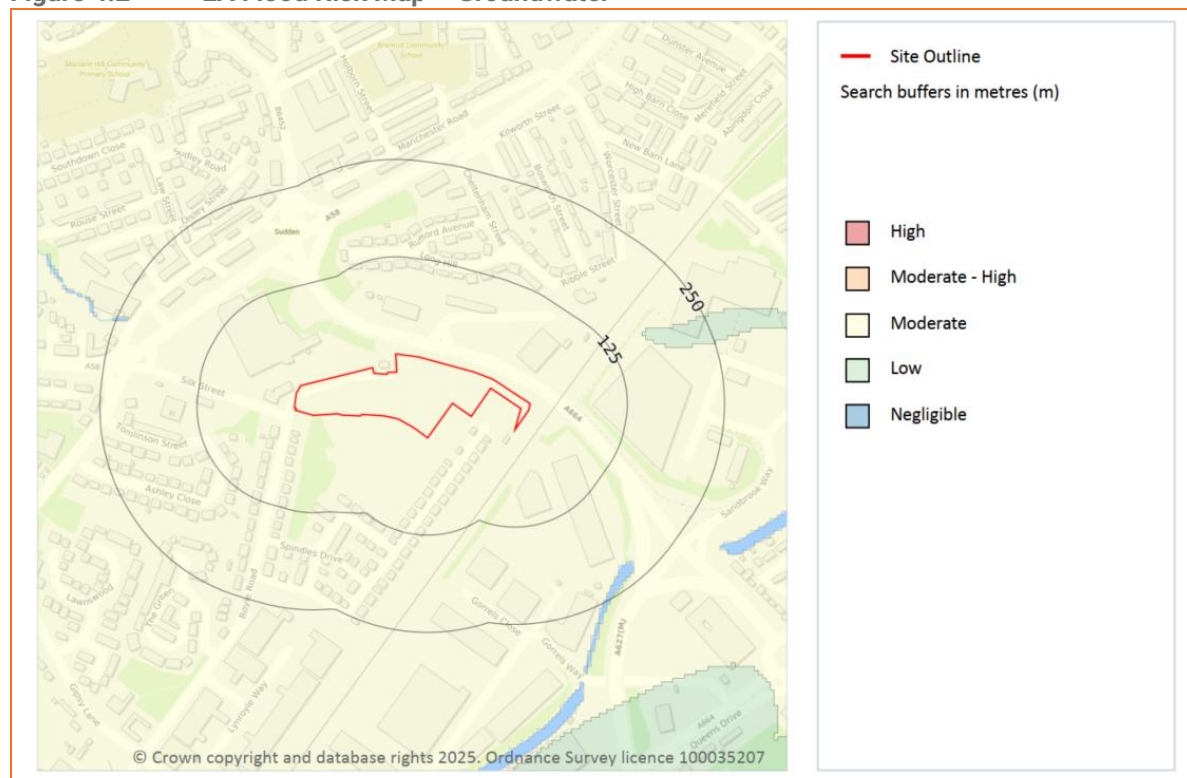
The Environment Agency (EA) Flood Risk Maps for the site and Ambiantal Risk Analytics Groundwater Flood Risk Map are presented in Figure 4.1 and Figure 4.2.

Figure 4.1 EA Fluvial Flood Risk Map



Source – <https://flood-map-for-planning.service.gov.uk>

Figure 4.2 EA Flood Risk Map – Groundwater



Source – *Ambiental Risk Analytics*

4.4. RADON RISK

The Groundsure report indicates the site is situated in an area where less than 1% of homes are above the “Action Level” and that the BGS reports that full radon protective measures are not necessary for the construction of new dwellings or extensions.

4.5. LANDFILL SITES

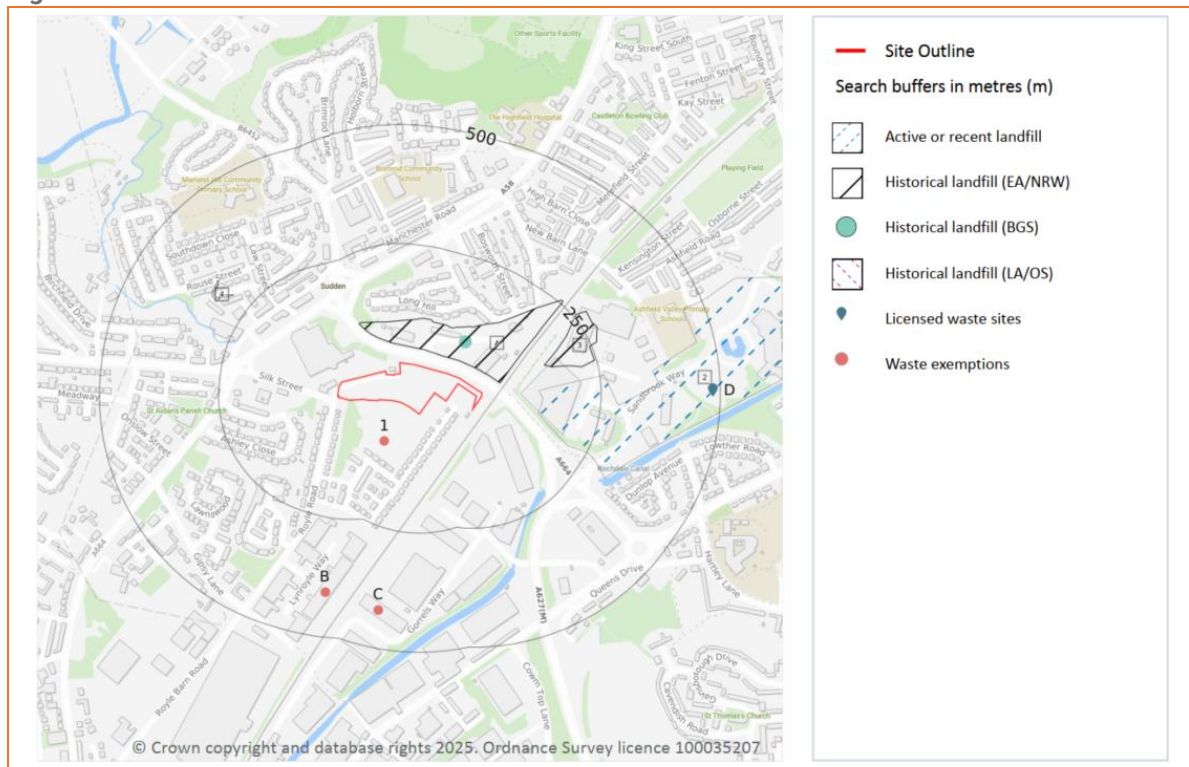
E3P has reviewed the environmental database and has identified one active/recent landfill and two historical landfills within 250 m of the site. Identified landfills are listed in Table 4.6.

Table 4.6 Licensed Landfills

LANDFILL NAME	STATUS	OPERATING DATES	ACCEPTED WASTE	DISTANCE	DIRECTION
Wimpey Construction (UK) Ltd, Arundel Avenue	Active/Recent	Not stated	A05: Non-Biodegradable Wastes	119	East
Edinburgh Way Landfill	Historical	First recorded 30/09/1972 End date not stated	Not stated	33	North
Hailwood Street Landfill	Historical	Not stated	Not stated	143	Northeast

A screenshot of the mapping showing landfill locations within 250 m radius of the site is included in Figure 4.3.

Figure 4.3 Locations of Landfills



4.6. WASTE MANAGEMENT LICENSES AND ENVIRONMENTAL PERMITS

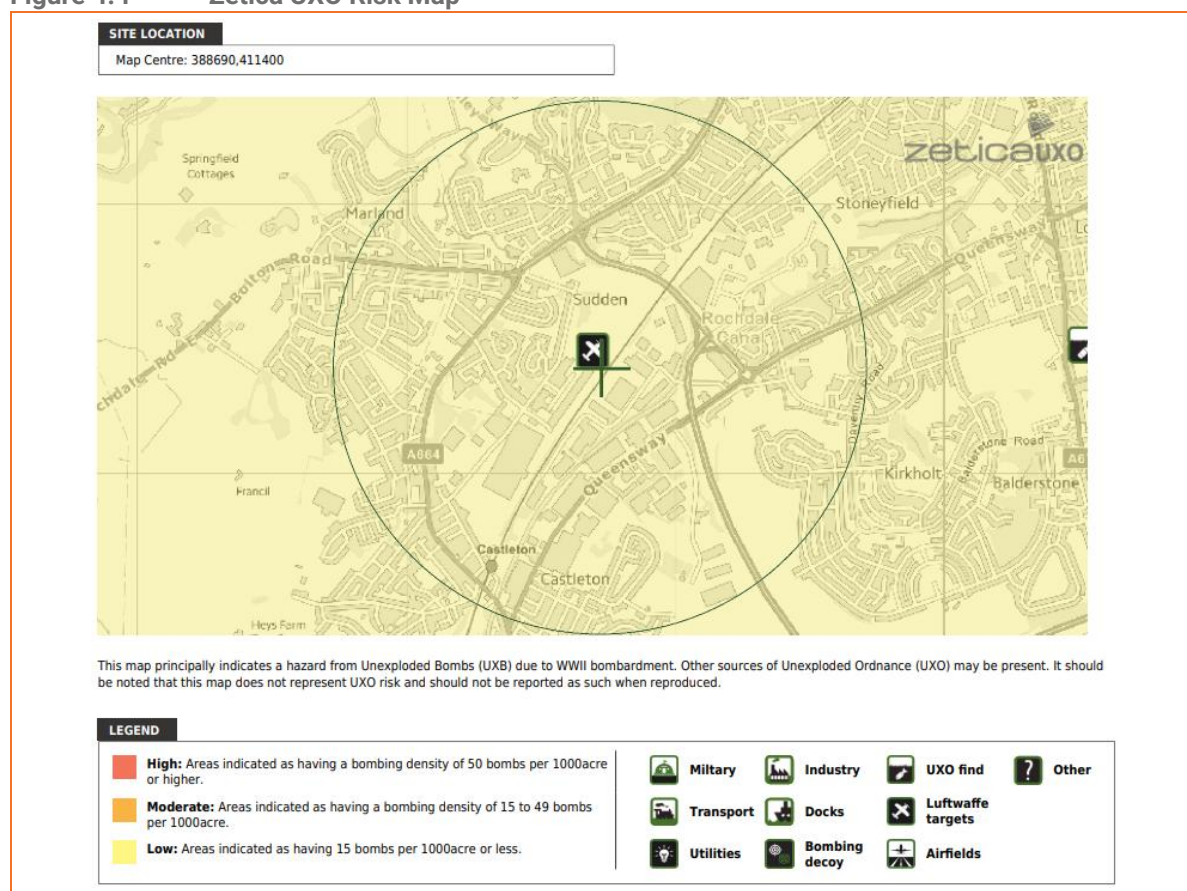
A waste management license (WML No. 53728) is attributed to Wimpey Construction (UK) Ltd for their landfill at Arundel Avenue, as discussed previously in Section 4.5.

No other waste Management Licenses or Environmental Permits have been identified in the environmental database for the site and surrounding area.

4.7. UNEXPLODED ORDNANCE

The regional unexploded bomb risk map from Zetica (2014) indicates that the Site is in an area at low risk from possible unexploded ordnance (UXO) resulting from the Second World War. The Zetica UXO Risk Map is presented in Figure 4.4.

Figure 4.4 Zetica UXO Risk Map



Source - <https://zeticauxo.com/downloads-and-resources/risk-maps/>

4.8. INDUSTRIAL LAND USES

The site is located within a predominantly industrial area; several industrial land uses have therefore been identified within a 100 m radius of the site, summarised in Table 4.7.

Table 4.7 Industrial Land Uses

INDUSTRIAL LAND USE	DISTANCE (m)	DIRECTION	STATUS
Electricity Substation	5	North	Active
New Vehicles - R R G Group	63	North	Active
New Vehicles - R R G Toyota Rochdale	63	North	Active
New Vehicles - R R G Select Peugeot Rochdale	81	North	Active
New Vehicles - R R G Peugeot Rochdale	82	North	Active
Electricity Sub Station	95	North	Active

4.9. SITE SENSITIVITY ASSESSMENT

The site is assessed to be located within a “Moderate” sensitivity setting, as discussed in Table 4.8.

Table 4.8 Site Sensitivity Assessment

SENSITIVITY PROFILE	DISCUSSION	RATING
Groundwater Source Protection Zone or Drinking Water Safeguarding Zone	The site is not located within a groundwater source protection zone.	Low
Distance to the closest groundwater abstraction point	There are no potable or groundwater abstractions within 1 km of the site.	Low
Aquifer classification in superficial drift deposits	Secondary A	Moderate
Aquifer classification in bedrock	Secondary A	Moderate
In the site underlain by low-permeability drift to depths in excess of 10 m?	A previous report has found permeable and low-permeable soils at depths >10m.	Moderate
Is the site located within 50 m of a surface watercourse?	Sudden Brook is located approximately 1 m north of the site and is culverted running approximately parallel to the northern boundary.	Moderate
Sensitive land uses	There are residential dwellings located to the south and west of the site.	Moderate
Sensitive ecological receptors	The site is located within the SSSI Impact Zone for Rochdale Canal, and consultation with Natural England may be required for infrastructure including proposed estate roads and utilities. Deciduous woodland listed as Priority Habitat Inventory is recorded along the southwestern site boundary. The far eastern sector of the site is listed as falling within Network Enhancement Zone 2.	Moderate/Low
Overall Site Environmental Sensitivity		Moderate

4.10. REGULATORY DATABASE

The information summarised in Table 4.9 has been obtained from a commercially available environmental database. The summary table only includes records from within 250 m of the subject site and is not otherwise detailed in the report.

Table 4.9 Summary of Environmental Data

RECORD	ENTRIES WITHIN 250 m	DETAILS
Contaminated Land Register Entries and Notices	0	None Recorded.
Authorised Industrial Processes (Part A, A1 and Part B Permits)	3	33 m W – Tesco Petrol Station, Silk Street Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit: Part B 213 m W – Johnsons Dry Cleaners, Manchester Road Process: Dry Cleaning Status: Current Permit Permit Type: Part B 218 m N – Eurogarages Ltd, Sudden Service Station Process: Unloading of Petrol into Storage at Service Stations Status: Current Permit Permit Type: Part B
Fuel Stations Entries	2	61 m W – Tesco, Silk Street, Rochdale 205 m W – Esso, Manchester Road, Sudden
Licensed Radioactive Substances	0	None Recorded.
Enforcements, Prohibitions or Prosecutions	0	None Recorded.
Discharge Consents	0	None Recorded.
Pollution Incidents	0	None Recorded.
Consents Issued Under the Planning (Hazardous Substances Act 1990)	0	None Recorded.
Control Of Major Accident Hazard (COMAH) Sites	0	None Recorded.

5. PRELIMINARY MINING ASSESSMENT

5.1. COAL MINING

The Mining Remediation Authority (MRA) mapping and records indicate that the site is in an area that may be affected by coal mining.

The MRA operates a risk-based approach to assessing potential instability issues associated with future land development located within the predefined MRA consultation areas. This risk-based approach subdivides the potential risk into “low” and “high” risk categories.

The risk categories can be defined as:

Low-Risk Sites – Deemed to be land where coal mining has taken place, however, it was at such depth not to pose a risk to new development, and it, therefore, contains no known recorded risks and as such, no further assessment is required.

For low-risk site, the MRA categorically states:

*If your proposed development is within the Development Low Risk Area, **there is no need for you to submit any coal mining information with your planning application** and The Mining Remediation Authority will not be consulted by the LPA. The LPA will include our Standing Advice as an informative note within the decision notice.*

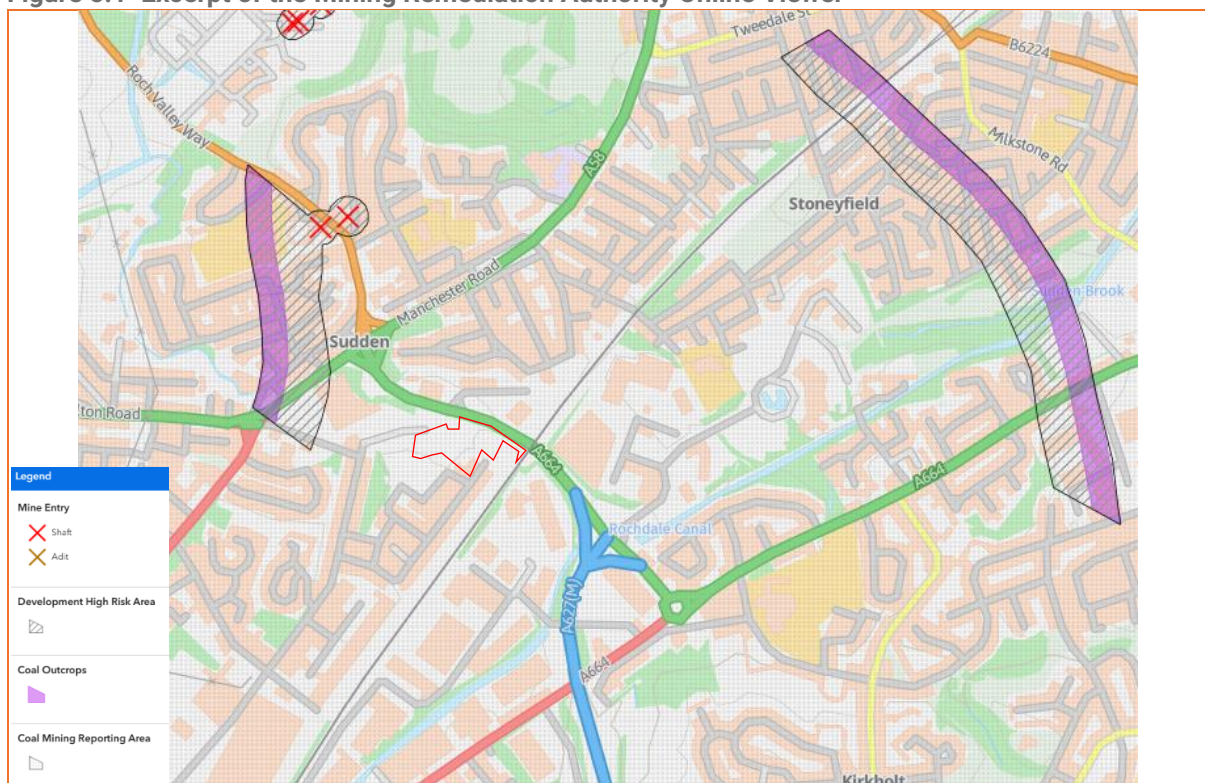
High-Risk Sites – Deemed to be landholdings located within an area known to contain legacy risks that include:

- ✿ Mine entries (shaft or adit);
- ✿ Shallow coal working (recorded and probably);
- ✿ Workable coal seam outcrops;
- ✿ Mine gas sites and areas;
- ✿ Recorded coal-mining -related hazards;
- ✿ Geological features (fissures and break lines); and
- ✿ Former surface mining sites (sometimes using historic opencast extraction methods).

The MRA confirms that the site is not located within a Development High Risk area, therefore no further assessment is required.

E3P has reviewed the Mining Remediation Authority Online Viewer, and an excerpt of this is presented in Figure 5.1 provides a snapshot of the MRA Online Viewer and shows that the subject site is not located in a Development High Risk Area. And is therefore a low risk site.

Figure 5.1 Excerpt of the Mining Remediation Authority Online Viewer



6. PRELIMINARY GEOTECHNICAL ASSESSMENT

6.1. GEOTECHNICAL DATA

Geotechnical data presented within a commercially available environmental database is summarised in Table 6.1.

Table 6.1 Summary of Geotechnical Data

HAZARD	DESIGNATION
Shrink-Swell Clay	Negligible Risk
Landslides	Very Low Risk
Ground Dissolution	Negligible Risk
Compressible Ground	Negligible Risk
Collapsible Deposits	Very Low Risk
Running Sand	Very Low Risk
Anthropogenic Cavities	Low risk
Sinkhole and Natural Cavities	No hazard from rock solubility. When undertaking an online search for sinkholes in the area, a news report identifies a sinkhole opened up on Gipsy Lane approximately 530 m south of the site in 2024, however it is unknown whether this was due to ground dissolution.

6.2. ARTIFICIAL LANDFORM AND GEOMORPHOLOGY

Based on the initial geological assessment, a review of available topographic data and pertinent mapping, E3P has undertaken a preliminary geomorphological evaluation of the landform and its possible mechanism for formation.

The natural landform is considered to slope falling from south to north towards Sudden Brook, running approximately 1 m north of the site.

Significant earthworks including artificial levelling and cut and fill have been undertaken across the site, and the site appears to have been stepped; this stepped topography is visible in Figure 6.1 towards the south of the site, and further changes are likely to have happened since the time the 2022 LiDAR mapping was produced.

It is possible that the historical level raising in order to form the stepped plateaus has resulted in a greater thickness of Made Ground overlying the natural superficial glaciofluvial deposits, as well as creating steeper localised slopes along the cut areas.

Figure 6.1 Digital Terrain Model 2022



6.3. GEOTECHNICAL RISK ASSESSMENT

Based on the desk-study information, the following geotechnical assessment has been made:

- ✿ There may be relict foundations, utilities and underground obstructions within the southern sector associated with the former cotton mill. It is anticipated that any relic foundations or substructures will have been grubbed out in their entirety during the enabling works for the residential development adjacent to the southern boundary but there could be existing substructures within the slope area.
- ✿ The upper and lower reinforced slopes have been engineered to a design specification however a slope stability analysis exercise should be undertaken to ensure the proposed development will not induce slope failure.
- ✿ Further cut and fill and artificial levelling may be necessary to create the appropriate development platforms for the proposed development.
- ✿ Any intrusive works should consider the presence of geotextile reinforcement and the compacted or engineered soils. The integrity of the slope construction may be compromised by any intrusive works including piling.
- ✿ Any works undertaken at the slope toe or crest should be undertaken with care in order not to induce slope failure.

7. INITIAL CONCEPTUAL SITE MODEL

Under EA LCRM (updated July 2025) and BSI 10175 (Code of Practice for Investigation of Potentially Contaminated Land), and BS EN ISO 21365:2021 (Soil Quality – Conceptual models for potentially contaminated sites), E3P has developed a Tier 1 risk assessment comprising an initial conceptual site model (CSM) to identify potential contamination sources, migration pathways and receptors within the study area. An initial screening of the on and potential off-site sources of contamination has been undertaken in Table 7.1, with the more detailed initial CSM included overleaf in Table 7.2.

Table 7.1 Initial Contaminant Source Screening

SOURCE	SOIL	GROUNDWATER	GROUND GAS/VAPOUR
On-Site			
Made Ground (Dunlop Mills)	ACMs, Heavy Metals, TPHs, PAHs	Heavy Metals, TPHs, PAHs	Carbon Dioxide, Methane
Off-Site			
Electric Substation	PCBs	N/A	N/A
Petrol Station	TPHs, PAHs, Heavy Metals	TPHs, PAHs, Heavy Metals	Volatile TPH, VOC and SVOCs
Historic Cotton Mill	Heavy Metals, PAHs, TPHs, Pesticides,	Heavy Metals, PAHs, TPHs	Carbon Dioxide, Methane, Volatile Vapours
Historic Landfill	Heavy Metals, VOCs, ACMs, PAHs, Sulphates, TPHs	TPHs, PAHs, VOCs	Carbon Dioxide, Methane,
Infilled Reservoir	N/A	N/A	Carbon Dioxide, Methane

After reviewing all environmentally pertinent information and the potential contaminant sources, the following initial conceptual site model has been developed for the site:



Table 7.2 Initial Conceptual Model

CONTAMINANT SOURCE	MIGRATION PATHWAY	RECEPTOR
HUMAN HEALTH		
Made Ground – former cotton mill <i>Heavy Metals, PAHs, TPH</i>	Accidental ingestion and/or dermal contact with contaminated soil and/or leachate. PL1/PL2 Inhalation of contaminated dust PL3	Human Health – construction workers Human Health – end users
Discussion Made Ground associate with the former Dunlop Mills may be a source of heavy metals, PAHs and TPH. Previous ground investigation encountered shallow Made Ground deposits, with some recorded exceedances. The overall risk to human health is considered to be low, as the reinforced slope constriction has utilised the importation of inert quarried material (class 6i) which will act as a capping layer above the Made Ground, breaking any potential exposure pathways (dermal contact and ingestion).		
Probability: Low likelihood	Consequence: Mild	Level of Risk: Low
Made Ground –former cotton mill Asbestos (Asbestos containing materials (ACM) and loose fibres)	Inhalation (of fibres) Construction works disturbing bound material and releasing fibres. PL3	Human Health – construction workers, end land users, and users of adjacent sites
Discussion ACM was noted in previous phases of Ground investigation during the site walkover and loose fibres were detected in Made Ground soils within the site boundary. While loose fibres present a risk to human health though the inhalation of dust and fibres, the placement of imported naturally occurring materials (Class 6i) will act as a capping layer and break the potential exposure pathways.		
Probability: High Likelihood	Consequence: Severe	Level of Risk: Very High
Made Ground –former cotton mill PAHs, TPHs,	Ingestion of tainted water supply. PL7	Human Health – End users Water pipeline
Discussion Extensive and variable Made Ground is present across the site, which may contain heavy metals, inorganics, PAHs, TPHs and SVOCs. An intrusive investigation is required to inform a UKWIR risk assessment and confirm requirements for the proposed water supply.		



CONTAMINANT SOURCE	MIGRATION PATHWAY	RECEPTOR
Probability: Likely	Consequence: Mild	Level of Risk: Moderate/Low
Off site electrical substation PCBs	Accidental ingestion and/or dermal contact with contaminated soil and/or leachate. PL1/PL2	Human Health – construction workers Human Health – end users

The off site electrical substation located up to 5m from the northern site boundary may be a potential source of PCBs due to its construction prior to the cessation in PCB use and manufacture in the UK.

While PCBs are highly toxic and persistent in the environment, they have a very low mobility and are unlikely to be present within the site boundary.

Probability: Low likelihood	Consequence: Mild	Level of Risk: Low
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CONTROLLED WATERS

Made Ground – former cotton mill TPHs, PAHs, Heavy Metals	Contact with contaminated groundwater PL2 Vertical Migration PL5 Lateral migration to Sudden Brook PL5	Groundwater – Secondary A Aquifer Human Health – site personnel Human Health – Consumer Aquatic ecosystems
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Discussion

Sources of soil contamination (heavy metals, TPHs and PAHs) have been identified on site, which may leach from the soils into the groundwater, particularly if groundwater is shallow and in contact with the Made Ground. Additionally, the previous E3P report from 2018 identified contamination in a groundwater sample, with exceedances in pH and Selenium in WS208 deemed to be associated with the previous cotton mill, however this is not considered to be a significant risk to controlled waters.

The Groundsure report identifies the presence of Sudden Brook just 1m north of site, making it the primary controlled water receptor, however hydraulic continuity with this water body is not anticipated due to its culverted nature, making the superficial aquifer the main receptor of concern.

The naturally occurring upfill materials utilised to build the reinforced slope will not present a risk to controlled waters and act as a capping layer, reducing the rainfall infiltration potential of the shallow Made Ground soils.

Probability: Unlikely	Consequence: Mild	Level of Risk: Very low
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CONTAMINANT SOURCE	MIGRATION PATHWAY	RECEPTOR
GROUND GAS		
Ground Gases Methane, Carbon Dioxide, Volatile Vapours	Inhalation of ground gas PL4 Accumulation of ground gas in confined spaces (asphyxiation or explosion) PL4	Human Health – site personnel Human Health – end users Infrastructure and services

Discussion

Potential sources of ground gas have been identified as the off-site historical landfill sites. The landfill located on Arundale Avenue handled non-biodegradable wastes and is located over 100m to the northeast. This is not considered to be a significant risk to the site due to the types of waste received and not being within influencing distance of the site.

The other historical landfill sites and the historically infield reservoirs are also potential sources of ground gas, due to their age any degradation and off gassing is likely to have occurred. The overall risk is reduced as inert naturally occurring material has been imported to upfill the site and create the reinforced slope. This uplifting of the site will reduce the potential for any ground gas that has migrated from the landfill sites below the proposed building. The shallow on site Made Ground deposits are not considered to be a significant source of ground gas.

Probability: Unlikely	Consequence: Minor	Level of Risk: Very Low
Radon	Inhalation of ground gas PL4 Accumulation of ground gas in confined spaces (carcinogenic)	Human Health – site personnel Human Health – end users

Discussion

The Groundsure report indicates that the site is in an area where less than 1% of homes are above the "Action level". Therefore, the site is not considered to be affected by Radon.

