

REPORT

Castlefield Viaduct, Manchester

Land Quality Desk Study and Preliminary Risk
Assessment Report

Client: National Trust

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Executive Summary

Royal HaskoningDHV has been commissioned by the National Trust (the Trust) to undertake a Land Quality Desk Study and Preliminary Risk Assessment (PRA) for Castlefield Viaduct, Manchester. The PRA will inform proposals to repurpose the historic viaduct structure into an elevated urban park with integrated active travel hub.

The Trust's vision is for the urban park to be utilised in a variety of ways, ranging from exhibitions, fruit and vegetable growing, sculptures, work space, onward travel information, community meeting and green space. A Phase 1 Pilot Scheme 'micro park' will be delivered on the eastern section of the viaduct, for a 12 week period in the summer of 2021. The temporary scheme will be undertaken to test the design possibilities and opportunities at the viaduct and generate momentum and support for the proposed scheme.

Castlefield Viaduct is a Victorian railway viaduct built in 1893, located in Castlefield within Manchester City Centre. It is located approximately 200m west of Castlefield Train Station and 800m west of Manchester Oxford Road Train Station. The viaduct is currently unused and the land below, and surrounding the viaduct, comprises a canal basin, tow paths, car parks, a railway line and roadways. Land surrounding the viaduct is dominated by blocks of residential flats, a youth hostel, former warehouses and industrial buildings repurposed as offices, residential and gallery use. Open space and restaurants are located along wharf areas of the canal basin.

The railway is recorded as being dismantled in the late 1960s. The land underlying the viaduct was historically occupied by a roman fort, timber wharf, canal network and warehouses. The area surrounding the site has a long industrial history including use as railways, quaysides, wharfs, garages, gravel and sand pits, dye works, chemical works, paper mills, gas works and an abattoir.

Information provided by the British Geological Survey (BGS) indicates that the land below the viaduct is underlain by bedrock of the Chester Pebble Bed Formation which is classified as a Principal Aquifer.

Potential sources of contamination on the viaduct were identified as comprising railway land (ballast) and paint from the viaduct structure which may contain contaminants including metals, asbestos, phenols, sulphates, Polycyclic Aromatic Hydrocarbons (PAHs), fuel oils, lubricating oils, greases and herbicides. Below the viaduct and in the surrounding area, potential sources of contamination comprise Made Ground associated with demolished buildings, a timber yard and scrap metal yard, dockyards, an abattoir, silk and cotton mills, paper mills, automobile engineering works, iron works, smithy, fibreboard container factory, cleansing depot, concrete depot and a garage.

In relation to the use of the site as an urban park and transport hub, following permanent redevelopment of the site a moderate risk to human health of future site users has been identified as requiring further investigation to quantify whether this presents a development constraint.

1 Introduction

Royal HaskoningDHV has been commissioned by the National Trust (the Trust) to undertake a Land Quality Desk Study and Preliminary Risk Assessment (PRA) for Castlefield Viaduct, Manchester, M3 4RU, centred at Ordnance Survey National Grid Reference (NGR) 383005, 397626 (herein referred to as the 'site'). The PRA will inform proposals to develop the historic viaduct structure into an elevated urban park with integrated active travel hub. A site location plan is provided in Figure 1.1, at the end of this report.

1.1 Proposed Scheme

Castlefield Viaduct is an unused, 330m long, historic structure in the heart of Manchester. The Trust wish to bring the viaduct back into use by repurposing the structure into an elevated urban park and integrated active travel hub. The Trust's vision is for the urban park to be utilised in a variety of ways, ranging from exhibitions, fruit and vegetable growing, sculptures, work space, onward travel information, community meeting and green space.

A Phase 1 Pilot Scheme 'micro park' will be delivered on the eastern section of the viaduct, for a 12 week period in the summer of 2021. The temporary scheme will be undertaken to test the design possibilities and opportunities at the viaduct and generate momentum and support for the permanent scheme. The temporary scheme will comprise the use of the viaduct as a 'micro park' for community events and organised walking tours. An architectural narrative booklet has been produced for the scheme, referred to as the Castlefield Story Book by Twelve Architects in July 2020, and visualisations included within the booklet indicate installation of a footpath across parts of the viaduct, the erection of weather shelters and placement of planting containers.

The Phase 2 'permanent urban park and travel hub scheme' will comprise a permanent development on the viaduct inclusive of food and beverage stands, garden areas, exhibition stalls, seating areas, an events space and toilet facilities.

Figure 1.2 illustrates the Castlefield Viaduct site boundary.

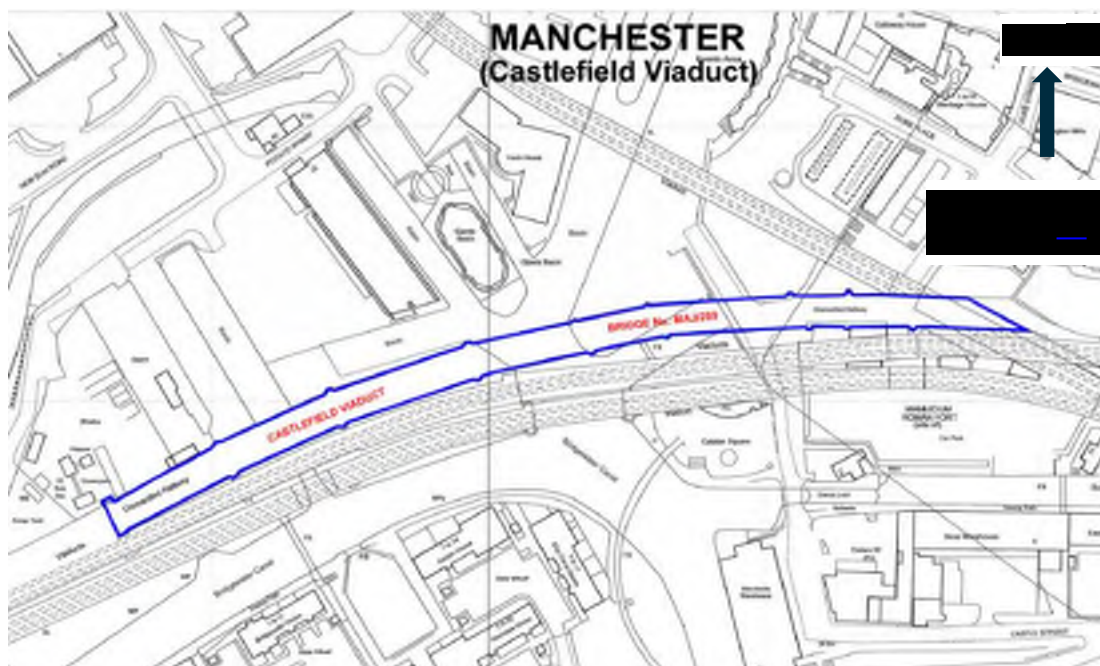


Figure 1.2: Site boundary

1.2 Objectives

The overall objectives of the PRA are as follows:

- provide information on the current conditions of the site with respect to contamination;
- provide an initial Conceptual Site Model (CSM) to identify and assess potential contaminant linkages associated with the site and the proposed development; and,
- provide recommendations for further works and assessments, if required, to quantify the potential risks and liabilities associated with the site and the feasibility of repurposing the viaduct.

1.3 Scope of Works

To assist in meeting the objectives stated in Section 1.2, the scope of the project comprises:

- a site walkover survey to document the current land use and site setting;
- purchase and review a Groundsure Insights Report including historical maps to identify former land uses and potential contaminative activities on and surrounding the site;
- a review of publicly available regulatory databases and information relating to hydrogeological features, hydrogeology, land use, ecologically sensitive areas and geology to establish the environmental setting of the site and sensitivity of the location;
- the development of a preliminary CSM following a source-pathway-receptor contaminant linkage approach; and,
- provision of an outline of the environmental risks with regard to ground and groundwater, which may potentially arise as liabilities or constraints associated with the site.

1.4 Legislative Context and Guidance

The assessment was undertaken in the legislative context of:

- Part 2A of The Environmental Protection Act (1990); and,
- The National Planning Policy Framework (NPPF) (2012).

The following good practice and statutory guidance were considered, and the assessment was undertaken in general accordance with:

- Environment Agency (EA) 'Land Contamination: Risk Management Framework', May 2020;
- Manchester City Council 'Planning Guidance in Relation to Ground Contamination: Guidance Note for Applicants, Developers, Land Owners and Consultants, September 2016;
- British Standard 'Investigation of Potentially Contaminated Sites – Code of Practice', BS EN 10175:2011;
- Department of Environment Food and Rural Affairs (Defra) 'Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance', PB13735 (2012);
- British Standard 'Guidance on Investigations for Ground Gas – Permanent Gases and Volatile Organic Compounds (VOCs)', BS 8576:2013;
- British Standard 'Code of Practice for Ground Investigations', BS 5930:2015;
- 'The Environment Agency's Approach to Groundwater Protection', February 2018, and,
- CIRIA 'Contaminated Land Risk Assessment – A Guide to Good Practice', C552 (2001).

1.5 Sources of Information

The following sources of information have been reviewed to inform the PRA:

- Groundsure Insights Report (2021) comprising historical maps, environmental sensitivity data and permitting records for a search area of 1km around the site boundary (reference number: GS-7712233);
- Groundsure Preliminary Unexploded Ordnance Risk Assessment (2021) (reference number: GS-7712199);
- The Coal Authority (2021) Consultants Coal Mining Report (reference: 51002453805001);
- British Geological Survey (BGS) Onshore GeoIndex Viewer;
- BGS Hydrogeological Map of Clwyd and the Cheshire Basin (Sheet No. 19), 1989;
- BGS Manchester Bedrock Map (Sheet number 85), 2010;
- BGS Manchester Bedrock and Superficial Map (Sheet number 85) 2011;
- Multi Agency Government Information for the Countryside (MAGIC) map application;
- Blue line boundary plan, Ref. 3586, provided by the Trust;
- Castlefield Viaduct Appendix A, National Trust, February 2021;
- Castlefield Viaduct story book architectural narrative booklet by Twelve Architects, July 2020; and,
- Castlefield Viaduct phase two temporary scheme specification v1.0 by Twelve Architects.

A site walkover survey was also undertaken on the 19th April 2021 by a Royal HaskoningDHV Environmental Consultant to verify current conditions at the site. The relevant findings and photographs of the site walkover are provided in Appendix A and incorporated into this report.

2 Site Setting

2.1 Site Location and Description

Castlefield Viaduct is a Victorian railway viaduct built in 1893, located in Castlefield within Manchester City Centre. It is located approximately 200 metres (m) west of Castlefield Train Station and 800m west of Manchester Oxford Road Train Station. The viaduct is owned by the Department for Transport and is currently unused.

The viaduct is linear in shape, being approximately 330m in length and approximately 14m wide, comprising eight spans. The viaduct is raised off the ground by approximately 16m. It is constructed predominantly of wrought iron/ steel and has decorative castellations along its length. Behind the castellations are bearing plates that support the end posts of 16 trusses, the longest of which reaches 53m. The viaduct is a Grade II listed structure.

The top of the viaduct is accessed by foot from Deansgate-Castlefield car park via a locked gate on the eastern site boundary (see Plate 1, Appendix A). Vehicular access to the Deansgate-Castlefield car park is made via a ramp off Albion Street. The ground surface of the car park is approximately 0.5m higher in elevation than the viaduct surface and there is a step down to the viaduct at the gate. There is no vehicular access onto the viaduct. Access onto the site by vehicles from Deansgate-Castlefield car park is prevented by a vehicle restraint system (VRS) barrier present along the eastern site boundary shared with Deansgate-Castlefield car park. If the VRS was removed, access by vehicles would be prevented due to the ground elevation difference between the car park and viaduct.

Historically, three railway tracks ran across the viaduct carrying trains in and out of Manchester Central Station. Today, the railway tracks are no longer evident and the surface of the viaduct is covered by a layer of railway ballast and vegetation.

The land below the viaduct is occupied by land parcels, roads, canals and a railway line as follows:

- Castle Street, a cobblestone road, is present beneath the eastern part of the viaduct and is oriented north to south.
- Duke Street is also located below the eastern part of the viaduct oriented in an east to west direction. Duke Street joins Castle Street at a T junction beneath the viaduct.
- The Bridgewater Canal Tow Path is present beneath the eastern part of the viaduct roughly orientated north to south. The tow path connects Castle Street to the wharfs that surrounding the canal network and canal basin, part of which is also below the viaduct. The tow path also leads to Castlefield Bowl which is an outdoor events area approximately 80m north of the viaduct.
- The Bridgewater Canal and two basins, which feed into the canal, are present below the length of the viaduct, orientated east to west. Two footbridges which cross the canal basin are also located below the viaduct (see Plate 5, Appendix A);
- A railway line runs below the eastern part of the viaduct (see Plate 2, Appendix A) towards Deansgate Station.
- Slate Wharf Bridge is also present beneath the western part of the viaduct which connects the Bridgewater Canal Tow path to Potato Wharf, located approximately 20m to the north of the viaduct.

The land parcels below the viaduct are owned by the following parties (moving west to east along the viaduct):

- Lend Lease Residential (NW) Ltd at the western end of the viaduct;
- Pemberstone Reversions Ltd; and,
- The Council & City of Manchester.

A site layout plan is provided in Figure 2.1, at the end of this report.

2.2 Site Walkover Survey

A site walkover was carried out by Royal HaskoningDHV on the 19th April 2021, a summary of the findings of the site walkover and photographs are presented in Appendix A, notable observations were:

- The railway which runs below the viaduct is supported by a brick structure (Plates 2 and 4, Appendix A);
- There is a staircase and lift on the northern side of the viaduct which provides access to Deansgate-Castlefield car park and the viaduct by foot (Plate 6, Appendix A);
- The ballast across the surface of the viaduct undulates by up to 0.2m in height and the average thickness of ballast is estimated to be 0.3m. The ballast is covered in vegetation comprising moss, plants and shrubs (Plates 12 to 15, Appendix A). Evidence of vegetation clearance along the top of the viaduct was observed. Windblown litter was present in and amongst the ballast. No observations were made on site of wooden railway sleepers associated with the railway lines which historically ran across the viaduct.
- The viaduct structure appears to be in a state of disrepair with heavy corrosion (rust) observed in places. Flakes of paint and metal fragments were observed on the surface of the ballast which were between 1cm to 15cm in length. These appear to have originated from the overhead metal beams that cross the viaduct. Patches of a bitumen/tar were also observed across the viaduct surface, approximately 2cm to 40cm in width. Scaffolding was also present along parts of the viaduct structure.
- A series of drainage grids were observed along the viaduct. They comprised six grids or sunken circular dips in the ballast, approximately 40cm in diameter. The grids were in a row with equal spacing in a north-south direction. In some locations, a metal channel below the base of the viaduct platform could be seen below the metal grids which water falls into. Downspouts were observed on most of the supporting columns which connected to covered grids at ground level below the viaduct. Standing water was observed in some lengths of metal 'I' beam structure on the eastern and western sides of the viaduct. There was evidence of water pooling at the surface of the viaduct, as patches of algae and mosses were observed indicating the surface water does not drain readily away from the structure.
- A concrete conduit with electricity cables was observed along part of the northern boundary of the viaduct. This was in poor condition with some concrete slabs missing and broken. Water collected in part of the viaduct structure on the southern and northern boundaries of the structure, indicating the drainage on the viaduct may be ineffective in some areas, as shown in Plate 17.
- A metal structure of unknown use is attached to one of the overhead beams on the southern side and eastern area of the viaduct, shown in Plate 11.
- There was evidence of a trespasser using the site, a tent and sleeping bag were observed in the eastern part of the site.

- Construction works were observed below and to the north of the viaduct. The works below the viaduct comprised the erection of wooden kiosks for outdoor food and beverage stalls. Construction of residential flats was taking place to the north west of the viaduct.

The site layout plan is presented as Figure 2.1, at the end of the report.

2.3 Surrounding Area

The viaduct is located within a mixed use setting; land uses adjacent to the site (up to 500m) are summarised within Table 2-1 below.

Table 2-1: Current Surrounding Site Uses

Direction	Description
North	Immediately to the north of the western half of the viaduct is Potato Wharf and the Bridgewater Canal and basins. Beyond Potato Wharf are blocks of residential flats (10m from the northern site boundary) and a construction site.
	Giant's Basin is located immediately north of the centre of the site with a YHA youth hostel present on its bank, approximately 60m from the northern site boundary. Beyond the youth hostel is a railway line, orientated in a south-east to north-west direction. The railway line is located approximately 280m north of the western half of the site and travels directly under the viaduct in the eastern part of the site. Beyond the railway line are residential houses, Liverpool Road and Manchester Liverpool Road Railway Station, 230m north of the site at its nearest point.
	To the north of the eastern half of the site is the Bridgewater Canal Tow Path, Castle Street, the railway line and an events area, referred to as Castlefield Bowl (50m from the northern site boundary). To the north of the easterly end of the viaduct is Duke Street, grassed areas, the Castlefield Urban Heritage Park and Beaufort Street (40m from the north site boundary at its closest point).
	The River Medlock is located approximately 40m to the north-west of the site, the river flows in a western direction and then to the south where it flows below the Dawson Street road bridge.
East	Immediately to the east of the site is Deansgate-Castlefield car park. The car park is flat and roughly level with viaduct (approximately 0.5m higher in elevation). The car park access road slopes down from the car park, along a former railway line to ground level at Trafford Street, approximately 450m east of the site. The car park area is raised above the surrounding ground level by red brick arches, which are accessed along Bridgewater Street to the north east of the site. The arches are used as commercial units and car parking facilities. Warehouses, commercial units, residential flats and offices are located in the wider area east of the site.
	A staircase which leads from ground level to the Deansgate-Castlefield car park is located to the north-east of the site. The staircase is located approximately 20m south of Beaufort Street and 10m from the eastern site boundary.
South	Immediately to the south is a tramline which runs parallel to the viaduct. Beyond the tramline is a railway line which also runs parallel to the viaduct and tramline. The Bridgewater Canal and canal basin are located to the south of the tram and railway lines.

Direction	Description
	Beyond the canal is Slate Wharf, Merchant Bridge and Castle Street, the buildings on Castle Street comprise art galleries, offices, residential flats, restaurants and bars. The railway archway immediately below the railway line to the west of Castle Street has been developed into a restaurant with associated outdoor dining area. Land parcels to the south of the viaduct are owned by Peel Land and Properties (Ports) Ltd, Peel Investments (North) Ltd, Castlefield Estates, and MJF Ssas Trustees Limited; and land to east is owned by TIGM. The Rochdale Canal is located approximately 50m south the site. It runs in an east to west orientation and terminates at Rochdale Canal Lock 92, approximately 30m east of a footbridge where Castle Street crosses the canal. A building, which was part of the former saw mill with a chimney, is located on the northern bank of the Rochdale Canal, approximately 50m east of the site. This building appears to have been repurposed for use as a gallery and residential apartments. Merchants Bridge footbridge crosses the Bridgewater Canal and connect Catalan Square on the northern bank to Slate Wharf on the southern bank. Slate Wharf is characterised by residential apartment blocks, Castlefield Green area of grass, canal quay, car parks and road network. The Slate Wharf Bridge is closed to public access via a locked gate and is located approximately 20m south of the viaduct beyond the tram and active railway lines.
West	Immediately west of the site is a parcel of vacant land covered in railway ballast which would have historically formed part of the railway which crossed the viaduct. This area tapers in width becoming narrower due to the change in trajectory of the tramline located immediately south. Egerton Street and Dawson Street (A56) are located approximately 50m west of the site, which runs in a north to south direction. The River Medlock flows below Dawson Street Bridge at this point. Land to the west is occupied by roads, residential and commercial buildings.

3 Environmental Setting

3.1 Geological Conditions

Information on geological conditions below the site has been collated from the Groundsure Insights Report provided in Appendix B and BGS datasets, including 1:50,000 scale geological mapping and historical BGS borehole records, provided in Appendix E. Geological conditions are summarised below.

3.1.1 Anticipated Geology

Information presented on the BGS online geology viewer¹, BGS bedrock and superficial map² and BGS bedrock map³ indicates that superficial deposits are absent and the site is underlain by the Chester Pebble Bed Formation. The BGS mapping indicates that the Chester Pebble Bed Formation as a whole reaches thicknesses of up to 440m in the surrounding area. A description of the formation is provided in Table 3-1.

Table 3-1: Geology

Stratum	Unit	Description
Bedrock	Chester Pebble Bed Formation	Fine to coarse grained sandstone, commonly pebbly with conglomerates and sporadic siltstones.

The BGS mapping indicates that superficial deposits are absent across the site. The nearest superficial deposits to the site boundary are recorded to be present approximately 70m south of the site, comprising Till. Glaciofluvial and Alluvium deposits are also recorded within 250m of the site.

3.1.2 Summary of Historical BGS Records

A review of historical borehole records, via the BGS online viewer, indicates that there are two boreholes located on the land underlying the viaduct; however, one of the boreholes is recorded as being confidential and so could not be reviewed. A summary of the ground conditions encountered within the borehole located on land below the viaduct, which could be viewed, is given below in Table 3-2 with a copy of the borehole log provided in Appendix C.

Table 3-2: Summary of BGS boreholes on land below the viaduct

Strata	Description	Depth (m bgl)
Made Ground	Hardstanding (setts).	0.00 - 0.15
	Ashes, stones, sand, brick fragments.	0.15 – 1.20
Bedrock	Very dense orange fine/medium grained sandstone.	1.20 – 3.00 (base of borehole)

There are an additional 176 historical boreholes located within 250m of the viaduct, of these 100 are available for view. A summary of the geology encountered within historical boreholes located within 50m of the site is provided below in Table 3-3.

Table 3-3: Summary of BGS boreholes within 20m of the viaduct

¹ BGS online viewer <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

² Geological Survey of England and Wales 1:50,000 geological map series, sheet 85, Manchester Bedrock and Superficial Deposits map <http://www.largeimages.bgs.ac.uk/iip/mapsportal.html?id=1009337> dated 2011

³ Geological Survey of England and Wales 1:50,000 geological map series, sheet 85, Manchester Bedrock map <http://www.largeimages.bgs.ac.uk/iip/mapsportal.html?id=1009338> dated 2010

Strata	Description	Depth (m bgl)
Made Ground	Descriptions of Made Ground included: ■ Setts; ■ Ashes, stones, sand and brick pieces; and, ■ Medium dense ask and brick pieces.	0.00 – 4.20
Superficial deposits/weathered bedrock*	Descriptions of superficial deposits included: ■ Gravel; ■ Stiff brown gravelly clay; ■ Stiff laminated silty clay; ■ Sand; and, ■ Silty sand.	1.90 – 6.10
Bedrock	Dense sandstone	0.50 – 6.25 (base of excavation)

*From the descriptions given on the borehole logs reviewed it is not certain whether the encountered gravels, clays, sands and silts are superficial deposits or weathered bedrock.

3.1.3 Mining and Mineral Extraction

The Coal Authorities Consultant Coal Mining Report, provided in Appendix D, indicates that the site is not located within an area affected by past underground mining, probable unrecorded shallow workings, spine roadways at shallow depth, mine entries, abandoned mines, outcrops, geological faults, opencast mines or Coal Authority managed tips.

The Groundsure Insights Report, provided in Appendix B, indicates that there are 19 records of surface ground workings on the land below the viaduct, these include 12 records of canals, four records of unspecified wharves, one quay, one unspecified ground workings and one timber wharf. An additional 24 records of surface ground working are located within 250m of the site, these include:

- Ten records relating to canals (closest located 240m west of the site);
- Eight records relating to quays (closest recorded 87m south of the site);
- One record relating to an unspecified ground working (located 77m south of the site);
- One record relating to a water body (located 3m south of the site);
- One record of a gravel pit (located 41m south east of the site);
- One record of a pond (located 153m south of the site);
- One record of a sand pit (located 164m south of the site); and,
- One record of a refuse heap (located 188m north west of the site).

3.1.4 Ground Stability

Ground stability hazard classification for the site, as detailed within the Groundsure Insights Report (Appendix B), are:

- negligible hazard of shrinking or swelling clay, with ground conditions predominantly non-plastic;
- low hazard of running sands;
- negligible hazard of compressible ground;
- very low hazard of collapsible deposits;
- very low hazard of landslides; and,
- negligible hazard of ground dissolution.

3.1.5 Radon Gas

The presence of radon gas is assessed in the UK according to the number of homes likely to be above the Action Level (200 Becquerel per cubic metre (Bq m³)). Under Building Regulations, the requirement for protection measures (as described in BRE, 2001) in the construction of new buildings, conversions or extensions is dependent on Radon Potential⁴.

Information resented on the UK Radon Map indicates that the site is located within a lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Therefore, radon protection measures are not required within new buildings in the vicinity of the site.

3.1.6 Unexploded Ordnance

A Groundsure Preliminary Unexploded Ordnance (UXO) Risk Assessment has been obtained for the site (Appendix E). The risk assessment indicates that there are significant potential sources of British / Allied UXO (unexploded ordnance) in close proximity to the site. Given the proximity of the site and the significance of the sources, the risk for the land underlying the viaducts from British / Allied UXO is considered to be high.

The risk associated with German UXO is considered to be medium. The risk assessment notes that historical records indicate a medium level of bombing density across the borough in which the site was situated during World War II.

3.2 Hydrogeology

Hydrogeological information for the site has been collated from a Groundsure Insights Report (Appendix B), DEFRA MAGIC map application⁵ and BGS hydrogeological map⁶. The site is underlain by the Chester Pebble Bed Formation (sandstone) which is classified as a Principal Aquifer. A Principal Aquifer comprises layers of rock that have high intergranular and / or fracture permeability, meaning they usually provide a high level of water storage. They may also support water supplies and / or river base flow on a strategic scale.

The Glaciofluvial Deposits and Alluvium superficial deposits located within 250m of the site are classified as Secondary A Aquifers. These types of aquifer comprise 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. With the exception of a small area of Till located approximately 70m south of the site, which is classified as a Secondary A Aquifer. Till deposits are classified as a Secondary Undifferentiated Aquifer. This designation is given when it is not possible to attribute either category A or B to a rock type.

⁴ Public Health England, 2020 <https://www.ukradon.org/>

⁵ DEFRA MAGIC Map Application <https://magic.defra.gov.uk/MagicMap.aspx>

⁶ British Geological Survey 1:100,000 hydrogeological map series, sheet 19, Hydrogeological map of Clwyd and the Cheshire Basin, 1989 <http://www.largeimages.bgs.ac.uk/iip/mapsportal.html?id=1003989>

The Groundsure Insights Report (Appendix B) indicates that the land underlying the viaduct is located within an area of high Principal Aquifer groundwater vulnerability in the eastern half of the site and a low Principal Aquifer groundwater vulnerability area in the western half of the site. The land underlying the viaduct as a whole is considered to have a high leaching class for soils.

The Groundsure Insights Report indicates that the land directly underlying the viaduct is rated as moderate to high risk in relation to groundwater flooding occurring at the surface. The risk assessment in relation to groundwater flooding is based on a 1 in 100-year return period.

The site is located within the designated Water Framework Directive (WFD) groundwater body of the 'Manchester and East Cheshire Permo-Triassic Sandstone Aquifers' (Water Body ID: GB41201G101100). The chemical and quantitative classification for the groundwater body was recorded as poor in 2015.

Groundwater was encountered at depths of 5.20m bgl and 5.30m bgl within three of the historical BGS boreholes located within 50m of the site. Groundwater was encountered within a sandy layer within the superficial deposits/weathered bedrock at all three locations. The location of historical BGS logs is presented in Figure 3.1.

3.2.1 Groundwater Abstractions

The Groundsure Insights Report (Appendix B) indicates that there are no records of groundwater abstractions on the land directly underlying the viaduct; however, there are four groundwater abstractions recorded within 1km of the site. The nearest groundwater abstraction is recorded 306m north of the site, the abstraction is recorded as historical. The groundwater was abstracted for transfer between sources (post Water Act 2003). The remaining three groundwater abstractions are all recorded as historical and utilised for the purposes of cooling.

It should be noted that the data search has not included identification of unlicensed water supplies abstracting less than 20m³ of water per day (for abstractions below 20m³ per day, a licence is not required provided that the abstraction is part of a single operation).

3.2.2 Groundwater Source Protection Zones

Groundwater Source Protection Zones (SPZs) are defined around abstraction boreholes used for potable water supply, to delineate the area where release of a contaminant into the aquifer could impact on the abstraction⁷. The site is not located within an SPZ, the nearest SPZ is located 474m east of the site and is designated as a Zone III Total Catchment.

3.3 Hydrology

3.3.1 Hydrology and Drainage

Information provided in the Groundsure Insights Report (Appendix B) indicates that the Bridgewater Canal basin complex is located below the viaduct and this basin complex extends to the north and south. Off-site, the Rochdale Canal (located approximately 40m south of the site) can flow into the Bridgewater Canal via opening a lock gate. The Rochdale Canal terminates at a lock approximately 35m west of Castle Street which crosses the canal. The canal basin complex connects (off-site) to the River Medlock at a point approximately 250m west of the site and joins the River Irwell approximately 280m north west of

⁷ The Inner Zone (Zone 1) is the most sensitive and certain potentially hazardous activities are restricted in this area. Outside this are the Outer Zone (Zone 2) and the Total Catchment (Zone 3) which indicates the recharge area that contributes to the water.

the site. The River Medlock is located approximately 40m west of the site at the closest point, the river flows in a western direction and then to the south where it flows below the Dawson Street (Egerton Road) before flowing into the River Irwell further west.

The site is located within the WFD surface water body catchment of Medlock (Lumb Brook to Irwell) (Water Body ID: GB112069061152). Information on the Medlock (Lumb Brook to Irwell) has been collated from the EA's Catchment Data Explorer⁸. The overall water body classification of the waterbody was moderate, with a chemical rating of fail and an ecological rating of moderate in 2019. The EA's Catchment Data Explorer indicates that the chemical substances which have failed assessment criteria include: cypermethrin, polybrominated diphenyl ethers (PBDE), perfluorooctane sulphonate (PFOS) and mercury and its compounds.

3.3.2 Surface Water Abstractions

Information provided within the Groundsure Insights Report (Appendix B) indicates that there are no surface water abstractions on the land directly underlying the viaduct. Two historical surface water abstractions are recorded approximately 400m south-west of the site with the surface water body recorded as the River Irwell, the water was abstracted for the purpose of general cooling. There are no additional surface water abstractions located within 1km of the site boundary.

It should be noted that the data search has not included identification of unlicensed water supplies abstracting less than 20m³ of water per day (for abstractions below 20m³ per day, a licence is not required provided that the abstraction is part of a single operation).

3.3.3 River Flood Zones

The Groundsure Insights Report (Appendix B) indicates the land directly underlying the viaduct is an area with a high risk of flooding. The chance of flooding from rivers for high risk areas is greater than or equal to a 1 in 30 chance.

