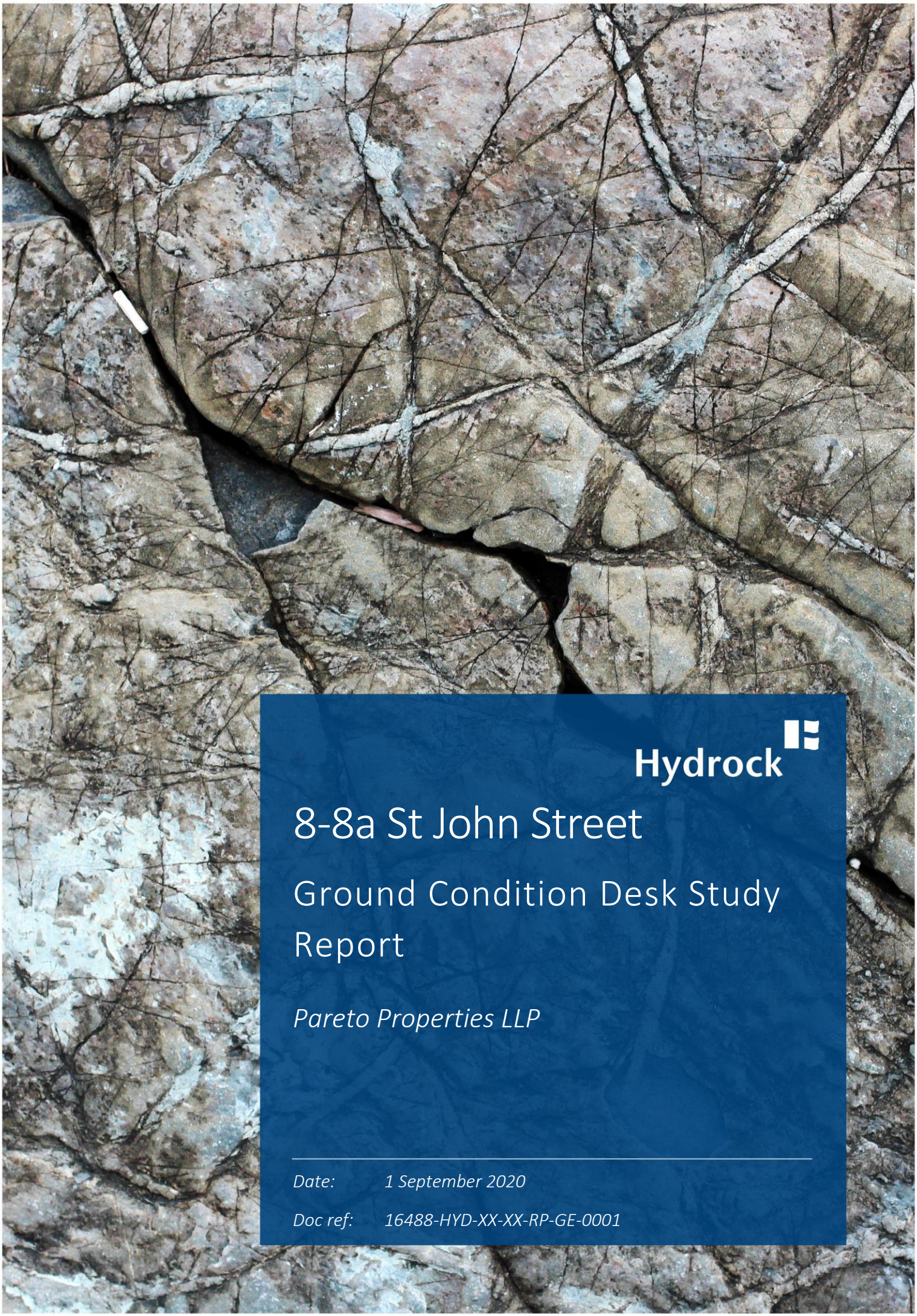


Hydrock

8-8a St John Street

Ground Condition Desk Study Report

Pareto Properties LLP

Date: *1 September 2020*

Doc ref: *16488-HYD-XX-XX-RP-GE-0001*

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EXECUTIVE SUMMARY

SITE INFORMATION AND SETTING	
Objectives	Ground Condition Desk Study
Client	Pareto Properties LLP
Site name and location	8-8a St John Street, Manchester, M3 4DU.
Proposed development	Proposed development is to comprise a two-storey residential dwelling in the north east of the site. The centre of the site will be repurposed for use as a garden for the newly built property. The development will also include the reconfiguration of the grade II listed buildings, 8-8a St John Street into two residential dwellings with a three-storey extension onto the north of the properties.
PHASE 1 (DESK STUDY AND SITE RECONNIASANCE)	
Ground Model	The site is flat and rectangular in shape. The north east and centre comprise six raised brick-built planters containing seven mature trees. One planter contains two of the seven trees present. The centre and south west of the site are block paved. A strip of asphalt used for car parking splits the centre from the south of the site. In the south west of the site there is one three storey terraced property and one three storey semi-detached property, both are currently occupied by office space. The buildings present in the south west of the site may contain potentially asbestos containing building materials in their construction. Review of historical Ordnance Survey mapping indicates: • In 1851 nine houses are recorded across the majority of the site numbers 8 and 8a St John Street and 6 to 16 Longworth Street detailed on the 1948 map. Up to ten small sheds are shown on the western boundary. No 1 passage transect north to south in the north west of the site. The site remains in this configuration until 1951. • In 1951 houses 6 and 8 (Longworth Street) are no longer recorded, in 1962 houses 10, 12 and 14 are no longer recorded and 1980 house 16 is no longer recorded. • From 1985 the site remains in its current configuration with houses 8a and 8 in the south west of the site and six brick-built planters in the centre and north east of the site. • The available historical maps show timber yards formerly present 20m north west and 20m south of the site. The good stations, central station and Cheshire Line Railway are recorded 50m east of the site. From the 1960s various warehouse, public houses and offices are shown in the surrounding area. In 1986 buildings related with the stations 50m are either demolished or repurposed for multi-storey car parks. A preliminary UXO desk study indicates a low bomb risk. The geology at the site consists of Glacio-fluvial sheet deposits of sands and gravels likely between 4m and 6m deep, overlying Chester Pebble Bed Formation. Made Ground is likely to be present as a result of the demolition of former houses onsite and infilling of previous foundation excavations. Geological mapping shows artificial ground present 50m east of the site. The superficial deposits comprise a Secondary A aquifer and the sandstone is a Principal Aquifer. The site is not located within a groundwater source protection zone. There are two groundwater abstraction wells one at 336m west and the other at 782m north. An unnamed culvert is present 108m east, Deansgate Canal is shown 337m south and the River Medlock at 445m south.
ASSESSMENT AND CONCLUSIONS	
Preliminary Geotechnical Hazards	The following plausible geotechnical risks are identified. • Variable Made Ground - settlement or differential settlement of foundations, floor slabs, roads and infrastructure elements.

	• Low strength, compressible ground – risk of shear failure and excessive settlement of foundations, roads and infrastructure elements. • Attack of buried concrete by aggressive ground conditions – the development site may contain Made Ground and potentially sulphate bearing soils. • Shrinkage/swelling of clay – settlement/heave of foundations, especially where located within the influence of trees and vegetation. • Running sands, loose Made Ground and shallow groundwater, leading to difficulty with excavation due to trench instability. • Potential for obstructions and the risk of instability of excavations with the impact on construction staff, vehicles and plant operators. • Potential for unforeseen ground conditions and the risks associated with limited data.
Preliminary Geo-environmental Conclusions	Based on historical land uses and its current operational use, the overall risk from land contamination at the site is considered to be low for the current development, and low to moderate (with some specific high risks) identified for a redeveloped site, but would need to be confirmed by appropriate intrusive investigation, testing and assessment of the results of the investigation. It is considered that it is unlikely that the site would be classified as Contaminated Land under Part 2A of the EPA 1990. The possible pollutant linkages on an unremediated site determined by desk study are summarised below for risk levels of moderate or greater.

Source(s)	◄ potential Impact on ►	Receptor(s)
Metals, metalloids, PAH and asbestos in Made Ground below the site.		Site users Groundwater
Asbestos within existing buildings.		Site users
Ground gases (carbon dioxide and methane) from organic materials in the Made Ground below the site and from the artificial ground 50m east of the site.		Site Users Buildings

FUTURE CONSIDERATIONS	
Further work	In order to confirm the actual risks to receptors and confirm the ground conditions with respect to potential geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. This investigation will need to: • determine the depth and distribution of Made Ground and natural strata across the site; • determine the soil strength/density profile beneath the site; • determine the depth/level of groundwater beneath the site; • determine the ground gas concentrations beneath the site; • allow sampling for chemical and geotechnical laboratory testing; and • obtain information in terms of Aggressive Chemical Environment for Concrete Class (ACEC). Following investigation, assessment will be required to: • update the Ground Model and update the Geotechnical Risk Register; • provide Geotechnical Design recommendations; • update the Conceptual Site Model (CSM), including identification of plausible pollution linkages; • undertake generic quantitative risk assessment of potential chemical contaminants to establish 'suitability for use' under the current planning regime; • discuss potential environmental liabilities associated with land contamination (soil, water and gas); and • provide outline mitigation recommendations to ensure the site is 'suitable for use'.

This Executive Summary forms part of Hydrock Consultants Limited report number 16488-HYD-XX-XX-RP-GE-0001 and should not be used as a separate document.

1. INTRODUCTION

1.1 Terms of reference

In July 2020, Hydrock Consultants Limited (Hydrock) was commissioned by Turley on behalf of Pareto Properties LLP (the Client) to undertake a ground condition desk study at 8-8a St John Street, Manchester, M3 4DU.

The site is flat and rectangular in shape. The north east and centre comprise six raised brick-built planters containing seven mature trees. One planter contains two of the seven trees present. The centre and south west of the site are block paved. A strip of asphalt used for car parking splits the centre from the south of the site. In the south west of the site there is one three storey terrace property and one three storey semi-detached property, both are currently occupied by office space.

Hydrock understands that the proposed development is to comprise a two-storey residential dwelling in the north east of the site. Six of the mature trees are to be removed and one is to be retained within the centre of the site. The centre of the site will be repurposed for use as a garden for the newly built property. The development will also include the reconfiguration of the grade II listed buildings, 8-8a St John Street into two residential dwellings with a three-storey extension onto the north of the properties.

Illustrations of the proposed development are shown within Tim Groom Architects, initial planning presentation (Referenced 1084 PG-2). Extracts from the planning presentation showing the ground floor and first floor layout plans are included in Appendix A

The works have been undertaken in accordance with Hydrock's proposal referenced (16488-GNMA-FP-GE-0001, dated 14th July 2020) and the Client's instructions to proceed (email dated 16th July 2020).

1.2 Objectives

The works have been commissioned to a support the planning application.

The objective of the Phase 1 Desk Study is to formulate an outline Conceptual Ground Model of the site to identify key geo-environmental and geotechnical risks to the proposed development.

1.3 Scope

The scope of the Phase 1 Desk Study comprises:

- a field reconnaissance (walkover) to determine the nature of the site and its surroundings including current and former land uses, topography and hydrology;
- acquisition and review of:
  - historical Ordnance Survey maps, to identify former potentially contaminative uses shown at the site and immediately surrounding it, and an assessment of the associated contamination risks;
  - a third-party environmental report to identify flooding warning areas, local landfills, pollution incidents, abstractions, environmental permits etc. which may have had the potential to have environmental impact on the site;
  - topographical, geological and hydrogeological maps;
  - British Geological Survey (BGS) archive records;

  - regional UXB risk maps;
  - the Coal Authority's Interactive Viewer;
- development of a preliminary Ground Model representing ground conditions at the site;
- development of an outline Conceptual Model (oCM), including identification of potential pollution linkages;
- a qualitative assessment of any geo-environmental risks identified; and
- identification of plausible geotechnical hazards.

1.4 Available information

The following have been provided to Hydrock by the Client for use in the preparation of this report:

- Tim Groom Architects. 27th May 2020. 'Initial Planning Presentation, St John Street, Manchester', Ref: 1084 PG-2.

The Client has commissioned or obtained assignment of the above documents and Hydrock is entitled to full reliance upon their contents.

1.5 Regulatory context and guidance

The geo-environmental section of this report is written in broad agreement with BS 10175:2011+ A2:2017, 'Land Contamination: Risk Management' (LCRM, 2019) and the AGS (2006) 'Good Practice Guidelines for Site Investigations'. The methods used follow a risk-based approach, with the first stage being a Phase 1 desk study and field reconnaissance (this report), with the potential geo-environmental risk assessed qualitatively in future report(s) using the 'source-pathway-receptor contaminant linkage' concept to assess risk as introduced in the Environmental Protection Act 1990 (EPA, 1990).

The geotechnical section of this report is prepared in general accordance with BS EN 1997 (EC7) and BS 8004:2015. This report forms the Preliminary Sources Study Report (PSSR) as defined by DMRB CD622.

Where relevant the NHBC Standards (2019), have also been applied.

Remaining uncertainties and recommendations for further work are listed in Section 5 and Section 6.

Reference to the technical details of the approach and the methodologies adopted are provided in Appendix F.

2. PHASE 1 STUDY (DESK STUDY AND FIELD RECONNAISSANCE)

2.1 Data

A number of desk study sources have been used to assemble the following information. These are presented in Appendix C and include:

- Third-party environmental report (Groundsure report, reference HYD-6907856);
- Historical Ordnance Survey mapping;
- BGS Archive Records;
- Zetica UXB Risk Maps (https://zeticauxo.com/downloads-and-resources/risk-maps/);
- Coal Authority's Interactive Viewer (http://mapapps2.bgs.ac.uk/coalauthority/home.html);

2.2 Site referencing

The site is referenced in Table 2.1 and the location is indicated in Figure 2.1 and Figure 2.2.

Table 2.1: Site referencing information

Item	Brief Description
Site name	8-8a St John Street
Site address	8-8a St John Street, Manchester, M3 4DU.
Site location and grid reference	The site is located 20m west of Deansgate and the 200m north east of the Science and Industry Museum. The National Grid Reference of the approximate centre of the site is 383457E, 397922N.



Figure 2.1: Site location

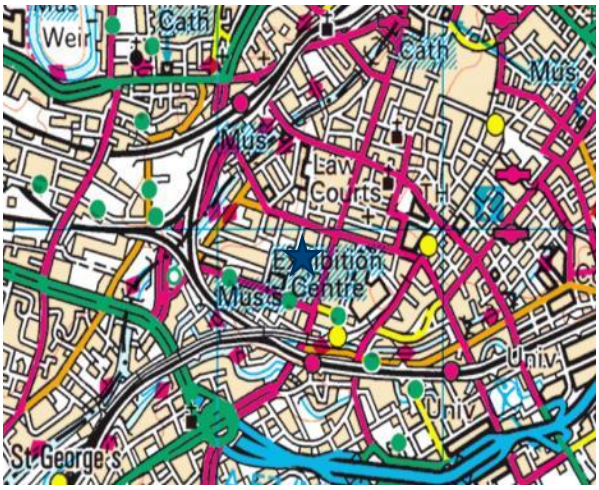


Figure 2.2: Extract from the Ordnance Survey Map. (Show by the star)

A site location plan (Hydrock Drawing 16488-HYD-XX-XX-DR-GE-0001) is presented in Appendix A.

2.3 Site description and field reconnaissance survey

A basic site description is presented in Table 2.2 and selected photographs are presented in Figure 2.3 to Figure 2.6.

Table 2.2: Site description

Item	Brief Description
Site access	8-8a St John Street are accessed through doors present off St John Street. The north east Is accessed via a metal gate present on Artillery Street.
Site area	The site is rectangular in shape and has an area of approximately 0.05ha.
Elevation, topography	The site and surrounding area are relatively flat.
Present land use and Vegetation	The north east and centre comprise six raised brick-built planters containing seven mature trees. One planter contains two of the seven trees present. The centre and south west of the site are block paved. A strip of asphalt used for car parking splits the centre from the south of the site. In the south west of the site there is one three storey terrace property and one three storey semi-detached property, both are currently occupied by office space.
General site sensitivity	The site is within an urban area situated in Spinningfields south west of Manchester City Centre. It should be noted that current buildings onsite and adjacent to the west are classified as grade II listed buildings.
Site boundaries and surrounding land	The south west of the site bound by St John Street and beyond is two/three-storey brick-built buildings, purposed for office space. The west of the site is bound by three-storey brick buildings. To the east is Longworth Street and beyond is a seven-storey building used by a restaurant and for office space. To the north/north east of the site is Artillery Street which beyond is a car park and further offices.

A site features plan (Hydrock Drawing 16488-HYD-XX-XX-DR-GE-0002) are presented in Appendix A.



Figure 2.3: Brick built planters in the north east of the site.

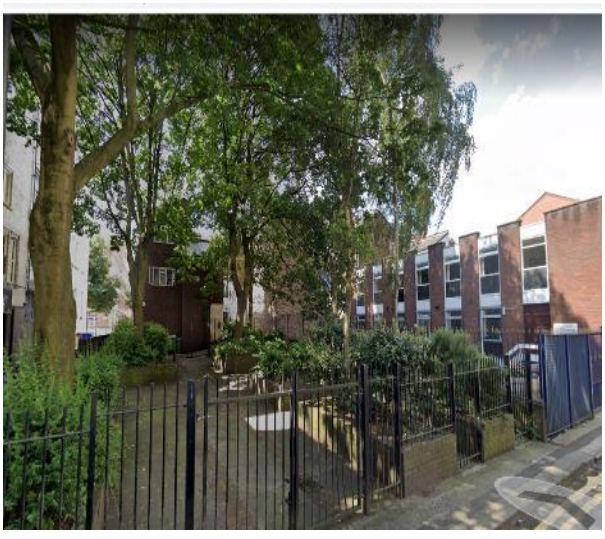


Figure 2.4: Looking across the north east section of the site.



Figure 2.5: Mature trees present across the north east of the site.



Figure 2.6: Inside the office space.

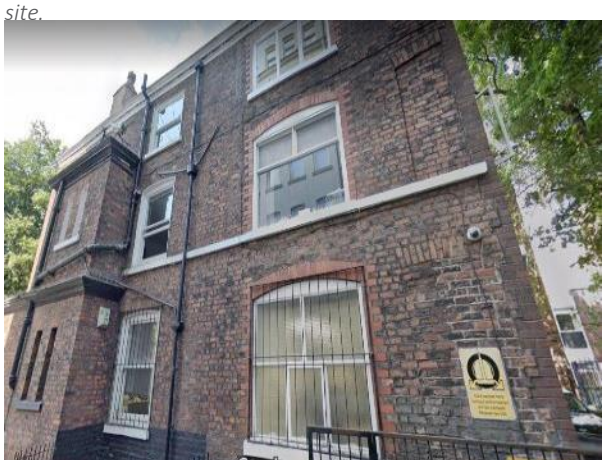


Figure 2.7: East of three-storey building.



Figure 2.8: Front of 8-8a St John Street

2.4 Site history

A study of historical Ordnance Survey maps (Appendix B) has been undertaken to identify any former land uses at the site and surrounding areas which may have geotechnical or geo-environmental implications for the proposed development. The key findings are summarised in Table 2.3.

Table 2.3: Site history review

Reference	Key Features on Site	Key Features off Site
OS Maps 1851 1:2,500; 1891 1:1, 500 1848-1896 1:10,560	Nine buildings are shown across the majority of the site. The buildings are likely residential use, six are terraced and three are semi-detached. No1 Passage is recorded in the north west of the site giving access to the rears of the houses. In 1891 ten small sheds are recorded on the western boundary.	Fustian Stiffening Works is recorded 7m north of the site with various pumps. A Timber Yard is shown 20m south west with an associated unspecified tank 27m south west. A Timber Yard is present 50m north west. A stone and coal yard are recorded 60m south west. Public houses shown to the north east. 70m south west the Manchester and Salford Junction Canal Tunnel is shown transecting from west to east. In 1891 the Timber Yard extends to within 20m north west of the site. Alport Brass works is shown 95m south west. The Royal Eye Hospital is 70m west.

Reference	Key Features on Site	Key Features off Site
OS Maps 1908-1932 1:2, 500 1948 1:2,250 1906-1938 1:10,560	No significant on-site change. In 1948 the properties are referenced from north to south 6, 8, 10, 12, 14, 16 Longworth Street and 8 and 8a St John Street.	GNPR Good Station is present 50m east with various railway sidings to the south of the building. Cheshire Line Railway and wider Goods Station >200m south east. Timber Yard 15m north west is no longer recorded. A hospital is shown 80 north west. Alport Works move from the south east to a building 150m west. Graveyard disused is shown 100m west. In 1932 various printing works recorded 200m north. The graveyard is reconfigured into a recreation ground. In 1948 the hospital 80m north west is recorded as a skin disease hospital and the Timber Yard 20m south west is recorded as a warehouse. Gas Works and associated gasometers shown 492m south.
OS Maps 1951 - 1955 1:1, 250 1956- 1958 1:2,500 1956 1:10, 560	Property numbers 6 and 8 (Longworth Street) are no longer recorded and likely demolished. The north east of the site remains vacant. 8-8a, 10, 12, 14 and 16 remain.	GNPR Good Station is renamed to Deansgate Goods Station. Automobile works is shown 200m south west. Congregational House and Chambers recorded 10m east and Oversea House shown 10m north. Warehouse 20m south west is recorded as Autofax House. In 1956 the hospital is recorded 7m north.
OS Maps 1962-1963 1:1,250 1956-1958 1:2,500	Property numbers 10, 12 and 14 are no longer recorded and demolished. Only 8-8a and 16 remain in the south west. The centre and north east are vacant.	Various warehouses are recorded >100m north west and west of the site. Offices, police station and church >100m north east and east. In 1963 Alport Works is recorded as Alport House.
OS Maps 1964-1973 1:1,250 1972 1:10,000	No significant onsite change.	Printing works to the north are no longer recorded. Two garages recorded at 110mand 150m north respectively. In 1970 Deansgate Station is repurposed for a car park and Good station and Central station >200m south east are recorded as disused.
OS Map 1980 - 1985 1:1, 250 1980-1985 1:10,000	Property 16 is no longer recorded and likely demolished. Six raised brick-built planters are constructed in the centre and north east of the site. 8 -8a remain in the south west of the site	The skin disease hospital remains 80m north west. Oversea House and car park is shown 7m north in the location of the former hospital. The Good Station >200 south east is repurposed for a car park.
OS Map 1986-2003 1:1, 250 1988- 2020 1:10,000	No significant onsite change, site remains in its current configuration.	1988-1992 shows various houses, churches and car parks in the surrounding area. In 2003 the skin disease hospital is no longer recorded. Great Northern Square recorded 95m east. Multi-storey Car Park shown 70m north west.

2.5 Geology

The general geology of the site area is shown on the British Geological Survey (BGS) 1:50,000 geological map of Manchester (Sheet 85) and the 1:10,000 British Geological Survey (BGS) map extract reproduced as part of the Groundsure report and is summarised in

Table 2.4. Extracts from the map are shown in Figure 2.9 and Figure 2.10.

Table 2.4: Geology

Ref. for Figures	Location	Stratigraphic Name	Description
Superficial Deposits (Figure 2.9)			
1	On site	Glaciofluvial Sheet Deposits	Sand and Gravel. Ice age conditions (UGF). These sedimentary deposits are glaciofluvial in origin. They are detrital, generally coarse-grained, they form beds, channels, plains and fans associated with meltwater.
Solid Geology (Figure 2.10)			
2	On site.	Chester Pebble Beds Formation-Sandstone	Comprises conglomerates and reddish brown, cross-bedded, pebbly sandstones with subordinate beds of red-brown mudstone. The conglomerates have a reddish-brown sandy matrix and consist mainly of pebbles of brown or purple quartzite, with quartz conglomerate and vein quartz. In these areas the formation generally fines upwards, from dominantly conglomerates at the base, to interbedded conglomerates and sandstones, with sandstone and pebbly sandstone predominant in the upper part, and rare mudstones
3	Offsite 2m north east	Manchester Marl Formation-Mudstone	Red marl (calcareous mudstone and siltstone) with thin beds of fossiliferous marine limestone and dolomite; locally green; sandy in places especially in top part; local breccias and pebbly beds

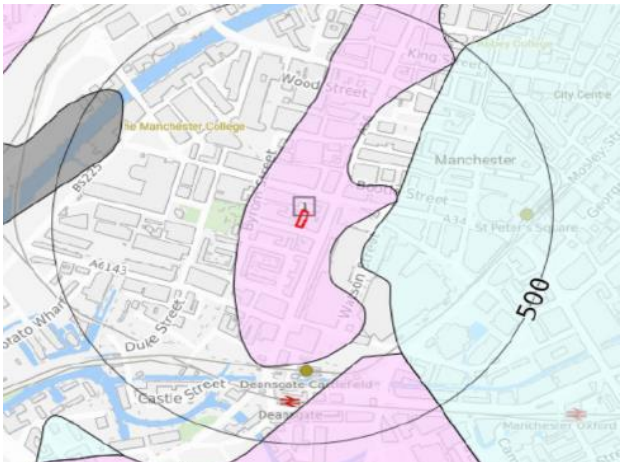


Figure 2.9: Superficial deposits.

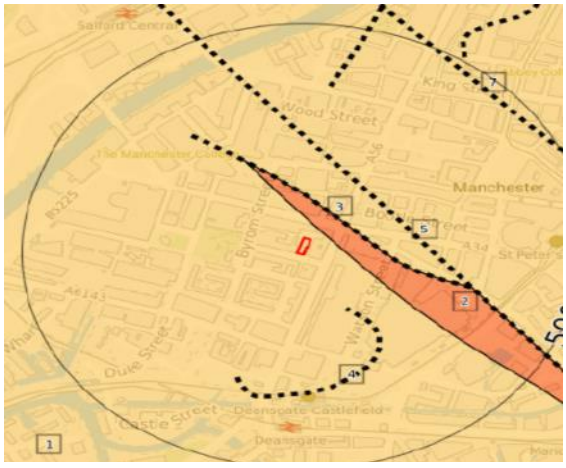


Figure 2.10: Solid geology.

There is a Normal Fault, trending approximately north west to south east, with a downthrow approximately 100m to the north east of the site. A Buried Channel is shown 147m south east of the site.

Artificial Ground is recorded 50m east of the site, likely associated with the demolition of the former Deansgate Good Station, Central Station and associated railway sidings. There is also the possibility of deep Made Ground across the site associated with the former housing situated across the majority of the centre and north east.

A number of borehole logs from the BGS archive have been reviewed. Selected records are summarised below and presented in Appendix C:

- SJ89NW66, located 41m to the East of the site at Manchester Corporation, Deansgate (NGR 383513E, 397916N), drilled to a depth of 13.72m bgl and recorded:
  - Made Ground between 0.00m to 3.35m bgl;
  - Gravel, sand and marl between 3.35m to 6.40m bgl (Glaciofluvial Sheet Deposits);
  - Sandstone between 4.25m to 13.72m bgl (Chester Pebble Beds Formation); and
- SJ89NW81, located 49m to the north west of the site at Manchester Corporation, Sewer (NGR 383508E, 397989N), drilled to a depth of 10.82m bgl and recorded:
  - Made Ground between 0.00m to 0.91m bgl;
  - Gravel and sand between 0.91m to 3.35m bgl (Glaciofluvial Sheet Deposits);
  - Red/Grey Loam between 3.35m to 7.47m bgl (Manchester Marl Formation);
  - Blue clay becoming hard red marl between 7.47m and 10.82m bgl. (Manchester Marl Formation); and

  No records of groundwater shown on either borehole logs.

2.6 Hydrogeology

2.6.1 Aquifer designations

Based on the inferred geological sequence presented in Section 2.5 and the Environment Agency's interactive aquifer designation map, the aquifer system presented in Table 2.5 applies. Additional information on the hydraulic characteristics of the geological units has been abstracted from Allen et al (1997) and Jones et al (2000).

Table 2.5: Aquifer system

Stratum	Aquifer Designation	Comments
Made Ground	Unclassified/unproductive	Artificial ground not included in the classification system. Likely to be moderate to high porosity because of unconsolidated nature, but permeability is likely to be constrained to low, or low to moderate because of poor sorting and clay content.
Superficial Deposits		
Glaciofluvial Sheet Deposits	Secondary A Aquifer	Intergranular permeability. Dominated by moderate to high permeability layers of sand and occasional gravel, interbedded with low permeability clay. Overall, this unit is likely to be relatively anisotropic in nature with horizontal permeability similar to vertical permeability (i.e. kh>kv). Groundwater flow is likely to be variable and discontinuous as water migrates around low permeability areas.
Chester Pebble Bed Formation	Principal Aquifer	Generally high porosity and high permeability and with high secondary permeability from fracturing within the sandstone. Large water storage capacity due to its high porosity.

2.6.2 Groundwater abstraction

There are two active licensed groundwater abstractions within 1km of the site. They are listed in Table 2.6.

Table 2.6: Groundwater abstractions

Location Relative to Site	Purpose of Abstraction
336m West	Transfer between sources (Post Water act 2003)
782m North	Industrial

2.6.3 Groundwater source protection zones and groundwater vulnerability

The site is not within a groundwater Source Protection Zone (SPZ) There is a Source Protection Zone 3 for total catchment located 277m south east of the site.

2.6.4 Groundwater levels, recharge, and flow

Shallow groundwater is likely to be present within the Glaciofluvial Sheet Deposits. The presence of the high permeability Chester Pebble Bed Formation will allow for vertical connection between these two potential groundwater bodies. This could potentially result in a contamination issue because it provides a means by which leachate can reach the principal aquifer.

Recharge to the Glaciofluvial Sheet Deposits would be expected to be limited by the presence of hardstanding across the site and wider area.

Shallow groundwater below the site is likely to drain towards the River Medlock, some 445m to the south of the site.

2.6.5 Groundwater quality

The groundwater body beneath the site (Manchester and East Cheshire Perm-Triassic Sandstone Aquifers) is currently (2016 Cycle 2) classified under the Water Framework Directive as ‘poor’.

The water body is currently given a 'poor' status due to 'chemical saline intrusions conditions and chemical status element’. The objective is for groundwater status to be ‘good’ by 2021.

2.6.6 Groundwater flooding

The environmental data report indicates a moderate risk of groundwater flooding.

Sub-artesian conditions could be present within the deeper groundwater present likely to be present within the Chester Pebble Bed Formation.

2.7 Hydrology

2.7.1 Surface water system and drainage

The surface water features in the vicinity of the site are listed in Table 2.7.

Table 2.7: Surface water features

Feature	Location Relative to Site
108m east	Unnamed culvert

Feature	Location Relative to Site
Deansgate Canal	337m south
River Medlock	445m south
River Irwell	543m west

2.7.2 *Surface water abstractions and discharges*

There are no active licensed surface water abstractions within 1km of the site.

There are two active licensed surface water discharges within 1km of the site. They are listed in Table 2.8.

Table 2.8: Surface water discharges

Location Relative to Site	Purpose of discharge
425m north	Industrial- cooling water
441m north west	Stormwater overflow

2.7.3 *Surface water quality*

Reference to the Environment Agency web site shows the site is located within the catchment of the Irwell/Manchester Ship Canal (Irk to confluence with Upper Mersey), with the specific river water body being the Croal Irwell. The current (2016 cycle 2) overall status under the Water Framework Directive is 'moderate'.

The water body is currently 'moderate' status due to physio-chemical and biological elements. The objective is for physio-chemical and biological elements to be 'good' by 2021.

2.7.4 *Surface water flooding*

The desk study information indicates the proposed development is in Flood Zone 1 (with a low probability of flooding from rivers or the sea).

No further consideration of flood risk is undertaken in this report. Specialist flood risk advice should be sought with regard to drainage and flooding.

2.8 Coal Mining

Although the Coal Authority (CA) record the site within a Coal Mining Reporting Area, the CA authority interactive viewer shows there to be no probable shallow coal workings recorded below the site. There are no mine entries or underground workings recorded within 2km of the site boundary. A nearby borehole SJ89NW220 drilled 191m north west at 383439E and 398152N, proved bedrock of red grey locally marly sandstone between 2.43m to 136.55m bgl.

Therefore, based on the above, the depth of the Chester Pebble Bed Formation in the surrounding area, lack of recorded mine entries or coal outcrops, it is envisaged that the risk posed to site by coal mining is very low.

2.9 Natural ground instability

The risk of shrink and swell of clays is shown in the environmental report as Negligible. Mature trees are present onsite. Therefore, should shallow Cohesive deposits be present within the Glaciofluvial Sheet Deposits they may be affected by potential for shrink-swell ground movements in clays as a result of changes in moisture content from removal or growth of trees.

The Environmental Report shows the risk posed to site running sand, collapsible ground and sub-surface landslides within the Glaciofluvial Sheet Deposits to be very low.

2.10 Waste management

There are no current or historical landfill site recorded within 250m of the site. There are two historical waste recycling sites recorded within 250m of the site. Located 198m north east included a recycling storage facility and bicycle storage facility. Located 276m south east includes a business recycling centre and construction of screening unit.

2.11 Regulatory consultation

Information in the Groundsure Report (Appendix C), relating to various regulatory controls has been reviewed, with a summary presented below in Table 2.9.

Table 2.9: Regulatory information within 500m of the site

Regulatory Data	Distance from Site	Details	Potential Risk	Comment
Discharge Consents	425m north	Cooling Water	No	Due to its proximity to the site.
	441m north west	Stormwater Overflow	No	
Local Authority Pollution Prevention and Controls	358m north	Dry Cleaning	No	Due to its proximity to the site.
	444m north east	Dry Cleaning	No	
	452m east	Dry Cleaning	No	
Pollution Incidents	N/A	No entries for pollution incidents within 500m of the site boundary.	No	-
Trade Directory Entries	26m north	Active Published Goods	Yes	Of the 18 trade entries three are judged as potential contaminants sources. However due to the small volumes of potential contaminants and likelihood of concrete hardstanding under these properties severing pathways, the potential risk can be discounted.
	82m north east	Active Published Goods	No	
	230m south east	Vehicle Repair, Testing and Servicing	No	
Fuel Station Entries	N/A	No fuel station entries within 500m of the site.	No	-
Control of major accident	N/A	No entries for control of major accident hazards sites.	No	-

Regulatory Data	Distance from Site	Details	Potential Risk	Comment
hazards sites (COMAH)				
Registered radioactive substances	N/A	No entries on registered radioactive substances were recorded within 500m of the site.	No	-
Notification of installations handling hazardous substances	412m north	Discharge of authorized substance includes pH.	No	Undertaken under the environmental damage (prevention and remediation) regulation 2015, likely neutralization in receiving drains.

2.12 Natural soil chemistry

Information contained within the environmental report (Appendix C) gives indicative (estimated) concentration values for the natural soils at the site for a selection of Contaminants of Potential Concern (CoPC). These have been reproduced in Table 2.10.

Table 2.10: Natural soil chemistry

Element	Arsenic	Cadmium	Chromium	Lead	Nickel
Concentration (mg/kg)	15-25	1.8	60-90	100-200	30-45

2.13 Radon

The Indicative Atlas of Radon in England and Wales (Miles et al 2007) indicate that the site is not in a Radon Affected Area and no radon protection measures are required.

2.14 Unexploded ordnance (UXO)

In general accordance with CIRIA Report C681 (Stone et al 2009) a non-specialist UXO screening exercise has been undertaken for the purposes of ground investigation and is presented in Table 2.11 .

Table 2.11: Non-specialist UXO screening (for the purposes of ground investigation)

Data	Comment	Further Assessment Required
Site History	There is no indication of former military use from the desk study.	No
Post War Development	Post war OS Mapping referenced no ruins onsite or surroundings. The 1951 to 1955 OS mapping shows plot 6 and 8 to be no longer recorded, this could be due bomb damage. However, it should be noted the immediate buildings all remain with no ruins noted.	Yes
Geology Type	The ground conditions comprise a >5m of Glaciofluvial Deposits over Chester Pebble Bed Formation. There is the potential that UXO, if present, would remain undetected.	Yes
Surface Cover during WWI	The surface cover during WWII comprised the majority of the site to be covered by buildings. It is unlikely UXO would remain undetected.	No

Data	Comment	Further Assessment Required
Indicator of Aerial Delivered UXO	Screening against the regional bomb risk map (Manchester) Appendix C indicates the site to be in an area where the bomb risk is moderate.	Yes

The non-specialist UXO screening exercise has indicated further assessment is required. Therefore, a preliminary UXO risk assessment desk study has been obtained (Report Reference EP11635-00) and is presented in Appendix C, below is a summary of the findings:

- No evidence of any current or former military activities within or in the immediate vicinity of the site;
- No evidence could be found to suggest that the site suffered any direct strikes from bombing during WWII;
- No high explosive bombs were recorded as landing in the immediate vicinity of the site;
- Several incidents are recorded in the vicinity of the site, all indicated as “fire bombs” on Manchester bomb mapping. This included one fire bomb dropped at a Church House just east of the site, across Longworth Road. Another was recorded just north of the site, across Artillery Street;
- Low-resolution aerial photography of the site indicates that the structures on site appeared to survive the war externally intact;
- Pre-and post-WWII OS mapping shows no structures on site were cleared or labelled as ‘ruin’ – both of which are often indicative of bomb damage and
- Given that the site was occupied by apparently undamaged residential structures during the war, it is thought likely that the structures on site would have been regularly accessed.

Risk of UXO is not considered to be significantly higher than the ‘background risk’ of finding UXO within this area of the United Kingdom. Whilst it would be possible to conduct a Detailed UXO Risk Assessment, it is not anticipated that any further findings would significantly alter the risk of encountering unexploded ordnance within the site. It is therefore recommended that no further action is taken.

3. OUTLINE CONCEPTUAL SITE MODEL

3.1 Introduction

The outline Conceptual Model (oCM) incorporates evidence from the site walkover, the Desk Study and previous investigations carried out at the site. The formulation of an outline Conceptual Model is a key component of the LCRM methodology. The oCM incorporates a ground model of the site physical conditions and an exposure model of the possible contaminant linkages; it forms the basis for Generic Quantitative Risk Assessment (GQRA) in accordance with current guidelines.

3.2 Ground model

The preliminary ground model presented in Section 2 provides an understanding of the ground conditions and is the basis for preparing the preliminary geotechnical hazard assessment (Section 3.3) and the preliminary geo-environmental exposure model (Section 3.4).

3.3 Geotechnical hazard identification

3.3.1 Context

The preliminary geotechnical hazard identification has been undertaken in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15 and CD 622.

The following section sets out the identified geotechnical hazards and the development elements potentially affected (see Table E.1 in Appendix D for further information).

3.3.2 Plausible geotechnical hazards

Plausible geotechnical hazards identified at the site are:

- Uncontrolled Made Ground (variable strength and compressibility).
- Soft / loose compressible ground (low strength and high settlement potential).
- Shrinkage / swelling of the clay fraction of soils under the influence of vegetation.
- Running sands and / or loose Made Ground, leading to difficulty with excavation and collapse of side walls.
- Attack of buried concrete by aggressive ground conditions.
- Obstructions.
- Existing below ground structures to remain (on or off-site foundations, basements).
- Shallow groundwater.

3.3.3 Potential development elements affected

Development elements potentially affected by geotechnical hazards are:

- Buildings – foundations.
- Buildings – floor Slabs
- Services.
- Gardens.

- Construction staff, vehicles and plant operators.
- Concrete below ground.

Health and safety risks to site Contractors and maintenance workers have not been assessed during these works and will need to be considered separately during design.

The above plausible geotechnical hazards and development elements affected have been carried forward for investigation and assessment.

3.4 Geo-environmental exposure model

3.4.1 Context

The preliminary exposure model is used to identify geo-environmental hazards and to establish potential pollution linkages, based on the source-pathway-receptor (SPR) approach.

A viable pollution linkage requires all the components of an SPR to be present. If only one or two are present, there is no linkage and no further assessment is required.

3.4.2 Potential contaminants

For the purpose of this assessment the potential contaminants have been separated according to whether they are likely to have originated from an on-site or off-site source.

Potential on-site sources of contamination

- Made Ground, associated with associated with historic onsite housing including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials and PAH (S01).
- Asbestos within existing buildings (S02).
- Ground gases (carbon dioxide and methane) from organic materials in the Made Ground (S03).

Potential off-site sources of contamination

- Hydrocarbon fuels and solvents from the operation of the former Timber Yard 20m south including leakage from unspecified Underground Storage Tanks (USTs), or Above Ground Storage Tanks (ASTs), the pipework between tanks and pumps, and general spillage, together with uncontrolled disposal and spillage from waste receptacles (S04).
- Ground gases (carbon dioxide and methane) from organic materials in the artificial ground shown, 50m east (S05).

3.4.3 Potential receptors

The following potential receptors in relation to the proposed land use have been identified.

- People (neighbours, site end users) (R01).
- Development end use (buildings, utilities and landscaping) (R02).
- Groundwater: Secondary A aquifer status of the Glaciofluvial Sheet Deposits and Principal aquifer status of the Chester Pebble Bed Formation (R03).
- Surface water: Culvert 108m east of the site (R04).

3.4.4 *Potential pathways*

The following potential pathways have been identified.

- Ingestion, skin contact, inhalation of dust and outdoor air by people (P01).
- Methane/carbon dioxide ingress via permeable soils and/or construction gaps (P02).
- VOC and petroleum hydrocarbon vapour ingress via permeable soils and/or construction gaps (P03).
- Root uptake by plant (P04).
- Migration of contaminant via leachate migration through the unsaturated zone in the Glaciofluvial Sheet Deposits (P05).
- Migration of contaminant from the groundwater within the Glaciofluvial Sheet Deposits to the groundwater within the Chester Pebble Beds Sandstone aquifer (P06).
- Abstraction and consumption by people (or other utilisation) of groundwater (P07).
- Surface water via base flow from groundwater (P08).

Health and safety risks to site development contractors and maintenance workers have not been assessed as part of this study and will need to be considered separately.

The above sources, pathways and receptors have been considered as part of the Preliminary Risk Assessment in accordance with LCRM (2019), are considered to be plausible in the context of this site and have been carried forward for investigation and assessment. An assessment of the Source – Pathway – Receptor linkages is presented in Appendix E (Table F.1).

A summary of the plausible linkages is presented on the Initial Conceptual Model provided in Appendix A (Hydrock Drawing 16488-HYD-XX-XX-DR-GE-0003).

4. DESK STUDY CONCLUSIONS

4.1 Geotechnical conclusions

The following plausible geotechnical risks are identified.

- Variable Made Ground - settlement or differential settlement of foundations, floor slabs, roads and infrastructure elements.
- Low strength, compressible ground – risk of shear failure and excessive settlement of foundations, roads and infrastructure elements.
- Attack of buried concrete by aggressive ground conditions – the development site may contain Made Ground and potentially sulphate bearing soils.
- Shrinkage/swelling of clay – settlement/heave of foundations, especially where located within the influence of trees and vegetation.
- Running sands, loose Made Ground and shallow groundwater, leading to difficulty with excavation due to trench instability.
- Potential for obstructions and the risk of instability of excavations with the impact on construction staff, vehicles and plant operators.
- Potential for unforeseen ground conditions and the risks associated with limited data.