Probability: Unlikely	Consequence: Minor	Likelihood: Very Low
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CONTAMINANT SOURCE	MIGRATION PATHWAY	RECEPTOR
Off site fuel station- Hydrocarbon vapours TPH, VOC, SVOC	Inhalation of ground gas PL4	Human Health – site personnel Human Health – end users
Off site dry cleaners- VOCs	Accumulation of ground gas in confined spaces (carcinogenic)	

The off site fuel station located approximately 33m to the west of the site is a potential source of volatile TPH, VOC and SVOC associated with fuel spills.

The off site dry cleaners is a potential source of VOCs such as TCE, used in the dry-cleaning process. Due to the distance from the site boundary (213m west) it is unlikely that any VOC spills or contamination would migrate towards and beneath the site.

The previous ground investigation did not record any volatile TPHs in the soil analysis or any VOCs in the groundwater analysis, which suggests there is no volatile contamination beneath the site.

Probability: Unlikely	Consequence: Minor	Likelihood: Very Low
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INFRASTRUCTURE AND DEVELOPMENT

Made Ground Sulphate	Sulphate attack on PL6	Building concrete
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Discussion

Due to the extent of Made Ground on site, and the proximity to a railway line, high concentrations of sulphate cannot be discounted. Allowances should be made for a higher specification of concrete at early design stage.

Probability: Likely	Consequence: Mild	Likelihood: Moderate/Low
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Made Ground Phytotoxic contaminants	Direct contact (plant uptake) PL8	Flora
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Discussion

Extensive and variable Made Ground is anticipated sitewide, which may contain high concentrations of phytotoxic contaminants. Allowances should be made for cover systems as a growing medium in gardens/landscaped areas and deeper clean cover in areas of planting/trees.

Probability: Likely	Consequence: Minor	Likelihood: Low
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Main Exposure Pathways

PL1 = Soil Ingestion, PL2 = Dermal Contact and Ingestion, PL3 = Dust Inhalation, PL4 = Vapour/Gas Inhalation, PL5 = Vertical/Lateral Migration, PL6 = Corrosion of Concrete, PL7 = Tainting of Water Supply, PL8 = Uptake by Plants



FROM CIRA 552 (2001)		RISK ASSESSMENT MATRIX			
		Consequence			
		SEVERE	MEDIUM	MILD	MINOR
Probability	HIGH LIKELIHOOD	Very High	High	Moderate	Moderate / Low
	LIKELY	High	Moderate	Moderate / Low	Low
	LOW LIKELIHOOD	Moderate	Moderate/ Low	Low	Very Low
	UNLIKELY	Moderate / Low	Low	Very Low	Very Low

END OF REPORT

Appendix I: Limitations



GENERAL

This report and any associated works (together comprising the "Services") were compiled and carried out by E3P for the client (as present in Section 1) under the E3P "Terms of Business" or with those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.

Unless explicitly agreed otherwise, in writing, this report has been prepared under E3P Standard Terms and Business as included within our proposal to the Client.

Project-specific appointment documents may be agreed upon at our discretion, and a charge may be levied for both the time to review and finalise appointment documents and also for associated changes to the appointment terms. E3P reserves the right to amend the fee should any changes to the appointment terms create an increased risk to E3P.

The report needs to be considered in light of the proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEOENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: This section covers reports with the following titles or combination of titles: Phase 1; Desktop Study; Geoenvironmental Assessment; Development Appraisal; Preliminary Environmental Risk Assessment; Constraints Report; Due Diligence Report; Geotechnical Development Review; Environmental Statement; Environmental Chapter; Baseline Environmental Assessment; Project Scope Summary Report (PSSR), Program Environmental Impact Report (PEIR), Geotechnical Development Risk Register; Agricultural Land Assessment; Mineral Safeguarding Assessment; Desk Top Coal Mining Risk Assessment; Hydrogeological Appraisal; Construction Environmental Management Plan; and Site Water Management Plan.

The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walkover inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects' responses may not have been received from all parties. E3P cannot be held responsible for any disclosures that are provided post-production of our report and will not automatically update our report.

The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, E3P reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.

Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and does not constitute or replace full and proper surveys completed by suitably qualified and experienced specialists in these fields.

E3P does not warrant work/data undertaken/provided by others.

INTRUSIVE INVESTIGATION REPORTS

Coverage: The following report titles (or combination) may cover this category of work: Geoenvironmental Site Investigation; Geotechnical Assessment; GIR (Ground Investigation Reports); Preliminary Environmental And Geotechnical Risk Assessment; Preliminary Summary; Coal Mining Risk Assessment, Ground Gas Addendum; and, Geotechnical Risk Register.

The investigation has been undertaken to provide information concerning either:

- The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
- Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.

The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.

Unless otherwise specified in the scope of works, any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.

For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.

For geotechnical investigations, the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.

The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.

The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report

The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, E3P has used reasonable skill and care to extrapolate conditions between these points based on assumptions to develop our interpretation and conclusions.

The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation and at the time of the investigation.

Conditions can change between investigation points both spatially and over time and these interpretations should therefore be considered indicative. The assessment of extreme weather events and their impact on ground conditions is not within the scope of E3P's work

The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of

any future changes or amendments to these values. Specific assumptions associated with the risk assessment process have been outlined within the body or associated appendix of the report.

Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

Where soil contamination concentrations recorded as part of this investigation are used for commentary on the potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed and the waste classification and any subsequent disposal option agreed upon with licenced subcontractors and/or the relevant regulators.

The results of the asbestos testing are factually reported and interpretation is given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and/or trace loose asbestos fibres within the soil matrix at the site.

If costs have been included in relation to additional site works, and/or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.

In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIATION AND ENABLING WORK STRATEGY REPORTS

These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected based on the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.

The outputs of the Detailed Quantitative Risk Assessments are based upon the manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.

Before adoption on-site, assessment criteria will need to be discussed and agreed upon with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of E3P. All costs and

programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

E3P does not accept liability for any subcontract work that has not been completed in strict accordance with an approved E3P Remediation and Enabling Works Strategy.

GEOTECHNICAL DESIGN REPORT (GDR)

The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS AND BUILD PHASE MITIGATION)

These reports are factual and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of earthworks or remedial works.

The data is presented and will be compared with assessment criteria.

Appendix II: Glossary



ACM	Asbestos-containing material	MMP	Materials management plan
ADS	Acoustic design statement	ND	Not detected
AST	Above-ground storage tank	NDP	Nuclear density probe
BGS	British Geological Survey	NMP	Noise management plan
BSI	British Standards Institute	NPSE	Noise policy statement for England
BTEX	Benzene, toluene, ethylbenzene, xylenes	NR	Not recorded
MRA	Mining Remediation Authority	PAH	Polycyclic aromatic hydrocarbon
CBR	California bearing ratio	PCB	Polychlorinated biphenyl
CIEH	Chartered Institute of Environmental Health	PI	Plasticity index
CIRIA	Construction Industry Research Association	PID	Photo ionisation detector
CLEA	Contaminated land exposure assessment	POS	Public open space
CML	Council of Mortgage Lenders	PPE	Personnel protective equipment
CoC	Contaminants of concern	ProPG	Professional practice guidance
CSM	Conceptual site model	QA	Quality assurance
DNAPL	Dense non-aqueous phase liquid (chlorinated solvents, PCB)	SGV	Soil guideline value
DWS	Drinking water standard	SPH	Separate-phase hydrocarbon
EA	Environment Agency	SPT	Standard penetration test
EQS	Environmental quality standard	SVOC	Semi-volatile organic compound
FFL	Finished floor level	TPH	Total and speciated petroleum hydrocarbon
GAC	General assessment criteria	TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group)
GL	Ground level	UKWIR	United Kingdom Water Infrastructure Risk
GSV	Gas screening value	UST	Underground storage tank
HCV	Health criteria value	VCC	Vibro-concrete column
ICSM	Initial conceptual site model	VOC	Volatile organic compound
LEL	Lower explosive limit	VRSC	Vibro-replacement stone columns
LMRL	Lower method reporting limit	VSC	Vibro-stone columns
LNAPL	Light non-aqueous phase liquid (petrol, diesel, kerosene)	WHO	World Health Organisation
MCV	Moisture condition value	WRAP	Waste and Resources Action Programme
MIBK	Methyl isobutyl ketone	WTE	Water table elevation
m	Metres	ppm	Parts per million

km	Kilometres	mg/m³	Milligram per metre cubed
% v/v	Percent volume in air	m bgl bgl	Metres below ground level
mb	Millibars (atmospheric pressure)	m bcl	Metre below cover level
l/hr	Litres per hour	mAOD	Metres above ordnance datum (sea level)
µg/l	Micrograms per litre (parts per billion)	kN/m²	Kilonewtons per metre squared
ppb	Parts per billion	µm	Micrometre
mg/kg	Milligrams per kilogram (parts per million)	SSRT	Site Specific Remediation Target
PSD	Particle Size Distribution	DD	Dry Density
CL:AIRE	Contaminated Applications in Land: Real Environments	Mc	Moisture Content
ρ	Bulk Density	GPR	Ground Penetrating Radar
NDP	Nuclear Density Probe	FFL	Finished Floor Level
LEL	Lower Explosive Limit	UKWIR	UK Water Industry Research
CIRIA	Construction Industry Research and Information Association	LOD	Limit of Detection
PFAS	Per- and Poly-Fluorinated Substances	PFOA	Perfluorooctanoic Acid

Appendix III: CIRIA 552 Risk Classification



CIRIA C552;2001 – Classification of Consequence

CLASSIFICATION	CATEGORY	DEFINITION
SEVERE	Humans	Short-term (acute) risk to human health likely to result in “significant harm” as defined by the Environmental Protection Act 1990, Part 2a
	Controlled Water	Short-term risk of pollution of sensitive water resource
	Property	Catastrophic damage to buildings/property
	Ecology	Short-term risk to a particular ecosystem or organism forming part of such ecosystem
MEDIUM	Humans	Chronic damage to human health (“significant harm” as defined in DEFRA, 2006)
	Controlled Waters	Pollution of sensitive water resources
	Ecological Systems	Significant change in a particular ecosystem or organism forming part of such ecosystem
	Humans	Chronic damage to human health (“significant harm” as defined in DEFRA, 2006)
MILD	Controlled Waters	Pollution of non-sensitive water resources
	Property	Significant damage to buildings, structures, crops and services (“significant harm” as defined in DEFRA, 2006) and damage to sensitive buildings / structures and services
	Ecological Systems	Damage to the environment
MINOR	Humans	Non-permanent health effects to human health that are easily prevented by the use of PPE
	Property	Easily repairable effects of damage to buildings, structures and services
	Financial / Project	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve

CIRIA 552:2001 Classification of Probability

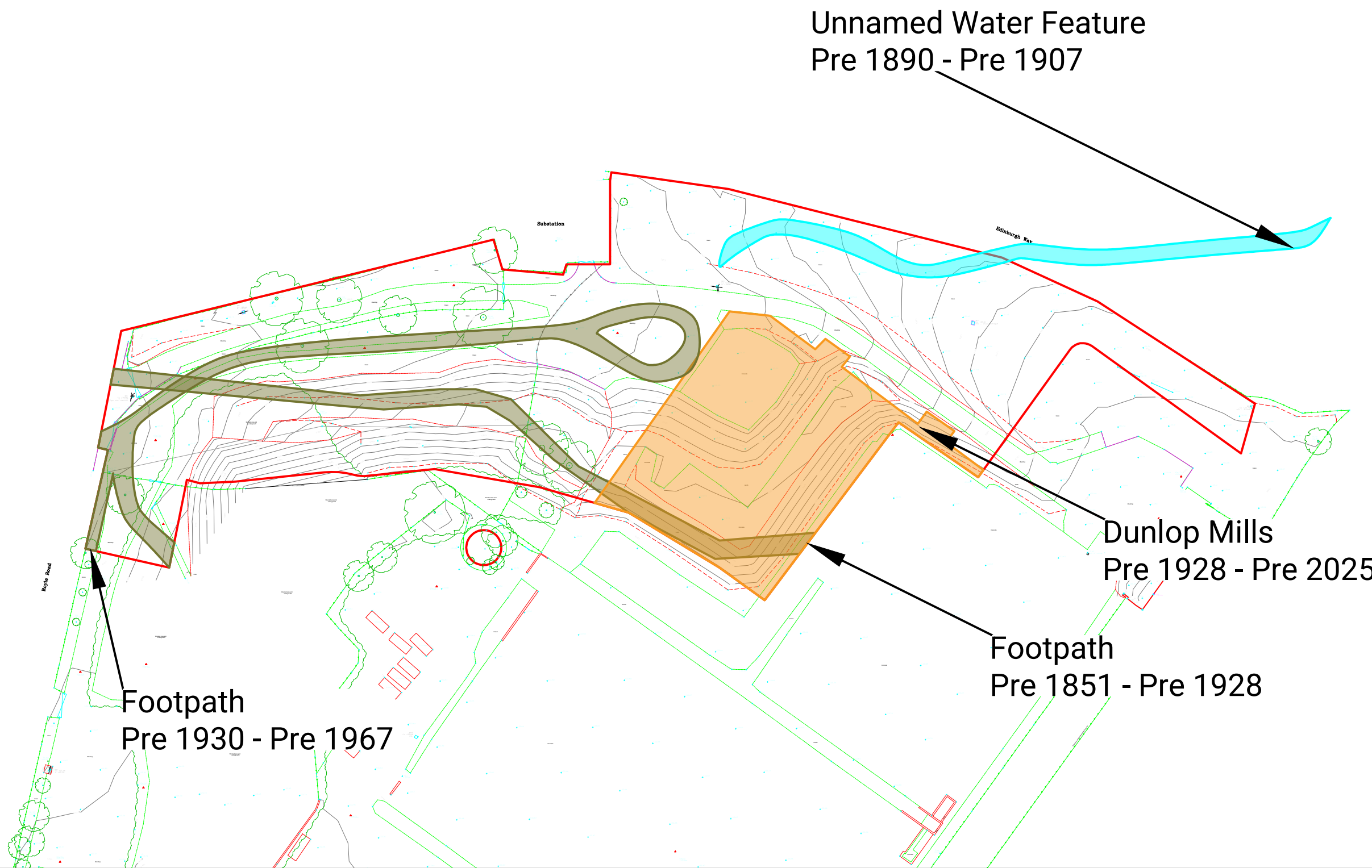
RISK	DEFINITION
HIGH LIKELIHOOD	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
LIKELY	There is a pollution linkage, and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
LOW LIKELIHOOD	There is a pollution linkage, and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place and is less likely in the short term.
UNLIKELY	There is a pollution linkage, but circumstances are such that it is improbable that an event would occur even in the very long term.

Appendix IV: Drawings



DRAWING 18-517-001 – SITE LOCATION MAP





- Historical Features
- Footpath
 - Dunlop Mills
 - Unnamed Water Feature

Notes:					
P1	REVA	16.12.2025	TG	AG	AG
Phase	Issue	Date	Drawn	Checked	PM

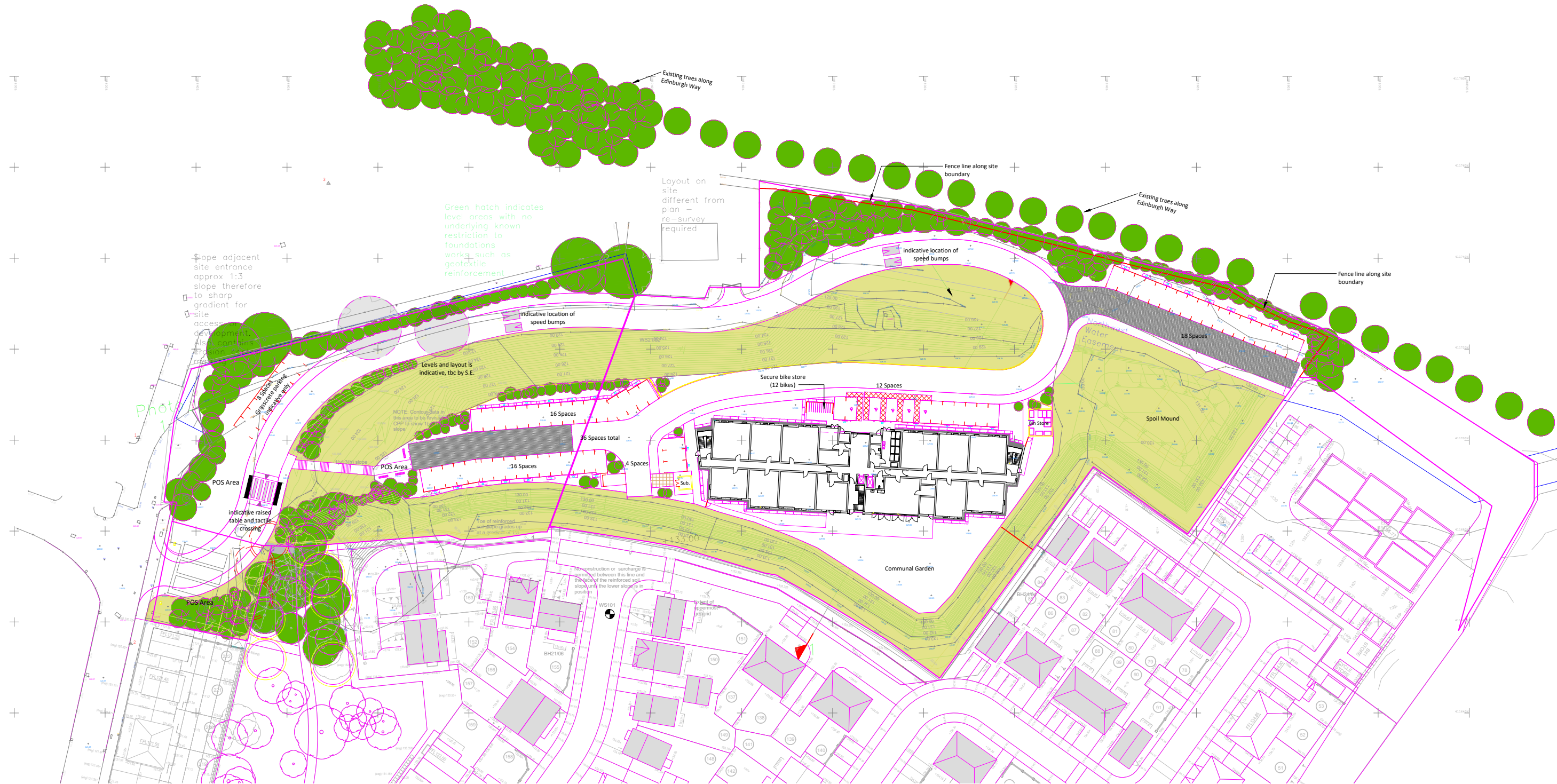
Client:	Shape Consulting Engineers Ltd
Job Title:	Land Off Royle Rd, Rochdale

Job No:	18-517
Drawing No:	003
Date:	16.12.2025
Scale:	NTS
Drawing Title:	Historical Features Plan



Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

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Notes:

P1	REVA	16.12.2025	TG	AG	AG
Phase	Issue	Date	Drawn	Checked	PM

Client:
Shape Consulting Engineers Ltd

Job Title:
Land Off Royle Rd, Rochdale

Job No:
18-517
Drawing No:
002

Date:
16.12.2025
Scale:
NTS

Drawing Title:
Proposed Development Plan



Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

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Appendix V: Historical Map



ROYLE ROAD, ROCHDALE, OL11 3ET

Order Details

Date: 28/08/2025
Your ref: 12112
Our Ref: E3P-RUM-9X2-G8U-VRB

Site Details

Location: 388774 411705
Area: 1.55 ha
Authority: [Rochdale Metropolitan Borough Council](#)
↗



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[Summary of findings](#)

[p. 2 >](#) [Aerial image](#)

[p. 9 >](#)

[OS MasterMap site plan](#)

[p.14 >](#) [Insight User Guide](#) ↗

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info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	10	9	33	67	-
20 >	1.2 >	Historical tanks >	0	1	11	15	-
21 >	1.3 >	Historical energy features >	0	0	5	24	-
23	1.4	Historical petrol stations	0	0	0	0	-
23 >	1.5 >	Historical garages >	0	0	4	5	-
24	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped >	On site	0-50m	50-250m	250-500m	500-2000m
25 >	2.1 >	Historical industrial land uses >	17	14	50	98	-
32 >	2.2 >	Historical tanks >	0	4	19	18	-
34 >	2.3 >	Historical energy features >	0	0	14	46	-
36	2.4	Historical petrol stations	0	0	0	0	-
36 >	2.5 >	Historical garages >	0	0	7	5	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
38 >	3.1 >	Active or recent landfill >	0	0	1	0	-
39 >	3.2 >	Historical landfill (BGS records) >	0	0	1	0	-
39 >	3.3 >	Historical landfill (LA/mapping records) >	0	0	0	1	-
39 >	3.4 >	Historical landfill (EA/NRW records) >	0	1	1	0	-
40	3.5	Historical waste sites	0	0	0	0	-
40 >	3.6 >	Licensed waste sites >	0	0	0	3	-
41 >	3.7 >	Waste exemptions >	0	0	1	10	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
43 >	4.1 >	Recent industrial land uses >	1	1	20	-	-
45 >	4.2 >	National Geographic Database (NGD) - Current or recent tanks >	0	0	7	-	-
45 >	4.3 >	Current or recent petrol stations >	0	0	2	0	-
46	4.4	Electricity cables	0	0	0	0	-
46	4.5	Gas pipelines	0	0	0	0	-



46	4.6	Sites determined as Contaminated Land	0	0	0	0	-
46	4.7	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
47	4.8	Regulated explosive sites	0	0	0	0	-
47	4.9	Hazardous substance storage/usage	0	0	0	0	-
47	4.10	Historical licensed industrial activities (IPC)	0	0	0	0	-
47	4.11	Licensed industrial activities (Part A(1))	0	0	0	0	-
47 >	4.12 >	<u>Licensed pollutant release (Part A(2)/B) ></u>	0	1	2	1	-
48	4.13	Radioactive Substance Authorisations	0	0	0	0	-
48	4.14	Licensed Discharges to controlled waters	0	0	0	0	-
49	4.15	Pollutant release to surface waters (Red List)	0	0	0	0	-
49	4.16	Pollutant release to public sewer	0	0	0	0	-
49	4.17	List 1 Dangerous Substances	0	0	0	0	-
49	4.18	List 2 Dangerous Substances	0	0	0	0	-
49 >	4.19 >	<u>Pollution Incidents (EA/NRW) ></u>	0	0	0	5	-
50	4.20	Pollution inventory substances	0	0	0	0	-
50	4.21	Pollution inventory waste transfers	0	0	0	0	-
51	4.22	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	<u>Hydrogeology ></u>	On site	0-50m	50-250m	250-500m	500-2000m
52 >	5.1 >	<u>Superficial aquifer ></u>	Identified (within 500m)				
54 >	5.2 >	<u>Bedrock aquifer ></u>	Identified (within 500m)				
55 >	5.3 >	<u>Groundwater vulnerability ></u>	Identified (within 50m)				
56	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
56	5.5	Groundwater vulnerability- local information	None (within 0m)				
57 >	5.6 >	<u>Groundwater abstractions ></u>	0	0	0	0	3
58 >	5.7 >	<u>Surface water abstractions ></u>	0	0	0	0	9
61	5.8	Potable abstractions	0	0	0	0	0
61	5.9	Source Protection Zones	0	0	0	0	-
61	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	<u>Hydrology ></u>	On site	0-50m	50-250m	250-500m	500-2000m



62 >	6.1 >	Water Network (OS MasterMap) >	0	1	3	-	-
63 >	6.2 >	Surface water features >	0	0	2	-	-
63 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
64 >	6.4 >	WFD Surface water bodies >	0	1	1	-	-
64 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
65	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
65	7.2	Historical Flood Events	0	0	0	-	-
65	7.3	Flood Defences	0	0	0	-	-
66	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
66	7.5	Flood Storage Areas	0	0	0	-	-
67 >	7.6 >	Flood Zone 2 >	Identified (within 50m)				
68 >	7.7 >	Flood Zone 3 >	Identified (within 50m)				
Page	Section	Surface water flooding >					
69 >	8.1 >	Surface water flooding >	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding >					
71 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations >	On site	0-50m	50-250m	250-500m	500-2000m
72 >	10.1 >	Sites of Special Scientific Interest (SSSI) >	0	0	0	3	3
73	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
73 >	10.3 >	Special Areas of Conservation (SAC) >	0	0	0	3	3
74	10.4	Special Protection Areas (SPA)	0	0	0	0	0
74	10.5	National Nature Reserves (NNR)	0	0	0	0	0
74	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
75 >	10.7 >	Designated Ancient Woodland >	0	0	0	0	3
75	10.8	Biosphere Reserves	0	0	0	0	0
75	10.9	Forest Parks	0	0	0	0	0
75	10.10	Marine Conservation Zones	0	0	0	0	0
76 >	10.11 >	Green Belt >	0	0	0	0	1



76	10.12	Proposed Ramsar sites	0	0	0	0	0
76	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
76	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
77	10.15	Nitrate Sensitive Areas	0	0	0	0	0
77 >	10.16 >	Nitrate Vulnerable Zones >	0	0	0	0	1
78 >	10.17 >	SSSI Impact Risk Zones >	2	-	-	-	-
79 >	10.18 >	SSSI Units >	0	0	0	3	3
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
81	11.1	World Heritage Sites	0	0	0	-	-
81	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
81	11.3	National Parks	0	0	0	-	-
81	11.4	Listed Buildings	0	0	0	-	-
82	11.5	Conservation Areas	0	0	0	-	-
82	11.6	Scheduled Ancient Monuments	0	0	0	-	-
82	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
83 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
84	12.2	Open Access Land	0	0	0	-	-
84 >	12.3 >	Tree Felling Licences >	0	0	1	-	-
84	12.4	Environmental Stewardship Schemes	0	0	0	-	-
84	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations >	On site	0-50m	50-250m	250-500m	500-2000m
85 >	13.1 >	Priority Habitat Inventory >	1	0	5	-	-
86 >	13.2 >	Habitat Networks >	1	0	1	-	-
86 >	13.3 >	Open Mosaic Habitat >	0	0	1	-	-
87	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
88 >	14.1 >	10k Availability >	Identified (within 500m)				
89 >	14.2 >	Artificial and made ground (10k) >	2	2	1	5	-

91 >	14.3 >	Superficial geology (10k) >	1	0	1	1	-
92	14.4	Landslip (10k)	0	0	0	0	-
93 >	14.5 >	Bedrock geology (10k) >	2	0	4	2	-
94 >	14.6 >	Bedrock faults and other linear features (10k) >	1	0	3	1	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
95 >	15.1 >	50k Availability >	Identified (within 500m)				
96 >	15.2 >	Artificial and made ground (50k) >	0	0	1	0	-
97	15.3	Artificial ground permeability (50k)	0	0	-	-	-
98 >	15.4 >	Superficial geology (50k) >	1	0	1	1	-
99 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
99	15.6	Landslip (50k)	0	0	0	0	-
99	15.7	Landslip permeability (50k)	None (within 50m)				
100 >	15.8 >	Bedrock geology (50k) >	1	0	3	1	-
101 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
101 >	15.10 >	Bedrock faults and other linear features (50k) >	0	0	3	0	-
Page	Section	Boreholes >	On site	0-50m	50-250m	250-500m	500-2000m
102 >	16.1 >	BGS Boreholes >	0	4	18	-	-
Page	Section	Natural ground subsidence >					
105 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
106 >	17.2 >	Running sands >	Very low (within 50m)				
107 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
108 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
109 >	17.5 >	Landslides >	Very low (within 50m)				
110 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings >	On site	0-50m	50-250m	250-500m	500-2000m
112 >	18.1 >	BritPits >	0	0	0	4	-
114 >	18.2 >	Surface ground workings >	10	3	28	-	-
115 >	18.3 >	Underground workings >	0	0	0	1	1
116	18.4	Underground mining extents	0	0	0	0	-



116 >	18.5 >	Historical Mineral Planning Areas >	0	1	0	0	-
116	18.6	Non-coal mining	0	0	0	0	0
117	18.7	JPB mining areas	None (within 0m)				
117	18.8	The Coal Authority non-coal mining	0	0	0	0	-
117	18.9	Researched mining	0	0	0	0	-
117	18.10	Mining record office plans	0	0	0	0	-
118	18.11	BGS mine plans	0	0	0	0	-
118 >	18.12 >	Coal mining >	Identified (within 0m)				
118	18.13	Brine areas	None (within 0m)				
118	18.14	Gypsum areas	None (within 0m)				
118	18.15	Tin mining	None (within 0m)				
119	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
120	19.1	Natural cavities	0	0	0	0	-
120	19.2	Mining cavities	0	0	0	0	0
120	19.3	Reported recent incidents	0	0	0	0	-
120	19.4	Historical incidents	0	0	0	0	-
Page	Section	Radon >					
122 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
124 >	21.1 >	BGS Estimated Background Soil Chemistry >	2	0	-	-	-
124	21.2	BGS Estimated Urban Soil Chemistry	0	0	-	-	-
124	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
125	22.1	Underground railways (London)	0	0	0	-	-
125	22.2	Underground railways (Non-London)	0	0	0	-	-
126	22.3	Railway tunnels	0	0	0	-	-
126 >	22.4 >	Historical railway and tunnel features >	2	5	4	-	-
127	22.5	Royal Mail tunnels	0	0	0	-	-