The Groundsure Insights Report also indicates that the land directly underlying the viaduct is located within a Flood Zone 2 area which indicates a 1 in 1000 (0.1%) chance of flooding each year.

3.4 Sensitive Land Use

Information contained within the Groundsure Insights Report (Appendix B) indicates that the site is not located within 250m of a Site of Special Scientific Interest (SSSI), Ramsar Site, Special Area of Conservation (SAC), Special Protection Area (SPA), National or Local Nature Reserve (NNR/LNR) or Ancient Woodland. The nearest designated site to the site is the Trafford Ecology Park LNR located approximately 3.5km to the west.

There are no Nitrate Vulnerable Zones (NVZs) located within 250m of the site. The nearest NVZ, Irwell / Manchester Ship Canal (Kearsley to Irlam Locks) NVZ, is located approximately 784m north-west of the site.

The viaduct structure is a Grade II listed structure which was constructed c. 1880. The viaduct is composed of cast iron and wrought iron with cast iron drum piers rising to square castellated towers supporting metal lattice parapets⁹.

⁸ <https://environment.data.gov.uk/catchment-planning/WaterBody/GB112069061152>

⁹ <https://historicengland.org.uk/listing/the-list/list-entry/1292315>

4 Historical Land Use and Regulatory Information

4.1 Site History

Historical OS maps contained within the Groundsure Insights Report (Appendix B) and a summary of the sites heritage within the Castlefield Viaduct story book by Twelve Architect, July 2020 have been reviewed to identify potentially contaminative former land uses within the site boundary, directly underlying the viaduct and within 1km of its surroundings.

The Castlefield Viaduct was constructed in 1893 to carry heavy rail traffic in and out of Manchester Central Station (now Manchester Central convention complex). The viaduct had three rail tracks to carry rail traffic. The viaduct cost £250,000 to construct equal to £20 million today. Manchester Central Station closed in 1969 and the viaduct fell into disuse with the tracks later dismantled. The viaduct has been derelict since then.

Prior to the creation of the viaduct, a timber wharf was present on the land underlying the viaduct from the earliest available mapping (1848). In addition to the timber wharf, part of the land underlying the viaduct was occupied by rectangular warehouses from the earliest available OS mapping (1848) until the 1990s, these buildings also extended to the north of the viaduct.

The area below and surrounding the viaduct has a long history of both industrial and commercial activities since the earliest available mapping to the present day. A number of residential properties have also surrounded the site, also since the earliest available mapping to the present day. Commercial and industrial activities that have been recorded within 500m of the site include railways, quaysides, wharves, gravel and sand pits, dye works, chemical works, papermills and abattoirs.

It should be noted that the historical maps within the Groundsure Insight Report represents an area greater than that illustrated on Figure 1.2; however, Table 4-1 has been divided to show the features 'on-site' (within the viaduct – the site), 'features on land directly underlying the viaduct' and 'off-site features within 500m of the site'.

Table 4-1: Historical Land Use

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
1848 (OS map 1:10,560)	Viaduct not constructed.	Three rectangular warehouses on the banks of two canal basins, occupy the land that today underlies the western half of the viaduct. Two smaller square buildings are located to the east of the warehouses, beyond which is a branch of a canal which extends off-site in a north – south direction. To the east of the canal, part of another rectangular building is present. To the east of the building is a pathway and an area labelled as an 'Ancient Site of Roman Mamucium' site. A timber wharf is located to the south of the two square buildings and is adjacent to a canal orientated in a west to east direction.	The two rectangular warehouses extend predominantly to the north but also to the south of the current site boundary. The large rectangular building to the east of the canal extends to the south of the current site boundary, as does the canal which extends to the south of the site before joining a larger canal which is orientated in a west to east direction. The canal (north – south orientation) continues southwards before also changing orientation from west to east. On the southern side of the canal 'Castle Quay Slate Wharf' is labelled (approximately 20m south of the current site boundary). At the southern edge of the wharf is a rectangular building labelled as a 'warehouse'. To the west of the wharf a gravel pit is recorded (approximately 40m south of the current site boundary). Castle Quay is recorded to the south of the canal (approximately 150m south of the current site boundary), a rectangular building labelled 'warehouse' and two smaller square to rectangular shaped buildings are shown to the south and east of the quay. A sand pit, St Georges Church and a saw mill are recorded to the south-west of the site (approximately 140m). Beyond these features and the warehouses described above are a large number of terraced houses. To the west of the site is vacant land, a tributary of the River Irwell, beyond which residential houses and Victoria Quay is labelled (300m to the west of the current site boundary). The

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
			Quay is adjacent to the River Irwell which flows in a south-west to north east direction 325m to the west of the site). On the western side of the river is the Sunny Side Silk and Cotton Mill (approximately 350m west). To the north of the current site boundary, is the tributary of the River Irwell, beyond which is a paper mill (150m north of the site). Beyond the paper mill is a chemical works, New Quay and Dye Works all of which are located on the southern edge of the River Irwell (approximately 300m north of the site). A cotton mill is recorded on the western bank of the River Irwell, approximately 350m north-west of the site. A railway is located approximately 250m north of the site at its closest point. The area to the east of the site is densely populated with terraced housing. A cotton mill is recorded approximately 500m east of the site.
1851 (OS map 1:1,056)	Viaduct not constructed.	The warehouse (partially located on the land which today directly underlies the site), to the east of the canal, is recorded as Kenworthy's Warehouse. A line labelled 'centre of the of course of the River Medlock', is shown under the site, orientated in a roughly north to south direction and extends beyond the site boundary to the north and south.	A timber yard is recorded to the immediate north of the timber wharf with a crane also recorded, a dock yard and smithy are recorded to the north of the timber yard approximately 20m north of the current site boundary. A coal wharf is recorded approximately 80m north of the site. Kenworthy's Dock Yard and a sail cloth manufactory are recorded to the east of the coal wharf (approximately 50m north of the site). A smithy is recorded on the Castle Quay Slate Wharf (approximately 100m south of the site).

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
			A timber yard is recorded adjacent to the gravel pit.
1876	Viaduct constructed	No records.	
1891 (OS map 1:500)	Viaduct not yet shown on historical mapping.	The timber wharf is no longer recorded. The two square buildings are no longer recorded.	Two sets of railway lines are recorded running adjacent to the site, both running in a west to east orientation. The timber yard to the north of the site is labelled 'wharf' and there has been an increase in the number of buildings present in the dock yard.
1893 (OS map 1:2,500)	Viaduct not yet shown on historical mapping.	No significant changes.	The railway extends to the west and east. The Castle Quay Slate Wharf and Castle Quay are now referred to as Castle Field Wharves. The smithy is no longer recorded. Four travelling cranes are recorded in this area. Both the gravel and the sand pit are no longer shown. Abattoirs are recorded approximately 150m north of the site and a paper mill located to the north of the site is now labelled 'Elm Street Mill, disused' A timber wharf is recorded approximately 30m south of the site. Castle Field Iron Works are recorded approximately 100m south of the site boundary. A series of mills and works are recorded 100m south west of the site including 'Hulme Mill', 'Egerton Works (Cabinet)', 'Worsley Mills (Braid)' and a cotton mill. The timber yard is recorded adjacent to the gravel pit is no longer recorded.

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
1894 – 1896 (OS map 1:10,560)	The viaduct is shown with one railway line running the entire length of the site in a west to east orientation. The tracks connect to Central Station.	A railway line has been constructed and runs beneath the viaduct (Manchester South Junction and Altrincham Railway).	The Manchester South Junction and Altrincham Railway extended to the north west and south east of the site. To the east of the site a large station is recorded (approximately 400m east of the site). Seven additional rectangular buildings are recorded between the former Castle Quay Slate Wharf and Castle Quay. The chemical works, New Quay and Dye Works approximately 300m north of the site has been redeveloped into a corporation yard. A station is recorded approximately 500m north of the site. The number of railway lines to the north of the site has increased with some smaller lines connecting to large warehouses. The cotton mill recorded approximately 500m east of the site is no longer labelled. Sunny Side Silk and Cotton Mill is no longer recorded.
1905 – 1906 (OS map 1:10,560)	No significant change.		The large station located approximately 400m east of the site is divided into Central Station and two goods stations. An iron works is recorded approximately 400m west of the site adjacent to a railway line. A gas works is located approximately 425m east of the site.
1908 (OS map 1:2,500)	Three sets of railway track are shown to cross the site.	No significant change.	Elm Street Mill located 150m north of the site is no longer shown. It has been replaced by an expansion of the abattoirs.

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
1922 (OS map 1:2,500)	No significant change.	A tank is labelled directly north of the site boundary. Directly beneath the site and extending to the north, south and east a rectangular shape is outlined labelled 'Site of Roman Fort'.	'Hulme Mill' and 'Egerton Works (Cabinet)' located 100m to the south west of the site are no longer shown and have been replaced by a 'Paper Store'.
1923 (OS map 1:10,560)	No significant change.	No significant change.	'Knott Mill' is labelled 250m south east of the site. The iron works recorded approximately 400m west of the site is no longer recorded however the building remains. A hospital is recorded approximately 380m north east of the site.
1931 – 1932 (OS map 1:10,560 & 1:2,500)	No significant change.	Two of the rectangular warehouses directly beneath the site are recorded as 'Acid Warehouse'. The tanks directly north of the site is no longer shown.	The two rectangular warehouses that extend to the north and south of the current site boundary are recorded as 'Acid Warehouses'. Kenworthy's Dock Yard and a sail cloth manufactory are no longer recorded (approximately 50m north of the site) and have been replaced by a large warehouse. A 'Printing Works' is located 90m north east of the site boundary. 'Castle Field Iron Works' located 50m south of the site is no longer shown and has been replaced by 'Saw Mills', 'Saw Mill and Joinery Works' and 'Castlefield Works (Paper)'. Three small circular silos are recorded adjacent to 'Canal Flour Mill' located approximately 80m south of the site. An 'Electrical Engineering Works' is located 200m south-west of the site.

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
			'Worsley Mills' are now labelled as manufacturing cardboard boxes. The corporation yard 300m to the north of the site is now labelled as a cleansing depot. A mineral yard is recorded approximately 400m north west of the site.
1938 (OS map 1:10,560)	No significant change.		
1949 (OS map 1:2,500 & 1:1,250)	The site is recorded as a 'Viaduct'.	One of the rectangular warehouses beneath the site is no longer shown and has been replaced by a smaller building.	A cold storage warehouse is located within the area occupied by the abattoir, as is a wholesale meat market (120m north of the site). A 'Saw Mill' and 'Works' are labelled 100m north of the site. A hide and skin works are recorded in the dock yard of the former timber yard (approximately 70m north of the site). A hide, skin and fat market is recorded approximately 180m north west of the site. A 'Boat Repair Works' is recorded north of the warehouse 50m north of the site in the location of the former Kenworthy Dockyard. An electricity sub-station is labelled adjacent to the print works 90m north of the site. A fibreboard container factory is recorded approximately 120m south west of the site replacing the former 'Worsley Mills'.

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
			The large rectangular building to the east of the canal is no longer shown. Castlefield Wharves are no longer recorded. A shaft is recorded approximately 40m south of the viaduct approximately 50m west of the lock gate at the end of Rochdale Canal. A 'Refuse Heap' is labelled 150m south of the site.
1956 (OS map 1:1,250)	No significant change.		An automobile engineering works is recorded approximately 200m north east of the site. A ready mixed concrete depot is recorded approximately 80m north of the site. The 'Boat Repair Works' are no longer recorded. The 'Refuse Heap' 150m south of the site is no longer recorded.
1956 (OS map 1:10,560)	No significant change.		An automobile engineering works is recorded approximately 400m south-east of the site.
1960 - 1963 (OS map 1:2,500 & 1:1,250)	No significant change.	The acid warehouses are now recorded as warehouses.	The two rectangular warehouses that extend to the north and south of the current site boundary are now recorded as warehouses. The fibreboard container factory is recorded as a factory. A 'Garage' is labelled adjacent to the north east of the site. A second 'Garage' is labelled 25m to the south of the site.

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
			The shaft, recorded approximately 40m south of the viaduct, is labelled as disused. The automobile engineering works located approximately 200m east of the site is recorded as a 'Works'. The 'Printing Works' located 90m north east of the site boundary are no longer recorded. The 'Electrical Engineering Works' is located 200m south west of the site are no longer recorded. The hide and skin works recorded approximately 70m north of the site are no longer recorded.
1972 (OS map 1:10,000)	The railway track across the viaduct is shown in the western half of the site only and is no longer connected to Central Station.	No significant change.	Central Station is no longer labelled and the railway tracks which travelled from the site and towards the station and goods shed appear to have been dismantled and are only partially shown. A junction/roundabout is recorded approximately 300m south of the site. 'Knott Mill' is no longer recorded, the building is labelled as 'Works'. The automobile engineering works recorded approximately 400m south east of the site are no longer recorded, a works is recorded in its place.
1977 - 1982 (OS map 1:1,250 & 1:10,000)	The railway on the viaduct is recorded as dismantled.	Kenworthy's Warehouse appears to have demolished.	The abattoir is no longer recorded, the number of buildings has reduced and now three large rectangular buildings occupy the space.

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
			A building labelled 'Refuse Destroyers' is shown in the cleansing depot. Four rectangular and square buildings are recorded to the west of the warehouses, immediately adjacent to the northern boundary of the site. A hopper, conveyors and an electricity substation are shown immediately to the north east of the site. Central Station to the east of the site is recorded as disused, as is one of the goods stations. The other goods station is recorded as a car park. The hide, skin and fat market is no longer recorded.
1985 (OS map 1:10,000 & 1:1,250)	No significant change.		The works in the location of 'Knott Mill' are no longer recorded. The works located on the site of a former automobile works are no longer recorded. The disused goods station to the east of the site is recorded as a car park.
1986 (OS map 1:1,250)	No significant change.		A garage is recorded approximately 80m north of the site in the area formerly occupied by a timber yard.
1988 (OS map 1:10,000)	No significant change.		An exhibition centre is recorded in the location of the disused central station. No. 2 dock is no longer recorded to the south-west of the site.

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
			The mineral yard located approximately 400m north-west of the site is no longer recorded. The hospital located to the north-east of the site is no longer recorded. The gas works located to the east of the site is now recorded as a car park.
1990 – 1995 (OS map 1:1,250 & 1:10,000)	No significant change.	The two former acid warehouses are no longer recorded.	The two rectangular warehouses that extend to the north and south of the current site boundary are no longer recorded. The cleansing depot and refuse destructor is no longer recorded. An electricity substation is recorded approximately 170m north of the site. The cotton mill on the western bank of the River Irwell, approximately 350m north-west of the site is no longer shown. The shaft is no longer recorded to the south of the viaduct. Two new large buildings are recorded approximately 180m north west of the site. The garage to the east of the former acid warehouses is no longer recorded.
2001 (OS map 1:10,000)	No significant change.		Exhibition Centre is recorded as the Greater Manchester Exhibition Centre (GMEX). The building housing the former iron works (located approximately 400m west of the site) is recorded as a bus depot.

Map Dates	On-site features	Features on land directly underlying the viaduct	Off-site features (within 500 m of the site)
2010 (OS map 1:10,000)			The GMEX is renamed as the Manchester International Convention Centre (MICC).
2021 (OS map 1:10,000)			No significant change.

4.2 Regulatory Information

Regulatory information relating to potentially contaminative activities within the vicinity of the site has been summarised in Table 4-2. Further details are provided in the Groundsure Insights Report in Appendix B.

Table 4-2: Regulatory Information

Environmental Records	Description
Discharge consents	There are no recorded discharge consents located on the site; however, there are 51 discharge consents located within 500m of the site. The closest discharge consent is located 44m north-east of the site and relates to the discharge of sewage discharge – final/treated effluent with the receiving water listed as the Bridgewater Canal. The discharge consent is recorded as revoked.
Pollution incidents	There are no recorded pollution incidents located with the site; however, there are seven recorded within 500m of the site. The closest pollution incident occurred 172m north-west of the site in June 2001; the pollutant involved is recorded as diesel which had a minor impact to water (Category 3 incident).
Registered landfill, historical landfill or other waste disposal sites	The EA records show that there are no active landfills within 500m of the site. There is one recorded historical landfill located within 500m of the site. The landfill is located 352m north-west of the site. The type of waste the site was permitted to accept is not recorded within the information reviewed neither is information relating to the operation dates. There is one historical waste site that is located immediately adjacent to the northern boundary of the site (NGR: 383070, 397665). The record relates to a scrap yard, details of the licence holder and dates of operation are not included in the information reviewed. A second historical waste site is located 11m south-west of the site (NGR: 382825, 397578), the waste site is also recorded as a scrap yard with details of the licence holder and dates of operation are not included in the information reviewed. There are an additional 39 records of historical waste sites located within 500m of the site. There are three records of licensed waste sites located within 500m of the site, two of which are recorded as active and one inactive. All sites are located 164m north-west of the site and relate to mobile plant. The active licences are held by R E M Mobile Plant and Rec Remediation Ltd – Mobile Plant, the licences were issued in December 2006 for both sites.
Waste exemptions	There are 57 waste exemptions recorded within 500m of the site. The nearest exemption is for a site located 69m south of the site;

Environmental Records	Description
	the description of the activities undertaken is recorded as sorting and de-naturing of controlled drugs for disposal.
Integrated pollution prevention and control authorisations	There are no integrated pollution control records within 500m of the site.
Hazardous substances consents and handling notifications	There are no records of hazardous substances consents and handling notification recorded within 500m of the site.
Control of major accident hazards sites (COMAH)	There are no records of control or major accident hazard sites recorded within 500m of the site.
Registered radioactive substances	There are no records of registered radioactive substances recorded within 500m of the site.
Historical garages	There are three records of historical garages located below the site; additional details on the garages are not included within the information reviewed. There are an additional 89 records of historical garages located within 500m of the site.
Historical tanks	There is one record of an unspecified tank located below the site. There are an additional 157 records of historical tanks located within 500m of the site, these include: ■ unspecified tanks – 123 records; ■ tanks – 27 records; ■ gas works – 5 records; and, ■ gasometer – 2 records.
Historical energy features	There are 128 records of historical energy features located within 500m of the site, these include: ■ electricity substation – 117 records; ■ electricity transformers – 4 records; ■ gas works – 5 records; and, ■ gasometer – 2 records.
Recent industrial land uses	According to the Groundsure Insights Report, there are no records of recent industrial land uses on the site or underlying the site. Off-site recent industrial land uses within 500m of the site include: ■ conveyors (7m north-west); ■ hoppers and silos (16m north-west); ■ moorings and unloading facilities (23m south, 28m south, 34m north-east, 49m east, 151m south-west, 151m south, 172m south, 196m south-east); ■ scrap metal merchants (27m west); ■ unspecified works or factories (28m north-west);

Environmental Records	Description
	■ container and storage (38m north-west, 70m south, 98m south, 198m north-west, 204m south); ■ electrical features (79m north-east, 98m north, 132m south, 145m north-west, 162m north, 184m south-east, 202m north west, 208m west, 237m north-east); ■ tanks (95m south); ■ published goods (133m north-east, 194m south-east, 202m east); ■ travelling cranes and gantries (174m north-east); ■ special purpose machinery and equipment (183m north-east); ■ civil engineers (183m north-east); ■ tram, metro, light railway stations and stops (198m east); ■ recording studios and record companies (229m south-west); and, ■ railway stations, junctions and halts (244m south-east). There are three records of current or recent petrol stations located within 500m of the site. Two of the records relate to obsolete petrol stations located 96m south and 321m south of the site. An active petrol station (Sainsbury's) is recorded 458m north west of the site.
Historical industrial land uses	The following historical industrial land uses are recorded on or underlying the site: ■ wharves (including a timber wharf); ■ railway building ■ railway sidings; ■ quay; ■ unspecified depots; and, ■ unspecified ground workings. Within 500m of the site, the following historical industrial land uses are recorded: ■ railway buildings (64 records, closest recorded 0m north east of the site); ■ railway sidings (31 records, closest recorded 3m north-east of the site); ■ unspecified depot/commercial/industrial (35 records, closest recorded 19m north-east of the site); ■ gravel/sand pits (2 records, gravel pit located 41m south-east of the site, sand pit located 164m south of the site);

Environmental Records	Description
	■ wharves (2 records, closest recorded 64m south of the site); ■ warehouses (5 records, closest recorded 69m south-east of the site); ■ unspecified ground workings (5 records, closest recorded 77m south of the site); ■ quay/docks (7 records, closest recorded 87m south of the site); ■ paper mill (1 record, recorded 108m north-west of the site); ■ goods shed/depot/station (15 records, closest recorded 135m north of the site); ■ corporation yard (5 records, closest recorded 176m north-west of the site); ■ unspecified mills (4 records, closest recorded 178m south-west of the site); ■ cleansing depot (2 records, closest recorded 181m north-west of the site); ■ refuse heap/unspecified heap (3 records, closest recorded 188m north-west of the site); ■ chemical works (1 record, located 200m north-west of the site); ■ automobile works (1 record, located 228m south of the site); ■ unspecified works (12 records, closest located 228m south of the site); ■ brewery (2 records, closest recorded 234m north-west of the site); ■ iron works (3 records, closest recorded 253m south-west of the site); ■ dye works (2 records, closest recorded 272m north of the site); ■ silk and cotton mill/cotton mill (4 records, closest recorded 280m west of the site); ■ saw mill (1 record, located 312m south-west of the site); ■ railway stations (13 records, closest recorded 198m east of the site); ■ unspecified tank (6 records, closest recorded 371m south of the site); ■ hospital (9 records, closest recorded 385m north-east of the site); ■ mineral yard (3 records, closest recorded 410m north-west of the site);

Environmental Records	Description
	■ gas works/gasometer (6 records, closest recorded 424m east of the site); ■ bus station (1 record, located 440m east of the site); and, ■ glass works (1 record, located 486m south-east of the site).
List 1 dangerous substances	There are no List 1 dangerous substances records within 500m of the site.
List 2 dangerous substances	There are no List 2 dangerous substances records within 500m of the site.

5 Conceptual Site Model and Qualitative Risk Assessment

Land contamination is assessed through the identification of Potential Contaminant Linkages (PCLs). The assessment involves the development of a Conceptual Site Model (CSM) which describes the relationship between on and off-site potential sources of contamination (and contaminants), potential receptors to such contamination and anticipated pathways between the two. Where all three (source-pathway-receptor linkage) are present or considered to be present, they are described as a PCL which can be subject to the risk assessment process.

The following discusses the potential sources, pathways and receptors present.

5.1 Potential Sources

The Castlefield Viaduct has been used as railway land since its construction in 1876. The site is currently covered in ballast and the railway and associated sleepers appear to have been removed from the site. During the site walkover, paint flakes, which given the likely age of the paint potentially could contain metals such as lead and cadmium, were observed on the surface of the ballast and appeared to be flaking off of the viaduct structure. Asbestos containing materials were not observed on the viaduct structure at the time of the site walkover, although they may have been present in the past. It is noted within the 'Castlefield Viaduct Appendix A' document, provided by the Trust that in 2010 a de-scaling operation (with some painting) was undertaken to help prevent corrosion, and further works were carried out in 2012/13 to remove other potentially hazardous debris.

The land directly underlying the viaduct has been historically occupied by warehouses (also recorded as acid warehouses). The warehouses extended to the north of the viaduct. The land to the north of the viaduct formerly occupied by the warehouses has been recently redeveloped/is undergoing redevelopment into flats. Due to the recent nature of the redevelopment underlying this part of the site, investigation and assessment of the land for contamination will have been undertaken as part of the planning process. A letter from the EA, dated 8th January 2007 (reference SO/2006/100340/01-L01), relating to the development of the area in which the warehouses were located confirms that a site investigation and risk assessment has been undertaken and states that *'elevated concentrations of petroleum hydrocarbons encountered at the site are unlikely to pose a significant risk to the controlled waters receptors identified. Therefore, we do not require specific remedial action for the protection of controlled waters receptors at this time'*.

It is noteworthy that there is the presence of elevated concentrations of petroleum hydrocarbons underlying the former warehouses which were located beneath the site.

Potential sources of contamination on the viaduct and directly beneath the site are discussed in Table 5-1 and Table 5-2, respectively.

Table 5-1: Potential Sources on the Viaduct Structure

Potential Source	Associated Contaminants
Railway land and ballast (on viaduct structure)	Metals, asbestos, phenols, sulphates, Polycyclic Aromatic Hydrocarbons (PAHs), fuel oils, lubricating oils, greases and herbicides.
Metals and paint flaked off from viaduct structure (on viaduct structure)	Metals

Table 5-2: Potential Sources directly beneath the Viaduct Structure

Potential Source	Associated Contaminants
Made Ground associated with demolished buildings	Made Ground deposits associated with demolished buildings commonly contains localised areas of asbestos, PAHs, fuel and oil hydrocarbons and metals.
Timber wharf (below viaduct structure)	Contaminants of potential concern include metals and metal compounds, cyanides, sulphates, phenols, PAHs, creosote, paints and solvents (aromatic hydrocarbons and chlorinated aliphatic hydrocarbons), organotins, cyanides, biocides, fuels and oil hydrocarbons and asbestos.
Scrap metal yard (below viaduct structure)	Metals and metal compounds, cyanides, sulphates, phenols, PAHs, paints and solvents (aromatic hydrocarbons and chlorinated aliphatic hydrocarbons), fuels and oils, hydrocarbons and asbestos.
Former warehouses	Petroleum hydrocarbons.

Several current and historical activities undertaken within 500m of the site may have released contaminants into the ground, which may have subsequently migrated to the land underlying site via surface run-off and/ or migration in groundwater. These are identified in Table 5-3 below.

Table 5-3: Potential Off-site Sources

Potential Source	Associated Contaminants
Railway lines and travelling cranes	Fuel and oil hydrocarbons, metals and metalloids, PAHs, asbestos, sulphates and sulphides.
Dockyard and timber yard (immediately adjacent to the site)	Contaminants may be associated with materials to construct the dock and historical activities which may have taken place within the dockyard. Potential contaminants of concern include metals, phenols, PAHs, creosote, solvents, tributyltin, fuels and oils, asbestos and ground gases.
Garages (immediately adjacent to the site)	Fuel and oil petroleum hydrocarbons, volatile and semi-volatile organic compounds (VOCs and SVOCs) and vapours associated with above ground fuel tanks (if present).
Made Ground associated with demolished buildings and potentially infilled land former gravel and sand pits, former shaft)	Made Ground deposits associated with demolished buildings commonly contains localised areas of asbestos, PAHs and metals.
Other off-site industrial use: ■ Scrap metal yard ■ Abattoir ■ Silk and cotton mills ■ Paper mills ■ Automobile engineering works ■ Iron works ■ Smithy ■ Fibreboard container factory	Metals and metal compounds, phenols, PAHs, solvents (aromatic hydrocarbons and chlorinated aliphatic hydrocarbons), fuels and oil hydrocarbons and asbestos.

Potential Source	Associated Contaminants
■ Cleansing depot ■ Concrete depot ■ Refuse heap ■ Saw mill ■ Dye works ■ Bus Station ■ Hospital ■ Brewery ■ Glass works ■ Mineral Yard ■ Gas works ■ Garages ■ Potentially infilled shaft	

5.2 Potential Receptors and Pathways

Three potential scenarios have been identified in relation to the use of the site, these include:

- the site in its current condition (current CSM);
- the site during the Phase 1 'Pilot Scheme' being utilised as a 'micro park' this includes the introduction of a temporary footpath surface, the erection of temporary pop up shelters (assumed to be well ventilated) and placement of planters (Phase 1 Pilot Scheme CSM); and
- the site when it is permanently repurposed in Phase 2 as an urban park and travel hub. This will include the construction of food and beverage stands, gardens, stalls, seating areas, an events space and toilet facilities. It is assumed that raised planting beds will be created and a pathway between railway ballast and consumption of site grown vegetables is not considered (Phase 2, Permanent Urban Park and Travel Hub CSM).

Table 5-4 below outlines which potential receptors and pathways that would be associated by each of the three scenarios.

Table 5-4: Potential Receptors and Pathways

Receptors	Pathways	Current CSM	Phase 1 - Pilot Scheme CSM	Phase 2- Permanent Urban Park and Travel Hub CSM
Human Health				
Site users (visitors, trespassers and future workers and visitors)	Direct exposure through dermal contact, ingestion or inhalation of contaminants within the ballast cover across the viaduct or accidental direct exposure to paint flakes in areas not covered by future temporary walkway or other hard cover.	✓	✓	✓
	Inhalation of volatile contaminants.	X	X	✓
Development workers during construction	Direct exposure through dermal contact, ingestion or inhalation of ballast cover or paint flakes.	X	✓	✓
	Inhalation of volatile contaminants.	X	✓	✓
Controlled Waters				
Chester Pebble Bed Formation – Principal Aquifer	Migration via preferential pathways caused by piling (if required).	X	X	✓
Bridgewater Canal (below the viaduct and in immediate surrounding area)	Leaching, dissolution and migration of contaminants from the ballast covering the site via surface drainage and discharge into surface water receptors.	✓	✓	✓
River Medlock (40m west of the site)		✓	✓	✓
Buildings and Utilities				
Future buildings and utilities	Direct contact and permeation of water supply pipes.	X	X	✓

5.3 Preliminary Conceptual Site Model and Qualitative Risk Assessment

The CSM and PRA are presented in Table 5-5, Table 5-6 and Table 5-7 for each of the potential end use scenarios. Definitions of probability and consequence have been based on guidance outlined in CIRIA 552 and summarised in Appendix F. A combination of probability and consequences produces a risk level based on the risk evaluation and likely action required. The land contamination risk, which is a function of the probability and the consequence, can then be defined using the risk matrix. The limitations associated with the assessment are provided in Appendix G.

Table 5-5: Preliminary Conceptual Site Model for Current Use

Source	Pathway	Receptor	Associated hazard	Potential consequence of contaminant linkage	Likelihood of contaminant linkage	Risk classification	Justification
Historical site use as railway land, ballast layer covering viaduct and paint on the viaduct.	Direct exposure through dermal contact, ingestion or inhalation of ballast, paint flakes and associated dusts.	Site visitors and trespassers	Health risk	Medium	Low likelihood	Moderate to low risk	The viaduct is covered with a layer of ballast which may contain contaminants as a result of its historical use as railway land. In addition, the viaduct is painted, and flakes of paint were observed within the ballast. Given the likely age of the paint, these may contain elevated concentrations of metals. The site is visited infrequently by maintenance workers to undertake vegetation clearance. Site visitors may come into direct contact with contaminants within the ballast, but this will be on an infrequent basis. During the site walkover it was observed that the site was used by trespassers. These site users may also come into direct contact with contaminants within the ballast covering the surface of the viaduct.
	Leaching of contaminants and migration via surface water network.	Bridgewater Canal and River Medlock	Pollution of controlled waters	Medium	Low likelihood	Moderate to low risk	Contaminants have the potential to leach out of the ballast which covers the top of the viaduct and migrate via the surface water drainage network into the surrounding surface water.