These plausible risks require further investigation and assessment (see Section 6).

4.2 Geo-environmental conclusions

Based on historical and current land uses and in accordance with the processes set out in Appendix F:

- It is considered that it is unlikely that the site would be classified as Contaminated Land under Part 2A of the EPA 1990.
- The overall risk from land contamination at the site is considered to be low for the current development, as it is covered by hard standing or buildings limiting the possibility of contact with the soils, as well as the risk of significant rainwater infiltration leading to leaching.
- The overall risk for a redeveloped site is assessed to be low to moderate, (with some specific high risks) but this would need to be confirmed by appropriate intrusive investigation, testing and assessment of the results of the investigation.

The possible pollutant linkages (for risk levels of moderate or greater) on an unremediated redeveloped site, as determined by the desk study and walk-over, are summarised in Table 4.1:

Table 4.1: Possible Pollutant Linkages (for Risk Levels of Moderate or Greater)

Source(s)	◄ potential Impact on ►	Receptor(s)
Metals, metalloids, PAH and asbestos in Made Ground below the site.		Site users Groundwater
Asbestos within existing buildings		Site users Neighbours
Ground gases (carbon dioxide and methane) from organic materials in the Made Ground below the site and from the artificial ground 50m east of the site.		Site Users Buildings

These possible pollutant linkages require further investigation and assessment (see Section 6).

5. UNCERTAINTIES AND LIMITATIONS

5.1 General comments

Hydrock Consultants Limited (Hydrock) has prepared this report in accordance with the instructions of Pareto Properties LLP (the Client), by email dated 16th July 2020 under the terms of appointment for Hydrock, for the sole and specific use of the Client and parties commissioned by them to undertake work where reliance is placed on this report. Any third parties who use the information contained herein do so at their own risk. Hydrock shall not be responsible for any use of the report or its contents for any purpose other than that for which it was prepared or for use of the report by any parties not defined in Hydrock's appointment.

This report details the findings of work carried out in July 2020. The report has been prepared by Hydrock on the basis of available information obtained during the study period. Although every reasonable effort has been made to gather all relevant information, not all potential environmental constraints or liabilities associated with the site may have been revealed.

Groundwater data are only representative of the dates on which they were obtained and both levels and quality may vary.

Information provided by third parties has been used in good faith and is taken at face value; however, Hydrock cannot guarantee its accuracy or completeness.

Where the existing report(s) prepared by others have been provided by the Client, it is assumed that these have been either commissioned by the Client, or can be assigned to the Client, and can be relied upon by Hydrock. Should this not be the case Hydrock should be informed immediately as additional work may be required. Hydrock is not responsible for any factual errors or omissions in the supplied data, or for the opinions and recommendations of others. It is possible that the conditions described may have since changed through natural processes or later activities.

The work has been carried out in general accordance with recognised best practice. The various methodologies used are referenced in Appendix F. Unless otherwise stated, no assessment has been made for the presence of radioactive substances or unexploded ordnance. Where the phrase 'suitable for use' is used in this report, it is in keeping with the terminology used in planning control and does not imply any specific warranty or guarantee offered by Hydrock.

The non-specialist UXO screening has been undertaken for the purposes of ground investigation only (i.e. moderate risk activity in accordance with CIRIA Report C681). A specialist UXO risk assessment in accordance with CIRIA Report C681 is recommended.

Please note that notwithstanding any site observations concerning the presence or otherwise of archaeological sites, asbestos-containing materials or invasive weeds, this report does not constitute a formal survey of these potential constraints and specialist advice should be sought.

Any site boundary line depicted on plans does not imply legal ownership of land.

6. RECOMMENDATIONS FOR FURTHER WORK

6.1 Ground investigation objectives

In order to confirm the actual risks to receptors and confirm the ground conditions with respect to potential geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. This investigation will need to:

- determine the depth and distribution of Made Ground and natural strata across the site;
- determine the soil strength/density profile beneath the site;
- determine the depth/level of groundwater beneath the site;
- determine the ground gas concentrations beneath the site;
- allow sampling for chemical and geotechnical laboratory testing;
- obtain information in terms of Aggressive Chemical Environment for Concrete Class (ACEC Class).

Following investigation, assessment will be required to:

- update the Ground Model;
- update the Geotechnical Risk Register;
- provide Geotechnical Design recommendations;
- update the Conceptual Site Model (CSM), including identification of plausible pollution linkages;
- undertake generic quantitative risk assessment of potential chemical contaminants to establish 'suitability for use' under the current planning regime;
- discuss potential environmental liabilities associated with land contamination (soil, water and gas); and
- provide outline mitigation recommendations to ensure the site is 'suitable for use'.

6.2 Proposed scope and rationale for investigation works

Based on the current data, site investigation is proposed to comprise:

- 1 days dynamic sampling (approximately four holes) to allow collection of samples for geotechnical and chemical analysis of shallow soils, and allow *in situ* testing (SPTs) to be undertaken to assess density of the sands and gravel and if present determine to strength of the clay, and allow the installation of gas and groundwater monitoring wells;
- gas and groundwater monitoring installations to allow gas concentrations and groundwater levels to be monitored;
- Six rounds of gas concentration and groundwater level monitoring;
- geotechnical testing of soils; and
- contamination analyses of soil and groundwater.

Access to the site for larger drilling rigs will be restricted not only by the existing brick-built planters but also the width of the access gate.

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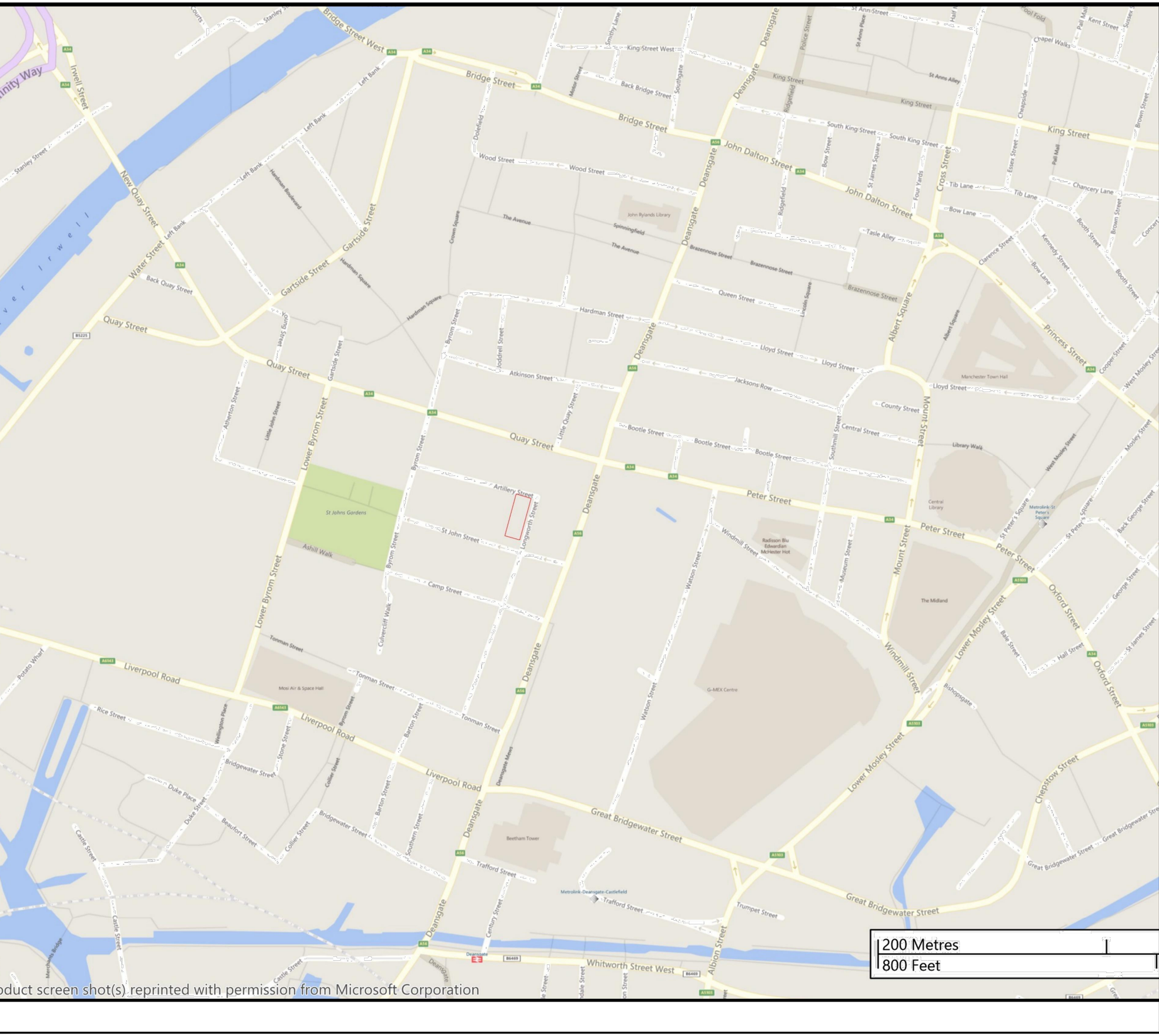
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Appendix A

Drawings

OS NORTH





NOTES

1. Within the key the location of site in relation to wider Greater Manchester Area is shown by the red dot. The site location on the BING map is represented by the red line approximate site boundary.

200 Metres
800 Feet

bing

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation

REV.						
P01	FIRST ISSUE					
	RS	27/07/20	DH	28/07/20	DH	28/07/20
	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE

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CLIENT

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PROJECT

8-8A ST JOHN STREET

TITLE

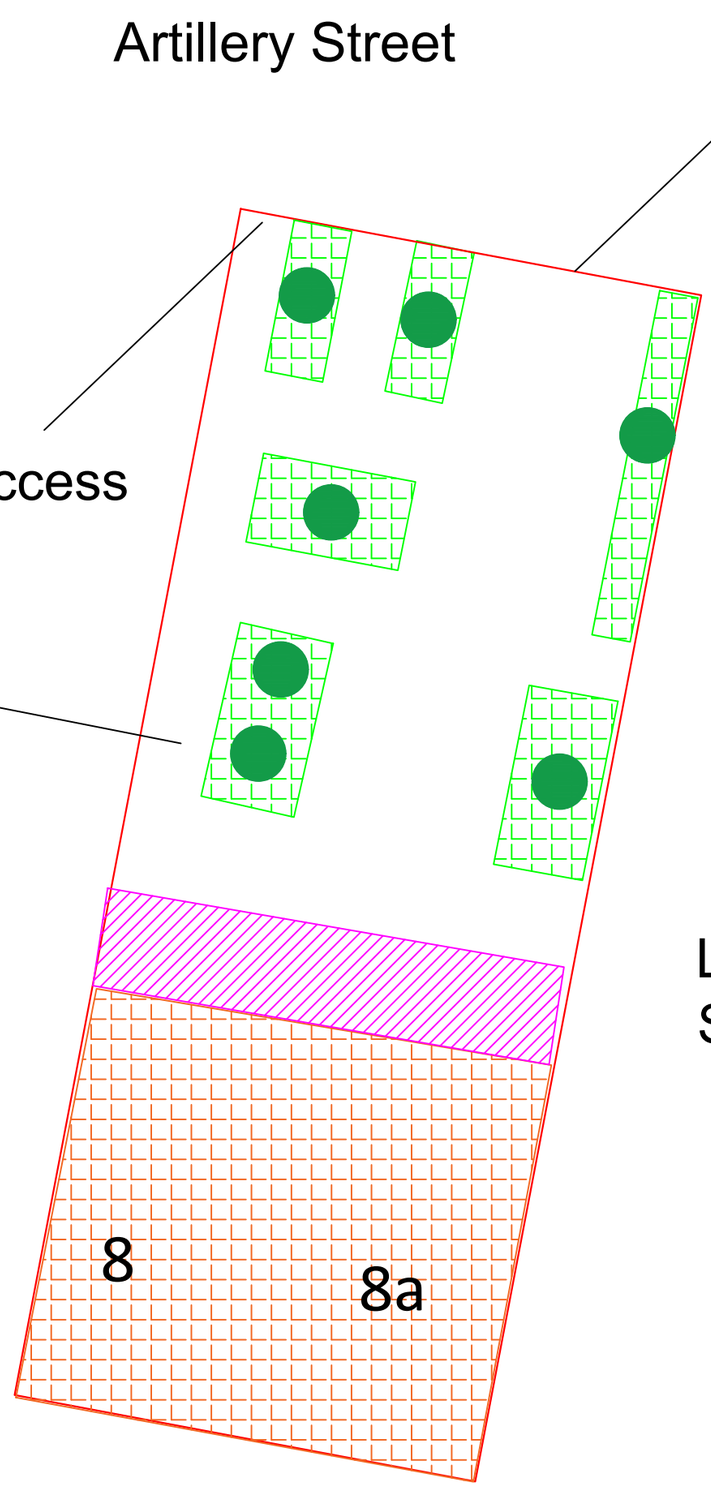
SITE LOCATION PLAN

HYDROCK PROJECT NO.	SCALE @ A3
C-16488-C	As shown

PURPOSE OF ISSUE	STATUS
SUITABLE FOR INFORMATION	S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
16488-HYD-XX-XX-DR-GE-0001	P01

OS NORTH



KEY

- Approximate Site Boundary
- Current onsite buildings
- Asphalt hardstanding
- Approximate location of raised brick planters
- Approximate Location of Mature Trees

NOTES

REV.	REVISION NOTES/COMMENTS	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P01	FIRST ISSUE	RS	27/07/20	DH	28/07/20	DH	28/07/20

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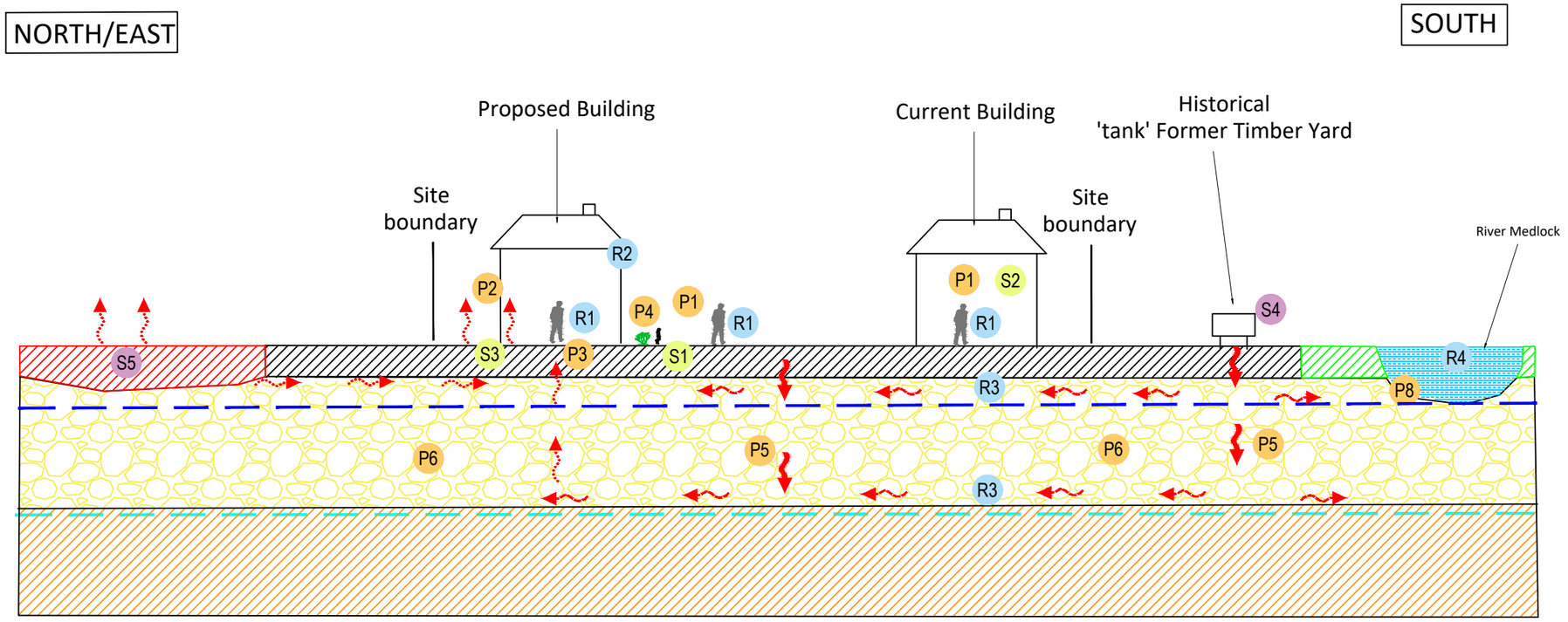
PROJECT
ST JOHN STREET

TITLE
SITE FEATURES PLAN

HYDROCK PROJECT NO.	SCALE @ A3
C-16488-C	N.T.S

PURPOSE OF ISSUE	STATUS
SUITABLE FOR INFORMATION	S2

DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)	REVISION
16488-HYD-XX-XX-DR-GE-0002	P01



Potential Pathways

DERMAL CONTACT, INGESTION, INHALATION

LEACHING/DISSOLUTION

DISSOLVED PHASE MIGRATION

VAPOUR/GAS

Potential on-site Sources of Contamination

- S1 Made Ground on the site possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials and PAH.
- S2 Asbestos within the existing building.
- S3 Ground gases (carbon dioxide and methane) from organic materials in the Made Ground.

Potential off-site Sources of Contamination

- S4 Hydrocarbon fuels and solvents from the operation of the former Timber Yard 20m south including leakage from underground or above ground tanks, the pipe work between tanks, general spillage or uncontrolled disposal and spillage from waste receptacles.
- S5 Ground gases (carbon dioxide and methane) from organic materials in the artificial ground shown, 50m east

Potential Receptors

- R1 People (neighbours, site end users.
- R2 Development end use (buildings, utilities and landscaping).
- R3 Groundwater: Secondary A aquifer status of the Glaciofluvial Sheet Deposits and Principal Aquifer Status of the Chester Pebble Bed Formation
- R4 Surface water: unnamed culvert 108m east, Deansgate Canal 337m south and River Medlock 445m south

Potential Pathways

- P1 Ingestion, skin contact, inhalation of dust and outdoor air by people.
- P2 Methane/carbon dioxide ingress via permeable soils and/or construction gaps.
- P3 VOC and petroleum hydrocarbon vapour ingress via permeable soils and/or construction gaps
- P4 Root uptake by plant.
- P5 Migration of contamination via leachate migration through the unsaturated zone in the Glaciofluvial Sheet Deposits
- P6 Migration of contamination from the groundwater within the Glaciofluvial Sheet Deposits to the groundwater within the Chester Pebble Beds Sandstone aquifer.
- P7 Abstraction and consumption by people (or other utilization) of groundwater
- P8 Surface water via base flow from groundwater.

KEY

- Artificial Ground
- General Made Ground
- Glaciofluvial Sheet Deposits
- Chester Pebble Beds Formation
- Shallow Groundwater Secondary A Aquifer
- Deeper Groundwater Principal Aquifer

NOTES

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.

2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications.

3. This drawing is indicative only.

REV.	REVISION NOTES/COMMENTS					
	DRAWN BY	DATE	CHECKED BY	DATE	APPROVED BY	DATE
P01	FIRST ISSUE					
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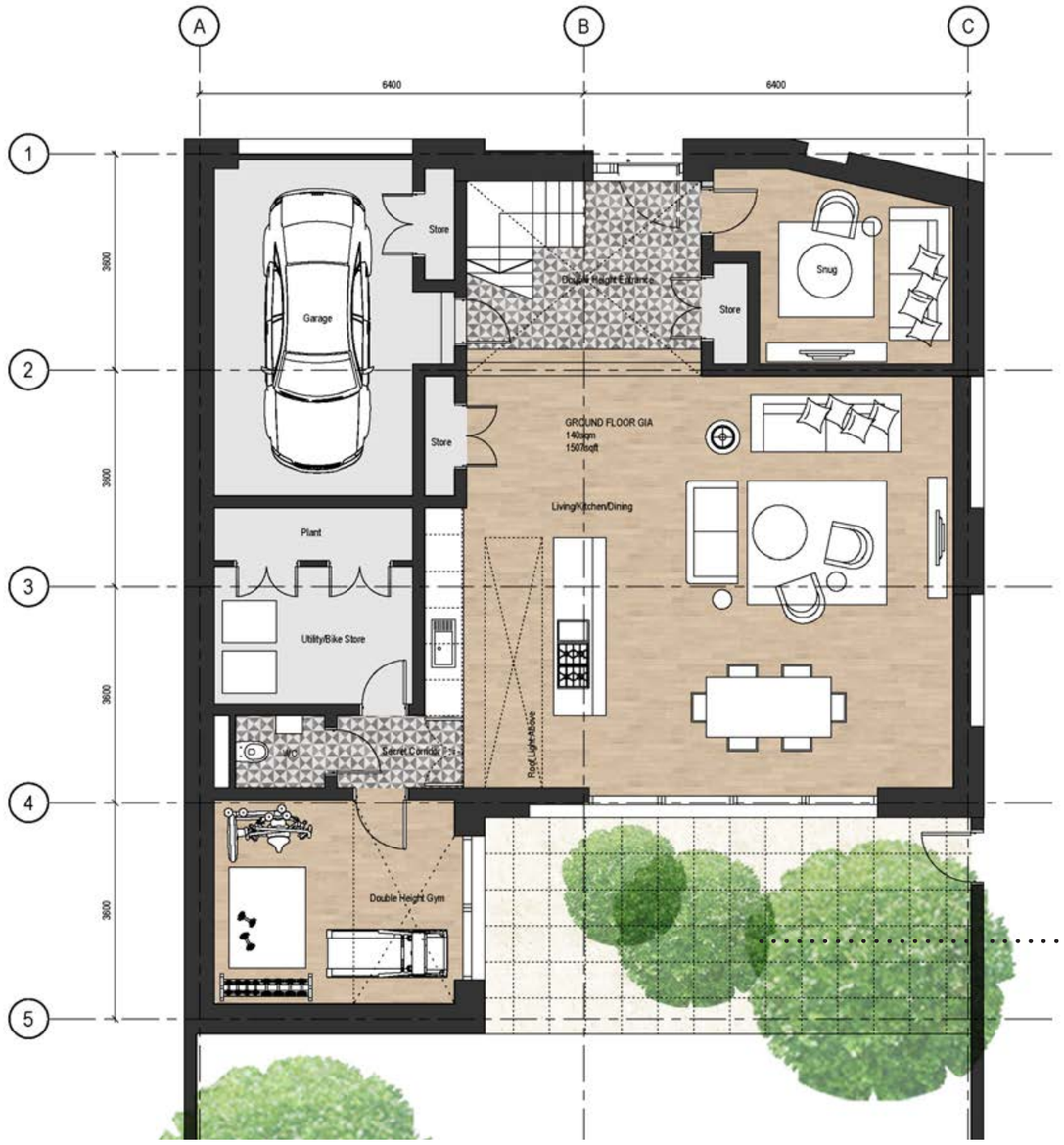
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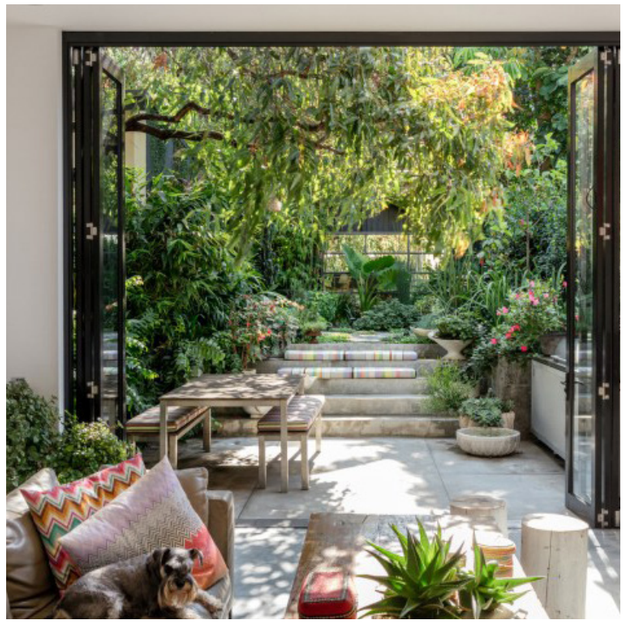
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PROJECT
8-8A JOHN STREET

TITLE
Conceptual Site Model (indicative)

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PURPOSE OF ISSUE		STATUS
SUITABLE FOR INFORMATION		S2
DRAWING NO. (PROJECT CODE-ORGINATOR-ZONE-LEVEL-TYPE-ROLE-NUMBER)		REVISION
14266-HYD-XX-ZZ-DR-GE-1005		P01







The secret garden



Total House Gross Internal Area

250sqm (2691sqft)

Appendix B

Historical Ordnance Survey Maps

Groundsure

INSIGHTS

HISTORICAL MAP PACK LEGEND

COUNTY SERIES
1:1,2500

NATIONAL GRID
1:1,250 & 1:2,500

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

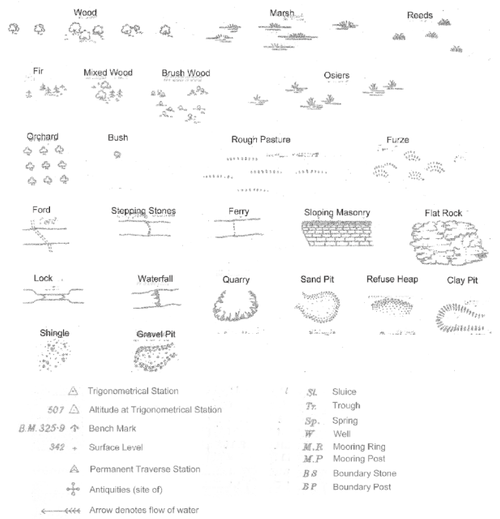
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Technical Help
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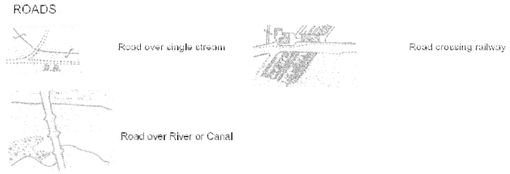
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COUNTY SERIES 1:2,500

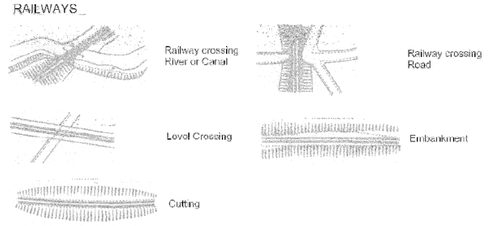
GENERAL FEATURES



ROADS



RAILWAYS



ABBREVIATIONS

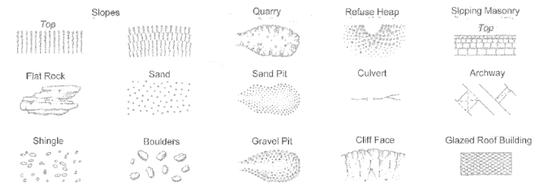
Trigonometrical Station
507 Altitude at Trigonometrical Station
B.M.325·9 Bench Mark
342 Surface Level
Permanent Traverse Station
Antiquities (site of)
Arrow denotes flow of water

Sl Sluice
Tr Trough
Sp Spring
W Well
M.B Mooring Ring
M.P Mooring Post
B S Boundary Stone
B P Boundary Post

NATIONAL GRID 1:2,500 & 1:1,250

GENERAL FEATURES

Non-coniferous Trees
Coniferous Trees
Surveyed Trees
Orchard Trees
Coppice, Osier
Scrub
Bracken
Heath
Rough Grassland
Marsh, Saltings
Reeds
Slopes
Cliff
Cave Entrance
Rock
Boulders
Sloping Masonry
Roofed Building
Glasshouse
Archway
Change of boundary marking
see AREAS notes
Antiquity (site of)
Culvert
Direction of water flow
Electricity Pylon
ETL Electricity Transmission Line
Triangulation Station
ts Traverse Station (permanent)
Bench Mark
Surface Level
rp Revision Point (instrumentally fixed)
Revision Point & Bench Mark coincident



BOUNDARIES

England & Wales

County Boundary (geographical)
County & Civil Parish Boundary coterminous
Admin County or County Borough Boundary
London Borough Boundary
M B Bdy, U D Bdy, R D Bdy — County District Boundaries based on civil parish

England, Wales & Scotland

Civil Parish Boundary
Boro (or Burgh) Const & Ward Bdy / Co Const Bdy — Parly & Ward Boundaries based on civil parish
Boro (or Burgh) Const & Ward Bdy / Co Const Bdy — Parly & Ward Boundaries not based on civil parish

Scotland

* County Boundary (geographical)
† " " "
Co Cnl Bdy — * County Council Boundary
Co Cnl Bdy — † " " "
Co of City Bdy — * County of the City Boundary
Co of City Bdy — † " " " " "
Burgh Bdy — * Burgh Boundary
Burgh Bdy — † " "
Dist Bdy — * District Council Boundary
Dist Bdy — † " " "

* Not with parish † Coincident with parish

ABBREVIATIONS

B H Beer House
B M Bench Mark
B P Boundary Post
B S Boundary Stone
C Crane
C H Club House
Chy Chimney
Cn Capstan
D Fn Drinking Fountain
Dk Dock
El P Electricity Pillar or Post
E T L Electricity Transmission Line
F A Fire Alarm
F A P Fire Alarm Pillar
F B Filter Bed, Foot Bridge
F B M Fundamental Bench Mark
F S Flagstaff
F Sta Fire Station
G P Guide Post
G V C Gas Valve Compound
H Hydrant or Hydraulic
ha Hectares
L B Letter Box
L B Sta Lifeboat Station
L C Level Crossing
L G Loading Gauge
L Ho Lighthouse
L Twr Lighting Tower
m Metres
M H W Mean High Water
M H W S Mean High Water Springs
M L W Mean Low Water
M L W S Mean Low Water Springs
M P Mile or Mooring Post
M P U Mail Pick-up
M S Mile Stone
N T National Trust
N T L Normal Tidal Limit
N T S National Trust for Scotland
P Pillar, Pole or Post
P C Public Convenience
P C B Police Call Box
P H Public House
P O Post Office
Pp Pump
P T P Police Telephone Pillar
Resr Reservoir
R H Road House
rp Revision Point
S Stone
S B Signal Box
S L Signal Light
Sl Sluice
S P Signal Post
Spr Spring
S Sta Signal Station
T C B Telephone Call Box
T C P Telephone Call Post
Tk Tank or Track
Tr Trough
ts Traverse Station
W Well
W B Weighbridge
Wd Pp Wind Pump
Wks Works
Wr Pt Water Point
Wr T Water Tap

Groundsure

INSIGHTS

HISTORICAL MAP PACK LEGEND

COUNTY SERIES & NATIONAL GRID
1:10,560 & 1:10,000

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

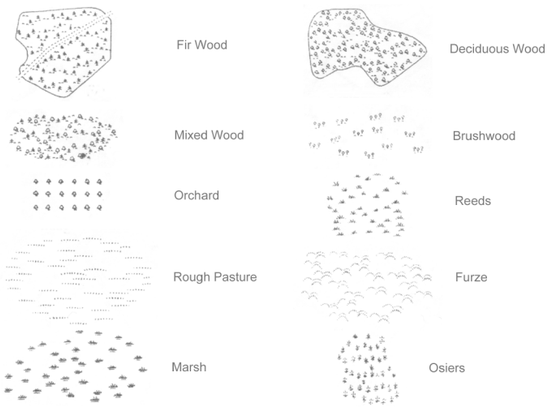
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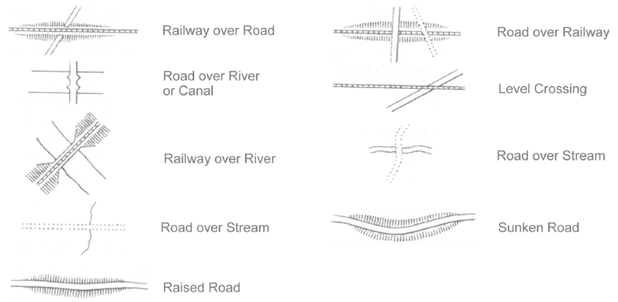
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COUNTY SERIES 1:10,560

VEGETATION



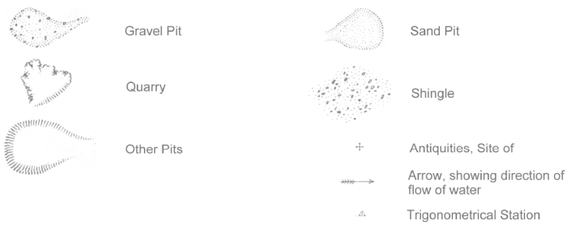
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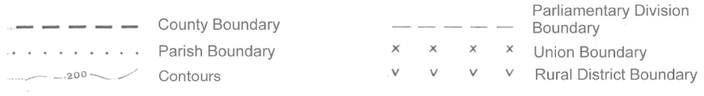
RAILWAYS



GENERAL FEATURES



BOUNDARIES



NATIONAL GRID 1:10,000 & 1:10,560

HEIGHTS (METRES)

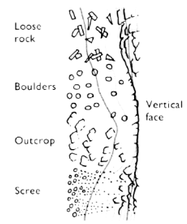
Values are given in metres above mean sea level at Newlyn.

Surface heights determined by ground survey • 163m / air survey

Bench marks and their values are shown on large scale maps, and bench mark lists containing fuller and possibly later levelling information are obtainable from the Director General, Ordnance Survey.

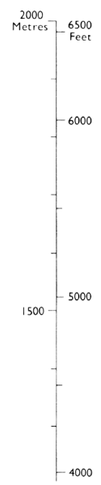
Contours are at 5 metres vertical interval.

ROCK FEATURES



CONVERSION SCALE

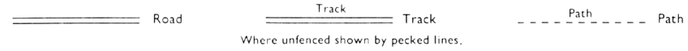
Metres - Feet



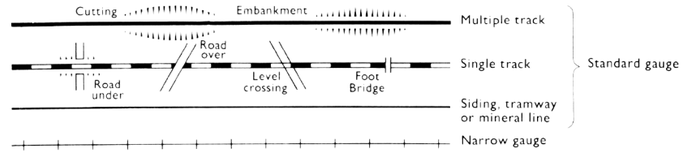
ABBREVIATIONS

BP,BS	Boundary Post or Stone	PO	Post Office
Ch	Church	PC	Public Convenience
CH	Club House	PH	Public House
F Sta	Fire Station	S	Stone
FB	Foot Bridge	Spr	Spring
Fn	Fountain	TCB	Telephone Call Box
GP	Guide Post	TCP	Telephone Call Post
MP,MS	Mile Post or Stone	TH	Town Hall
P	Pole or Post	W	Well
Pol Sta	Police Station	Y	Youth hostel

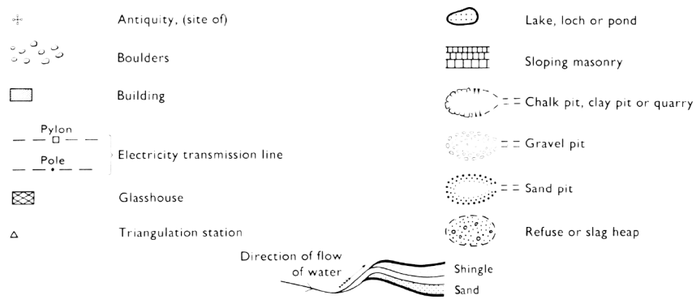
ROADS



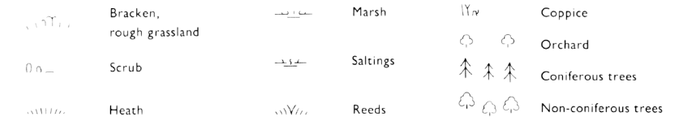
RAILWAYS



GENERAL FEATURES



VEGETATION



In some areas bracken ( ) and rough grassland ( ) are shown separately.



Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: 1056 Scale Town Plan

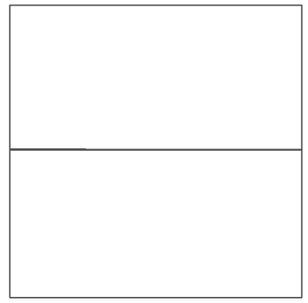
Map date: **1851**

Scale: 1:1,056

Printed at: 1:1,056

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Edition 1851
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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series Town Plan

Map date: **1891**

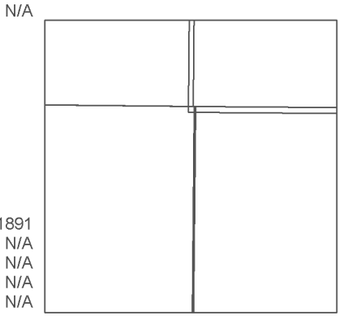
Scale: 1:500

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Revised N/A
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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1908**

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1905
Edition 1908
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Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1922**

Scale: 1:2,500

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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1932**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1873
Revised 1932
Edition N/A
Copyright N/A
Levelled 1927

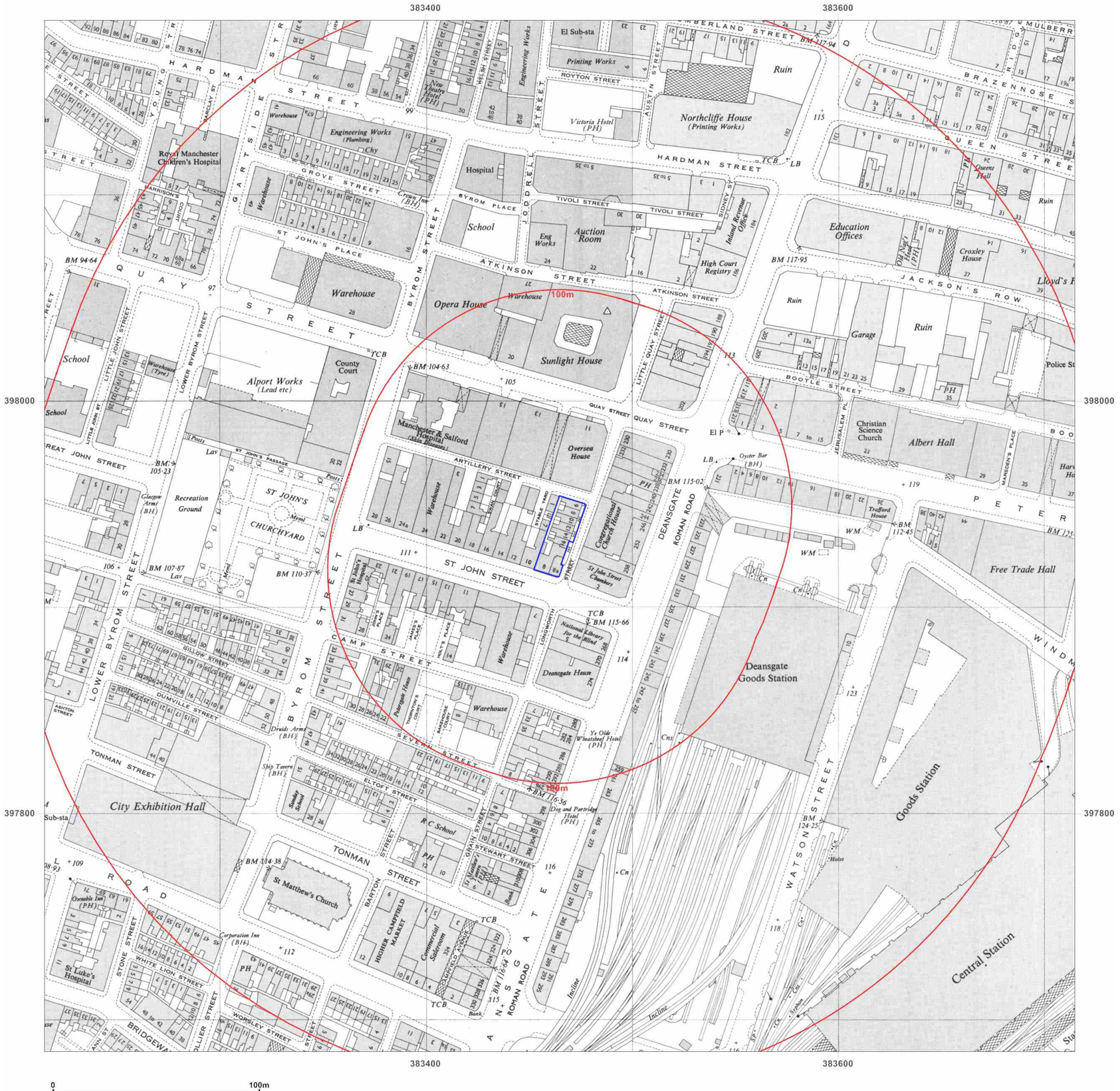
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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1948**

Scale: 1:1,250

Printed at: 1:2,000

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Revised N/A
Edition N/A
Copyright N/A
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Surveyed 1948
Revised 1948
Edition N/A
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Revised 1948
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Revised 1948
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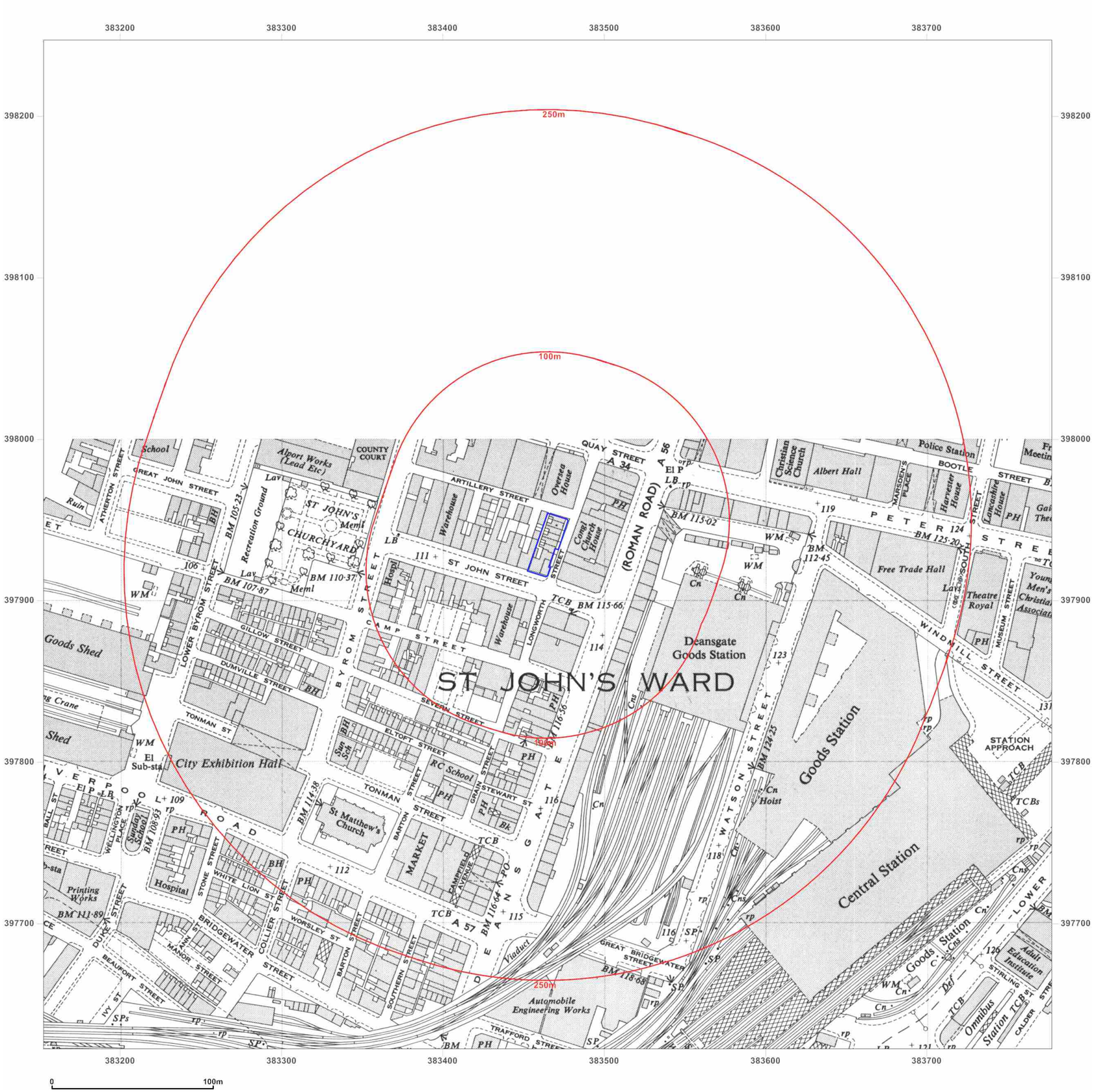
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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1948**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1948
Revised 1948
Edition N/A
Copyright 1949
Levelled 1927