127	22.6	Historical railways	0	0	0	-	-
127 >	22.7 >	Railways >	0	5	2	-	-
128	22.8	Crossrail 2	0	0	0	0	-
128	22.9	HS2	0	0	0	0	-

Recent aerial photograph



Capture Date: 07/04/2023

Site Area: 1.55ha



Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Date: 28 August 2025

Recent site history - 2019 aerial photograph



Capture Date: 23/05/2019

Site Area: 1.55ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 28 August 2025

Recent site history - 2011 aerial photograph



Capture Date: 02/05/2011

Site Area: 1.55ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 28 August 2025

Recent site history - 2000 aerial photograph



Capture Date: 19/06/2000

Site Area: 1.55ha



Contact us with any questions at:

info@groundsure.com

01273 257 755

Date: 28 August 2025

Recent site history - 1999 aerial photograph



Capture Date: 10/09/1999

Site Area: 1.55ha



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info@groundsure.com

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Date: 28 August 2025

OS MasterMap site plan



Site Area: 1.55ha



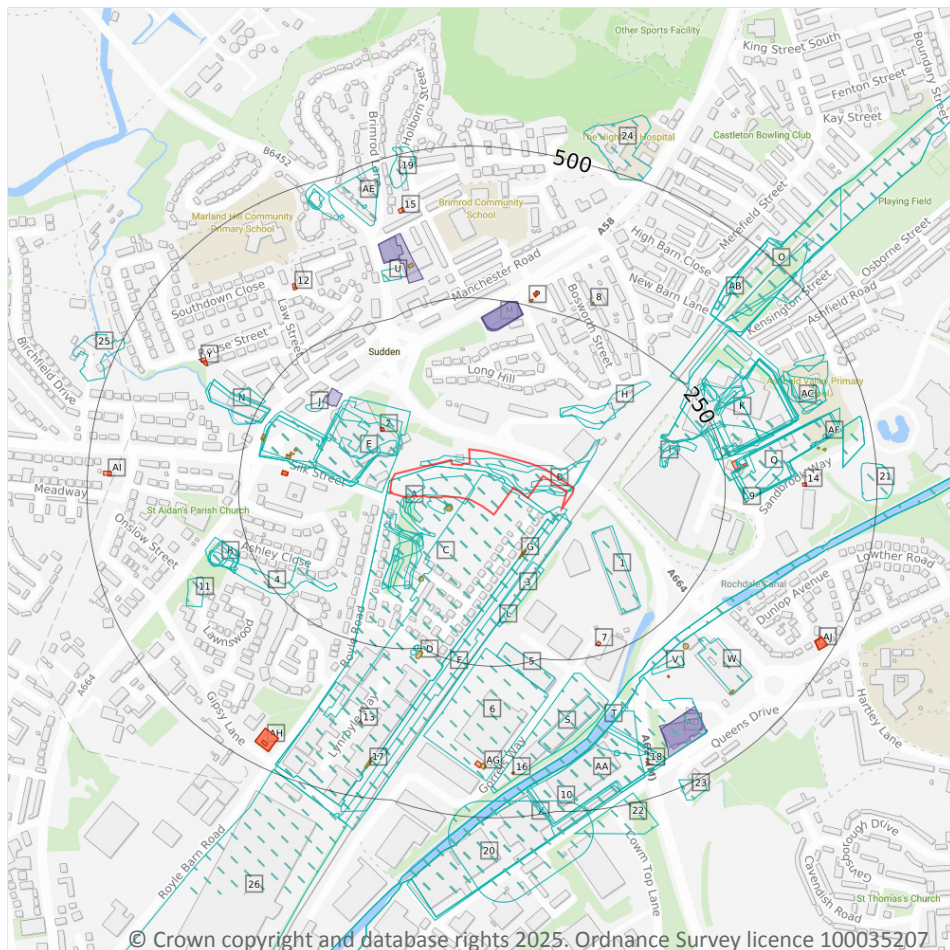
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Date: 28 August 2025

1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m

119

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15](#) >

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Heap	1956	689579



ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Ground Workings	1968 - 1992	714632
A	On site	Unspecified Ground Workings	1928	756665
A	On site	Unspecified Heap	1928 - 1956	733672
B	On site	Unspecified Ground Workings	1968	711969
B	On site	Unspecified Ground Workings	1938	799526
B	On site	Unspecified Ground Workings	1956	802063
C	On site	Unspecified Mills	1968 - 1992	749280
C	On site	Unspecified Mills	1956	761663
D	On site	Unspecified Mills	1928 - 1938	758901
E	7m W	Unspecified Commercial/Industrial	1968	670766
F	10m S	Railway Sidings	1956	732746
A	12m S	Unspecified Tank	1987 - 1992	763001
F	12m SW	Railway Sidings	1928 - 1938	731885
E	29m N	Unspecified Mill	1928	776013
E	29m N	Unspecified Mill	1890 - 1908	709578
E	30m N	Cotton Mill	1851	654962
A	31m S	Unspecified Ground Workings	1968	757837
E	42m NW	Unspecified Mills	1938 - 1956	743353
A	55m S	Unspecified Pit	1975 - 1992	805201
A	63m S	Unspecified Ground Workings	1956	779763
1	63m SE	Unspecified Warehouse	1987 - 1992	793824
A	86m S	Unspecified Ground Workings	1928 - 1938	770706
H	89m N	Unspecified Ground Workings	1938	737149
H	91m N	Unspecified Ground Workings	1975 - 1992	800760
A	97m S	Unspecified Ground Workings	1968	747535
3	100m SW	Cuttings	1908	653060
E	126m NW	Hat Manufactory	1851	700404
I	147m E	Refuse Heap	1928 - 1938	738254



ID	Location	Land use	Dates present	Group ID
I	151m E	Refuse Heap	1956	716270
I	156m NE	Unspecified Heap	1975 - 1992	742140
J	162m NW	Unspecified Heap	1956	689578
K	165m NE	Unspecified Mill	1956	725952
K	165m NE	Unspecified Works	1968	756127
L	167m S	Railway Building	1956	717098
K	168m NE	Unspecified Mills	1975	670087
4	175m SW	Unspecified Ground Workings	1968	748260
L	177m S	Railway Building	1928	762699
5	212m S	Unspecified Warehouses	1987 - 1992	734494
K	220m NE	Unspecified Mill	1890	755656
6	221m S	Unspecified Warehouses	1987 - 1992	769143
K	229m NE	Unspecified Mill	1908	726582
N	231m NW	Unspecified Commercial/Industrial	1968 - 1975	718830
N	231m NW	Unspecified Works	1987 - 1992	757612
N	235m NW	Unspecified Mill	1908	673625
K	236m NE	Old Cotton Mill	1851	686864
O	243m NE	Railway Sidings	1968 - 1976	752992
O	243m NE	Railway Sidings	1956	759022
D	245m S	Chimney	1968 - 1992	804844
N	245m NW	Smithy	1908	680435
D	245m S	Unspecified Tank	1956	697602
K	247m NE	Unspecified Pit	1956	676419
D	252m S	Unspecified Tank	1928 - 1938	749101
K	256m NE	Unspecified Mill	1928 - 1938	740564
K	256m E	Unspecified Works	1987 - 1992	736434
Q	260m E	Unspecified Mill	1908	786073
Q	262m E	Unspecified Mill	1928 - 1938	763534



ID	Location	Land use	Dates present	Group ID
K	262m NE	Refuse Heap	1928 - 1938	714410
Q	264m E	Unspecified Mill	1956	715167
Q	264m E	Unspecified Mill	1968 - 1975	786228
K	265m NE	Unspecified Ground Workings	1908	802435
K	267m NE	Unspecified Ground Workings	1928 - 1938	727034
R	269m W	Unspecified Pit	1956	734871
K	270m NE	Unspecified Heap	1968	688966
Q	271m E	Unspecified Mill	1987 - 1992	743836
R	273m W	Old Sand Pit	1890 - 1908	750935
S	273m S	Unspecified Works	1987 - 1992	727951
R	273m SW	Unspecified Ground Workings	1938	747084
R	273m SW	Unspecified Ground Workings	1928	766566
T	282m SE	Disused Canal	1987	716497
T	282m SE	Disused Canal	1992	742330
T	282m SE	Disused Canal	1975	800321
R	286m W	Unspecified Pit	1928 - 1938	752234
R	295m W	Sand Pit	1851	674077
Q	299m E	Old Sand Pit	1890	687354
U	303m N	Refuse Heap	1851	656005
V	305m SE	Railway Sidings	1956	705744
10	309m SE	Unspecified Mills	1975	787717
K	311m NE	Unspecified Mill	1987 - 1992	779157
W	312m SE	Unspecified Depot	1987 - 1992	796045
S	313m S	Unspecified Warehouse	1975	692363
11	341m SW	Cuttings	1968	653036
X	349m S	Unspecified Mills	1987 - 1992	779373
Z	364m NE	Railway Sidings	1928 - 1938	734699
Z	365m NE	Railway Sidings	1908	721941



ID	Location	Land use	Dates present	Group ID
X	366m S	Unspecified Mills	1968	724427
AA	370m S	Unspecified Mill	1956	756432
Z	373m NE	Railway Sidings	1851	711168
AA	374m S	Unspecified Mill	1928 - 1938	712175
AB	377m NE	Railway Buildings	1938	784998
AB	377m NE	Railway Buildings	1908 - 1928	796926
AC	385m NE	Unspecified Ground Workings	1928 - 1938	729082
AA	389m S	Unspecified Mill	1908	773169
AC	390m NE	Unspecified Ground Workings	1956	765940
Z	392m NE	Gravel Pit	1851	699564
AC	397m E	Unspecified Heap	1928	688967
AC	399m NE	Unspecified Ground Workings	1968	775507
AE	402m NW	Brick Field	1851	654494
AA	409m S	Chimney	1987 - 1992	732731
AA	409m S	Unspecified Tank	1968 - 1975	748217
AC	416m NE	Unspecified Heap	1956	688965
AF	420m E	Chimney	1968 - 1992	726358
AE	429m N	Unspecified Shaft	1890	672663
AE	430m N	Refuse Heap	1890	758416
AE	433m NW	Kiln	1851	672524
AF	445m E	Unspecified Shed	1891	654071
AF	445m E	Unspecified Mill	1908 - 1938	751306
19	447m N	Refuse Heap	1851	656006
AE	454m N	Unspecified Ground Workings	1908	660712
AE	458m N	Refuse Heap	1928	778040
20	466m S	Unspecified Commercial/Industrial	1956	739533
X	473m S	Unspecified Commercial/Industrial	1938	745279
21	475m E	Unspecified Pit	1975 - 1992	753202



ID	Location	Land use	Dates present	Group ID
22	484m S	Brick Works	1908	666111
23	487m SE	Unspecified Ground Workings	1956	661062
Z	490m NE	Railway Building	1928 - 1956	726726
24	491m N	Hospital	1992	700571
25	492m NW	Corn Mill	1851	658593
26	496m SW	Unspecified Warehouse	1975 - 1992	788292

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

27

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
A	14m S	Unspecified Tank	1988 - 1998	91844
G	77m SE	Tanks	1975 - 1998	100361
G	78m SE	Tanks	1957	97753
G	78m SE	Tanks	1956	95810
G	79m SE	Tanks	1930	81652
A	132m S	Unspecified Tank	1988 - 1998	104324
E	164m W	Unspecified Tank	1957	86911
E	166m W	Unspecified Tank	1910	86916
E	171m W	Tanks	1956 - 1957	103220
E	171m W	Unspecified Tank	1968	86908
E	220m W	Unspecified Tank	1910	91819
E	221m W	Unspecified Tank	1891	99707



ID	Location	Land use	Dates present	Group ID
D	254m S	Tanks	1984	81651
8	282m N	Unspecified Tank	1891	86920
9	284m E	Unspecified Tank	1910	86914
V	301m SE	Unspecified Tank	1990	86905
U	315m N	Tanks	1910	81649
V	327m SE	Unspecified Tank	1956	93806
V	327m SE	Unspecified Tank	1968	100296
V	327m SE	Unspecified Tank	1958	98983
AF	406m E	Unspecified Tank	1930	86924
AG	410m S	Unspecified Tank	1984 - 1996	101889
W	411m SE	Unspecified Tank	1978	86909
AF	415m E	Unspecified Tank	1910	86906
16	425m S	Unspecified Tank	1984 - 1996	95896
17	433m S	Unspecified Tank	1956 - 1957	92007
18	439m S	Unspecified Tank	1910	86915

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

29

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15 >](#)

ID	Location	Land use	Dates present	Group ID
2	74m N	Electricity Substation	1975 - 1998	63991
E	170m W	Electricity Substation	1968 - 1971	58293
E	171m W	Electricity Substation	1992	61039



ID	Location	Land use	Dates present	Group ID
E	172m W	Electricity Substation	1978 - 1991	51143
7	227m S	Electricity Substation	1984 - 1996	56971
K	257m E	Electricity Substation	1956	63582
K	257m E	Electricity Substation	1972	64262
K	258m E	Electricity Substation	1958	51679
P	258m N	Electricity Substation	1990	47927
K	264m E	Electricity Substation	1996	52759
P	267m N	Electricity Substation	1977	51298
K	268m E	Electricity Substation	1956 - 1990	52750
P	268m N	Electricity Substation	1992	57206
12	345m NW	Electricity Substation	1990 - 1992	53474
Y	357m NW	Electricity Substation	1992	60143
Y	357m NW	Electricity Substation	1968 - 1991	52125
13	376m S	Electricity Substation	1984 - 1996	54053
14	377m E	Electricity Substation	1972 - 1990	61093
15	405m N	Electricity Substation	1977 - 1992	50095
AG	407m S	Electricity Substation	1981 - 1996	53119
AH	440m SW	Electricity Substation	1979 - 1990	60526
AH	440m SW	Electricity Substation	1956	64095
AH	440m SW	Electricity Substation	1957	52234
AH	459m SW	Electricity Substation	1996	61413
AI	461m W	Electricity Substation	1991 - 1992	57387
AI	461m W	Electricity Substation	1968 - 1988	60096
AJ	468m SE	Electricity Substation	1968	58197
AJ	468m SE	Electricity Substation	1990	58466
AJ	470m SE	Electricity Substation	1978	52020

This data is sourced from Ordnance Survey / Groundsure.



1.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

9

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on [page 15](#) >

ID	Location	Land use	Dates present	Group ID
J	148m NW	Garage	1956 - 1957	20277
M	198m N	Garage	1993 - 1998	20679
M	200m N	Garage	1988	18560
M	201m N	Garage	1975	21044
U	291m N	Garage	1977	20523
U	335m N	Garage	1992	22042
AD	393m SE	Garage	1968	17978
AD	393m SE	Garage	1990	20737
AD	394m SE	Garage	1978	19121

This data is sourced from Ordnance Survey / Groundsure.



1.6 Historical military land

Records within 500m

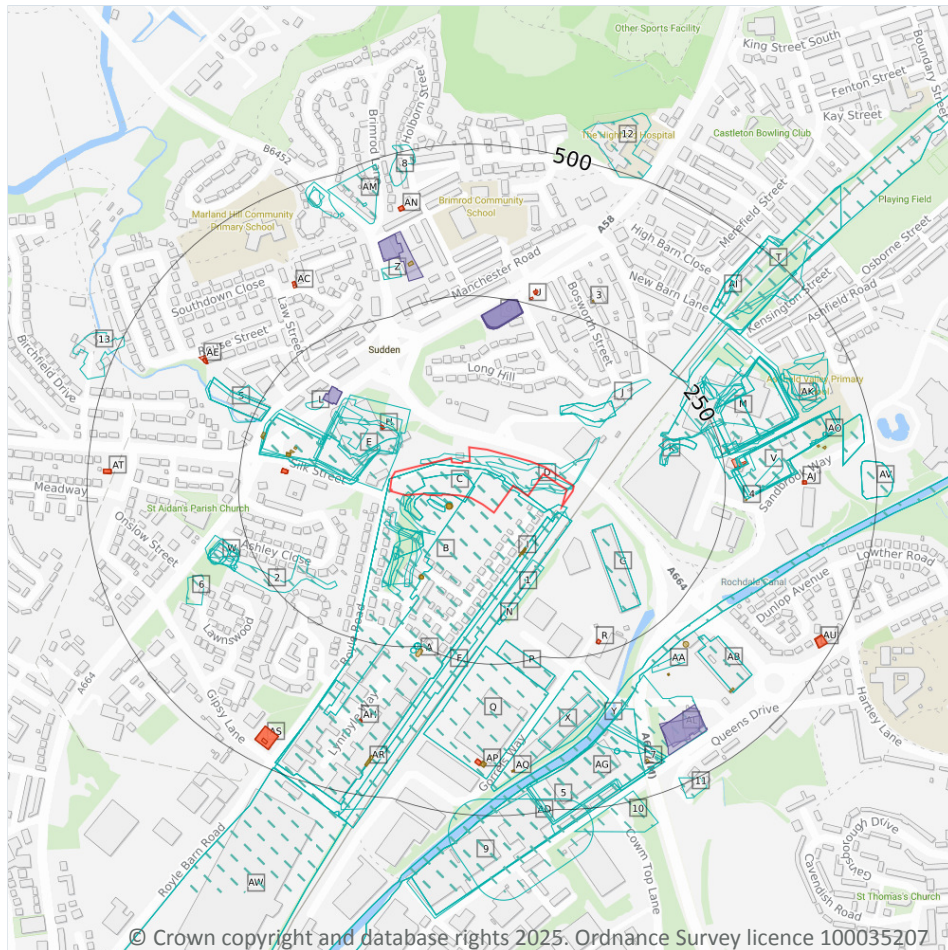
0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.



2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m

179

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 25 >](#)

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Mills	1938	758901
A	On site	Unspecified Mills	1928	758901
B	On site	Unspecified Mills	1992	749280



ID	Location	Land Use	Date	Group ID
B	On site	Unspecified Mills	1987	749280
B	On site	Unspecified Mills	1975	749280
B	On site	Unspecified Mills	1956	761663
B	On site	Unspecified Mills	1968	749280
C	On site	Unspecified Ground Workings	1992	714632
C	On site	Unspecified Ground Workings	1987	714632
C	On site	Unspecified Ground Workings	1975	714632
C	On site	Unspecified Heap	1956	689579
C	On site	Unspecified Ground Workings	1968	714632
C	On site	Unspecified Ground Workings	1928	756665
C	On site	Unspecified Heap	1956	733672
D	On site	Unspecified Ground Workings	1938	799526
D	On site	Unspecified Ground Workings	1956	802063
D	On site	Unspecified Ground Workings	1968	711969
C	7m S	Unspecified Heap	1938	733672
C	7m S	Unspecified Heap	1928	733672
E	7m W	Unspecified Commercial/Industrial	1968	670766
F	10m S	Railway Sidings	1956	732746
C	12m S	Unspecified Tank	1992	763001
C	12m S	Unspecified Tank	1987	763001
F	12m SW	Railway Sidings	1938	731885
F	12m SW	Railway Sidings	1928	731885
E	29m N	Unspecified Mill	1928	776013
E	29m N	Unspecified Mill	1908	709578
E	30m N	Cotton Mill	1851	654962
C	31m S	Unspecified Ground Workings	1968	757837
E	42m NW	Unspecified Mills	1938	743353
E	44m NW	Unspecified Mills	1956	743353



ID	Location	Land Use	Date	Group ID
E	51m NW	Unspecified Mill	1890	709578
C	55m S	Unspecified Pit	1992	805201
C	55m S	Unspecified Pit	1987	805201
C	55m S	Unspecified Pit	1975	805201
C	63m S	Unspecified Ground Workings	1956	779763
G	63m SE	Unspecified Warehouse	1992	793824
G	63m SE	Unspecified Warehouse	1987	793824
C	86m S	Unspecified Ground Workings	1938	770706
C	86m S	Unspecified Ground Workings	1928	770706
J	89m N	Unspecified Ground Workings	1938	737149
J	91m N	Unspecified Ground Workings	1992	800760
J	91m N	Unspecified Ground Workings	1987	800760
J	91m N	Unspecified Ground Workings	1975	800760
C	97m S	Unspecified Ground Workings	1968	747535
1	100m SW	Cuttings	1908	653060
E	126m NW	Hat Manufactory	1851	700404
K	147m E	Refuse Heap	1938	738254
K	147m E	Refuse Heap	1928	738254
K	151m E	Refuse Heap	1956	716270
K	156m NE	Unspecified Heap	1992	742140
K	156m NE	Unspecified Heap	1987	742140
K	156m NE	Unspecified Heap	1975	742140
L	162m NW	Unspecified Heap	1956	689578
M	165m NE	Unspecified Mill	1956	725952
M	165m NE	Unspecified Works	1968	756127
N	167m S	Railway Building	1956	717098
M	168m NE	Unspecified Mills	1975	670087
2	175m SW	Unspecified Ground Workings	1968	748260



ID	Location	Land Use	Date	Group ID
N	177m S	Railway Building	1928	762699
P	212m S	Unspecified Warehouses	1992	734494
P	212m S	Unspecified Warehouses	1987	734494
M	220m NE	Unspecified Mill	1890	755656
Q	221m S	Unspecified Warehouses	1992	769143
Q	221m S	Unspecified Warehouses	1987	769143
M	229m NE	Unspecified Mill	1908	726582
S	231m NW	Unspecified Works	1992	757612
S	231m NW	Unspecified Works	1987	757612
S	231m NW	Unspecified Commercial/Industrial	1975	718830
S	231m NW	Unspecified Commercial/Industrial	1968	718830
S	235m NW	Unspecified Mill	1908	673625
M	236m NE	Old Cotton Mill	1851	686864
T	243m NE	Railway Sidings	1956	759022
T	243m NE	Railway Sidings	1968	752992
A	245m S	Chimney	1992	804844
A	245m S	Chimney	1987	804844
A	245m S	Chimney	1975	804844
A	245m S	Chimney	1968	804844
S	245m NW	Smithy	1908	680435
A	245m S	Unspecified Tank	1956	697602
M	247m NE	Unspecified Pit	1956	676419
A	252m S	Unspecified Tank	1938	749101
A	252m S	Unspecified Tank	1928	749101
M	256m NE	Unspecified Mill	1938	740564
M	256m NE	Unspecified Mill	1928	740564
M	256m E	Unspecified Works	1992	736434
M	256m E	Unspecified Works	1987	736434



ID	Location	Land Use	Date	Group ID
V	260m E	Unspecified Mill	1908	786073
V	262m E	Unspecified Mill	1938	763534
V	262m E	Unspecified Mill	1928	763534
M	262m NE	Refuse Heap	1938	714410
M	262m NE	Refuse Heap	1928	714410
V	264m E	Unspecified Mill	1975	786228
V	264m E	Unspecified Mill	1956	715167
V	264m E	Unspecified Mill	1968	786228
M	265m NE	Unspecified Ground Workings	1908	802435
M	267m NE	Unspecified Ground Workings	1938	727034
M	267m NE	Unspecified Ground Workings	1928	727034
W	269m W	Unspecified Pit	1956	734871
M	270m NE	Unspecified Heap	1968	688966
V	271m E	Unspecified Mill	1992	743836
V	271m E	Unspecified Mill	1987	743836
W	273m W	Old Sand Pit	1890	750935
X	273m S	Unspecified Works	1992	727951
X	273m S	Unspecified Works	1987	727951
W	273m SW	Old Sand Pit	1908	750935
W	273m SW	Unspecified Ground Workings	1938	747084
W	273m SW	Unspecified Ground Workings	1928	766566
Y	282m SE	Disused Canal	1992	742330
Y	282m SE	Disused Canal	1987	716497
Y	282m SE	Disused Canal	1975	800321
W	286m W	Unspecified Pit	1938	752234
W	286m W	Unspecified Pit	1928	752234
W	295m W	Sand Pit	1851	674077
V	299m E	Old Sand Pit	1890	687354



ID	Location	Land Use	Date	Group ID
Z	303m N	Refuse Heap	1851	656005
AA	305m SE	Railway Sidings	1956	705744
5	309m SE	Unspecified Mills	1975	787717
M	311m NE	Unspecified Mill	1992	779157
M	311m NE	Unspecified Mill	1987	779157
AB	312m SE	Unspecified Depot	1992	796045
AB	312m SE	Unspecified Depot	1987	796045
X	313m S	Unspecified Warehouse	1975	692363
6	341m SW	Cuttings	1968	653036
AD	349m S	Unspecified Mills	1992	779373
AD	349m S	Unspecified Mills	1987	779373
AF	364m NE	Railway Sidings	1938	734699
AF	364m NE	Railway Sidings	1928	734699
AF	365m NE	Railway Sidings	1908	721941
AD	366m S	Unspecified Mills	1968	724427
AG	370m S	Unspecified Mill	1956	756432
AF	373m NE	Railway Sidings	1851	711168
AG	374m S	Unspecified Mill	1938	712175
AG	374m S	Unspecified Mill	1928	712175
AI	377m NE	Railway Buildings	1938	784998
AI	377m NE	Railway Buildings	1928	796926
AI	378m NE	Railway Buildings	1908	796926
AK	385m NE	Unspecified Ground Workings	1938	729082
AK	385m NE	Unspecified Ground Workings	1928	729082
AG	389m S	Unspecified Mill	1908	773169
AK	390m NE	Unspecified Ground Workings	1956	765940
AF	392m NE	Gravel Pit	1851	699564
AK	397m E	Unspecified Heap	1928	688967



ID	Location	Land Use	Date	Group ID
AK	399m NE	Unspecified Ground Workings	1968	775507
AM	402m NW	Brick Field	1851	654494
AG	409m S	Chimney	1992	732731
AG	409m S	Chimney	1987	732731
AG	409m S	Unspecified Tank	1975	748217
AG	409m S	Unspecified Tank	1968	748217
AK	416m NE	Unspecified Heap	1956	688965
AO	420m E	Chimney	1992	726358
AO	420m E	Chimney	1987	726358
AO	420m E	Chimney	1975	726358
AO	420m E	Chimney	1968	726358
AM	429m N	Unspecified Shaft	1890	672663
AM	430m N	Refuse Heap	1890	758416
AM	433m NW	Kiln	1851	672524
AO	445m E	Unspecified Mill	1938	751306
AO	445m E	Unspecified Mill	1928	751306
AO	445m E	Unspecified Mill	1908	751306
AO	445m E	Unspecified Shed	1891	654071
8	447m N	Refuse Heap	1851	656006
AM	454m N	Unspecified Ground Workings	1908	660712
AM	458m N	Refuse Heap	1928	778040
9	466m S	Unspecified Commercial/Industrial	1956	739533
AD	473m S	Unspecified Commercial/Industrial	1938	745279
AV	475m E	Unspecified Pit	1992	753202
AV	475m E	Unspecified Pit	1987	753202
AV	475m E	Unspecified Pit	1975	753202
10	484m S	Brick Works	1908	666111
11	487m SE	Unspecified Ground Workings	1956	661062



ID	Location	Land Use	Date	Group ID
AF	490m NE	Railway Building	1938	726726
AF	490m NE	Railway Building	1928	726726
12	491m N	Hospital	1992	700571
13	492m NW	Corn Mill	1851	658593
AW	496m SW	Unspecified Warehouse	1992	788292
AW	496m SW	Unspecified Warehouse	1987	788292
AW	496m SW	Unspecified Warehouse	1975	788292
AF	498m NE	Railway Building	1956	726726

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

41

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 25 >](#)

ID	Location	Land Use	Date	Group ID
C	14m S	Unspecified Tank	1993	91844
C	14m S	Unspecified Tank	1993	91844
C	14m S	Unspecified Tank	1998	91844
C	14m S	Unspecified Tank	1988	91844
I	77m SE	Tanks	1988	100361
I	78m SE	Tanks	1957	97753
I	78m SE	Tanks	1975	100361
I	78m SE	Tanks	1956	95810
I	79m SE	Tanks	1993	100361
I	79m SE	Tanks	1993	100361
I	79m SE	Tanks	1998	100361
I	79m SE	Tanks	1930	81652