Table 5-6: Preliminary Conceptual Site Model for Phase 1 - Pilot Scheme

Source	Pathway	Receptor	Associated hazard	Potential consequence of contaminant linkage	Likelihood of contaminant linkage	Risk classification	Justification
Historical site use as railway land, ballast layer covering viaduct and paint on the viaduct.	Direct exposure through dermal contact, ingestion or inhalation of soils and dusts.	Future site users	Health risk	Medium	Low likelihood	Moderate to low risk	The viaduct is covered with a layer of ballast which may contain contaminants as a result of its historical use as railway land. In addition, the viaduct is painted, and flakes of paint were observed within the ballast. Given the likely age of the paint, these may contain elevated concentrations of metals. If the site were to be redeveloped site visitors may come into direct contact with contaminants within the ballast if left exposed at surface; however, this is likely to be temporarily or permanently covered by a walkway proposed to be installed covering all or part of the ballast.
		Development workers during construction	Health risk	Medium	Low likelihood	Moderate to low risk	Construction workers may come into direct contact with contaminants within the ballast during development works; however, exposure to potential contaminants can be mitigated during development works associated with the temporary use of the site with the use of appropriate working methods and use of personal protective equipment (PPE).
	Inhalation of volatile contaminants.	Future site users	Health risk	Medium	Unlikely	Low risk	The proposed temporary weather shelters are likely to either have open sides or will be well ventilated due to Covid-19 restrictions. There will be limited potential for the

Source	Pathway	Receptor	Associated hazard	Potential consequence of contaminant linkage	Likelihood of contaminant linkage	Risk classification	Justification
							accumulation of volatile contamination within the structures.
	Leaching of contaminants and migration via surface water network.	Bridgewater Canal and River Medlock	Pollution of controlled waters	Medium	Low likelihood	Moderate to low risk	Contaminants have the potential to leach out of the ballast which covers the top of the viaduct and migrate via the surface water drainage network into the surrounding surface water.

Table 5-7: Preliminary Conceptual Site Model for Phase 2 – Permanent Urban Park and Travel Hub

Source	Pathway	Receptor	Associated hazard	Potential consequence of contaminant linkage	Likelihood of contaminant linkage	Risk classification	Justification
Historical site use as railway land, ballast layer covering viaduct and paint on the viaduct.	Direct exposure through dermal contact, ingestion or inhalation of soils and dusts.	Future site users	Health risk	Medium	Moderate likelihood	Moderate risk	The viaduct is covered with a layer of ballast which may contain contaminants as a result of its historical use as railway land. In addition, the viaduct is painted, and flakes of paint were observed within the ballast. Given the likely age of the paint, these may contain elevated concentrations of metals. If the site were to be redeveloped site visitors may come into direct contact with contaminants within the ballast if left exposed at surface; however, this is likely to be temporarily or permanently covered by a walkway proposed to be installed covering all or part of the ballast.

Source	Pathway	Receptor	Associated hazard	Potential consequence of contaminant linkage	Likelihood of contaminant linkage	Risk classification	Justification
	Inhalation of volatile contaminants.	Development workers during construction		Medium	Low likelihood	Moderate to low risk	Exposure to potential contaminants can be mitigated during construction with the use of appropriate working methods incorporated into a Construction Environmental Management Plan (CEMP) and use of PPE.
		Future site users		Medium	Low likelihood	Moderate to low risk	If the ballast across the viaduct contains volatile contaminants these may accumulate in newly created structures as part of the permanent repurposing of the site.
		Development workers during construction		Medium	Low likelihood	Moderate to low risk	Exposure to potential contaminants can be mitigated during construction with the use of appropriate working methods incorporated into a CEMP and use of PPE.
	Leaching of contaminants and migration via surface water network.	Bridgewater Canal and River Medlock	Pollution of controlled waters	Medium	Low likelihood	Moderate to low risk	Contaminants have the potential to leach out of the ballast which covers the top of the viaduct and migrate via the surface water drainage network into the surrounding surface water.
	Direct contact and permeation of water supply pipes.	Future buildings and utilities	Building and foundation corrosion and impact to potable water supplies	Medium	Low likelihood	Moderate to low risk	Potential contamination could impact on the integrity of concrete foundations through creating aggressive ground conditions. Potential organic contaminants could permeate potable water supplies and have detrimental impacts on human health.

Source	Pathway	Receptor	Associated hazard	Potential consequence of contaminant linkage	Likelihood of contaminant linkage	Risk classification	Justification
Sources below the viaduct and off-site as identified in Table 5-2 and Table 5-3.	Direct exposure through dermal contact, ingestion or inhalation of soils, dusts or vapours.	Development workers during construction if works are required to the viaduct structure at ground level, such as the installation of new access ways or via piling	Health risk	Medium	Low likelihood	Moderate to low risk	Exposure to potential contaminants can be mitigated during construction with the use of appropriate working methods incorporated into a CEMP and use of PPE.
	Creation of preferential migration pathways via piling or construction works at ground level.	Groundwater: Principal Aquifer (Chester Pebble Bed Formation) and surface water receptors (Bridgewater Canal, and River Medlock)	Pollution of controlled waters	Medium	Low likelihood	Moderate to low risk	If construction works are required at ground level such as excavation works or piling, this has the potential to mobilise contaminants within soils or groundwater underlying the site associated with historical activities. Piled foundations, if required, could also potentially create a preferential pathway between sources underlying the viaduct and receptors.

Source	Pathway	Receptor	Associated hazard	Potential consequence of contaminant linkage	Likelihood of contaminant linkage	Risk classification	Justification
	Direct contact and permeation of water supply pipes.	Future buildings and utilities	Building and foundation corrosion and impact to potable water supplies	Medium	Low likelihood	Moderate to low risk	If new foundations are required at ground level to serve the new development, potential contamination in soils underlying the viaduct could impact on the integrity of concrete foundations through creating aggressive ground conditions. If new water pipes are required at ground level to service the viaduct, potential organic contaminants in soils could permeate potable water supplies and have detrimental impacts on human health.

6 Conclusions and Recommendations

6.1 Conclusions

The key objectives of the desk study and PRA were to provide information on the current condition of the site with respect to contamination, characterise the environmental setting and identify potential land quality risks and constraints associated with the proposed scheme.

The site has been a railway viaduct since late 1800s with the railway recorded as being dismantled in the late 1960s. The land underlying the viaduct was historically occupied by a roman fort, timber wharf, canal network and warehouses. The area surrounding the site has a long industrial history including use as railways, quaysides, wharfs, garages, gravel and sand pits, dye works, chemical works, paper mills, gas works and an abattoir.

Information provided by the BGS indicates that the site is underlain by bedrock of the Chester Pebble Bed Formation which is classified as a Principal Aquifer.

Potential sources of contamination on the viaduct were identified as comprising railway land (ballast) and paint from the viaduct structure which may contain contaminants including metals, asbestos, phenols, sulphates, PAHs, fuel oils, lubricating oils, greases and herbicides. The volume of ballast is estimated as approximately 990m³ based on 0.30m depth, by 330m length and 10m width.

Below the viaduct and in the surrounding area, potential sources of contamination comprise Made Ground associated with demolished buildings, a timber yard and scrap metal yard, dockyards, an abattoir, silk and cotton mills, paper mills, automobile engineering works, iron works, smithy, fibreboard container factory, cleansing depot, concrete depot and a garage.

In relation to the use of the site as an urban park and transport hub, following permanent redevelopment of the site, the following potential risk have been identified as having a moderate risk rating or higher:

- Future site users via direct exposure through dermal contact, ingestion or inhalation of soils and dusts.

Further investigation and assessment of the above identified risk is required to quantify whether this presents a development constraint and to help in the development of appropriate mitigation measures.

6.2 Potential Contaminated Land Development Constraints

Identified potential development constraints and uncertainties relating to contaminated land are summarised as:

- The ballast which covers the viaduct has not been sampled or tested and it is uncertain whether the material contains concentrations of contaminants which have the potential to cause harm to human health or the environment.
- It is unknown whether the paint which covers the viaduct that appears to be in a poor condition, contains lead or other metal contaminants which have the potential to cause harm to human health.
- It is uncertain whether the viaduct surface water drainage system discharges to surface water receptors such as the canal or River Medlock.

- If earthworks or piling is required at ground level as part of the scheme, ground conditions are uncertain and the potential to mobilise contamination during construction and cause harm to human health or environmental receptors is unknown.

6.3 Recommendations

In order to determine whether the railway ballast present on the viaduct is suitable to remain in place upon development, it is recommended that a sampling exercise is undertaken on the fine-grained soil matrix surrounding the coarse stone of the railway ballast. The chemical characteristics of the ballast material can be characterised with the analysis of soil and soil leachate samples. It is anticipated that intrusive investigation will comprise:

- a series of hand dug pits in a grid system along the width and length of the viaduct; and,
- paint sampling exercise from the viaduct structure.

Following the sampling exercise data analysis and interpretation of returned laboratory data can be undertaken, and the CSM can be refined following assessment of risks to human health with respect to the potential future scenario and risks to drinking water pipelines. If the data assessment of the soil and soil-leachate concludes that the material is not suitable to remain on site, land contamination mitigation methods can be recommended which can be included in future repurposing design, or a waste classification assessment can be undertaken to inform suitable disposal options.

The soil sampling exercise also offers a benefit to support understanding potential risk to workers during future construction management planning, and it is recommended that a ballast fines/soil sampling exercise is undertaken prior to the installation of any cover system or walkway.

Considerations for further works are dictated by the elements of the repurposing design. Below provides a non-exhaustive list of considerations that the Trust should make during the evolution process of the feasibility study and permanent design. All recommendations are considered to be conditional on the final design and use of the site:

- Civil engineering – currently an assumption that a bridge proposed for the permanent Phase 2 permanent urban park and travel hub scheme can be supported from the viaduct and piling to provide support is not required. This is subject to change should Historic England find this design unacceptable on a Grade II listed structure. As such, intrusive investigation to obtain soil samples for both geo-environmental and geotechnical purposes will be required at ground level, and assessment of potential risks to controlled waters through piling at as contamination pathway.
- Creating an opening in the base of the viaduct platform - the proposed new bridge would be formed by a gap in the lattice girder structure; however, but other options, such as creation of a hole in the base of the viaduct may be considered. In this case, capture of water collected in the base of the viaduct should be contained to ensure a run off pathway is not created with respect to human health of site users below any aperture.
- Drainage system alterations or improvements from the viaduct may need to be installed and soil leachate analysis from the ballast fines/soil sampling exercise above can support the understanding of the possibility of mobilisation of potential contaminants from the ballast during installation of any new system.
- Installation of drinking water mains – assessment of contaminants potentially present within soils and consideration of isolating future drinking water pipes via barrier pipe or conduit system.
- Installation of permanent structures connected to the soils and accumulation of vapours in permanent poorly ventilated buildings or structures.

- Installation of 'green stuff' such as vegetable plots or fruit growing areas – a recommendation is made that any planting is within raised beds disconnected from ballast.
- Painting of the viaduct structure is not currently planned. Deteriorating conditions of the paint works may cause release of metals such as lead, and future painting works may require removal of old paint which could cause a short-term rapid release of metals. Consideration should be made to any proposed method of paint removal and dust management controls should be incorporated if required.
- A detailed UXO study is recommended prior to the start of any intrusive works at ground level, as the land underlying the site has been classified as a medium to high risk in relation to UXOs.

7 References

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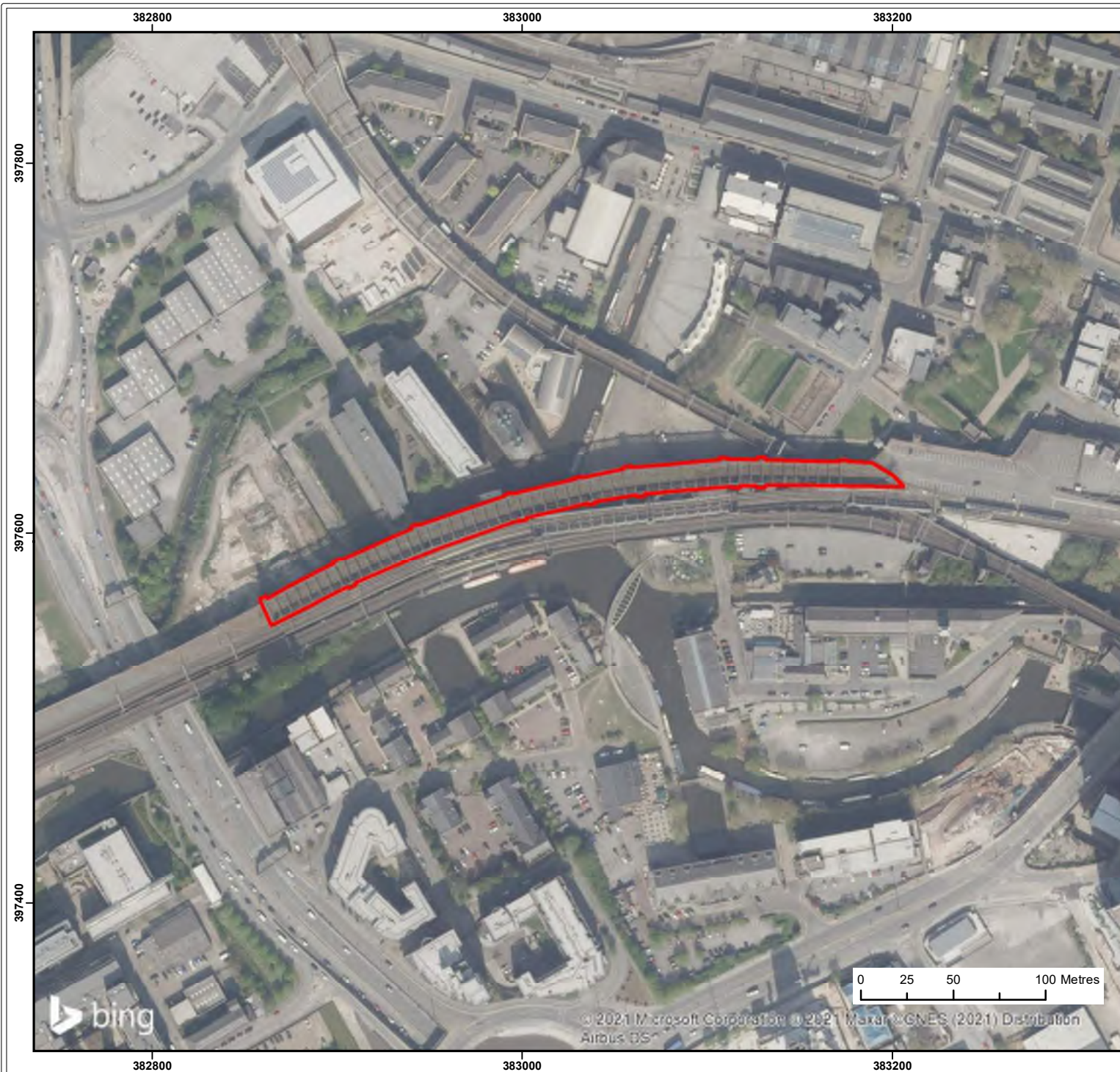
Public Health England UK Radon Map. Available at URL: <https://www.ukradon.org/information/ukmaps>

Figures

Figure 1.1: Site location plan

Figure 2.2: Site layout plan

Figure 3.1: Historical BGS borehole location plan



Legend:

 Red Line Boundary

Data Sources: © HaskoningDHV UK Ltd, 2021

Base map: © OpenStreetMap (and) contributors, CC-BY-SA.

Client:
National Trust

Project:
Castlefield Viaduct

Title:
Site Location Plan

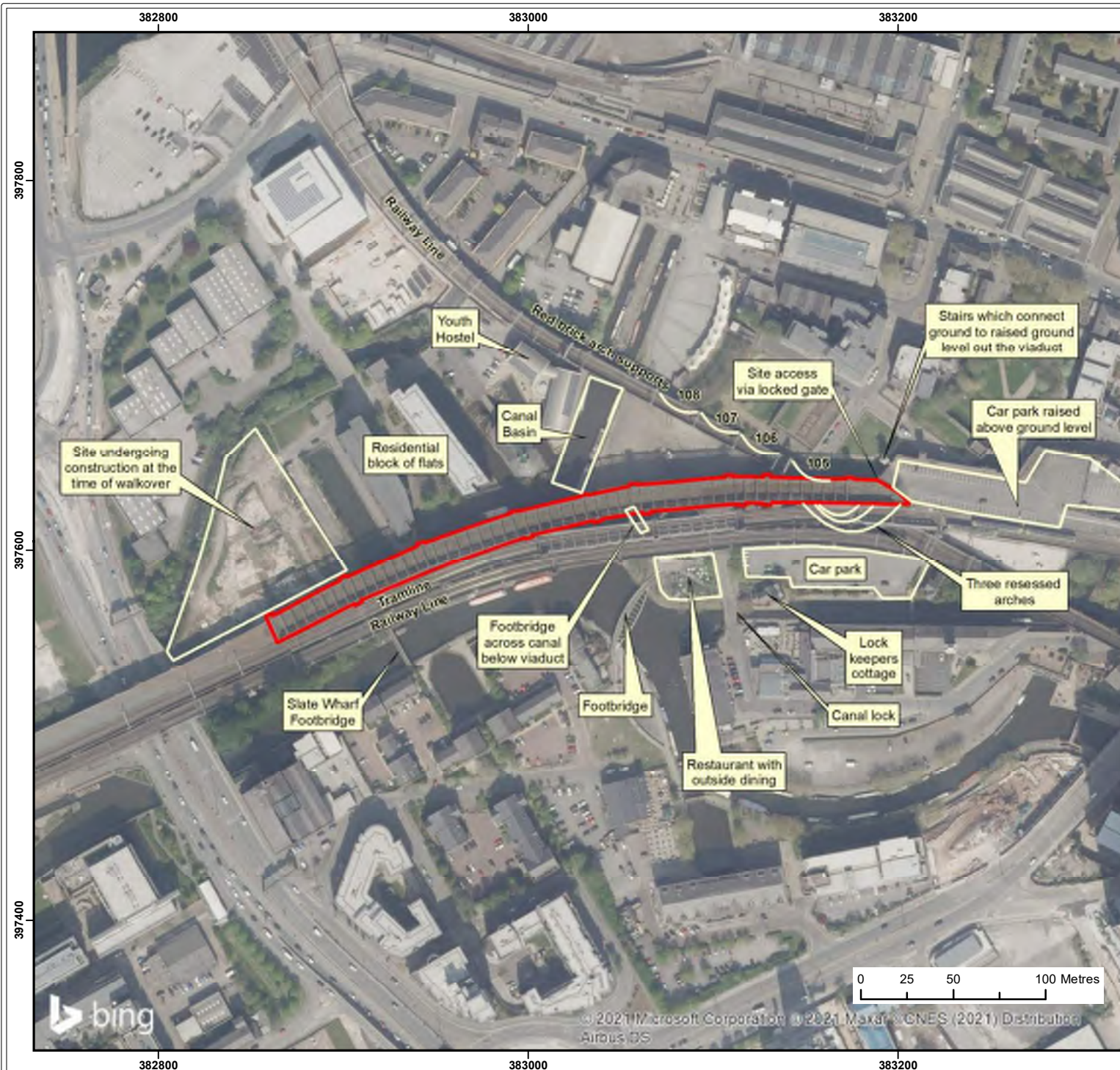
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Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	28/04/2021	GC	KD	A4	1:3,000

Co-ordinate system: British National Grid



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Legend:

Red Line Boundary

Data Sources: © HaskoningDHV UK Ltd, 2021

Base map: © OpenStreetMap (and) contributors, CC-BY-SA.

Client:	Project:
National Trust	Castlefield Viaduct

Title:
Site Layout

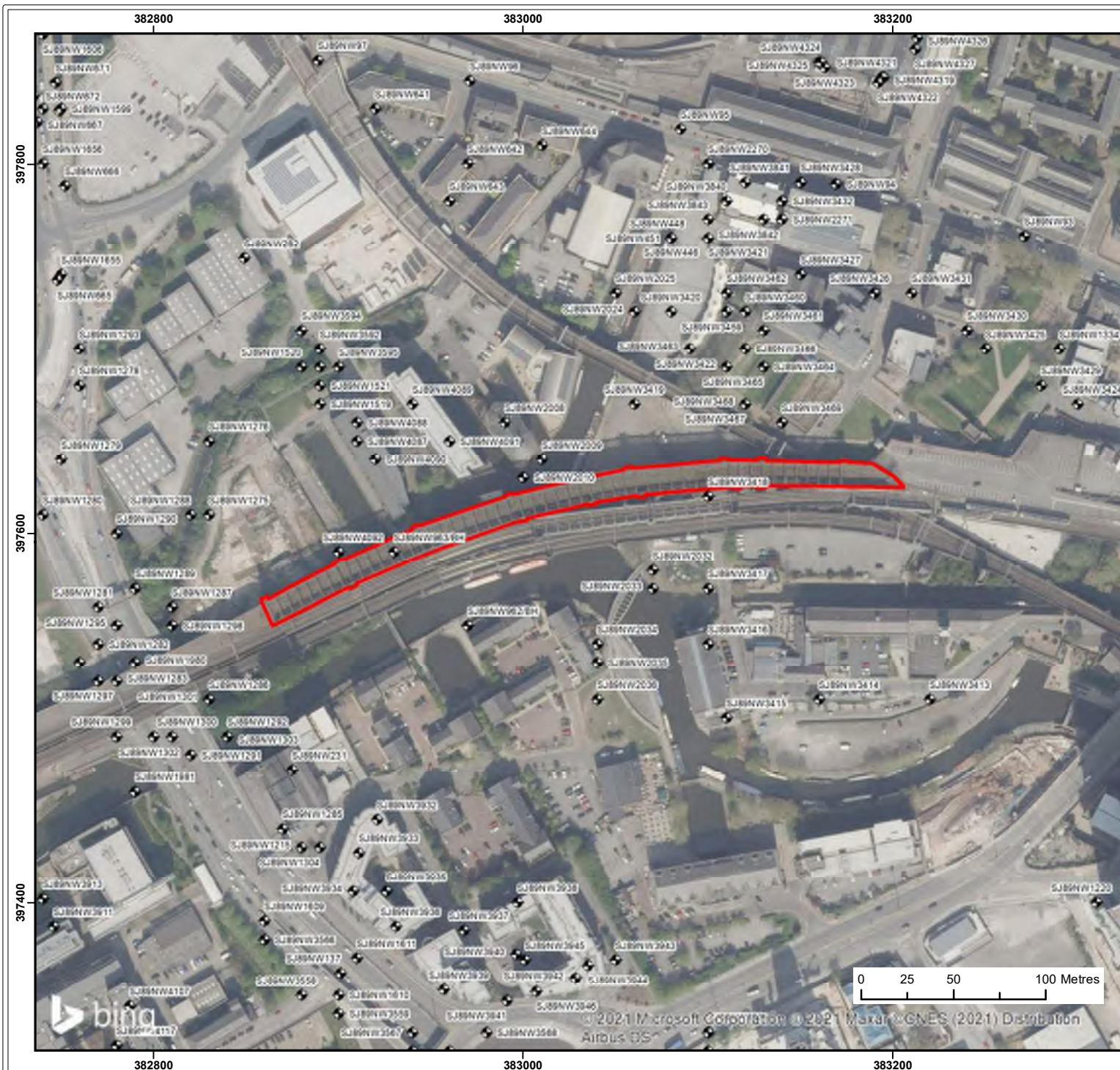
Figure: 2.1 Drawing No: PC2387-RHD-ZZ-XX-DR-Z-0002

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
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- Legend:
- Red Line Boundary
 - BGS Borehole Location

Data Sources: © HaskoningDHV UK Ltd, 2021, © BGS, 2021.
Base map: © OpenStreetMap (and) contributors, CC-BY-SA.

Client:	Project:
National Trust	Castlefield Viaduct

Title:

Historical BGS Borehole Location Plan

Figure: 3.1 Drawing No: PC2387-RHD-ZZ-XX-DR-Z-0003

Revision:	Date:	Drawn:	Checked:	Size:	Scale:
01	29/04/2021	GC	KD	A4	1:3,000

Co-ordinate system: British National Grid



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Appendix

Appendix A – Site Walkover Photographic Plates



Plate 1: View of the site access gate located on the eastern site boundary. The gate is on right hand side of photograph beyond the traffic barrier.



Plate 2: Red brick arches supporting the railway line below the viaduct (looking towards northern boundary).



Plate 3: Underside of central/eastern area of the viaduct looking west over Bridgewater Canal basin. Footbridge over canal is shown on the left side of photograph.



Plate 4: Looking north from the southern bank of the Bridgewater Canal towards central area of viaduct. The viaduct is beyond the red brick archway railway line and tramline. The brick structure is a kiosk possibly associated with a car park on northern bank of Bridgewater Canal.



Plate 5: Foot bridge over part of the Bridgewater Canal in central/eastern area below viaduct.



Plate 6: Grassed area to north of viaduct along eastern length of viaduct. Staircase shown in left of photograph which provides access from ground level to car park above and viaduct.



Plate 7: Car park to east of viaduct looking north from viaduct access point. Lift shown in the left of the photograph.



Plate 8: Eastern area of viaduct looking west. Barrier on northern and southern side of viaduct in this locality which prevents debris falling to the railway line below.



Plate 9: Tent and sleeping bag in eastern area of viaduct.



Plate 10: Drainage grid visible on surface of viaduct.



Plate 11: Metals structure attached to southern overhead girder.



Plate 12: Variable thickness of ballast with base of viaduct visible in some locations.



Plate 13: Moss, grasses and plants cover the surface of the viaduct with some small areas of possible tar/bitumen visible.



Plate 14: Metal and paint fragments visible on the surface of the viaduct which appear to have originated from the overhead beams.



Plate 15: Surface of the viaduct with areas of metal plates visible in parts.



Plate 16: Car park to the east of the site looking east. The railway lines of the viaduct ran parallel to the tramline on the east within this area.



Plate 17: Water collected in part of the viaduct structure on northern side of structure.



Plate 18: Recessed arches in eastern area below the viaduct looking south to northern side of viaduct.



Plate 19: Western end of viaduct looking west with tramline on the left of the photograph.



Plate 20: Car park on the site of the Mamucium Roman Fort to the south of the viaduct, tramline and railway line. Rochdale Canal to south of car park. Former saw mill with chimney to east beyond car park.



Plate 21: Northern boundary of viaduct looking west from car park close to site entrance to the east of the site.



Plate 22: Scaffolding and kickboard along areas of viaduct. Looking south to tramline to south of site.