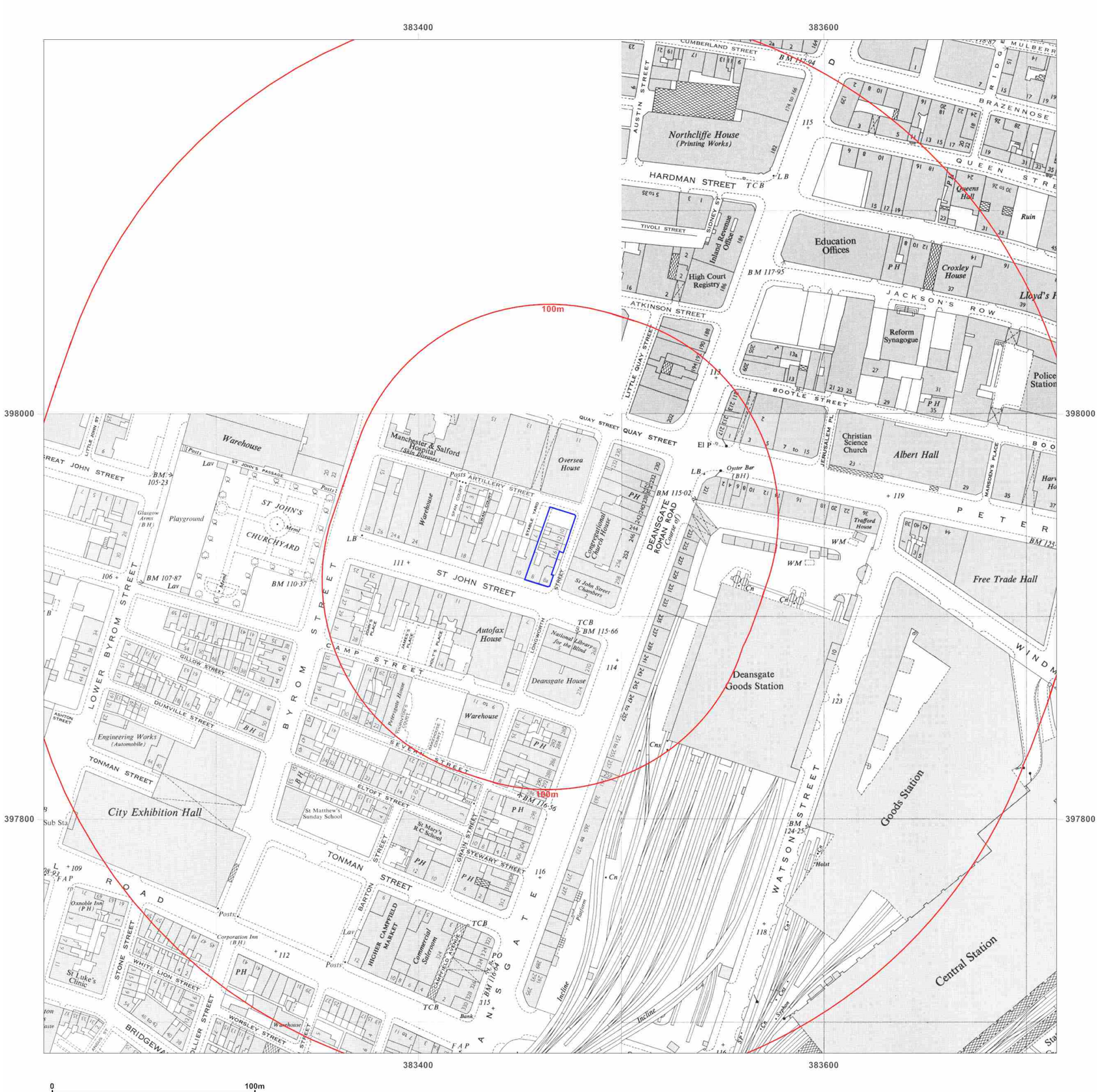
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Client Ref: PO01058_
Report Ref: HYD-6907855
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Map Name: National Grid

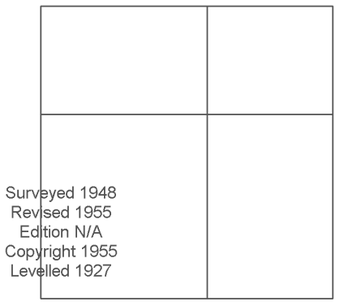
Map date: **1951-1955**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1955
Edition N/A
Copyright 1955
Levelled 1927



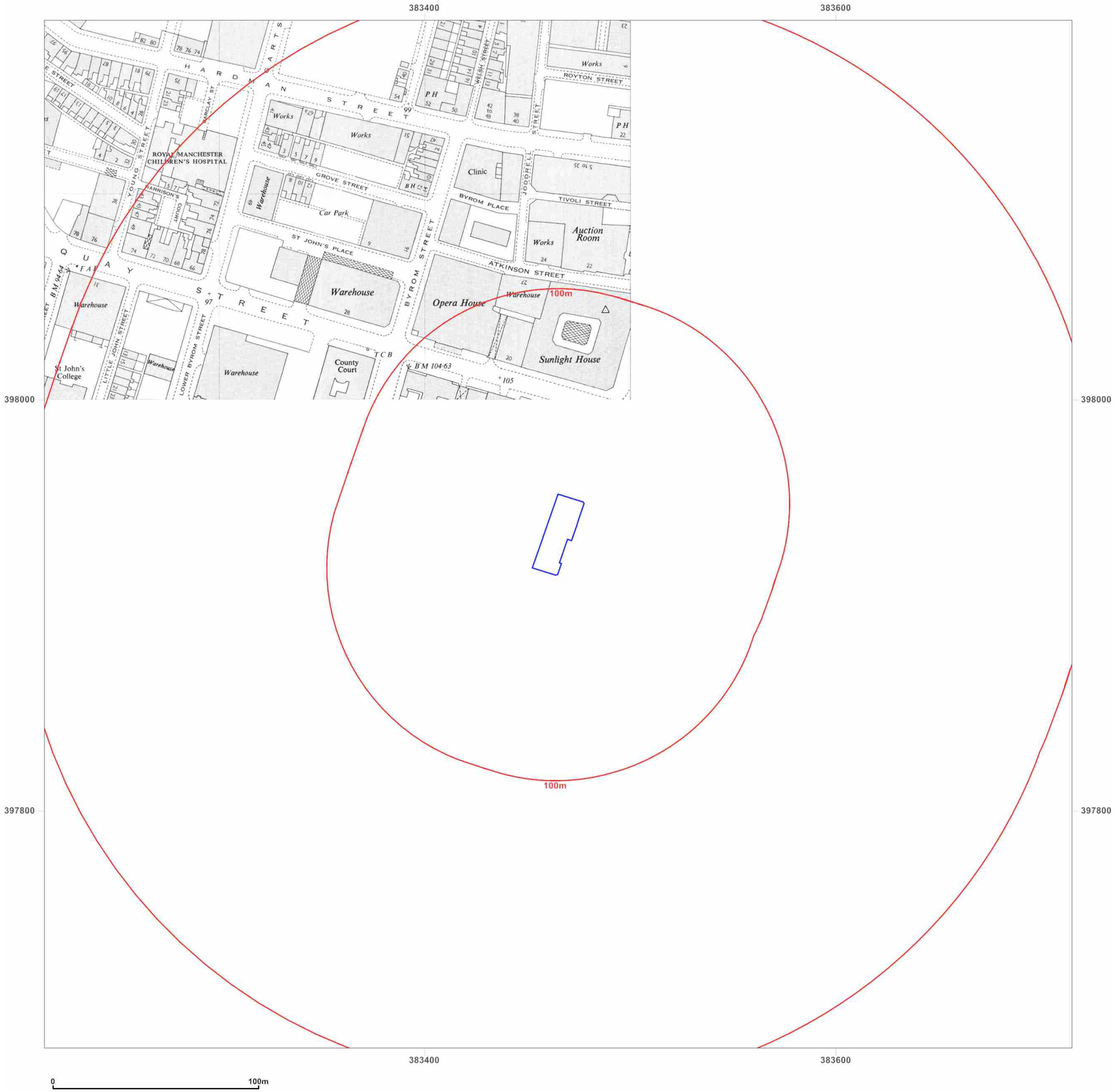
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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

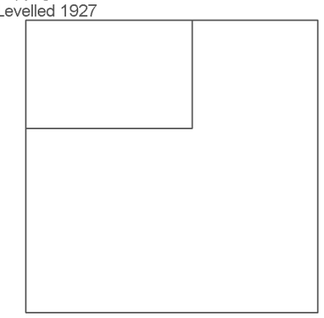
Map date: **1957**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1957
Edition N/A
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Levelled 1927



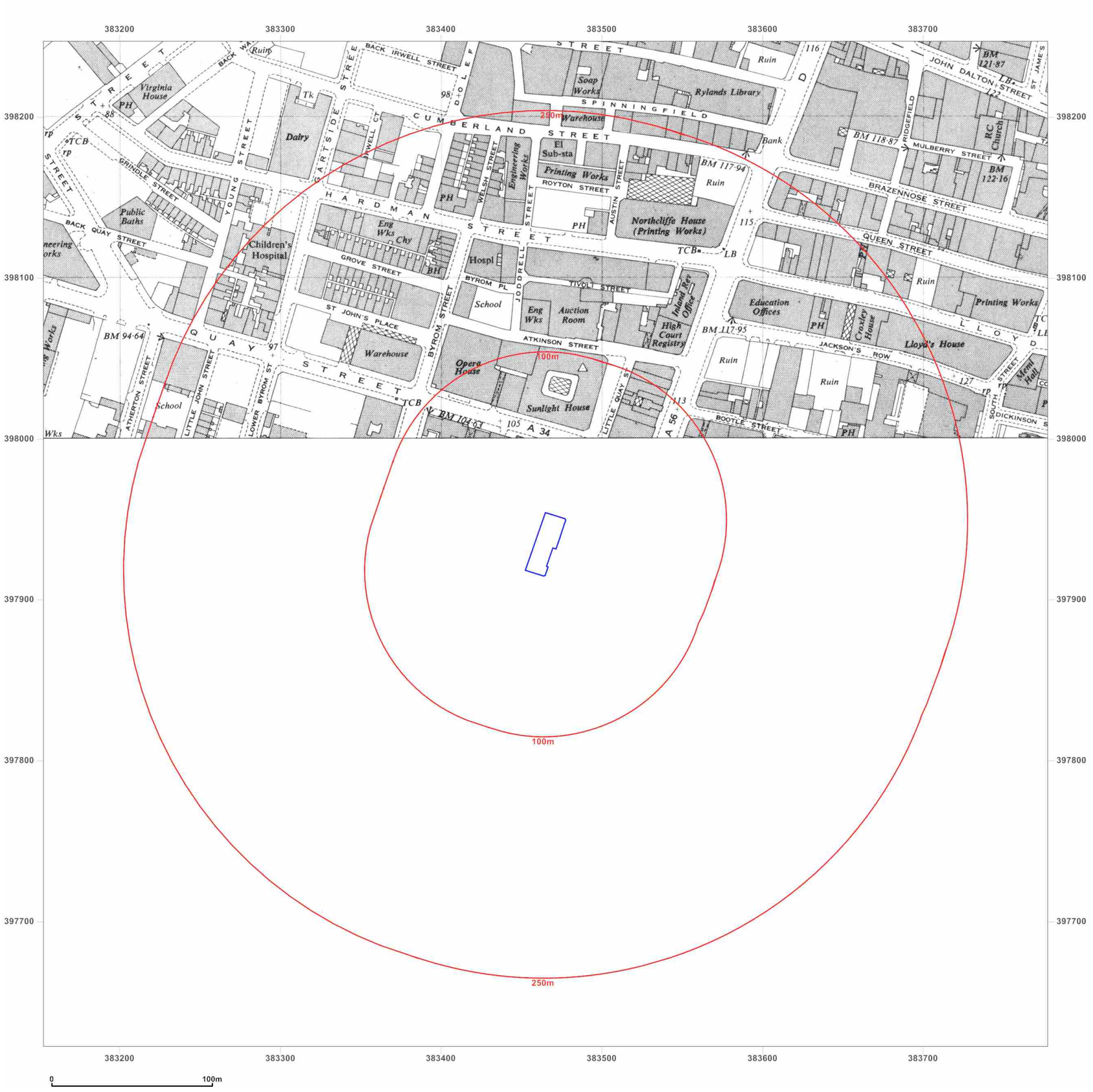
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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

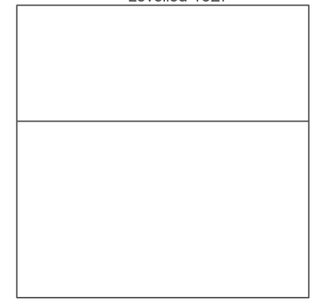
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Surveyed 1949
Revised 1949
Edition N/A
Copyright 1958
Levelled 1927



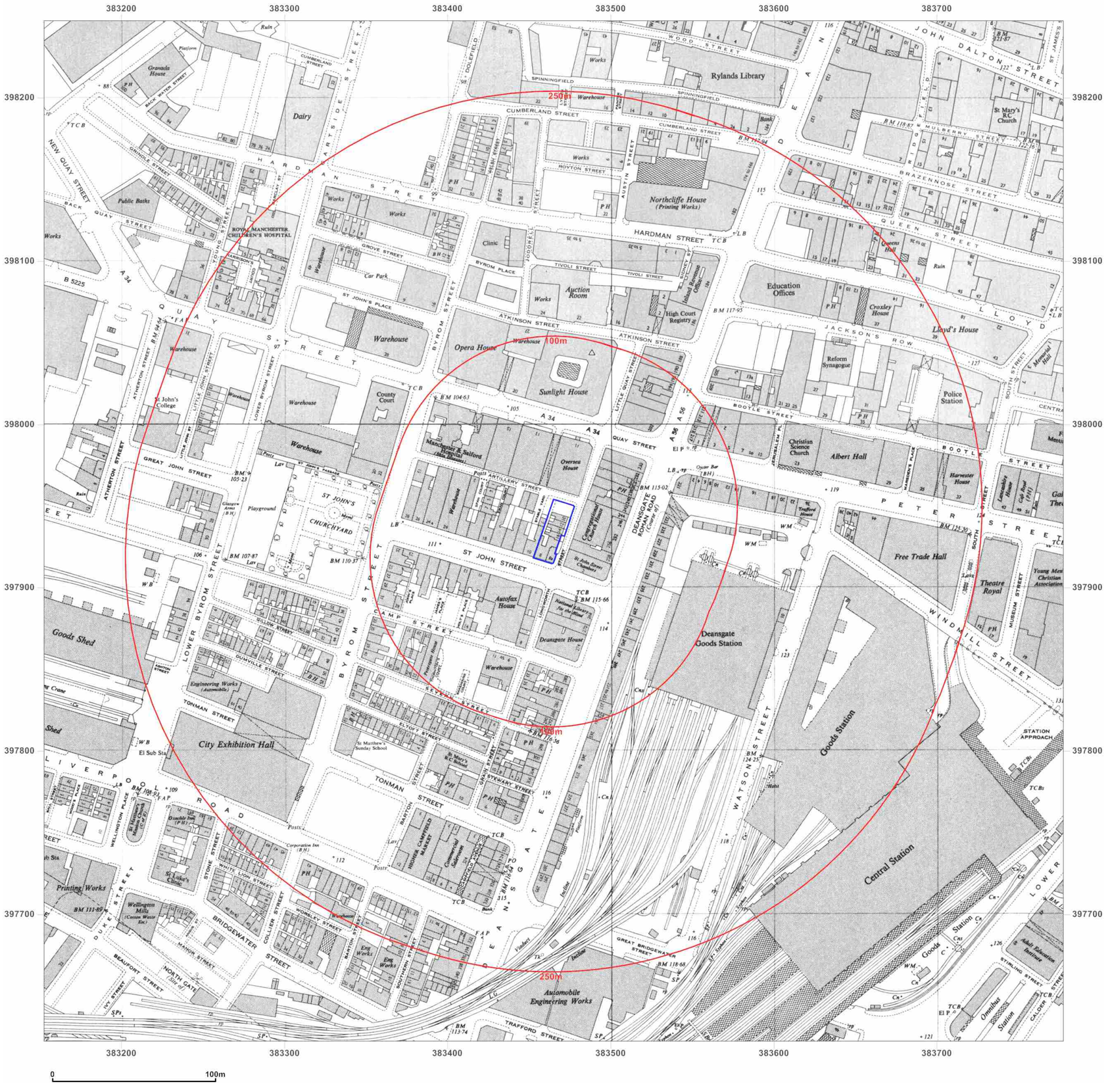
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Groundsure INSIGHTS

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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1956-1958**

Scale: 1:2,500

Printed at: 1:2,500

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Groundsure INSIGHTS

Site Details:

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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1962-1963**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1961
Edition N/A
Copyright 1962
Levelled 1958

Surveyed 1948
Revised 1962
Edition N/A
Copyright 1963
Levelled 1958

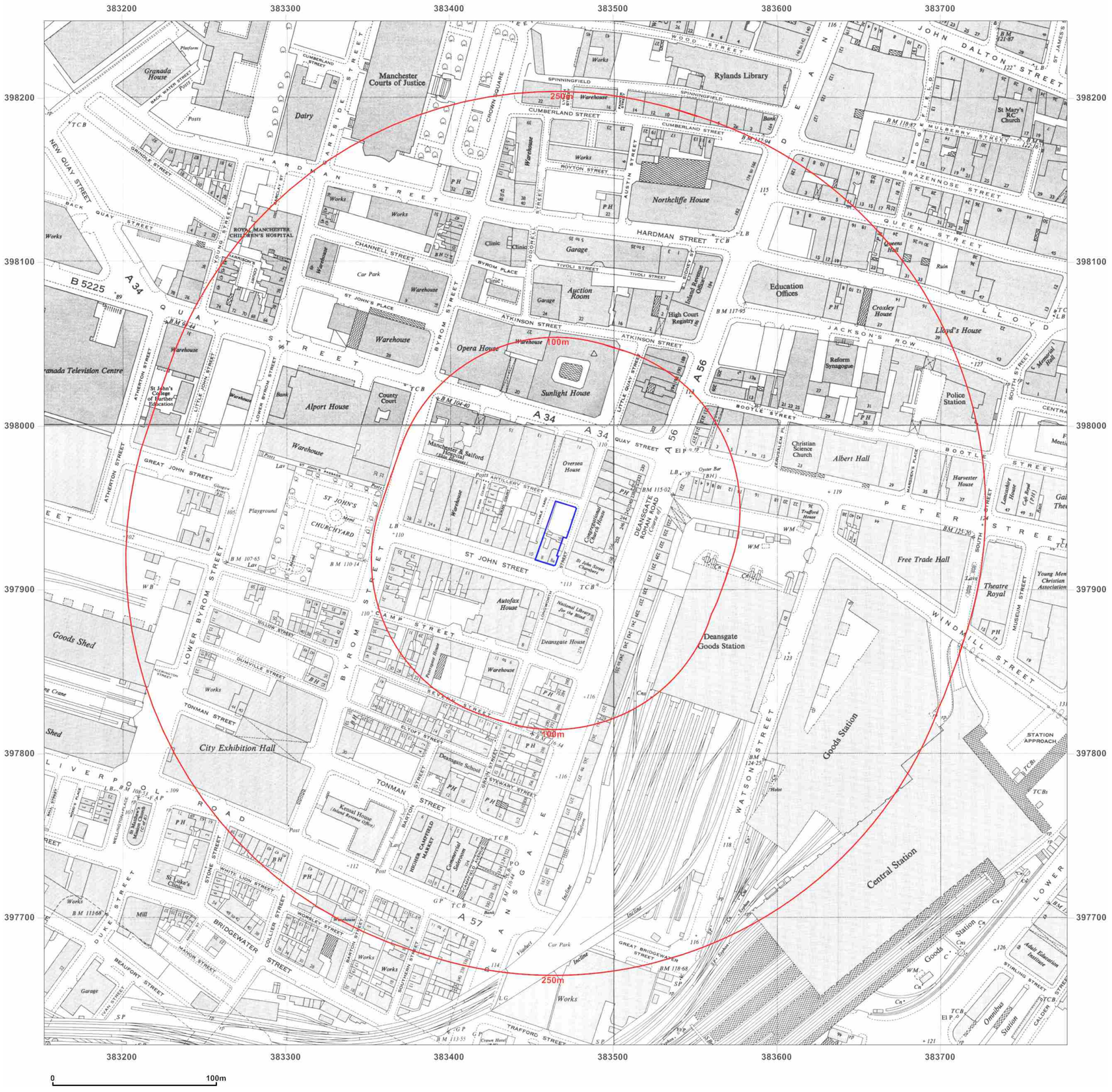
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1963**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed N/A
Revised 1962
Edition N/A
Copyright 1963
Levelled 1958

Surveyed 1963
Revised 1963
Edition N/A
Copyright 1965
Levelled 1958

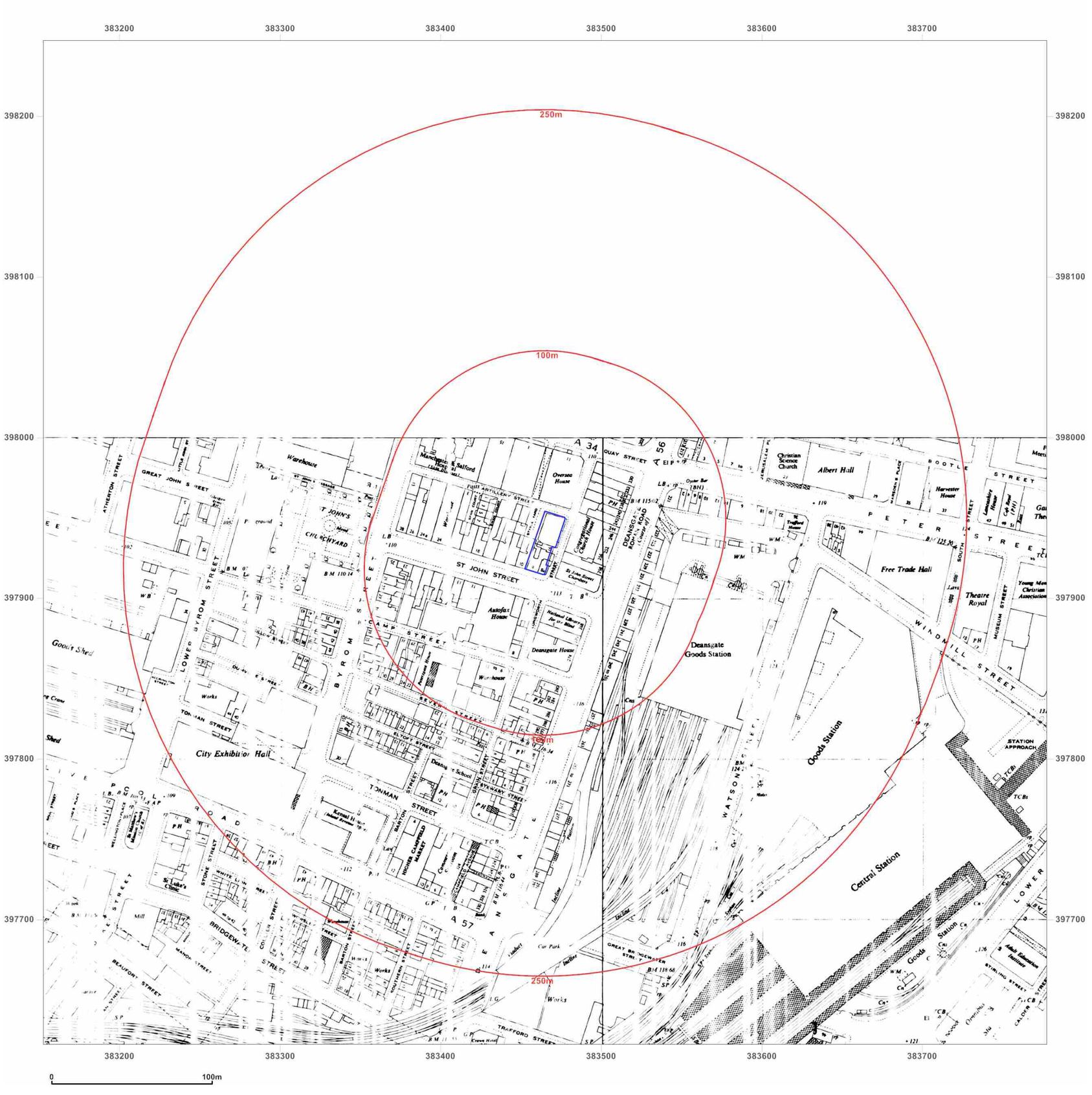
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1964**

Scale: 1:2,500

Printed at: 1:2,500

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

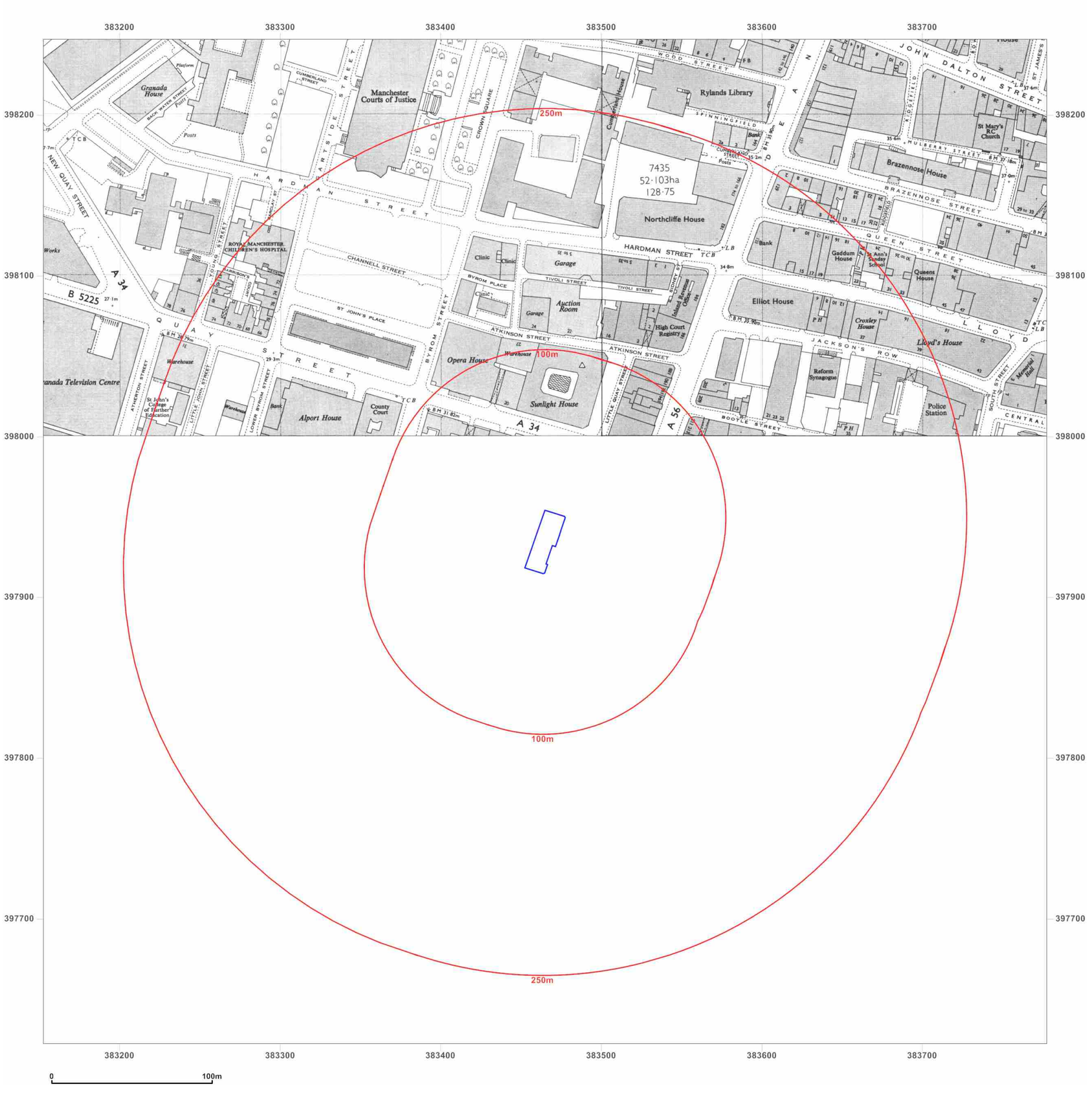
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

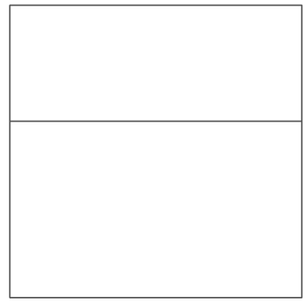
Map date: **1970**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
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Surveyed 1949
Revised 1970
Edition N/A
Copyright 1971
Levelled 1964



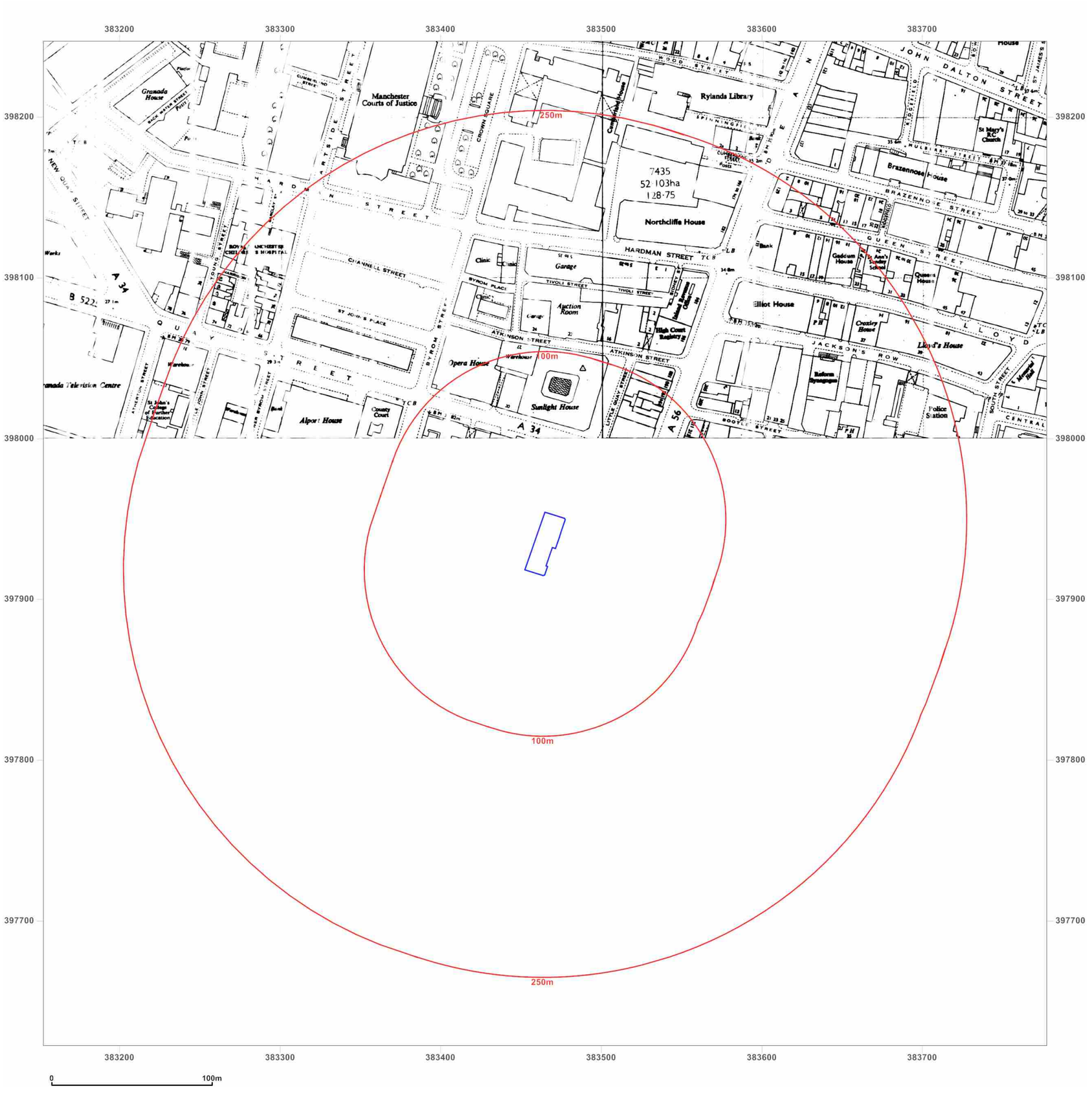
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1971**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1970-1973**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1948
Revised 1972
Edition N/A
Copyright 1973
Levelled 1963

Surveyed 1948
Revised 1970
Edition N/A
Copyright 1970
Levelled 1963

Surveyed 1948
Revised 1972
Edition N/A
Copyright 1973
Levelled 1963

Surveyed 1948
Revised 1972
Edition N/A
Copyright 1973
Levelled 1963

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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1980-1985**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1963
Revised 1984
Edition N/A
Copyright 1984
Levelled 1963

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1980
Levelled 1964

Surveyed 1948
Revised 1979
Edition N/A
Copyright 1981
Levelled 1963

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1985
Levelled 1963

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Surveyed 1949
Revised 1970
Edition N/A
Copyright 1990
Levelled N/A

Surveyed 1964
Revised 1986
Edition N/A
Copyright 1986
Levelled 1964

Surveyed 1963
Revised 1986
Edition N/A
Copyright 1986
Levelled 1963

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1986
Levelled 1963

Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1986-1990**

Scale: 1:1,250

Printed at: 1:2,000

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Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1988-1992**

Scale: 1:1,250

Printed at: 1:2,000

N
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Surveyed 1992
Revised 1992
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1948
Revised 1989
Edition N/A
Copyright 1989
Levelled N/A

Surveyed 1948
Revised 1979
Edition N/A
Copyright 1990
Levelled N/A

Surveyed 1948
Revised 1987
Edition N/A
Copyright 1988
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Site Details:

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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1992-1994**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
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Surveyed 1994
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

Surveyed 1992
Revised 1992
Edition N/A
Copyright 1992
Levelled N/A

Surveyed 1992
Revised 1992
Edition N/A
Copyright 1992
Levelled N/A

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Site Details:

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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1994-1995**

Scale: 1:1,250

Printed at: 1:2,000

N
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Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

Surveyed 1995
Revised 1995
Edition N/A
Copyright 1995
Levelled N/A

Surveyed 1994
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

Surveyed N/A
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

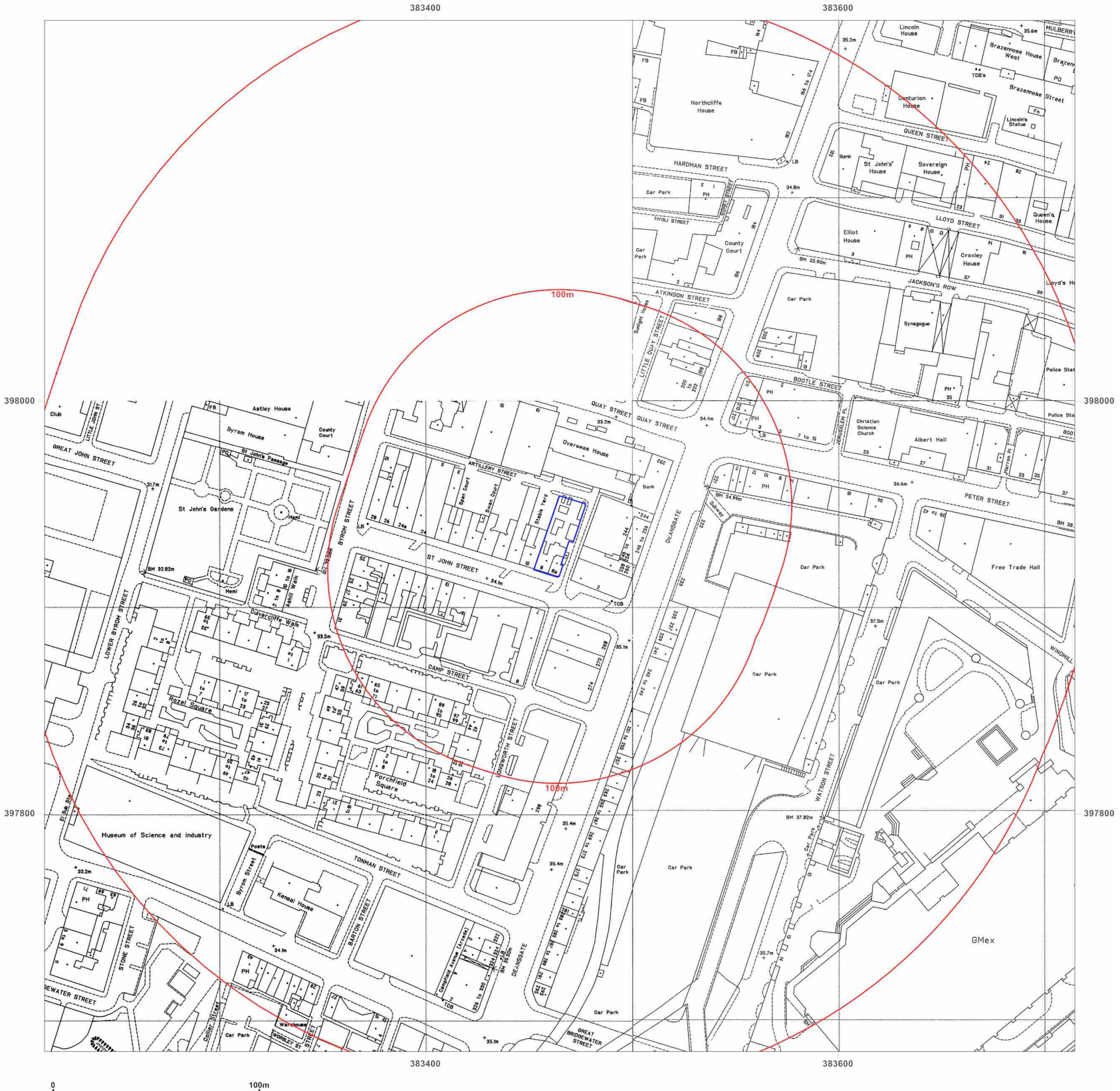
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Site Details:

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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1994-1995**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1995
Revised 1995
Edition N/A
Copyright 1995
Levelled N/A

Surveyed 1994 Revised 1994 Edition N/A Copyright 1994 Levelled N/A	Surveyed N/A Revised 1994 Edition N/A Copyright 1994 Levelled N/A

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Site Details:

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Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1995	Surveyed N/A
Revised 1995	Revised 1995
Edition N/A	Edition N/A
Copyright 1995	Copyright 1995
Levelled N/A	Levelled N/A

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Site Details:

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MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1995	Surveyed N/A
Revised 1995	Revised N/A
Edition N/A	Edition N/A
Copyright 1995	Copyright 1995
Levelled N/A	Levelled N/A

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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: LandLine
Map date: **2003**
Scale: 1:1,250
Printed at: 1:1,250

N
W E
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2003

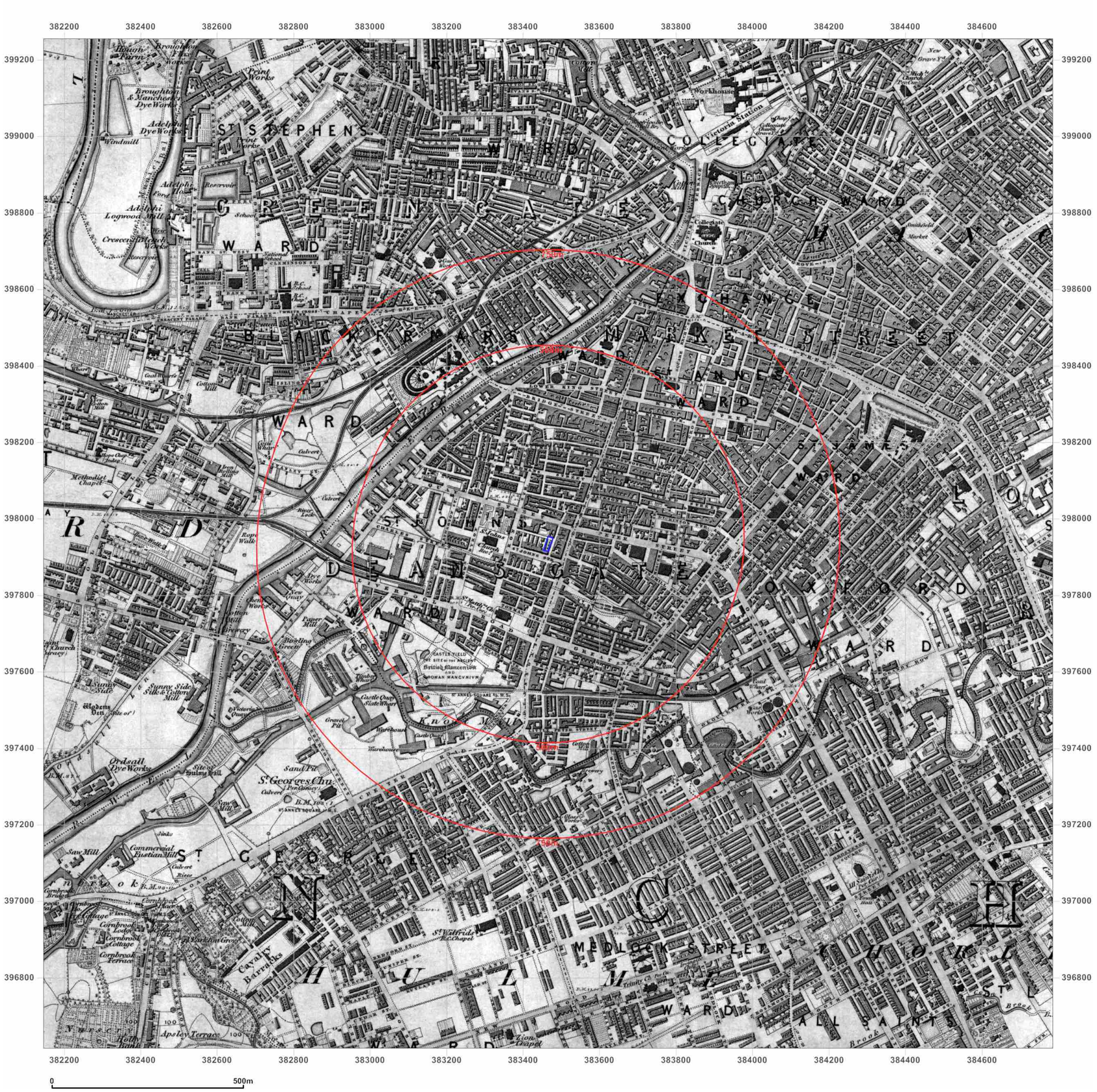
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1848**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1845
Revised N/A
Edition 1848
Copyright N/A
Levelled N/A