ID	Location	Land Use	Date	Group ID
C	132m S	Unspecified Tank	1988	104324
C	133m S	Unspecified Tank	1993	104324
C	133m S	Unspecified Tank	1993	104324
C	133m S	Unspecified Tank	1998	104324
E	164m W	Unspecified Tank	1957	86911
E	166m W	Unspecified Tank	1910	86916
E	171m W	Tanks	1956	103220
E	171m W	Tanks	1957	103220
E	171m W	Unspecified Tank	1968	86908
E	220m W	Unspecified Tank	1910	91819
E	221m W	Unspecified Tank	1891	99707
A	254m S	Tanks	1984	81651
3	282m N	Unspecified Tank	1891	86920
4	284m E	Unspecified Tank	1910	86914
AA	301m SE	Unspecified Tank	1990	86905
Z	315m N	Tanks	1910	81649
AA	327m SE	Unspecified Tank	1968	100296
AA	327m SE	Unspecified Tank	1956	93806
AA	327m SE	Unspecified Tank	1958	98983
AO	406m E	Unspecified Tank	1930	86924
AP	410m S	Unspecified Tank	1996	101889
AP	411m S	Unspecified Tank	1984	101889
AB	411m SE	Unspecified Tank	1978	86909
AO	415m E	Unspecified Tank	1910	86906
AQ	425m S	Unspecified Tank	1996	95896
AQ	426m S	Unspecified Tank	1984	95896
AR	433m S	Unspecified Tank	1957	92007
AR	433m S	Unspecified Tank	1956	92007



ID	Location	Land Use	Date	Group ID
7	439m S	Unspecified Tank	1910	86915

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	60
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 25 >](#)

ID	Location	Land Use	Date	Group ID
H	74m N	Electricity Substation	1993	63991
H	74m N	Electricity Substation	1998	63991
H	74m N	Electricity Substation	1993	63991
H	74m N	Electricity Substation	1975	63991
H	74m N	Electricity Substation	1988	63991
E	170m W	Electricity Substation	1971	58293
E	170m W	Electricity Substation	1968	58293
E	171m W	Electricity Substation	1992	61039
E	172m W	Electricity Substation	1978	51143
E	172m W	Electricity Substation	1988	51143
E	172m W	Electricity Substation	1988	51143
E	172m W	Electricity Substation	1991	51143
R	227m S	Electricity Substation	1996	56971
R	227m S	Electricity Substation	1984	56971
M	257m E	Electricity Substation	1972	64262
M	257m E	Electricity Substation	1956	63582
M	258m E	Electricity Substation	1958	51679
U	258m N	Electricity Substation	1990	47927
M	264m E	Electricity Substation	1996	52759



ID	Location	Land Use	Date	Group ID
U	267m N	Electricity Substation	1977	51298
M	268m E	Electricity Substation	1990	52750
M	268m E	Electricity Substation	1990	52750
U	268m N	Electricity Substation	1992	57206
M	268m E	Electricity Substation	1972	52750
M	268m E	Electricity Substation	1956	52750
M	270m E	Electricity Substation	1958	52750
AC	345m NW	Electricity Substation	1992	53474
AC	350m NW	Electricity Substation	1990	53474
AE	357m NW	Electricity Substation	1992	60143
AE	357m NW	Electricity Substation	1971	52125
AE	357m NW	Electricity Substation	1968	52125
AE	359m NW	Electricity Substation	1978	52125
AE	359m NW	Electricity Substation	1988	52125
AE	359m NW	Electricity Substation	1988	52125
AE	359m NW	Electricity Substation	1991	52125
AH	376m S	Electricity Substation	1996	54053
AJ	377m E	Electricity Substation	1990	61093
AJ	377m E	Electricity Substation	1990	61093
AH	378m S	Electricity Substation	1984	54053
AJ	379m E	Electricity Substation	1972	61093
AN	405m N	Electricity Substation	1992	50095
AN	406m N	Electricity Substation	1977	50095
AN	406m N	Electricity Substation	1990	50095
AP	407m S	Electricity Substation	1996	53119
AP	407m S	Electricity Substation	1984	53119
AP	407m S	Electricity Substation	1981	53119
AS	440m SW	Electricity Substation	1979	60526



ID	Location	Land Use	Date	Group ID
AS	440m SW	Electricity Substation	1990	60526
AS	440m SW	Electricity Substation	1956	64095
AS	440m SW	Electricity Substation	1957	52234
AS	459m SW	Electricity Substation	1996	61413
AT	461m W	Electricity Substation	1991	57387
AT	461m W	Electricity Substation	1992	57387
AT	461m W	Electricity Substation	1971	60096
AT	461m W	Electricity Substation	1968	60096
AT	462m W	Electricity Substation	1978	60096
AT	462m W	Electricity Substation	1988	60096
AU	468m SE	Electricity Substation	1968	58197
AU	468m SE	Electricity Substation	1990	58466
AU	470m SE	Electricity Substation	1978	52020

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m

0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

12

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on [page 25 >](#)

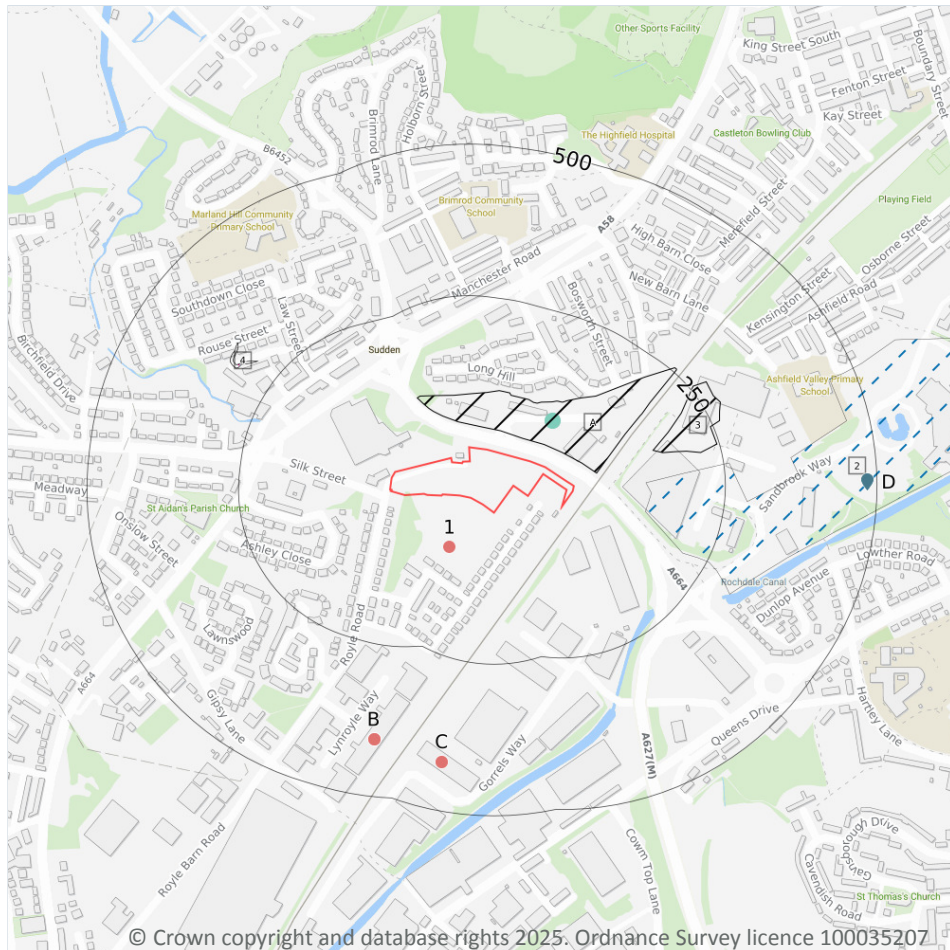


ID	Location	Land Use	Date	Group ID
L	148m NW	Garage	1956	20277
L	148m NW	Garage	1957	20277
O	198m N	Garage	1993	20679
O	198m N	Garage	1998	20679
O	199m N	Garage	1993	20679
O	200m N	Garage	1988	18560
O	201m N	Garage	1975	21044
Z	291m N	Garage	1977	20523
Z	335m N	Garage	1992	22042
AL	393m SE	Garage	1968	17978
AL	393m SE	Garage	1990	20737
AL	394m SE	Garage	1978	19121

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Active or recent landfill
- Historical landfill (EA/NRW)
- Historical landfill (BGS)
- Historical landfill (LA/OS)
- Licensed waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

1

Active or recently closed landfill sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on [page 38](#) >

ID	Location	Details	
2	119m E	Operator: Wimpey Construction (Uk) Limited Site Address: Wimpey Construction (Uk) Limited, Arundel Avenue, Rochdale, Lancashire, OL11 1QL	WML Number: 53728 EPR Reference: 642736 Landfill type: A05: Landfill taking Non-Biodegradable Wastes Status: Expired IPPC Reference: - EPR Number: EA/EPR/GP3296CN



This data is sourced from the Environment Agency and Natural Resources Wales.

3.2 Historical landfill (BGS records)

Records within 500m

1

Landfill sites identified on a survey carried out on behalf of the DoE in 1973. These sites may have been closed or operational at this time.

Features are displayed on the Waste and landfill map on [page 38 >](#)

ID	Location	Address	BGS Number	Risk	Waste Type
A	75m N	Edinburgh Way, Rochdale, Gt Manchester	1852	No risk to aquifer	N/A

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

1

Landfill sites identified from Local Authority records and high detail historical mapping.

Features are displayed on the Waste and landfill map on [page 38 >](#)

ID	Location	Site address	Source	Data type
4	291m NW	Refuse Tip	1962 mapping	Polygon

This data is sourced from the Ordnance Survey/Groundsure and Local Authority records.

3.4 Historical landfill (EA/NRW records)

Records within 500m

2

Known historical (closed) landfill sites (e.g. sites where there is no PPC permit or waste management licence currently in force). This includes sites that existed before the waste licensing regime and sites that have been licensed in the past but where a licence has been revoked, ceased to exist or surrendered and a certificate of completion has been issued.

Features are displayed on the Waste and landfill map on [page 38 >](#)

ID	Location	Details		
A	33m N	Site Address: Edinburgh Way, Rochdale, Greater Manchester Licence Holder Address: -	Waste Licence: - Site Reference: - Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: Rochdale County Borough Council Licence Holder: - First Recorded 30/09/1972 Last Recorded: -
3	143m NE	Site Address: Hailwood Street, Deeplish, Rochdale, Greater Manchester Licence Holder Address: -	Waste Licence: - Site Reference: D083 Waste Type: - Environmental Permitting Regulations (Waste) Reference: - Licence Issue: - Licence Surrender: -	Operator: - Licence Holder: - First Recorded - Last Recorded: -

This data is sourced from the Environment Agency and Natural Resources Wales.

3.5 Historical waste sites

Records within 500m	0
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Waste site records derived from Local Authority planning records and high detail historical mapping.

This data is sourced from Ordnance Survey/Groundsure and Local Authority records.

3.6 Licensed waste sites

Records within 500m	3
----------------------------	----------

Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on [page 38 >](#)

ID	Location	Details		
D	484m E	Site Name: Ashfield Valley Inert Landfill Site Site Address: Arundel Avenue, Rochdale, Lancashire, OL11 1QL Correspondence Address: -	Type of Site: Landfill taking Non- Biodegradable Wastes Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: 642736 EPR reference: EA/EPR/GP3296CN Operator: Wimpey Construction (Uk) Limited Waste Management licence No: 53728 Annual Tonnage: 0	Issue Date: 21/06/1994 Effective Date: 21/06/1994 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired



ID	Location	Details		
D	484m E	Site Name: Ashfield Valley Inert Landfill Site Site Address: Arundel Avenue, Rochdale, Lancashire, OL11 Correspondence Address: Carillion Building, New Chester Road, Wirral, Merseyside, CH62 3NZ	Type of Site: Landfill taking Non-Biodegradable Wastes Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: WCL001 EPR reference: - Operator: Wimpey Construction UK Ltd Waste Management licence No: 53728 Annual Tonnage: 0.001	Issue Date: 21/06/1994 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
D	484m E	Site Name: Ashfield Valley Inert Landfill Site Site Address: Arundel Avenue, Rochdale, Lancashire, OL11 1QL Correspondence Address: -	Type of Site: Landfill taking Non-Biodegradable Wastes Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 636933 EPR reference: EA/EPR/GP3296CN Operator: Wimpey Construction (Uk) Limited Waste Management licence No: 53728 Annual Tonnage: 0	Issue Date: 21/06/1994 Effective Date: 21/06/1994 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired

This data is sourced from the Environment Agency and Natural Resources Wales.

3.7 Waste exemptions

Records within 500m	11
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Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on [page 38 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
1	87m S	-	WEX356301	Using waste exemption	Not on a farm	Use of waste in construction
B	407m S	Unit 2-4, Royle Pennine Trading Estate, Lynroyle Way, Rochdale, OL11 3ex	WEX155927	Storing waste exemption	Not on a farm	Storage of waste in secure containers

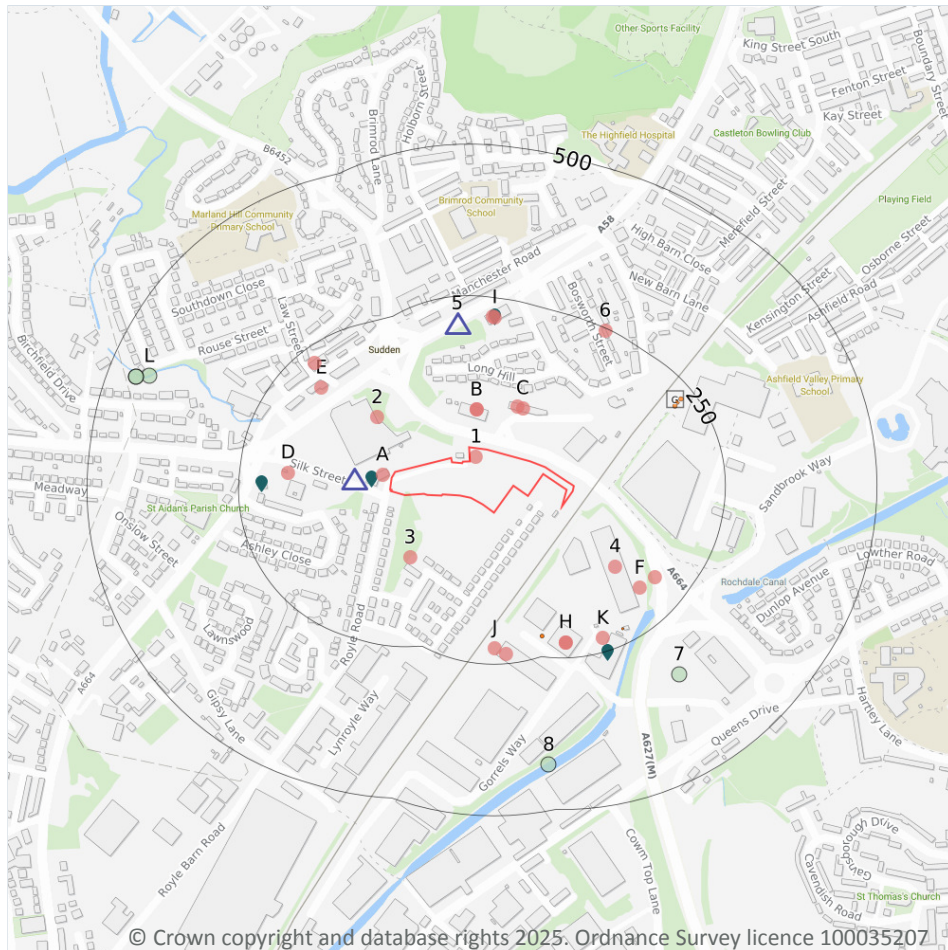


ID	Location	Site	Reference	Category	Sub-Category	Description
B	407m S	Unit 2-4, Royle Pennine Trading Estate, Lynroyle Way, Rochdale, OL11 3ex	WEX155927	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	407m S	Unit 2-4, Royle Pennine Trading Estate, Lynroyle Way, Rochdale, OL11 3ex	WEX159021	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	407m S	Unit 2-4, Royle Pennine Trading Estate, Lynroyle Way, Rochdale, OL11 3ex	WEX159021	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	407m S	Unit 2-4, Royle Pennine Trading Estate, Lynroyle Way, Rochdale, OL11 3ex	WEX296662	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	407m S	Unit 2-4, Royle Pennine Trading Estate, Lynroyle Way, Rochdale, OL11 3ex	WEX296662	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	407m S	Unit 2-4, Royle Pennine Trading Estate, Lynroyle Way, Rochdale, OL11 3ex	WEX292578	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	407m S	Unit 2-4, Royle Pennine Trading Estate, Lynroyle Way, Rochdale, OL11 3ex	WEX292578	Storing waste exemption	Not on a farm	Storage of waste in secure containers
C	421m S	Unit 4d, Trans Pennine Trading Estate, Gorrells Way, Rochdale, OL11 2px	WEX248178	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	421m S	Unit 4d, Trans Pennine Trading Estate, Gorrells Way, Rochdale, OL11 2px	WEX377329	Storing waste exemption	Not on a farm	Storage of waste in a secure place

This data is sourced from the Environment Agency and Natural Resources Wales.



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- NGD current or recent tanks
- ▲ Current or recent petrol stations
- Licensed pollutant release (Part A(2)/B)
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

22

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 43](#) >

ID	Location	Company	Address	Activity	Category
1	On site	Electricity Sub Station	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities
A	16m W	Tesco Petrol Station	Petrol Filling Station Tesco Stores Ltd, Silk Street, Rochdale, Greater Manchester, OL11 3ER	Petrol and Fuel Stations	Road and Rail



ID	Location	Company	Address	Activity	Category
B	63m N	R R G Group	R R G Ltd, Edinburgh Way, Rochdale, Greater Manchester, OL11 2PD	New Vehicles	Motoring
B	63m N	R R G Toyota Rochdale	R R G Ltd, Edinburgh Way, Rochdale, Greater Manchester, OL11 2PD	New Vehicles	Motoring
C	81m N	R R G Select Peugeot Rochdale	Edinburgh Way, Rochdale, Greater Manchester, OL11 2PD	New Vehicles	Motoring
C	82m N	R R G Peugeot Rochdale	Edinburgh Way, Rochdale, Greater Manchester, OL11 2PD	New Vehicles	Motoring
2	95m N	Electricity Sub Station	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities
3	103m S	Electricity Sub Station	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities
4	132m SE	Hanson Springs Ltd	Trans Pennine Trading Estate, Gorrels Way, Rochdale, Greater Manchester, OL11 2PX	Special Purpose Machinery and Equipment	Industrial Products
D	171m W	Electricity Sub Station	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities
E	185m NW	Grotec	393, Manchester Road, Rochdale, Greater Manchester, OL11 3PG	Horticultural Equipment	Industrial Products
F	186m SE	Electricity Sub Station	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities
F	192m SE	Mast (Telecommunication)	Greater Manchester, OL11	Telecommunications Features	Infrastructure and Facilities
I	218m N	Esso	Manchester New Road, Rochdale, Greater Manchester, OL11 3PT	Petrol and Fuel Stations	Road and Rail
I	220m N	B P Car Wash	Manchester New Road, Rochdale, Greater Manchester, OL11 3PT	Vehicle Cleaning Services	Personal, Consumer and Other Services
J	223m S	Mast (Telecommunication)	Greater Manchester, OL11	Telecommunications Features	Infrastructure and Facilities
E	224m NW	Works	Greater Manchester, OL11	Unspecified Works Or Factories	Industrial Features
H	224m S	Fire-mech Fixings Ltd	Unit 4 Trans Pennine Trading Estate, Gorrels Way, Rochdale, Greater Manchester, OL11 2PX	General Construction Supplies	Industrial Products



ID	Location	Company	Address	Activity	Category
H	224m S	A & F Sprinklers	Unit 4 Trans Pennine Trading Estate, Gorrels Way, Rochdale, Greater Manchester, OL11 2PX	Special Purpose Machinery and Equipment	Industrial Products
K	227m S	Electricity Sub Station	Greater Manchester, OL11	Electrical Features	Infrastructure and Facilities
J	234m S	Crystal Doors	Unit 1 Trans Pennine Trading Estate, Gorrels Way, Rochdale, Greater Manchester, OL11 2PX	General Construction Supplies	Industrial Products
6	246m NE	Leaflets Direct UK	25, Bosworth Street, Rochdale, Greater Manchester, OL11 3QQ	Distribution and Haulage	Transport, Storage and Delivery

This data is sourced from Ordnance Survey.

4.2 National Geographic Database (NGD) - Current or recent tanks

Records within 250m

7

Current or recent tanks identified from the Ordnance Survey NGD.

Features are displayed on the Current industrial land use map on [page 43 >](#)

ID	Location	Tank description	Activity	Date first identified
G	209m NE	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	26/02/2007
H	213m S	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	23/04/2019
H	213m S	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	23/04/2019
G	217m NE	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	20/04/2016
K	223m SE	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	20/04/2016
K	223m SE	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	20/04/2016
G	224m NE	Roofed Storage Tank	Commercial Activity: Distribution Or Storage	26/02/2007

This data is sourced from Ordnance Survey.

4.3 Current or recent petrol stations

Records within 500m

2

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on [page 43 >](#)



ID	Location	Company	Address	LPG	Status
A	61m W	TESCO	Silk Street, Rochdale, Greater Manchester, OL11 3ER	No	Open
5	205m N	ESSO	Manchester Road, Sudden, Rochdale, Greater Manchester, OL11 3PQ	No	Open

This data is sourced from Experian.

4.4 Electricity cables

Records within 500m

0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.5 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.6 Sites determined as Contaminated Land

Records within 500m

0

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.7 Control of Major Accident Hazards (COMAH)

Records within 500m

0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.



4.8 Regulated explosive sites

Records within 500m

0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.9 Hazardous substance storage/usage

Records within 500m

0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.10 Historical licensed industrial activities (IPC)

Records within 500m

0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.11 Licensed industrial activities (Part A(1))

Records within 500m

0

Records of Part A(1) installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.12 Licensed pollutant release (Part A(2)/B)

Records within 500m

4

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on [page 43](#) >

ID	Location	Address	Details	
A	33m W	Tesco Petrol Station, Silk Street, Rochdale, Lancashire, OL11 3ER	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
D	213m W	Johnsons Dry Cleaners, Manchester Road, Rochdale, Lancashire, OL11 2ST	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified
I	218m N	Eurogarages Ltd, Sudden Service Station, Manchester Road, Rochdale, Lancashire, OL11 3PT	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
K	252m S	Crystal Doors (Righthouse Ltd), Unit 1-2 Trans Pennine Trading Estate, Gorrels Way, Rochdale, Lancashire, OL11 2PX	Process: Combustion of Waste Wood Status: Current Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified

This data is sourced from Local Authority records.

4.13 Radioactive Substance Authorisations

Records within 500m

0

Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.14 Licensed Discharges to controlled waters

Records within 500m

0

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.



4.15 Pollutant release to surface waters (Red List)

Records within 500m**0**

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.16 Pollutant release to public sewer

Records within 500m**0**

Discharges of Special Category Effluents to the public sewer.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.17 List 1 Dangerous Substances

Records within 500m**0**

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.18 List 2 Dangerous Substances

Records within 500m**0**

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

This data is sourced from the Environment Agency and Natural Resources Wales.

4.19 Pollution Incidents (EA/NRW)

Records within 500m**5**

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

Features are displayed on the Current industrial land use map on [page 43](#) >



ID	Location	Details	
7	338m SE	Incident Date: 09/04/2003 Incident Identification: 149854 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
8	426m S	Incident Date: 29/08/2001 Incident Identification: 27638 Pollutant: Inert Materials and Wastes Pollutant Description: Other Inert Material or Waste	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
L	434m NW	Incident Date: 15/07/2002 Incident Identification: 91734 Pollutant: Sewage Materials Pollutant Description: Storm Sewage	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
L	454m W	Incident Date: 27/11/2010 Incident Identification: 841222 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 1 (Major) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
L	454m W	Incident Date: 27/11/2010 Incident Identification: 841222 Pollutant: Oils and Fuel Pollutant Description: Other Oil or Fuel	Water Impact: Category 1 (Major) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

This data is sourced from the Environment Agency and Natural Resources Wales.

4.20 Pollution inventory substances

Records within 500m	0
----------------------------	----------

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.

4.21 Pollution inventory waste transfers

Records within 500m	0
----------------------------	----------

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



4.22 Pollution inventory radioactive waste

Records within 500m

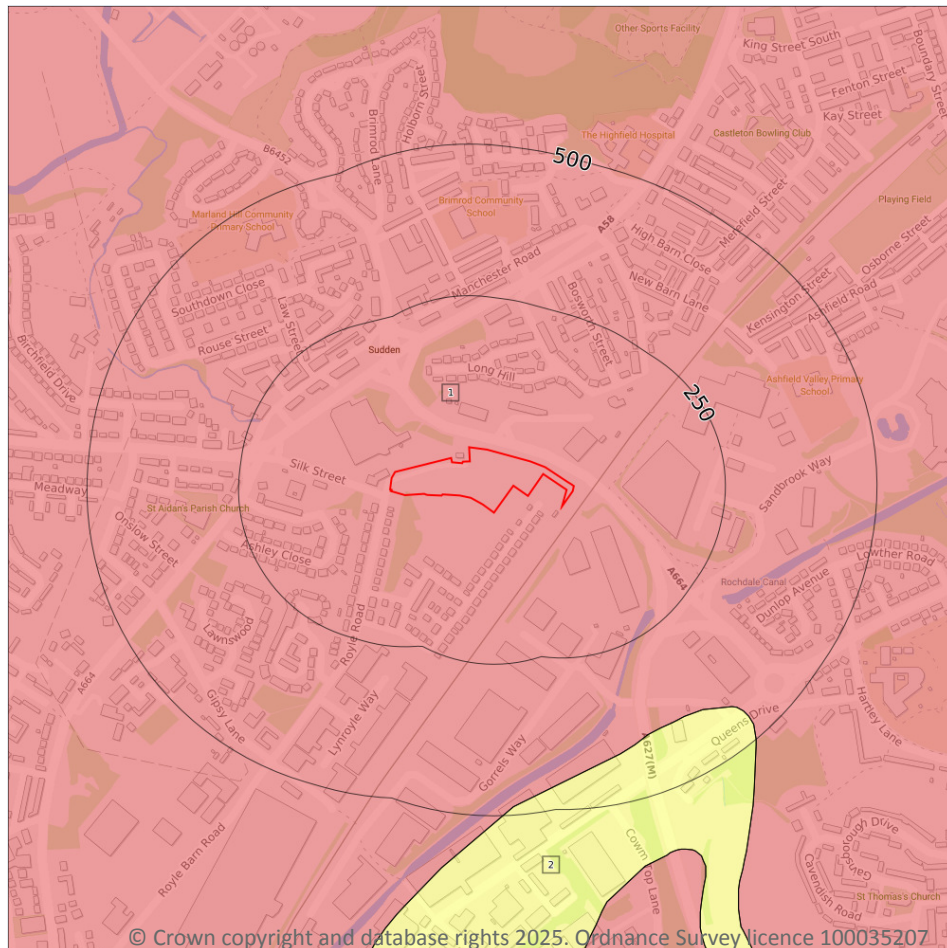
0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

This data is sourced from the Environment Agency and the Scottish Environment Protection Agency.



5 Hydrogeology - Superficial aquifer



- Site Outline**
- Search buffers in metres (m)**
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

5.1 Superficial aquifer

Records within 500m

2

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 52](#) >

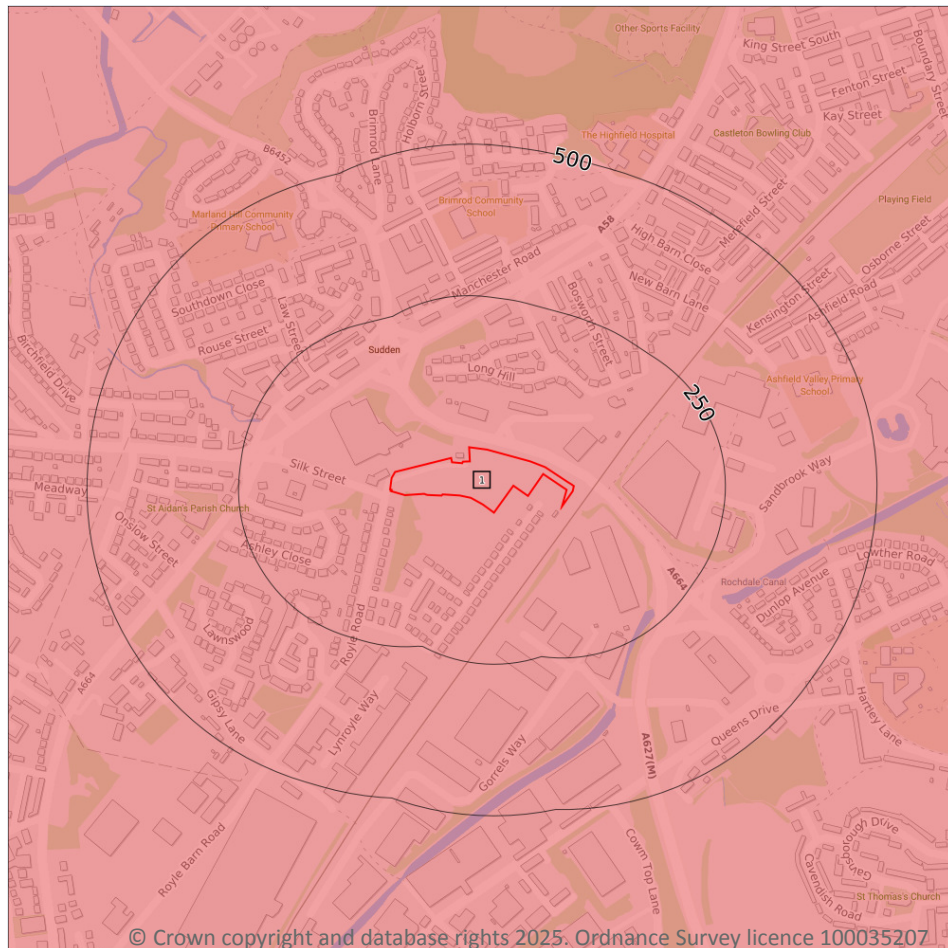
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	400m SE	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type



This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Bedrock aquifer



- Site Outline**
- Search buffers in metres (m)**
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

1

Aquifer status of groundwater held within bedrock geology.