Appendix

Appendix B – Groundsure Insights Report

LAND FOR CAR PARK, POTATO WHARF, MANCHESTER, M3 4JR

Order Details

Date: 01/04/2021
Your ref: PC2387-101-100
Our Ref: GS-7712233
Client: Royal HaskoningDHV

Site Details

Location: 383066 397650
Area: 0.99 ha
Authority: [Manchester City Council](#)



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Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.12

groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	13	9	93	141	-
23	1.2	Historical tanks	1	0	16	65	-
26	1.3	Historical energy features	0	1	14	22	-
28	1.4	Historical petrol stations	0	0	0	0	-
28	1.5	Historical garages	3	5	14	23	-
30	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
31	2.1	Historical industrial land uses	20	18	138	223	-
46	2.2	Historical tanks	1	0	32	125	-
52	2.3	Historical energy features	0	9	37	82	-
57	2.4	Historical petrol stations	0	0	0	0	-
57	2.5	Historical garages	4	8	36	45	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
61	3.1	Active or recent landfill	0	0	0	0	-
61	3.2	Historical landfill (BGS records)	0	0	0	0	-
62	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
62	3.4	Historical landfill (EA/NRW records)	0	0	0	1	-
62	3.5	Historical waste sites	2	2	13	26	-
67	3.6	Licensed waste sites	0	0	3	0	-
68	3.7	Waste exemptions	0	0	18	39	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
74	4.1	Recent industrial land uses	0	9	28	-	-
77	4.2	Current or recent petrol stations	0	0	1	2	-
77	4.3	Electricity cables	0	0	0	0	-
77	4.4	Gas pipelines	0	0	0	0	-
77	4.5	Sites determined as Contaminated Land	0	0	0	0	-



78	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
78	4.7	Regulated explosive sites	0	0	0	0	-
78	4.8	Hazardous substance storage/usage	0	0	0	0	-
78	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
78	4.10	<u>Licensed industrial activities (Part A(1))</u>	0	0	0	2	-
79	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	1	1	3	-
80	4.12	Radioactive Substance Authorisations	0	0	0	0	-
80	4.13	<u>Licensed Discharges to controlled waters</u>	0	1	21	29	-
88	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
88	4.15	Pollutant release to public sewer	0	0	0	0	-
88	4.16	List 1 Dangerous Substances	0	0	0	0	-
88	4.17	List 2 Dangerous Substances	0	0	0	0	-
89	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	1	6	-
90	4.19	Pollution inventory substances	0	0	0	0	-
90	4.20	Pollution inventory waste transfers	0	0	0	0	-
90	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
91	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
93	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
95	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
96	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
96	5.5	Groundwater vulnerability- local information	None (within 0m)				
97	5.6	<u>Groundwater abstractions</u>	0	0	0	1	46
109	5.7	<u>Surface water abstractions</u>	0	0	0	2	4
111	5.8	<u>Potable abstractions</u>	0	0	0	0	9
114	5.9	<u>Source Protection Zones</u>	0	0	0	1	-
114	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
115	6.1	<u>Water Network (OS MasterMap)</u>	4	9	23	-	-



118	6.2	<u>Surface water features</u>	1	4	7	-	-
119	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
119	6.4	<u>WFD Surface water bodies</u>	1	0	2	-	-
120	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
121	7.1	<u>Risk of Flooding from Rivers and Sea (RoFRaS)</u>	High (within 50m)				
122	7.2	<u>Historical Flood Events</u>	1	0	0	-	-
122	7.3	Flood Defences	0	0	0	-	-
122	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
123	7.5	Flood Storage Areas	0	0	0	-	-
124	7.6	<u>Flood Zone 2</u>	Identified (within 50m)				
125	7.7	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
126	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
128	9.1	<u>Groundwater flooding</u>	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
129	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
129	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
129	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
129	10.4	Special Protection Areas (SPA)	0	0	0	0	0
130	10.5	National Nature Reserves (NNR)	0	0	0	0	0
130	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
130	10.7	Designated Ancient Woodland	0	0	0	0	0
130	10.8	Biosphere Reserves	0	0	0	0	0
131	10.9	Forest Parks	0	0	0	0	0
131	10.10	Marine Conservation Zones	0	0	0	0	0
131	10.11	Green Belt	0	0	0	0	0
131	10.12	Proposed Ramsar sites	0	0	0	0	0



131	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
132	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
132	10.15	Nitrate Sensitive Areas	0	0	0	0	0
132	10.16	<u>Nitrate Vulnerable Zones</u>	0	0	0	0	3
133	10.17	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
134	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
135	11.1	World Heritage Sites	0	0	0	-	-
136	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
136	11.3	National Parks	0	0	0	-	-
136	11.4	<u>Listed Buildings</u>	0	2	29	-	-
138	11.5	<u>Conservation Areas</u>	1	0	0	-	-
138	11.6	<u>Scheduled Ancient Monuments</u>	0	0	1	-	-
139	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
140	12.1	<u>Agricultural Land Classification</u>	Urban (within 250m)				
141	12.2	Open Access Land	0	0	0	-	-
141	12.3	Tree Felling Licences	0	0	0	-	-
141	12.4	Environmental Stewardship Schemes	0	0	0	-	-
141	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
142	13.1	Priority Habitat Inventory	0	0	0	-	-
142	13.2	Habitat Networks	0	0	0	-	-
143	13.3	<u>Open Mosaic Habitat</u>	0	0	1	-	-
143	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
144	14.1	<u>10k Availability</u>	Identified (within 500m)				
145	14.2	<u>Artificial and made ground (10k)</u>	1	0	2	5	-
147	14.3	<u>Superficial geology (10k)</u>	0	0	4	3	-



148	14.4	Landslip (10k)	0	0	0	0	-
149	14.5	<u>Bedrock geology (10k)</u>	1	0	0	1	-
150	14.6	<u>Bedrock faults and other linear features (10k)</u>	0	0	1	1	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
151	15.1	<u>50k Availability</u>	Identified (within 500m)				
152	15.2	<u>Artificial and made ground (50k)</u>	0	0	1	1	-
153	15.3	Artificial ground permeability (50k)	0	0	-	-	-
154	15.4	<u>Superficial geology (50k)</u>	0	0	4	3	-
155	15.5	Superficial permeability (50k)	None (within 50m)				
155	15.6	Landslip (50k)	0	0	0	0	-
155	15.7	Landslip permeability (50k)	None (within 50m)				
156	15.8	<u>Bedrock geology (50k)</u>	1	0	0	1	-
157	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
157	15.10	<u>Bedrock faults and other linear features (50k)</u>	0	0	1	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
158	16.1	<u>BGS Boreholes</u>	2	21	155	-	-
Page	Section	Natural ground subsidence					
166	17.1	<u>Shrink swell clays</u>	Negligible (within 50m)				
167	17.2	<u>Running sands</u>	Low (within 50m)				
168	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
169	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
170	17.5	<u>Landslides</u>	Very low (within 50m)				
171	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
173	18.1	Natural cavities	0	0	0	0	-
174	18.2	BritPits	0	0	0	0	-
174	18.3	<u>Surface ground workings</u>	19	2	22	-	-
176	18.4	Underground workings	0	0	0	0	0
176	18.5	Historical Mineral Planning Areas	0	0	0	0	-



176	18.6	Non-coal mining	0	0	0	0	0
<u>176</u>	<u>18.7</u>	<u>Mining cavities</u>	0	0	0	0	1
<u>177</u>	<u>18.8</u>	<u>JPB mining areas</u>	Identified (within 0m)				
<u>177</u>	<u>18.9</u>	<u>Coal mining</u>	Identified (within 0m)				
178	18.10	Brine areas	None (within 0m)				
178	18.11	Gypsum areas	None (within 0m)				
178	18.12	Tin mining	None (within 0m)				
178	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<u>179</u>	<u>19.1</u>	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<u>180</u>	<u>20.1</u>	<u>BGS Estimated Background Soil Chemistry</u>	2	2	-	-	-
<u>180</u>	<u>20.2</u>	<u>BGS Estimated Urban Soil Chemistry</u>	6	8	-	-	-
181	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
182	21.1	Underground railways (London)	0	0	0	-	-
182	21.2	Underground railways (Non-London)	0	0	0	-	-
<u>183</u>	<u>21.3</u>	<u>Railway tunnels</u>	1	0	0	-	-
<u>183</u>	<u>21.4</u>	<u>Historical railway and tunnel features</u>	17	6	61	-	-
186	21.5	Royal Mail tunnels	0	0	0	-	-
<u>186</u>	<u>21.6</u>	<u>Historical railways</u>	3	0	8	-	-
<u>187</u>	<u>21.7</u>	<u>Railways</u>	10	12	25	-	-
189	21.8	Crossrail 1	0	0	0	0	-
189	21.9	Crossrail 2	0	0	0	0	-
189	21.10	HS2	0	0	0	0	-

Recent aerial photograph

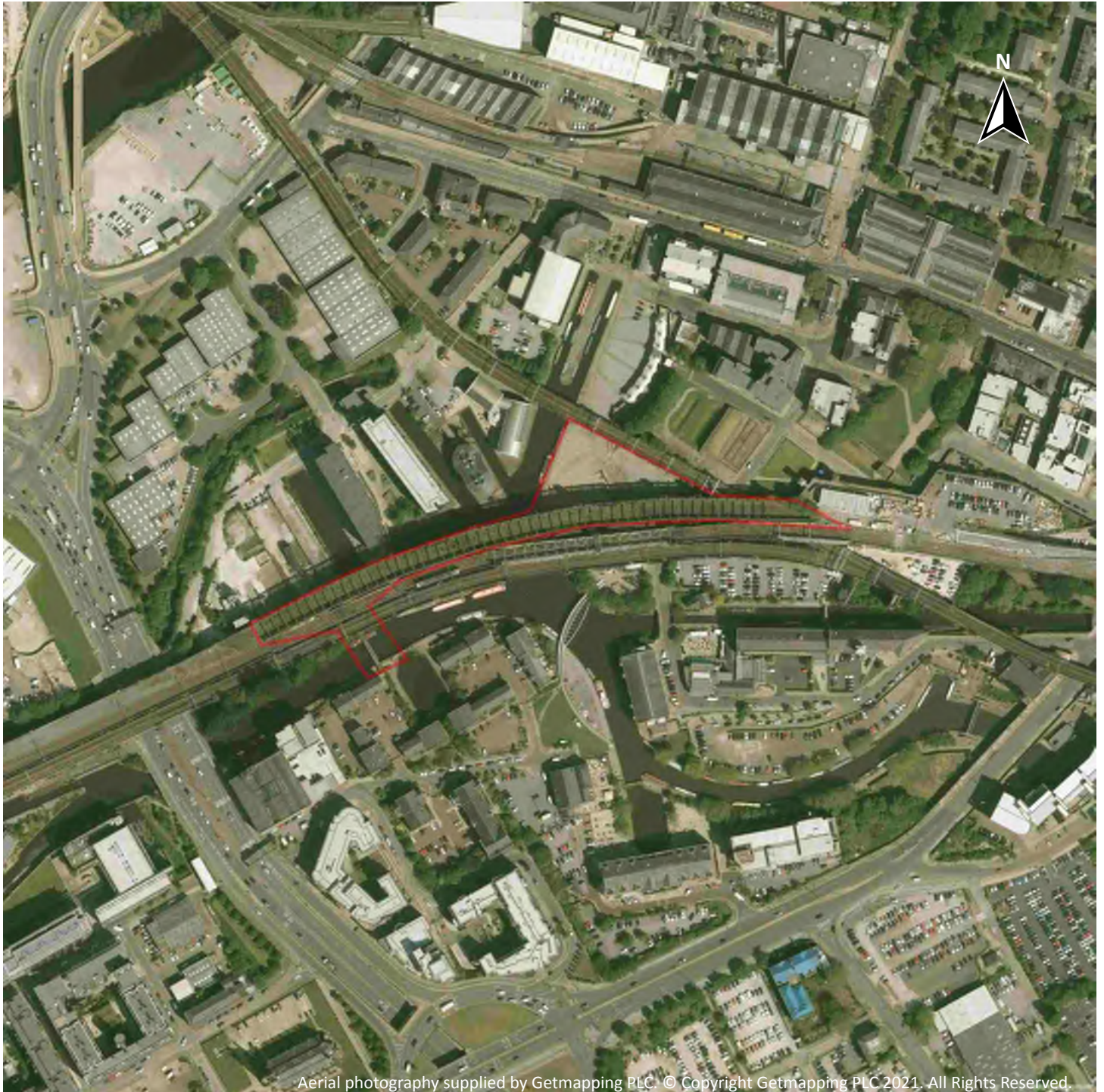


Capture Date: 22/04/2019

Site Area: 0.99ha



Recent site history - 2015 aerial photograph

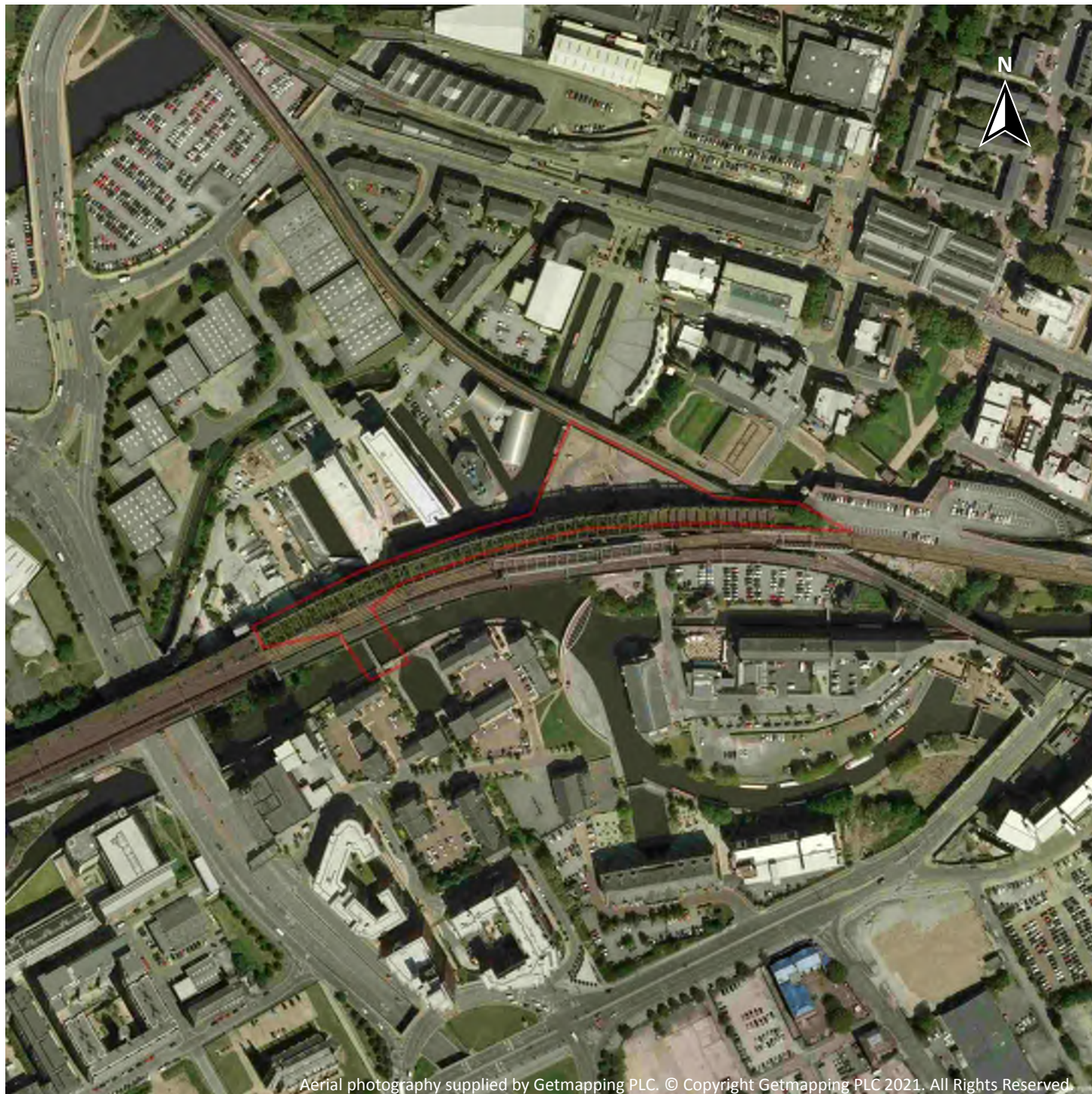


Capture Date: 11/06/2015

Site Area: 0.99ha



Recent site history - 2009 aerial photograph



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Capture Date: 02/06/2009

Site Area: 0.99ha



Recent site history - 2000 aerial photograph

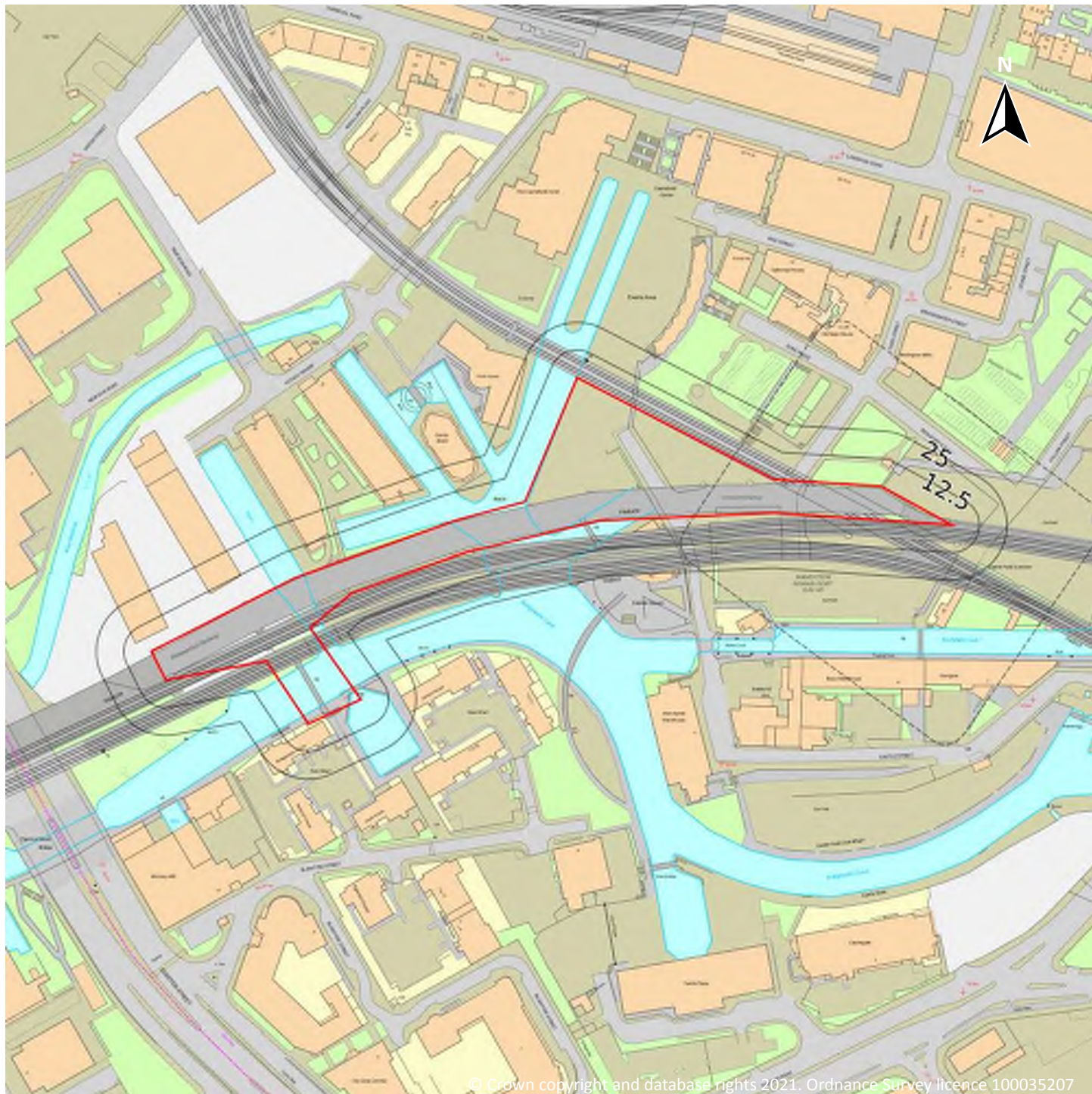


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Capture Date: 27/06/2000

Site Area: 0.99ha

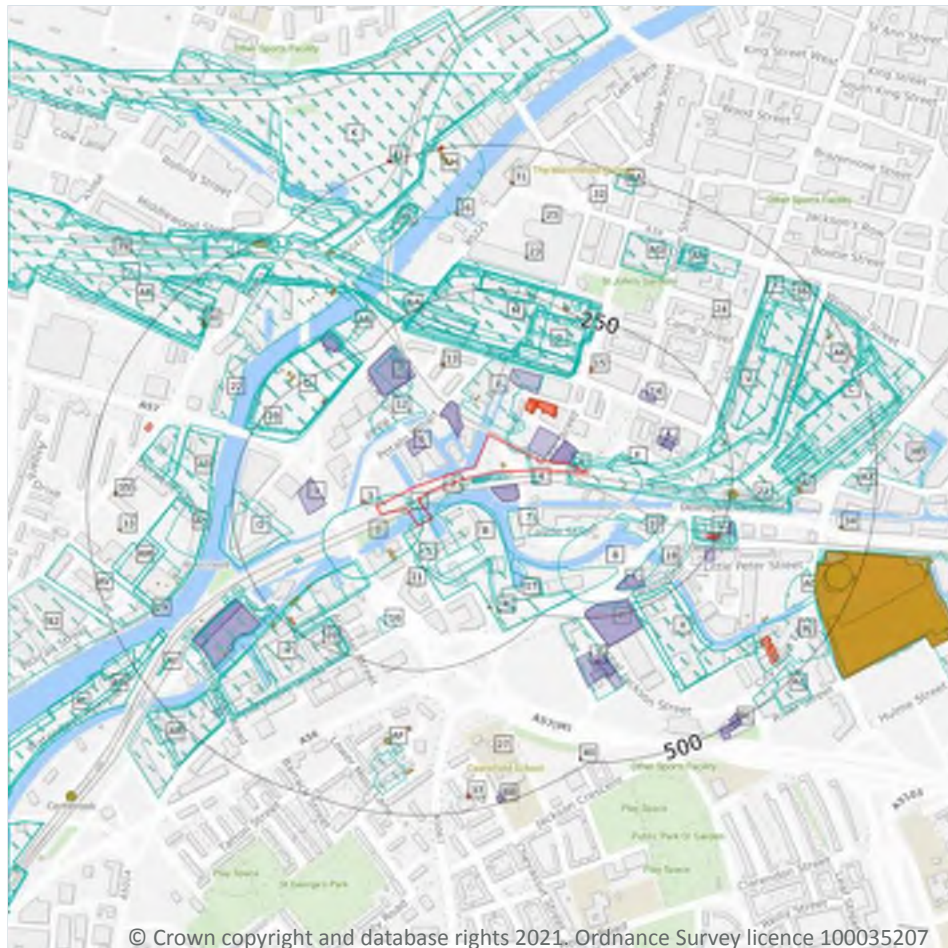
OS MasterMap site plan



Site Area: 0.99ha



1 Past land use



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- 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

256

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 13**

ID	Location	Land use	Dates present	Group ID
1	On site	Wharf	1851	831113



ID	Location	Land use	Dates present	Group ID
2	On site	Timber Wharf	1851	811392
A	On site	Railway Building	1923	820260
A	On site	Unspecified Ground Workings	1851	800610
A	On site	Railway Building	1932 - 1938	982027
B	On site	Quay	1851	846276
B	On site	Unspecified Depot	1978	853404
B	On site	Unspecified Depot	1985 - 1994	921090
C	On site	Railway Sidings	1905 - 1916	871753
C	On site	Railway Sidings	1923	923309
C	On site	Railway Sidings	1932 - 1938	982150
D	On site	Unspecified Wharves	1905 - 1916	881666
D	On site	Unspecified Wharves	1932 - 1938	937403
A	0m NE	Railway Building	1916	972538
C	3m NE	Railway Sidings	1956	917334
A	4m S	Railway Building	1932 - 1938	878526
A	5m S	Railway Building	1916 - 1923	906988
A	6m S	Railway Buildings	1905	833631
E	19m NE	Unspecified Depot	1985 - 1988	896077
4	19m S	Railway Building	1905 - 1923	846298
F	40m NE	Railway Buildings	1905 - 1938	962263
5	41m SE	Gravel Pit	1851	807881
7	64m S	Slate Wharf	1851	837258
B	69m SE	Warehouse	1851	837277
B	77m S	Unspecified Ground Workings	1851	800608
8	87m S	Quay	1905 - 1938	872988
10	89m SE	Unspecified Commercial/Industrial	1851	796720
H	89m SW	Unspecified Commercial/Industrial	1956 - 1971	923803
H	95m SW	Unspecified Commercial/Industrial	1905	894637



ID	Location	Land use	Dates present	Group ID
H	95m SW	Unspecified Mills	1916 - 1938	928073
12	108m NW	Paper Mill	1851	833296
B	122m SE	Unspecified Warehouses	1971	812727
I	129m N	Railway Sidings	1923	921834
G	133m N	Railway Buildings	1896	833656
I	133m N	Railway Sidings	1896	979167
H	135m SW	Unspecified Commercial/Industrial	1896	861626
G	135m N	Goods Sheds	1905 - 1938	958104
K	135m N	Railway Sidings	1916 - 1938	893253
K	135m N	Railway Sidings	1894	920471
L	135m N	Railway Sidings	1932	936526
L	135m N	Railway Sidings	1905	984895
M	140m N	Goods Depot	1978	893922
M	140m N	Goods Depot	1971	912312
G	142m N	Railway Building	1978	848652
G	142m N	Railway Building	1971	911620
G	142m N	Railway Building	1985	938373
G	142m N	Railway Sidings	1956	951082
I	142m N	Railway Sidings	1956	956450
M	147m N	Unspecified Commercial/Industrial	1851	796722
N	148m N	Railway Sidings	1971	888837
N	148m N	Railway Sidings	1985	891167
N	148m N	Railway Sidings	1978	944715
O	151m W	Quay	1851	808069
M	151m N	Railway Sidings	1988 - 1994	962023
M	152m N	Railway Building	1905 - 1916	858395
M	152m N	Railway Building	1932 - 1938	966518
P	153m N	Unspecified Commercial/Industrial	1923	796721



ID	Location	Land use	Dates present	Group ID
H	156m SW	Railway Building	1923	820273
H	158m SW	Railway Building	1932 - 1938	912895
M	159m N	Railway Buildings	1896	833655
M	162m N	Railway Sidings	1851	921813
O	162m W	Unspecified Warehouses	1905	812726
O	162m W	Unspecified Warehouse	1916 - 1938	867773
16	164m S	Sand Pit	1851	797576
17	171m SE	Warehouse	1851	837278
M	172m N	Goods Station	1905 - 1938	920947
18	175m SE	Unspecified Commercial/Industrial	1851	796718
Q	176m NW	Corporation Yard	1896	896211
M	178m N	Railway Building	1985 - 1994	858030
M	178m N	Railway Building	1956 - 1971	893290
M	178m N	Railway Building	1978	963323
H	178m SW	Unspecified Mills	1978	870292
Q	181m NW	Unspecified Depot	1978	848064
Q	181m NW	Unspecified Depot	1985	873557
Q	181m NW	Unspecified Depot	1988	876447
Q	181m NW	Unspecified Depot	1971	889604
Q	181m NW	Cleansing Depot	1956	901006
Q	182m NW	Corporation Yard	1923	899229
Q	182m NW	Corporation Yard	1905	974049
Q	182m NW	Corporation Yard	1916	987793
Q	184m NW	Cleansing Depot	1932 - 1938	902946
S	187m E	Railway Sidings	1896	975593
G	187m N	Goods Sheds	1905 - 1938	880509
P	188m NW	Refuse Heap	1851	829086
G	193m N	Goods Station	1956	821661



ID	Location	Land use	Dates present	Group ID
G	193m N	Railway Building	1978	907268
G	193m N	Railway Building	1985	923295
G	193m N	Railway Building	1971	983624
U	198m E	Railway Station	1978	855265
U	198m E	Railway Station	1956 - 1971	962338
Q	200m NW	Chemical Works	1851	834546
U	200m SE	Railway Station	1905 - 1938	975016
U	207m SE	Railway Station	1896	899988
V	208m E	Railway Sidings	1971	946450
V	208m E	Railway Sidings	1985	958621
V	208m E	Railway Sidings	1978	989903
H	209m SW	Unspecified Commercial/Industrial	1923	965943
U	209m SE	Railway Station	1985 - 1994	880682
Q	213m NW	Quay	1851	808070
X	228m S	Automobile Works	1956	813191
X	228m S	Unspecified Works	1978	940175
X	228m S	Unspecified Works	1971	948531
M	233m N	Goods Sheds	1905 - 1938	895888
19	234m NW	Brewery	1851	822705
C	236m E	Railway Building	1923	820272
M	236m N	Railway Building	1896	878088
Y	238m E	Railway Buildings	1923	833657
X	238m S	Unspecified Commercial/Industrial	1923	846058
X	238m S	Unspecified Mill	1932 - 1938	877197
X	238m S	Unspecified Commercial/Industrial	1905	896875
X	238m S	Unspecified Mill	1916	904261
M	239m N	Railway Building	1956 - 1971	913293
M	239m N	Railway Building	1985	916120



ID	Location	Land use	Dates present	Group ID
M	239m N	Railway Building	1978	967702
H	248m SW	Unspecified Commercial/Industrial	1896	974596
Z	251m S	Unspecified Depot	1971	818414
H	253m SW	Iron Works	1905	822792
H	253m SW	Unspecified Commercial/Industrial	1916 - 1923	850018
M	254m N	Railway Building	1923	820441
M	255m N	Railway Buildings	1923	925398
AA	256m NW	Railway Building	1923	969528
AA	258m NW	Railway Building	1956	820442
G	259m NE	Railway Buildings	1932 - 1938	921932
M	261m N	Railway Buildings	1905 - 1916	876717
M	261m N	Railway Buildings	1932 - 1938	894881
AA	263m NW	Railway Building	1932 - 1938	903707
AA	263m NW	Railway Building	1905 - 1916	865666
G	267m NE	Railway Building	1905 - 1923	869326
H	270m SW	Railway Buildings	1923	833632
H	270m SW	Railway Building	1932 - 1938	920704
AB	272m N	Dye Works	1851	833958
M	278m N	Railway Building	1916 - 1923	854882
AC	280m W	Silk and Cotton Mill	1851	810085
21	285m E	Railway Building	1905 - 1938	978111
AC	286m W	Unspecified Commercial/Industrial	1956 - 1971	941987
AA	289m NW	Railway Building	1923	820443
AD	290m W	Unspecified Commercial/Industrial	1916 - 1938	919087
AD	290m W	Unspecified Commercial/Industrial	1905	980628
22	293m NW	Cotton Mill	1851	797895
AB	293m NW	Refuse Heap	1851	829085
AE	295m W	Iron Works	1916 - 1923	873229



ID	Location	Land use	Dates present	Group ID
AE	295m W	Unspecified Commercial/Industrial	1932 - 1938	846750
AE	295m W	Unspecified Commercial/Industrial	1905	870019
AA	299m NW	Railway Building	1956	820440
H	301m SW	Railway Building	1932 - 1938	845151
S	306m E	Disused Station	1978	925495
H	312m SW	Sawmill	1851	808364
S	318m E	Railway Station	1905 - 1938	896284
S	324m E	Railway Station	1956	888631
S	325m E	Railway Station	1896	915817
C	331m E	Railway Building	1923	820271
I	333m NW	Corporation Yard	1916 - 1923	939407
I	337m NW	Railway Sidings	1851	861529
I	347m NW	Railway Building	1923	855519
AG	352m N	Unspecified Works	1932 - 1938	898924
AG	352m N	Unspecified Commercial/Industrial	1905	935109
AG	352m N	Unspecified Commercial/Industrial	1923	991353
AD	353m W	Unspecified Heap	1851	804001
I	355m NW	Railway Building	1905 - 1916	930060
I	355m NW	Railway Building	1932 - 1938	946353
AE	357m W	Unspecified Works	1978	830431
AH	358m NW	Unspecified Wharf	1916 - 1923	884372
AD	364m W	Unspecified Commercial/Industrial	1932 - 1938	861402
AD	364m W	Unspecified Commercial/Industrial	1905	881193
AD	364m W	Iron Works	1916 - 1923	949359
Y	364m NE	Goods Station	1905 - 1938	846931
Y	368m NE	Goods Station	1956	945355
Y	370m NE	Disused Goods Station	1978	814351
Y	370m NE	Goods Station	1971	945855



ID	Location	Land use	Dates present	Group ID
AF	371m S	Unspecified Tank	1971	825226
S	375m E	Disused Station	1985	891253
AK	376m E	Goods Station	1932 - 1938	883356
AK	376m E	Goods Station	1905 - 1916	938206
AK	376m E	Goods Station	1923	943574
AL	376m NW	Unspecified Ground Workings	1905 - 1916	978845
AL	378m NW	Unspecified Ground Workings	1923 - 1938	892127
AL	378m NW	Unspecified Ground Workings	1956	950880
I	378m NW	Railway Building	1932 - 1938	895977
I	378m NW	Railway Building	1905 - 1916	903757
AF	380m S	Dye Works	1851	833956
H	381m SW	Railway Building	1932 - 1938	911580
AL	381m NW	Unspecified Ground Workings	1988	877209
AK	382m E	Goods Station	1956	923306
AM	382m W	Unspecified Works	1978	845316
AM	382m W	Unspecified Works	1985 - 1988	941424
AN	385m NE	Hospital	1923	963711
I	386m NW	Railway Building	1896	844983
I	389m NW	Railway Building	1956	978275
AN	392m NE	Hospital	1932 - 1938	946842
AJ	392m SE	Brewery	1851	822706
AN	393m NE	Hospital	1916	943105
AN	397m NE	Hospital	1978	946410
AN	397m NE	Hospital	1956 - 1971	988332
AO	400m SE	Cotton Mill	1851	797881
AN	405m NE	Hospital	1985 - 1988	928879
AP	410m NW	Mineral Yard	1923	893171
AP	412m NW	Mineral Yard	1916	903719