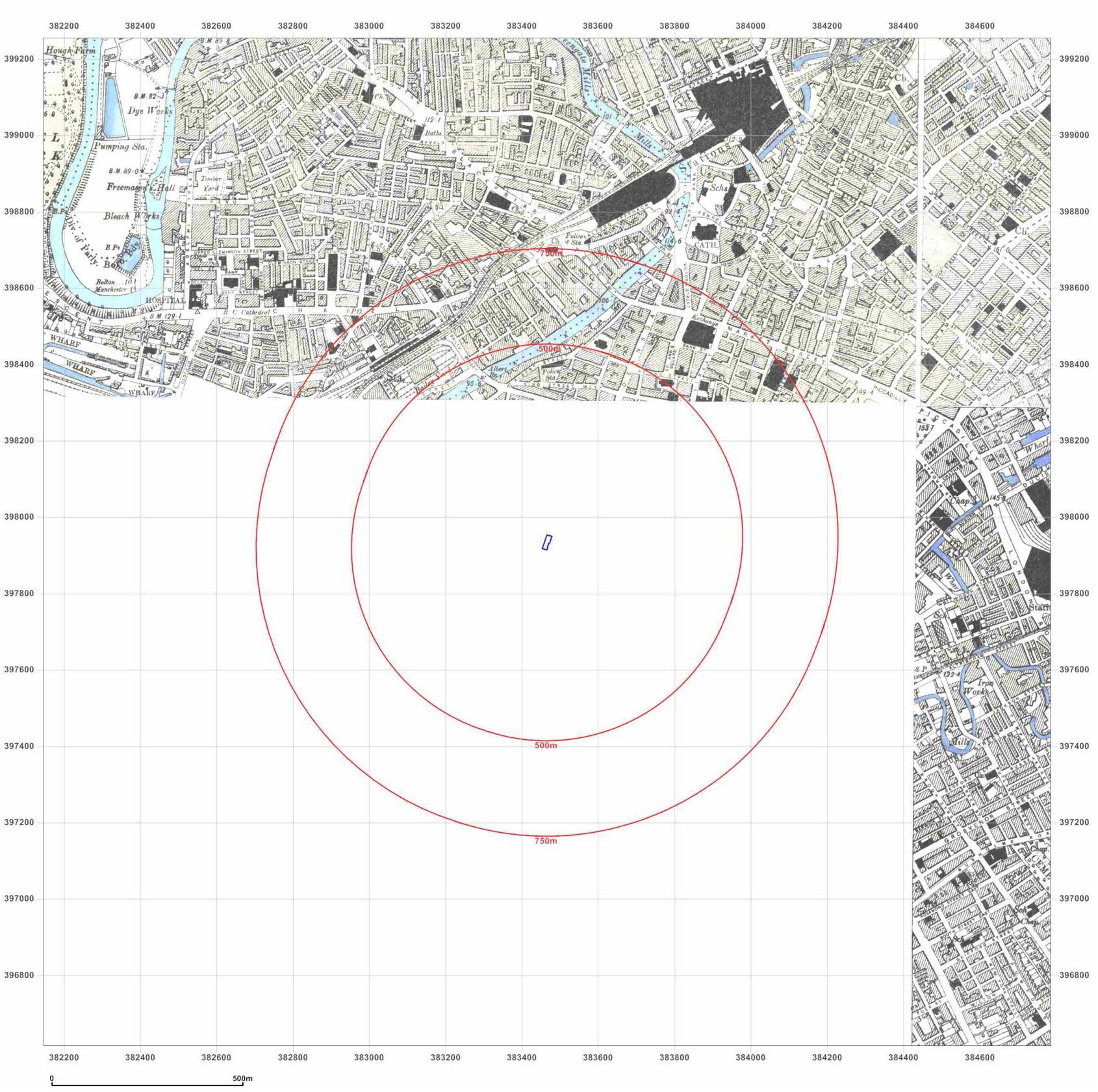
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Site Details:

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MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1890-1894**

Scale: 1:10,560

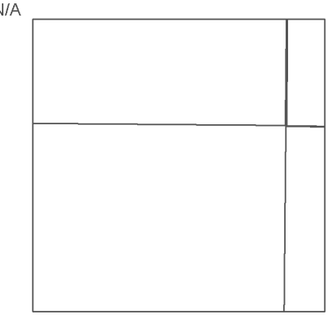
Printed at: 1:10,560

N
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Surveyed 1889
Revised 1889
Edition 1894
Copyright N/A
Levelled N/A

Surveyed 1891
Revised 1891
Edition 1891
Copyright N/A
Levelled N/A

Surveyed 1890
Revised 1890
Edition 1890
Copyright N/A
Levelled N/A



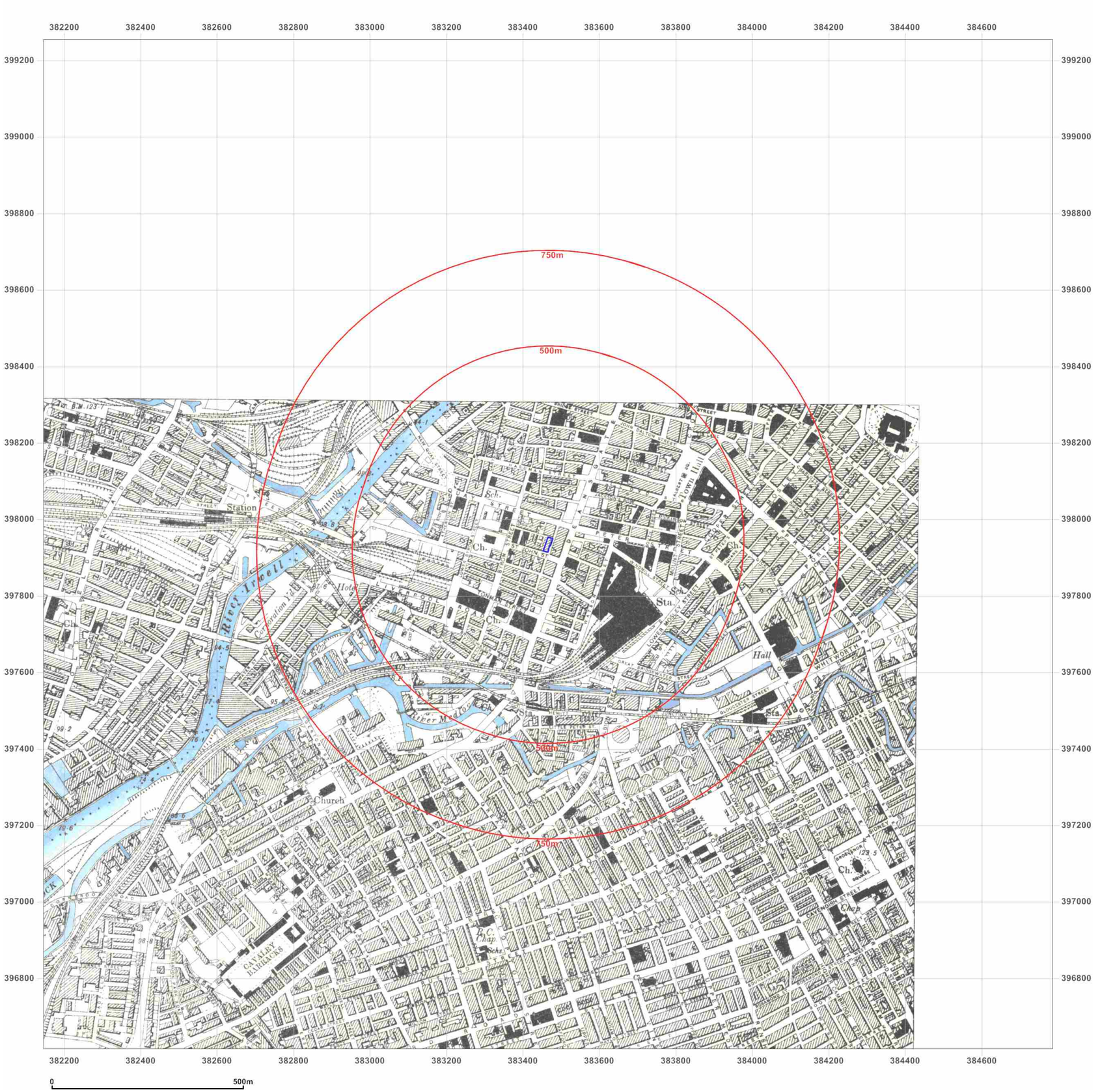
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Site Details:

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MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

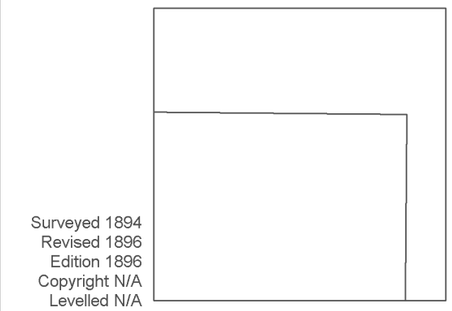
Map Name: County Series

Map date: **1896**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1894
Revised 1896
Edition 1896
Copyright N/A
Levelled N/A

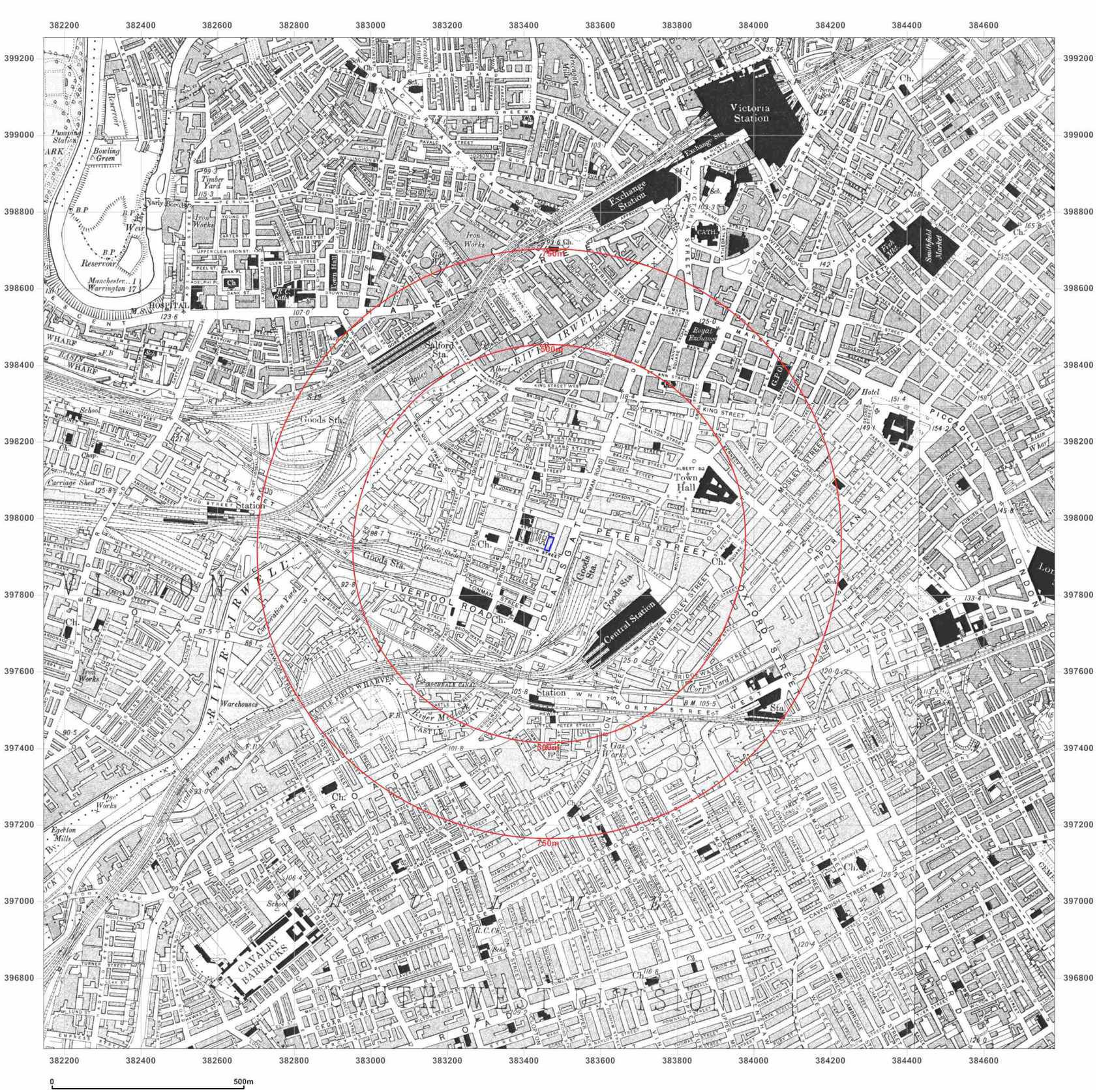
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Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1905-1906**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1844
Revised 1906
Edition 1906
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1906
Edition 1906
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1905
Edition 1905
Copyright N/A
Levelled N/A

Surveyed 1844
Revised 1905
Edition 1905
Copyright N/A
Levelled N/A

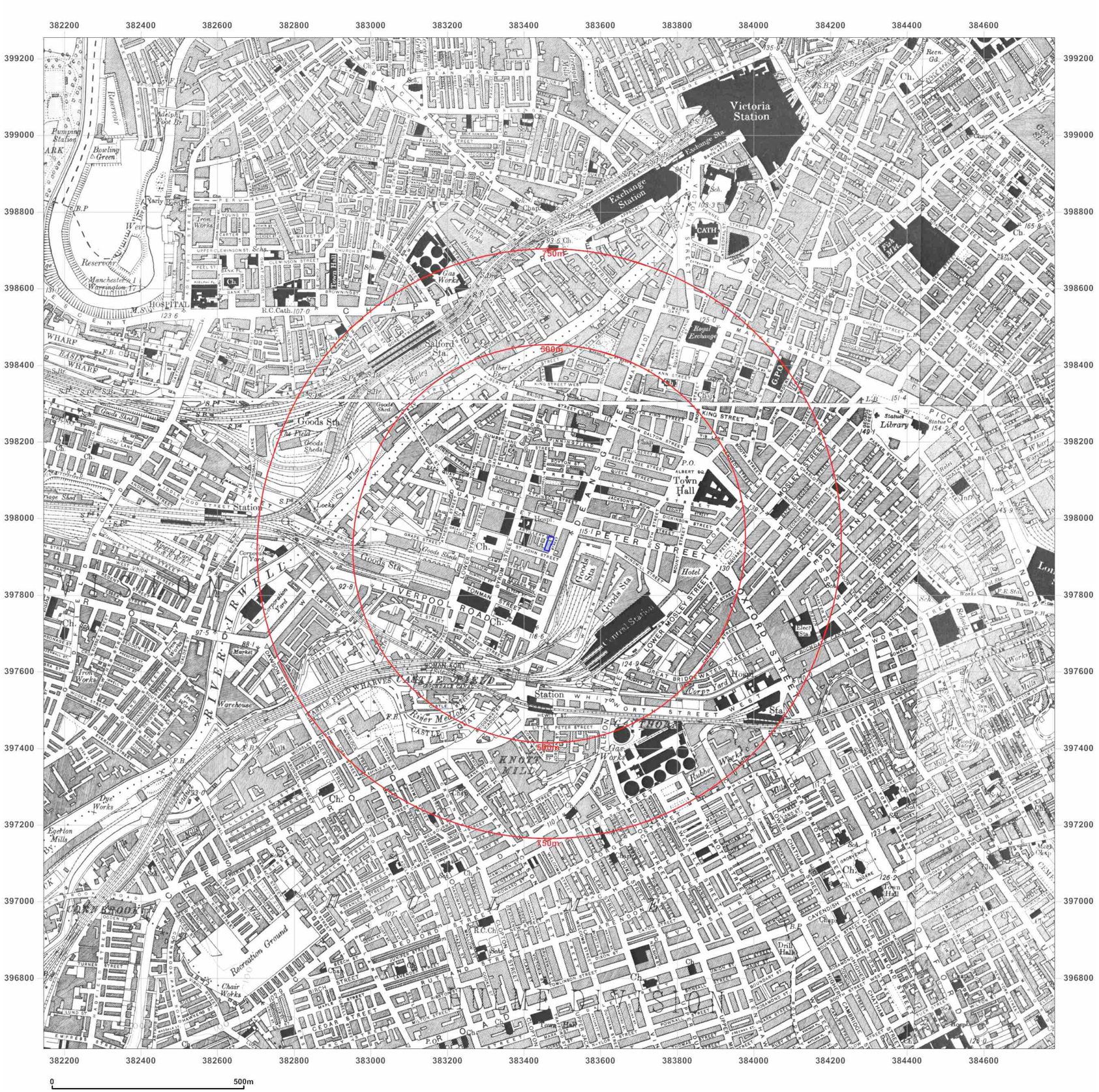
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1923**

Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1844
Revised 1916
Edition 1923
Copyright N/A
Levelled 1915

Surveyed 1844
Revised 1921
Edition 1923
Copyright N/A
Levelled 1906

Surveyed 1844
Revised 1916
Edition 1923
Copyright N/A
Levelled 1915

Surveyed 1844
Revised 1915
Edition 1923
Copyright N/A
Levelled 1915

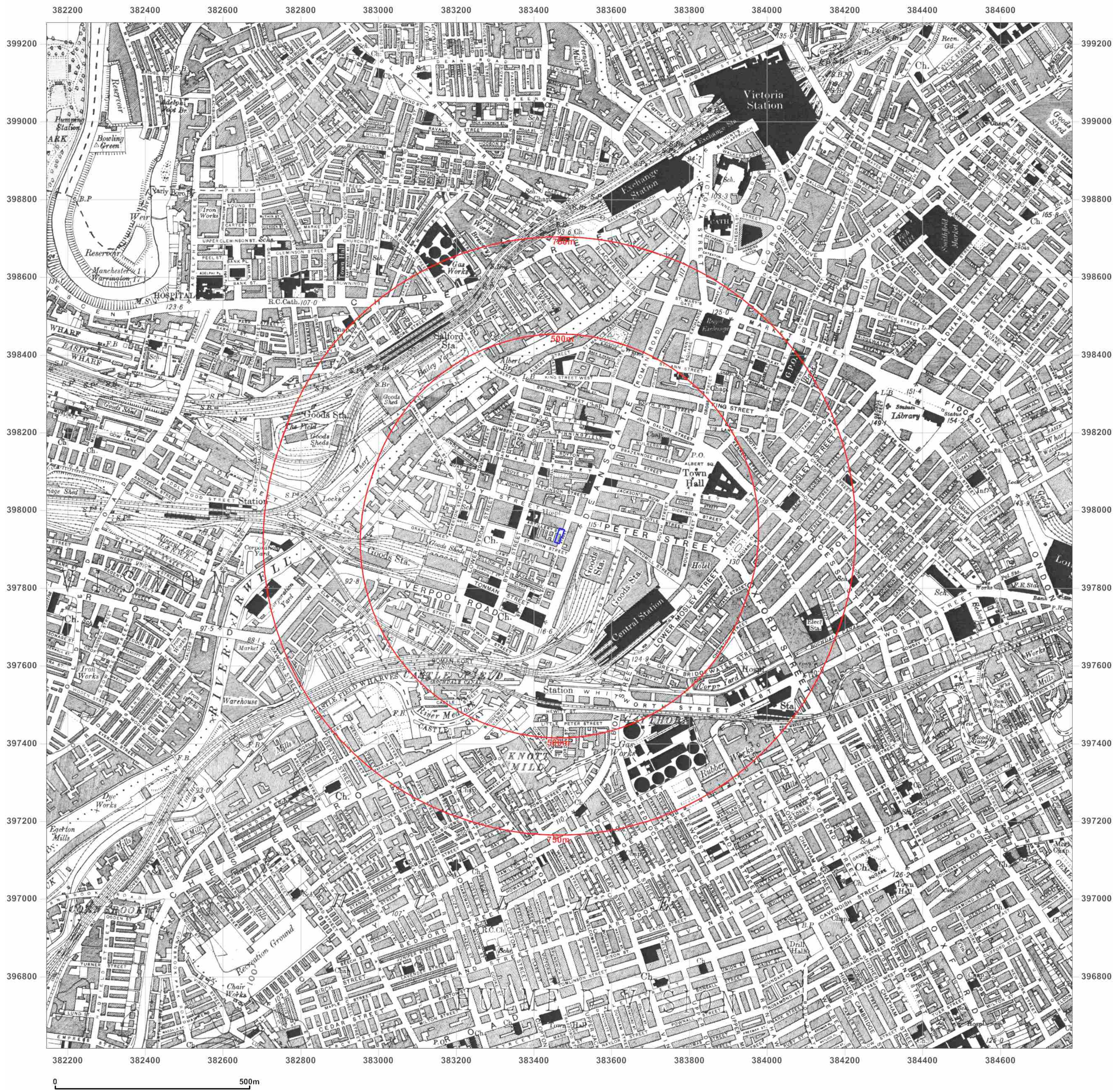
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Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1923**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1844
Revised 1916
Edition 1923
Copyright N/A
Levelled 1915

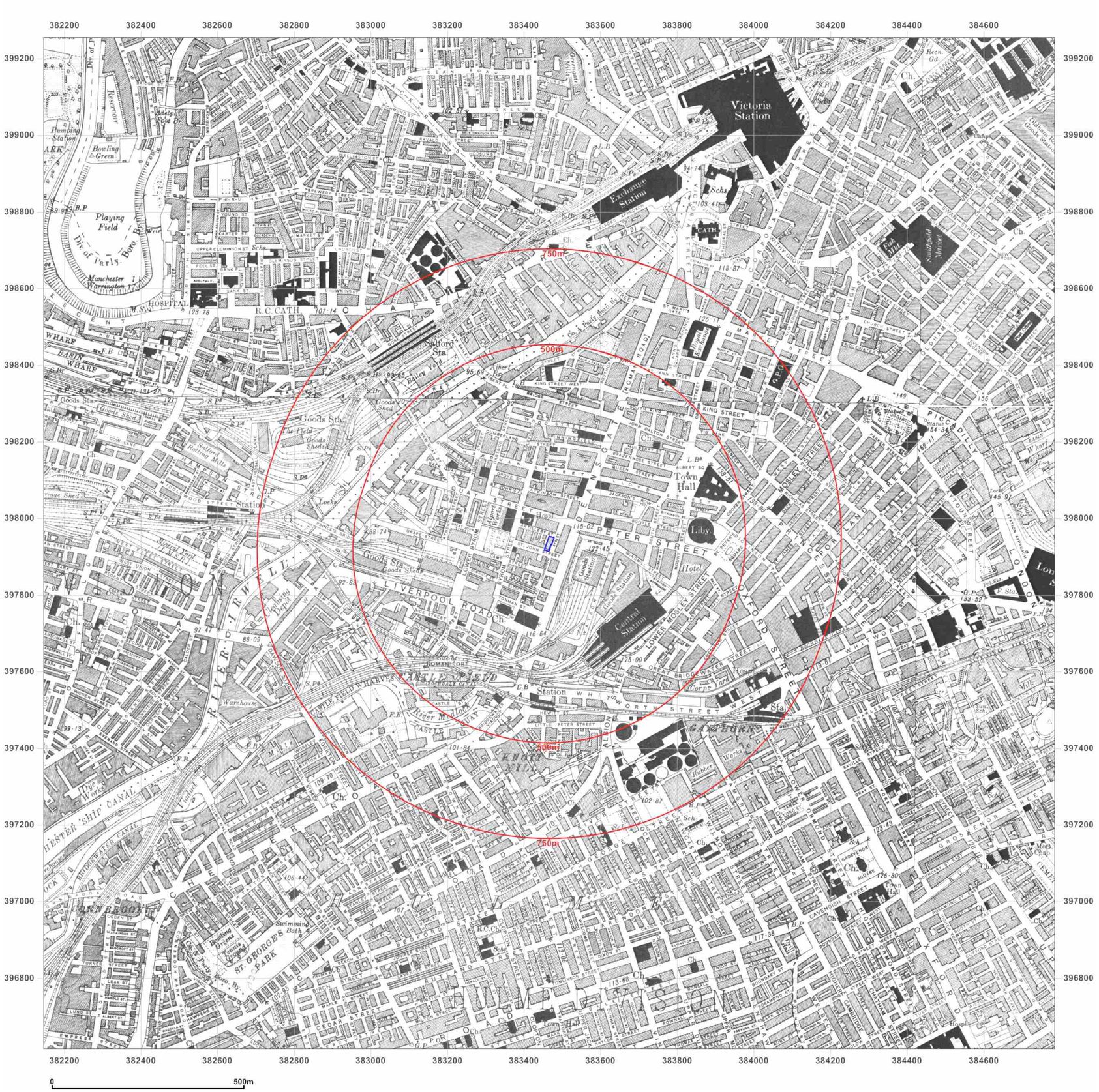
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1931-1934**

Scale: 1:10,560

Printed at: 1:10,560

N
W E
S

Surveyed 1844
Revised 1931
Edition 1931
Copyright N/A
Levelled 1927

Surveyed 1844
Revised 1933
Edition 1933
Copyright N/A
Levelled 1927

Surveyed 1844
Revised 1932
Edition 1932
Copyright N/A
Levelled 1927

Surveyed 1844
Revised 1934
Edition 1934
Copyright N/A
Levelled 1927

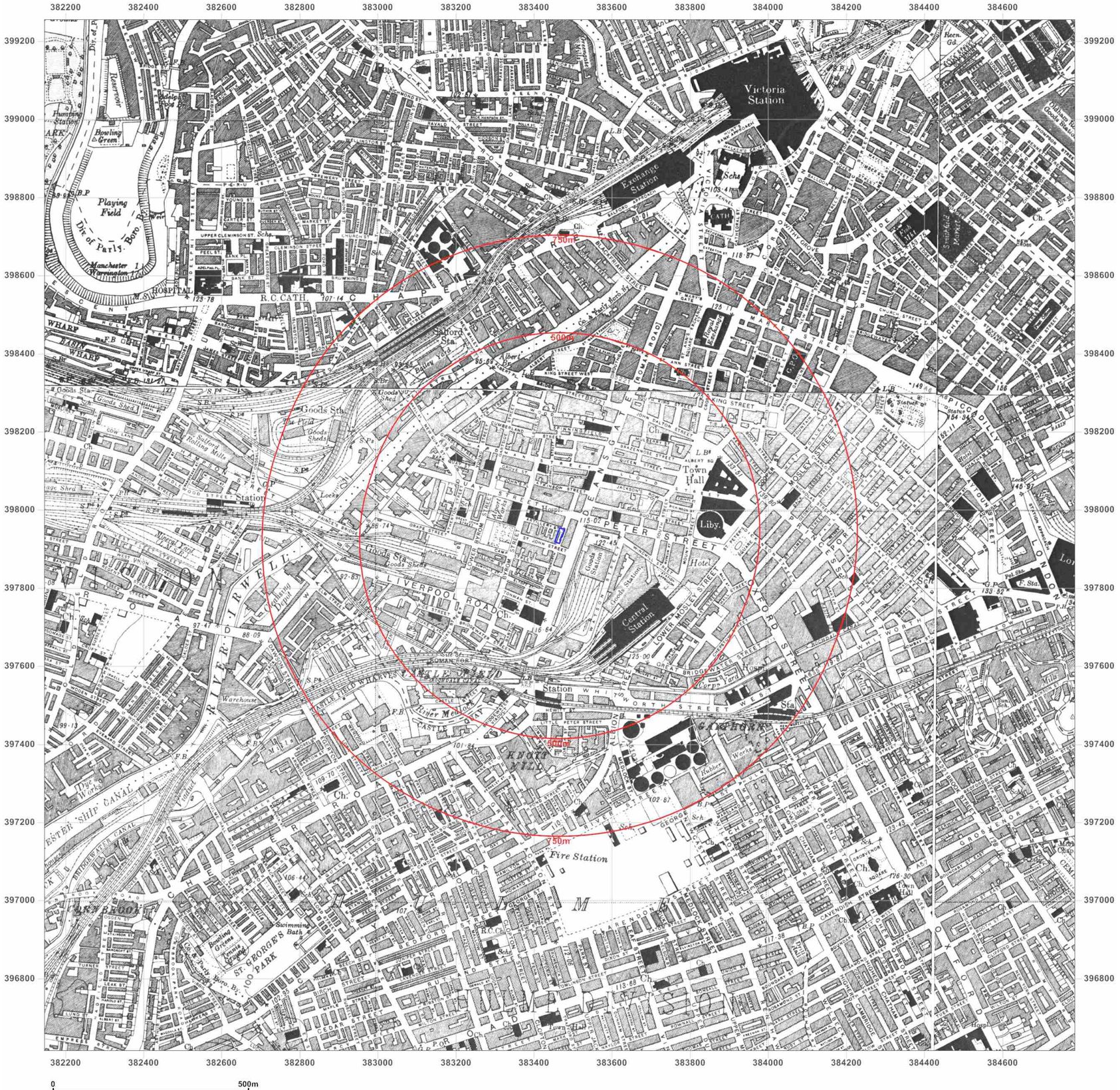
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Site Details:

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MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: County Series

Map date: **1938**

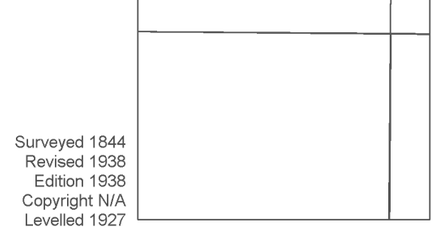
Scale: 1:10,560

Printed at: 1:10,560

N
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Surveyed 1844
Revised 1938
Edition 1938
Copyright N/A
Levelled 1927

Surveyed 1844
Revised 1938
Edition 1938
Copyright N/A
Levelled 1927



Surveyed 1844
Revised 1938
Edition 1938
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Surveyed 1844
Revised 1938
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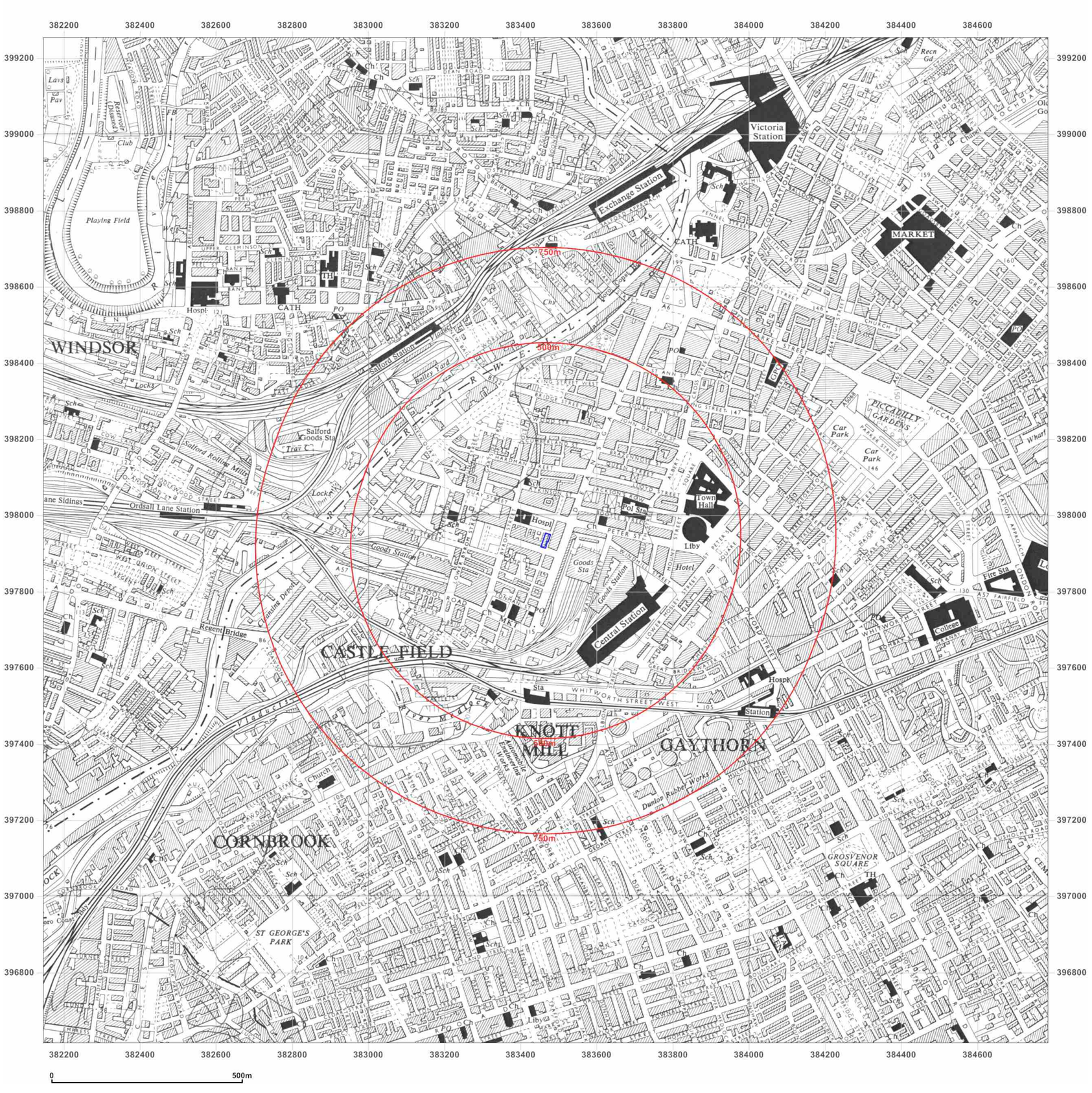
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: Provisional

Map date: **1956**

Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1956
Revised 1956
Edition N/A
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1972**

Scale: 1:10,000

Printed at: 1:10,000

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Edition N/A
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1980**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1976
Revised 1980
Edition N/A
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1985**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1983
Revised 1985
Edition N/A
Copyright 1985
Levelled 1981

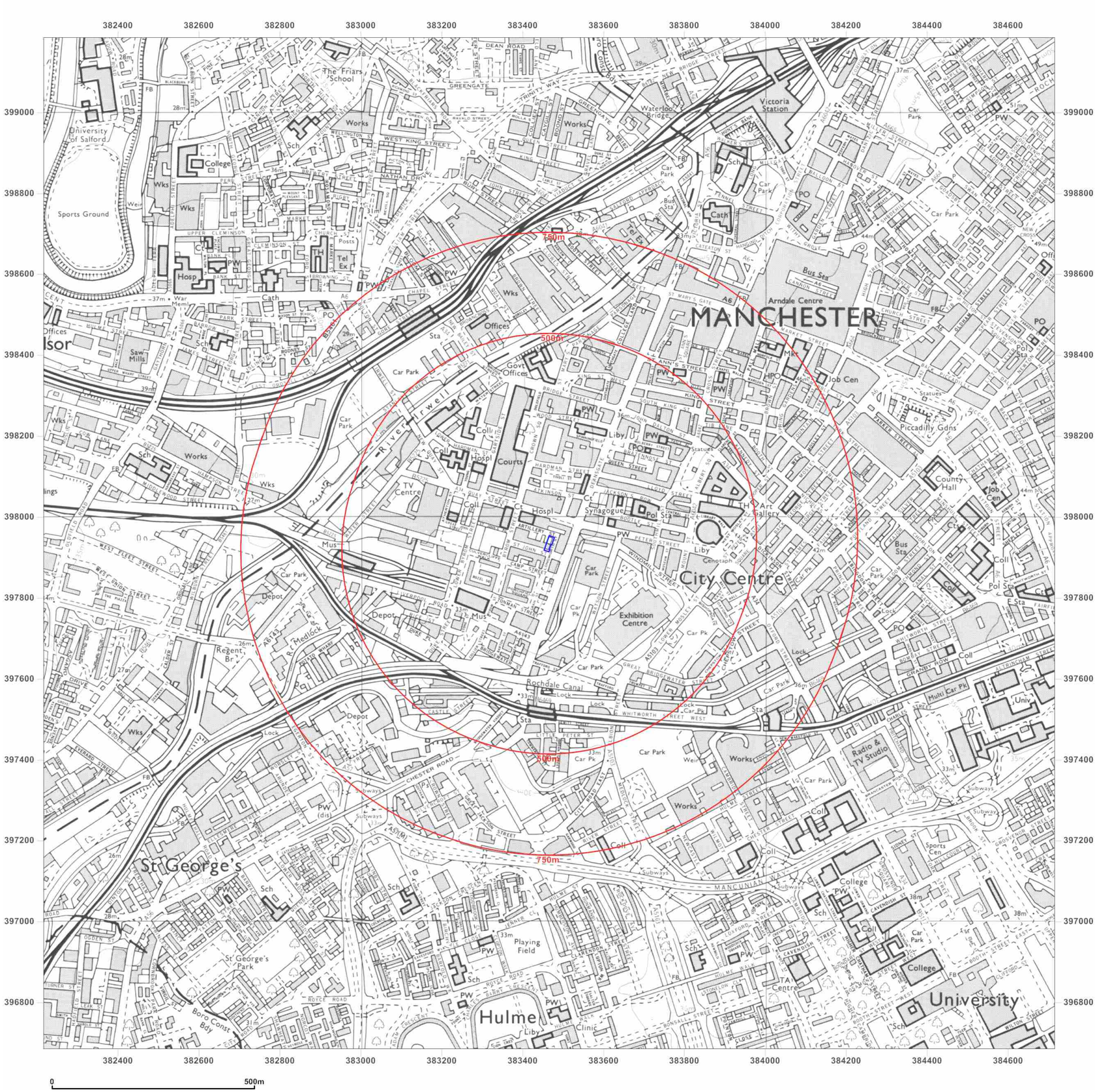
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1988**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1986
Revised 1988
Edition N/A
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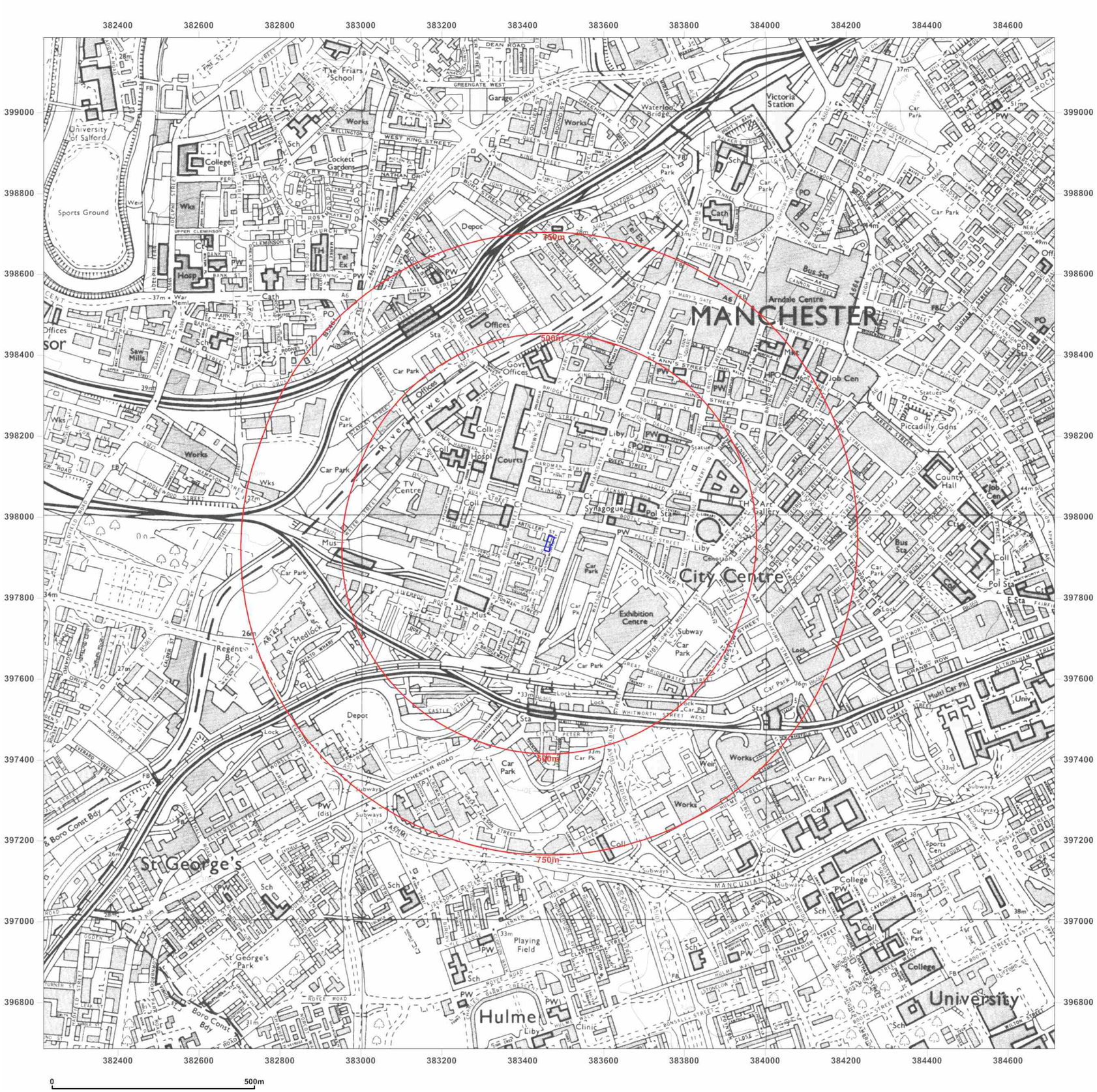
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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **1994**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1986
Revised 1994
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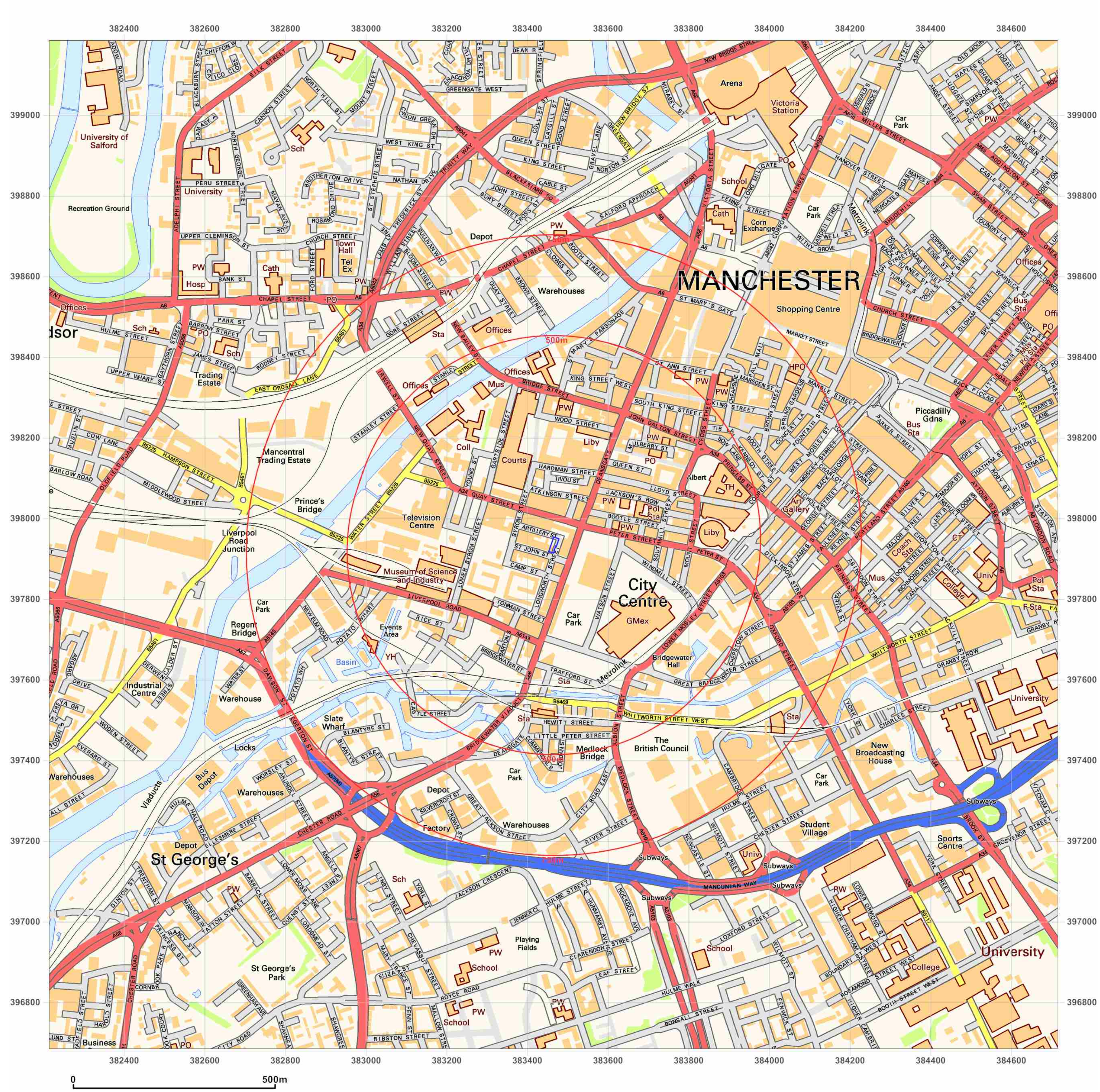
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Groundsure
INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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2001