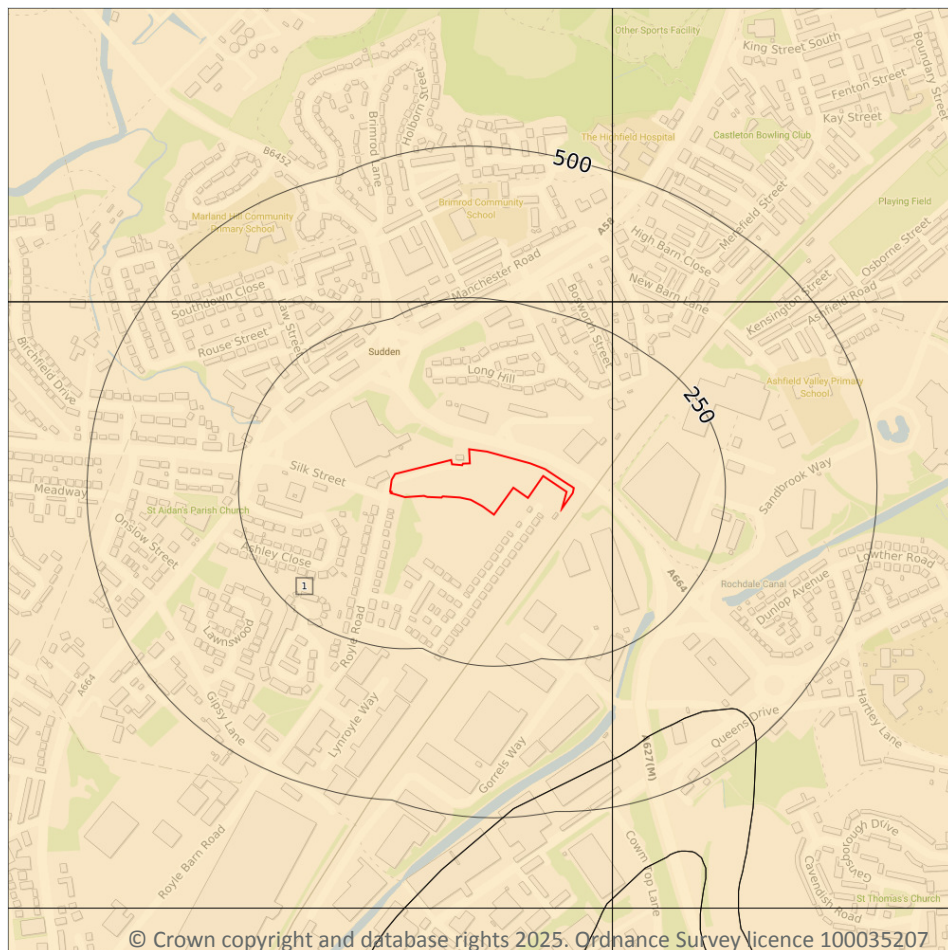
Features are displayed on the Bedrock aquifer map on [page 54](#) >

ID	Location	Designation	Description
1	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

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.



Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

- Principal superficial aquifer, high vulnerability
- Secondary superficial aquifer, high vulnerability
- Principal superficial aquifer, medium vulnerability
- Secondary superficial aquifer, medium vulnerability
- Principal superficial aquifer, low vulnerability
- Secondary superficial aquifer, low vulnerability

Bedrock vulnerability

- Principal bedrock aquifer, high vulnerability
- Secondary bedrock aquifer, high vulnerability
- Principal bedrock aquifer, medium vulnerability
- Secondary bedrock aquifer, medium vulnerability
- Principal bedrock aquifer, low vulnerability
- Secondary bedrock aquifer, low vulnerability

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on [page 55 >](#)



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

This data is sourced from the British Geological Survey, the Environment Agency and Natural Resources Wales.

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0
------------------------	----------

This dataset identifies areas where solution features that enable rapid movement of a pollutant may be present within a 1km grid square.

This data is sourced from the British Geological Survey and the Environment Agency.

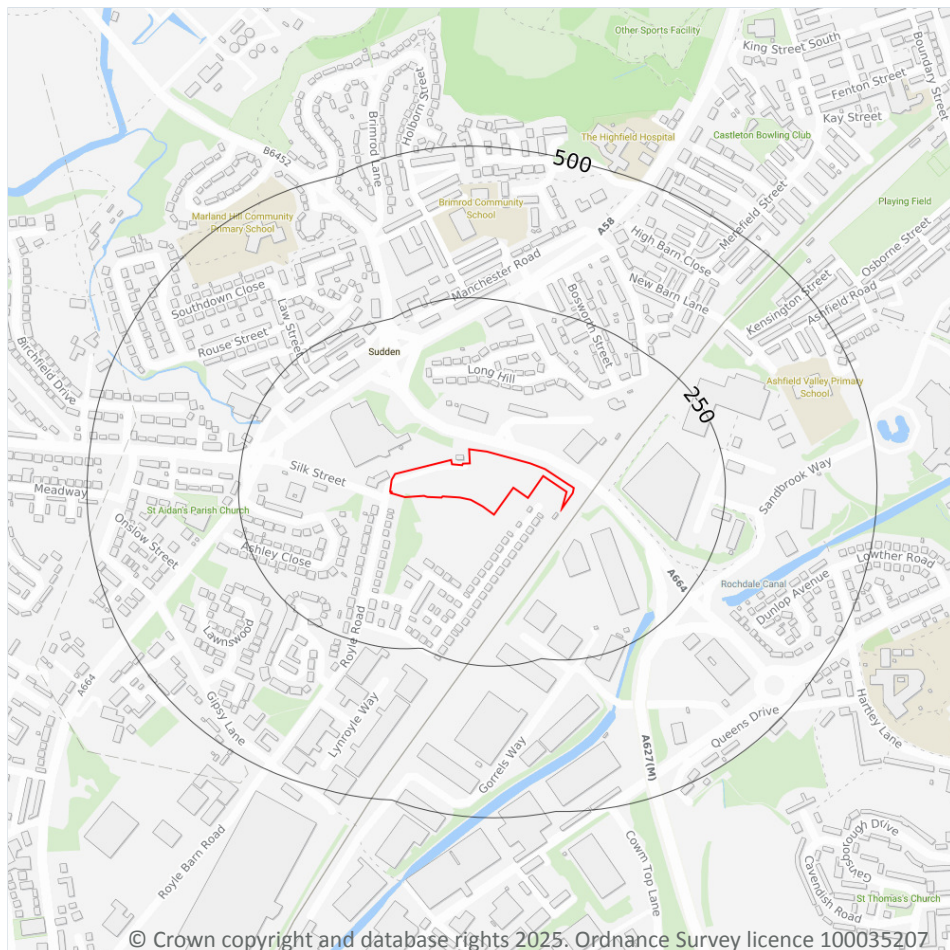
5.5 Groundwater vulnerability- local information

Records on site	0
------------------------	----------

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk ↗.

This data is sourced from the British Geological Survey and the Environment Agency.

Abstractions and Source Protection Zones



- Site Outline
- Search buffers in metres (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
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

3

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 57 >](#)



ID	Location	Details	
-	1744m N	Status: Historical Licence No: 2569002050 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, SPOTLAND, ROCHDALE" Data Type: Point Name: ALEXANDER DREW & SONS LTD Easting: 388700 Northing: 413500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 02/05/2000 Version End Date: -
-	1744m N	Status: Historical Licence No: 2569002050 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, SPOTLAND, ROCHDALE Data Type: Point Name: ALEXANDER DREW LTD. Easting: 388700 Northing: 413500	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 10/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2003 Version End Date: -
-	1744m N	Status: Historical Licence No: 2569002050 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES SPOTLAND ROCHDALE Data Type: Point Name: ALEXANDER DREW LTD Easting: 388700 Northing: 413500	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2100 Original Application No: - Original Start Date: 10/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/04/2003 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.7 Surface water abstractions

Records within 2000m

9

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on [page 57 >](#)



ID	Location	Details	
-	1165m E	Status: Historical Licence No: 2569002107 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT QUEENSWAY,ROCHDALE" Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/12/1993 Version End Date: -
-	1165m E	Status: Historical Licence No: 2569002107 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "ROCHDALE CANAL AT QUEENSWAY,ROCHDALE" Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 20/12/1993 Version End Date: -
-	1165m E	Status: Historical Licence No: 2569002107 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT QUEENSWAY,ROCHDALE Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): 10455.8 Max Daily Volume (m ³): 45.46 Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -
-	1165m E	Status: Historical Licence No: 2569002107 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT QUEENSWAY,ROCHDALE Data Type: Point Name: SEALOCRETE PLA LTD Easting: 390070 Northing: 411960	Annual Volume (m ³): 10455.8 Max Daily Volume (m ³): 45.46 Original Application No: - Original Start Date: 02/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2008 Version End Date: -



ID	Location	Details	
-	1268m E	Status: Historical Licence No: 2569002178 Details: Boiler Feed Direct Source: "Surface, Non-Tidal - North West Region" Point: "CATCHPIT FED BY SURFACE DRAINAGE AT PREMISES, ROCHDALE" Data Type: Point Name: DUNPHY COMBUSTION LTD. Easting: 390200 Northing: 411800	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/02/1991 Version End Date: -
-	1268m E	Status: Historical Licence No: 2569002178 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: CATCHPIT FED BY SURFACE DRAINAGE AT PREMISES, ROCHDALE Data Type: Point Name: DUNPHY COMBUSTION LTD Easting: 390200 Northing: 411800	Annual Volume (m ³): 2318.46 Max Daily Volume (m ³): 34.09 Original Application No: CW 1093 Original Start Date: 18/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/02/1991 Version End Date: -
-	1493m NE	Status: Historical Licence No: 2569002076 Details: Boiler Feed Direct Source: Surface, Non-Tidal - North West Region Point: ROCHDALE CANAL AT ROCHDALE, LANCS Data Type: Point Name: J & J MAKIN CONVERTORS LTD Easting: 390300 Northing: 412300	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -
-	1902m NE	Status: Historical Licence No: NW/069/0002/003 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Surface, Non-Tidal - North West Region Point: RIVER ROCH AT ROCHDALE WEIR Data Type: Point Name: Transport for Greater Manchester Easting: 389916 Northing: 413325	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/WR/007633 Original Start Date: 15/06/2010 Expiry Date: 31/03/2026 Issue No: 2 Version Start Date: 23/06/2011 Version End Date: -



ID	Location	Details	
-	1903m NE	Status: Historical Licence No: NW/069/0002/001 Details: Hydroelectric Power Generation Direct Source: Surface, Non-Tidal - North West Region Point: RIVER ROCH AT ROCHDALE WEIR Data Type: Point Name: Transport for Greater Manchester Easting: 389917 Northing: 413325	Annual Volume (m ³): 36100000 Max Daily Volume (m ³): 164160 Original Application No: NPS/WR/007499 Original Start Date: 15/06/2010 Expiry Date: 31/03/2026 Issue No: 2 Version Start Date: 01/04/2015 Version End Date: -

This data is sourced from the Environment Agency and Natural Resources Wales.

5.8 Potable abstractions

Records within 2000m	0
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Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.9 Source Protection Zones

Records within 500m	0
----------------------------	----------

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

This data is sourced from the Environment Agency and Natural Resources Wales.

5.10 Source Protection Zones (confined aquifer)

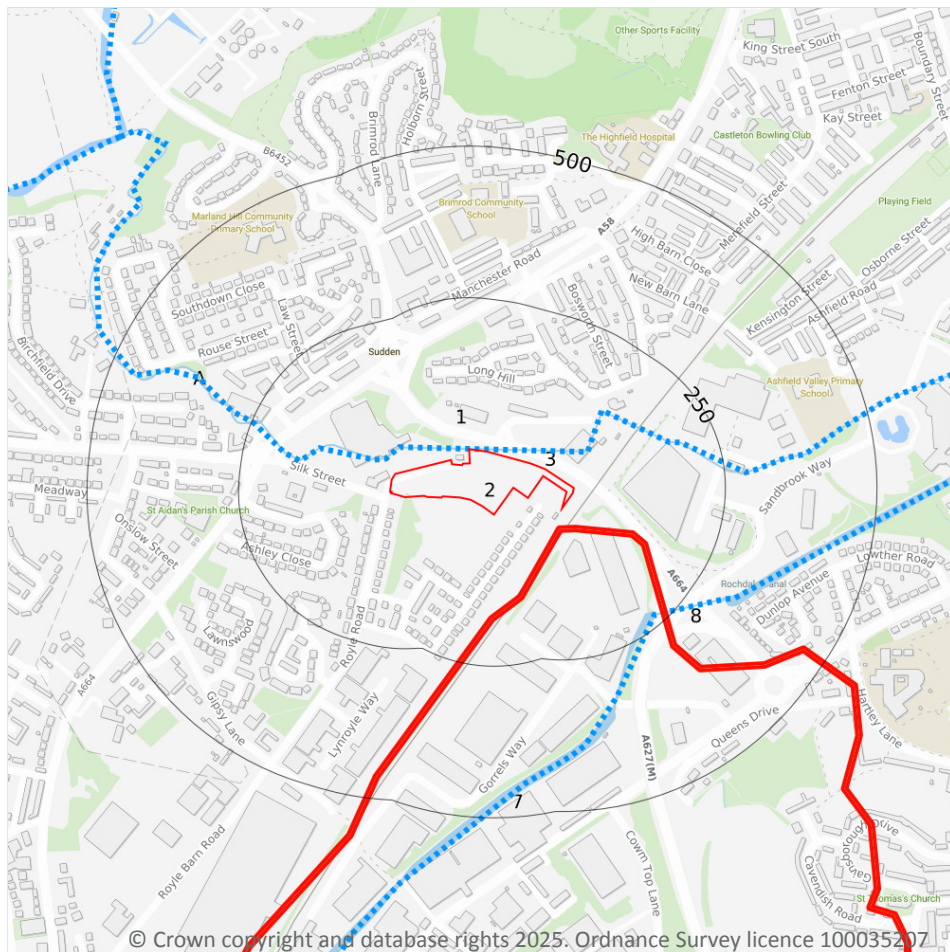
Records within 500m	0
----------------------------	----------

Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

This data is sourced from the Environment Agency and Natural Resources Wales.



6 Hydrology



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6.1 Water Network (OS MasterMap)

Records within 250m

4

Detailed water network of Great Britain showing the flow and precise central course of every river, stream, lake and canal.

Features are displayed on the Hydrology map on [page 62 >](#)

ID	Location	Type of water feature	Ground level	Permanence	Name
3	1m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Sudden Brook



ID	Location	Type of water feature	Ground level	Permanence	Name
7	229m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
8	232m SE	Canal. A manmade watercourse for inland navigation.	Underground	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
A	235m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Sudden Brook

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

2

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

Features are displayed on the Hydrology map on [page 62 >](#)

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on [page 62 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Roch (Spodden to Irwell)	GB112069064600	Roch Irk Medlock	Irwell

This data is sourced from the Environment Agency and Natural Resources Wales.



6.4 WFD Surface water bodies

Records identified

2

Surface water bodies under the Directive may be rivers, lakes, estuary or coastal. To achieve the purpose of the Directive, environmental objectives have been set and are reported on for each water body. The progress towards delivery of the objectives is then reported on by the relevant competent authorities at the end of each six-year cycle. The river water body directly associated with the catchment listed in the previous section is detailed below, along with any lake, canal, coastal or artificial water body within 250m of the site. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each water body listed.

Features are displayed on the Hydrology map on [page 62 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
4	1m N	River	Roch (Spodden to Irwell)	GB112069064600 ↗	Moderate	Fail	Moderate	2019
9	232m SE	Canal	Rochdale Canal, western section	GB71210517 ↗	Moderate	Fail	Moderate	2019

This data is sourced from the Environment Agency and Natural Resources Wales.

6.5 WFD Groundwater bodies

Records on site

1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place. Click on the water body ID in the table to visit the EA Catchment Explorer to find out more about each groundwater body listed.

Features are displayed on the Hydrology map on [page 62 >](#)

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Northern Manchester Carboniferous Aquifers	GB41202G101800 ↗	Poor	Poor	Good	2019

This data is sourced from the Environment Agency and Natural Resources Wales.



7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m within the Risk of Flooding from Rivers and Sea (RoFRaS)/Flood Risk Assessment Wales (FRAW) models. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition. The risk categories for RoFRaS for rivers and the sea and FRAW for rivers are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance). The risk categories for FRAW for the sea are; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 200 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 200 chance) or High (greater than or equal to 1 in 30 chance).

This data is sourced from the Environment Agency and Natural Resources Wales.

7.2 Historical Flood Events

Records within 250m

0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.3 Flood Defences

Records within 250m

0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

This data is sourced from the Environment Agency and Natural Resources Wales.



7.4 Areas Benefiting from Flood Defences

Records within 250m

0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

This data is sourced from the Environment Agency and Natural Resources Wales.

7.5 Flood Storage Areas

Records within 250m

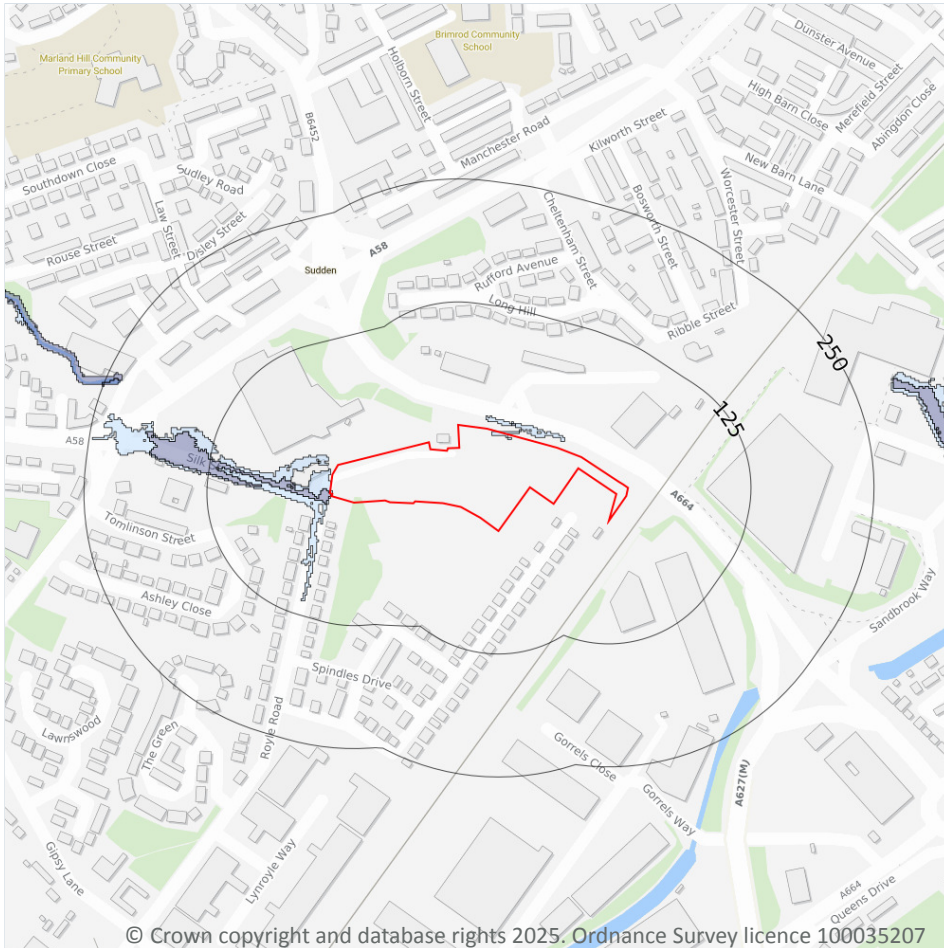
0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

This data is sourced from the Environment Agency and Natural Resources Wales.



River and coastal flooding - Flood Zones



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

7.6 Flood Zone 2

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on [page 65 >](#)

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.

7.7 Flood Zone 3

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land with a 1 in 100 (1%) or greater chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Features are displayed on the River and coastal flooding map on [page 65](#) >

Location	Type
On site	Zone 3 - (Fluvial /Tidal Models)

This data is sourced from the Environment Agency and Natural Resources Wales.



8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year rainfall events. Modern urban drainage systems are typically built to cope with rainfall events between 1 in 20 and 1 in 30 years, though some older ones may flood in a 1 in 5 year rainfall event.

Features are displayed on the Surface water flooding map on [page 69](#) >

The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

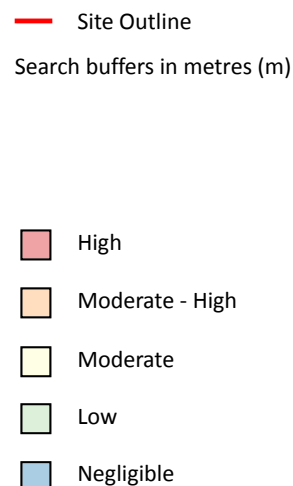
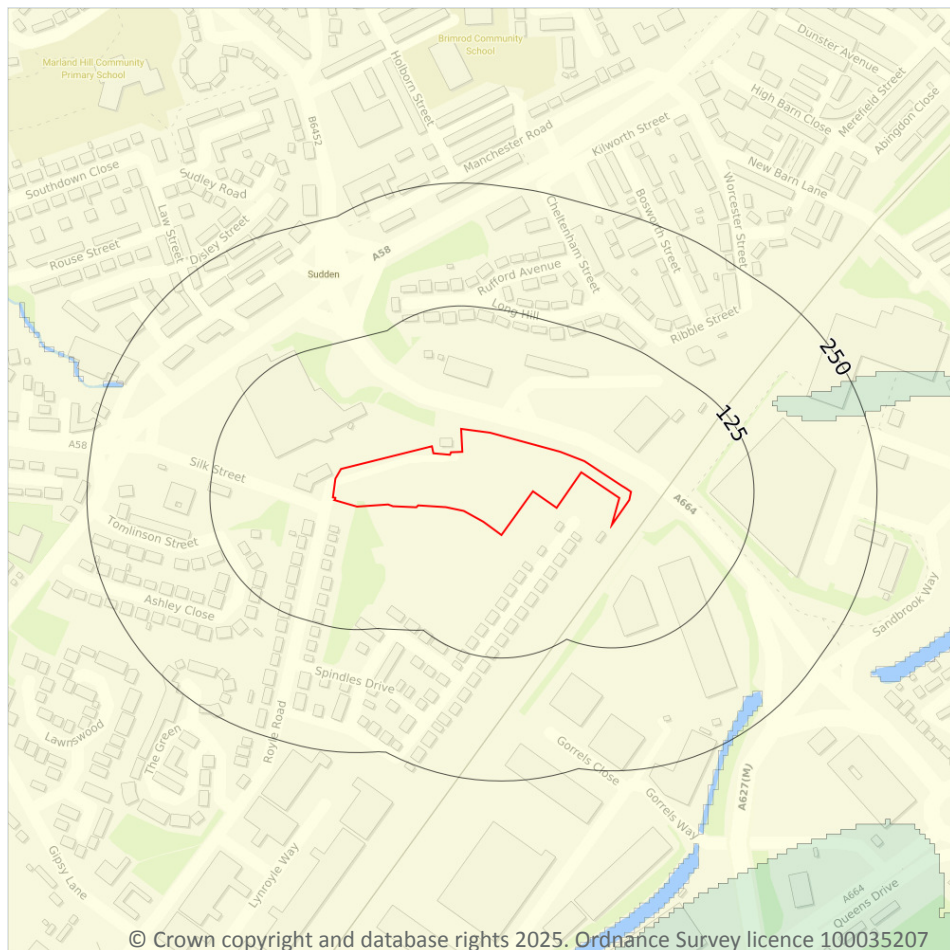
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.1m and 0.3m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Between 0.1m and 0.3m

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Moderate

Highest risk within 50m

Moderate

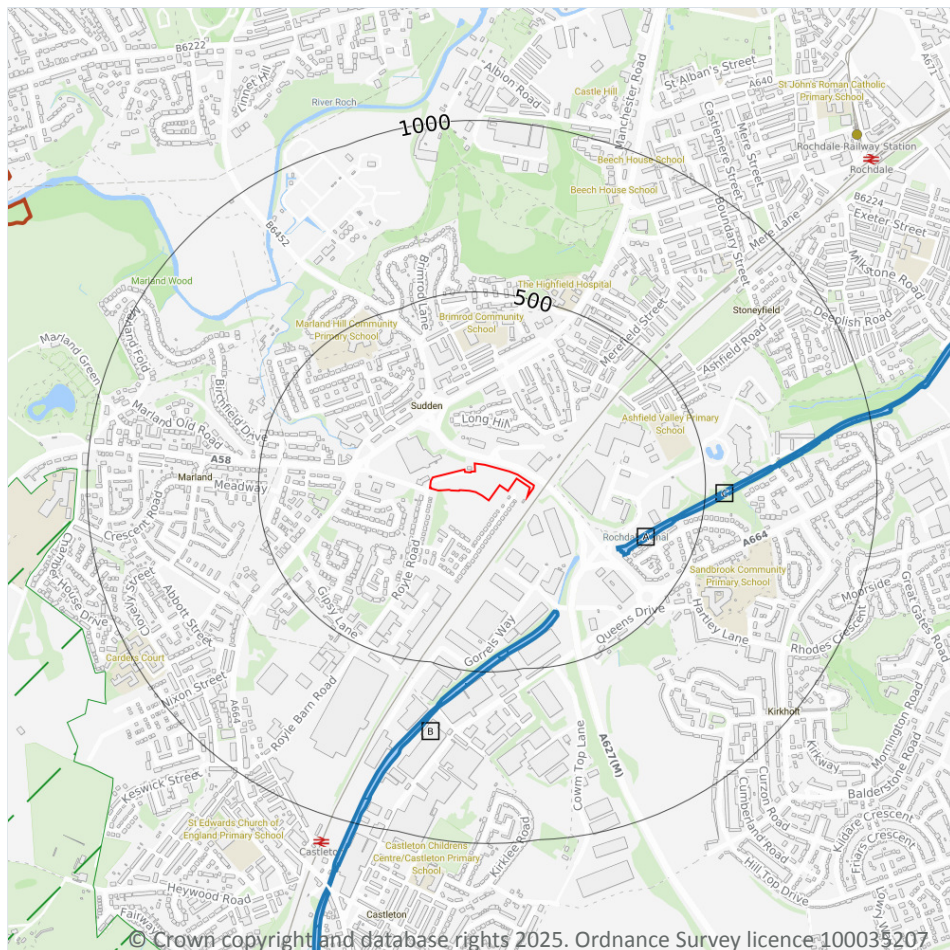
Groundwater flooding is caused by unusually high groundwater levels. It occurs when the water table rises above the ground surface or within underground structures such as basements or cellars. Groundwater flooding tends to exhibit a longer duration than surface water flooding, possibly lasting for weeks or months, and as a result it can cause significant damage to property. This risk assessment is based on a 1 in 100 year return period and a 5m Digital Terrain Model (DTM).

Features are displayed on the Groundwater flooding map on [page 71](#) >

This data is sourced from Ambiantal Risk Analytics.



10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Sites of Special Scientific Interest (SSSI)
- + Special Areas of Conservation (SAC)
- Designated Ancient Woodland
- Green Belt

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

6

Sites providing statutory protection for the best examples of UK flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs were re-notified under the Wildlife and Countryside Act 1981. Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000 (in England and Wales) and (in Scotland) by the Nature Conservation (Scotland) Act 2004 and the Wildlife and Natural Environment (Scotland) Act 2010.