ID	Location	Land use	Dates present	Group ID
AQ	415m NW	Railway Sidings	1923	969001
AP	416m NW	Mineral Yard	1932 - 1938	926505
AR	420m SW	Unspecified Commercial/Industrial	1956 - 1971	952195
AS	422m E	Unspecified Commercial/Industrial	1851 - 1896	849974
28	422m NW	Railway Sidings	1896	881141
AS	425m E	Unspecified Commercial/Industrial	1932 - 1938	872530
AS	425m E	Gas Works	1905 - 1923	927583
AT	425m SW	Docks	1956 - 1971	847093
AT	425m SW	Docks	1988	876412
AT	425m SW	Railway Sidings	1971	927627
AT	425m SW	Railway Sidings	1977	933048
AT	425m SW	Railway Sidings	1956 - 1959	945210
AQ	427m NW	Railway Sidings	1956	985870
AU	427m NW	Railway Sidings	1978	956875
AU	427m NW	Railway Sidings	1971	969970
AV	427m SW	Unspecified Works	1978	830430
AV	427m SW	Unspecified Commercial/Industrial	1956 - 1971	927269
AS	429m E	Unspecified Commercial/Industrial	1956	976686
N	429m NW	Railway Buildings	1923	833654
AS	431m E	Unspecified Works	1971	976313
AR	431m SW	Unspecified Commercial/Industrial	1938	897464
AR	431m SW	Unspecified Mills	1916 - 1923	960036
AR	431m SW	Unspecified Commercial/Industrial	1905	967266
AW	432m SW	Railway Sidings	1905 - 1938	908250
AW	432m SW	Docks	1905 - 1938	930741
L	439m NW	Unspecified Works	1978	853423
L	439m NW	Unspecified Works	1985 - 1994	919158
AX	440m E	Bus Station	1978	842916



ID	Location	Land use	Dates present	Group ID
AY	442m SW	Railway Building	1905	878479
AY	442m SW	Railway Building	1923	892827
AO	444m E	Unspecified Tank	1956	940796
AO	444m SE	Gasometer	1905 - 1923	885805
AO	444m SE	Unspecified Tank	1932 - 1938	946195
AO	447m SE	Unspecified Tank	1896	890603
AO	451m E	Unspecified Tank	1971	856760
AO	451m E	Unspecified Tank	1978 - 1985	858491
36	453m NE	Railway Buildings	1923	833653
AX	454m E	Railway Building	1905 - 1938	985774
AO	468m SE	Railway Sidings	1896	794671
N	469m NW	Railway Buildings	1896	833652
N	473m NW	Railway Station	1905 - 1938	989189
AZ	477m SE	Unspecified Works	1971	830421
BA	478m NE	Hospital	1971	860292
BA	478m NE	Hospital	1978	862722
BA	478m NE	Hospital	1985 - 1994	942775
38	482m E	Cotton Mills	1851	811452
39	483m NW	Railway Sidings	1988 - 1994	982507
N	484m NW	Railway Building	1923	820334
N	485m NW	Railway Building	1896	945096
AT	485m SW	Docks	1896	887061
AT	485m SW	Railway Sidings	1896	986088
N	485m NW	Railway Building	1971	820335
AZ	486m SE	Glass Works	1851	797987
N	487m NW	Railway Building	1971	987093
N	488m NW	Railway Station	1956	893823
N	490m NW	Railway Building	1956 - 1971	920020



ID	Location	Land use	Dates present	Group ID
N	492m NW	Railway Station	1896	879526
AS	498m SE	Unspecified Works	1978	921026
42	499m SW	Unspecified Commercial/Industrial	1956 - 1971	948457

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

82

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 13**

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Tank	1922	115648
E	62m N	Unspecified Tank	1963	131255
D	62m SW	Tanks	1963	148559
F	65m E	Unspecified Tank	1932	115649
E	66m N	Unspecified Tank	1963	133635
11	98m S	Unspecified Tank	1995 - 1998	132953
H	173m SW	Tanks	1949	140617
H	174m SW	Tanks	1948 - 1998	149178
R	195m SE	Unspecified Tank	1980	132153
R	195m SE	Unspecified Tank	1980	143849
R	195m SE	Unspecified Tank	1960	123914
R	195m SE	Unspecified Tank	1969	143958
R	196m SE	Unspecified Tank	1963	141829
H	203m SW	Unspecified Tank	1948 - 1949	123558
C	241m E	Unspecified Tank	1979	134110



ID	Location	Land use	Dates present	Group ID
C	241m E	Unspecified Tank	1979	148049
20	241m SW	Unspecified Tank	1891	115659
Q	261m NW	Unspecified Tank	1932	115639
Q	263m NW	Unspecified Tank	1949 - 1963	128766
H	263m SW	Unspecified Tank	1908	125058
H	265m SW	Unspecified Tank	1893 - 1922	147499
Q	272m NW	Unspecified Tank	1949 - 1963	136050
Q	284m NW	Unspecified Tank	1932	115634
H	303m SW	Unspecified Tank	1891	115660
23	311m N	Unspecified Tank	1891	115647
24	347m NE	Unspecified Tank	1891	115646
H	358m SW	Unspecified Tank	1948 - 1963	128267
H	359m SW	Unspecified Tank	1982 - 1998	122775
I	359m NW	Unspecified Tank	1908	131064
I	362m NW	Unspecified Tank	1980	135020
I	363m NW	Unspecified Tank	1893 - 1922	126917
I	363m NW	Unspecified Tank	1990	144767
I	363m NW	Unspecified Tank	1992 - 1997	125308
AI	363m E	Tanks	1948 - 1979	130142
AI	363m E	Tanks	1948	141151
I	366m NW	Unspecified Tank	1932	115640
AE	367m W	Unspecified Tank	1891	115652
AE	367m W	Unspecified Tank	1891	115650
AE	368m W	Unspecified Tank	1891	115651
I	368m NW	Unspecified Tank	1953	133553
AJ	369m SE	Unspecified Tank	1891	115779
I	370m NW	Unspecified Tank	1949	129333
I	370m NW	Unspecified Tank	1963	130189



ID	Location	Land use	Dates present	Group ID
AE	370m W	Unspecified Tank	1891	115653
I	370m NW	Unspecified Tank	1949	137879
I	370m NW	Unspecified Tank	1949	146026
AF	370m S	Unspecified Tank	1963	127413
25	380m N	Unspecified Tank	1957 - 1958	143482
26	382m N	Unspecified Tank	1948 - 1983	135352
AE	386m W	Unspecified Tank	1891	115655
AF	393m S	Unspecified Tank	1891	115662
AJ	393m SE	Tanks	1948	107130
AJ	396m SE	Tanks	1948	106777
AE	399m W	Unspecified Tank	1891	115654
AO	404m SE	Unspecified Tank	1891	115954
27	409m S	Unspecified Tank	1891	115663
I	410m NW	Unspecified Tank	1949	115641
AF	420m S	Unspecified Tank	1949	135351
AF	423m S	Unspecified Tank	1948 - 1954	126405
29	426m SW	Unspecified Tank	1891	115656
AS	428m E	Gas Works	1893 - 1908	148771
AS	428m E	Gas Works	1891	138194
AS	429m E	Gas Works	1922	148353
30	430m NW	Tanks	1980	106793
32	441m NE	Unspecified Tank	1891	115644
33	443m W	Tanks	1977 - 1985	126256
AO	444m SE	Gasometer	1908 - 1922	137166
AO	444m SE	Unspecified Tank	1932	149223
AO	445m E	Unspecified Tank	1953 - 1969	138911
34	445m E	Tanks	1891	106783
AO	446m E	Unspecified Tank	1948 - 1979	134540



ID	Location	Land use	Dates present	Group ID
AO	447m E	Unspecified Tank	1980 - 1985	129756
AX	451m E	Unspecified Tank	1891	115955
AH	469m N	Tanks	1932	106800
AK	475m NE	Unspecified Tank	1986 - 1999	144065
AK	476m NE	Unspecified Tank	1988	124833
AR	479m SW	Unspecified Tank	1891	115661
AS	484m SE	Gas Works	1948	138071
N	486m NW	Unspecified Tank	1893	115630
AO	491m E	Unspecified Tank	1908 - 1932	134188
AO	492m E	Unspecified Tank	1953 - 1985	135604
AO	492m E	Unspecified Tank	1979	126042

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m

37

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 13**

ID	Location	Land use	Dates present	Group ID
3	19m W	Electricity Substation	1980 - 1997	78864
G	66m NE	Electricity Substation	1986	67819
G	66m NE	Electricity Substation	1990	69796
G	68m NE	Electricity Substation	1981	80246
G	68m NE	Electricity Substation	1994 - 1995	83961
G	76m NE	Electricity Substation	1948	82720
G	77m N	Electricity Substation	1979	77417



ID	Location	Land use	Dates present	Group ID
G	77m N	Electricity Substation	1995	82695
G	78m N	Electricity Substation	1948 - 1979	80738
13	140m NW	Electricity Substation	1994 - 1997	81653
15	160m N	Electricity Substation	1948 - 1995	75611
R	180m SE	Electricity Substation	1995 - 1997	72564
Q	198m NW	Electricity Substation	1990	78385
Q	198m NW	Electricity Substation	1992 - 1997	73642
H	236m SW	Electricity Substation	1948 - 1949	73349
G	251m NE	Electricity Substation	1986 - 1995	67220
G	252m NE	Electricity Substation	1994 - 1995	65816
AF	347m S	Electricity Substation	1977 - 1998	77866
AD	412m W	Electricity Substation	1948 - 1995	77805
AJ	415m SE	Electricity Substation	1998	73868
AJ	417m SE	Electricity Transformers	1969 - 1985	83603
AS	428m E	Gas Works	1893 - 1908	79545
AS	428m E	Gas Works	1891	72601
AS	429m E	Gas Works	1922	81689
AJ	432m SE	Electricity Substation	1948 - 1979	78830
AJ	432m SE	Electricity Substation	1969 - 1990	82938
31	433m N	Electricity Substation	1994 - 1996	77564
AO	444m SE	Gasometer	1908 - 1922	65948
35	448m W	Electricity Substation	1982 - 1995	65673
37	472m S	Electricity Substation	1969 - 1997	71174
AS	484m SE	Gas Works	1948	66529
40	484m SE	Electricity Substation	1997	65434
AH	498m N	Electricity Substation	1949 - 1955	83698
41	498m N	Electricity Substation	1983 - 1994	74311
AH	498m N	Electricity Substation	1953	83440



ID	Location	Land use	Dates present	Group ID
AH	498m N	Electricity Substation	1948	85173
AH	499m N	Electricity Substation	1969 - 1970	82059

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
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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	45
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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 13**

ID	Location	Land use	Dates present	Group ID
A	On site	Garage	1963	21869
A	On site	Garage	1963	21949
A	On site	Garage	1981 - 1986	26958
A	6m N	Garage	1981	20293
A	23m S	Garage	1986	21682
A	23m S	Garage	1963 - 1981	25923
E	45m NW	Boat Repair Yard	1948 - 1949	26540
E	45m NW	Boat Repair Yard	1949 - 1953	27284
6	51m N	Garage	1990	20295



ID	Location	Land use	Dates present	Group ID
9	87m W	Garage	1978 - 1980	27283
G	97m NE	Garage	1981 - 1990	24611
J	130m NE	Garage	1995	20992
J	139m E	Garage	1994 - 1995	24725
J	139m E	Garage	1981 - 1990	24287
14	158m NE	Garage	1981	20294
P	162m NW	Garage	1992 - 1997	27064
P	165m NW	Garage	1990	24593
T	189m S	Garage	1969	22918
T	189m S	Garage	1980	25490
W	226m S	Garage	1980 - 1990	25615
W	226m S	Garage	1995 - 1997	27082
U	243m SE	Garage	1960 - 1969	25290
U	261m E	Garage	1986 - 1990	26912
U	262m E	Garage	1963 - 1981	26858
Q	266m NW	Garage	1949 - 1963	24553
Q	270m NW	Garage	1953	22545
Q	272m NW	Garage	1949	25081
H	281m SW	Omnibus Garage	1977	21743
H	281m SW	Bus Garage	1982 - 1984	27058
H	286m SW	Omnibus Garage	1949 - 1963	25395
H	286m SW	Omnibus Garage	1948 - 1963	24746
Z	309m S	Garage	1979	23209
Z	314m S	Garage	1980 - 1990	24581
Z	316m S	Garage	1980	21660
Z	316m S	Garage	1995 - 1997	24964
Z	317m S	Garage	1963	21028
Z	317m S	Garage	1960 - 1969	25973



ID	Location	Land use	Dates present	Group ID
Z	324m S	Garage	1959	23792
AR	435m SW	Garage	1948	20266
AO	440m SE	Garage	1953 - 1979	24802
BB	486m S	Garage	1959	22973
BB	486m S	Garage	1960 - 1979	27867
BC	488m SE	Garage	1960 - 1963	24336
BC	488m SE	Garage	1979	22408
BC	498m SE	Garage	1959	21005

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

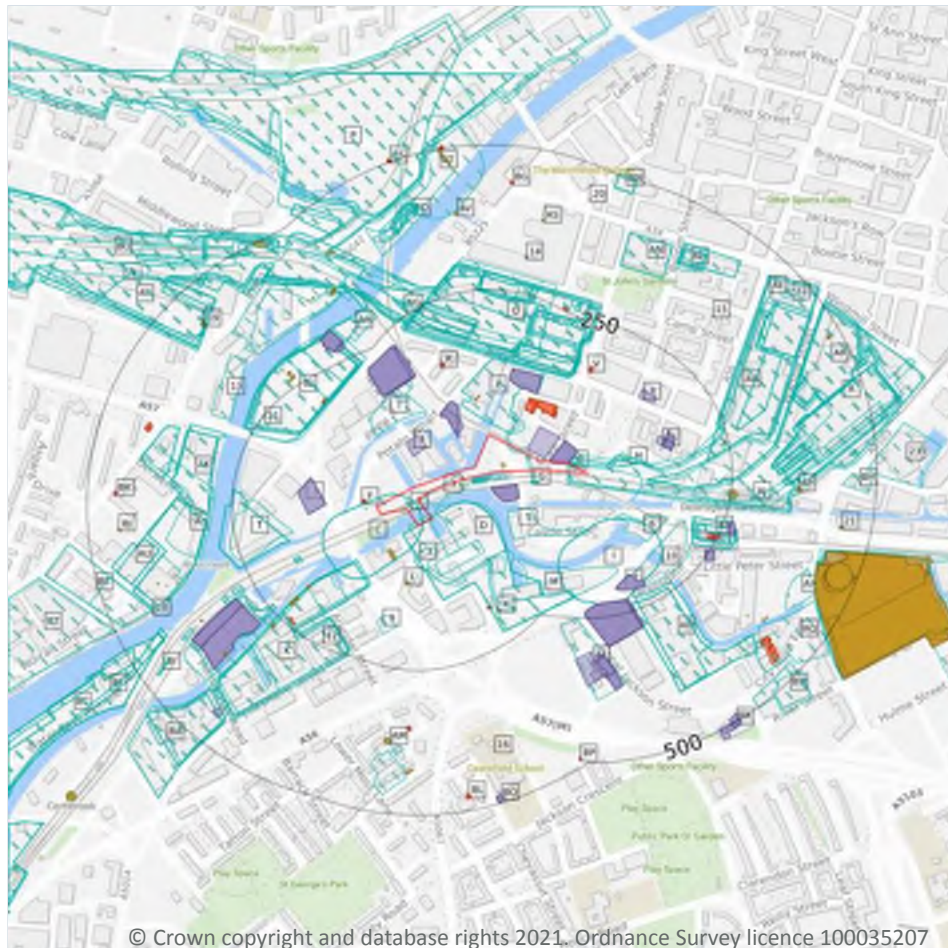
Records within 500m

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

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2.1 Historical industrial land uses

Records within 500m

399

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 31**

ID	Location	Land Use	Date	Group ID
1	On site	Timber Wharf	1851	811392
2	On site	Wharf	1851	831113
A	On site	Railway Sidings	1938	982150



ID	Location	Land Use	Date	Group ID
A	On site	Railway Sidings	1932	982150
A	On site	Railway Sidings	1916	871753
A	On site	Railway Sidings	1905	871753
A	On site	Railway Sidings	1923	923309
B	On site	Railway Building	1938	982027
B	On site	Railway Building	1932	982027
B	On site	Unspecified Ground Workings	1851	800610
B	On site	Railway Building	1923	820260
C	On site	Unspecified Wharves	1938	937403
C	On site	Unspecified Wharves	1932	937403
C	On site	Unspecified Wharves	1916	881666
C	On site	Unspecified Wharves	1905	881666
D	On site	Quay	1851	846276
D	On site	Unspecified Depot	1988	921090
D	On site	Unspecified Depot	1978	853404
D	On site	Unspecified Depot	1985	921090
D	On site	Unspecified Depot	1994	921090
B	0m NE	Railway Building	1916	972538
A	3m NE	Railway Sidings	1956	917334
B	4m S	Railway Building	1938	878526
B	4m S	Railway Building	1932	878526
B	5m S	Railway Building	1916	906988
B	6m S	Railway Buildings	1905	833631
B	8m S	Railway Building	1923	906988
E	19m NE	Unspecified Depot	1988	896077
E	19m NE	Unspecified Depot	1985	896077
G	19m S	Railway Building	1916	846298
G	19m S	Railway Building	1905	846298



ID	Location	Land Use	Date	Group ID
G	19m S	Railway Building	1923	846298
H	40m NE	Railway Buildings	1938	962263
H	40m NE	Railway Buildings	1932	962263
H	40m NE	Railway Buildings	1916	962263
H	40m NE	Railway Buildings	1905	962263
H	40m NE	Railway Buildings	1923	962263
3	41m SE	Gravel Pit	1851	807881
5	64m S	Slate Wharf	1851	837258
D	69m SE	Warehouse	1851	837277
D	77m S	Unspecified Ground Workings	1851	800608
I	87m S	Quay	1938	872988
I	87m S	Quay	1932	872988
I	87m S	Quay	1916	872988
I	87m S	Quay	1905	872988
I	87m S	Quay	1923	872988
6	89m SE	Unspecified Commercial/Industrial	1851	796720
K	89m SW	Unspecified Commercial/Industrial	1971	923803
K	89m SW	Unspecified Commercial/Industrial	1956	923803
K	95m SW	Unspecified Mills	1938	928073
K	95m SW	Unspecified Mills	1932	928073
K	95m SW	Unspecified Mills	1916	928073
K	95m SW	Unspecified Commercial/Industrial	1905	894637
K	95m SW	Unspecified Mills	1923	928073
7	108m NW	Paper Mill	1851	833296
M	121m SE	Quay	1851	846276
D	122m SE	Unspecified Warehouses	1971	812727
N	129m N	Railway Sidings	1923	921834
E	133m N	Railway Buildings	1896	833656



ID	Location	Land Use	Date	Group ID
N	133m N	Railway Sidings	1896	979167
K	135m SW	Unspecified Commercial/Industrial	1896	861626
E	135m N	Goods Sheds	1938	958104
E	135m N	Goods Sheds	1932	958104
E	135m N	Goods Sheds	1916	958104
E	135m N	Goods Sheds	1905	958104
E	135m N	Goods Sheds	1923	958104
P	135m N	Railway Sidings	1938	893253
P	135m N	Railway Sidings	1932	936526
P	135m N	Railway Sidings	1916	893253
P	135m N	Railway Sidings	1905	984895
Q	140m N	Goods Depot	1971	912312
Q	140m N	Goods Depot	1978	893922
E	142m N	Railway Building	1971	911620
E	142m N	Railway Building	1978	848652
E	142m N	Railway Building	1985	938373
E	142m N	Railway Sidings	1956	951082
N	142m N	Railway Sidings	1956	956450
Q	147m N	Unspecified Commercial/Industrial	1851	796722
S	148m N	Railway Sidings	1971	888837
S	148m N	Railway Sidings	1978	944715
S	148m N	Railway Sidings	1985	891167
T	151m W	Quay	1851	808069
Q	151m N	Railway Sidings	1988	962023
Q	151m N	Railway Sidings	1994	962023
Q	152m N	Railway Building	1938	966518
Q	152m N	Railway Building	1932	966518
Q	152m N	Railway Building	1916	858395



ID	Location	Land Use	Date	Group ID
Q	152m N	Railway Building	1905	858395
U	153m N	Unspecified Commercial/Industrial	1923	796721
K	156m SW	Railway Building	1923	820273
K	158m SW	Railway Building	1938	912895
K	158m SW	Railway Building	1932	912895
Q	159m N	Railway Buildings	1896	833655
Q	162m N	Railway Sidings	1851	921813
T	162m W	Unspecified Warehouses	1905	812726
T	162m W	Unspecified Warehouse	1938	867773
T	162m W	Unspecified Warehouse	1932	867773
T	162m W	Unspecified Warehouse	1916	867773
T	162m W	Unspecified Warehouse	1923	867773
9	164m S	Sand Pit	1851	797576
M	171m SE	Warehouse	1851	837278
Q	172m N	Goods Station	1938	920947
Q	172m N	Goods Station	1932	920947
Q	172m N	Goods Station	1916	920947
Q	172m N	Goods Station	1905	920947
Q	172m N	Goods Station	1923	920947
10	175m SE	Unspecified Commercial/Industrial	1851	796718
W	176m NW	Corporation Yard	1896	896211
Q	178m N	Railway Building	1971	893290
Q	178m N	Railway Building	1956	893290
Q	178m N	Railway Building	1988	858030
Q	178m N	Railway Building	1978	963323
Q	178m N	Railway Building	1985	858030
Q	178m N	Railway Building	1994	858030
K	178m SW	Unspecified Mills	1978	870292



ID	Location	Land Use	Date	Group ID
W	181m NW	Unspecified Depot	1971	889604
W	181m NW	Cleansing Depot	1956	901006
W	181m NW	Unspecified Depot	1988	876447
W	181m NW	Unspecified Depot	1978	848064
W	181m NW	Unspecified Depot	1985	873557
W	182m NW	Corporation Yard	1905	974049
W	182m NW	Corporation Yard	1923	899229
W	182m NW	Corporation Yard	1916	987793
W	184m NW	Cleansing Depot	1938	902946
W	184m NW	Cleansing Depot	1932	902946
Y	187m E	Railway Sidings	1896	975593
E	187m N	Goods Sheds	1938	880509
E	187m N	Goods Sheds	1932	880509
E	187m N	Goods Sheds	1916	880509
E	187m N	Goods Sheds	1905	880509
E	187m N	Goods Sheds	1923	880509
U	188m NW	Refuse Heap	1851	829086
E	193m N	Railway Building	1971	983624
E	193m N	Goods Station	1956	821661
E	193m N	Railway Building	1978	907268
E	193m N	Railway Building	1985	923295
AA	198m E	Railway Station	1971	962338
AA	198m E	Railway Station	1956	962338
AA	198m E	Railway Station	1978	855265
W	200m NW	Chemical Works	1851	834546
AA	200m SE	Railway Station	1938	975016
AA	200m SE	Railway Station	1932	975016
AA	200m SE	Railway Station	1916	975016



ID	Location	Land Use	Date	Group ID
AA	200m SE	Railway Station	1905	975016
AA	200m SE	Railway Station	1923	975016
AA	207m SE	Railway Station	1896	899988
AB	208m E	Railway Sidings	1971	946450
AB	208m E	Railway Sidings	1978	989903
AB	208m E	Railway Sidings	1985	958621
K	209m SW	Unspecified Commercial/Industrial	1923	965943
AA	209m SE	Railway Station	1988	880682
AA	209m SE	Railway Station	1985	880682
AA	209m SE	Railway Station	1994	880682
W	213m NW	Quay	1851	808070
AD	228m S	Unspecified Works	1971	948531
AD	228m S	Automobile Works	1956	813191
AD	228m S	Unspecified Works	1978	940175
Q	233m N	Goods Sheds	1938	895888
Q	233m N	Goods Sheds	1932	895888
Q	233m N	Goods Sheds	1916	895888
Q	233m N	Goods Sheds	1905	895888
Q	233m N	Goods Sheds	1923	895888
11	234m NW	Brewery	1851	822705
A	236m E	Railway Building	1923	820272
Q	236m N	Railway Building	1896	878088
AE	238m E	Railway Buildings	1923	833657
AD	238m S	Unspecified Mill	1938	877197
AD	238m S	Unspecified Mill	1932	877197
AD	238m S	Unspecified Mill	1916	904261
AD	238m S	Unspecified Commercial/Industrial	1905	896875
AD	238m S	Unspecified Commercial/Industrial	1923	846058



ID	Location	Land Use	Date	Group ID
Q	239m N	Railway Building	1956	913293
Q	239m N	Railway Building	1971	913293
Q	239m N	Railway Building	1978	967702
Q	239m N	Railway Building	1985	916120
K	248m SW	Unspecified Commercial/Industrial	1896	974596
AF	251m S	Unspecified Depot	1971	818414
K	253m SW	Unspecified Commercial/Industrial	1916	850018
K	253m SW	Iron Works	1905	822792
K	253m SW	Unspecified Commercial/Industrial	1923	850018
Q	254m N	Railway Building	1923	820441
Q	255m N	Railway Buildings	1923	925398
AG	256m NW	Railway Building	1923	969528
AG	258m NW	Railway Building	1956	820442
E	259m NE	Railway Buildings	1938	921932
E	259m NE	Railway Buildings	1932	921932
Q	261m N	Railway Buildings	1938	894881
Q	261m N	Railway Buildings	1932	894881
Q	261m N	Railway Buildings	1916	876717
Q	261m N	Railway Buildings	1905	876717
AG	263m NW	Railway Building	1938	903707
AG	263m NW	Railway Building	1932	903707
AG	263m NW	Railway Building	1916	865666
AG	263m NW	Railway Building	1905	865666
E	267m NE	Railway Building	1916	869326
E	267m NE	Railway Building	1905	869326
E	267m NE	Railway Building	1923	869326
K	270m SW	Railway Buildings	1923	833632
K	270m SW	Railway Building	1938	920704



ID	Location	Land Use	Date	Group ID
K	270m SW	Railway Building	1932	920704
AH	272m N	Dye Works	1851	833958
Q	278m N	Railway Building	1923	854882
AI	280m W	Silk and Cotton Mill	1851	810085
AJ	285m E	Railway Building	1938	978111
AJ	285m E	Railway Building	1932	978111
AJ	285m E	Railway Building	1916	978111
AJ	285m E	Railway Building	1905	978111
AJ	285m E	Railway Building	1923	978111
Q	285m N	Railway Building	1916	854882
AI	286m W	Unspecified Commercial/Industrial	1971	941987
AI	286m W	Unspecified Commercial/Industrial	1956	941987
AG	289m NW	Railway Building	1923	820443
AK	290m W	Unspecified Commercial/Industrial	1938	919087
AK	290m W	Unspecified Commercial/Industrial	1932	919087
AK	290m W	Unspecified Commercial/Industrial	1916	919087
AK	290m W	Unspecified Commercial/Industrial	1905	980628
AK	290m W	Unspecified Commercial/Industrial	1923	919087
13	293m NW	Cotton Mill	1851	797895
AH	293m NW	Refuse Heap	1851	829085
AL	295m W	Unspecified Commercial/Industrial	1938	846750
AL	295m W	Unspecified Commercial/Industrial	1932	846750
AL	295m W	Iron Works	1916	873229
AL	295m W	Unspecified Commercial/Industrial	1905	870019
AL	295m W	Iron Works	1923	873229
AG	299m NW	Railway Building	1956	820440
K	301m SW	Railway Building	1938	845151
K	301m SW	Railway Building	1932	845151



ID	Location	Land Use	Date	Group ID
Y	306m E	Disused Station	1978	925495
K	312m SW	Sawmill	1851	808364
Y	318m E	Railway Station	1938	896284
Y	318m E	Railway Station	1932	896284
Y	318m E	Railway Station	1916	896284
Y	318m E	Railway Station	1905	896284
Y	318m E	Railway Station	1923	896284
Y	324m E	Railway Station	1956	888631
Y	325m E	Railway Station	1896	915817
A	331m E	Railway Building	1923	820271
N	333m NW	Corporation Yard	1923	939407
N	337m NW	Railway Sidings	1851	861529
N	339m NW	Corporation Yard	1916	939407
N	347m NW	Railway Building	1923	855519
AN	352m N	Unspecified Works	1938	898924
AN	352m N	Unspecified Works	1932	898924
AN	352m N	Unspecified Commercial/Industrial	1905	935109
AN	352m N	Unspecified Commercial/Industrial	1923	991353
AK	353m W	Unspecified Heap	1851	804001
N	355m NW	Railway Building	1938	946353
N	355m NW	Railway Building	1932	946353
N	355m NW	Railway Building	1916	930060
N	355m NW	Railway Building	1905	930060
AL	357m W	Unspecified Works	1978	830431
AO	358m NW	Unspecified Wharf	1923	884372
AK	364m W	Unspecified Commercial/Industrial	1938	861402
AK	364m W	Unspecified Commercial/Industrial	1932	861402
AK	364m W	Iron Works	1916	949359



ID	Location	Land Use	Date	Group ID
AK	364m W	Unspecified Commercial/Industrial	1905	881193
AK	364m W	Iron Works	1923	949359
AE	364m NE	Goods Station	1938	846931
AE	364m NE	Goods Station	1932	846931
AE	364m NE	Goods Station	1916	846931
AE	364m NE	Goods Station	1905	846931
AE	364m NE	Goods Station	1923	846931
AE	368m NE	Goods Station	1956	945355
AE	370m NE	Goods Station	1971	945855
AE	370m NE	Disused Goods Station	1978	814351
AM	371m S	Unspecified Tank	1971	825226
Y	375m E	Disused Station	1985	891253
AR	376m E	Goods Station	1938	883356
AR	376m E	Goods Station	1932	883356
AR	376m E	Goods Station	1916	938206
AR	376m E	Goods Station	1905	938206
AR	376m E	Goods Station	1923	943574
AO	376m NW	Unspecified Ground Workings	1905	978845
AO	378m NW	Unspecified Ground Workings	1923	892127
AO	378m NW	Unspecified Ground Workings	1956	950880
N	378m NW	Railway Building	1938	895977
N	378m NW	Railway Building	1932	895977
N	378m NW	Railway Building	1916	903757
N	378m NW	Railway Building	1905	903757
AM	380m S	Dye Works	1851	833956
K	381m SW	Railway Building	1938	911580
K	381m SW	Railway Building	1932	911580
AO	381m NW	Unspecified Ground Workings	1988	877209