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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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2010

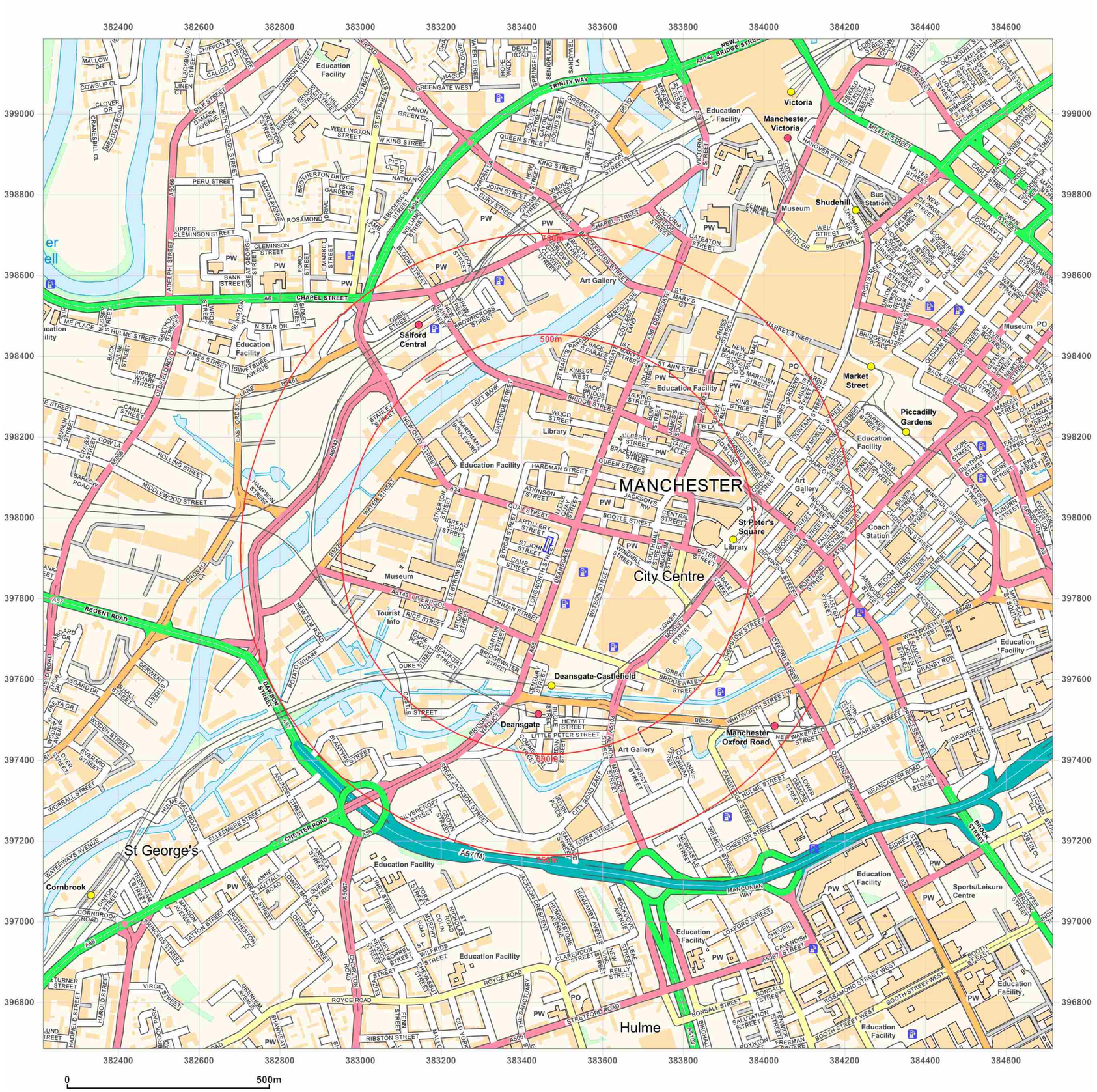
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Production date: 22 July 2020

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Groundsure INSIGHTS

Site Details:

8, ST JOHN STREET,
MANCHESTER, M3 4DY

Client Ref: PO01058_
Report Ref: HYD-6907855
Grid Ref: 383465, 397934

Map Name: National Grid

Map date: **2020**

Scale: 1:10,000

Printed at: 1:10,000

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2020

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Production date: 22 July 2020

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Appendix C

Desk Study Research Information

Groundsure Database Report

Groundsure
LOCATION INTELLIGENCE

Enviro+Geo Insight

8, ST JOHN STREET, MANCHESTER, M3 4DY

Order Details

Date: 23/07/2020

Your ref: PO01058_

Our Ref: HYD-6907856

Client: Hydrock Consultants Ltd

Site Details

Location: 383461 397927

Area: 0.05 ha

Authority: Manchester City Council



Summary of findings p. 2

OS MasterMap site plan p.12

Aerial image p. 8

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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	0	4	53	86	-
19	1.2	Historical tanks	0	1	10	26	-
20	1.3	Historical energy features	0	0	2	27	-
22	1.4	Historical petrol stations	0	0	0	0	-
22	1.5	Historical garages	0	0	8	19	-
23	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
24	2.1	Historical industrial land uses	0	6	79	154	-
33	2.2	Historical tanks	0	1	26	51	-
36	2.3	Historical energy features	0	0	12	51	-
39	2.4	Historical petrol stations	0	0	0	0	-
39	2.5	Historical garages	0	0	13	37	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
42	3.1	Active or recent landfill	0	0	0	0	-
42	3.2	Historical landfill (BGS records)	0	0	0	0	-
43	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
43	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
43	3.5	Historical waste sites	0	0	1	3	-
44	3.6	Licensed waste sites	0	0	0	0	-
44	3.7	Waste exemptions	0	0	6	52	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
50	4.1	Recent industrial land uses	0	1	21	-	-
52	4.2	Current or recent petrol stations	0	0	0	0	-
52	4.3	Electricity cables	0	0	0	0	-
52	4.4	Gas pipelines	0	0	0	0	-
53	4.5	Sites determined as Contaminated Land	0	0	0	0	-

53	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
53	4.7	Regulated explosive sites	0	0	0	0	-
53	4.8	Hazardous substance storage/usage	0	0	0	0	-
53	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
54	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
54	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	0	0	3	-
54	4.12	Radioactive Substance Authorisations	0	0	0	0	-
55	**4.13**	**Licensed Discharges to controlled waters**	0	0	0	29	-
59	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
59	4.15	Pollutant release to public sewer	0	0	0	0	-
60	4.16	List 1 Dangerous Substances	0	0	0	0	-
60	**4.17**	**List 2 Dangerous Substances**	0	0	0	1	-
60	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
60	4.19	Pollution inventory substances	0	0	0	0	-
61	4.20	Pollution inventory waste transfers	0	0	0	0	-
61	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
62	**5.1**	**Superficial aquifer**	Identified (within 500m)				
64	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
66	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
67	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
67	5.5	Groundwater vulnerability- local information	None (within 0m)				
68	**5.6**	**Groundwater abstractions**	0	0	0	2	39
79	**5.7**	**Surface water abstractions**	0	0	0	0	2
80	**5.8**	**Potable abstractions**	0	0	0	0	10
82	**5.9**	**Source Protection Zones**	0	0	0	1	-
83	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
84	**6.1**	**Water Network (OS MasterMap)**	0	0	1	-	-

85	6.2	Surface water features	0	0	0	-	-
85	**6.3**	**WFD Surface water body catchments**	1	-	-	-	-
85	**6.4**	**WFD Surface water bodies**	0	0	0	-	-
86	**6.5**	**WFD Groundwater bodies**	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
87	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
88	**7.2**	**Historical Flood Events**	0	0	1	-	-
88	7.3	Flood Defences	0	0	0	-	-
88	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
88	7.5	Flood Storage Areas	0	0	0	-	-
89	7.6	Flood Zone 2	None (within 50m)				
89	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
90	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding					
91	**9.1**	**Groundwater flooding**	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
92	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
92	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
92	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
92	10.4	Special Protection Areas (SPA)	0	0	0	0	0
93	10.5	National Nature Reserves (NNR)	0	0	0	0	0
93	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
93	10.7	Designated Ancient Woodland	0	0	0	0	0
93	10.8	Biosphere Reserves	0	0	0	0	0
94	10.9	Forest Parks	0	0	0	0	0
94	10.10	Marine Conservation Zones	0	0	0	0	0
94	10.11	Green Belt	0	0	0	0	0
94	10.12	Proposed Ramsar sites	0	0	0	0	0

94	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
95	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
95	10.15	Nitrate Sensitive Areas	0	0	0	0	0
95	**10.16**	**Nitrate Vulnerable Zones**	0	0	0	0	4
96	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
97	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
98	11.1	World Heritage Sites	0	0	0	-	-
99	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
99	11.3	National Parks	0	0	0	-	-
99	**11.4**	**Listed Buildings**	1	6	30	-	-
101	**11.5**	**Conservation Areas**	1	1	3	-	-
102	11.6	Scheduled Ancient Monuments	0	0	0	-	-
102	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
103	**12.1**	**Agricultural Land Classification**	Urban (within 250m)				
104	12.2	Open Access Land	0	0	0	-	-
104	12.3	Tree Felling Licences	0	0	0	-	-
104	12.4	Environmental Stewardship Schemes	0	0	0	-	-
104	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
105	13.1	Priority Habitat Inventory	0	0	0	-	-
105	13.2	Habitat Networks	0	0	0	-	-
105	13.3	Open Mosaic Habitat	0	0	0	-	-
105	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
106	**14.1**	**10k Availability**	Identified (within 500m)				
107	**14.2**	**Artificial and made ground (10k)**	0	1	0	1	-
108	**14.3**	**Superficial geology (10k)**	1	0	1	2	-

109	14.4	Landslip (10k)	0	0	0	0	-
110	**14.5**	**Bedrock geology (10k)**	1	1	0	0	-
111	**14.6**	**Bedrock faults and other linear features (10k)**	0	0	3	2	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
112	**15.1**	**50k Availability**	Identified (within 500m)				
113	**15.2**	**Artificial and made ground (50k)**	0	0	1	0	-
114	15.3	Artificial ground permeability (50k)	0	0	-	-	-
115	**15.4**	**Superficial geology (50k)**	1	0	1	2	-
116	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
116	15.6	Landslip (50k)	0	0	0	0	-
116	15.7	Landslip permeability (50k)	None (within 50m)				
117	**15.8**	**Bedrock geology (50k)**	1	1	0	0	-
118	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
118	**15.10**	**Bedrock faults and other linear features (50k)**	0	0	3	2	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
119	**16.1**	**BGS Boreholes**	0	2	78	-	-
Page	Section	Natural ground subsidence					
123	**17.1**	**Shrink swell clays**	Negligible (within 50m)				
124	**17.2**	**Running sands**	Very low (within 50m)				
125	**17.3**	**Compressible deposits**	Negligible (within 50m)				
126	**17.4**	**Collapsible deposits**	Very low (within 50m)				
127	**17.5**	**Landslides**	Very low (within 50m)				
128	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
130	18.1	Natural cavities	0	0	0	0	-
130	18.2	BritPits	0	0	0	0	-
130	18.3	Surface ground workings	0	0	0	-	-
130	18.4	Underground workings	0	0	0	0	0
131	18.5	Historical Mineral Planning Areas	0	0	0	0	-

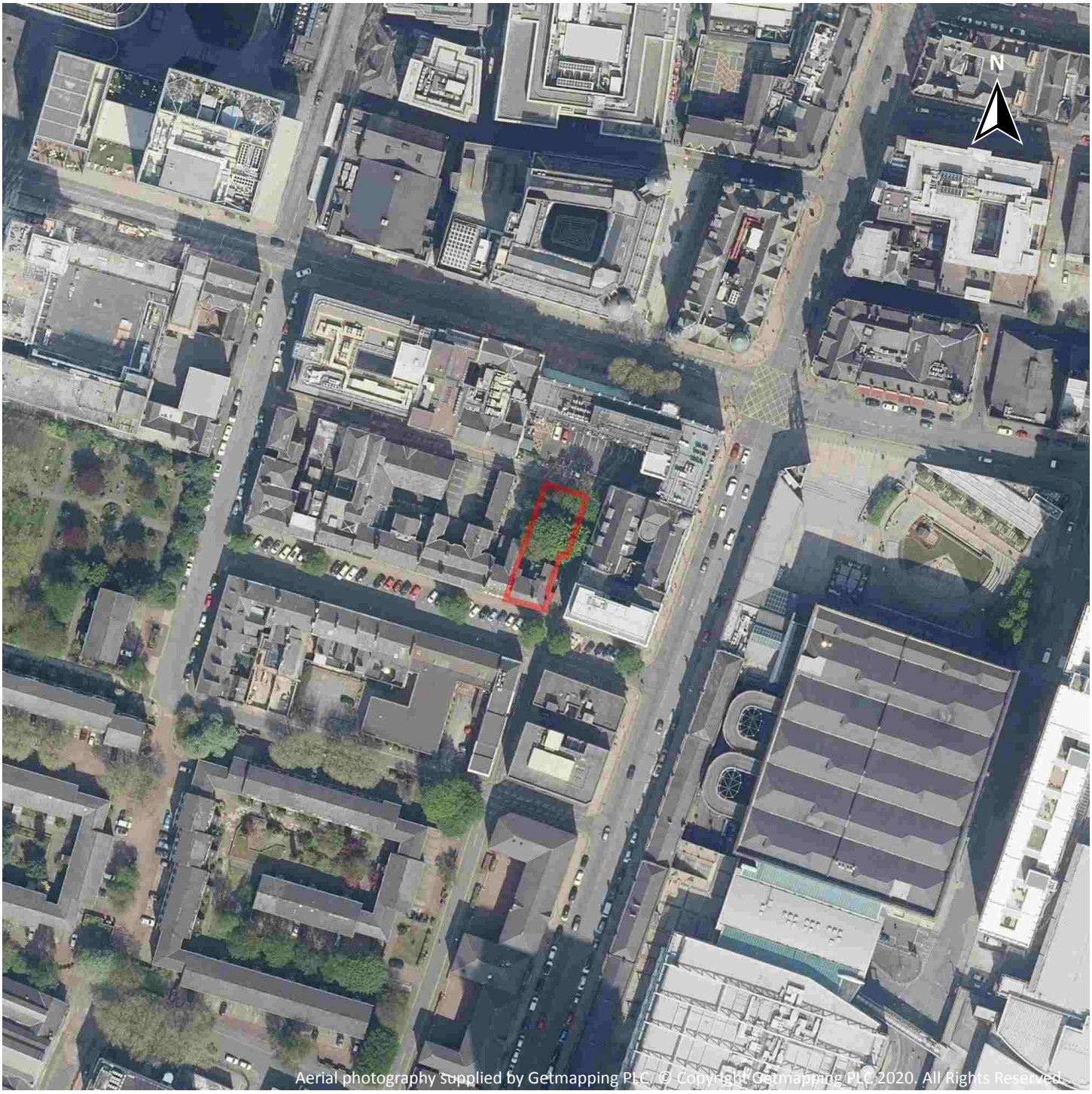
131	18.6	Non-coal mining	0	0	0	0	0
131	18.7	Mining cavities	0	0	0	0	0
131	**18.8**	**JPB mining areas**	Identified (within 0m)				
132	**18.9**	**Coal mining**	Identified (within 0m)				
132	18.10	Brine areas	None (within 0m)				
132	18.11	Gypsum areas	None (within 0m)				
132	18.12	Tin mining	None (within 0m)				
132	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
133	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
134	**20.1**	**BGS Estimated Background Soil Chemistry**	1	5	-	-	-
134	**20.2**	**BGS Estimated Urban Soil Chemistry**	1	4	-	-	-
135	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
136	21.1	Underground railways (London)	0	0	0	-	-
136	21.2	Underground railways (Non-London)	0	0	0	-	-
137	21.3	Railway tunnels	0	0	0	-	-
137	**21.4**	**Historical railway and tunnel features**	0	1	50	-	-
139	21.5	Royal Mail tunnels	0	0	0	-	-
139	**21.6**	**Historical railways**	0	0	3	-	-
140	21.7	Railways	0	0	0	-	-
140	21.8	Crossrail 1	0	0	0	0	-
140	21.9	Crossrail 2	0	0	0	0	-
140	21.10	HS2	0	0	0	0	-

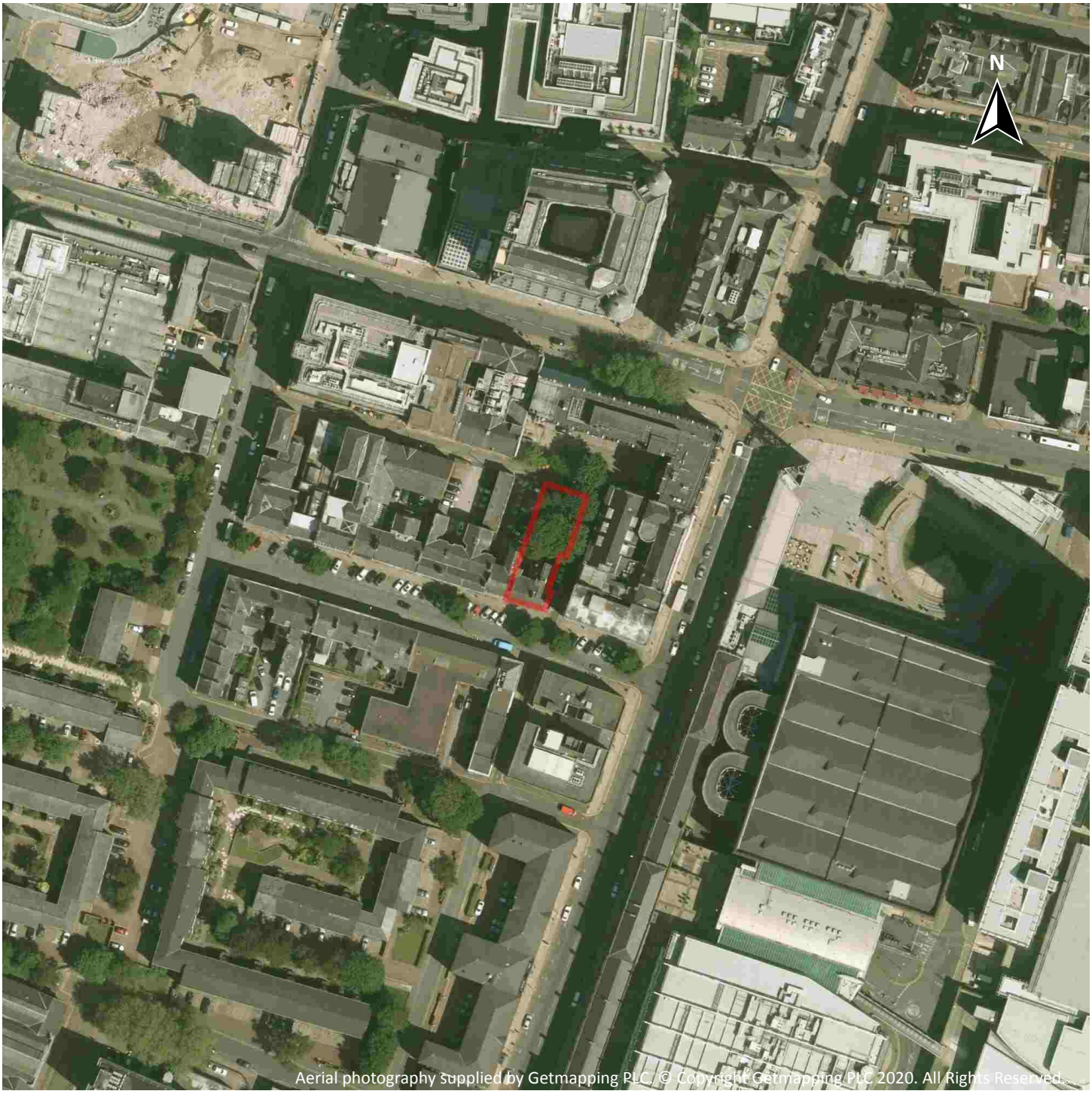
Recent aerial photograph



Capture Date: 22/04/2019

Site Area: 0.05ha

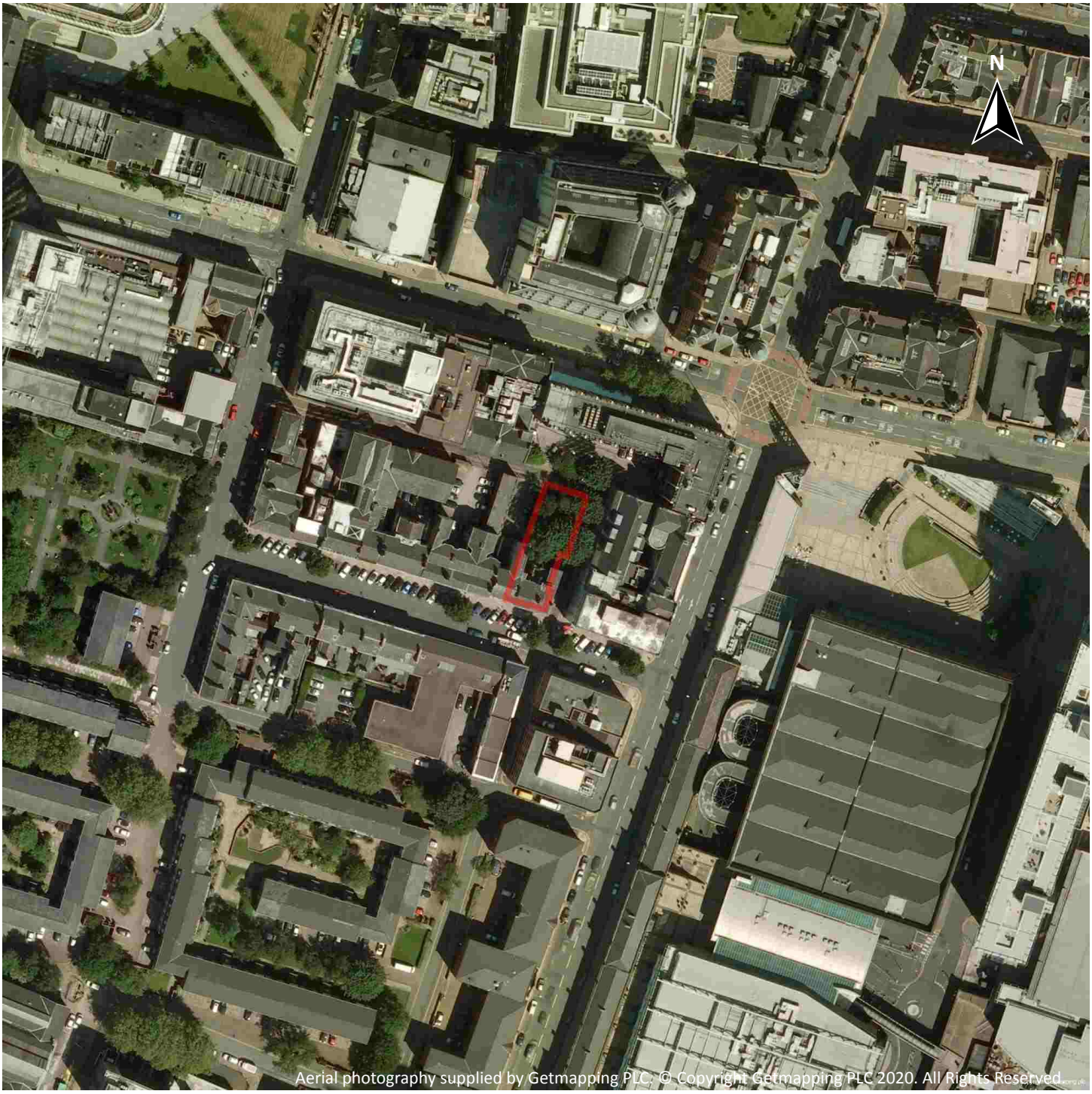
Recent site history - 2015 aerial photograph



Capture Date: 11/06/2015

Site Area: 0.05ha

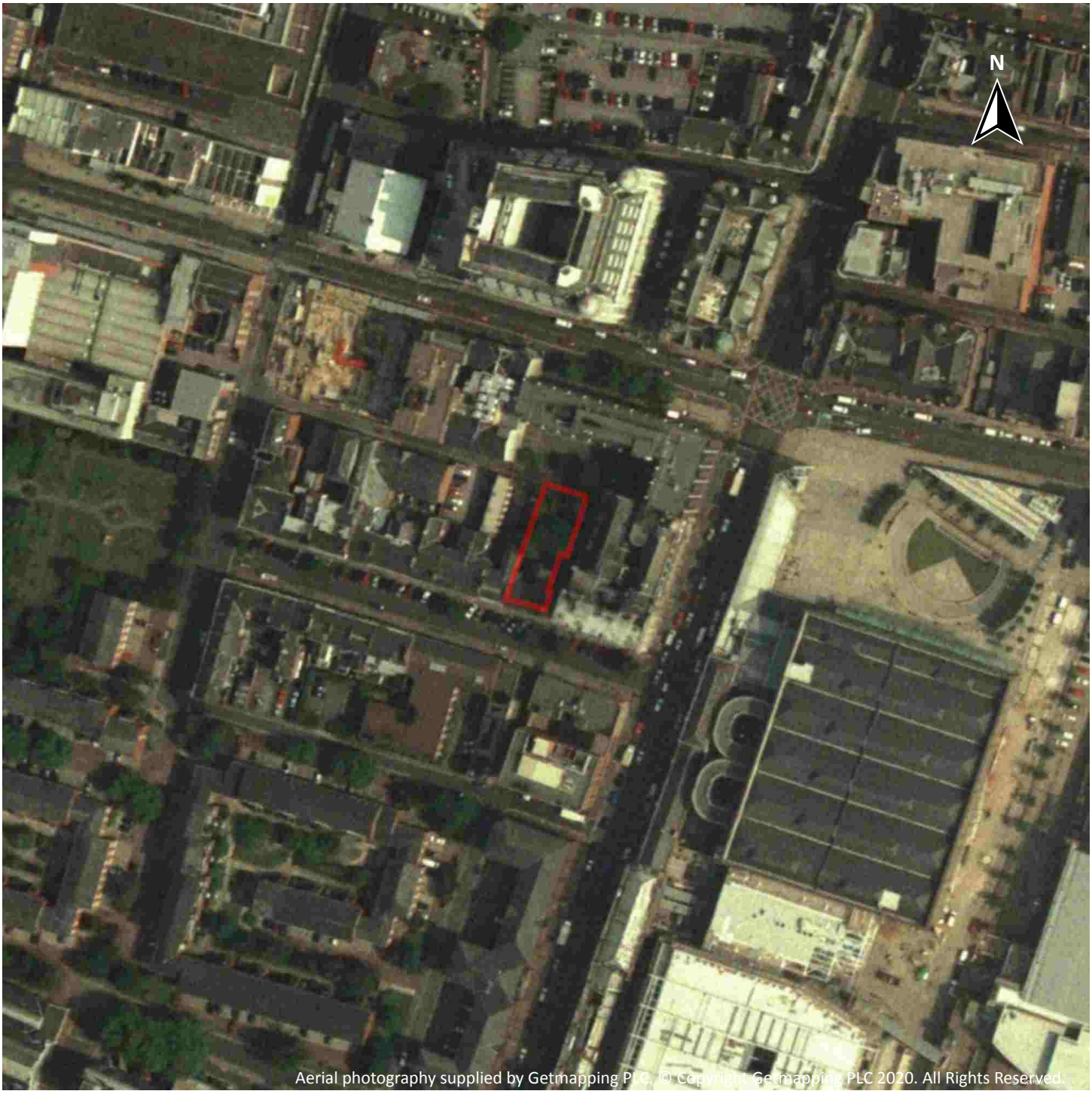
Recent site history - 2009 aerial photograph



Capture Date: 02/06/2009

Site Area: 0.05ha

Recent site history - 2000 aerial photograph

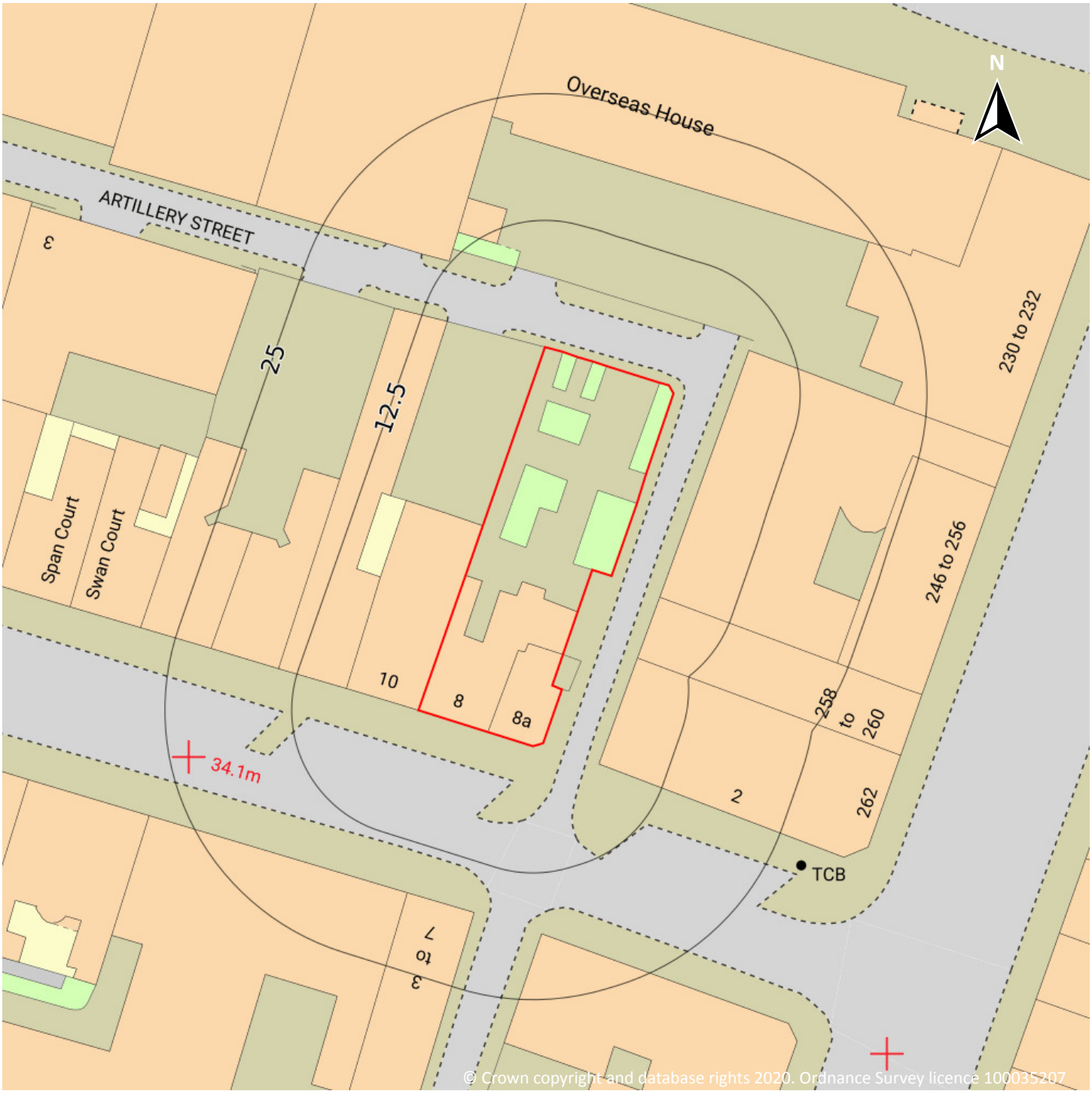


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Capture Date: 27/06/2000

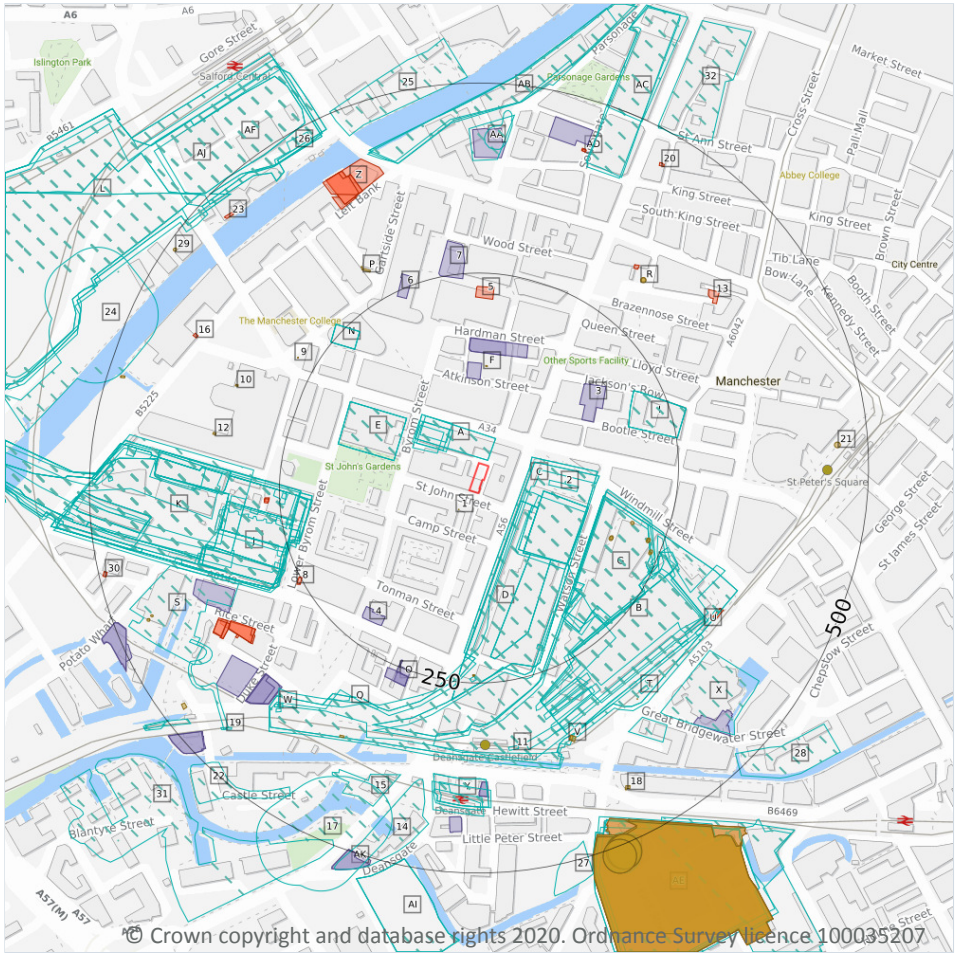
Site Area: 0.05ha

OS MasterMap site plan



Site Area: 0.05ha

1 Past land use



1.1 Historical industrial land uses

Records within 500m	143

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
A	7m N	Hospital	1978	946410

ID	Location	Land use	Dates present	Group ID
A	7m N	Hospital	1956 - 1971	988332
A	45m W	Hospital	1916	943105
A	50m W	Hospital	1932 - 1938	946842
A	51m NW	Hospital	1985 - 1988	928879
B	51m E	Railway Sidings	1905 - 1916	871753
B	51m E	Railway Sidings	1932 - 1938	982150
B	55m E	Railway Sidings	1923	923309
C	55m E	Railway Buildings	1923	833657
D	56m SE	Railway Sidings	1971	946450
D	56m SE	Railway Sidings	1985	958621
D	56m SE	Railway Sidings	1978	989903
A	56m W	Hospital	1923	963711
B	58m E	Railway Sidings	1956	917334
C	71m E	Goods Station	1905 - 1938	846931
C	72m SE	Goods Station	1956	945355
C	79m E	Disused Goods Station	1978	814351
C	79m E	Goods Station	1971	945855
2	82m E	Railway Buildings	1923	833653
E	107m W	Unspecified Works	1932 - 1938	898924
E	107m W	Unspecified Commercial/Industrial	1905	935109
E	107m W	Unspecified Commercial/Industrial	1923	991353
G	156m E	Goods Station	1932 - 1938	883356
G	156m E	Goods Station	1905 - 1916	938206
G	157m E	Goods Station	1956	923306
H	157m E	Railway Station	1896	915817
H	157m E	Railway Sidings	1896	975593
G	159m E	Goods Station	1923	943574
I	191m E	Police Station	1978	880849

ID	Location	Land use	Dates present	Group ID
I	191m E	Police Station	1956 - 1971	884199
I	191m E	Police Station	1985 - 1994	940998
J	207m W	Railway Buildings	1896	833656
K	207m W	Railway Sidings	1896	979167
L	207m W	Railway Sidings	1916 - 1938	893253
L	207m W	Railway Sidings	1894	920471
J	214m W	Goods Sheds	1905 - 1938	880509
K	214m W	Railway Sidings	1923	921834
M	214m W	Railway Sidings	1932	936526
M	214m W	Railway Sidings	1905	984895
B	214m S	Railway Building	1923	820271
K	222m W	Goods Depot	1978	893922
K	222m W	Goods Depot	1971	912312
K	222m W	Railway Sidings	1956	956450
N	222m NW	Hospital	1971	860292
N	222m NW	Hospital	1978	862722
N	222m NW	Hospital	1985 - 1994	942775
J	230m W	Goods Station	1956	821661
J	235m W	Railway Building	1978	907268
J	235m W	Railway Building	1985	923295
J	235m W	Railway Building	1971	983624
H	236m SE	Railway Station	1905 - 1938	896284
H	238m SE	Railway Station	1956	888631
J	239m W	Railway Building	1905 - 1923	869326
J	241m W	Railway Buildings	1932 - 1938	921932
B	241m S	Railway Building	1923	820272
H	242m SE	Disused Station	1985	891253
H	242m SE	Disused Station	1978	925495

ID	Location	Land use	Dates present	Group ID
K	251m W	Railway Sidings	1988 - 1994	962023
J	264m W	Railway Sidings	1956	951082
J	265m SW	Railway Building	1978	848652
J	265m SW	Railway Building	1971	911620
J	265m SW	Railway Building	1985	938373
J	272m SW	Goods Sheds	1905 - 1938	958104
K	285m W	Unspecified Commercial/Industrial	1851	796722
K	294m W	Railway Sidings	1851	921813
Q	308m SW	Railway Buildings	1905 - 1938	962263
K	315m W	Railway Building	1956 - 1971	913293
K	315m W	Railway Building	1985	916120
K	315m W	Railway Building	1978	967702
K	317m W	Railway Sidings	1971	888837
K	317m W	Railway Sidings	1985	891167
K	317m W	Railway Sidings	1978	944715
K	326m W	Goods Sheds	1905 - 1938	895888
S	328m W	Unspecified Depot	1985 - 1988	896077
T	335m SE	Railway Building	1905 - 1938	985774
11	336m S	Railway Building	1905 - 1938	978111
U	339m SE	Railway Building	1932 - 1938	946173
K	348m W	Railway Building	1896	878088
T	366m SE	Bus Station	1978	842916
X	367m SE	Cotton Mills	1851	811452
W	373m SW	Railway Building	1916	972538
Y	374m S	Railway Station	1978	855265
Y	374m S	Railway Station	1956 - 1971	962338
W	377m SW	Railway Building	1932 - 1938	982027
W	379m SW	Railway Building	1923	820260