Features are displayed on the Environmental designations map on [page 72 >](#)

ID	Location	Name	Data source
A	301m SE	Rochdale Canal SSSI	Natural England



ID	Location	Name	Data source
B	343m S	Rochdale Canal SSSI	Natural England
C	427m E	Rochdale Canal SSSI	Natural England
D	709m E	Rochdale Canal SSSI	Natural England
E	1209m S	Rochdale Canal SSSI	Natural England
-	1971m S	Rochdale Canal SSSI	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0
-----------------------------	----------

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. They cover all aspects of wetland conservation and wise use, recognizing wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. These sites cover a broad definition of wetland; marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, and even some marine areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.3 Special Areas of Conservation (SAC)

Records within 2000m	6
-----------------------------	----------

Areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive.

Features are displayed on the Environmental designations map on [page 72 >](#)

ID	Location	Name	Features of interest	Habitat description	Data source
A	301m SE	Rochdale Canal	Floating water-plantain	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England
B	343m S	Rochdale Canal	Floating water-plantain	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England
C	427m E	Rochdale Canal	Floating water-plantain	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England



ID	Location	Name	Features of interest	Habitat description	Data source
D	709m E	Rochdale Canal	Floating water-plantain	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England
E	1209m S	Rochdale Canal	Floating water-plantain	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England
-	1971m S	Rochdale Canal	Floating water-plantain	Other land (including Towns, Villages, Roads, Waste places, Mines, Industrial sites); Inland water bodies (Standing water, Running water)	Natural England

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.4 Special Protection Areas (SPA)

Records within 2000m

0

Sites classified by the UK Government under the EC Birds Directive, SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.5 National Nature Reserves (NNR)

Records within 2000m

0

Sites containing examples of some of the most important natural and semi-natural terrestrial and coastal ecosystems in Great Britain. They are managed to conserve their habitats, provide special opportunities for scientific study or to provide public recreation compatible with natural heritage interests.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

Sites managed for nature conservation, and to provide opportunities for research and education, or simply enjoying and having contact with nature. They are declared by local authorities under the National Parks and Access to the Countryside Act 1949 after consultation with the relevant statutory nature conservation agency.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.7 Designated Ancient Woodland

Records within 2000m

3

Ancient woodlands are classified as areas which have been wooded continuously since at least 1600 AD. This includes semi-natural woodland and plantations on ancient woodland sites. 'Wooded continuously' does not mean there is or has previously been continuous tree cover across the whole site, and not all trees within the woodland have to be old.

Features are displayed on the Environmental designations map on [page 72 >](#)

ID	Location	Name	Woodland Type
2	1398m NW	Springfield Wood	Ancient & Semi-Natural Woodland
3	1512m NW	River Rock Wood (2)	Ancient & Semi-Natural Woodland
-	1762m W	Unknown	Ancient & Semi-Natural Woodland

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.8 Biosphere Reserves

Records within 2000m

0

Biosphere Reserves are internationally recognised by UNESCO as sites of excellence to balance conservation and socioeconomic development between nature and people. They are recognised under the Man and the Biosphere (MAB) Programme with the aim of promoting sustainable development founded on the work of the local community.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

10.9 Forest Parks

Records within 2000m

0

These are areas managed by the Forestry Commission designated on the basis of recreational, conservation or scenic interest.

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

A type of marine nature reserve in UK waters established under the Marine and Coastal Access Act (2009). They are designated with the aim to protect nationally important, rare or threatened habitats and species.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.



10.11 Green Belt

Records within 2000m

1

Areas designated to prevent urban sprawl by keeping land permanently open.

Features are displayed on the Environmental designations map on [page 72 >](#)

ID	Location	Name	Local Authority name
1	1029m W	Merseyside and Greater Manchester Green Belt	Rochdale

This data is sourced from the Ministry of Housing, Communities and Local Government.

10.12 Proposed Ramsar sites

Records within 2000m

0

Ramsar sites are areas listed as a Wetland of International Importance under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (the Ramsar Convention) 1971. The sites here supplied have a status of 'Proposed' having been identified for potential adoption under the framework.

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

Special Areas of Conservation are areas which have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the EC Habitats Directive. Those sites supplied here are those with a status of 'Possible' having been identified for potential adoption under the framework.

This data is sourced from Natural England and Natural Resources Wales.

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

Special Protection Areas (SPAs) are areas designated (or 'classified') under the European Union Wild Birds Directive for the protection of nationally and internationally important populations of wild birds. Those sites supplied here are those with a status of 'Potential' having been identified for potential adoption under the framework.

This data is sourced from Natural England.



10.15 Nitrate Sensitive Areas

Records within 2000m

0

Areas where nitrate concentrations in drinking water sources exceeded or was at risk of exceeding the limit of 50 mg/l set by the 1980 EC Drinking Water Directive. Voluntary agricultural measures as a means of reducing the levels of nitrate were introduced by DEFRA as MAFF, with payments being made to farmers who complied. The scheme was started as a pilot in 1990 in ten areas, later implemented within 32 areas. The scheme was closed to further new entrants in 1998, although existing agreements continued for their full term. All Nitrate Sensitive Areas fell within the areas designated as Nitrate Vulnerable Zones (NVZs) in 1996 under the EC Nitrate Directive (91/676/EEC).

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

1

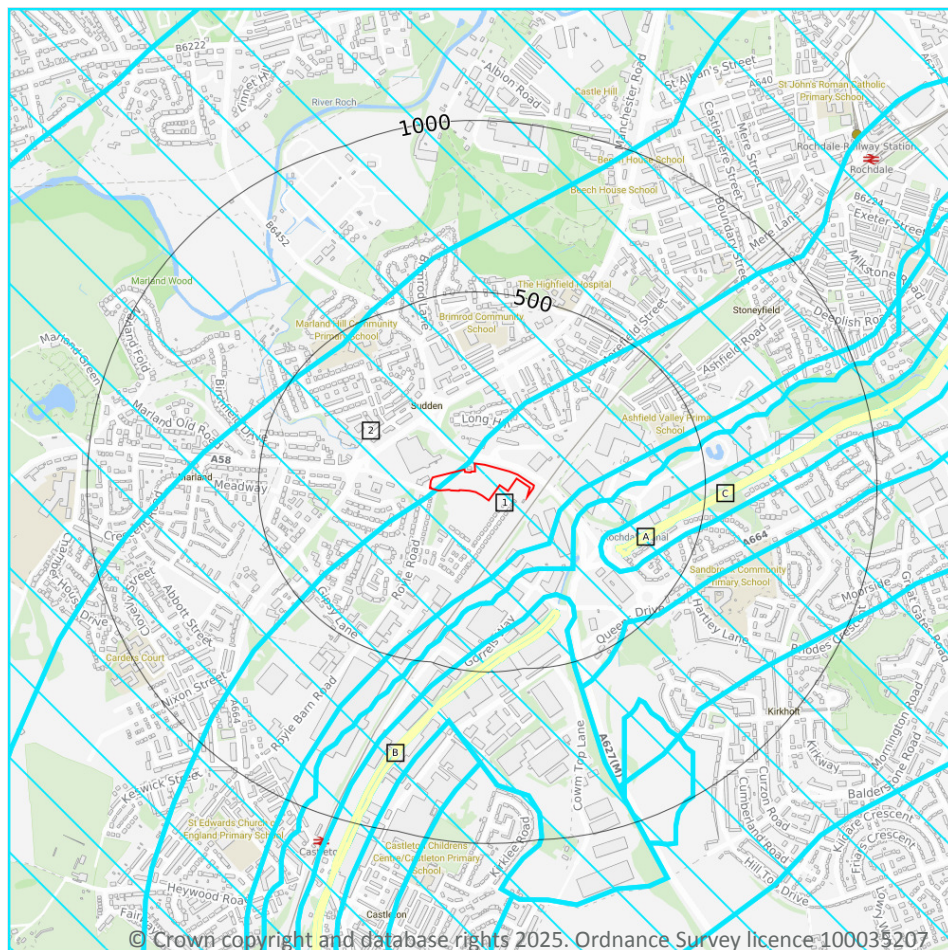
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
1011m S	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	Existing

This data is sourced from Natural England and Natural Resources Wales.



SSSI Impact Zones and Units



- Site Outline
- Search buffers in metres (m)
- SSSI Impact Risk Zones
- SSSI Units
- Not recorded
- Favourable
- Unfavourable - Recovering
- Unfavourable - No change
- Unfavourable - Declining
- Partially destroyed
- Destroyed

10.17 SSSI Impact Risk Zones

Records on site

2

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on [page 78 >](#)

ID	Location	Type of developments requiring consultation
1	On site	https://irz.geodata.org.uk/IRZ/step2.html?irzcode=0101054211101&notes=&location=389343,411992%20(IRZ%20polygon%20centre)
2	On site	https://irz.geodata.org.uk/IRZ/step2.html?irzcode=0101054322201&notes=&location=389507,412645%20(IRZ%20polygon%20centre)



This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

6

Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

Features are displayed on the SSSI Impact Zones and Units map on [page 78 >](#)

ID: A
Location: 301m SE
SSSI name: Rochdale Canal
Unit name: Failsworth
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010

ID: B
Location: 343m S
SSSI name: Rochdale Canal
Unit name: Failsworth
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Recovering
Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010

ID: C
Location: 427m E
SSSI name: Rochdale Canal
Unit name: Failsworth
Broad habitat: Standing Open Water And Canals
Condition: Unfavourable - Recovering
Reportable features:



Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010

ID: 11
 Location: 709m E
 SSSI name: Rochdale Canal
 Unit name: Failsworth
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010

ID: 18
 Location: 1209m S
 SSSI name: Rochdale Canal
 Unit name: Failsworth
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010

ID: -
 Location: 1971m S
 SSSI name: Rochdale Canal
 Unit name: Failsworth
 Broad habitat: Standing Open Water And Canals
 Condition: Unfavourable - Recovering
 Reportable features:

Feature name	Feature condition	Date of assessment
Population of Schedule 8 plant - Luronium natans, Floating Water-plantain	Unfavourable - Recovering	25/11/2010

This data is sourced from Natural England and Natural Resources Wales.



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

Sites designated for their globally important cultural or natural interest requiring appropriate management and protection measures. World Heritage Sites are designated to meet the UK's commitments under the World Heritage Convention.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

Areas of Outstanding Natural Beauty (AONB) are conservation areas, chosen because they represent 18% of the finest countryside. Each AONB has been designated for special attention because of the quality of their flora, fauna, historical and cultural associations, and/or scenic views. The National Parks and Access to the Countryside Act of 1949 created AONBs and the Countryside and Rights of Way Act, 2000 added further regulation and protection. There are likely to be restrictions to some developments within these areas.

This data is sourced from Natural England, Natural Resources Wales and Scottish Natural Heritage.

11.3 National Parks

Records within 250m

0

In England and Wales, the purpose of National Parks is to conserve and enhance landscapes within the countryside whilst promoting public enjoyment of them and having regard for the social and economic well-being of those living within them. In Scotland National Parks have the additional purpose of promoting the sustainable use of the natural resources of the area and the sustainable social and economic development of its communities. The National Parks and Access to the Countryside Act 1949 established the National Park designation in England and Wales, and The National Parks (Scotland) Act 2000 in Scotland.

This data is sourced from Natural England, Natural Resources Wales and the Scottish Government.

11.4 Listed Buildings

Records within 250m

0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.



This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.5 Conservation Areas

Records within 250m

0

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.6 Scheduled Ancient Monuments

Records within 250m

0

A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.

11.7 Registered Parks and Gardens

Records within 250m

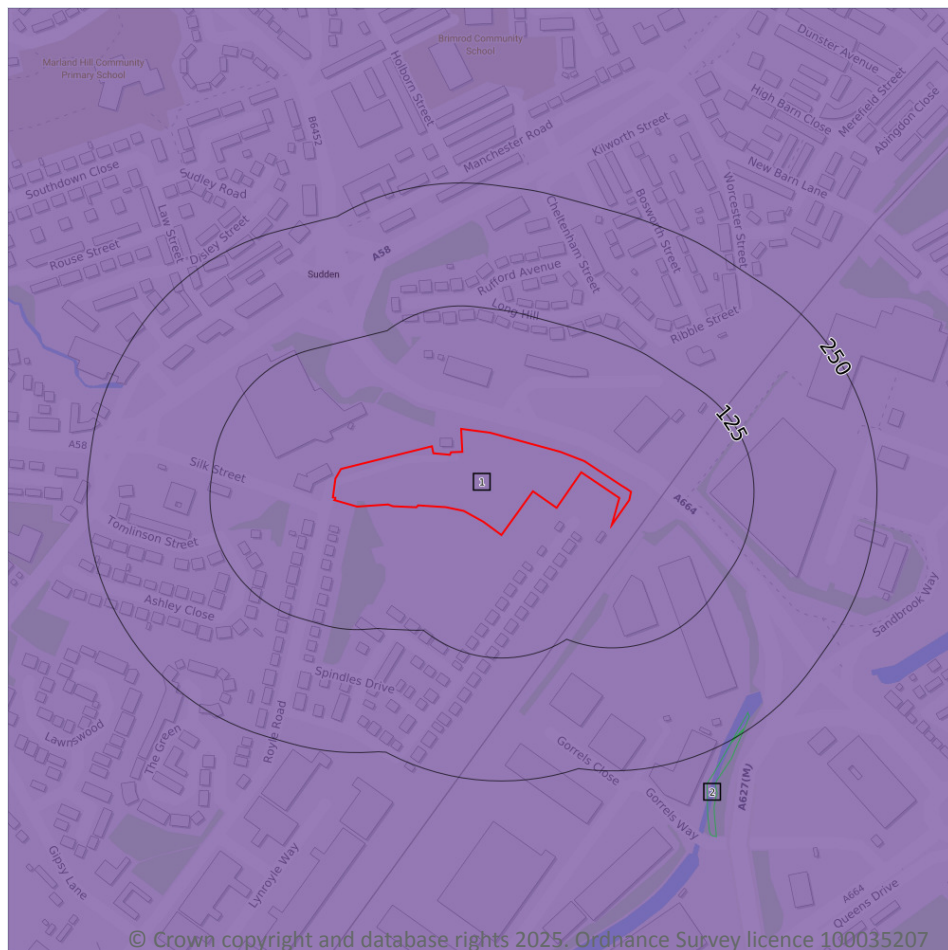
0

Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

This data is sourced from Historic England, Cadw and Historic Environment Scotland.



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

1

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on [page 83](#) >

ID	Location	Classification	Description
1	On site	Urban	Non-agricultural/no quality assigned

This data is sourced from Natural England.



12.2 Open Access Land

Records within 250m

0

The Countryside and Rights of Way Act 2000 (CROW Act) gives a public right of access to land without having to use paths. Access land includes mountains, moors, heaths and downs that are privately owned. It also includes common land registered with the local council and some land around the England Coast Path. Generally permitted activities on access land are walking, running, watching wildlife and climbing.

This data is sourced from Natural England and Natural Resources Wales.

12.3 Tree Felling Licences

Records within 250m

1

Felling Licence Application (FLA) areas approved by Forestry Commission England. Anyone wishing to fell trees must ensure that a licence or permission under a grant scheme has been issued by the Forestry Commission before any felling is carried out or that one of the exceptions apply.

Features are displayed on the Agricultural designations map on [page 83](#) >

ID	Location	Description	Reference	Application date
2	236m SE	Selective Fell/Thin (Unconditional)	018/366/15-16	-

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

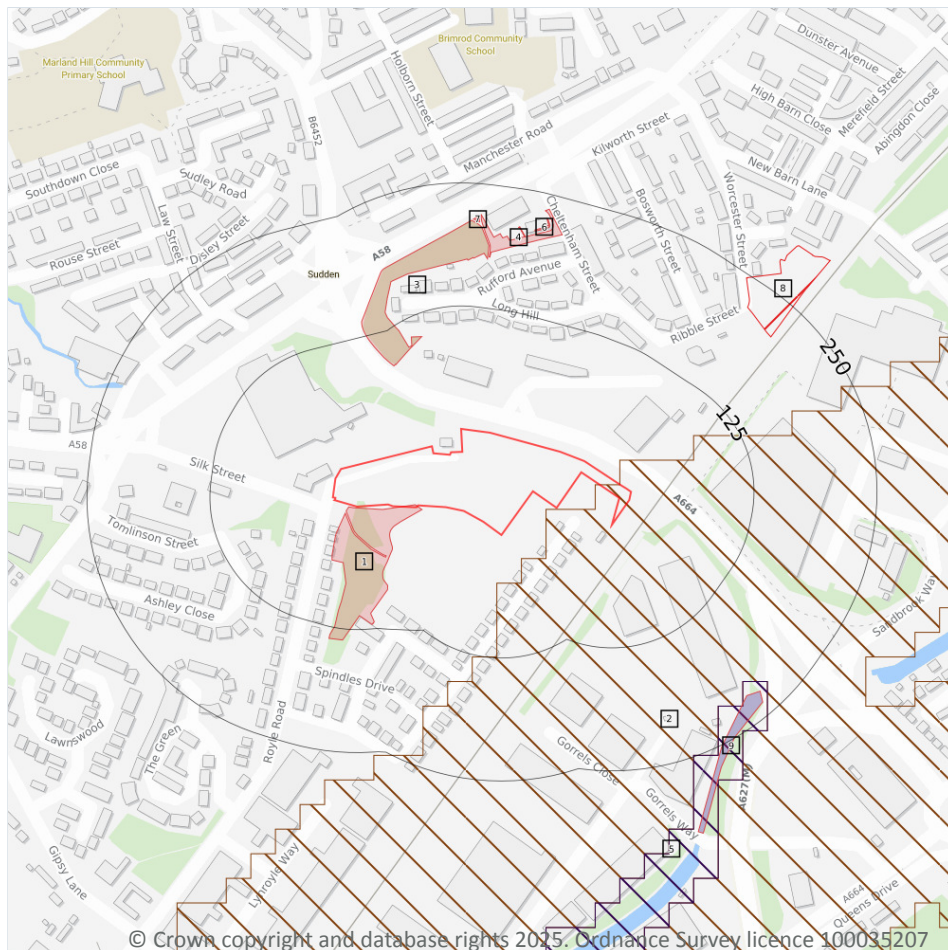
0

Countryside Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. Main objectives are to improve the farmed environment for wildlife and to reduce diffuse water pollution.

This data is sourced from Natural England.



13 Habitat designations



— Site Outline

Search buffers in metres (m)

Priority Habitat Inventory

Open Mosaic Habitat

Limestone Pavement Orders

Habitat Networks

Primary Habitat

Restorable Habitat

Associated Habitats

Habitat Restoration-Creation

Network Enhancement Zone 1

Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m

6

Habitats of principal importance as named under Natural Environment and Rural Communities Act (2006) Section 41.

Features are displayed on the Habitat designations map on [page 85 >](#)

ID	Location	Main Habitat	Other habitats
1	On site	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
3	89m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
4	177m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
6	210m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)



ID	Location	Main Habitat	Other habitats
7	211m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
9	221m SE	Lowland fens	Main habitat: LFENS (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

2

Habitat networks for 18 priority habitat networks (based primarily, but not exclusively, on the priority habitat inventory) and areas suitable for the expansion of networks through restoration and habitat creation.

Features are displayed on the Habitat designations map on [page 85 >](#)

ID	Location	Type	Habitat
2	On site	Network Enhancement Zone 2	Not specified
5	208m SE	Primary Habitat	Lowland fens

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

1

Sites verified as Open Mosaic Habitat. Mosaic habitats are brownfield sites that are identified under the UK Biodiversity Action Plan as a priority habitat due to the habitat variation within a single site, supporting an array of invertebrates.

Features are displayed on the Habitat designations map on [page 85 >](#)

ID	Location	Site reference	Identification confidence	Primary source	Secondary source	Tertiary source
8	212m NE	NLUD Ref: 422500234	Low	National Land Use Database - Previously Developed Land	UK Perspectives Aerial Photography	-

This data is sourced from Natural England.



13.4 Limestone Pavement Orders

Records within 250m

0

Limestone pavements are outcrops of limestone where the surface has been worn away by natural means over millennia. These rocks have the appearance of paving blocks, hence their name. Not only do they have geological interest, they also provide valuable habitats for wildlife. These habitats are threatened due to their removal for use in gardens and water features. Many limestone pavements have been designated as SSSIs which affords them some protection. In addition, Section 34 of the Wildlife and Countryside Act 1981 gave them additional protection via the creation of Limestone Pavement Orders, which made it a criminal offence to remove any part of the outcrop. The associated Limestone Pavement Priority Habitat is part of the UK Biodiversity Action Plan priority habitat in England.

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

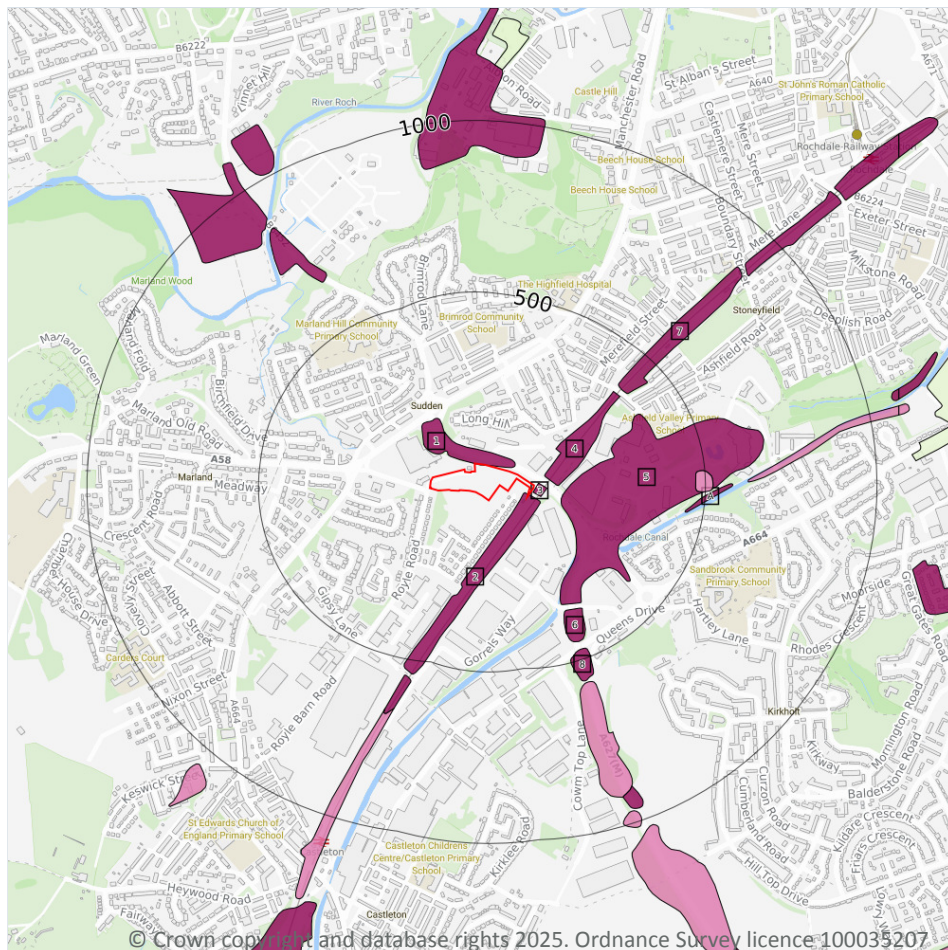
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 88](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SD81SE

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Artificial and made ground



— Site Outline
Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

10

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 89](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	On site	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
3	5m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
4	42m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

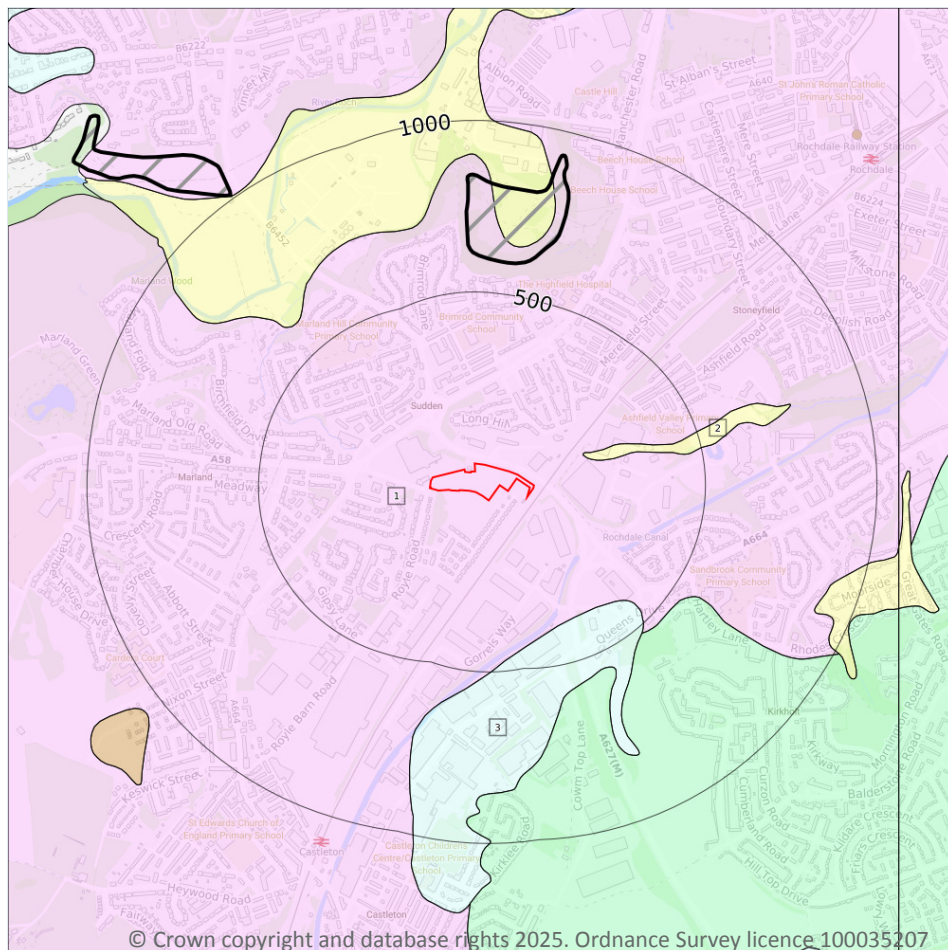


ID	Location	LEX Code	Description	Rock description
5	87m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	349m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	379m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	447m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8	471m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	472m E	WGR-VOID	Worked Ground (Undivided)	Void

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

Superficial geology (10k)
Please see table for more details.

14.3 Superficial geology (10k)

Records within 500m

3

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on [page 91](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	GFDUD-XSV	Glaciofluvial Deposits, Devensian - Sand And Gravel	Sand And Gravel
2	169m NE	ALV-XCZSV	Alluvium - Clay, Silt, Sand And Gravel	Clay, Silt, Sand And Gravel
3	377m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.



14.4 Landslip (10k)

Records within 500m

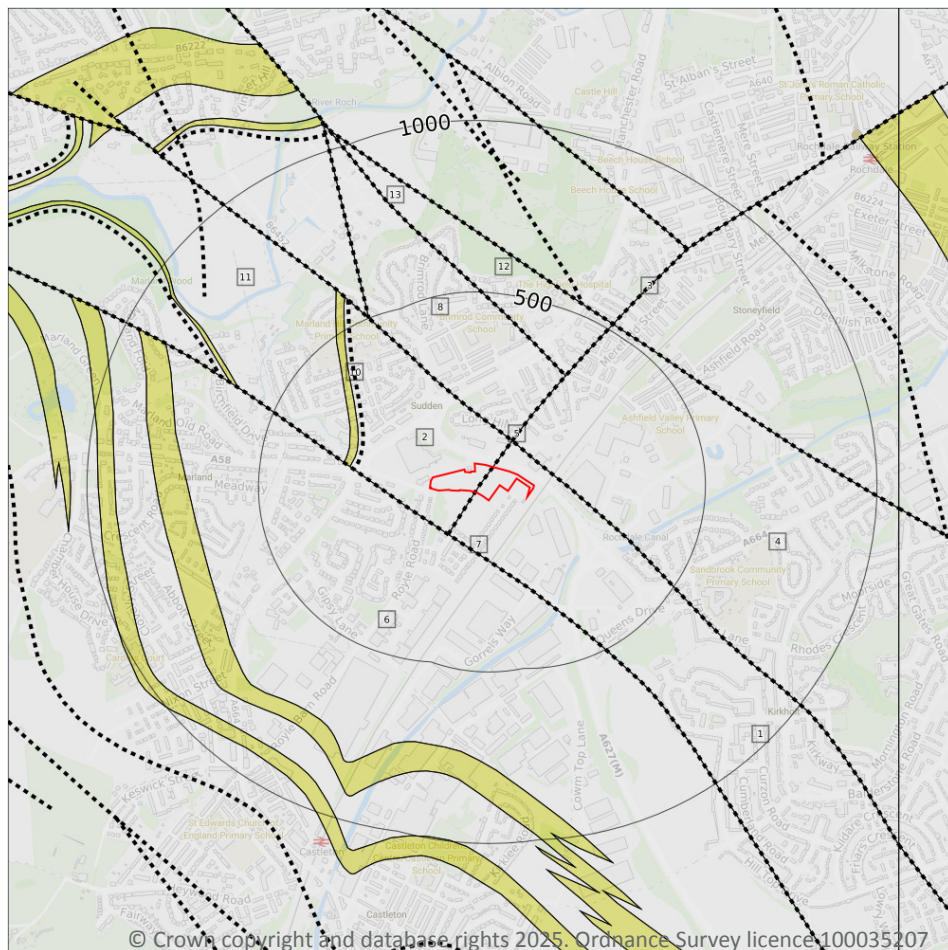
0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



— Site Outline

Search buffers in metres (m)

---- Bedrock faults and other linear features (10k)

Bedrock geology (10k)
Please see table for more details.