ID	Location	Land Use	Date	Group ID
AT	382m N	Unspecified Wharf	1916	884372
AR	382m E	Goods Station	1956	923306
AU	382m W	Unspecified Works	1988	941424
AU	382m W	Unspecified Works	1978	845316
AU	382m W	Unspecified Works	1985	941424
AO	384m NW	Unspecified Ground Workings	1938	892127
AO	384m NW	Unspecified Ground Workings	1932	892127
AO	385m NW	Unspecified Ground Workings	1916	978845
AW	385m NE	Hospital	1923	963711
N	386m NW	Railway Building	1896	844983
N	389m NW	Railway Building	1956	978275
AW	392m NE	Hospital	1938	946842
AW	392m NE	Hospital	1932	946842
AQ	392m SE	Brewery	1851	822706
AW	393m NE	Hospital	1916	943105
AW	397m NE	Hospital	1971	988332
AW	397m NE	Hospital	1956	988332
AW	397m NE	Hospital	1978	946410
AX	400m SE	Cotton Mill	1851	797881
AW	405m NE	Hospital	1988	928879
AW	405m NE	Hospital	1985	928879
AY	410m NW	Mineral Yard	1923	893171
AY	412m NW	Mineral Yard	1916	903719
AZ	415m NW	Railway Sidings	1923	969001
AY	416m NW	Mineral Yard	1938	926505
AY	416m NW	Mineral Yard	1932	926505
BA	420m SW	Unspecified Commercial/Industrial	1971	952195
BA	420m SW	Unspecified Commercial/Industrial	1956	952195



ID	Location	Land Use	Date	Group ID
BB	422m E	Unspecified Commercial/Industrial	1896	849974
17	422m NW	Railway Sidings	1896	881141
BB	425m E	Unspecified Commercial/Industrial	1938	872530
BB	425m E	Unspecified Commercial/Industrial	1932	872530
BB	425m E	Gas Works	1916	927583
BB	425m E	Gas Works	1905	927583
BB	425m E	Gas Works	1923	927583
BC	425m SW	Railway Sidings	1971	927627
BC	425m SW	Docks	1971	847093
BC	425m SW	Railway Sidings	1956	945210
BC	425m SW	Docks	1956	847093
BC	425m SW	Docks	1988	876412
BD	427m NW	Railway Sidings	1971	969970
BD	427m NW	Railway Sidings	1978	956875
AZ	427m NW	Railway Sidings	1956	985870
BE	427m SW	Unspecified Commercial/Industrial	1971	927269
BE	427m SW	Unspecified Commercial/Industrial	1956	927269
BE	427m SW	Unspecified Works	1978	830430
BB	429m E	Unspecified Commercial/Industrial	1956	976686
S	429m NW	Railway Buildings	1923	833654
BB	431m E	Unspecified Works	1971	976313
BA	431m SW	Unspecified Commercial/Industrial	1938	897464
BA	431m SW	Unspecified Mills	1916	960036
BA	431m SW	Unspecified Commercial/Industrial	1905	967266
BA	431m SW	Unspecified Mills	1923	960036
BF	432m SW	Docks	1938	930741
BF	432m SW	Docks	1932	930741
BF	432m SW	Docks	1916	930741



ID	Location	Land Use	Date	Group ID
BF	432m SW	Docks	1905	930741
BF	432m SW	Railway Sidings	1938	908250
BF	432m SW	Railway Sidings	1932	908250
BF	432m SW	Railway Sidings	1916	908250
BF	432m SW	Railway Sidings	1905	908250
BF	432m SW	Railway Sidings	1923	908250
BF	432m SW	Docks	1923	930741
P	439m NW	Unspecified Works	1988	919158
P	439m NW	Unspecified Works	1978	853423
P	439m NW	Unspecified Works	1985	919158
P	439m NW	Unspecified Works	1994	919158
BH	440m E	Bus Station	1978	842916
BI	442m SW	Railway Building	1905	878479
BI	442m SW	Railway Building	1923	892827
AX	444m E	Unspecified Tank	1956	940796
AX	444m SE	Gasometer	1916	885805
AX	444m SE	Gasometer	1905	885805
AX	444m SE	Unspecified Tank	1938	946195
AX	444m SE	Unspecified Tank	1932	946195
AX	444m SE	Gasometer	1923	885805
AX	447m SE	Unspecified Tank	1896	890603
AX	451m E	Unspecified Tank	1971	856760
AX	451m E	Unspecified Tank	1978	858491
AX	451m E	Unspecified Tank	1985	858491
22	453m NE	Railway Buildings	1923	833653
BH	454m E	Railway Building	1938	985774
BH	454m E	Railway Building	1932	985774
BH	454m E	Railway Building	1916	985774



ID	Location	Land Use	Date	Group ID
BH	454m E	Railway Building	1905	985774
BH	454m E	Railway Building	1923	985774
AX	468m SE	Railway Sidings	1896	794671
S	469m NW	Railway Buildings	1896	833652
S	473m NW	Railway Station	1938	989189
S	473m NW	Railway Station	1932	989189
S	473m NW	Railway Station	1916	989189
S	473m NW	Railway Station	1905	989189
S	473m NW	Railway Station	1923	989189
BM	477m SE	Unspecified Works	1971	830421
BN	478m NE	Hospital	1971	860292
BN	478m NE	Hospital	1988	942775
BN	478m NE	Hospital	1978	862722
BN	478m NE	Hospital	1985	942775
BN	478m NE	Hospital	1994	942775
23	482m E	Cotton Mills	1851	811452
BO	483m NW	Railway Sidings	1988	982507
BO	483m NW	Railway Sidings	1994	982507
S	484m NW	Railway Building	1923	820334
S	485m NW	Railway Building	1896	945096
BC	485m SW	Railway Sidings	1896	986088
BC	485m SW	Docks	1896	887061
S	485m NW	Railway Building	1971	820335
BM	486m SE	Glass Works	1851	797987
S	487m NW	Railway Building	1971	987093
S	488m NW	Railway Station	1956	893823
S	490m NW	Railway Building	1971	920020
S	490m NW	Railway Building	1956	920020



ID	Location	Land Use	Date	Group ID
S	492m NW	Railway Station	1896	879526
BB	498m SE	Unspecified Works	1978	921026
BT	499m SW	Unspecified Commercial/Industrial	1971	948457
BT	499m SW	Unspecified Commercial/Industrial	1956	948457

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	158
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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 31**

ID	Location	Land Use	Date	Group ID
B	On site	Unspecified Tank	1922	115648
E	62m N	Unspecified Tank	1963	131255
C	62m SW	Tanks	1963	148559
C	62m SW	Tanks	1963	148559
E	63m N	Unspecified Tank	1963	131255
H	65m E	Unspecified Tank	1932	115649
E	66m N	Unspecified Tank	1963	133635
E	67m N	Unspecified Tank	1963	133635
L	98m S	Unspecified Tank	1997	132953
L	98m S	Unspecified Tank	1995	132953
L	98m S	Unspecified Tank	1998	132953
L	98m S	Unspecified Tank	1995	132953
K	173m SW	Tanks	1949	140617
K	174m SW	Tanks	1954	149178
K	174m SW	Tanks	1977	149178
K	174m SW	Tanks	1963	149178



ID	Location	Land Use	Date	Group ID
K	174m SW	Tanks	1948	149178
K	174m SW	Tanks	1995	149178
K	174m SW	Tanks	1998	149178
K	174m SW	Tanks	1995	149178
K	174m SW	Tanks	1984	149178
K	174m SW	Tanks	1982	149178
K	174m SW	Tanks	1982	149178
X	195m SE	Unspecified Tank	1980	132153
X	195m SE	Unspecified Tank	1980	143849
X	195m SE	Unspecified Tank	1960	123914
X	195m SE	Unspecified Tank	1969	143958
X	196m SE	Unspecified Tank	1963	141829
K	203m SW	Unspecified Tank	1949	123558
K	203m SW	Unspecified Tank	1948	123558
A	241m E	Unspecified Tank	1979	134110
A	241m E	Unspecified Tank	1979	148049
12	241m SW	Unspecified Tank	1891	115659
W	261m NW	Unspecified Tank	1932	115639
W	263m NW	Unspecified Tank	1953	128766
K	263m SW	Unspecified Tank	1908	125058
W	264m NW	Unspecified Tank	1963	128766
W	264m NW	Unspecified Tank	1949	128766
W	264m NW	Unspecified Tank	1949	128766
W	264m NW	Unspecified Tank	1949	128766
K	265m SW	Unspecified Tank	1893	147499
K	265m SW	Unspecified Tank	1922	147499
W	272m NW	Unspecified Tank	1953	136050
W	272m NW	Unspecified Tank	1963	136050

ID	Location	Land Use	Date	Group ID
W	272m NW	Unspecified Tank	1949	136050
W	273m NW	Unspecified Tank	1949	136050
W	273m NW	Unspecified Tank	1949	136050
W	284m NW	Unspecified Tank	1932	115634
K	303m SW	Unspecified Tank	1891	115660
14	311m N	Unspecified Tank	1891	115647
15	347m NE	Unspecified Tank	1891	115646
K	358m SW	Unspecified Tank	1963	128267
K	358m SW	Unspecified Tank	1949	128267
K	358m SW	Unspecified Tank	1954	128267
K	358m SW	Unspecified Tank	1963	128267
K	358m SW	Unspecified Tank	1948	128267
K	359m SW	Unspecified Tank	1997	122775
K	359m SW	Unspecified Tank	1995	122775
K	359m SW	Unspecified Tank	1998	122775
K	359m SW	Unspecified Tank	1995	122775
N	359m NW	Unspecified Tank	1908	131064
K	359m SW	Unspecified Tank	1984	122775
K	359m SW	Unspecified Tank	1982	122775
K	359m SW	Unspecified Tank	1982	122775
N	362m NW	Unspecified Tank	1980	135020
N	363m NW	Unspecified Tank	1893	126917
N	363m NW	Unspecified Tank	1922	126917
N	363m NW	Unspecified Tank	1990	144767
N	363m NW	Unspecified Tank	1990	144767
N	363m NW	Unspecified Tank	1995	125308
N	363m NW	Unspecified Tank	1994	125308
N	363m NW	Unspecified Tank	1993	125308



ID	Location	Land Use	Date	Group ID
N	363m NW	Unspecified Tank	1997	125308
N	363m NW	Unspecified Tank	1995	125308
N	363m NW	Unspecified Tank	1992	125308
AP	363m E	Tanks	1951	130142
AP	363m E	Tanks	1948	130142
AP	363m E	Tanks	1948	141151
AP	363m E	Tanks	1979	130142
AP	363m E	Tanks	1963	130142
N	366m NW	Unspecified Tank	1932	115640
AL	367m W	Unspecified Tank	1891	115652
AL	367m W	Unspecified Tank	1891	115650
AL	368m W	Unspecified Tank	1891	115651
N	368m NW	Unspecified Tank	1953	133553
AQ	369m SE	Unspecified Tank	1891	115779
N	370m NW	Unspecified Tank	1963	130189
N	370m NW	Unspecified Tank	1949	129333
AL	370m W	Unspecified Tank	1891	115653
N	370m NW	Unspecified Tank	1949	146026
N	370m NW	Unspecified Tank	1949	137879
AM	370m S	Unspecified Tank	1963	127413
AM	371m S	Unspecified Tank	1963	127413
AS	380m N	Unspecified Tank	1958	143482
AS	380m N	Unspecified Tank	1957	143482
AV	382m N	Unspecified Tank	1955	135352
AV	382m N	Unspecified Tank	1949	135352
AV	382m N	Unspecified Tank	1955	135352
AV	383m N	Unspecified Tank	1953	135352
AV	383m N	Unspecified Tank	1948	135352

ID	Location	Land Use	Date	Group ID
AV	383m N	Unspecified Tank	1969	135352
AV	383m N	Unspecified Tank	1970	135352
AV	383m N	Unspecified Tank	1963	135352
AV	384m N	Unspecified Tank	1983	135352
AL	386m W	Unspecified Tank	1891	115655
AM	393m S	Unspecified Tank	1891	115662
AQ	393m SE	Tanks	1948	107130
AQ	396m SE	Tanks	1948	106777
AL	399m W	Unspecified Tank	1891	115654
AX	404m SE	Unspecified Tank	1891	115954
16	409m S	Unspecified Tank	1891	115663
N	410m NW	Unspecified Tank	1949	115641
AM	420m S	Unspecified Tank	1949	135351
AM	423m S	Unspecified Tank	1954	126405
AM	423m S	Unspecified Tank	1948	126405
18	426m SW	Unspecified Tank	1891	115656
BB	428m E	Gas Works	1893	148771
BB	428m E	Gas Works	1908	148771
BB	428m E	Gas Works	1891	138194
BB	429m E	Gas Works	1922	148353
19	430m NW	Tanks	1980	106793
20	441m NE	Unspecified Tank	1891	115644
BJ	443m W	Tanks	1979	126256
BJ	443m W	Tanks	1985	126256
BJ	444m W	Tanks	1982	126256
BJ	444m W	Tanks	1977	126256
AX	444m SE	Gasometer	1908	137166
AX	444m SE	Gasometer	1922	137166



ID	Location	Land Use	Date	Group ID
AX	444m SE	Unspecified Tank	1932	149223
AX	445m E	Unspecified Tank	1969	138911
AX	445m E	Unspecified Tank	1953	138911
21	445m E	Tanks	1891	106783
AX	446m E	Unspecified Tank	1979	134540
AX	446m E	Unspecified Tank	1963	134540
AX	446m E	Unspecified Tank	1948	134540
AX	447m E	Unspecified Tank	1980	129756
AX	447m E	Unspecified Tank	1980	129756
AX	447m E	Unspecified Tank	1985	129756
BH	451m E	Unspecified Tank	1891	115955
AT	469m N	Tanks	1932	106800
AR	475m NE	Unspecified Tank	1986	144065
AR	476m NE	Unspecified Tank	1988	124833
AR	477m NE	Unspecified Tank	1996	144065
AR	477m NE	Unspecified Tank	1995	144065
AR	477m NE	Unspecified Tank	1994	144065
AR	477m NE	Unspecified Tank	1999	144065
BA	479m SW	Unspecified Tank	1891	115661
BB	484m SE	Gas Works	1948	138071
S	486m NW	Unspecified Tank	1893	115630
AX	491m E	Unspecified Tank	1908	134188
AX	491m E	Unspecified Tank	1922	134188
AX	491m E	Unspecified Tank	1932	134188
AX	492m E	Unspecified Tank	1969	135604
AX	492m E	Unspecified Tank	1953	135604
AX	492m E	Unspecified Tank	1979	126042
AX	494m E	Unspecified Tank	1980	135604



ID	Location	Land Use	Date	Group ID
AX	494m E	Unspecified Tank	1980	135604
AX	494m E	Unspecified Tank	1985	135604

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

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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 31**

ID	Location	Land Use	Date	Group ID
F	19m W	Electricity Substation	1980	78864
F	20m NW	Electricity Substation	1995	78864
F	20m NW	Electricity Substation	1994	78864
F	20m NW	Electricity Substation	1993	78864
F	20m NW	Electricity Substation	1997	78864
F	20m NW	Electricity Substation	1995	78864
F	20m NW	Electricity Substation	1992	78864
F	20m W	Electricity Substation	1990	78864
F	20m W	Electricity Substation	1990	78864
E	66m NE	Electricity Substation	1986	67819
E	66m NE	Electricity Substation	1990	69796
E	68m NE	Electricity Substation	1981	80246
E	68m NE	Electricity Substation	1995	83961
E	68m NE	Electricity Substation	1994	83961
E	76m NE	Electricity Substation	1948	82720
E	77m N	Electricity Substation	1979	77417
E	77m N	Electricity Substation	1995	82695
E	78m N	Electricity Substation	1979	80738



ID	Location	Land Use	Date	Group ID
E	79m NE	Electricity Substation	1948	80738
R	140m NW	Electricity Substation	1997	81653
R	141m NW	Electricity Substation	1995	81653
R	142m NW	Electricity Substation	1995	81653
R	142m NW	Electricity Substation	1994	81653
V	160m N	Electricity Substation	1986	75611
V	160m N	Electricity Substation	1990	75611
V	161m N	Electricity Substation	1981	75611
V	161m N	Electricity Substation	1979	75611
V	161m N	Electricity Substation	1948	75611
V	161m N	Electricity Substation	1979	75611
V	161m N	Electricity Substation	1948	75611
V	162m N	Electricity Substation	1995	75611
V	162m N	Electricity Substation	1994	75611
V	162m N	Electricity Substation	1995	75611
X	180m SE	Electricity Substation	1995	72564
X	180m SE	Electricity Substation	1997	72564
X	180m SE	Electricity Substation	1995	72564
X	180m SE	Electricity Substation	1997	72564
W	198m NW	Electricity Substation	1990	78385
W	198m NW	Electricity Substation	1995	73642
W	198m NW	Electricity Substation	1994	73642
W	198m NW	Electricity Substation	1993	73642
W	198m NW	Electricity Substation	1997	73642
W	198m NW	Electricity Substation	1995	73642
W	198m NW	Electricity Substation	1992	73642
K	236m SW	Electricity Substation	1949	73349
K	236m SW	Electricity Substation	1948	73349



ID	Location	Land Use	Date	Group ID
E	251m NE	Electricity Substation	1986	67220
E	251m NE	Electricity Substation	1990	67220
E	251m NE	Electricity Substation	1995	67220
E	252m NE	Electricity Substation	1995	65816
E	252m NE	Electricity Substation	1994	65816
AM	347m S	Electricity Substation	1977	77866
AM	347m S	Electricity Substation	1984	77866
AM	347m S	Electricity Substation	1982	77866
AM	347m S	Electricity Substation	1982	77866
AM	347m S	Electricity Substation	1997	77866
AM	347m S	Electricity Substation	1995	77866
AM	347m S	Electricity Substation	1998	77866
AM	347m S	Electricity Substation	1995	77866
AK	412m W	Electricity Substation	1995	77805
AK	412m W	Electricity Substation	1995	77805
AK	412m W	Electricity Substation	1995	77805
AK	412m W	Electricity Substation	1948	77805
AK	412m W	Electricity Substation	1992	77805
AK	412m W	Electricity Substation	1982	77805
AK	412m W	Electricity Substation	1977	77805
AK	412m W	Electricity Substation	1952	77805
AK	413m W	Electricity Substation	1949	77805
AK	413m W	Electricity Substation	1979	77805
AK	413m W	Electricity Substation	1985	77805
AK	413m W	Electricity Substation	1990	77805
AK	413m W	Electricity Substation	1990	77805
AQ	415m SE	Electricity Substation	1998	73868
AQ	417m SE	Electricity Transformers	1969	83603



ID	Location	Land Use	Date	Group ID
AQ	417m SE	Electricity Transformers	1980	83603
AQ	417m SE	Electricity Transformers	1980	83603
AQ	417m SE	Electricity Transformers	1985	83603
BB	428m E	Gas Works	1893	79545
BB	428m E	Gas Works	1908	79545
BB	428m E	Gas Works	1891	72601
BB	429m E	Gas Works	1922	81689
AQ	432m SE	Electricity Substation	1953	78830
AQ	432m SE	Electricity Substation	1969	82938
AQ	433m SE	Electricity Substation	1979	78830
AQ	433m SE	Electricity Substation	1948	78830
BG	433m N	Electricity Substation	1994	77564
BG	433m N	Electricity Substation	1996	77564
AQ	433m SE	Electricity Substation	1980	82938
AQ	433m SE	Electricity Substation	1980	82938
AQ	433m SE	Electricity Substation	1985	82938
AQ	433m SE	Electricity Substation	1987	82938
AQ	433m SE	Electricity Substation	1987	82938
AQ	433m SE	Electricity Substation	1990	82938
AX	444m SE	Gasometer	1908	65948
AX	444m SE	Gasometer	1922	65948
BK	448m W	Electricity Substation	1985	65673
BK	448m W	Electricity Substation	1990	65673
BK	448m W	Electricity Substation	1990	65673
BK	448m W	Electricity Substation	1992	65673
BK	448m W	Electricity Substation	1982	65673
BK	448m W	Electricity Substation	1995	65673
BK	448m W	Electricity Substation	1995	65673



ID	Location	Land Use	Date	Group ID
BK	448m W	Electricity Substation	1995	65673
BL	472m S	Electricity Substation	1969	71174
BL	472m S	Electricity Substation	1980	71174
BL	472m S	Electricity Substation	1980	71174
BL	472m S	Electricity Substation	1990	71174
BL	473m S	Electricity Substation	1995	71174
BL	473m S	Electricity Substation	1997	71174
BL	473m S	Electricity Substation	1995	71174
BL	473m S	Electricity Substation	1997	71174
BB	484m SE	Gas Works	1948	66529
BP	484m SE	Electricity Substation	1997	65434
BP	484m SE	Electricity Substation	1997	65434
AT	498m N	Electricity Substation	1955	83698
AT	498m N	Electricity Substation	1949	83698
AT	498m N	Electricity Substation	1955	83698
AT	498m N	Electricity Substation	1953	83440
AT	498m N	Electricity Substation	1948	85173
BS	498m N	Electricity Substation	1983	74311
BS	498m N	Electricity Substation	1990	74311
AT	499m N	Electricity Substation	1969	82059
BS	499m N	Electricity Substation	1994	74311
BS	499m N	Electricity Substation	1993	74311
BS	499m N	Electricity Substation	1993	74311
BS	499m N	Electricity Substation	1993	74311
BS	499m N	Electricity Substation	1994	74311
AT	500m N	Electricity Substation	1970	82059

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

93

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 31**

ID	Location	Land Use	Date	Group ID
B	On site	Garage	1986	26958
B	On site	Garage	1963	21949
B	On site	Garage	1963	21869
B	On site	Garage	1981	26958
B	6m N	Garage	1981	20293
B	23m S	Garage	1986	21682
B	23m S	Garage	1963	25923
B	23m S	Garage	1981	25923
B	24m S	Garage	1963	25923
E	45m NW	Boat Repair Yard	1948	26540
E	45m NW	Boat Repair Yard	1949	26540
E	45m NW	Boat Repair Yard	1949	27284
E	50m NW	Boat Repair Yard	1949	26540
E	50m NW	Boat Repair Yard	1953	27284
4	51m N	Garage	1990	20295
J	87m W	Garage	1980	27283



ID	Location	Land Use	Date	Group ID
J	89m W	Garage	1978	27283
E	97m NE	Garage	1986	24611
E	97m NE	Garage	1990	24611
E	97m NE	Garage	1981	24611
O	130m NE	Garage	1995	20992
O	139m E	Garage	1995	24725
O	139m E	Garage	1994	24725
O	139m E	Garage	1986	24287
O	139m E	Garage	1990	24287
O	141m E	Garage	1981	24287
8	158m NE	Garage	1981	20294
U	162m NW	Garage	1995	27064
U	162m NW	Garage	1992	27064
U	162m NW	Garage	1995	27064
U	162m NW	Garage	1994	27064
U	162m NW	Garage	1993	27064
U	162m NW	Garage	1997	27064
U	165m NW	Garage	1990	24593
U	165m NW	Garage	1990	24593
Z	189m S	Garage	1969	22918
Z	189m S	Garage	1980	25490
Z	189m S	Garage	1980	25490
AC	226m S	Garage	1980	25615
AC	226m S	Garage	1980	25615
AC	226m S	Garage	1990	25615
AC	226m S	Garage	1995	27082
AC	226m S	Garage	1997	27082
AC	226m S	Garage	1995	27082



ID	Location	Land Use	Date	Group ID
AC	226m S	Garage	1997	27082
AA	243m SE	Garage	1960	25290
AA	243m SE	Garage	1969	25290
AA	244m SE	Garage	1963	25290
AA	261m E	Garage	1986	26912
AA	261m E	Garage	1990	26912
AA	262m E	Garage	1963	26858
AA	262m E	Garage	1981	26858
AA	262m E	Garage	1979	26858
AA	262m E	Garage	1979	26858
AA	262m E	Garage	1963	26858
W	266m NW	Garage	1963	24553
W	266m NW	Garage	1949	24553
W	270m NW	Garage	1953	22545
W	272m NW	Garage	1949	25081
W	272m NW	Garage	1949	25081
K	281m SW	Bus Garage	1984	27058
K	281m SW	Bus Garage	1982	27058
K	281m SW	Bus Garage	1982	27058
K	281m SW	Omnibus Garage	1977	21743
K	286m SW	Omnibus Garage	1963	25395
K	286m SW	Omnibus Garage	1949	25395
K	286m SW	Omnibus Garage	1954	24746
K	286m SW	Omnibus Garage	1963	24746
K	286m SW	Omnibus Garage	1948	24746
AF	309m S	Garage	1979	23209
AF	314m S	Garage	1980	24581
AF	314m S	Garage	1990	24581



ID	Location	Land Use	Date	Group ID
AF	316m S	Garage	1980	21660
AF	316m S	Garage	1995	24964
AF	316m S	Garage	1997	24964
AF	316m S	Garage	1995	24964
AF	316m S	Garage	1997	24964
AF	317m S	Garage	1963	21028
AF	317m S	Garage	1960	25973
AF	317m S	Garage	1969	25973
AF	324m S	Garage	1959	23792
BA	435m SW	Garage	1948	20266
AX	440m SE	Garage	1979	24802
AX	440m SE	Garage	1963	24802
AX	441m SE	Garage	1953	24802
BQ	486m S	Garage	1960	27867
BQ	486m S	Garage	1959	22973
BQ	486m S	Garage	1979	27867
BQ	486m S	Garage	1963	27867
BR	488m SE	Garage	1963	24336
BR	488m SE	Garage	1979	22408
BR	498m SE	Garage	1960	24336
BR	498m SE	Garage	1959	21005

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical landfill (EA/NRW)
- Historical waste sites
- Licensed waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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.

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

1

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 61**

ID	Location	Details		
I	343m NW	Site Address: Wilburn Street, Salford, Greater Manchester Licence Holder Address: -	Waste Licence: - Site Reference: E052 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

43

Waste site records derived from Local Authority planning records and high detail historical mapping.

Features are displayed on the Waste and landfill map on **page 61**

ID	Location	Address	Further Details	Date
A	On site	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979

ID	Location	Address	Further Details	Date
A	On site	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1986
B	11m SW	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1995
B	11m SW	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1997
2	171m S	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1948
F	232m NW	Site Address: N/A	Type of Site: Refuse Destructors Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1932
F	235m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1953
F	237m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1952
F	237m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1949
F	239m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979



ID	Location	Address	Further Details	Date
F	239m NW	Site Address: N/A	Type of Site: Refuse Destructors Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1978
F	241m NW	Site Address: N/A	Type of Site: Refuse Destructors Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1922
F	241m NW	Site Address: N/A	Type of Site: Refuse Destructors Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1922
F	241m NW	Site Address: N/A	Type of Site: Refuse Destructors Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1932
F	242m NW	Site Address: N/A	Type of Site: Refuse Destructors Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1908
F	243m NW	Site Address: N/A	Type of Site: Refuse Destructors Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1949
F	244m NW	Site Address: N/A	Type of Site: Refuse Destructors Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1908
I	340m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1908
I	345m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1932



ID	Location	Address	Further Details	Date
I	347m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1908
I	348m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1932
I	349m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1922
I	352m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1922
I	353m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1953
I	353m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1908
I	355m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1952
I	355m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1949
I	355m NW	Site Address: N/A	Type of Site: Refuse Destructor Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1949



ID	Location	Address	Further Details	Date
J	387m SE	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1995
J	387m SE	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1997
J	387m SE	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1995
J	387m SE	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1968
J	394m SE	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1987
J	394m SE	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1987
J	394m SE	Site Address: N/A	Type of Site: Scrap Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1990
L	410m NW	Site Address: N/A	Type of Site: Breakers Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979
L	410m NW	Site Address: N/A	Type of Site: Breaker's Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979



ID	Location	Address	Further Details	Date
M	410m NW	Site Address: N/A	Type of Site: Breaker's Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979
L	417m NW	Site Address: N/A	Type of Site: Breaker's Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979
L	417m NW	Site Address: N/A	Type of Site: Breakers Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979
L	441m NW	Site Address: N/A	Type of Site: Breaker's Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979
L	441m NW	Site Address: N/A	Type of Site: Breakers Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979
M	455m NW	Site Address: N/A	Type of Site: Breakers Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979

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

3.6 Licensed waste sites

Records within 500m	3
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Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

Features are displayed on the Waste and landfill map on **page 61**



ID	Location	Details		
E	164m NW	Site Name: R E M Mobile Plant Site Address: Medlock House, New Elm Road, Manchester, M3 4JW Correspondence Address: 25, Barnes Wallis Road, Segensworth East, Fareham, PO15 5TT	Type of Site: Mobile Plant Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RES001 EPR reference: - Operator: Resource And Environmental Consultants Ltd Waste Management licence No: 50480 Annual Tonnage: 75000	Issue Date: 12/12/2006 Effective Date: - Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
E	164m NW	Site Name: Rec Remediation Ltd - Mobile Plant Site Address: Medlock House, New Elm Road, Manchester, M3 4JW Correspondence Address: 25, Barnes Wallis Road, Segensworth East, Fareham, Hampshire, PO15 5TT	Type of Site: Mobile Plant Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: RES001 EPR reference: - Operator: Rec Remediation Ltd Waste Management licence No: 50480 Annual Tonnage: 75000	Issue Date: 12/12/2006 Effective Date: - Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
E	164m NW	Site Name: Mobile Plant Site Address: Mobile Plant Permi Correspondence Address: -	Type of Site: Mobile Plant Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: SOI005 EPR reference: EA/EPR/GP3895SV/T001 Operator: Soil & Water Remediation Ltd Waste Management licence No: 50480 Annual Tonnage: 0	Issue Date: 12/12/2006 Effective Date: 20/05/2010 Modified:: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred

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

3.7 Waste exemptions

Records within 500m

57

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 61**



ID	Location	Site	Reference	Category	Sub-Category	Description
C	69m S	Bestway Panacea Holdings Limited, BULK REGISTRATION for Bestway Panacea Holdings Limited for 108 sites, M34LZ	NRW-WME005755	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
C	70m S	Bestway National Chemists LTD, BULK REGISTRATION for Bestway National Chemists Ltd (107 sites), M34LZ	NRW-WME036650	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
1	141m S	CITYGATE CENTRAL, UNIT 2, BLANTYRE STREET, MANCHESTER, M15 4SQ	WEX228851	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
D	160m NW	1 New Elm Road Manchester Manchester M3 4JH	EPR/EF0605V U/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
D	160m NW	1 New Elm Road Manchester Manchester M3 4JH	EPR/EF0605V U/A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting mixed waste
D	160m NW	1 New Elm Road Manchester Manchester M3 4JH	EPR/EF0605V U/A001	Treating waste exemption	Non-Agricultural Waste Only	Screening and blending of waste
D	160m NW	1 New Elm Road Manchester Manchester M3 4JH	EPR/EF0605V U/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
F	225m NW	npa - Dawson Street Manchester Manchester M3 4JW	EPR/EF0604HZ /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in secure containers
F	225m NW	npa - Dawson Street Manchester Manchester M3 4JW	EPR/EF0604HZ /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
F	225m NW	npa - Dawson Street Manchester Manchester M3 4JW	EPR/EF0604HZ /A001	Treating waste exemption	Non-Agricultural Waste Only	Screening and blending of waste