ID	Location	Land use	Dates present	Group ID
Y	383m S	Railway Station	1985 - 1994	880682
14	384m S	Unspecified Commercial/Industrial	1851	796718
Y	384m S	Railway Station	1905 - 1938	975016
15	384m S	Unspecified Commercial/Industrial	1851	796720
Y	393m S	Railway Station	1896	899988
AA	398m N	Police Station	1894	832591
W	400m SW	Unspecified Ground Workings	1851	800610
17	408m S	Quay	1905 - 1938	872988
AB	408m N	Unspecified Commercial/Industrial	1938	879558
AB	408m N	Unspecified Commercial/Industrial	1906 - 1916	953102
AB	412m N	Unspecified Commercial/Industrial	1931	944405
AA	413m N	Tanks	1851	832183
AC	414m N	Unspecified Commercial/Industrial	1906 - 1916	878688
AC	418m NE	Unspecified Commercial/Industrial	1931 - 1938	890147
K	421m W	Railway Building	1985 - 1994	858030
K	421m W	Railway Building	1956 - 1971	893290
K	421m W	Railway Building	1978	963323
K	422m W	Railway Buildings	1896	833655
K	427m W	Goods Station	1905 - 1938	920947
K	437m W	Railway Building	1905 - 1916	858395
K	437m W	Railway Building	1932 - 1938	966518
K	441m W	Railway Building	1916 - 1923	854882
19	442m SW	Railway Building	1905 - 1923	846298
AE	455m S	Unspecified Commercial/Industrial	1851 - 1896	849974
22	456m SW	Slate Wharf	1851	837258
AF	457m NW	Unspecified Yard	1956	976980
AG	457m NW	Railway Sidings	1956	985870
24	460m W	Unspecified Wharf	1916 - 1923	884372

ID	Location	Land use	Dates present	Group ID
AE	462m S	Unspecified Commercial/Industrial	1932 - 1938	872530
AE	462m S	Gas Works	1905 - 1923	927583
AE	462m S	Unspecified Works	1971	976313
25	463m N	Unspecified Commercial/Industrial	1931	796756
K	467m W	Railway Buildings	1923	925398
AE	468m S	Unspecified Commercial/Industrial	1956	976686
K	469m W	Railway Building	1923	820441
K	471m W	Railway Buildings	1905 - 1916	876717
K	471m W	Railway Buildings	1932 - 1938	894881
AF	474m NW	Unspecified Yard	1923	861393
AG	474m NW	Railway Sidings	1923	969001
26	475m NW	Unspecified Yard	1894	960497
W	478m SW	Railway Buildings	1905	833631
27	478m S	Cotton Mill	1851	797881
28	482m SE	Corporation Yard	1905 - 1938	920120
AH	484m S	Unspecified Tank	1956	940796
AI	491m S	Automobile Works	1956	813191
AI	491m S	Unspecified Works	1978	940175
AI	491m S	Unspecified Works	1971	948531
AH	491m S	Unspecified Tank	1896	890603
AH	492m S	Gasometer	1905 - 1923	885805
AH	492m S	Unspecified Tank	1932 - 1938	946195
AH	493m S	Unspecified Tank	1971	856760
AH	493m S	Unspecified Tank	1978 - 1985	858491
31	494m S	Quay	1851	846276
AJ	494m NW	Railway Sidings	1931	923806
AJ	494m NW	Railway Sidings	1906 - 1938	989144
AC	496m NE	Unspecified Commercial/Industrial	1894	943404

ID	Location	Land use	Dates present	Group ID
32	498m NE	Unspecified Commercial/Industrial	1894 - 1906	981915
W	498m SW	Railway Building	1916 - 1923	906988

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**37**

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 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	29m SW	Unspecified Tank	1891	115646
F	127m N	Unspecified Tank	1891	115645
G	182m SE	Unspecified Tank	1986 - 1999	144065
G	182m SE	Unspecified Tank	1988	124833
G	201m E	Unspecified Tank	1988 - 1999	137115
G	228m E	Unspecified Tank	1986 - 1999	148721
G	229m E	Unspecified Tank	1988	133750
G	237m SE	Unspecified Tank	1988 - 1999	136452
G	237m SE	Unspecified Tank	1986	147812
B	239m S	Unspecified Tank	1979	148049
B	239m S	Unspecified Tank	1979	134110
9	275m NW	Unspecified Tank	1891	115644
P	289m NW	Unspecified Tank	1957	115643
P	299m NW	Unspecified Tank	1957	115642
R	315m NE	Tanks	1995	106801
R	316m NE	Unspecified Tank	1989	115966

ID	Location	Land use	Dates present	Group ID
10	332m W	Unspecified Tank	1957 - 1958	143482
V	341m S	Tanks	1948 - 1979	130142
V	341m S	Tanks	1948	141151
12	341m W	Unspecified Tank	1891	115647
T	342m SE	Unspecified Tank	1891	115955
Q	363m SW	Unspecified Tank	1932	115649
18	431m SE	Tanks	1891	106783
S	447m W	Unspecified Tank	1963	133635
S	453m W	Unspecified Tank	1963	131255
21	456m E	Unspecified Tank	1994 - 1999	133983
AE	462m S	Gas Works	1893 - 1908	148771
W	468m SW	Unspecified Tank	1922	115648
AE	473m SE	Gas Works	1891	138194
AE	474m SE	Gas Works	1922	148353
M	477m W	Unspecified Tank	1948 - 1983	135352
AH	486m S	Unspecified Tank	1953 - 1969	138911
AH	487m S	Unspecified Tank	1948 - 1979	134540
29	487m NW	Unspecified Tank	1893 - 1908	134131
AH	487m S	Unspecified Tank	1980 - 1985	129756
AH	491m S	Gasometer	1908 - 1922	137166
AH	491m S	Unspecified Tank	1932	149223

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	29

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original 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
5	216m N	Electricity Substation	1957	67933
8	248m SW	Electricity Substation	1948 - 1995	75611
J	263m W	Electricity Substation	1994 - 1995	65816
J	264m W	Electricity Substation	1986 - 1995	67220
R	323m NE	Electricity Substation	1980 - 1995	80026
J	335m SW	Electricity Substation	1979	77417
J	336m SW	Electricity Substation	1995	82695
J	338m SW	Electricity Substation	1948 - 1979	80738
U	349m SE	Electricity Substation	1948 - 1985	80627
J	358m SW	Electricity Substation	1948	82720
J	361m SW	Electricity Substation	1986	67819
J	361m SW	Electricity Substation	1990	69796
J	362m SW	Electricity Substation	1981	80246
J	364m SW	Electricity Substation	1994 - 1995	83961
13	365m NE	Electricity Substation	1989 - 1995	71770
Z	380m NW	Hydraulic Power Station	1932 - 1984	79150
Z	383m NW	Hydraulic Power Station	1957 - 1973	67129
Z	383m NW	Power Station	1957	63467
Z	388m NW	Hydraulic Power Station	1933	67286
16	405m NW	Electricity Substation	1994 - 1996	77564
AD	432m N	Electricity Substation	1995	81996
AD	432m N	Electricity Substation	1980 - 1986	65413
20	455m NE	Electricity Substation	1986	62184
23	460m NW	Electricity Substation	1996	62102
AE	462m S	Gas Works	1893 - 1908	79545
AE	473m SE	Gas Works	1891	72601
AE	474m SE	Gas Works	1922	81689

ID	Location	Land use	Dates present	Group ID
30	489m W	Electricity Substation	1994 - 1997	81653
AH	491m S	Gasometer	1908 - 1922	65948

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	**0**

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped 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	**27**

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 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
F	110m N	Garage	1962 - 1973	24856
3	138m NE	Garage	1948	20292
F	145m N	Garage	1962	24181
F	145m N	Garage	1963 - 1970	27244
4	200m SW	Garage	1981	20294
6	237m NW	Garage	1957	20282
O	240m S	Garage	1994 - 1995	24725
7	243m N	Garage	1957	20283
O	256m S	Garage	1981 - 1990	24287

ID	Location	Land use	Dates present	Group ID
O	256m S	Garage	1995	20992
J	335m SW	Garage	1981 - 1990	24611
W	357m SW	Garage	1981 - 1986	26958
W	358m SW	Garage	1963	21869
W	360m SW	Garage	1963	21949
W	364m SW	Garage	1981	20293
Y	380m S	Garage	1963 - 1981	26858
Y	380m S	Garage	1986 - 1990	26912
AA	402m N	Garage	1957	20284
X	413m SE	Garage	1973	20296
Y	426m S	Garage	1960 - 1969	25290
AD	436m N	Garage	1948	20285
W	473m SW	Garage	1963 - 1981	25923
W	474m SW	Garage	1986	21682
S	487m W	Boat Repair Yard	1948 - 1949	26540
S	487m W	Boat Repair Yard	1949 - 1953	27284
AK	498m S	Garage	1980	25490
AK	498m S	Garage	1969	22918

This data is sourced from Ordnance Survey / Groundsure.

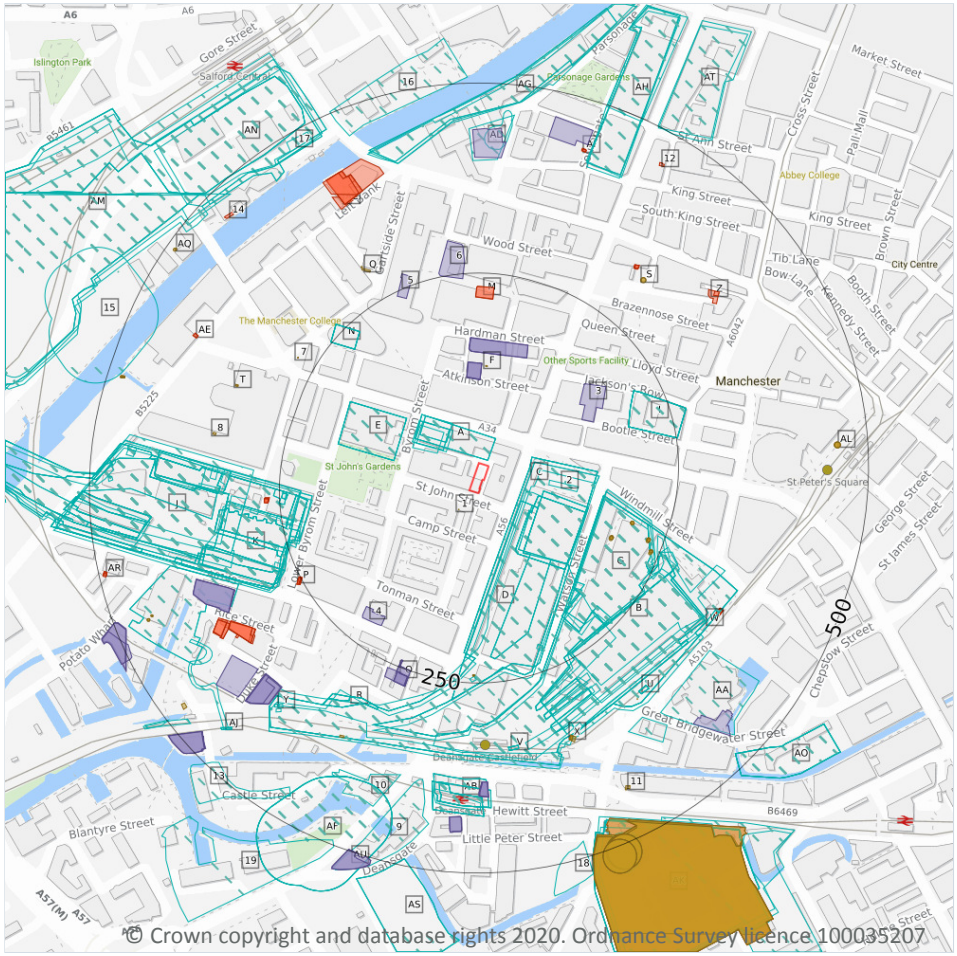
1.6 Historical military land

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



2.1 Historical industrial land uses

Records within 500m	239

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 24**

ID	Location	Land Use	Date	Group ID
A	7m N	Hospital	1971	988332
A	7m N	Hospital	1956	988332
A	7m N	Hospital	1978	946410

ID	Location	Land Use	Date	Group ID
A	45m W	Hospital	1916	943105
A	50m W	Hospital	1938	946842
A	50m W	Hospital	1932	946842
A	51m NW	Hospital	1988	928879
A	51m NW	Hospital	1985	928879
B	51m E	Railway Sidings	1938	982150
B	51m E	Railway Sidings	1932	982150
B	51m E	Railway Sidings	1916	871753
B	51m E	Railway Sidings	1905	871753
B	55m E	Railway Sidings	1923	923309
C	55m E	Railway Buildings	1923	833657
D	56m SE	Railway Sidings	1971	946450
D	56m SE	Railway Sidings	1978	989903
D	56m SE	Railway Sidings	1985	958621
A	56m W	Hospital	1923	963711
B	58m E	Railway Sidings	1956	917334
C	71m E	Goods Station	1938	846931
C	71m E	Goods Station	1932	846931
C	71m E	Goods Station	1916	846931
C	71m E	Goods Station	1905	846931
C	71m E	Goods Station	1923	846931
C	72m SE	Goods Station	1956	945355
C	79m E	Goods Station	1971	945855
C	79m E	Disused Goods Station	1978	814351
2	82m E	Railway Buildings	1923	833653
E	107m W	Unspecified Works	1938	898924
E	107m W	Unspecified Works	1932	898924
E	107m W	Unspecified Commercial/Industrial	1905	935109

ID	Location	Land Use	Date	Group ID
E	107m W	Unspecified Commercial/Industrial	1923	991353
G	156m E	Goods Station	1938	883356
G	156m E	Goods Station	1932	883356
G	156m E	Goods Station	1916	938206
G	156m E	Goods Station	1905	938206
G	157m E	Goods Station	1956	923306
H	157m E	Railway Sidings	1896	975593
H	157m E	Railway Station	1896	915817
G	159m E	Goods Station	1923	943574
I	191m E	Police Station	1971	884199
I	191m E	Police Station	1956	884199
I	191m E	Police Station	1988	940998
I	191m E	Police Station	1978	880849
I	191m E	Police Station	1985	940998
I	191m E	Police Station	1994	940998
J	207m W	Railway Sidings	1896	979167
K	207m W	Railway Buildings	1896	833656
L	207m W	Railway Sidings	1916	893253
J	214m W	Railway Sidings	1923	921834
K	214m W	Goods Sheds	1938	880509
K	214m W	Goods Sheds	1932	880509
K	214m W	Goods Sheds	1916	880509
K	214m W	Goods Sheds	1905	880509
K	214m W	Goods Sheds	1923	880509
L	214m W	Railway Sidings	1938	893253
L	214m W	Railway Sidings	1932	936526
L	214m W	Railway Sidings	1905	984895
B	214m S	Railway Building	1923	820271

ID	Location	Land Use	Date	Group ID
J	222m W	Goods Depot	1971	912312
J	222m W	Railway Sidings	1956	956450
J	222m W	Goods Depot	1978	893922
N	222m NW	Hospital	1971	860292
N	222m NW	Hospital	1988	942775
N	222m NW	Hospital	1978	862722
N	222m NW	Hospital	1985	942775
N	222m NW	Hospital	1994	942775
K	230m W	Goods Station	1956	821661
K	235m W	Railway Building	1971	983624
K	235m W	Railway Building	1978	907268
K	235m W	Railway Building	1985	923295
H	236m SE	Railway Station	1938	896284
H	236m SE	Railway Station	1932	896284
H	236m SE	Railway Station	1916	896284
H	236m SE	Railway Station	1905	896284
H	236m SE	Railway Station	1923	896284
H	238m SE	Railway Station	1956	888631
K	239m W	Railway Building	1916	869326
K	239m W	Railway Building	1905	869326
K	239m W	Railway Building	1923	869326
K	241m W	Railway Buildings	1938	921932
K	241m W	Railway Buildings	1932	921932
B	241m S	Railway Building	1923	820272
H	242m SE	Disused Station	1978	925495
H	242m SE	Disused Station	1985	891253
J	251m W	Railway Sidings	1988	962023
J	251m W	Railway Sidings	1994	962023

ID	Location	Land Use	Date	Group ID
K	264m W	Railway Sidings	1956	951082
K	265m SW	Railway Building	1971	911620
K	265m SW	Railway Building	1978	848652
K	265m SW	Railway Building	1985	938373
K	272m SW	Goods Sheds	1938	958104
K	272m SW	Goods Sheds	1932	958104
K	272m SW	Goods Sheds	1916	958104
K	272m SW	Goods Sheds	1905	958104
K	272m SW	Goods Sheds	1923	958104
J	285m W	Unspecified Commercial/Industrial	1851	796722
J	294m W	Railway Sidings	1851	921813
R	308m SW	Railway Buildings	1938	962263
R	308m SW	Railway Buildings	1932	962263
R	308m SW	Railway Buildings	1916	962263
R	308m SW	Railway Buildings	1905	962263
R	308m SW	Railway Buildings	1923	962263
J	315m W	Railway Building	1971	913293
J	315m W	Railway Building	1978	967702
J	315m W	Railway Building	1985	916120
J	317m W	Railway Sidings	1971	888837
J	317m W	Railway Sidings	1978	944715
J	317m W	Railway Sidings	1985	891167
J	322m W	Railway Building	1956	913293
J	326m W	Goods Sheds	1938	895888
J	326m W	Goods Sheds	1932	895888
J	326m W	Goods Sheds	1916	895888
J	326m W	Goods Sheds	1905	895888
J	326m W	Goods Sheds	1923	895888

ID	Location	Land Use	Date	Group ID
K	328m W	Unspecified Depot	1988	896077
K	328m W	Unspecified Depot	1985	896077
U	335m SE	Railway Building	1938	985774
U	335m SE	Railway Building	1932	985774
U	335m SE	Railway Building	1916	985774
U	335m SE	Railway Building	1905	985774
U	335m SE	Railway Building	1923	985774
V	336m S	Railway Building	1938	978111
V	336m S	Railway Building	1932	978111
V	336m S	Railway Building	1916	978111
V	336m S	Railway Building	1905	978111
V	336m S	Railway Building	1923	978111
W	339m SE	Railway Building	1938	946173
W	339m SE	Railway Building	1932	946173
J	348m W	Railway Building	1896	878088
U	366m SE	Bus Station	1978	842916
AA	367m SE	Cotton Mills	1851	811452
Y	373m SW	Railway Building	1916	972538
AB	374m S	Railway Station	1971	962338
AB	374m S	Railway Station	1956	962338
AB	374m S	Railway Station	1978	855265
Y	377m SW	Railway Building	1938	982027
Y	377m SW	Railway Building	1932	982027
Y	379m SW	Railway Building	1923	820260
AB	383m S	Railway Station	1988	880682
AB	383m S	Railway Station	1985	880682
AB	383m S	Railway Station	1994	880682
9	384m S	Unspecified Commercial/Industrial	1851	796718

ID	Location	Land Use	Date	Group ID
AB	384m S	Railway Station	1938	975016
AB	384m S	Railway Station	1932	975016
AB	384m S	Railway Station	1916	975016
AB	384m S	Railway Station	1905	975016
AB	384m S	Railway Station	1923	975016
10	384m S	Unspecified Commercial/Industrial	1851	796720
AB	393m S	Railway Station	1896	899988
AD	398m N	Police Station	1894	832591
Y	400m SW	Unspecified Ground Workings	1851	800610
AF	408m S	Quay	1938	872988
AF	408m S	Quay	1932	872988
AF	408m S	Quay	1916	872988
AF	408m S	Quay	1905	872988
AF	408m S	Quay	1923	872988
AG	408m N	Unspecified Commercial/Industrial	1938	879558
AG	408m N	Unspecified Commercial/Industrial	1906	953102
AG	412m N	Unspecified Commercial/Industrial	1931	944405
AG	412m N	Unspecified Commercial/Industrial	1916	953102
AD	413m N	Tanks	1851	832183
AH	414m N	Unspecified Commercial/Industrial	1906	878688
AH	418m NE	Unspecified Commercial/Industrial	1938	890147
AH	419m N	Unspecified Commercial/Industrial	1931	890147
AH	419m N	Unspecified Commercial/Industrial	1916	878688
J	421m W	Railway Building	1971	893290
J	421m W	Railway Building	1956	893290
J	421m W	Railway Building	1988	858030
J	421m W	Railway Building	1978	963323
J	421m W	Railway Building	1985	858030

ID	Location	Land Use	Date	Group ID
J	421m W	Railway Building	1994	858030
J	422m W	Railway Buildings	1896	833655
J	427m W	Goods Station	1938	920947
J	427m W	Goods Station	1932	920947
J	427m W	Goods Station	1916	920947
J	427m W	Goods Station	1905	920947
J	427m W	Goods Station	1923	920947
J	437m W	Railway Building	1938	966518
J	437m W	Railway Building	1932	966518
J	437m W	Railway Building	1916	858395
J	437m W	Railway Building	1905	858395
J	441m W	Railway Building	1916	854882
AJ	442m SW	Railway Building	1916	846298
AJ	442m SW	Railway Building	1905	846298
AJ	442m SW	Railway Building	1923	846298
J	442m W	Railway Building	1923	854882
AK	455m S	Unspecified Commercial/Industrial	1896	849974
13	456m SW	Slate Wharf	1851	837258
AM	457m NW	Railway Sidings	1956	985870
AN	457m NW	Unspecified Yard	1956	976980
15	460m W	Unspecified Wharf	1916	884372
AK	462m S	Unspecified Commercial/Industrial	1938	872530
AK	462m S	Unspecified Commercial/Industrial	1932	872530
AK	462m S	Gas Works	1916	927583
AK	462m S	Gas Works	1905	927583
AK	462m S	Gas Works	1923	927583
AK	462m S	Unspecified Works	1971	976313
16	463m N	Unspecified Commercial/Industrial	1931	796756

ID	Location	Land Use	Date	Group ID
J	467m W	Railway Buildings	1923	925398
AK	468m S	Unspecified Commercial/Industrial	1956	976686
J	469m W	Railway Building	1923	820441
J	471m W	Railway Buildings	1938	894881
J	471m W	Railway Buildings	1932	894881
J	471m W	Railway Buildings	1916	876717
J	471m W	Railway Buildings	1905	876717
AM	474m NW	Railway Sidings	1923	969001
AN	474m NW	Unspecified Yard	1923	861393
17	475m NW	Unspecified Yard	1894	960497
AN	475m NW	Railway Sidings	1894	920471
Y	478m SW	Railway Buildings	1905	833631
18	478m S	Cotton Mill	1851	797881
AO	482m SE	Corporation Yard	1938	920120
AO	482m SE	Corporation Yard	1932	920120
AO	482m SE	Corporation Yard	1916	920120
AO	482m SE	Corporation Yard	1905	920120
AO	482m SE	Corporation Yard	1923	920120
AP	484m S	Unspecified Tank	1956	940796
AS	491m S	Unspecified Works	1971	948531
AS	491m S	Automobile Works	1956	813191
AS	491m S	Unspecified Works	1978	940175
AP	491m S	Unspecified Tank	1896	890603
AP	492m S	Gasometer	1916	885805
AP	492m S	Gasometer	1905	885805
AP	492m S	Unspecified Tank	1938	946195
AP	492m S	Unspecified Tank	1932	946195
AP	492m S	Gasometer	1923	885805

ID	Location	Land Use	Date	Group ID
AP	493m S	Unspecified Tank	1971	856760
AP	493m S	Unspecified Tank	1978	858491
AP	493m S	Unspecified Tank	1985	858491
19	494m S	Quay	1851	846276
AN	494m NW	Railway Sidings	1938	989144
AN	494m NW	Railway Sidings	1931	923806
AN	494m NW	Railway Sidings	1916	893253
AN	494m NW	Railway Sidings	1906	989144
AH	496m NE	Unspecified Commercial/Industrial	1894	943404
Y	498m SW	Railway Building	1916	906988
AT	498m NE	Unspecified Commercial/Industrial	1906	981915
AT	500m NE	Unspecified Commercial/Industrial	1894	981915

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**78**

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 24**

ID	Location	Land Use	Date	Group ID
1	29m SW	Unspecified Tank	1891	115646
F	127m N	Unspecified Tank	1891	115645
G	182m SE	Unspecified Tank	1986	144065
G	182m SE	Unspecified Tank	1996	144065
G	182m SE	Unspecified Tank	1995	144065
G	182m SE	Unspecified Tank	1994	144065
G	182m SE	Unspecified Tank	1999	144065
G	182m SE	Unspecified Tank	1988	124833

ID	Location	Land Use	Date	Group ID
G	201m E	Unspecified Tank	1988	137115
G	201m E	Unspecified Tank	1996	137115
G	201m E	Unspecified Tank	1995	137115
G	201m E	Unspecified Tank	1994	137115
G	201m E	Unspecified Tank	1999	137115
G	228m E	Unspecified Tank	1986	148721
G	228m E	Unspecified Tank	1996	148721
G	228m E	Unspecified Tank	1995	148721
G	228m E	Unspecified Tank	1994	148721
G	228m E	Unspecified Tank	1999	148721
G	229m E	Unspecified Tank	1988	133750
G	237m SE	Unspecified Tank	1996	136452
G	237m SE	Unspecified Tank	1995	136452
G	237m SE	Unspecified Tank	1994	136452
G	237m SE	Unspecified Tank	1999	136452
G	237m SE	Unspecified Tank	1988	136452
G	237m SE	Unspecified Tank	1986	147812
B	239m S	Unspecified Tank	1979	148049
B	239m S	Unspecified Tank	1979	134110
7	275m NW	Unspecified Tank	1891	115644
Q	289m NW	Unspecified Tank	1957	115643
Q	299m NW	Unspecified Tank	1957	115642
S	315m NE	Tanks	1995	106801
S	316m NE	Unspecified Tank	1989	115966
T	332m W	Unspecified Tank	1958	143482
T	333m W	Unspecified Tank	1957	143482
X	341m S	Tanks	1951	130142
X	341m S	Tanks	1948	130142

ID	Location	Land Use	Date	Group ID
X	341m S	Tanks	1948	141151
8	341m W	Unspecified Tank	1891	115647
X	342m S	Tanks	1979	130142
X	342m S	Tanks	1963	130142
U	342m SE	Unspecified Tank	1891	115955
R	363m SW	Unspecified Tank	1932	115649
11	431m SE	Tanks	1891	106783
K	447m W	Unspecified Tank	1963	133635
K	448m W	Unspecified Tank	1963	133635
K	453m W	Unspecified Tank	1963	131255
K	454m W	Unspecified Tank	1963	131255
AL	456m E	Unspecified Tank	1996	133983
AL	456m E	Unspecified Tank	1995	133983
AL	456m E	Unspecified Tank	1994	133983
AL	456m E	Unspecified Tank	1999	133983
AK	462m S	Gas Works	1908	148771
Y	468m SW	Unspecified Tank	1922	115648
AK	472m SE	Gas Works	1893	148771
AK	473m SE	Gas Works	1891	138194
AK	474m SE	Gas Works	1922	148353
L	477m W	Unspecified Tank	1955	135352
L	477m W	Unspecified Tank	1949	135352
L	477m W	Unspecified Tank	1955	135352
L	477m W	Unspecified Tank	1970	135352
L	477m W	Unspecified Tank	1963	135352
L	477m W	Unspecified Tank	1953	135352
L	477m W	Unspecified Tank	1948	135352
L	477m W	Unspecified Tank	1969	135352

ID	Location	Land Use	Date	Group ID
L	478m W	Unspecified Tank	1983	135352
AP	486m S	Unspecified Tank	1969	138911
AP	486m S	Unspecified Tank	1953	138911
AP	487m S	Unspecified Tank	1979	134540
AP	487m S	Unspecified Tank	1963	134540
AP	487m S	Unspecified Tank	1948	134540
AP	487m S	Unspecified Tank	1980	129756
AP	487m S	Unspecified Tank	1980	129756
AP	487m S	Unspecified Tank	1985	129756
AQ	487m NW	Unspecified Tank	1893	134131
AQ	487m NW	Unspecified Tank	1908	134131
AP	491m S	Gasometer	1908	137166
AP	491m S	Gasometer	1922	137166
AP	491m S	Unspecified Tank	1932	149223

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m **63**

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 24**

ID	Location	Land Use	Date	Group ID
M	216m N	Electricity Substation	1957	67933
M	217m N	Electricity Substation	1957	67933
P	248m SW	Electricity Substation	1979	75611
P	248m SW	Electricity Substation	1948	75611
P	249m SW	Electricity Substation	1995	75611
P	249m SW	Electricity Substation	1994	75611

ID	Location	Land Use	Date	Group ID
P	249m SW	Electricity Substation	1995	75611
P	249m SW	Electricity Substation	1981	75611
P	249m SW	Electricity Substation	1979	75611
P	249m SW	Electricity Substation	1948	75611
P	250m SW	Electricity Substation	1986	75611
P	250m SW	Electricity Substation	1990	75611
K	263m W	Electricity Substation	1995	65816
K	263m W	Electricity Substation	1994	65816
K	264m W	Electricity Substation	1995	67220
K	265m W	Electricity Substation	1986	67220
K	265m W	Electricity Substation	1990	67220
S	323m NE	Electricity Substation	1989	80026
S	323m NE	Electricity Substation	1995	80026
S	324m NE	Electricity Substation	1980	80026
S	324m NE	Electricity Substation	1986	80026
K	335m SW	Electricity Substation	1979	77417
K	336m SW	Electricity Substation	1995	82695
K	338m SW	Electricity Substation	1948	80738
K	338m SW	Electricity Substation	1979	80738
W	349m SE	Electricity Substation	1979	80627
W	349m SE	Electricity Substation	1963	80627
W	349m SE	Electricity Substation	1948	80627
W	349m SE	Electricity Substation	1985	80627
W	349m SE	Electricity Substation	1951	80627
W	349m SE	Electricity Substation	1973	80627
W	349m SE	Electricity Substation	1948	80627
K	358m SW	Electricity Substation	1948	82720
K	361m SW	Electricity Substation	1986	67819

ID	Location	Land Use	Date	Group ID
K	361m SW	Electricity Substation	1990	69796
K	362m SW	Electricity Substation	1981	80246
K	364m SW	Electricity Substation	1995	83961
K	364m SW	Electricity Substation	1994	83961
Z	365m NE	Electricity Substation	1989	71770
Z	372m NE	Electricity Substation	1995	71770
AC	380m NW	Hydraulic Power Station	1932	79150
AC	383m NW	Hydraulic Power Station	1984	79150
AC	383m NW	Hydraulic Power Station	1973	67129
AC	383m NW	Hydraulic Power Station	1957	67129
AC	383m NW	Power Station	1957	63467
AC	388m NW	Hydraulic Power Station	1933	67286
AE	405m NW	Electricity Substation	1994	77564
AE	405m NW	Electricity Substation	1996	77564
AI	432m N	Electricity Substation	1995	81996
AI	432m N	Electricity Substation	1980	65413
AI	432m N	Electricity Substation	1986	65413
12	455m NE	Electricity Substation	1986	62184
14	460m NW	Electricity Substation	1996	62102
AK	462m S	Gas Works	1908	79545
AK	472m SE	Gas Works	1893	79545
AK	473m SE	Gas Works	1891	72601
AK	474m SE	Gas Works	1922	81689
AR	489m W	Electricity Substation	1995	81653
AR	489m W	Electricity Substation	1995	81653
AR	489m W	Electricity Substation	1994	81653
AR	489m W	Electricity Substation	1997	81653
AP	491m S	Gasometer	1908	65948

ID	Location	Land Use	Date	Group ID
AP	491m S	Gasometer	1922	65948

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	**50**

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 24**

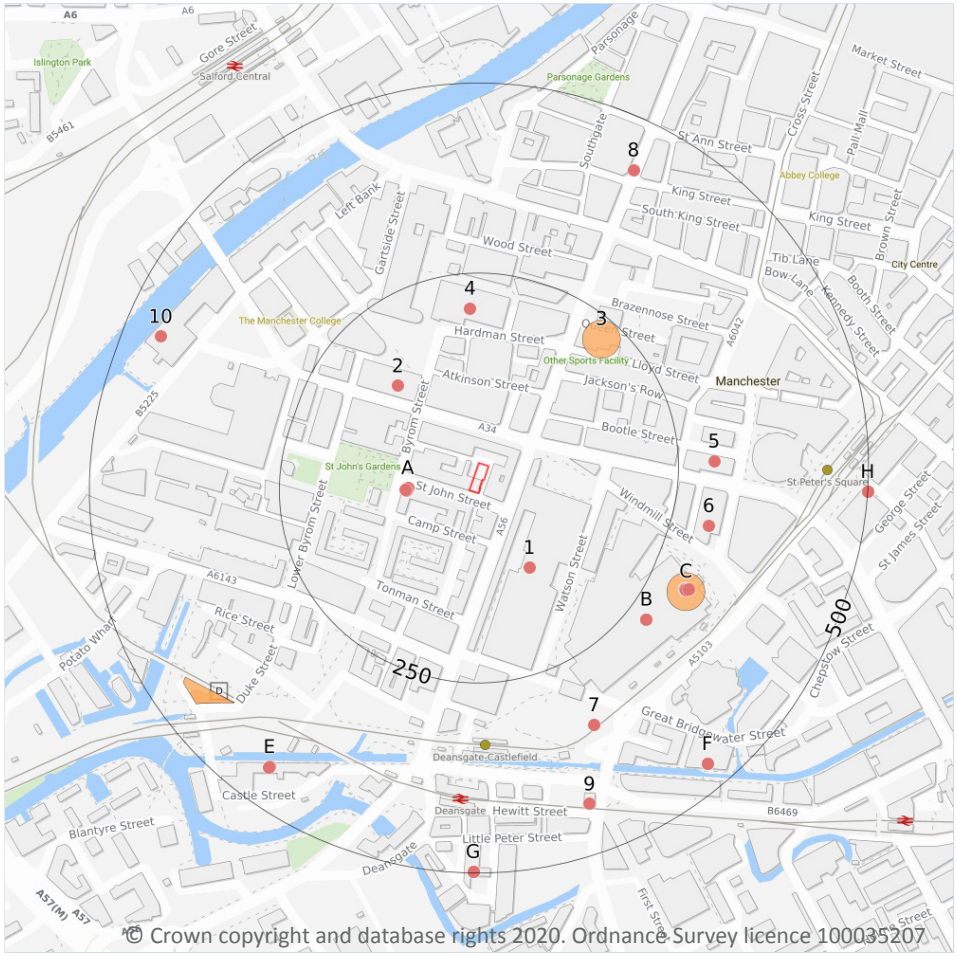
ID	Location	Land Use	Date	Group ID
F	110m N	Garage	1962	24856
F	110m N	Garage	1973	24856
F	110m N	Garage	1970	24856
F	110m N	Garage	1963	24856
3	138m NE	Garage	1948	20292
F	145m N	Garage	1962	24181
F	145m N	Garage	1970	27244
F	145m N	Garage	1963	27244
4	200m SW	Garage	1981	20294
5	237m NW	Garage	1957	20282
O	240m S	Garage	1995	24725
O	240m S	Garage	1994	24725

ID	Location	Land Use	Date	Group ID
6	243m N	Garage	1957	20283
O	256m S	Garage	1981	24287
O	256m S	Garage	1995	20992
O	257m S	Garage	1986	24287
O	257m S	Garage	1990	24287
K	335m SW	Garage	1981	24611
K	336m SW	Garage	1986	24611
K	336m SW	Garage	1990	24611
Y	357m SW	Garage	1981	26958
Y	358m SW	Garage	1963	21869
Y	359m SW	Garage	1986	26958
Y	360m SW	Garage	1963	21949
Y	364m SW	Garage	1981	20293
AB	380m S	Garage	1963	26858
AB	380m S	Garage	1981	26858
AB	380m S	Garage	1979	26858
AB	380m S	Garage	1986	26912
AB	380m S	Garage	1990	26912
AB	380m S	Garage	1979	26858
AB	380m S	Garage	1963	26858
AD	402m N	Garage	1957	20284
AA	413m SE	Garage	1973	20296
AB	426m S	Garage	1963	25290
AB	426m S	Garage	1960	25290
AB	426m S	Garage	1969	25290
AI	436m N	Garage	1948	20285
Y	473m SW	Garage	1963	25923
Y	474m SW	Garage	1963	25923

ID	Location	Land Use	Date	Group ID
Y	474m SW	Garage	1981	25923
Y	474m SW	Garage	1986	21682
K	487m W	Boat Repair Yard	1949	26540
K	487m W	Boat Repair Yard	1949	27284
K	488m W	Boat Repair Yard	1949	26540
K	493m SW	Boat Repair Yard	1948	26540
K	495m SW	Boat Repair Yard	1953	27284
AU	498m S	Garage	1980	25490
AU	498m S	Garage	1980	25490
AU	498m S	Garage	1969	22918

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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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	0

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.

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

3.5 Historical waste sites

Records within 500m	4

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 42**

ID	Location	Address	Further Details	Date
3	198m NE	Site Address: St. Johns House, 2-10 Queen Street, MANCHESTER, Greater Manchester, M2 5JB	Type of Site: Recycling Storage Facility Planning application reference: 088327/FO/2008/C1 Description: Scheme comprises construction of recycling storage facility and bicycle storage facility including mesh fencing to lloyd street elevation. Construction - fencing site works. An application (ref: 088327/FO/2008/C1) for detailed planning permission was w hdrawn from Manchester C.C. Planning decision obtained Data source: Historic Planning Application Data Type: Point	-

ID	Location	Address	Further Details	Date
C	276m SE	Site Address: Manchester Central Convention, Windmill Street, Manchester, Greater Manchester, M2 3GX	Type of Site: Recycling Centre Planning application reference: 103313/FO/2013/C1 Description: Scheme comprises relocation of waste storage facility to allow creation of a business recycling centre and construction of screening. Data source: Historic Planning Application Data Type: Point	12/11/2013
D	416m 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	1979
D	417m 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	1986

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

3.6 Licensed waste sites

Records within 500m	**0**

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

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

3.7 Waste exemptions

Records within 500m	**58**

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 42**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	81m W	25 St John Street M34DT	EPR/FE5081QV/A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting and de-naturing of controlled drugs for disposal

ID	Location	Site	Reference	Category	Sub-Category	Description
A	83m W	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
A	84m W	98, HARLEY STREET, LONDON, W1G 7HZ	WEX099367	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
1	119m SE	THE MEWS, GREAT NORTHERN WAREHOUSE 235 DEANSGATE 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
2	147m NW	1 Spinningfields M3 3JE	EPR/QE5341ZN/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
4	203m N	Barclays Bank PLC, 1st Floor, 3 Hardman Street Manchester M3 3HF	EPR/AH0474PP/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Treatment of waste food
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Sorting mixed waste
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Recovery of scrap metal
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	277m SE	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
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX217816	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Manual treatment of waste
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Treating waste exemption	Not on a farm	Screening and blending of waste

ID	Location	Site	Reference	Category	Sub-Category	Description
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX220776	Using waste exemption	Not on a farm	Use of waste in construction
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Sorting mixed waste
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Manual treatment of waste
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Treatment of waste food
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Screening and blending of waste
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Treating waste exemption	Not on a farm	Recovery of scrap metal
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX075609	Using waste exemption	Not on a farm	Use of waste in construction
B	277m SE	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
B	277m SE	WINDMILL STREET, MANCHESTER, M2 3GX	WEX063339	Storing waste exemption	Not on a farm	Storage of waste in a secure place
5	297m E	Brazennose House M2 5PB	EPR/ZE5544KA/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
6	300m E	Windmill Green, 24 Mount Street, Manchester, M2 3NN	WEX105155	Using waste exemption	Not on a farm	Use of waste in construction
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in secure containers

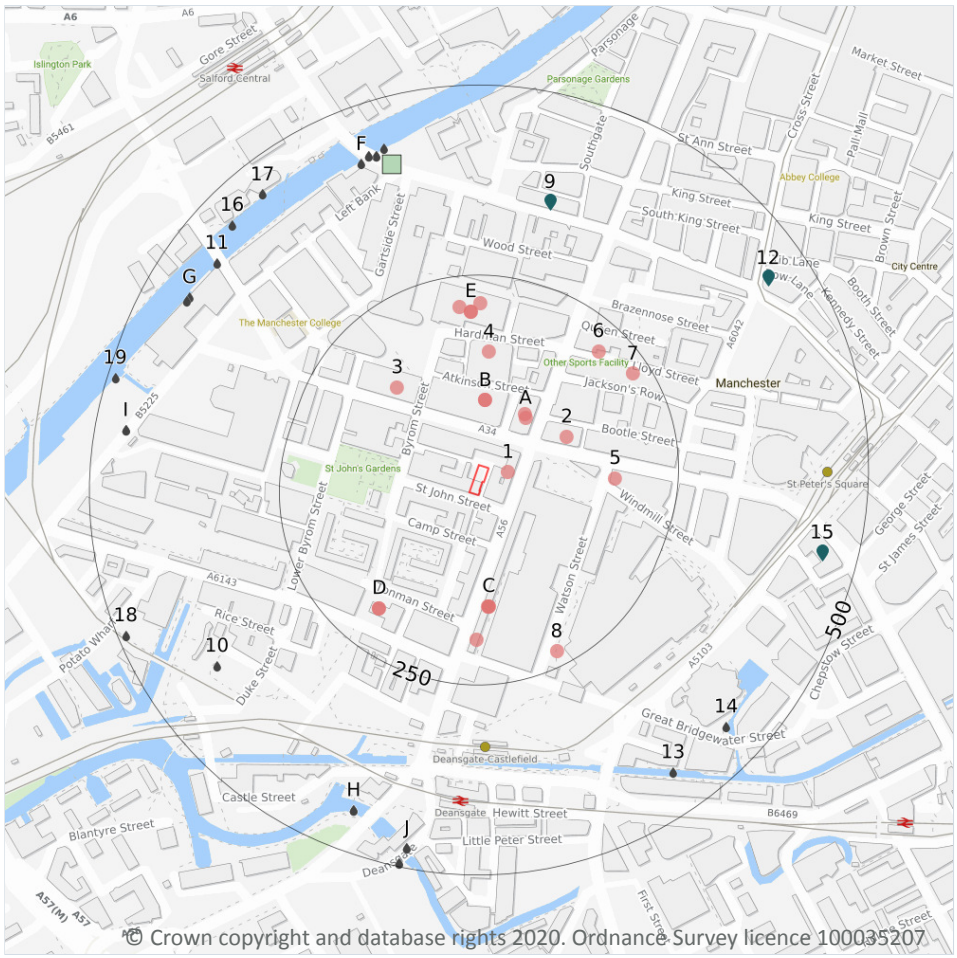
ID	Location	Site	Reference	Category	Sub-Category	Description
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Treating waste exemption	Non-Agricultural Waste Only	Sorting mixed waste
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Treating waste exemption	Non-Agricultural Waste Only	Manual treatment of waste
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Treating waste exemption	Non-Agricultural Waste Only	Treatment of waste food
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Treating waste exemption	Non-Agricultural Waste Only	Treatment of kitchen waste in a wormery
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Treating waste exemption	Non-Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Treating waste exemption	Non-Agricultural Waste Only	Screening and blending of waste
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Treating waste exemption	Non-Agricultural Waste Only	Recovery of scrap metal

ID	Location	Site	Reference	Category	Sub-Category	Description
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in construction
C	300m SE	MANCHESTER CENTRAL CONVENTION CO PETERSFIELD MANCHESTER GREATER MANCHESTER M2 3GX	EPR/ZF0434NE/A001	Using waste exemption	Non-Agricultural Waste Only	Use of waste in the construction of entertainment or educational installations etc
C	302m SE	-	WEX210229	Storing waste exemption	Not on a farm	Storage of waste in a secure place
C	303m SE	MANCHESTER CENTRAL CONVENTION COMPLEX PETERSFIELD MANCHESTER M2 3GX	EPR/KE5983NV/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
7	342m SE	Axis Tower, Albion Street, Manchester, M1 5NZ	WEX220537	Using waste exemption	Not on a farm	Use of waste in construction
8	433m NE	All roads in Greater Manchester	EPR/BF0503ZP/A001	Treating waste exemption	Non-Agricultural Waste Only	Screening and blending of waste
9	435m S	Axis Tower, Albion Street, Manchester, M1 5NZ	WEX074989	Using waste exemption	Not on a farm	Use of waste in construction
E	450m SW	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
10	450m W	WATER STREET, MANCHESTER, M3 4JQ	WEX146528	Using waste exemption	Not on a farm	Use of waste in construction
E	451m SW	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
F	467m SE	EVERSHEDS HOUSE 70 GREAT BRIDGEWATER STREET MANCHESTER M1 5ES	EPR/QE5657AK/A001	Treating waste exemption	Non-Agricultural Waste Only	Treatment of kitchen waste in a wormery

ID	Location	Site	Reference	Category	Sub-Category	Description
F	467m SE	EVERSHEDS HOUSE 70 GREAT BRIDGEWATER STREET MANCHESTER M1 5ES	EPR/QE5657AK/A001	Using waste exemption	Non-Agricultural Waste Only	Spreading waste on non-agricultural land to confer benefit
F	467m SE	EVERSHEDS HOUSE 70 GREAT BRIDGEWATER STREET MANCHESTER M1 5ES	EPR/QE5657AK/A001	Using waste exemption	Non-Agricultural Waste Only	Use of mulch
G	499m S	1, ALPHA PLACE, MANCHESTER, M15 4PP	WEX017965	Storing waste exemption	Not on a farm	Storage of waste in secure containers
G	499m S	1, ALPHA PLACE, MANCHESTER, M15 4PP	WEX017965	Storing waste exemption	Not on a farm	Storage of waste in a secure place
H	500m E	New Build Construction Works by Russells, 3 St Peter Square, Manchester, M2 3DF	WEX118443	Using waste exemption	Not on a farm	Use of waste in construction
H	500m E	New Build Construction Works by Russells, 3 St Peter Square, Manchester, M2 3DF	WEX118443	Treating waste exemption	Not on a farm	Screening and blending of waste

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

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m	22

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 50**

ID	Location	Company	Address	Activity	Category
1	26m E	Hobs Reprographics	244, Deansgate, Manchester, Greater Manchester, M3 4BQ	Published Goods	Industrial Products
A	82m NE	Call Print	198, Deansgate, Manchester, Greater Manchester, M3 3NE	Published Goods	Industrial Products

ID	Location	Company	Address	Activity	Category
B	86m N	Industrial Tomography Systems	Sunlight House, Quay Street, Manchester, Greater Manchester, M3 3JZ	Measurement and Inspection Equipment	Industrial Products
B	86m N	rentalcars.com	Sunlight House, Quay Street, Manchester, Greater Manchester, M3 3JZ	Vehicle Hire and Rental	Hire Services
A	86m NE	Proteintech Europe	Royal London House 196, Deansgate, Manchester, Greater Manchester, M3 3WF	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
2	111m E	Waterman Group	Central Buildings 11, Peter Street, Manchester, Greater Manchester, M2 5QR	Civil Engineers	Engineering Services
C	147m S	Natural Flooring Solutions	Great Northern Warehouse 275, Deansgate, Manchester, Greater Manchester, M3 4EL	Construction Completion Services	Construction Services
C	147m S	Cars for Stars	Great Northern Warehouse 275, Deansgate, Manchester, Greater Manchester, M3 4EL	Vehicle Hire and Rental	Hire Services
C	147m S	Isovitality Nutriceuticals Ltd	Great Northern Warehouse 275, Deansgate, Manchester, Greater Manchester, M3 4EL	Catering and Non Specific Food Products	Foodstuffs
3	148m NW	Place North West	Quay House, Quay Street, Manchester, Greater Manchester, M3 3JE	Published Goods	Industrial Products
4	149m N	Hey Little Cupcake	2, Hardman Street, Manchester, Greater Manchester, M3 3HF	Baking and Confectionery	Foodstuffs
5	167m E	Shepherd Gilmour	Colchester House, 38-40 Peter Street, Manchester, Greater Manchester, M2 5GP	Civil Engineers	Engineering Services
C	191m S	Feather & Black Ltd	289-291, Deansgate, Manchester, Greater Manchester, M3 4EW	Beds and Bedding	Consumer Products
D	193m SW	R M R I Consulting Ltd	Castlefield House, Liverpool Road, Manchester, Greater Manchester, M3 4SB	Civil Engineers	Engineering Services
D	194m SW	N U Oil & Gas	Fifth Floor Castlefield House, Liverpool Road, Manchester, Greater Manchester, M3 4SB	Special Purpose Machinery and Equipment	Industrial Products
E	203m N	Hydrock	3, Hardman Square, Manchester, Greater Manchester, M3 3EB	Civil Engineers	Engineering Services
E	203m N	General Medical Council	3, Hardman Street, Manchester, Greater Manchester, M3 3AW	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
E	209m N	Epos Manchester	Unit 1-3 Hardman Street, Manchester, Greater Manchester, M1 1AG	Electronic Equipment	Industrial Products

ID	Location	Company	Address	Activity	Category
6	211m NE	Electricity Sub Station	Greater Manchester, M2	Electrical Features	Infrastructure and Facilities
E	213m N	Merlin Repairs Specialists Ltd	3, Hardman Street, Manchester, Greater Manchester, M3 3HF	Industrial Coatings and Finishings	Industrial Products
7	227m NE	The Leaflet Company	Croxley House 14, Lloyd Street, Manchester, Greater Manchester, M2 5ND	Distribution and Haulage	Transport, Storage and Delivery
8	230m SE	Duffy Motors Manchester Ltd	Arch 16-17, Watson Street, Manchester, Greater Manchester, M3 4LP	Vehicle Repair, Testing and Servicing	Repair and Servicing

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	**0**

Open, closed, under development and obsolete petrol stations.