14.5 Bedrock geology (10k)

Records within 500m

8

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 93](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
2	On site	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

ID	Location	LEX Code	Description	Rock age
4	59m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
6	84m SW	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
8	89m N	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
10	231m W	RSC-SDST	Riddle Scout Rock - Sandstone	Langsettian Sub-age
11	255m W	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age
12	321m NE	PLCM-MDSS	Pennine Lower Coal Measures Formation - Mudstone, Siltstone And Sandstone	Langsettian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

5

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 93](#) >

ID	Location	Category	Description
3	On site	FAULT	Normal fault, inferred; crossmarks on downthrow side
5	59m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
7	84m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
9	217m W	ROCK	Coal seam, inferred
13	321m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



— Site Outline
Search buffers in metres (m)

□ Geological map tile

15.1 50k Availability

Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

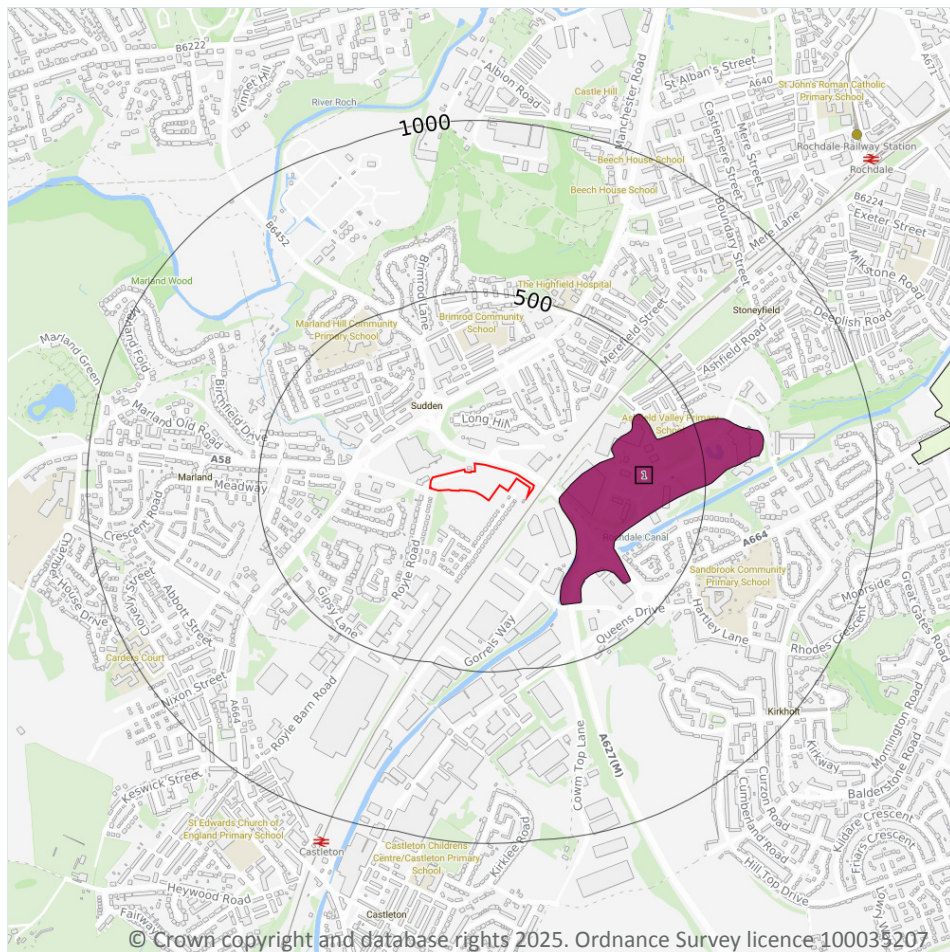
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 95](#) >

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	No coverage	Full	Full	No coverage	EW085_manchester_v4

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Artificial and made ground



- Site Outline**
- Search buffers in metres (m)**
- Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m

1

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on [page 96](#) >

ID	Location	LEX Code	Description	Rock description
1	81m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.



15.3 Artificial ground permeability (50k)

Records within 50m

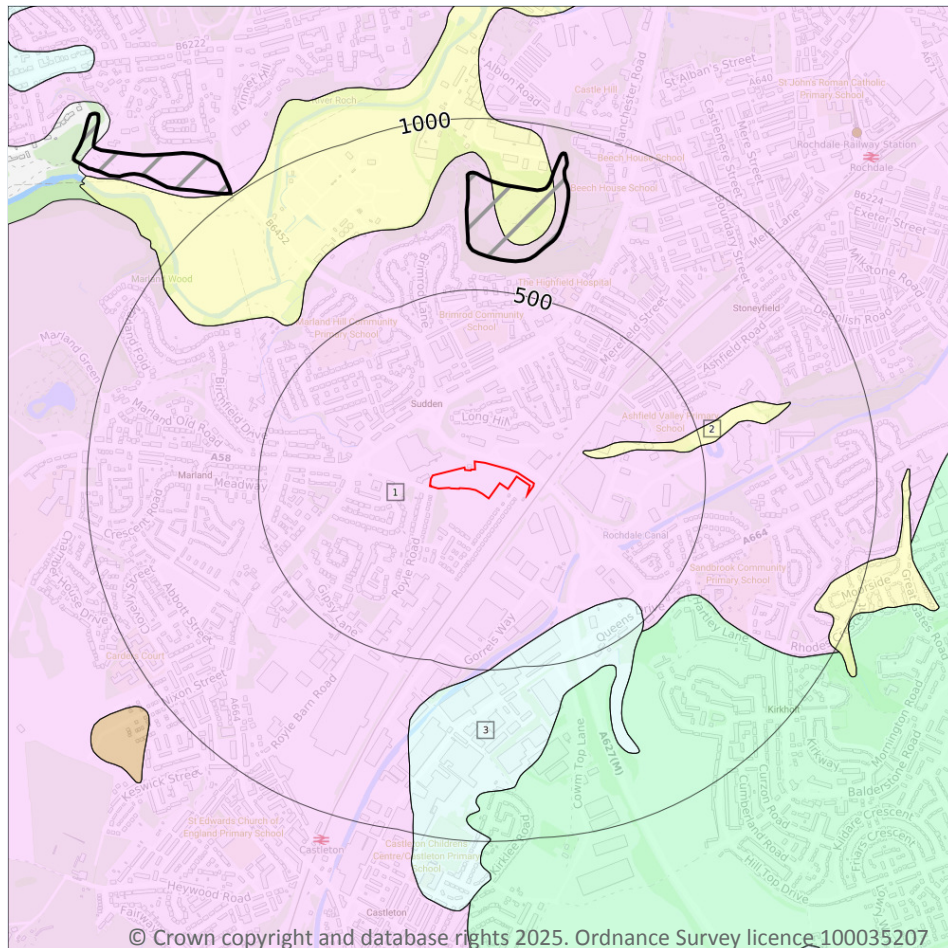
0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



— Site Outline

Search buffers in metres (m)

▨ Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m

3

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on [page 98](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	GFDUD-XSV	GLACIOFLUVIAL DEPOSITS, DEVENSIAN	SAND AND GRAVEL
2	169m NE	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL
3	376m SE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON

This data is sourced from the British Geological Survey.



Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Date: 28 August 2025

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15.5 Superficial permeability (50k)

Records within 50m**1**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Very High	High

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m**0**

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

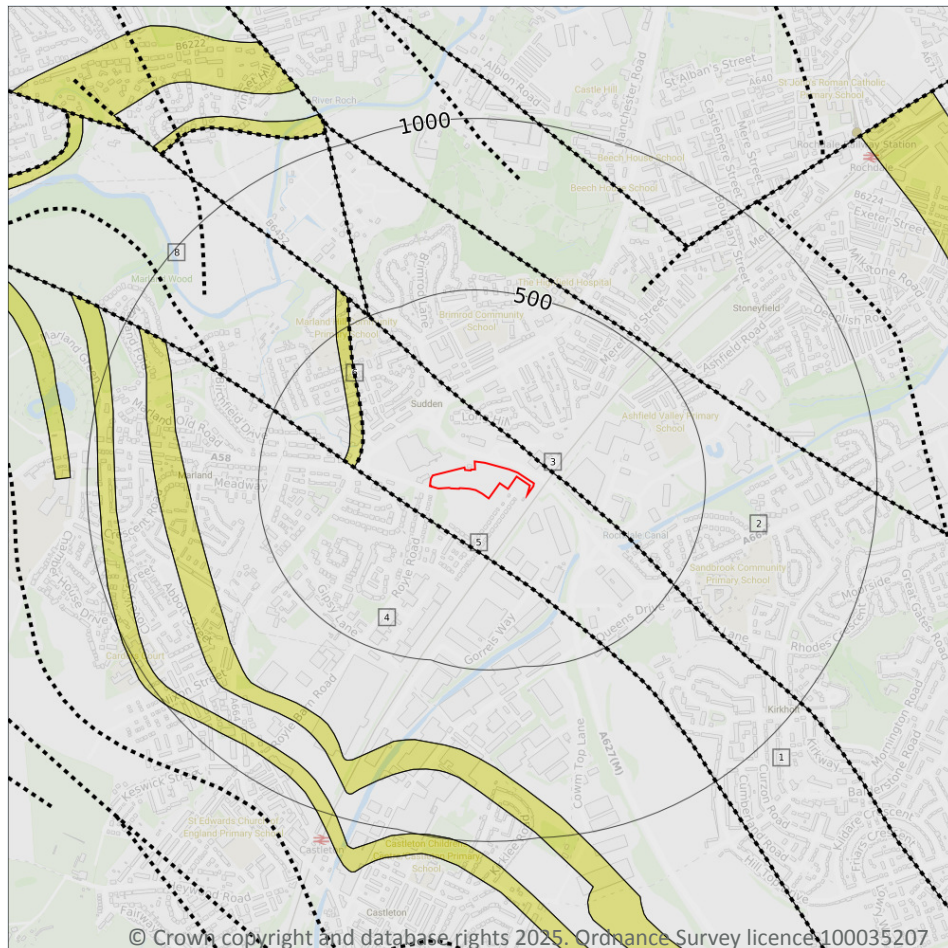
Records within 50m**0**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m

5

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 100](#) >

ID	Location	LEX Code	Description	Rock age
1	On site	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	59m NE	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
4	84m SW	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	217m W	RSC-SDST	RIDDLE SCOUT ROCK - SANDSTONE	WESTPHALIAN
8	254m W	PLCM-MDSS	PENNINE LOWER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m

1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	Fracture	Moderate	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m

3

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

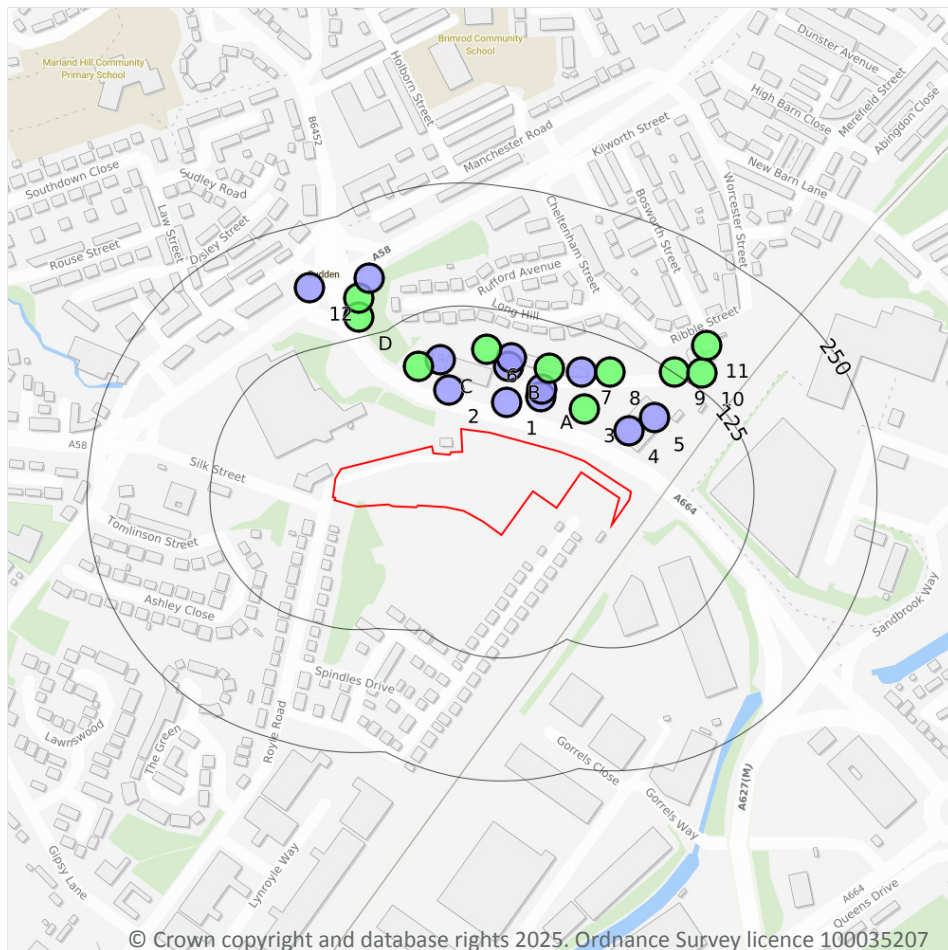
Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 100 >](#)

ID	Location	Category	Description
3	59m NE	FAULT	Fault, inferred
5	84m SW	FAULT	Fault, inferred
7	217m W	ROCK	Coal seam, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



— Site Outline
Search buffers in metres (m)

- Confidential
- 0 - 10m
- 10 - 30m
- 30m+
- Unknown

16.1 BGS Boreholes

Records within 250m

22

The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on [page 102](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	34m N	388810 411784	LAND AT EDINBURGH WAY, ROCHDALE 93	9.14	N	18350589 ↗
2	41m N	388751 411796	LAND AT EDINBURGH WAY, ROCHDALE 94	7.47	N	18350588 ↗



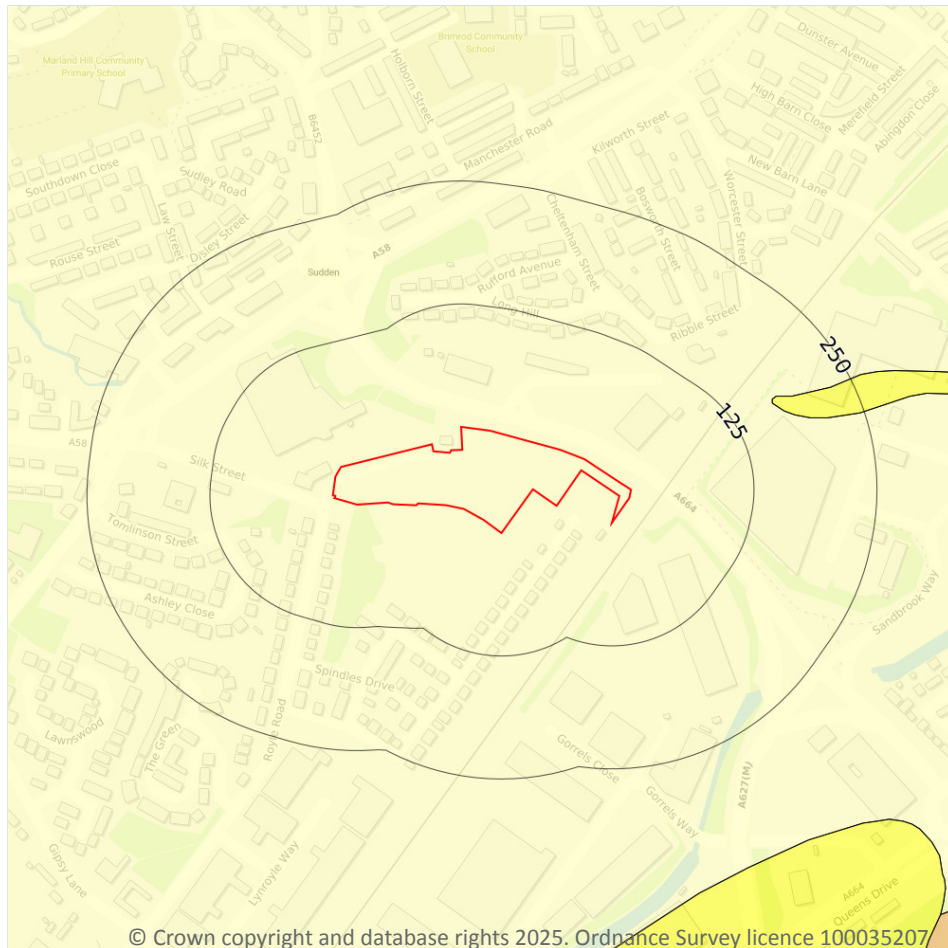
ID	Location	Grid reference	Name	Length	Confidential	Web link
3	49m N	388889 411777	LAND AT EDINBURGH WAY, ROCHDALE C2	12.19	N	18350586 ↗
A	49m N	388845 411790	EDINBURGH WAY, ROCHDALE 3	3.8	N	18350564 ↗
4	51m NE	388934 411755	EDINBURGH WAY, ROCHDALE 5	10.0	N	18350567 ↗
A	56m N	388846 411797	EDINBURGH WAY, ROCHDALE 3A	10.0	N	18350565 ↗
B	70m N	388812 411820	EDINBURGH WAY, ROCHDALE 2	3.45	N	18350562 ↗
C	73m N	388743 411827	EDINBURGH WAY, ROCHDALE 1	10.0	N	18350561 ↗
5	76m NE	388960 411768	LAND AT EDINBURGH WAY, ROCHDALE C3	9.14	N	18350587 ↗
C	77m NW	388720 411820	LAND AT EDINBURGH WAY, ROCHDALE 25A	16.0	N	18350593 ↗
A	79m N	388853 411818	LAND AT EDINBURGH WAY, ROCHDALE P11	15.0	N	18350591 ↗
B	79m N	388815 411829	EDINBURGH WAY, ROCHDALE 2A	10.0	N	18350563 ↗
6	84m N	388790 411838	LAND AT EDINBURGH WAY, ROCHDALE 26	18.5	N	18350594 ↗
7	84m N	388886 411815	EDINBURGH WAY, ROCHDALE 4	10.0	N	18350566 ↗
8	94m N	388915 411815	LAND AT EDINBURGH WAY, ROCHDALE 28	24.7	N	18350595 ↗
9	127m NE	388981 411815	LAND AT EDINBURGH WAY, ROCHDALE P4	18.5	N	18350590 ↗
10	140m NE	389008 411814	LAND AT EDINBURGH WAY, ROCHDALE 14	20.0	N	18350592 ↗
D	145m N	388660 411870	ROCHDALE 7	12.19	N	29913 ↗
D	164m N	388660 411890	ROCHDALE 8	12.19	N	29914 ↗
11	167m NE	389013 411842	EDINBURGH WAY, ROCHDALE 6	12.15	N	18350568 ↗
D	180m NW	388670 411910	ROCHDALE 9	9.14	N	29915 ↗
12	186m N	388610 411900	ROCHDALE 6	7.62	N	29912 ↗



This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



— Site Outline
Search buffers in metres (m)

- ☐ No data
- ☐ Negligible
- ☐ Very low
- ☐ Low
- ☐ Moderate
- ☐ High

17.1 Shrink swell clays

Records within 50m

1

The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and local drainage).

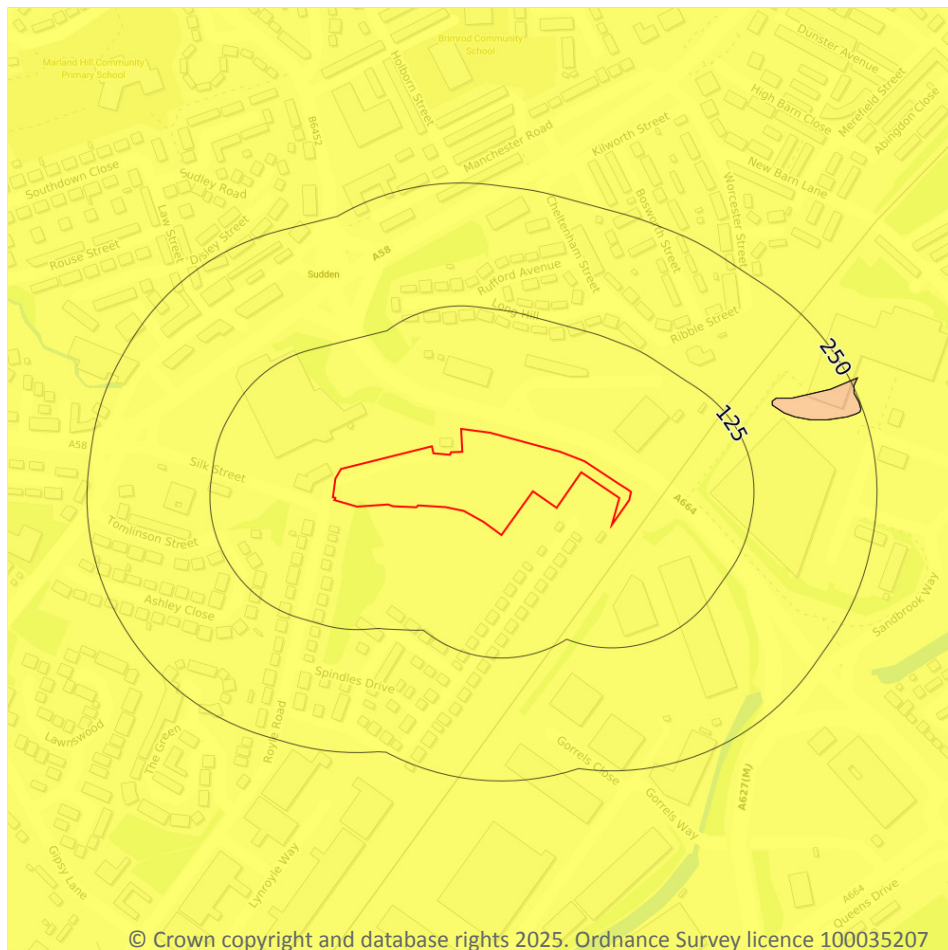
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 105 >](#)

Location	Hazard rating	Details
On site	Negligible	Ground conditions predominantly non-plastic.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

1

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

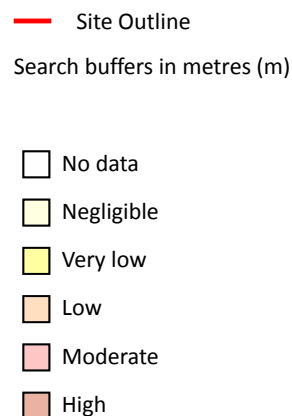
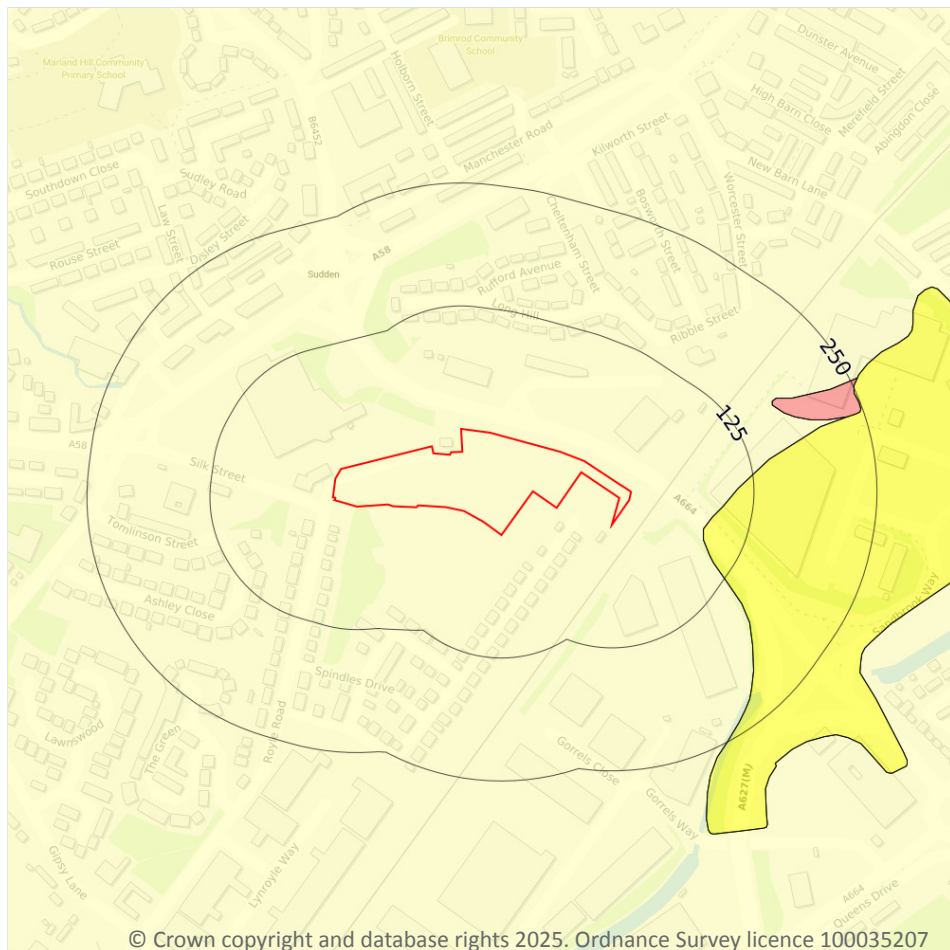
Features are displayed on the Natural ground subsidence - Running sands map on [page 106](#) >

Location	Hazard rating	Details
On site	Very low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

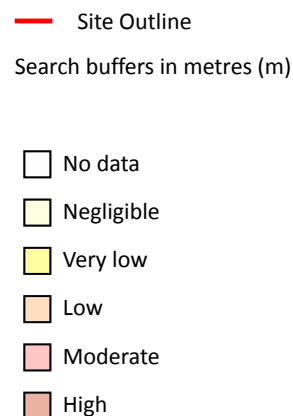
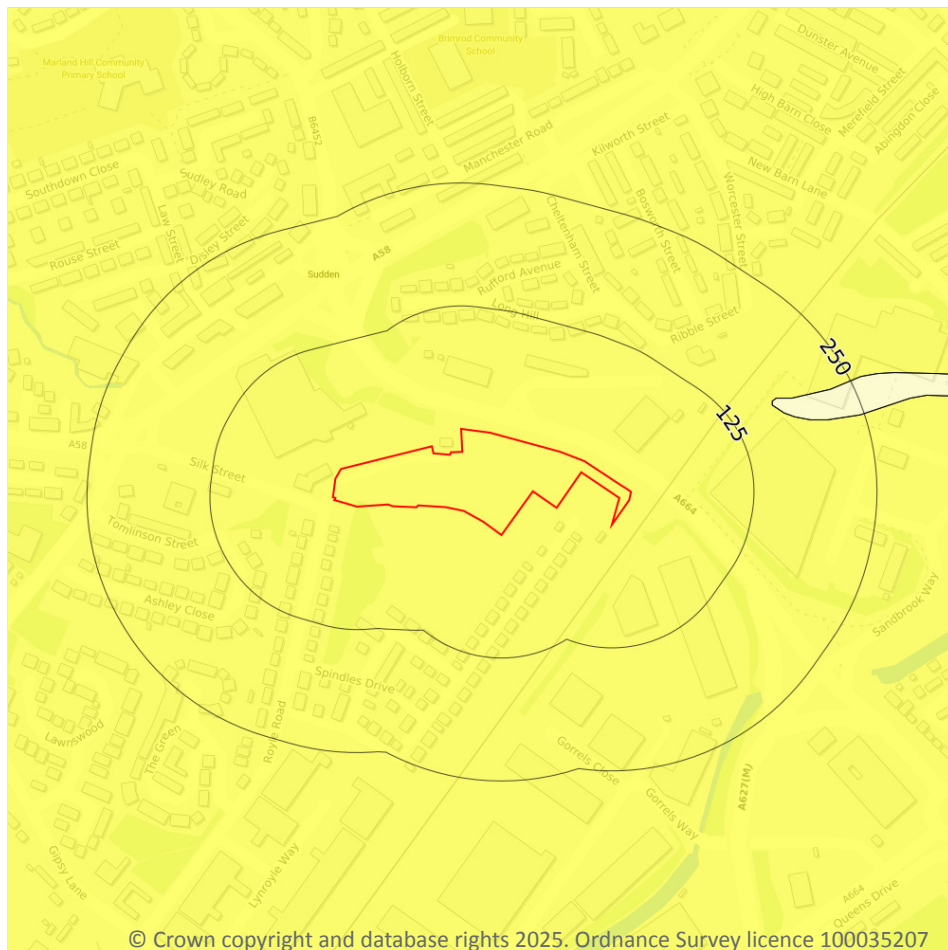
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 107 >](#)