ID	Location	Site	Reference	Category	Sub-Category	Description
F	225m NW	npa - Dawson Street Manchester Manchester M3 4JW	EPR/EF0604HZ /A001	Treating waste exemption	Non- Agricultura l Waste Only	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
F	225m NW	npa - Dawson Street Manchester Manchester M3 4JW	EPR/EF0604HZ /A001	Using waste exemption	Non- Agricultura l Waste Only	Use of waste in construction
F	225m NW	npa - Dawson Street Manchester Manchester M3 4JW	EPR/EF0604HZ /A001	Using waste exemption	Non- Agricultura l Waste Only	Spreading of plant matter to confer benefit
F	230m NW	npa - Car Park Bounded by Trinity Way A6042 and River Irwell Water Street Manchester Manchester M3 4JH	EPR/NF0907TJ /A001	Storing waste exemption	Non- Agricultura l Waste Only	Storage of waste in secure containers
F	230m NW	npa - Car Park Bounded by Trinity Way A6042 and River Irwell Water Street Manchester Manchester M3 4JH	EPR/NF0907TJ /A001	Storing waste exemption	Non- Agricultura l Waste Only	Storage of waste in a secure place
F	230m NW	npa - Car Park Bounded by Trinity Way A6042 and River Irwell Water Street Manchester Manchester M3 4JH	EPR/NF0907TJ /A001	Treating waste exemption	Non- Agricultura l Waste Only	Screening and blending of waste
F	230m NW	npa - Car Park Bounded by Trinity Way A6042 and River Irwell Water Street Manchester Manchester M3 4JH	EPR/NF0907TJ /A001	Using waste exemption	Non- Agricultura l Waste Only	Use of waste in construction
F	230m NW	npa - Car Park Bounded by Trinity Way A6042 and River Irwell Water Street Manchester Manchester M3 4JH	EPR/NF0907TJ /A001	Using waste exemption	Non- Agricultura l Waste Only	Use of mulch
3	279m NW	Compound 2 Water Street Manchester M3 4JH	EPR/FF0709KU /A001	Using waste exemption	Non- Agricultura l Waste Only	Use of waste in construction
G	312m SE	1, ALPHA PLACE, MANCHESTER, M15 4PP	WEX017965	Storing waste exemption	Not on a farm	Storage of waste in secure containers



ID	Location	Site	Reference	Category	Sub-Category	Description
G	312m SE	1, ALPHA PLACE, MANCHESTER, M15 4PP	WEX017965	Storing waste exemption	Not on a farm	Storage of waste in a secure place
H	331m NE	25 St. John Street MANCHESTER M3 4DT	EPR/DE5245SP /A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
H	331m NE	25, ST. JOHN STREET, MANCHESTER, M3 4DT	WEX243303	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
H	331m NE	98, HARLEY STREET, LONDON, W1G 7HZ	WEX099367	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
H	335m NE	25 St John Street M34DT	EPR/FE5081Q V/A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal
4	366m NE	THE MEWS, GREAT NORTHERN WAREHOUSE 235 DEANS GATE MANCHESTER M3 4EN	EPR/BF0603EU /A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in the construction of entertainment or educational installations etc
5	394m E	Axis Tower, Albion Street, Manchester, M1 5NZ	WEX220537	Using waste exemption	Not on a farm	Use of waste in construction
K	395m SW	Former Excelsior Mill, Hulme Hall Road, Manchester, M15 4LA	WEX125363	Treating waste exemption	Not on a farm	Screening and blending of waste
K	395m SW	Former Excelsior Mill, Hulme Hall Road, Manchester, M15 4LA	WEX125363	Using waste exemption	Not on a farm	Use of waste in construction
6	405m E	Axis Tower, Albion Street, Manchester, M1 5NZ	WEX074989	Using waste exemption	Not on a farm	Use of waste in construction
7	433m N	WATER STREET, MANCHESTER, M3 4JQ	WEX146528	Using waste exemption	Not on a farm	Use of waste in construction
8	449m N	1 Spinningfields M3 3JE	EPR/QE5341Z N/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX217816	Storing waste exemption	Not on a farm	Storage of waste in a secure place
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Storing waste exemption	Not on a farm	Storage of waste in a secure place



ID	Location	Site	Reference	Category	Sub-Category	Description
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Storing waste exemption	Not on a farm	Storage of waste in secure containers
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Treatment of waste food
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Manual treatment of waste
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Sorting mixed waste
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Recovery of scrap metal
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Screening and blending of waste
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Using waste exemption	Not on a farm	Use of waste in the construction of entertainment or educational installations etc
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Using waste exemption	Not on a farm	Use of waste in construction
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Storing waste exemption	Not on a farm	Storage of waste in secure containers
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Storing waste exemption	Not on a farm	Storage of waste in a secure place
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Sorting mixed waste
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Manual treatment of waste
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Treatment of waste food
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)



ID	Location	Site	Reference	Category	Sub-Category	Description
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Screening and blending of waste
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Recovery of scrap metal
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Using waste exemption	Not on a farm	Use of waste in construction
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Using waste exemption	Not on a farm	Use of waste in the construction of entertainment or educational installations etc
N	480m E	WINDMILL STREET, MANCHESTER, M2 3GX	WEX063339	Storing waste exemption	Not on a farm	Storage of waste in a secure place
M	498m NW	REGENTS PARK, ORDSALL LANE, SALFORD, M5 3TP	WEX180162	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal

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

4 Current industrial land use



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- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- △ Current or recent petrol stations
- Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

37

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 74**

ID	Location	Company	Address	Activity	Category
A	7m NW	Conveyors	Greater Manchester, M15	Conveyors	Industrial Features
A	16m NW	Hopper	Greater Manchester, M15	Hoppers and Silos	Farming
B	23m S	Slate Wharf	Greater Manchester, M15	Moorings and Unloading Facilities	Water
A	27m W	Scrap Yard	Greater Manchester, M15	Scrap Metal Merchants	Recycling Services



ID	Location	Company	Address	Activity	Category
B	28m S	Slate Wharf	Greater Manchester, M15	Moorings and Unloading Facilities	Water
A	28m NW	Works	Greater Manchester, M15	Unspecified Works Or Factories	Industrial Features
C	34m NE	Slate Wharf	Greater Manchester, M15	Moorings and Unloading Facilities	Water
A	38m NW	Depot	Greater Manchester, M3	Container and Storage	Transport, Storage and Delivery
C	49m E	Slate Wharf	Greater Manchester, M15	Moorings and Unloading Facilities	Water
2	70m S	Bass Warehouse	Greater Manchester, M3	Container and Storage	Transport, Storage and Delivery
3	79m NE	Electricity Sub Station	Greater Manchester, M3	Electrical Features	Infrastructure and Facilities
F	95m S	Tank	Greater Manchester, M15	Tanks (Generic)	Industrial Features
4	98m N	Electricity Sub Station	Greater Manchester, M3	Electrical Features	Infrastructure and Facilities
5	98m S	Merchants Warehouse	Greater Manchester, M3	Container and Storage	Transport, Storage and Delivery
6	132m S	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
7	133m NE	Service Graphics	Liverpool Road, Manchester, Greater Manchester, M3 4AQ	Published Goods	Industrial Products
8	145m NW	Electricity Sub Station	Greater Manchester, M3	Electrical Features	Infrastructure and Facilities
9	151m SW	Wharf	Greater Manchester, M15	Moorings and Unloading Facilities	Water
H	151m S	Castle Field Coal Wharf	Greater Manchester, M3	Moorings and Unloading Facilities	Water
10	162m N	Electricity Sub Station	Greater Manchester, M3	Electrical Features	Infrastructure and Facilities
H	172m S	Castle Field Coal Wharf	Greater Manchester, M15	Moorings and Unloading Facilities	Water
12	174m NE	Travelling Crane	Greater Manchester, M3	Travelling Cranes and Gentries	Industrial Features



ID	Location	Company	Address	Activity	Category
I	183m NE	N U Oil & Gas	Fifth Floor Castlefield House, Liverpool Road, Manchester, Greater Manchester, M3 4SB	Special Purpose Machinery and Equipment	Industrial Products
I	183m NE	R M R I Consulting Ltd	Castlefield House, Liverpool Road, Manchester, Greater Manchester, M3 4SB	Civil Engineers	Engineering Services
13	184m SE	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
J	194m SE	Bauer	Unit 1, Castle Quay, Manchester, Greater Manchester, M15 4NJ	Published Goods	Industrial Products
J	196m SE	Castle Quay	Greater Manchester, M15	Moorings and Unloading Facilities	Water
K	198m E	Deansgate-Castlefield (Manchester Metrolink)	Greater Manchester, M3	Tram, Metro and Light Railway Stations and Stops	Public Transport, Stations and Infrastructure
14	198m NW	Big Yellow Self Storage Company Ltd	1, New Elm Road, Manchester, Greater Manchester, M3 4JH	Container and Storage	Transport, Storage and Delivery
15	202m NW	Electricity Sub Station	Greater Manchester, M3	Electrical Features	Infrastructure and Facilities
K	202m E	printing.com	Nettl, 323-325, Deansgate, Deansgate, Manchester, Greater Manchester, M3 4LQ	Published Goods	Industrial Products
K	202m E	Nettl	323-325, Deansgate, Manchester, Greater Manchester, M3 4LQ	Published Goods	Industrial Products
16	204m S	Depot	Greater Manchester, M15	Container and Storage	Transport, Storage and Delivery
17	208m W	Electricity Sub Station	Greater Manchester, M3	Electrical Features	Infrastructure and Facilities
18	229m SW	The Voiceover Gallery	110 Timber Wharf 32, Worsley Street, Manchester, Greater Manchester, M15 4NX	Recording Studios and Record Companies	IT, Advertising, Marketing and Media Services
19	237m NE	Electricity Sub Station	Greater Manchester, M3	Electrical Features	Infrastructure and Facilities
20	244m SE	Deansgate Rail Station	Greater Manchester, M15	Railway Stations, Junctions and Halts	Public Transport, Stations and Infrastructure

This data is sourced from Ordnance Survey.



4.2 Current or recent petrol stations

Records within 500m**3**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 74**

ID	Location	Company	Address	LPG	Status
F	96m S	OBSOLETE	Dawson Street, Manchester, Greater Manchester, M3 4JZ	Not Applicable	Obsolete
23	321m S	OBSOLETE	14, Great Jackson Street, Castlefield, Manchester, Greater Manchester, M15 4NG	Not Applicable	Obsolete
R	458m NW	SAINSBURYS	100, Regent Road, Ordsall Lane, Salford, Greater Manchester, M5 4QU	No	Open

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 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.



4.6 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.

4.7 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.

4.8 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.

4.9 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.

4.10 Licensed industrial activities (Part A(1))

Records within 500m

2

Records of Part A(1) 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 74**

ID	Location	Details	
T	490m E	Operator: MANCHESTER HEAT NETWORK TRADECO LIMITED Installation Name: MANCHESTER CIVIC QUARTER ENERGY CENTRE EPR/JP3700BU Process: NEW MEDIUM COMBUSTION PLANT Permit Number: JP3700BU Original Permit Number: JP3700BU	EPR Reference: - Issue Date: 20/08/2020 Effective Date: 20/08/2020 Last date noted as effective: 25/01/2021 Status: EFFECTIVE
T	490m E	Operator: MANCHESTER HEAT NETWORK TRADECO LIMITED Installation Name: MANCHESTER CIVIC QUARTER ENERGY CENTRE EPR/JP3700BU Process: TRANCHE A SG PERMITTING DATE 1ST OCTOBER 2019 Permit Number: JP3700BU Original Permit Number: JP3700BU	EPR Reference: - Issue Date: 20/08/2020 Effective Date: 20/08/2020 Last date noted as effective: 25/01/2021 Status: EFFECTIVE

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

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

Records within 500m

5

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 74**

ID	Location	Address	Details	
A	21m NW	Hanson Aggregates, Potato Wharf, Off Liverpool Road, M3 4LE	Process: Use of Bulk Cement Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
E	70m NW	Arc Northern, Potato Wharf, Liverpool Rd, M3 4NB	Process: Use of Bulk Cement Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
28	380m S	Tom Garner Motors, A Branch of Robins & Day Ltd, Chester Rd, Manchester, M15 4GA	Process: Respraying of Road Vehicles Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
R	438m NW	Sainsbury J Plc, 100 Regent Road, Salford, M5 4QU	Process: Unloading of Petrol into Storage at Service Stations Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcements Notified Date of enforcement: No Enforcements Notified Comment: No Enforcements Notified



ID	Location	Address	Details	
R	444m NW	Sainsbury Plc, 100 Regent Road, Salford, M5 4QU	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

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0
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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.

4.13 Licensed Discharges to controlled waters

Records within 500m	51
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Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on **page 74**

ID	Location	Address	Details	
1	33m NE	RICE ST NEAR CASTLE ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 01MAN0171 Permit Version: 1 Receiving Water: BRIDGEWATER CANAL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 15/09/1993 Revocation Date: 15/09/1993
D	52m NW	TOPHAM RES DEVELOPMENT SWO, LIVERPOOL ROAD/POTATO WHARF, CASTLEFIELD	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991276 Permit Version: 1 Receiving Water: BRIDGEWATER CANAL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 18/05/1988 Revocation Date: 01/07/1991
D	67m NW	READY MIXED CONCRETE DEPOT, LIVERPOOL ROAD	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 016990275 Permit Version: 1 Receiving Water: BRIDGEWATER CANAL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 10/03/1977 Revocation Date: 31/08/1989



ID	Location	Address	Details	
E	69m NW	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 2 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1991 Revocation Date: 31/12/1994
E	69m NW	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 3 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1995 Revocation Date: 30/06/1995
E	69m NW	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 4 Receiving Water: CROWTON BROOK	Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 01/07/1995 Revocation Date: 08/03/2016
A	75m SW	EGERTON ST WORSLEY ST CSO, EGERTON ST AND WORSLEY ST, CORNBROOK, A57 M, MANCHESTER, M15 4LG	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016983277 Permit Version: 1 Receiving Water: THE RIVER MEDLOCK	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 19/02/1999 Effective Date: 01/11/1999 Revocation Date: 31/03/2018
A	76m SW	CHESTER RD AT YORK ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982720 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 30/09/1994 Revocation Date: 18/02/1999
A	76m SW	CHESTER RD/YORK ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0279 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 19/12/1999
A	76m SW	EGERTON ST/ELESMERE ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0180 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 12/08/1999



ID	Location	Address	Details	
A	76m SW	CHESTER RD AT YORK ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982720 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 19/02/1999 Revocation Date: 14/07/2000
A	79m SW	EGERTON ST WORSLEY ST CSO, EGERTON ST AND WORSLEY ST, CORNBROOK, A57 M, MANCHESTER, M15 4LG	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016983277 Permit Version: 2 Receiving Water: THE RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 12/03/2018 Effective Date: 01/04/2018 Revocation Date: -
A	85m SW	EGERTON ST/WORSLEY ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0181 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/01/1995
G	143m SE	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 1 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 20/01/1975 Revocation Date: 31/03/1991
G	143m SE	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 1 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 20/01/1975 Revocation Date: 31/03/1991
G	143m SE	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 2 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1991 Revocation Date: 31/12/1994



ID	Location	Address	Details	
G	143m SE	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 3 Receiving Water: CROWTON BROOK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1995 Revocation Date: 30/06/1995
G	143m SE	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0175/5 Permit Version: 4 Receiving Water: CROWTON BROOK	Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 01/07/1995 Revocation Date: 08/03/2016
L	225m SE	DEANS_GATE, L. PETER ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0157 Permit Version: 1 Receiving Water: TUNNEL TO MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 02/09/2010
L	225m SE	DEANS_GATE, L. PETER ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0157 Permit Version: 2 Receiving Water: TUNNEL TO MEDLOCK	Status: SURRENDERED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 18/07/2014
L	235m SE	CHESTER RD AT OWEN ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982719 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: - Effective Date: 01/12/1999 Revocation Date: -
L	235m SE	CHESTER RD AT OWEN ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0276 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/12/1999
21	252m S	MANCUNIAN WAY ROUNDABOUT, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0368 Permit Version: 1 Receiving Water: -	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: -



ID	Location	Address	Details	
22	273m SW	ST GEORGES ISLAND PROJECTS OFFICE, HULME HALL ROAD	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: 016993598 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 14/09/2004 Effective Date: 14/09/2004 Revocation Date: 14/01/2005
M	306m NW	WATER STREET/LIVERPOOL ROAD CSO, WATER STREET, 133 LIVERPOOL ROAD, MANCHESTER, GREATER MANCHESTER, M3 4PU	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016993597 Permit Version: 2 Receiving Water: RIVER IRWELL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 24/03/2014 Effective Date: 31/08/2014 Revocation Date: 08/01/2020
M	308m NW	WATER STREET/LIVERPOOL ROAD CSO, WATER STREET, 133 LIVERPOOL ROAD, MANCHESTER, GREATER MANCHESTER, M3 4PU	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0169 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1995 Revocation Date: 25/10/1995
M	308m NW	WATER STREET/LIVERPOOL ROAD CSO, WATER STREET, 133 LIVERPOOL ROAD, MANCHESTER, GREATER MANCHESTER, M3 4PU	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016993597 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 05/10/2004 Effective Date: 05/10/2004 Revocation Date: 30/08/2014
M	309m NW	WATER STREET/LIVERPOOL ROAD CSO, WATER STREET, 133 LIVERPOOL ROAD, MANCHESTER, GREATER MANCHESTER, M3 4PU	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016993597 Permit Version: 3 Receiving Water: RIVER IRWELL	Status: VARIED UNDER EPR 2010 Issue date: 09/01/2020 Effective Date: 09/01/2020 Revocation Date: -
N	316m N	GRAPE STREET CSO, GRAPE STREET, MANCHESTER, GREATER MANCHESTER, M60 9EA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0170 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 02/09/2010
N	316m N	GRAPE STREET CSO, GRAPE STREET, MANCHESTER, GREATER MANCHESTER, M60 9EA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0170 Permit Version: 2 Receiving Water: RIVER IRWELL	Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 10/01/2017

ID	Location	Address	Details	
N	316m N	GRAPE STREET CSO, GRAPE STREET, MANCHESTER, GREATER MANCHESTER, M60 9EA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0170 Permit Version: 3 Receiving Water: RIVER IRWELL	Status: VARIED UNDER EPR 2010 Issue date: 11/01/2017 Effective Date: 11/01/2017 Revocation Date: 31/03/2018
24	322m NW	J SAINSBURY PLC SWO, REGENT ROAD, END OF ORDSALL ALNE, SALFORD, GREATER MANCHESTER	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991422 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/11/1994 Revocation Date: 01/11/1994
26	349m SE	OWEN STREET, MANCHESTER, M15 4PZ	Effluent Type: TRADE DISCHARGES - SITE DRAINAGE Permit Number: EPRFB3091RH Permit Version: 1 Receiving Water: THE RIVER MEDLOCK	Status: SURRENDERED UNDER EPR 2010 Issue date: 04/10/2016 Effective Date: 04/10/2016 Revocation Date: 02/07/2018
27	357m N	WATER STREET CSO	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982993 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 23/06/1995 Revocation Date: -
O	362m N	ST JOHNS DEVELOPMENT SETTLEMENT TNK, QUAY STREET, MANCHESTER, LANCASHIRE, M3 2GS	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: EPRMB3590DF Permit Version: 1 Receiving Water: TRIBUTARY OF THE RIVER IRWELL	Status: NEW ISSUED UNDER EPR 2010 Issue date: 15/05/2020 Effective Date: 15/05/2020 Revocation Date: -
O	387m N	GRAPE STREET CSO, GRAPE STREET, MANCHESTER, GREATER MANCHESTER, M60 9EA	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0170 Permit Version: 4 Receiving Water: RIVER IRWELL	Status: VARIED UNDER EPR 2010 Issue date: 19/03/2018 Effective Date: 01/04/2018 Revocation Date: -
P	394m SW	CITY RD CSO 288OV, 204 CITY ROAD, MANCHESTER, M15 5JQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982954 Permit Version: 1 Receiving Water: MANCHESTER SHIP CANAL	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 23/06/1995 Revocation Date: 30/03/2005



ID	Location	Address	Details	
P	394m SW	MARPLE ST/ROLLS CRES CSO, HULME	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982958 Permit Version: 1 Receiving Water: MANCHESTER SHIP CANAL	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 08/08/1995 Revocation Date: 30/03/2005
P	394m SW	CITY RD CSO 288OV, 204 CITY ROAD, MANCHESTER, M15 5JQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982954 Permit Version: 2 Receiving Water: MANCHESTER SHIP CANAL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 07/03/2005 Effective Date: 31/03/2005 Revocation Date: 31/12/2014
P	394m SW	JUNCTION ROLLS CRES/YEW STREET CSO, HULME	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982958 Permit Version: 2 Receiving Water: MANCHESTER SHIP CANAL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 14/03/2005 Effective Date: 31/03/2005 Revocation Date: 31/12/2014
P	394m SW	JUNCTION ROLLS CRES/YEW STREET CSO, HULME	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982958 Permit Version: 3 Receiving Water: MANCHESTER SHIP CANAL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/03/2010 Effective Date: 01/01/2015 Revocation Date: 25/02/2015
P	394m SW	STRETFORD RD/UPPER MOSS LANE CSO, HULME	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0365 Permit Version: 2 Receiving Water: MANCHESTER SHIP CANAL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 07/03/2005 Effective Date: 31/03/2005 Revocation Date: 31/12/2014
P	403m SW	CITY RD CSO 288OV, 204 CITY ROAD, MANCHESTER, M15 5JQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982954 Permit Version: 4 Receiving Water: VIA SWS MANCHESTER SHIP CANAL	Status: VARIED UNDER EPR 2010 Issue date: 02/07/2018 Effective Date: 02/07/2018 Revocation Date: -



ID	Location	Address	Details	
P	405m SW	CITY RD CSO 288OV, 204 CITY ROAD, MANCHESTER, M15 5JQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982954 Permit Version: 3 Receiving Water: MANCHESTER SHIP CANAL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/03/2010 Effective Date: 01/01/2015 Revocation Date: 01/07/2018
P	405m SW	STRETFORD RD/UPPER MOSS LANE CSO, HULME	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0365 Permit Version: 3 Receiving Water: MANCHESTER SHIP CANAL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 29/03/2010 Effective Date: 01/01/2015 Revocation Date: -
P	405m SW	JUNCTION ROLLS CRES/YEW STREET CSO, HULME	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982958 Permit Version: 4 Receiving Water: MANCHESTER SHIP CANAL	Status: VARIED UNDER EPR 2010 Issue date: 26/02/2015 Effective Date: 26/02/2015 Revocation Date: -
Q	468m SW	GARAGE AT HULME HALL RD, HULME HALL ROAD, STOCKPORT, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0168/800 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1991 Revocation Date: 31/12/1994
Q	468m SW	GARAGE AT HULME HALL RD, HULME HALL ROAD, STOCKPORT, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - NOT WATER COMPANY Permit Number: 0168/800 Permit Version: 2 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1995 Revocation Date: 16/04/2002
S	483m N	WATER ST/NEW QUAY ST CSO, WATER STREET NEW QUAY STREET, SPINNINGFIELDS, MANCHESTER, GREATER MANCHESTER, M3 4JQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016993831 Permit Version: 1 Receiving Water: THE RIVER IRWELL	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 21/03/2006 Effective Date: 21/03/2006 Revocation Date: 01/10/2019
30	488m NW	HAMPTON ST/ORDSALL LANE, SALFORD	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01SAL0183 Permit Version: 1 Receiving Water: -	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: -



ID	Location	Address	Details	
S	488m N	WATER ST/NEW QUAY ST CSO, WATER STREET NEW QUAY STREET, SPINNINGFIELDS, MANCHESTER, GREATER MANCHESTER, M3 4JQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016993831 Permit Version: 2 Receiving Water: THE RIVER IRWELL	Status: VARIED UNDER EPR 2010 Issue date: 02/10/2019 Effective Date: 02/10/2019 Revocation Date: -

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0
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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.

4.15 Pollutant release to public sewer

Records within 500m	0
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Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0
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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.

4.17 List 2 Dangerous Substances

Records within 500m	0
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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.

4.18 Pollution Incidents (EA/NRW)

Records within 500m

7

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 74**

ID	Location	Details	
11	169m NW	Incident Date: 12/06/2001 Incident Identification: 8739 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
25	332m SW	Incident Date: 15/03/2001 Incident Identification: 362 Pollutant: Oils and Fuel Pollutant Description: Unidentified Oil	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
29	395m SW	Incident Date: 06/06/2001 Incident Identification: 7808 Pollutant: Sewage Materials Pollutant Description: Process Effluent	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)
Q	401m SW	Incident Date: 03/08/2001 Incident Identification: 21600 Pollutant: Specific Waste Materials: Specific Waste Materials Pollutant Description: Tyres: Vehicles and Vehicle Parts	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
Q	401m SW	Incident Date: 03/08/2001 Incident Identification: 21600 Pollutant: Specific Waste Materials Pollutant Description: Tyres	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
Q	401m SW	Incident Date: 03/08/2001 Incident Identification: 21600 Pollutant: Specific Waste Materials Pollutant Description: Vehicles and Vehicle Parts	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
Q	439m SW	Incident Date: 22/01/2003 Incident Identification: 132648 Pollutant: Other Pollutant Pollutant Description: Other	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)

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



4.19 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.

4.20 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.

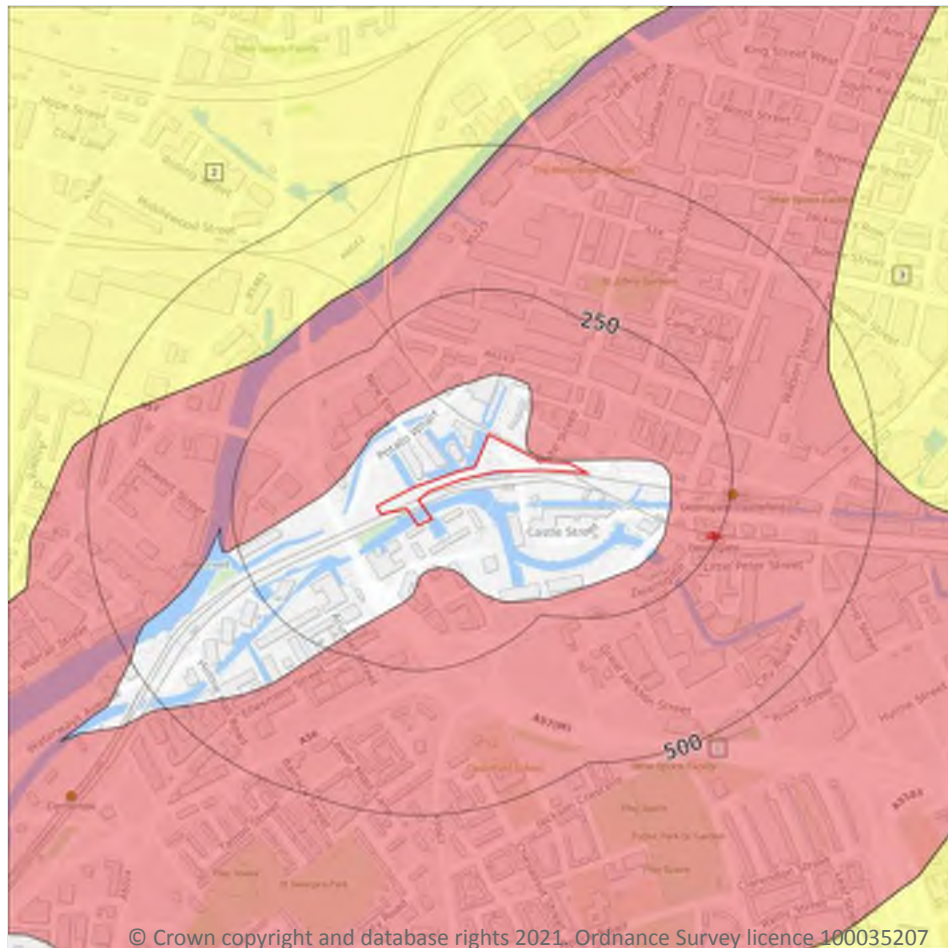
4.21 Pollution inventory radioactive waste

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

3

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 91**

ID	Location	Designation	Description
1	5m N	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	322m NW	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

ID	Location	Designation	Description
3	452m E	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

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5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

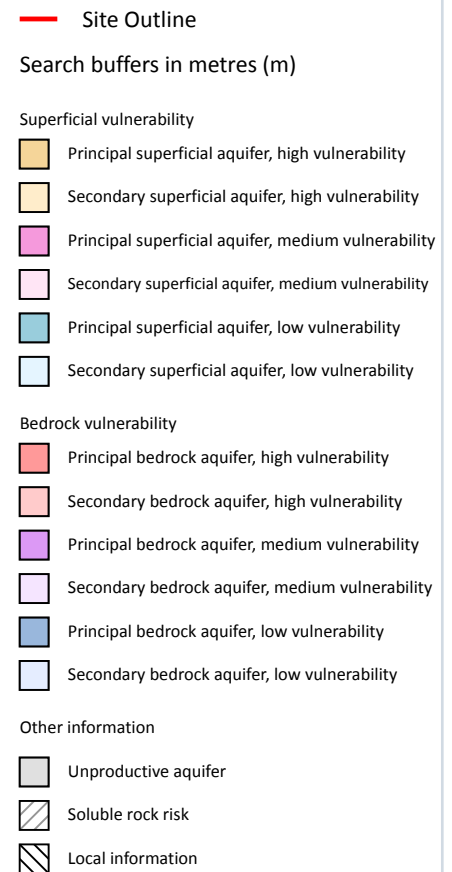
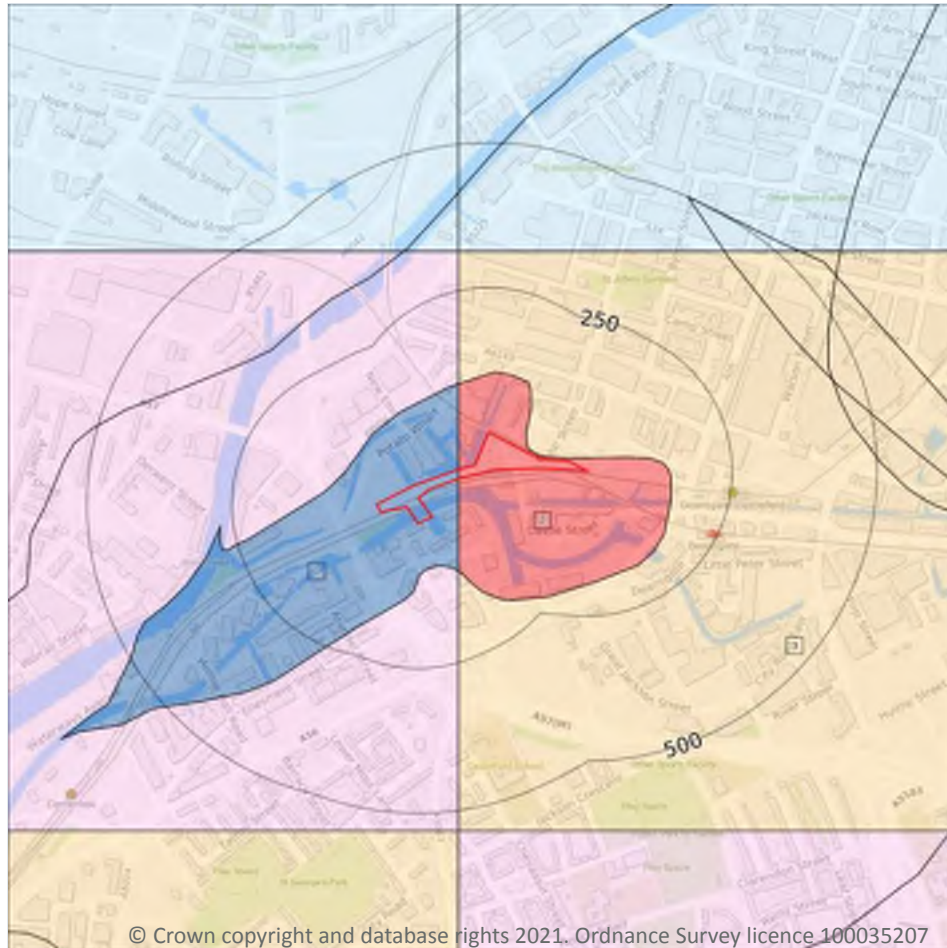
Features are displayed on the Bedrock aquifer map on **page 93**

ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	420m NE	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

3

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 95**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Principal bedrock aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: <40% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Mixed
2	On site	Summary Classification: Principal bedrock aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, No Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: - Aquifer type: - Thickness: 3-10m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Principal Flow mechanism: Well connected fractures
3	4m N	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: 300- 550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: 3-10m Patchiness value: <90% Recharge potential: High	Vulnerability: High Aquifer type: Principal 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



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- 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
Point features
- 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

47

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 97**

ID	Location	Details	
1	306m N	Status: Historical Licence No: NW/069/0004/019 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Ground Water - North West Region Point: ST JOHNS MANCHESTER Data Type: Poly4 Name: Manchester Quays Development (MGY) Ltd Easting: 383094 Northing: 398099	Annual Volume (m ³): 543,120 Max Daily Volume (m ³): 1,488 Original Application No: - Original Start Date: 13/09/2019 Expiry Date: 31/12/2020 Issue No: 1 Version Start Date: 13/09/2019 Version End Date: -
3	535m NE	Status: Historical Licence No: 2569007089 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: 2 BOREHOLES AT GARTSIDE STREET MANCHESTER Data Type: Line Name: HER MAJESTY'S COURT SERVICE Easting: 383335 Northing: 398310	Annual Volume (m ³): 200000 Max Daily Volume (m ³): 1179 Original Application No: - Original Start Date: 26/01/2005 Expiry Date: 31/03/2011 Issue No: 2 Version Start Date: 10/07/2008 Version End Date: -
-	956m NE	Status: Historical Licence No: 2569007069 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT GEORGE ST, MANCHESTER" Data Type: Point Name: BRITISH TELECOM Easting: 384100 Northing: 398000	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 27/01/1971 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1971 Version End Date: -
-	956m NE	Status: Historical Licence No: 2569007069 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT GEORGE ST, MANCHESTER Data Type: Point Name: BRITISH TELECOMMUNICATIONS PLC Easting: 384100 Northing: 398000	Annual Volume (m ³): 1100 Max Daily Volume (m ³): 860 Original Application No: - Original Start Date: 01/04/1984 Expiry Date: - Issue No: 100 Version Start Date: 01/04/2007 Version End Date: -



ID	Location	Details	
-	1004m SE	Status: Active Licence No: NW/069/0004/003 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m ³): 274,115 Max Daily Volume (m ³): 751 Original Application No: - Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -
-	1004m SE	Status: Active Licence No: NW/069/0004/003 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m ³): 274,115 Max Daily Volume (m ³): 751 Original Application No: - Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -
-	1017m NW	Status: Historical Licence No: 2569007085 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT HOPE STREET, SALFORD, MANCHESTER" Data Type: Point Name: READY MIXED CONCRETE (NORTH WEST) LIMITED Easting: 382190 Northing: 398330	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/2000 Expiry Date: - Issue No: 1 Version Start Date: 01/11/2000 Version End Date: -
-	1017m NW	Status: Active Licence No: 2569007085 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT HOPE STREET, SALFORD, MANCHESTER Data Type: Point Name: CEMEX UK MATERIALS LTD Easting: 382190 Northing: 398330	Annual Volume (m ³): 23,000 Max Daily Volume (m ³): 115 Original Application No: - Original Start Date: 01/11/2000 Expiry Date: - Issue No: 4 Version Start Date: 21/12/2018 Version End Date: -



ID	Location	Details	
-	1094m SE	Status: Active Licence No: NW/069/0006/003 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LOWER CHATHAM STREET Data Type: Point Name: Manchester Metropolitan University Easting: 384180 Northing: 397091	Annual Volume (m ³): 283,240 Max Daily Volume (m ³): 1,532 Original Application No: - Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -
-	1094m SE	Status: Active Licence No: NW/069/0006/003 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LOWER CHATHAM STREET Data Type: Point Name: Manchester Metropolitan University Easting: 384180 Northing: 397091	Annual Volume (m ³): 283,240 Max Daily Volume (m ³): 1,532 Original Application No: - Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -
-	1161m E	Status: Historical Licence No: NW0690006001 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: BOREHOLES AT ORIGIN DEVELOPMENTS, MANCHESTER Data Type: Point Name: West Contracting Easting: 384378 Northing: 397733	Annual Volume (m ³): 139128 Max Daily Volume (m ³): 1010 Original Application No: - Original Start Date: 19/01/2009 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 19/01/2009 Version End Date: -
-	1161m E	Status: Historical Licence No: NW/069/0006/001 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: BOREHOLES AT ORIGIN DEVELOPMENTS, MANCHESTER Data Type: Point Name: West Contracting Easting: 384378 Northing: 397733	Annual Volume (m ³): 139128 Max Daily Volume (m ³): 1010 Original Application No: - Original Start Date: 19/01/2009 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 19/01/2009 Version End Date: -



ID	Location	Details	
-	1177m NE	Status: Historical Licence No: 2569007070 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT DIAL HOUSE, CHAPEL ST, SALFORD" Data Type: Point Name: BRITISH TELECOM Easting: 383700 Northing: 398700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 27/01/1971 Expiry Date: - Issue No: 100 Version Start Date: 27/01/1971 Version End Date: -
-	1177m NE	Status: Historical Licence No: 2569007070 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT DIAL HOUSE, CHAPEL ST, SALFORD Data Type: Point Name: BRITISH TELECOMMUNICATIONS PLC Easting: 383700 Northing: 398700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 27/01/1971 Expiry Date: - Issue No: 101 Version Start Date: 01/04/1984 Version End Date: -
-	1177m NE	Status: Active Licence No: 2569007070 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT DIAL HOUSE CHAPEL STREET SALFORD Data Type: Point Name: BRITISH TELECOMMUNICATIONS PLC Easting: 383700 Northing: 398700	Annual Volume (m ³): 45 Max Daily Volume (m ³): 30 Original Application No: - Original Start Date: 27/01/1971 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
-	1524m SW	Status: Historical Licence No: 2569007002 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT 371 ORDSALL LANE, MANCHESTER 5" Data Type: Point Name: COLGATE PALMOLIVE LTD Easting: 381600 Northing: 396700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 08/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 05/12/1985 Version End Date: -



ID	Location	Details	
-	1524m SW	Status: Historical Licence No: 2569007002 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT 371 ORDSALL LANE, MANCHESTER 5 Data Type: Point Name: Cerep III Investment R Sarl Easting: 381600 Northing: 396700	Annual Volume (m ³): 409140 Max Daily Volume (m ³): 1636.56 Original Application No: - Original Start Date: 08/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 29/10/2009 Version End Date: -
-	1674m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1674m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1674m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1674m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1674m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1674m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1705m S	Status: Historical Licence No: 2569007009 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER" Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/10/2000 Version End Date: -



ID	Location	Details	
-	1705m S	Status: Historical Licence No: 2569007009 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER" Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/10/2000 Version End Date: -
-	1705m S	Status: Historical Licence No: 2569007009 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m ³): 66826.2 Max Daily Volume (m ³): 372.772 Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/10/2000 Version End Date: -
-	1705m S	Status: Historical Licence No: 2569007009 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m ³): 66826.2 Max Daily Volume (m ³): 372.772 Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 19/07/2018 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -



ID	Location	Details	
-	1706m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -



ID	Location	Details	
-	1706m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1741m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1741m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1741m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1741m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1741m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1741m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1828m S	Status: Active Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383865 Northing: 395909	Annual Volume (m ³): 227,000 Max Daily Volume (m ³): 900 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 08/05/2014 Version End Date: -

ID	Location	Details	
-	1828m S	Status: Active Licence No: 2569007007 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383865 Northing: 395909	Annual Volume (m ³): 227,000 Max Daily Volume (m ³): 900 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 08/05/2014 Version End Date: -
-	1849m S	Status: Historical Licence No: 2569007007 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER" Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/08/1995 Version End Date: -
-	1849m S	Status: Historical Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER" Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/08/1995 Version End Date: -
-	1849m S	Status: Historical Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 31/12/2003 Version End Date: -

ID	Location	Details	
-	1849m S	Status: Historical Licence No: 2569007007 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 31/12/2003 Version End Date: -
-	1849m S	Status: Historical Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383900 Northing: 395900	Annual Volume (m ³): 227000 Max Daily Volume (m ³): 900 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 23/11/2009 Version End Date: -
-	1849m S	Status: Historical Licence No: 2569007007 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383900 Northing: 395900	Annual Volume (m ³): 227000 Max Daily Volume (m ³): 900 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 23/11/2009 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m

6

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 97**



ID	Location	Details	
A	394m SW	Status: Historical Licence No: 2569007053 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "R IRWELL AT IRWELL WORKS, ORDSALL LANE, SALFORD" Data Type: Point Name: CDS COMPUTER DESIGN SYSTEMS LTD Easting: 382500 Northing: 397400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1987 Version End Date: -
A	394m SW	Status: Historical Licence No: 2569007053 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R IRWELL AT IRWELL WORKS, ORDSALL LANE, SALFORD Data Type: Point Name: CDS COMPUTER DESIGN SYSTEMS LTD Easting: 382500 Northing: 397400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1987 Version End Date: -
-	1524m SW	Status: Historical Licence No: 2569007001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "MANCHESTER SHIP CANAL AT PREMISES, ORDSALL LANE, MANCHESTER" Data Type: Point Name: COLGATE PALMOLIVE LTD Easting: 381600 Northing: 396700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/04/1992 Version End Date: -
-	1524m SW	Status: Historical Licence No: 2569007001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL AT PREMISES, ORDSALL LANE, MANCHESTER Data Type: Point Name: COLGATE PALMOLIVE LTD Easting: 381600 Northing: 396700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 27/04/1992 Version End Date: -



ID	Location	Details	
-	1524m SW	Status: Historical Licence No: 2569007001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL AT PREMISES ORDSALL LANE MANCHESTER Data Type: Point Name: Cerep III Investment R Sarl Easting: 381600 Northing: 396700	Annual Volume (m ³): 1,363,800 Max Daily Volume (m ³): 4909.68 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 29/10/2009 Version End Date: -
-	1965m W	Status: Active Licence No: 2569007074 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: MANCHESTER SHIP CANAL AND DOCKS AT SALFORD QUAYS Data Type: Point Name: PEEL SOUTH EAST LTD Easting: 380900 Northing: 397400	Annual Volume (m ³): 318,056 Max Daily Volume (m ³): 3,350.40 Original Application No: - Original Start Date: 05/04/1990 Expiry Date: - Issue No: 105 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

9

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.

Features are displayed on the Abstractions and Source Protection Zones map on **page 97**

ID	Location	Details	
-	1674m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -



ID	Location	Details	
-	1674m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1674m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1706m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -



ID	Location	Details	
-	1706m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1741m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1741m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1741m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

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



5.9 Source Protection Zones

Records within 500m**1**

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on **page 97**

ID	Location	Type	Description
2	474m E	3	Total catchment

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

5.10 Source Protection Zones (confined aquifer)

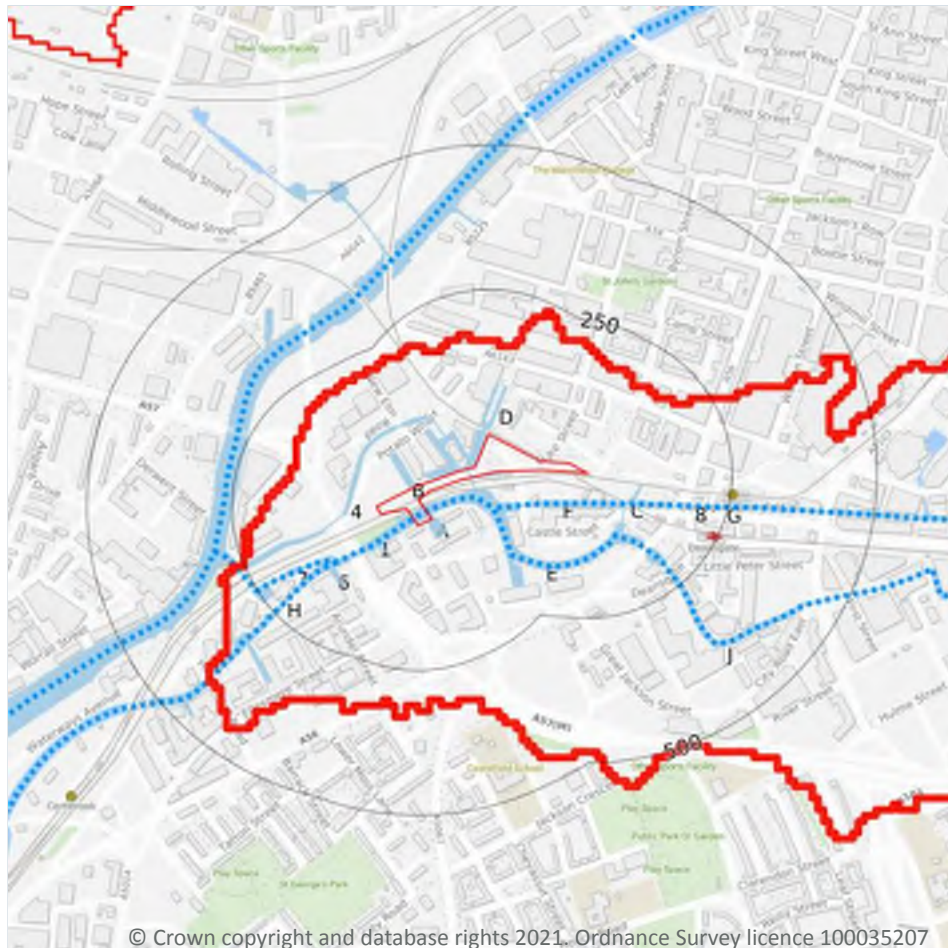
Records within 500m**0**

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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- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

36

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 115**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	On site	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bridgewater Canal

ID	Location	Type of water feature	Ground level	Permanence	Name
A	On site	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	On site	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
B	On site	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	On site	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
A	On site	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
A	On site	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bridgewater Canal
A	8m N	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
A	8m N	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	11m NW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
D	11m NW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
A	36m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bridgewater Canal
4	48m W	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
F	50m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal



ID	Location	Type of water feature	Ground level	Permanence	Name
A	55m N	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
A	57m NW	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
A	58m N	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	River Medlock
E	59m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bridgewater Canal
C	84m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
C	84m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bridgewater Canal
C	87m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bridgewater Canal
C	90m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
C	90m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
C	107m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bridgewater Canal
C	120m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
6	127m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
7	130m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-



ID	Location	Type of water feature	Ground level	Permanence	Name
H	130m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Bridgewater Canal
C	155m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	River Medlock
8	157m E	Canal. A manmade watercourse for inland navigation.	Underground	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
C	172m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
C	200m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock
G	225m E	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
H	233m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
H	236m SW	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
J	238m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	River Medlock

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

12

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 115**

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 115**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
C	On site	River WB catchment	Medlock (Lumb Brook to Irwell)	GB112069061152	Roch Irk Medlock	Irwell

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

6.4 WFD Surface water bodies

Records identified

3

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 115**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
2	On site	River	Medlock (Lumb Brook to Irwell)	GB112069061152	Moderate	Good	Moderate	2016
G	51m S	Canal	Rochdale Canal, western section	GB71210517	Moderate	Good	Moderate	2016
I	112m SW	Canal	Bridgewater Canal	GB71210001	Moderate	Good	Moderate	2016

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 115**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Manchester and East Cheshire Permo-Triassic Sandstone Aquifers	<u>GB41201G101100</u>	Poor	Poor	Poor	2015

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



7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- Environment Agency river and coastal flooding:
 - High
 - Medium
 - Low
 - Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

15

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; 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).

Features are displayed on the River and coastal flooding map on **page 121**

Distance	RoFRaS flood risk
On site	High
0 - 50m	High



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

7.2 Historical Flood Events

Records within 250m

1

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.

Features are displayed on the River and coastal flooding map on **page 121**

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
A	On site	Ea01326_21dec1991_Bridgewatercanal_Cast lefield	1991-12-21 1991-12-22	Other	Other	No data

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



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- 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 121**

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 121**

Location	Type
On site	Zone 3 - (Fluvial 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 250 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

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 126**

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.

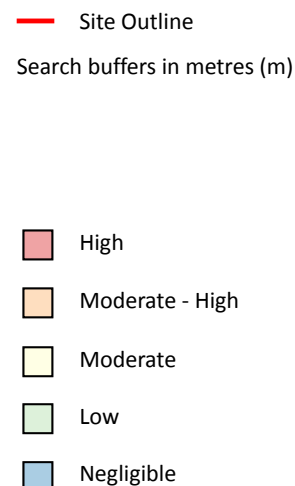
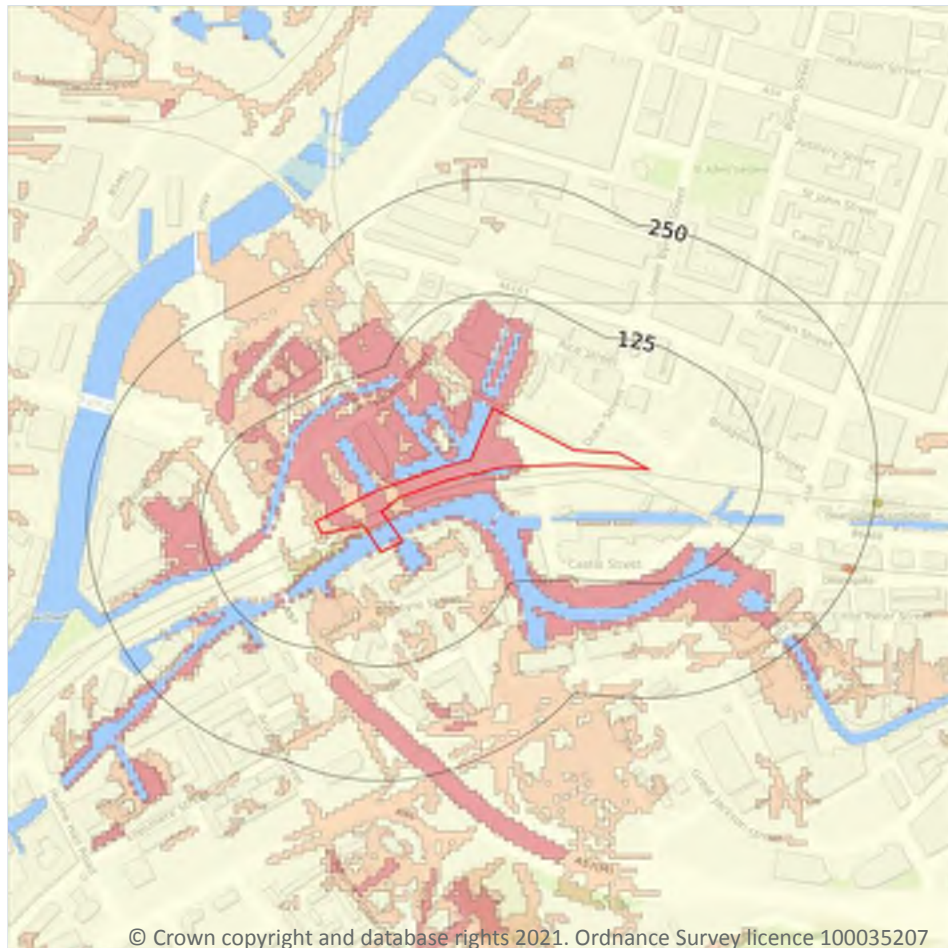
The table below shows the maximum flood depths for a range of return periods for the site.

Return period	Maximum modelled depth
1 in 1000 year	Between 0.3m and 1.0m
1 in 250 year	Between 0.1m and 0.3m
1 in 100 year	Between 0.1m and 0.3m
1 in 30 year	Negligible

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

High

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 128**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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.

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

0

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.

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**0**

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.

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

0

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

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**3**

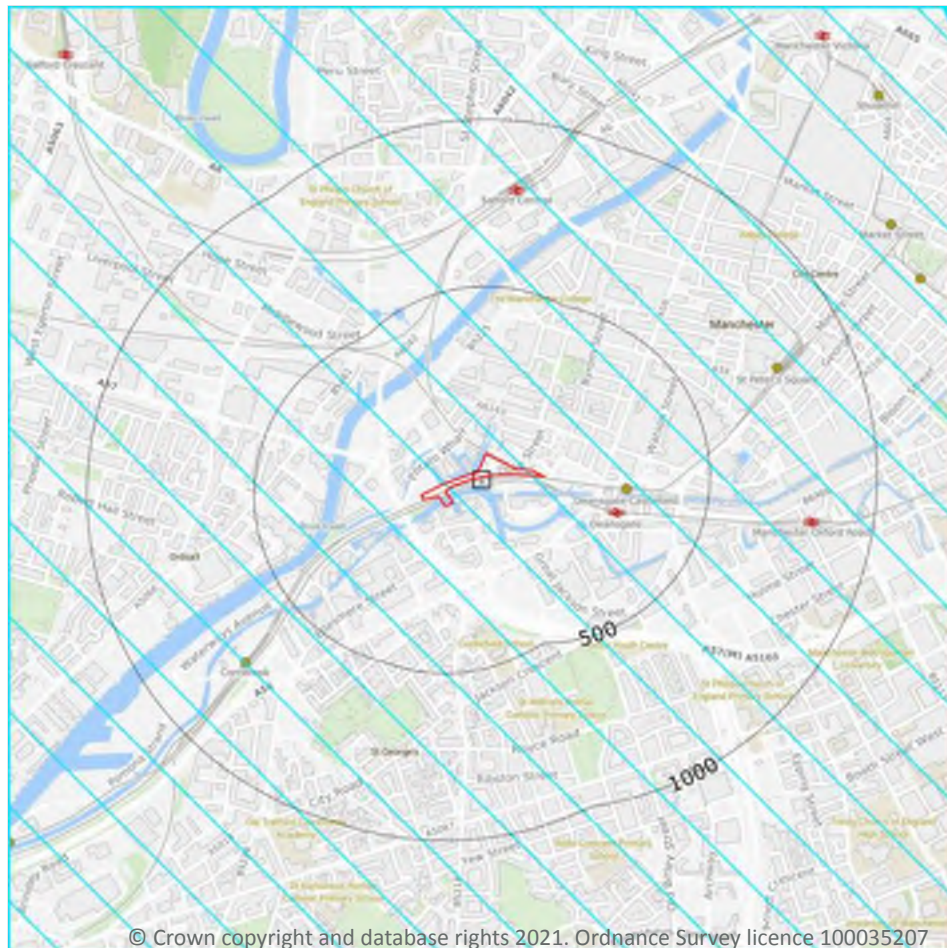
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
761m NW	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	S643	Existing
1278m NE	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	S638	Existing
1282m N	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	S638	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

1

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 133**

ID	Location	Type of developments requiring consultation
1	On site	Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons > 4000m². Combustion - General combustion processes >50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

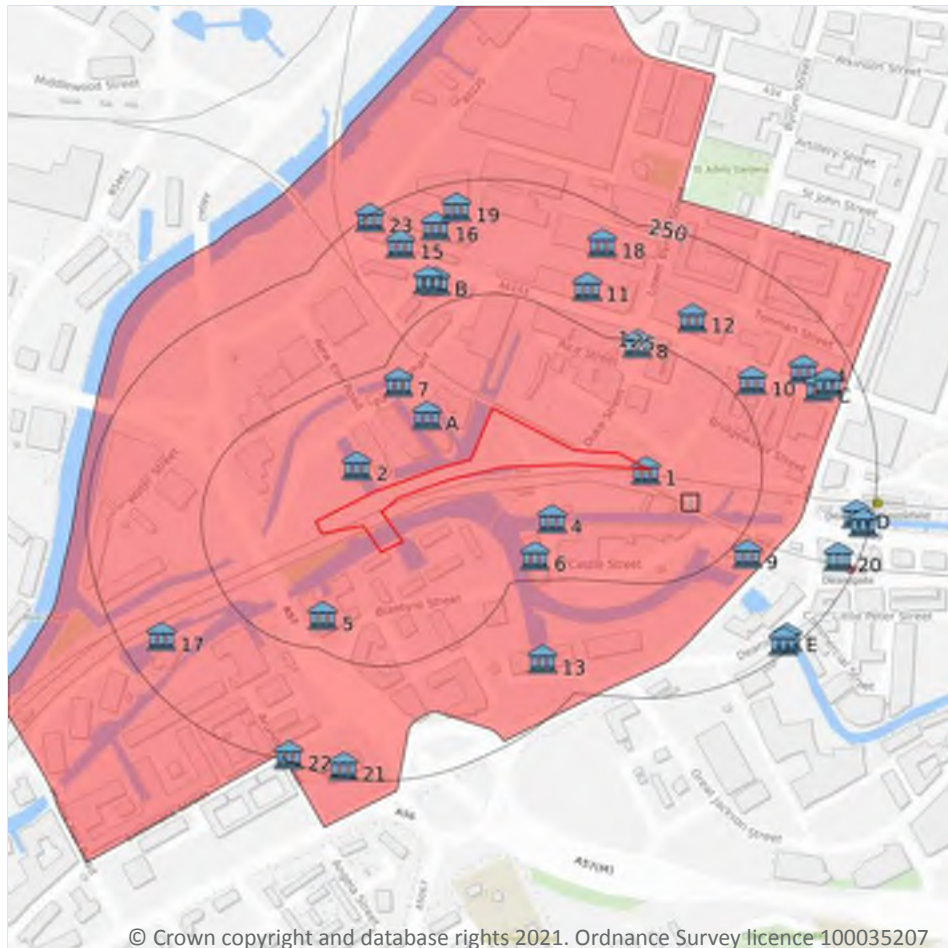
0

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.

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



11 Visual and cultural designations



- Site Outline
- Search buffers in metres (m)
- Listed buildings
- Conservation areas
- Conservation areas - no data
- National Parks
- Areas of Outstanding Natural Beauty
- Registered parks and gardens
- Scheduled Monuments
- World Heritage Sites

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

31

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.

Features are displayed on the Visual and cultural designations map on **page 135**

ID	Location	Name	Grade	Reference Number	Listed date
1	1m S	Castlefield Railway Viaduct From G-Mex To Dawson Street, Deansgate, Manchester, M3	II	1292315	14/02/1988
2	34m NW	Bridgewater Canal Basin At Potato Wharf, Deansgate, Manchester, M3	II	1246959	06/06/1994
4	59m S	Rochdale Canal Lock Number 92 And Castle Street Bridge, Deansgate, Manchester, M3	II	1270858	20/06/1988
A	59m N	The Giants Basin, Deansgate, Manchester, M3	II	1247068	06/06/1994



ID	Location	Name	Grade	Reference Number	Listed date
5	89m S	Former Canal Flour Mills, Deansgate, Manchester, M15	II	1200858	09/11/1992
6	98m S	Merchants Warehouse, Deansgate, Manchester, M3	II	1197778	20/06/1988
7	104m N	Pair Of Culvert Arches Over River Medlock And Associated Overflow Channel, Deansgate, Manchester, M3	II	1283003	06/06/1994
8	122m N	Former St Matthews Sunday School, Deansgate, Manchester, M3	II	1200806	03/10/1974
9	142m SE	Former Congregational Chapel, Deansgate, Manchester, M3	II	1292311	20/06/1988
10	149m NE	29-41, Liverpool Road, Deansgate, Manchester, M3	II	1219402	06/06/1994
B	152m NW	123, Liverpool Road, Deansgate, Manchester, M3	II	1200804	06/06/1994
B	156m NW	Former Commercial Hotel, Deansgate, Manchester, M3	II	1219418	06/06/1994
11	165m NE	Power Hall Of Museum Of Science And Industry, Deansgate, Manchester, M3	II	1291458	06/06/1994
12	168m NE	Museum Of Science And Industry, Air And Space Museum, Deansgate, Manchester, M3	II	1200807	17/05/1974
13	200m SE	Middle Warehouse, At Former Castle Field Goods Yard, Deansgate, Manchester, M15	II	1208653	05/06/1990
14	202m NE	Former Market Hall, Deansgate, Manchester, M3	II	1197915	17/05/1974
15	206m NW	Former Liverpool Road Railway Station Station Masters House, Deansgate, Manchester, FORMER LIVERPOOL ROAD RAILWAY STATION	I	1291477	18/12/1963
C	206m NE	K6 Telephone Kiosk Beside South West Corner Of Number 330 Deansgate, Deansgate, Manchester, M3	II	1219441	29/10/1987
16	208m N	Old Warehouse To North Of Former Liverpool Road Railway Station, Deansgate, Manchester, M60	I	1282991	08/05/1973
17	208m SW	Hulme Lock Branch Canal, Hulme, Manchester, M15	II	1208196	06/06/1994
18	216m NE	Manchester Museum Of Science And Industry, Former Lower Byrom Street Warehouse, Deansgate, Manchester, M3	II	1283016	06/06/1994
C	219m NE	Castlefield Information Centre, Deansgate, Manchester, M3	II	1200853	17/05/1974
19	223m N	Colonnaded Railway Viaduct At Former Liverpool Road Goods Depot, Deansgate, Manchester, M60	II	1200805	06/06/1994
20	229m SE	Deansgate Station, Deansgate, Manchester, M3	II	1376146	20/08/1998
D	233m E	Rochdale Canal Lock Keepers Cottage At Lock Number 91, Next To Gaythorn Tunnel, Deansgate, Manchester, M3	II	1247597	29/01/1986
21	238m S	Church Of St George, Hulme, Manchester, M15	II*	1208640	03/10/1974