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	0

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

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

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

Records within 500m	3

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 50**

ID	Location	Address	Details	
9	358m N	Granada Dry Cleaners, 71-73 Bridge Street, Manchester, M30 9BA	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
12	444m NE	Johnsons Cleaners UK Ltd, 59 Cross Street, Albert Square, Manchester, M2 4JW	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
15	452m E	The Laundry Shop, Unit 5, Peter House, Oxford Street, Manchester	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	**29**

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 50**

ID	Location	Address	Details	
10	403m SW	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
F	425m N	MANCHESTER CIVIL JUSTICE CENTRE, GARTSIDE STREET	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: 016993601 Permit Version: 2 Receiving Water: RIVER IRWELL	Status: MODIFIED - (WRA 91 SCHED 10 - AS AMENDED BY ENV ACT 1995) Issue date: 26/04/2006 Effective Date: 01/01/2007 Revocation Date: -
F	427m N	BRIDGE STREET CSO, 4 BRIDGE STREET, MANCHESTER, M3 3ER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982898 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1995 Revocation Date: 10/05/1995
F	427m N	BRIDGE STREET CSO, 4 BRIDGE STREET, MANCHESTER, M3 3ER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982898 Permit Version: 2 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 11/05/1995 Revocation Date: 13/11/1995
F	427m N	BRIDGE STREET CSO, 4 BRIDGE STREET, MANCHESTER, M3 3ER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982898 Permit Version: 3 Receiving Water: RIVER IRWELL	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 14/11/1995 Revocation Date: 31/03/2018
F	430m N	WATER ST/BRIDGE ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0174 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: 01/01/1995 Effective Date: 01/01/1995 Revocation Date: 11/04/2006

ID	Location	Address	Details	
F	430m N	WATER ST/BRIDGE ST, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016993550 Permit Version: 1 Receiving Water: THE RIVER IRWELL	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 12/04/2006 Effective Date: 12/04/2006 Revocation Date: -
F	435m N	BRIDGE STREET CSO, 4 BRIDGE STREET, MANCHESTER, M3 3ER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982898 Permit Version: 4 Receiving Water: RIVER IRWELL	Status: VARIED UNDER EPR 2010 Issue date: 19/03/2018 Effective Date: 01/04/2018 Revocation Date: -
11	435m NW	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: 01MAN0172 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: 01/01/1995 Effective Date: 01/01/1995 Revocation Date: 20/03/2006
G	440m NW	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: -
G	441m NW	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
H	445m S	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

ID	Location	Address	Details	
H	445m S	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
H	445m S	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
H	445m S	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
H	445m S	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
13	445m SE	TRUMPET STREET, SSO, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 01MAN0168 Permit Version: 1 Receiving Water: RIVER TIB CULVERT-MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 15/09/1993 Revocation Date: 15/09/1993
14	446m SE	GREAT BRIDGEWATER ST, OPPOSITE CHEPSTOW STREET, MANCHESTER	Effluent Type: SEWAGE DISCHARGES - FINAL/TREATED EFFLUENT - WATER COMPANY Permit Number: 01MAN0163 Permit Version: 1 Receiving Water: RIVER TIB CULVERT	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 15/09/1993 Revocation Date: 15/09/1993

ID	Location	Address	Details	
16	453m NW	FEARNLEY DEVELOPMENTS LTD, SALFORD	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991429 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: - Revocation Date: 01/11/1994
17	455m NW	FEARNLEY DEVELOPMENTS LTD, SALFORD	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991429 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: - Revocation Date: 01/11/1994
I	459m W	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
I	459m W	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
I	459m W	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
J	474m S	DEANSGATE, 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
J	474m S	DEANSGATE, 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

ID	Location	Address	Details	
18	489m SW	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
19	490m W	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: -
J	495m S	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: -
J	495m S	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

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

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

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

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	1

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.

Features are displayed on the Current industrial land use map on **page 50**

ID	Location	Name	Status	Receiving Water	Authorised Substances
F	412m N	Te Dis Manchester Civil Justice Centre	Active	-	pH

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

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

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.

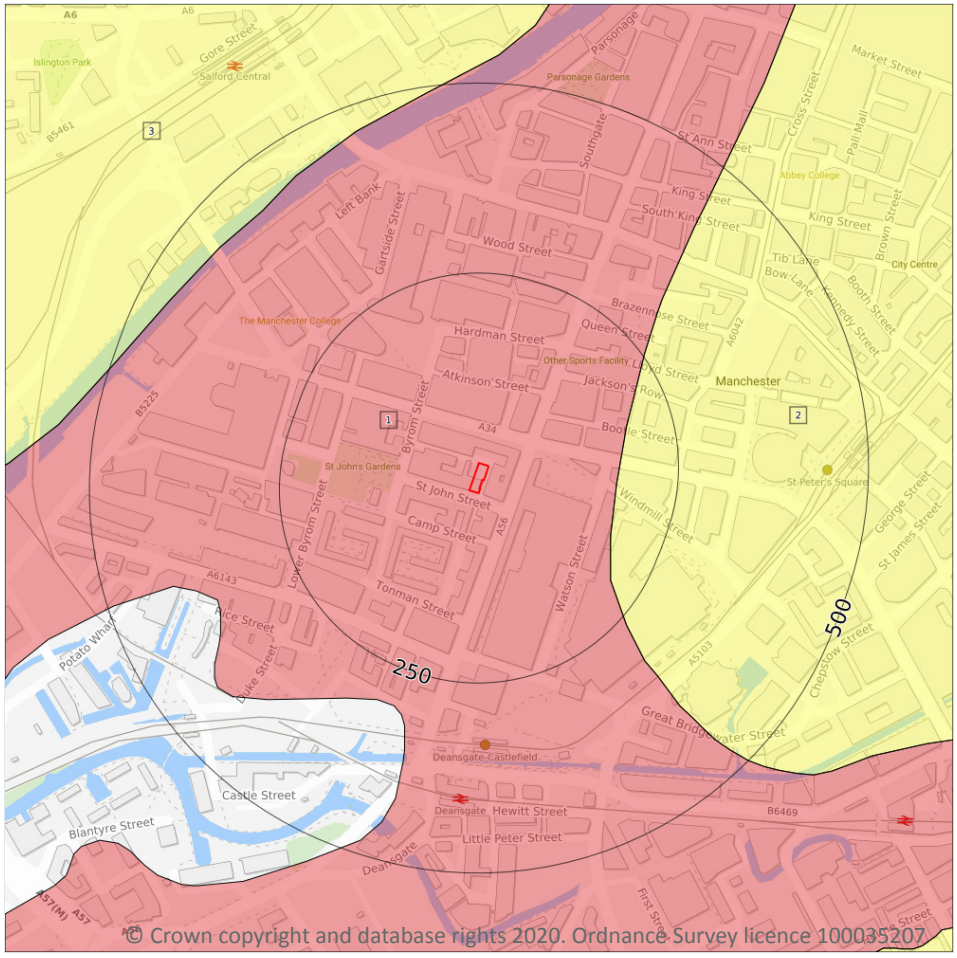
4.21 Pollution inventory radioactive waste

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



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5.1 Superficial aquifer

Records within 500m	3

Aquifer status of groundwater held within superficial geology.

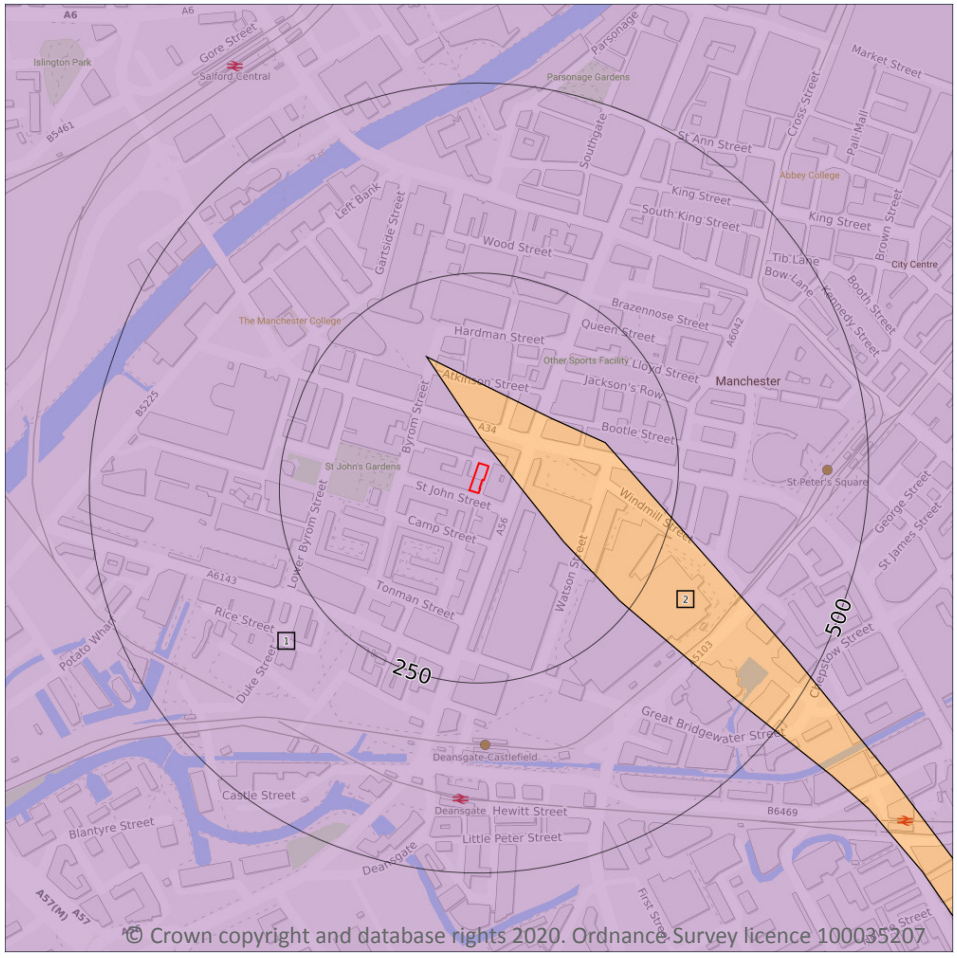
Features are displayed on the Hydrogeology map on **page 62**

ID	Location	Designation	Description
1	**On site**	**Secondary A**	**Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers**
2	170m 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

ID	Location	Designation	Description
3	437m 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

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

Bedrock aquifer



5.2 Bedrock aquifer

Records within 500m	2

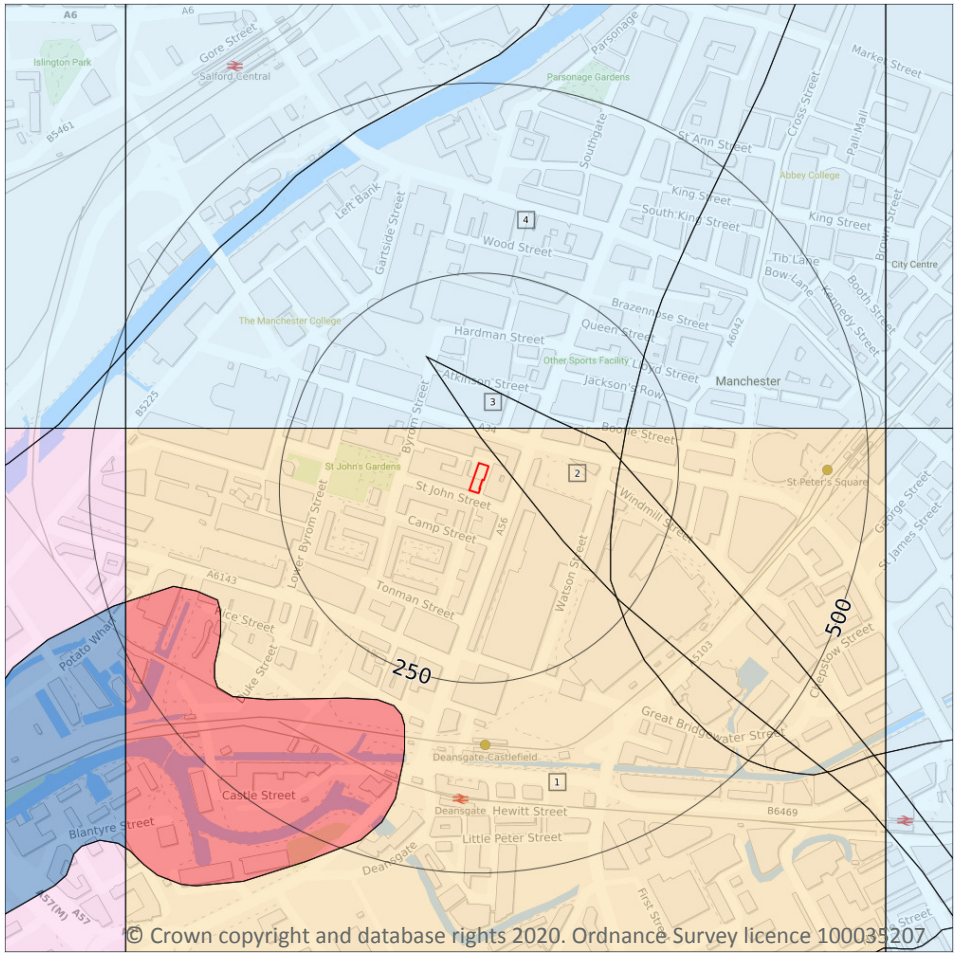
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 64**

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	16m NE	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons 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	4

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 66**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	**On site**	**Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer**	**Leaching class: High Infiltration value: >70% Dilution value: 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**
2	15m NE	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: Secondary Flow mechanism: Well connected fractures
3	45m N	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
4	46m N	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300-550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low 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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5.6 Groundwater abstractions

Records within 2000m	41

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 68**

ID	Location	Details	
2	278m NW	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: -
3	336m W	Status: Active 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: -
-	624m E	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: -
-	624m E	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	
-	782m N	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: -
-	782m N	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: -
-	782m N	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: -
-	926m 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: -

ID	Location	Details	
-	926m 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: -
-	1091m 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: -
-	1091m 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: -
-	1195m S	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: -

ID	Location	Details	
-	1195m S	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: -
-	1285m 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, STRANGEWAYS, 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: -
-	1285m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, 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: -
-	1285m 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, STRANGEWAYS, 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	
-	1285m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, 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: -
-	1285m 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 STRANGEWAYS 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: -
-	1285m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGEWAYS 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: -
-	1317m 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, STRANGEWAYS, 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	
-	1317m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, 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: -
-	1317m 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, STRANGEWAYS, 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: -
-	1317m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, 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: -
-	1317m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGEWAYS 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	
-	1317m 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 STRANGEWAYS 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: -
-	1327m W	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: -
-	1327m W	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: -
-	1351m 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, STRANGEWAYS, 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: -

ID	Location	Details	
-	1351m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, 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: -
-	1351m 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, STRANGEWAYS, 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: -
-	1351m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, 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: -
-	1351m 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 STRANGEWAYS 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: -

ID	Location	Details	
-	1351m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGEWAYS 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: -
-	1809m E	Status: Historical Licence No: 2569006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, BROADIE ST, ARDWICK, MANCHESTER" Data Type: Point Name: MOSELEY RUBBER CO LTD Easting: 385240 Northing: 397540	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: 08/02/1966 Version End Date: -
-	1809m E	Status: Historical Licence No: 2569006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, BROADIE ST, ARDWICK, MANCHESTER Data Type: Point Name: MOSELEY RUBBER CO LTD Easting: 385240 Northing: 397540	Annual Volume (m^3): 331858 Max Daily Volume (m^3): 909.2 Original Application No: - Original Start Date: 08/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 08/02/1966 Version End Date: -
-	1857m N	Status: Historical Licence No: 2569004011 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT DERBY BREWERY, CHEETHAM, MANCHESTER 3" Data Type: Point Name: JOSEPH HOLT LTD Easting: 384100 Northing: 399700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -

ID	Location	Details	
-	1857m N	Status: Historical Licence No: 2569004011 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT DERBY BREWERY, CHEETHAM, MANCHESTER 3" Data Type: Point Name: JOSEPH HOLT LTD Easting: 384100 Northing: 399700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -
-	1857m N	Status: Active Licence No: 2569004011 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT DERBY BREWERY, CHEETHAM, MANCHESTER 3 Data Type: Point Name: JOSEPH HOLT LTD Easting: 384100 Northing: 399700	Annual Volume (m^3): 45,460 Max Daily Volume (m^3): 181.84 Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -
-	1857m N	Status: Active Licence No: 2569004011 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT DERBY BREWERY, CHEETHAM, MANCHESTER 3 Data Type: Point Name: JOSEPH HOLT LTD Easting: 384100 Northing: 399700	Annual Volume (m^3): 45,460 Max Daily Volume (m^3): 181.84 Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -
-	1896m N	Status: Historical Licence No: 2569004021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, DERBY STREET, CHEETHAM, MANCHESTER Data Type: Point Name: LANCASHIRE DAIRIES LTD Easting: 383900 Northing: 399800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -

ID	Location	Details	
-	1896m N	Status: Historical Licence No: 2569004021 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, DERBY STREET, CHEETHAM, MANCHESTER Data Type: Point Name: LANCASHIRE DAIRIES LTD Easting: 383900 Northing: 399800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	**2**

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 68**

ID	Location	Details	
-	1084m 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: -
-	1084m 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: -

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

5.8 Potable abstractions

Records within 2000m	**10**

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 68**

ID	Location	Details	
-	1285m 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, STRANGEWAYS, 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: -
-	1285m 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, STRANGEWAYS, 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: -
-	1285m 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 STRANGEWAYS 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: -

ID	Location	Details	
-	1317m 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, STRANGEWAYS, 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: -
-	1317m 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, STRANGEWAYS, 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: -
-	1317m 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 STRANGEWAYS 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: -
-	1351m 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, STRANGEWAYS, 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: -

ID	Location	Details	
-	1351m 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, STRANGEWAYS, 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: -
-	1351m 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 STRANGEWAYS 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: -
-	1896m N	Status: Historical Licence No: 2569004021 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, DERBY STREET, CHEETHAM, MANCHESTER Data Type: Point Name: LANCASHIRE DAIRIES LTD Easting: 383900 Northing: 399800	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/04/1993 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 68**

ID	Location	Type	Description
1	277m SE	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	1

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 84**

ID	Location	Type of water feature	Ground level	Permanence	Name
3	108m E	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

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.

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 84**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	**On site**	**River WB catchment**	**Irwell / Manchester Ship Canal (Irk to confluence with Upper Mersey)**	**GB112069061452**	**Croal Irwell**	**Irwell**

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

6.4 WFD Surface water bodies

Records identified	1

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 84**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
9	436m NW	River	Irwell / Manchester Ship Canal (Irk to confluence with Upper Mersey)	GB112069061452	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 84**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	**On site**	**Manchester and East Cheshire Permo-Triassic Sandstone Aquifers**	**GB41201G101100**	**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	0

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).

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 87**

ID	Location	Event name	Date of flood	Flood source	Flood cause	Type of flood
1	230m NE	Irwe	2000-06-01 2000-06-02	Unknown	Channel capacity exceeded (no raised defences)	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

7.6 Flood Zone 2

Records within 50m	0

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.

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

7.7 Flood Zone 3

Records within 50m	0

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.

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

8 Surface water flooding

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**Negligible**

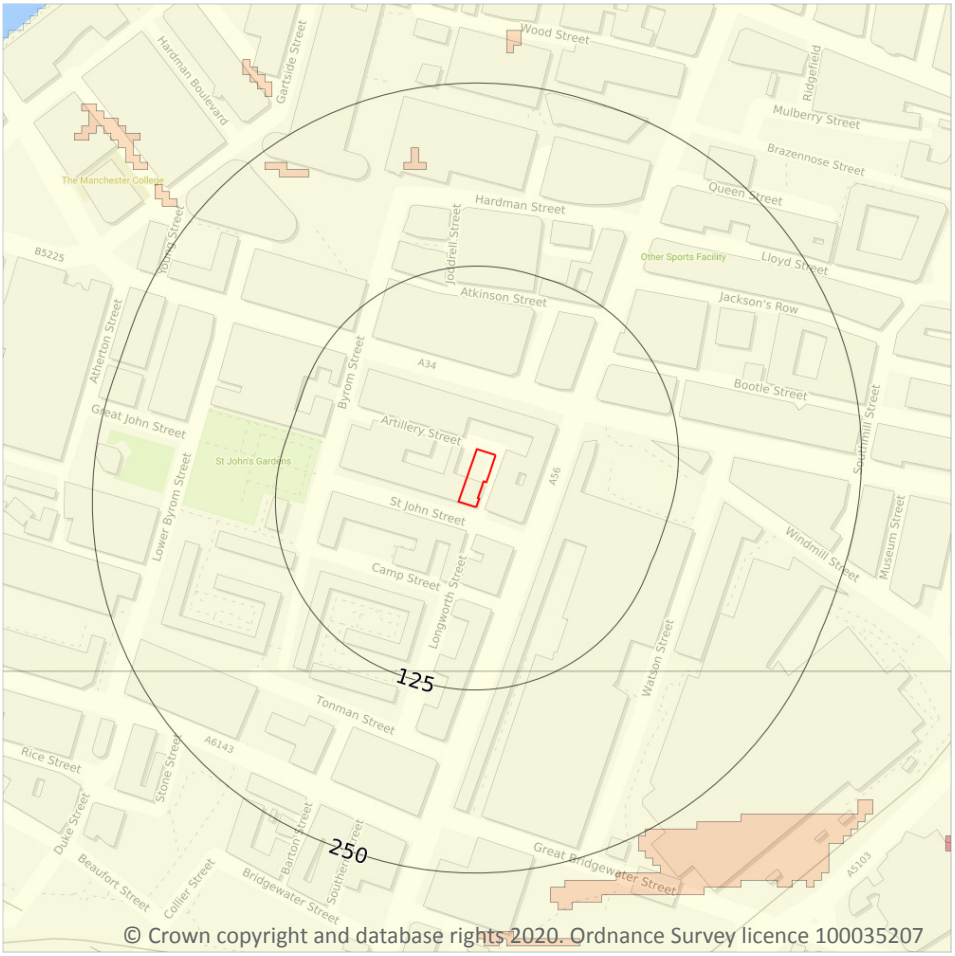
Ambiental Risk Analytics surface water (pluvial) FloodMap identifies areas likely to flood as a result of extreme rainfall events, i.e. land naturally vulnerable to surface water ponding or flooding. This data set was produced by simulating 1 in 30 year, 1 in 100 year, 1 in 250 year and 1 in 1,000 year 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.

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	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

- High
- Moderate - High
- Moderate
- Low
- Negligible

9.1 Groundwater flooding

Highest risk on site	**Moderate**
Highest risk within 50m	**Moderate**

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

Features are displayed on the Groundwater flooding map on **page 91**

This data is sourced from Ambiental 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

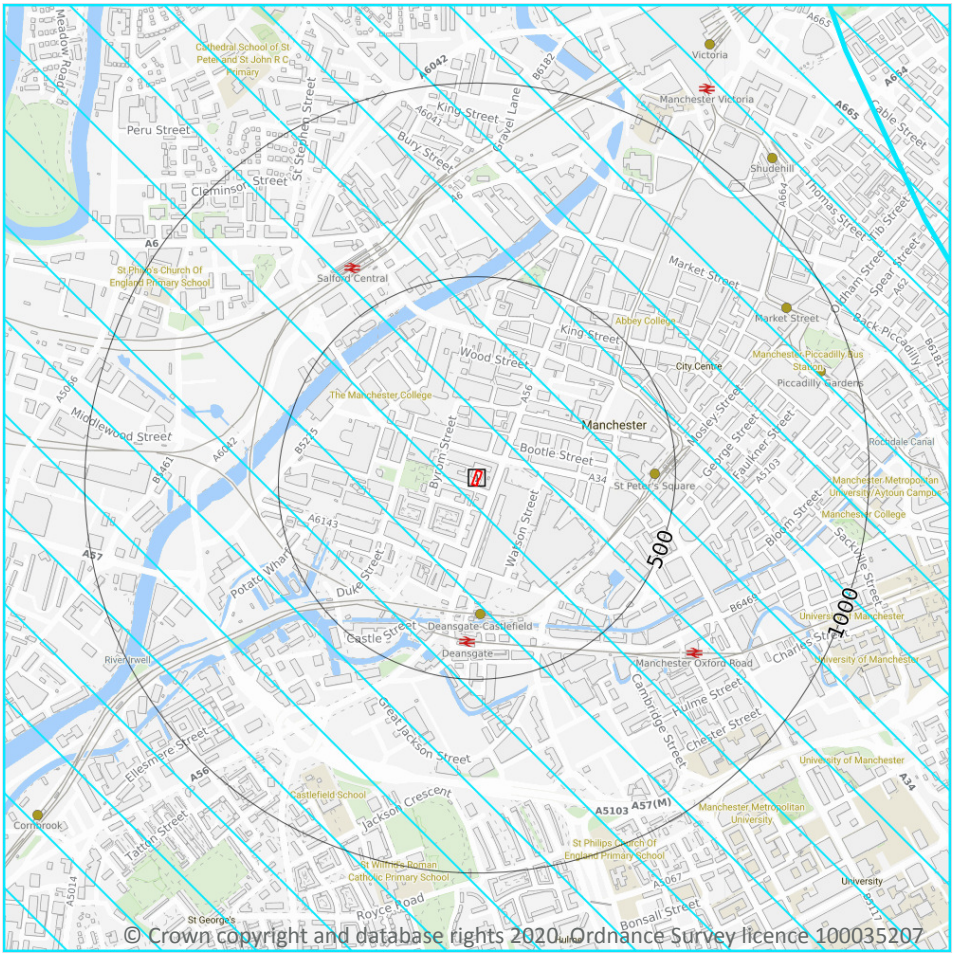
Records within 2000m	4

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
865m NE	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	S638	Existing
866m N	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	S638	Existing
885m NW	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	S643	Existing
1761m N	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	S643	Existing

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

SSSI Impact Zones and Units



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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 96**

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.

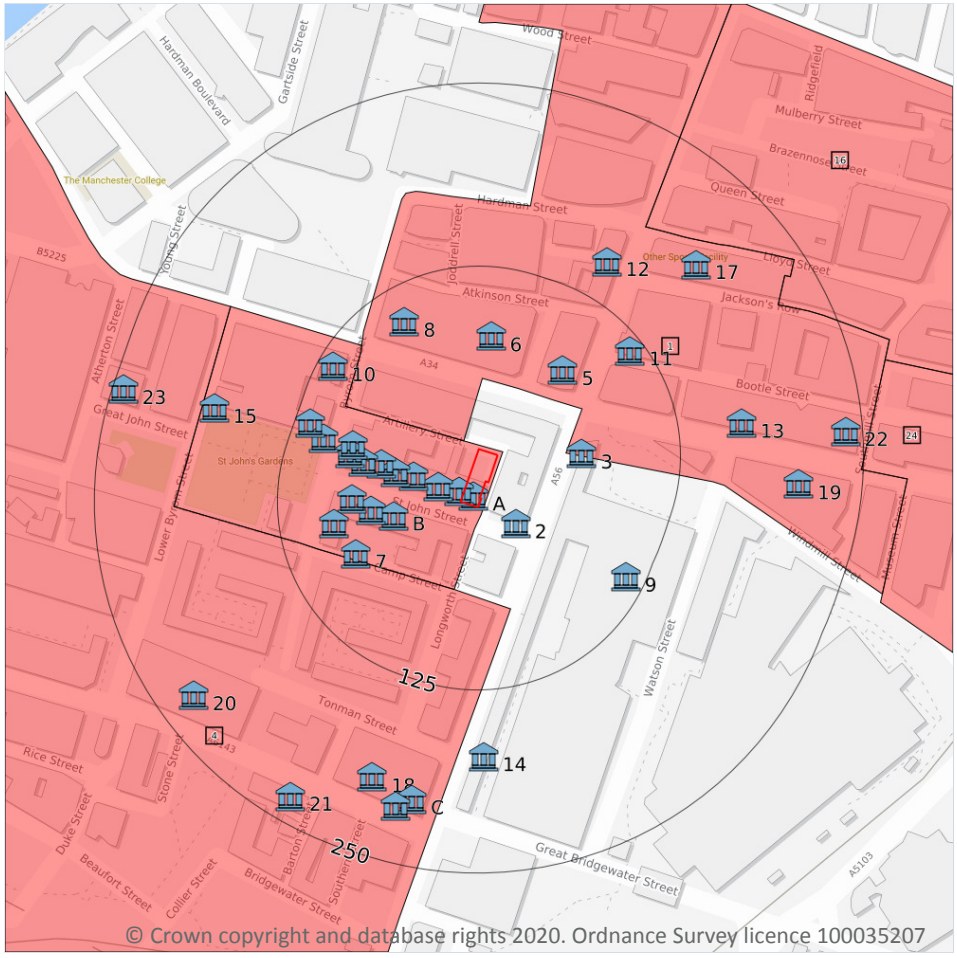
10.18 SSSI Units

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



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	37

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 98**

ID	Location	Name	Grade	Reference Number	Listed date
A	**On site**	**8 And 8A, St John Street, Manchester, M3**	**II**	**1270784**	**25/02/1952**
A	4m W	10, St John Street, Manchester, M3	II	1270785	25/02/1952
A	18m W	12-16, St John Street, Manchester, M3	II	1254466	25/02/1952
2	28m SE	K6 Telephone Kiosk In Front Of St John Street Chambers, Manchester, M3	II	1270788	29/10/1987
A	36m W	Nos. 18 And 20, St John Street, Manchester, M3	II	1254598	25/02/1952

ID	Location	Name	Grade	Reference Number	Listed date
B	47m W	11-17, St John Street, Manchester, M3	II	1254465	25/02/1952
A	48m W	22, St John Street, Manchester, M3	II	1270787	25/02/1952
3	58m E	Former Entrance To Deansgate Goods Station Including Numbers 223 To 233, Manchester, M3	II	1282974	23/11/1979
A	60m W	24, St John Street, Manchester, M3	II	1270704	03/10/1974
B	62m W	19, St John Street, Manchester, M3	II	1270786	25/02/1952
A	72m W	24A And 26, St John Street, Manchester, M3	II	1254468	03/10/1974
5	73m NE	Royal London House, Manchester, M3	II	1200852	03/10/1974
B	74m W	21-25, St John Street, Manchester, M3	II	1270728	25/02/1952
6	78m N	Sunlight House, Manchester, M3	II	1270915	20/06/1988
7	80m SW	Manchester & Salford Junction Canal Tunnel, Manchester, M3	II	1405199	20/11/2012
A	82m W	28, St John Street, Manchester, M3	II	1254605	24/07/1974
A	82m W	15A, Byrom Street, Manchester, M3	II	1208232	03/10/1974
B	88m W	Numbers 25 To 31 And Attached Former Chapel, Manchester, M3	II	1208243	25/02/1952
8	101m NW	The Opera House, Manchester, M3	II	1247470	03/10/1974
A	102m W	Two Bollards At East End Of St Johns Passage, Manchester, M3	II	1197812	03/10/1974
9	111m SE	Deansgate Goods Station And Attached Carriage Ramp, Manchester, M3	II*	1268529	04/05/1979
A	114m W	No. 14, Byrom Street, Manchester, M60	II	1283039	30/03/1989
10	115m NW	Cobden House, 19 Quay Street, Manchester, M3	II*	1247447	03/10/1974
11	115m NE	Onward Buildings, Manchester, M3	II	1210092	06/06/1994
12	152m NE	184 And 186, Deansgate, Manchester, M3	II	1210068	03/10/1974
13	168m E	Albert Memorial Hall, Manchester, M2	II	1246727	30/04/1982
14	171m S	235-291, Deansgate, Manchester, M3	II	1210103	28/02/1989
15	180m W	Two Bollards At West End Of St Johns Passage, Manchester, M60	II	1291330	03/10/1974
17	188m NE	Elliot House, Manchester, M2	II	1200854	03/10/1974
18	197m S	Former Market Hall, Manchester, M3	II	1197915	17/05/1974
C	204m S	Castlefield Information Centre, Manchester, M3	II	1200853	17/05/1974

ID	Location	Name	Grade	Reference Number	Listed date
19	207m E	Free Trade Hall, Manchester, M2	II*	1246666	18/12/1963
C	212m S	K6 Telephone Kiosk Beside South West Corner Of Number 330 Deansgate, Manchester, M3	II	1219441	29/10/1987
20	225m SW	Museum Of Science And Industry, Air And Space Museum, Manchester, M3	II	1200807	17/05/1974
21	232m SW	29-41, Liverpool Road, Manchester, M3	II	1219402	06/06/1994
22	238m E	Harvester House, Manchester, M2	II	1246664	30/04/1982
23	243m W	St Johns College Of Further Education, Manchester, M3	II	1282969	06/06/1994

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

11.5 Conservation Areas

Records within 250m	**5**

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

Features are displayed on the Visual and cultural designations map on **page 98**

ID	Location	Name	District	Date of designation
A	**On site**	**St John Street**	**Manchester**	**04/11/1970**
1	12m NW	Deansgate and Peter Street	Manchester	26/06/1985
4	59m S	Castlefield	Manchester	13/10/1979
16	186m NE	Albert Square	Manchester	01/04/1972
24	249m E	St Peter's Square	Manchester	01/12/1973

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

11.6 Scheduled Ancient Monuments

Records within 250m	0

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

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

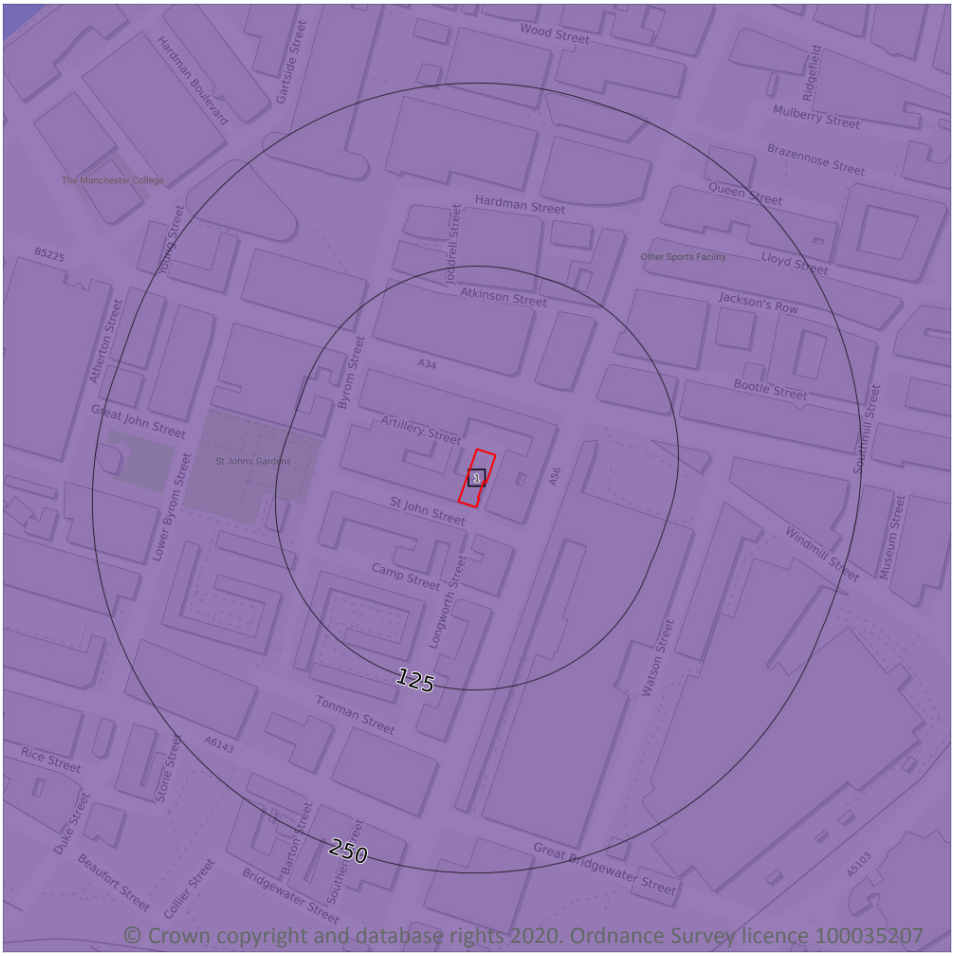
11.7 Registered Parks and Gardens

Records within 250m	0

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	1

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

Features are displayed on the Agricultural designations map on **page 103**

ID	Location	Classification	Description
1	**On site**	**Urban**	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m	0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

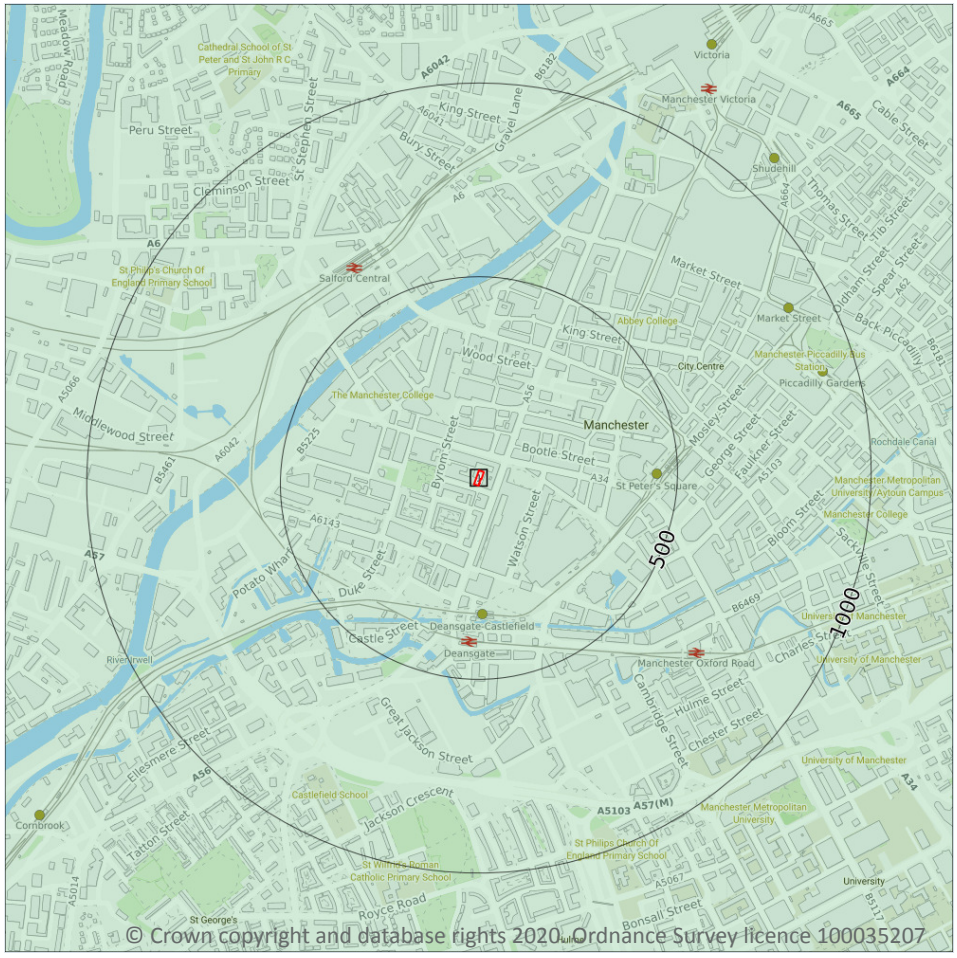
13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



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Site Outline

Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m	1

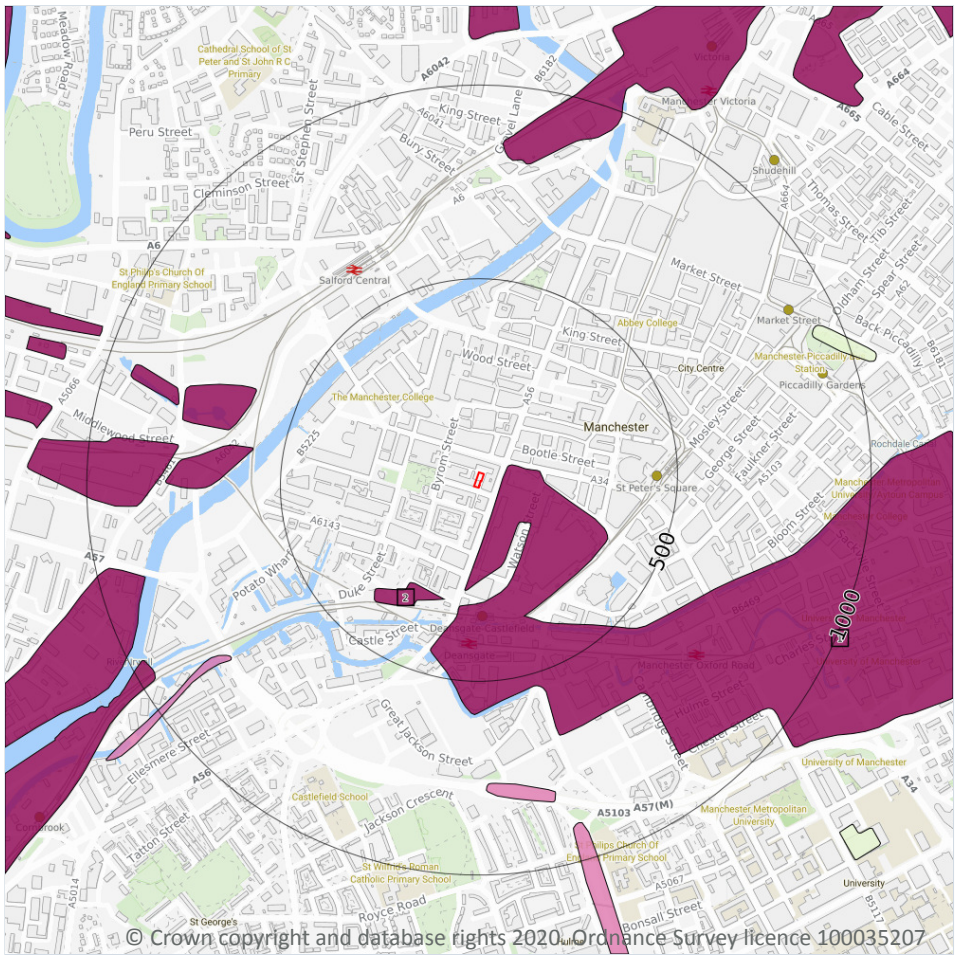
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 106**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**SJ89NW**

This data is sourced from the British Geological Survey.