Location	Hazard rating	Details
On site	Negligible	Compressible strata are not thought to occur.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

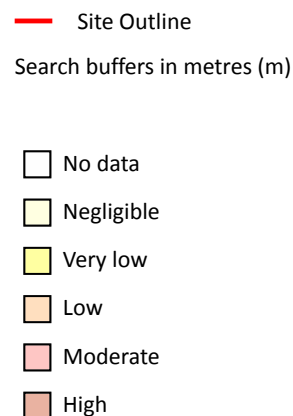
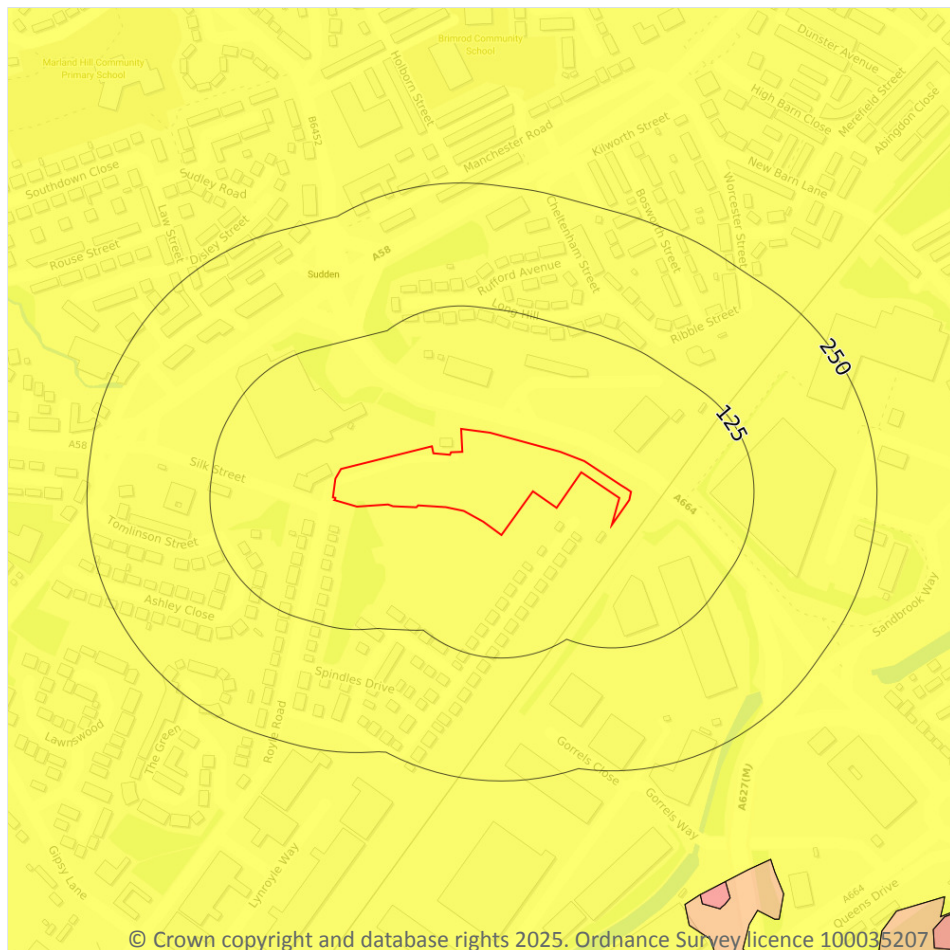
Features are displayed on the Natural ground subsidence - Collapsible deposits map on [page 108](#) >

Location	Hazard rating	Details
On site	Very low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m

1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

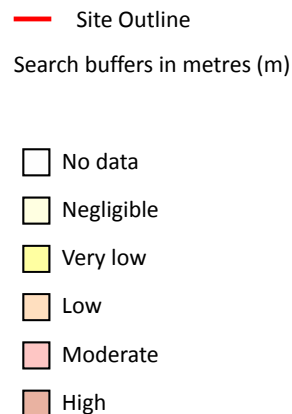
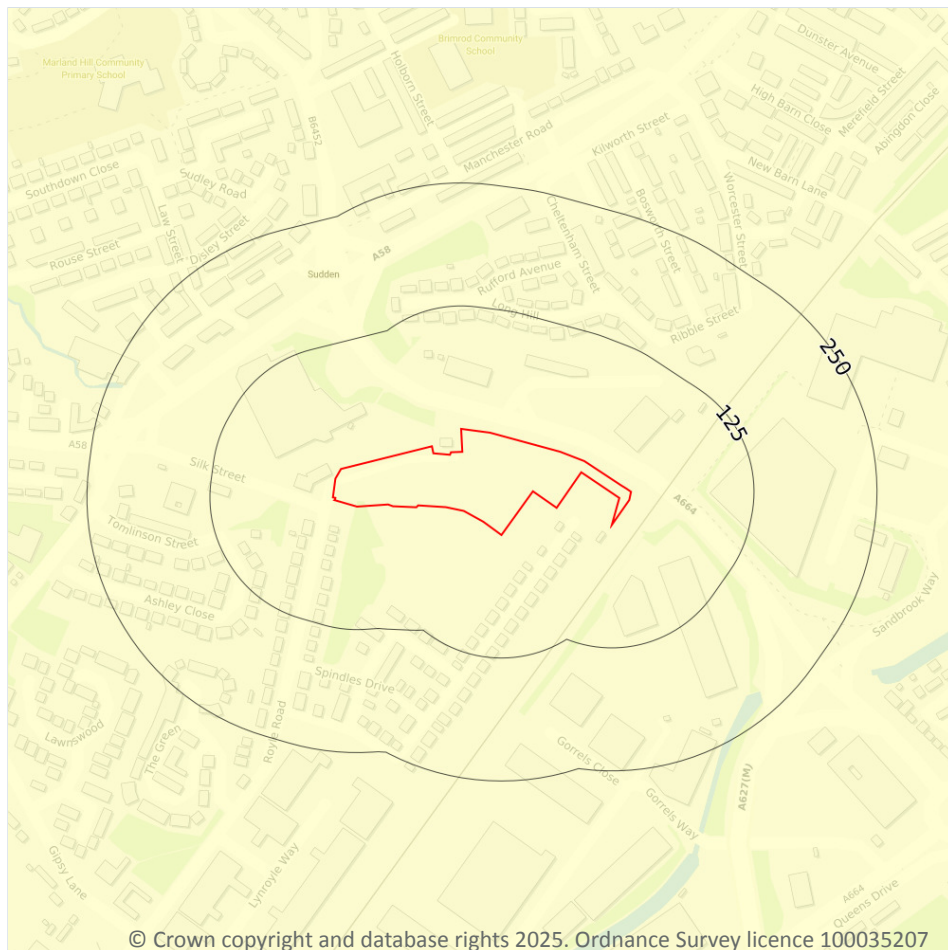
Features are displayed on the Natural ground subsidence - Landslides map on [page 109](#) >

Location	Hazard rating	Details
On site	Very low	Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 110](#) >

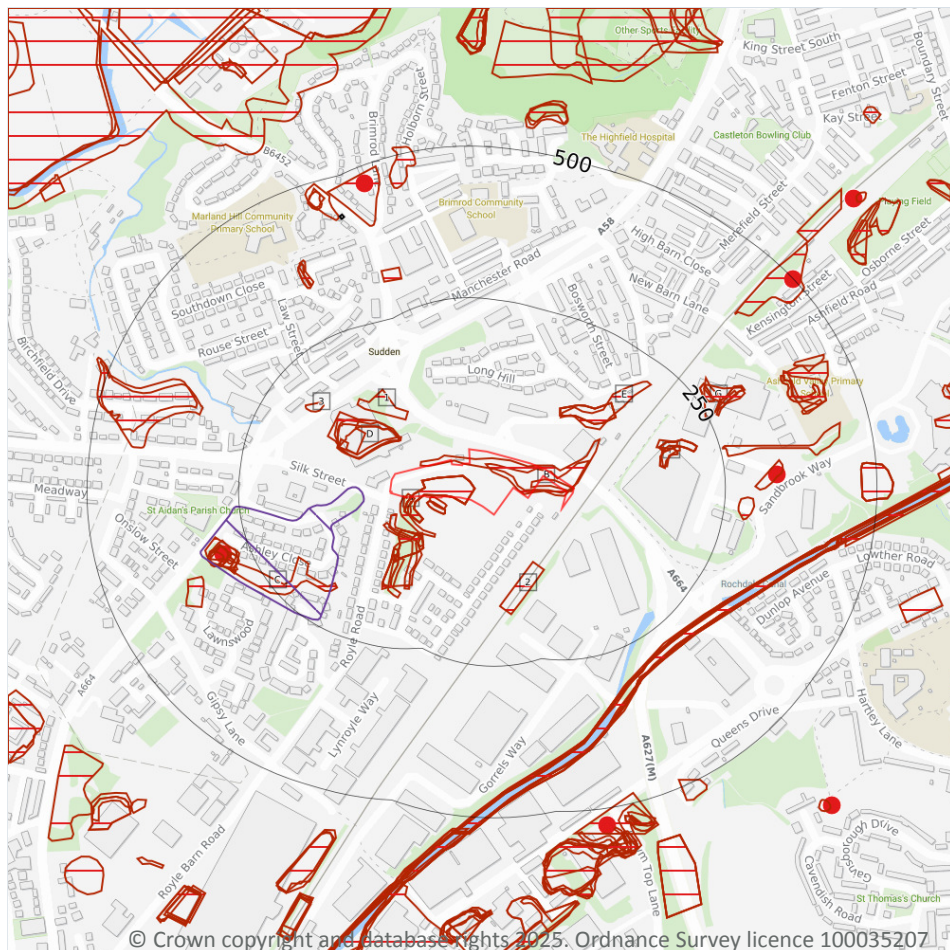
Location	Hazard rating	Details
On site	Negligible	Soluble rocks are either not thought to be present within the ground, or not prone to dissolution. Dissolution features are unlikely to be present.



This data is sourced from the British Geological Survey.



18 Mining and ground workings



- Site Outline
- Search buffers in metres (m)
- BritPits
- Surface ground workings
- Underground workings
- Underground mining extents
- Historical mineral planning areas
- TCA non-coal mining
- Non Coal Mining
 - Sporadic underground mining of restricted extent possible
 - Localised small scale underground mining possible
 - Small scale mining possible
 - Underground mining known or likely within or in close proximity
 - Underground mining known within or in very close proximity

18.1 BritPits

Records within 500m

4

BritPits (an abbreviation of British Pits) is a database maintained by the British Geological Survey of currently active and closed surface and underground mineral workings. Details of major mineral handling sites, such as wharfs and rail depots are also held in the database.

Features are displayed on the Mining and ground workings map on [page 112 >](#)

ID	Location	Details	Description
H	295m W	Name: Dunlop Sand Address: Castleton, ROCHDALE, Lancashire Commodity: Sand Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
J	335m E	Name: Castleton Gales Sand Pit Address: Mitchell Hey, ROCHDALE, Lancashire Commodity: Sand Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
O	471m N	Name: Brimrod Brick Field Address: Mitchell Hey, ROCHDALE, Lancashire Commodity: Clay & Shale Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.
N	500m NE	Name: Castleton Hall Gravel Pit Address: Mitchell Hey, ROCHDALE, Lancashire Commodity: Sand & Gravel Status: Ceased	Type: A surface mineral working. It may be termed Quarry, Delf, Delph, Gravel Pit, Sand Pit, Sand and Gravel Pit, Clay Pit, Pit, Opencast Coal Site or Surface Mine. It may be mapped as Worked Ground or Worked and Made Ground on BGS mapping. Status description: Site which has ceased to extract minerals. May be considered as 'Closed' by operator. May be considered to have 'Active', 'Dormant' or 'Expired' planning permissions by the Mineral Planning Authority.

This data is sourced from the British Geological Survey.



18.2 Surface ground workings

Records within 250m

41

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

Features are displayed on the Mining and ground workings map on [page 112](#) >

ID	Location	Land Use	Year of mapping	Mapping scale
A	On site	Unspecified Ground Workings	1928	1:10560
A	On site	Unspecified Ground Workings	1992	1:10000
A	On site	Unspecified Ground Workings	1987	1:10000
A	On site	Unspecified Ground Workings	1975	1:10000
A	On site	Unspecified Heap	1956	1:10560
A	On site	Unspecified Ground Workings	1968	1:10560
A	On site	Unspecified Heap	1956	1:10560
B	On site	Unspecified Ground Workings	1938	1:10560
B	On site	Unspecified Ground Workings	1956	1:10560
B	On site	Unspecified Ground Workings	1968	1:10560
A	7m S	Unspecified Heap	1928	1:10560
A	7m S	Unspecified Heap	1938	1:10560
A	31m S	Unspecified Ground Workings	1968	1:10560
D	51m N	Disused Reservoir	1928	1:10560
D	52m N	Reservoir	1851	1:10560
D	52m N	Reservoir	1908	1:10560
A	55m S	Unspecified Pit	1992	1:10000
A	55m S	Unspecified Pit	1987	1:10000
A	55m S	Unspecified Pit	1975	1:10000
D	58m N	Reservoir	1890	1:10560
A	63m S	Unspecified Ground Workings	1956	1:10560
D	71m NW	Disused Reservoir	1938	1:10560
1	83m N	Disused Reservoir	1956	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
A	86m S	Unspecified Ground Workings	1928	1:10560
A	86m S	Unspecified Ground Workings	1938	1:10560
E	89m N	Unspecified Ground Workings	1938	1:10560
E	91m N	Unspecified Ground Workings	1992	1:10000
E	91m N	Unspecified Ground Workings	1987	1:10000
E	91m N	Unspecified Ground Workings	1975	1:10000
A	97m S	Unspecified Ground Workings	1968	1:10560
2	100m SW	Cuttings	1908	1:10560
F	147m E	Refuse Heap	1928	1:10560
F	147m E	Refuse Heap	1938	1:10560
F	151m E	Refuse Heap	1956	1:10560
F	152m NE	Ponds	1890	1:10560
F	156m NE	Unspecified Heap	1992	1:10000
F	156m NE	Unspecified Heap	1987	1:10000
F	156m NE	Unspecified Heap	1975	1:10000
3	162m NW	Unspecified Heap	1956	1:10560
C	175m SW	Unspecified Ground Workings	1968	1:10560
G	247m NE	Unspecified Pit	1956	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.3 Underground workings

Records within 1000m

2

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining and ground workings map on [page 112 >](#)

ID	Location	Land Use	Year of mapping	Mapping scale
O	429m N	Unspecified Shaft	1890	1:10560
-	991m NW	Tunnel	1968	1:10560



This data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

This data identifies underground mine workings that could present a potential risk, including adits and seam workings. These features have been identified from BGS Geological mapping and mine plans sourced from the BGS and various collections and sources.

This data is sourced from Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

1

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

Features are displayed on the Mining and ground workings map on [page 112 >](#)

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
C	45m W	Dunlop Sand	Sand and gravel	Surface mineral working	Valid	30/6/48

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

This data is sourced from the British Geological Survey.



18.7 JPB mining areas

Records on site

0

Areas which could be affected by former coal and other mining. This data includes some mine plans unavailable to the Coal Authority.

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

This data provides an indication of the potential zone of influence of recorded underground non-coal mining workings. Any and all analysis and interpretation of Coal Authority Data in this report is made by Groundsure, and is in no way supported, endorsed or authorised by the Coal Authority. The use of the data is restricted to the terms and provisions contained in this report. Data reproduced in this report may be the copyright of the Coal Authority and permission should be sought from Groundsure prior to any re-use.

This data is sourced from The Coal Authority.

18.9 Researched mining

Records within 500m

0

This data indicates areas of potential mining identified from alternative or archival sources, including; BGS Geological paper maps, Lidar data, aerial photographs (from World War II onwards), archaeological data services, websites, Tithe maps, and various text/plans from collected books and reports. Some of this data is approximate and Groundsure have interpreted the resultant risk area and, where possible, specific areas of risk have been captured.

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

This dataset is representative of Mining Record Office and/or plan extents held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.



18.11 BGS mine plans

Records within 500m**0**

This dataset is representative of BGS mine plans held by Groundsure and should be considered approximate. Where possible, plans have been located and any specific areas of risk they depict have been captured.

This data is sourced from Groundsure.

18.12 Coal mining

Records on site**1**

Areas which could be affected by past, current or future coal mining.

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

This data is sourced from the Coal Authority.

18.13 Brine areas

Records on site**0**

The Cheshire Brine Compensation District indicates areas that may be affected by salt and brine extraction in Cheshire and where compensation would be available where damage from this mining has occurred. Damage from salt and brine mining can still occur outside this district, but no compensation will be available.

This data is sourced from the Cheshire Brine Subsidence Compensation Board.

18.14 Gypsum areas

Records on site**0**

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

Records on site**0**

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.



18.16 Clay mining

Records on site	0
-----------------	---

Generalised areas that may be affected by kaolin and ball clay extraction.

This data is sourced from the Kaolin and Ball Clay Association (UK).



19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

Industry recognised national database of natural cavities. Sinkholes and caves are formed by the dissolution of soluble rock, such as chalk and limestone, gulls and fissures by cambering. Ground instability can result from movement of loose material contained within these cavities, often triggered by water.

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

This data identifies sinkhole information gathered from media reports and Groundsure's own records. This data goes back to 2014 and includes relative accuracy ratings for each event and links to the original data sources. The data is updated on a regular basis and should not be considered a comprehensive catalogue of all sinkhole events. The absence of data in this database does not mean a sinkhole definitely has not occurred during this time.

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

This dataset comprises an extract of 1:10,560, 1:10,000, 1:2,500 and 1:1,250 scale historical Ordnance Survey maps held by Groundsure, dating back to the 1840s. It shows shakeholes, deneholes and other 'holes' as noted on these maps. Dene holes are medieval chalk extraction pits, usually comprising a narrow shaft with a number of chambers at the base of the shaft. Shakeholes are an alternative name for suffusion sinkholes, most commonly found in the limestone landscapes of North Yorkshire but also extensively noted around the Brecon Beacons National Park.

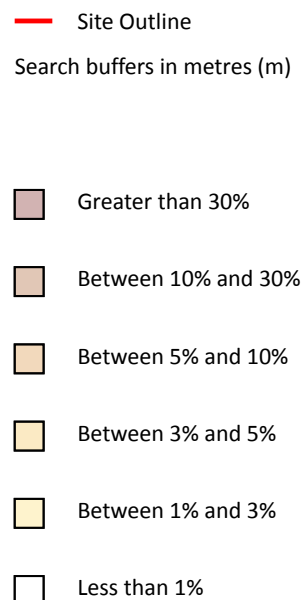
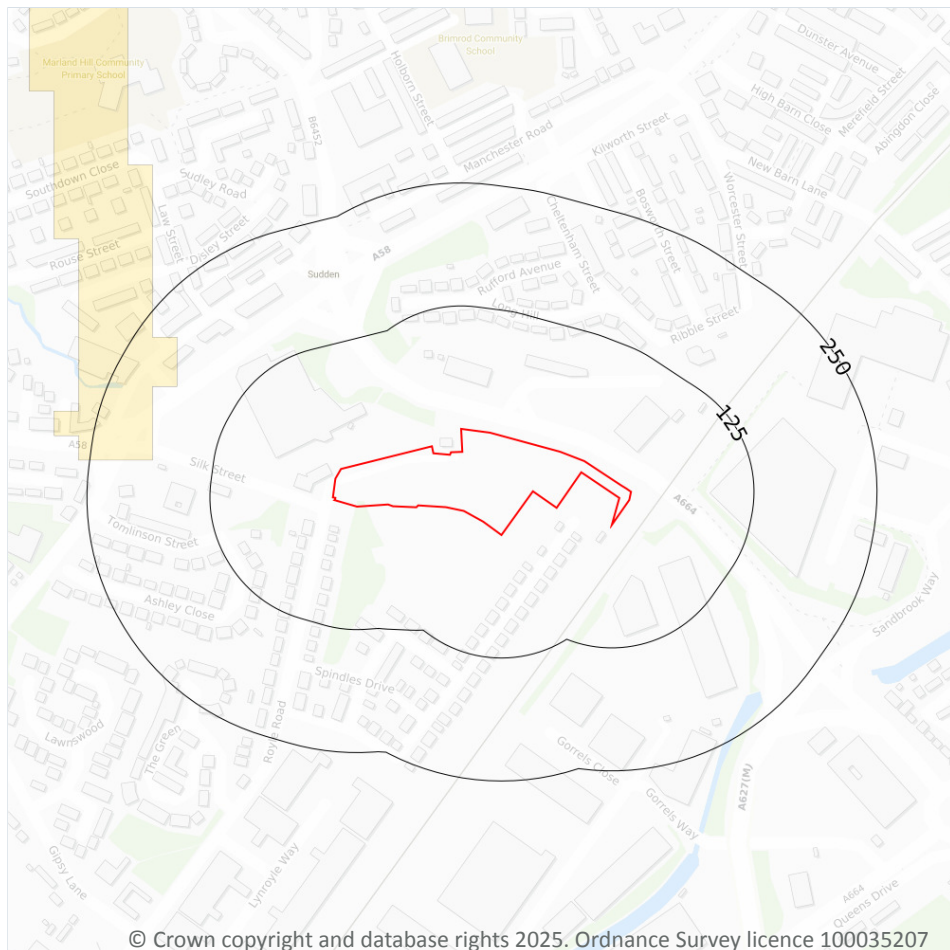
Not all 'holes' noted on Ordnance Survey mapping will necessarily be present within this dataset.



This data is sourced from Groundsure.



20 Radon



20.1 Radon

Records on site

1

The Radon Potential data classifies areas based on their likelihood of a property having a radon level at or above the Action Level in Great Britain. The dataset is intended for use at 1:50,000 scale and was derived from both geological assessments and indoor radon measurements (more than 560,000 records). A minimum 50m buffer should be considered when searching the maps, as the smallest detectable feature at this scale is 50m. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain (1:100,000 scale).

Features are displayed on the Radon map on [page 122](#) >

Location	Estimated properties affected	Radon Protection Measures required
On site	Less than 1%	None



This data is sourced from the British Geological Survey and UK Health Security Agency.



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

2

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 - 2.2 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
On site	15 - 25 mg/kg	No data	200 - 300 mg/kg	120 - 240 mg/kg	1.8 - 2.2 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

21.2 BGS Estimated Urban Soil Chemistry

Records within 50m

0

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

This data is sourced from the British Geological Survey.

21.3 BGS Measured Urban Soil Chemistry

Records within 50m

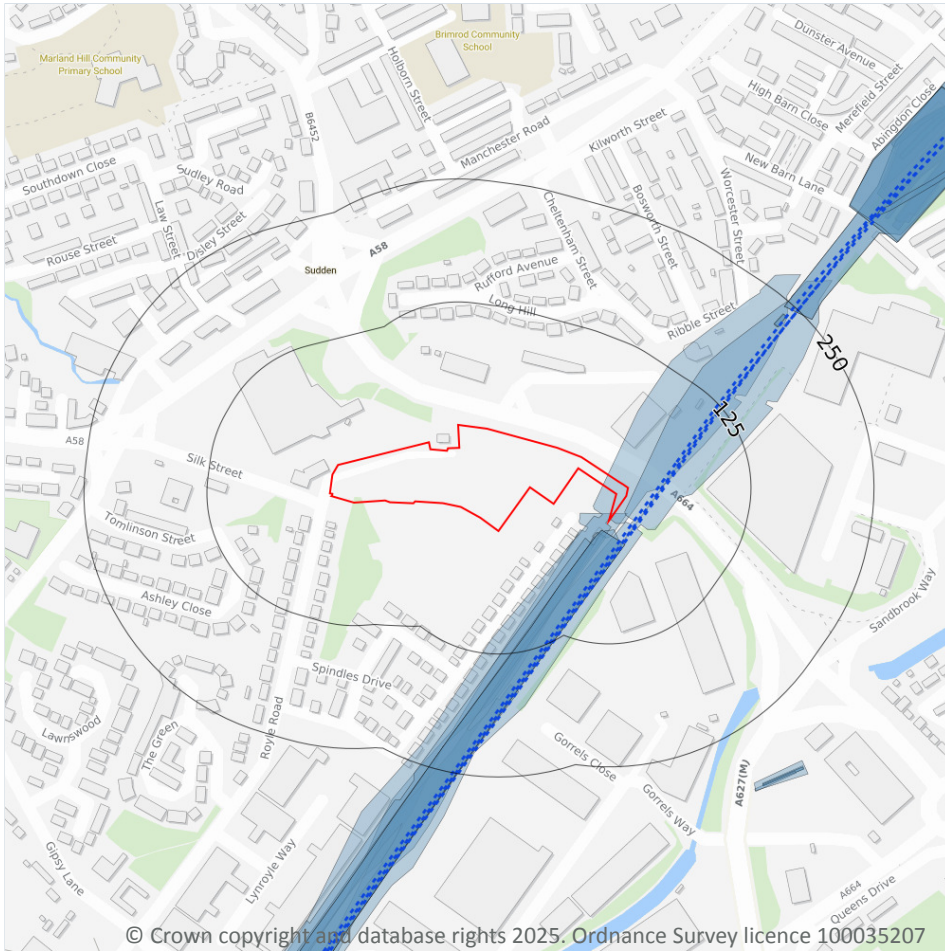
0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



22 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m

0

Details of all active London Underground lines, including approximate tunnel roof depth and operational hours.

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

Details of the Merseyrail system, the Tyne and Wear Metro and the Glasgow Subway. Not all parts of all systems are located underground. The data contains location information only and does not include a depth assessment.



This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m

11

Railways and tunnels digitised from historical Ordnance Survey mapping as scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Features are displayed on the Railway infrastructure and projects map on [page 125 >](#)

Location	Land Use	Year of mapping	Mapping scale
On site	Railway	1893	-
On site	Railway	1928	-
5m SE	Railway	1909	-
10m S	Railway Sidings	1956	10560
12m SW	Railway Sidings	1938	10560
12m SW	Railway Sidings	1928	10560
16m SW	Railway Sidings	1930	2500
223m NE	Railway Sidings	1958	2500
223m NE	Railway Sidings	1956	1250
243m NE	Railway Sidings	1956	10560
243m NE	Railway Sidings	1968	10560

This data is sourced from Ordnance Survey/Groundsure.



22.5 Royal Mail tunnels

Records within 250m**0**

The Post Office Railway, otherwise known as the Mail Rail, is an underground railway running through Central London from Paddington Head District Sorting Office to Whitechapel Eastern Head Sorting Office. The line is 10.5km long. The data includes details of the full extent of the tunnels, the depth of the tunnel, and the depth to track level.

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m**0**

Former railway lines, including dismantled lines, abandoned lines, disused lines, historic railways and razed lines.

This data is sourced from OpenStreetMap.

22.7 Railways

Records within 250m**7**

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways. Features are displayed on the Railway infrastructure and projects map on [page 125 >](#)

Location	Name	Type
21m SE	Caldervale Line	rail
21m SE	Caldervale Line	rail
24m SE	Not given	Multi Track
26m SE	Caldervale Line	rail
26m SE	Caldervale Line	rail
56m NE	Caldervale Line	rail
58m NE	Caldervale Line	rail

This data is sourced from Ordnance Survey and OpenStreetMap.



22.8 Crossrail 2

Records within 500m

0

Crossrail 2 is a proposed railway linking the national rail networks in Surrey and Hertfordshire via an underground tunnel through London.

This data is sourced from publicly available information by Groundsure.

22.9 HS2

Records within 500m

0

HS2 is a proposed high speed rail network running from London to Manchester and Leeds via Birmingham. Main civils construction on Phase 1 (London to Birmingham) of the project began in 2019, and it is currently anticipated that this phase will be fully operational by 2026. Construction on Phase 2a (Birmingham to Crewe) is anticipated to commence in 2021, with the service fully operational by 2027. Construction on Phase 2b (Crewe to Manchester and Birmingham to Leeds) is scheduled to begin in 2023 and be operational by 2033.

This data is sourced from HS2 Ltd.



Data providers

Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see <https://www.groundsure.com/sources-reference> ↗.

Terms and conditions

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