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



14.2 Artificial and made ground (10k)

Records within 500m	2

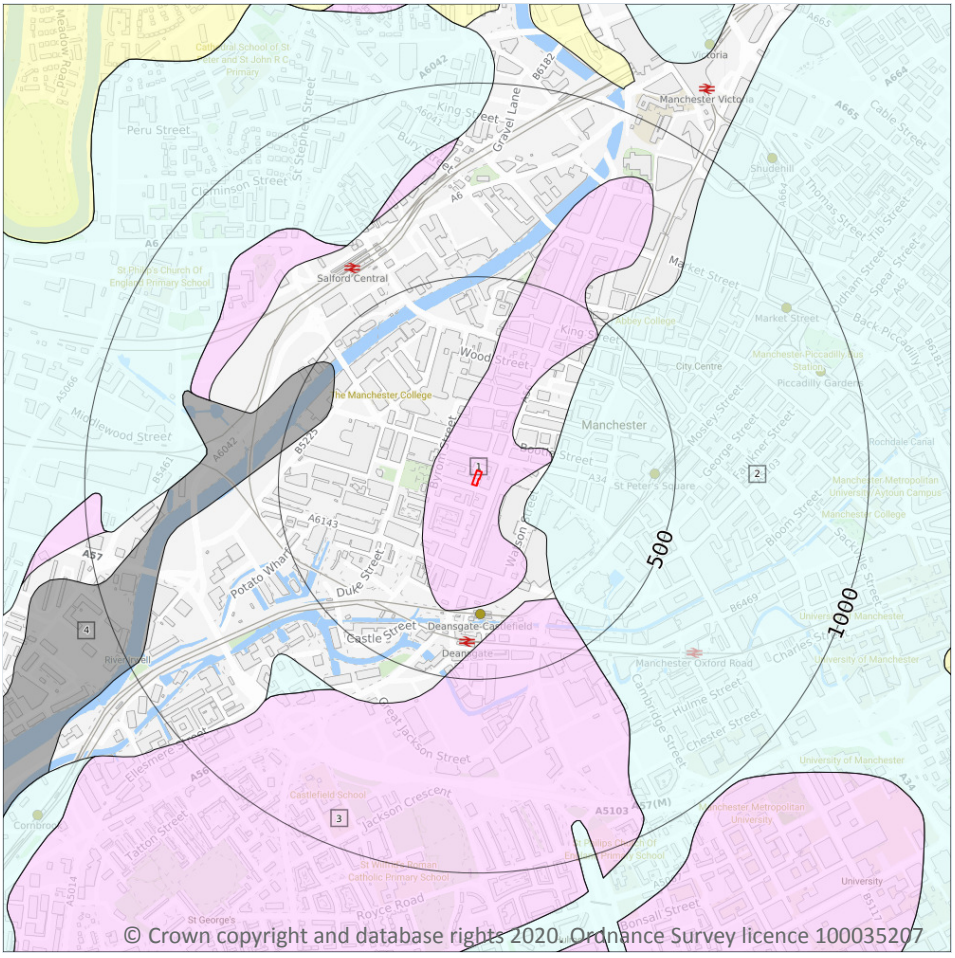
Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 107**

ID	Location	LEX Code	Description	Rock description
1	50m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	293m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m **4**

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 108**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFSDD-XSV**	**Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel**	**Sand And Gravel**
2	134m SE	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
3	324m SE	GFSDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel

ID	Location	LEX Code	Description	Rock description
4	410m NW	ALV-XSWCV	Alluvium - Sand With Clay And Gravel	Sand With Clay And Gravel [unlithified Deposits Coding Scheme - Extended]

This data is sourced from the British Geological Survey.

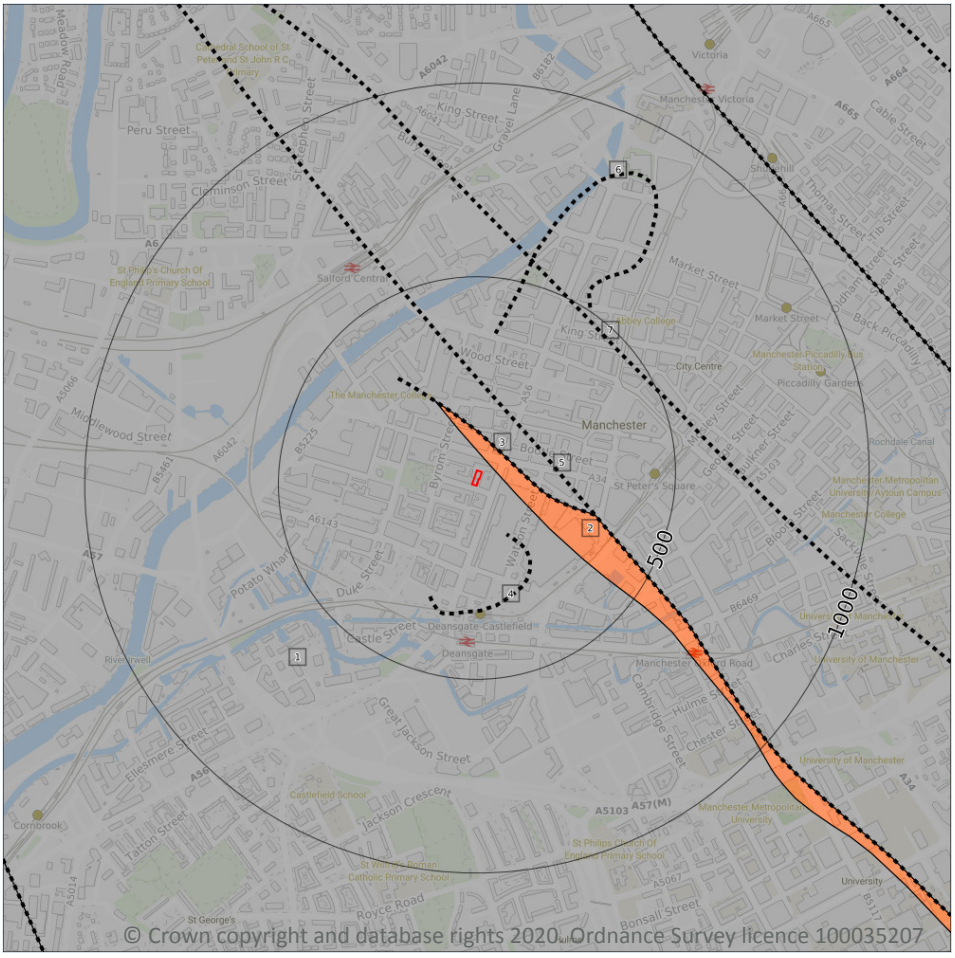
14.4 Landslip (10k)

Records within 500m	**0**

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	2

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 110**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CPB-SDST**	**Chester Pebble Beds Formation - Sandstone**	**Early Triassic Epoch**
2	28m NE	MM-MDST	Manchester Marls Formation - Mudstone	Late Permian Epoch [Obsolete name]

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**5**

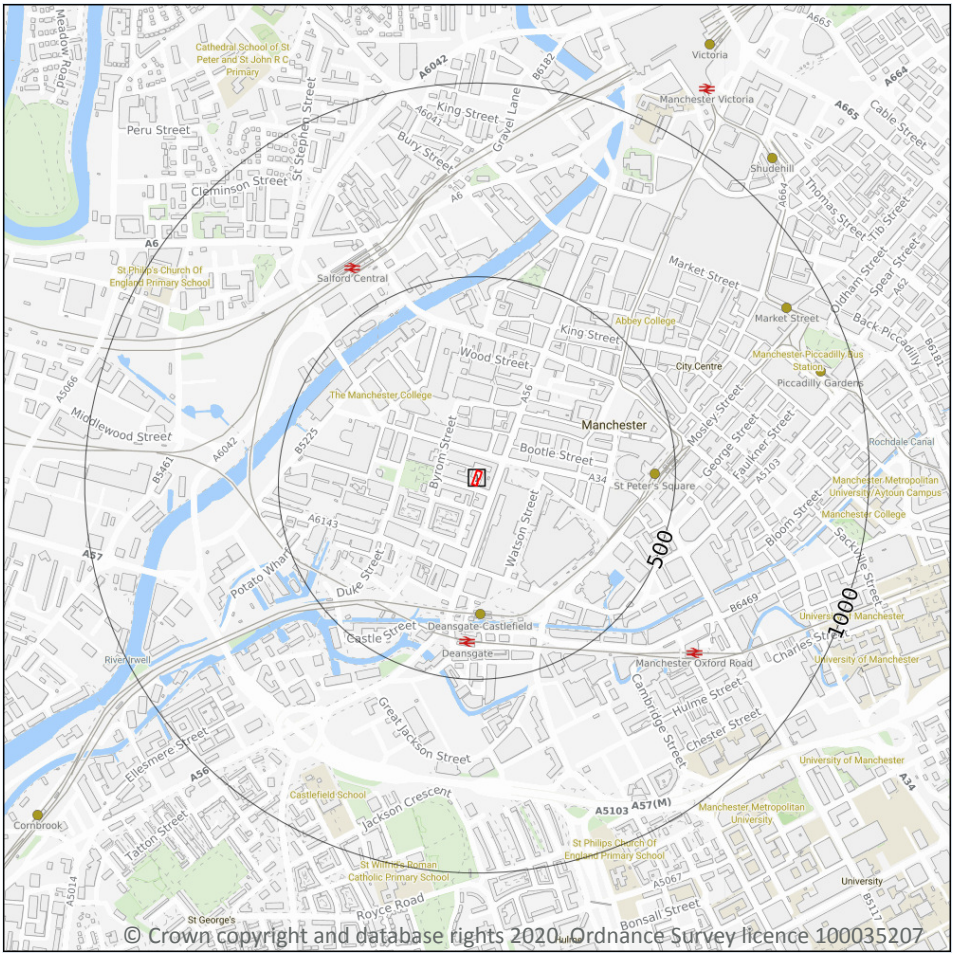
Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 110**

ID	Location	Category	Description
3	70m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
4	147m SE	LANDFORM	Buried channel or valley margin
5	152m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
6	357m N	LANDFORM	Buried channel or valley margin
7	471m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

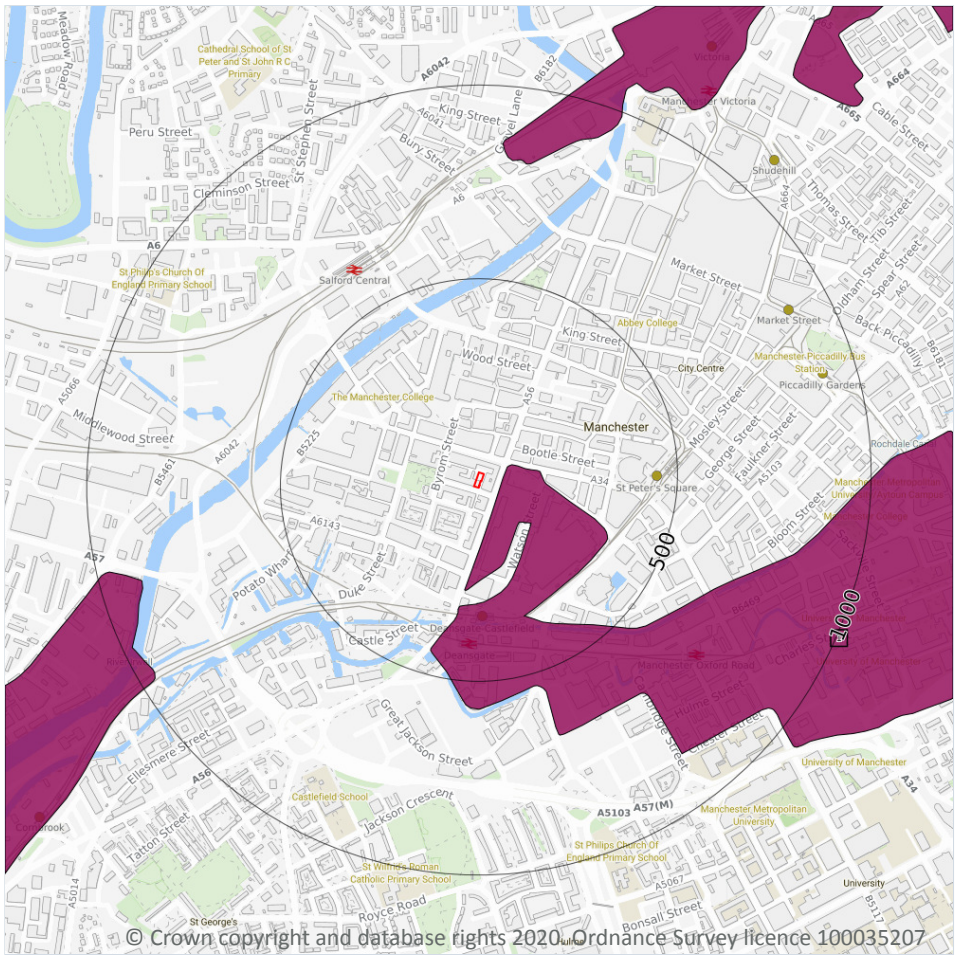
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 112**

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

This data is sourced from the British Geological Survey.

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



Site Outline

Search buffers in metres (m)

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

15.2 Artificial and made ground (50k)

Records within 500m	1

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 113**

ID	Location	LEX Code	Description	Rock description
1	50m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

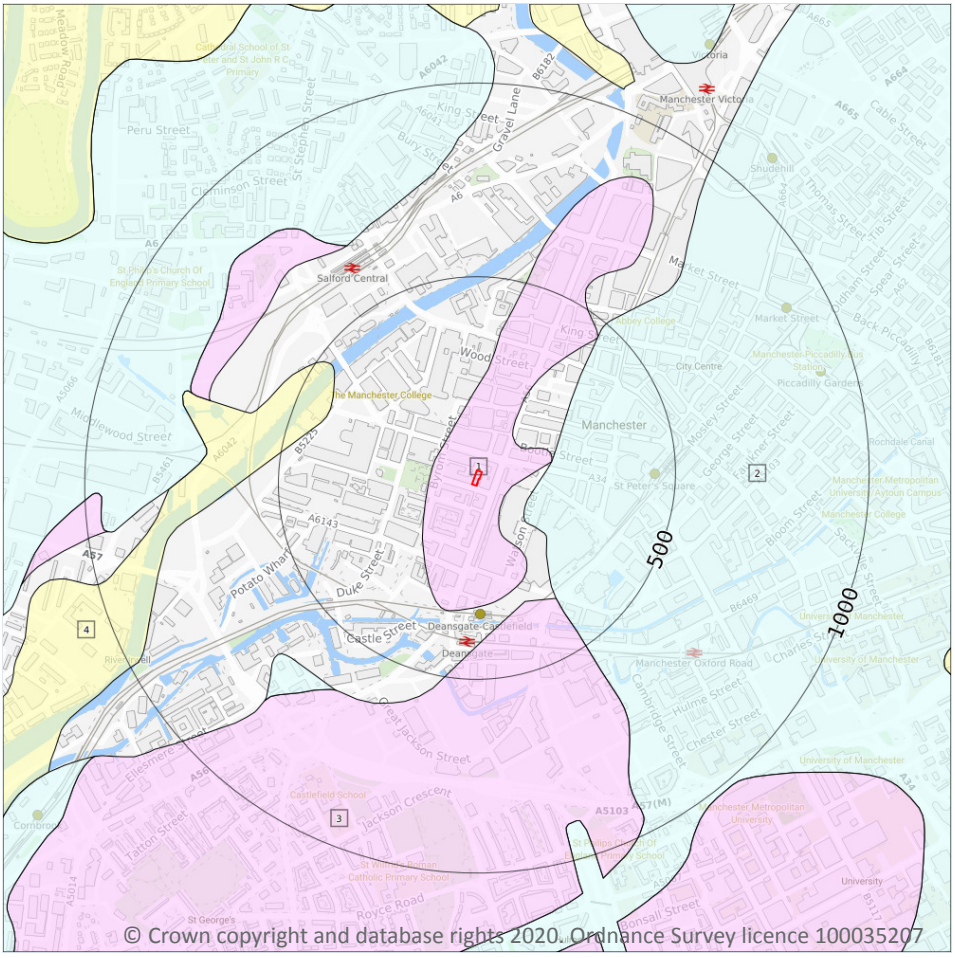
15.3 Artificial ground permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



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Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m **4**

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 115**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**GFSDD-XSV**	**GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN**	**SAND AND GRAVEL**
2	135m SE	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	324m SE	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
4	410m NW	ALV-XCZSV	ALLUVIUM	CLAY, SILT, SAND AND GRAVEL

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

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

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

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

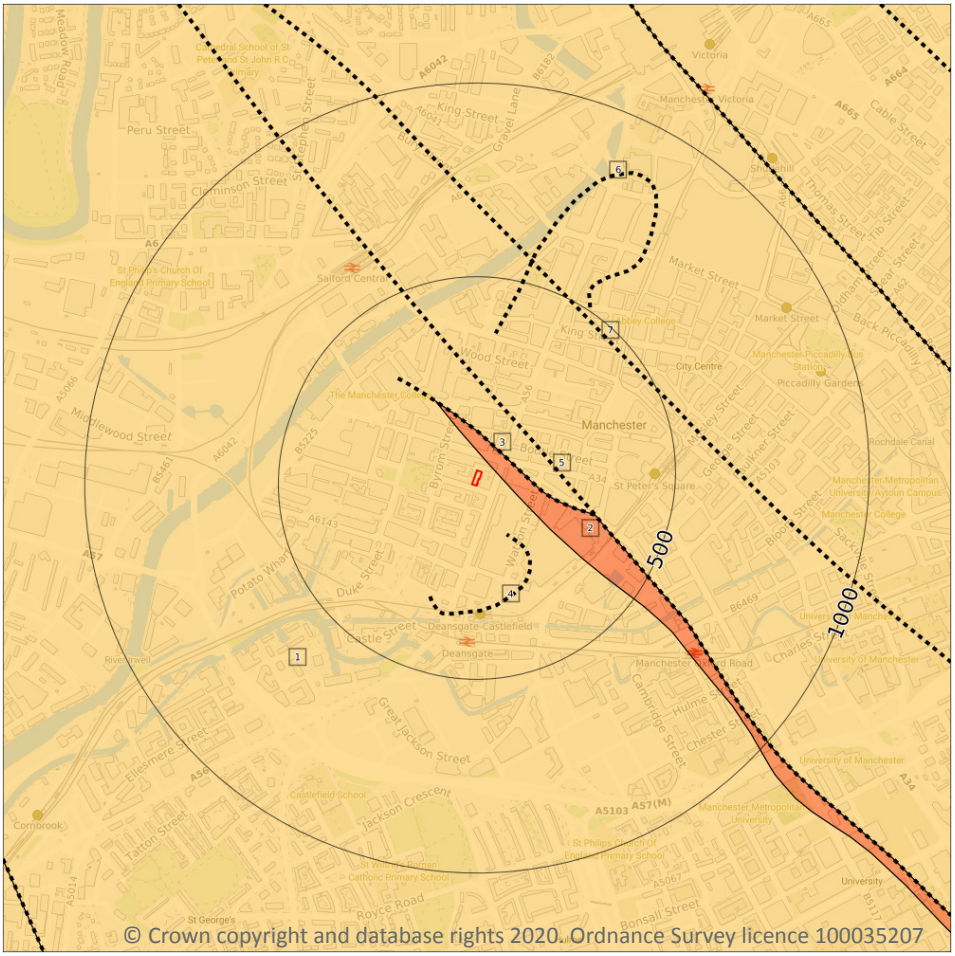
15.7 Landslip permeability (50k)

Records within 50m	0

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

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



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Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m **2**

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 117**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CHES-SDST**	**CHESTER FORMATION - SANDSTONE**	**OLENEKIAN**
2	27m NE	MM-MDST	MANCHESTER MARLS FORMATION - MUDSTONE	-

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	2

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Moderate**
27m SE	Fracture	Low	Low

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	5

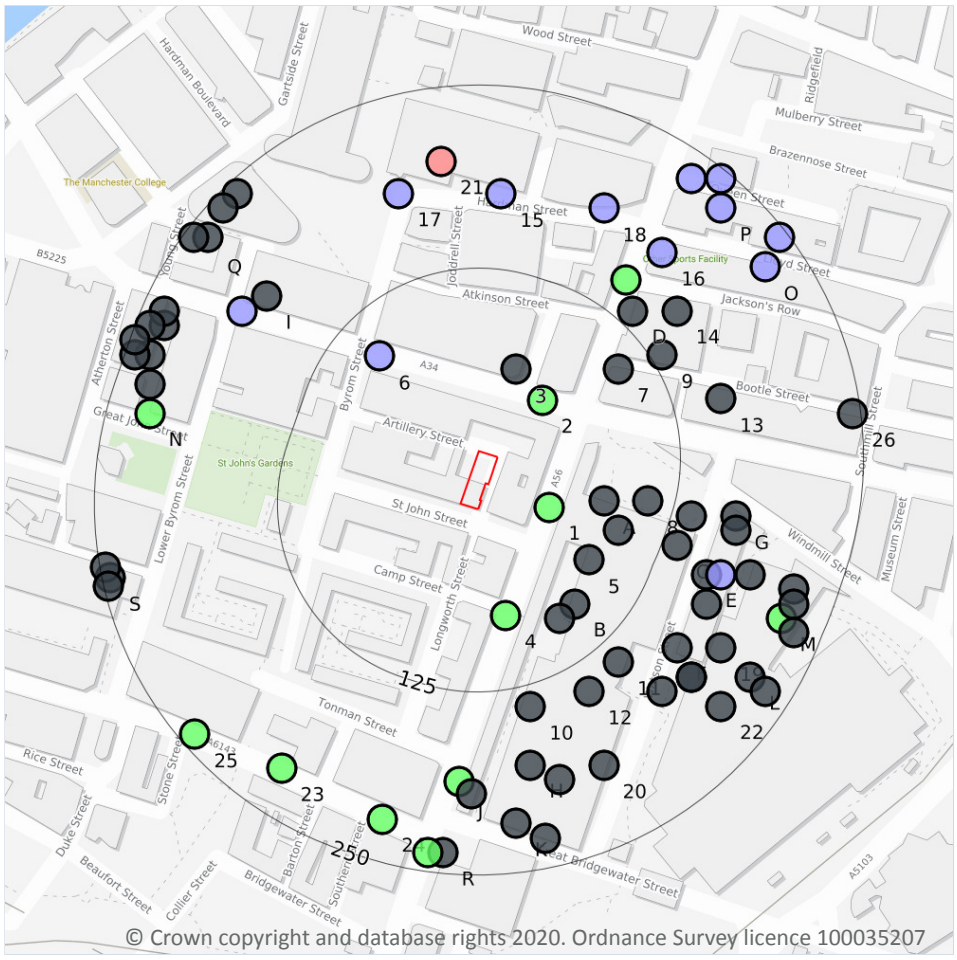
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 117**

ID	Location	Category	Description
3	70m NE	FAULT	Fault, inferred
4	148m SE	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley
5	152m NE	FAULT	Fault, inferred
6	357m N	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley
7	471m NE	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



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16.1 BGS Boreholes

Records within 250m	80

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

Features are displayed on the Boreholes map on **page 119**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	45m E	383513 397916	MANCHESTER CORP. DEANSGATE	13.11	N	1042208
2	50m NE	383508 397989	MANCHESTER CORP. F.SEWER	10.82	N	1042223
3	61m N	383490 398010	QUAY STREET C	-	Y	N/A

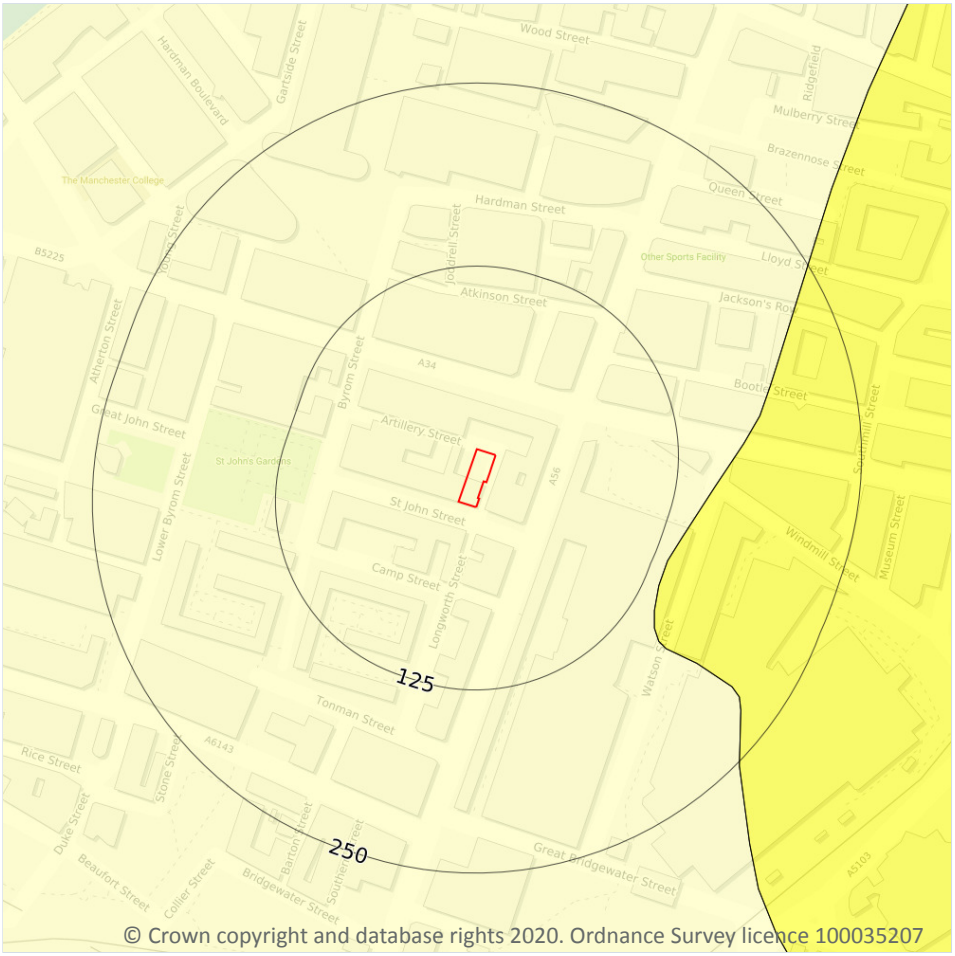
ID	Location	Grid reference	Name	Length	Confidential	Web link
4	75m S	383483 397842	MANCHESTER CORP. DEANSGATE	13.41	N	1042209
A	78m E	383550 397920	FESTIVAL MARKETPLACE 1/1	-	Y	N/A
5	83m SE	383540 397880	FESTIVAL MARKETPLACE TP 1/3	-	Y	N/A
B	92m SE	383530 397850	FESTIVAL MARKETPLACE 1/3	-	Y	N/A
B	93m SE	383520 397840	FESTIVAL MARKETPLACE TP 1/4	-	Y	N/A
6	94m NW	383397 398019	MANCHESTER CORP. F.SEWER	8.53	N	1042224
A	94m E	383560 397900	FESTIVAL MARKETPLACE TP 1/2	-	Y	N/A
7	102m NE	383560 398010	BOOTH STREET SEWER RENEWAL SCHEME 1	-	Y	N/A
8	107m E	383580 397920	FESTIVAL MARKETPLACE STG 2 BHE	-	Y	N/A
9	133m NE	383590 398020	DEANSGATE/JACKSONS ROW 3	-	Y	N/A
C	135m E	383600 397890	FESTIVAL MARKETPLACE 1/2	-	Y	N/A
D	136m NE	383570 398050	DEANSGATE/JACKSONS ROW 2	-	Y	N/A
C	138m E	383610 397910	FESTIVAL MARKETPLACE TP 1/1	-	Y	N/A
10	140m S	383500 397780	FESTIVAL MARKETPLACE 1/5	-	Y	N/A
11	142m SE	383560 397810	FESTIVAL MARKETPLACE 1/4	-	Y	N/A
12	146m SE	383540 397790	FESTIVAL MARKETPLACE TP 1/5	-	Y	N/A
D	149m NE	383565 398071	MANCHESTER CORP. DEANSGATE	12.8	N	1042207
13	158m E	383630 397990	BOOTH STREET SEWER RENEWAL SCHEME 2	-	Y	N/A
14	158m NE	383600 398050	DEANSGATE/JACKSONS ROW 1	-	Y	N/A
E	161m E	383620 397870	FESTIVAL MARKETPLACE TP 2/2	-	Y	N/A
F	166m SE	383600 397820	FESTIVAL MARKETPLACE TP 2/5	-	Y	N/A
G	167m E	383640 397910	FESTIVAL MARKETPLACE STG 2 BHA	-	Y	N/A
E	169m SE	383620 397850	FESTIVAL MARKETPLACE 2/2	-	Y	N/A
G	170m E	383640 397900	FESTIVAL MARKETPLACE TP 2/1	-	Y	N/A
E	170m E	383630 397870	MANCHESTER INTERNATIONAL CONVENTION CENTRE SHAFTS	-2.0	N	15939135
15	177m N	383480 398130	LLOYD STREET/HARDMAN STREET SEWER REP. SCHEME 5	3.12	N	13468602
F	177m SE	383590 397790	FESTIVAL MARKETPLACE TP 2/8	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
H	179m S	383500 397740	FESTIVAL MARKETPLACE TP 1/7	-	Y	N/A
I	179m NW	383320 398060	QUAY STREET D	-	Y	N/A
16	180m NE	383590 398090	LLOYD STREET/HARDMAN STREET SEWER REP SCHEME 3	5.0	N	13468598
17	184m N	383410 398130	LLOYD STREET/HARDMAN STREET SEWER REP. SCHEME 6	7.0	N	13468603
18	185m NE	383550 398120	LLOYD STREET/HARDMAN STREET SEWER REP. SCHEME 4	4.5	N	13468600
F	186m SE	383610 397800	FESTIVAL MARKETPLACE 2/4	-	Y	N/A
F	186m SE	383610 397800	FESTIVAL MARKETPLACE STG 2 BHD	-	Y	N/A
J	186m S	383451 397729	MANCHESTER CORP. DEANSGATE	10.67	N	1042210
I	188m NW	383303 398050	MANCHESTER CORP. F.SEWER	6.86	N	1042225
E	189m E	383650 397870	FESTIVAL MARKETPLACE TP 2/3	-	Y	N/A
19	191m SE	383630 397820	FESTIVAL MARKETPLACE TP 2/6	-	Y	N/A
H	193m S	383520 397730	FESTIVAL MARKETPLACE TP 1/6	-	Y	N/A
20	195m SE	383550 397740	FESTIVAL MARKETPLACE 1/6	-	Y	N/A
J	195m S	383460 397720	FESTIVAL MARKETPLACE 1/7	-	Y	N/A
21	200m N	383439 398152	ALLIED DAIRIES LTD HARDMAN STREET DEANSGATE	136.55	N	1042367
22	214m SE	383630 397780	FESTIVAL MARKETPLACE TP 2/7	-	Y	N/A
K	216m S	383490 397700	FESTIVAL MARKETPLACE TP 1/8	-	Y	N/A
23	218m SW	383330 397738	MANCHESTER CORP. E.SEWER	12.19	N	1042234
L	218m SE	383650 397800	FESTIVAL MARKETPLACE STG 2 BHC	-	Y	N/A
M	220m E	383671 397840	CENTRAL STATION	12.8	N	1042388
M	221m E	383680 397860	FESTIVAL MARKETPLACE 2/1	-	Y	N/A
N	221m W	383240 397980	CITY CENTRE - PHASE 2 31	11.04	N	1043529
24	221m S	383399 397703	MANCHESTER CORP. E.SEWER	12.5	N	1042233
M	224m E	383680 397850	FESTIVAL MARKETPLACE STG 2 BHB	-	Y	N/A
O	224m NE	383660 398080	LLOYD STREET/HARDMAN STREET SEWER REP SCHEME 2	6.5	N	13468597
N	227m W	383240 398000	QUAY STREET 2 MANCHESTER WS 1	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
P	228m NE	383630 398120	BRAZENNOSE ST MANCHEST' 5/5A	7.1	N	1042728
K	230m S	383510 397690	FESTIVAL MARKETPLACE 1/8	-	Y	N/A
N	231m W	383250 398040	QUAY STREET 2 MANCHESTER WS 6	-	Y	N/A
M	232m E	383680 397830	FESTIVAL MARKETPLACE TP 2/4	-	Y	N/A
P	232m NE	383610 398140	BRAZENNOSE STREET 1	5.85	N	1045716
L	232m SE	383660 397790	FESTIVAL MARKETPLACE 2/3	-	Y	N/A
N	234m W	383240 398020	QUAY STREET 2 MANCHESTER 2	-	Y	N/A
N	235m NW	383250 398050	QUAY STREET 2 MANCHESTER 3	-	Y	N/A
Q	235m NW	383280 398100	GARTSIDE STREET MANCHESTER 1	-	Y	N/A
R	236m S	383440 397680	FESTIVAL MARKETPLACE TP 3/1	-	Y	N/A
R	237m S	383430 397680	CITY CENTRE - PHASE 2 29	12.5	N	1043527
25	240m SW	383271 397761	MANCHESTER CORP. E.SEWER	11.28	N	1042235
N	241m W	383240 398040	QUAY STREET 2 MANCHESTER WS 7	-	Y	N/A
Q	241m NW	383300 398130	GARTSIDE STREET MANCHESTER 4	-	Y	N/A
Q	241m NW	383290 398120	GARTSIDE STREET MANCHESTER 3	-	Y	N/A
N	243m W	383230 398020	QUAY STREET 2 MANCHESTER WS 2	-	Y	N/A
Q	243m NW	383270 398100	GARTSIDE STREET MANCHESTER 2	-	Y	N/A
P	244m NE	383630 398140	BRAZENNOSE STREET 2	6.65	N	1045717
O	244m NE	383670 398100	BRAZENNOSE ST MANCHESTER 6	7.7	N	1042729
26	245m E	383720 397980	BOOTH STREET SEWER RENEWAL SCHEME 3	-	Y	N/A
S	245m W	383213 397868	Museum Of Science & Industry, Manchester WS5	-	Y	N/A
S	246m W	383210 397875	Museum Of Science & Industry, Manchester TP2	-	Y	N/A
N	247m W	383230 398030	QUAY STREET 2 MANCHESTER WS 4	-	Y	N/A
S	247m W	383212 397862	Museum Of Science & Industry, Manchester WS6	-	Y	N/A

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	1

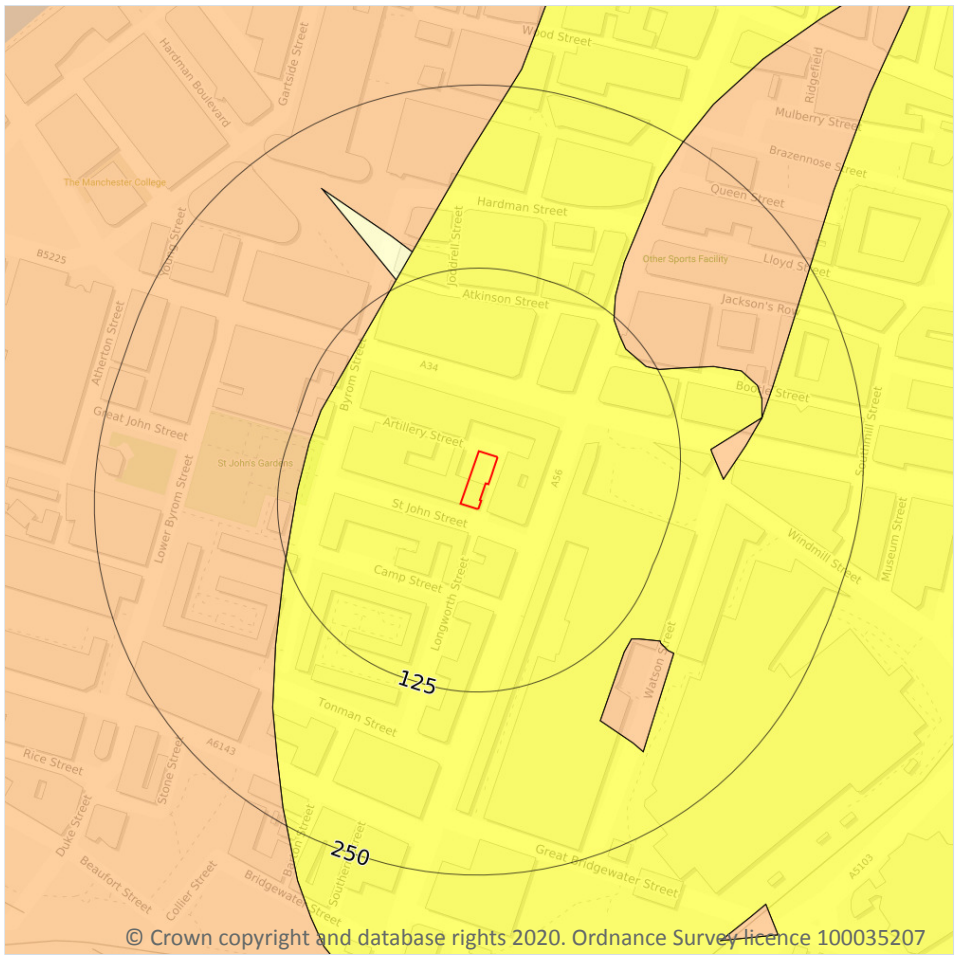
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 123**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

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

17.2 Running sands

Records within 50m	1

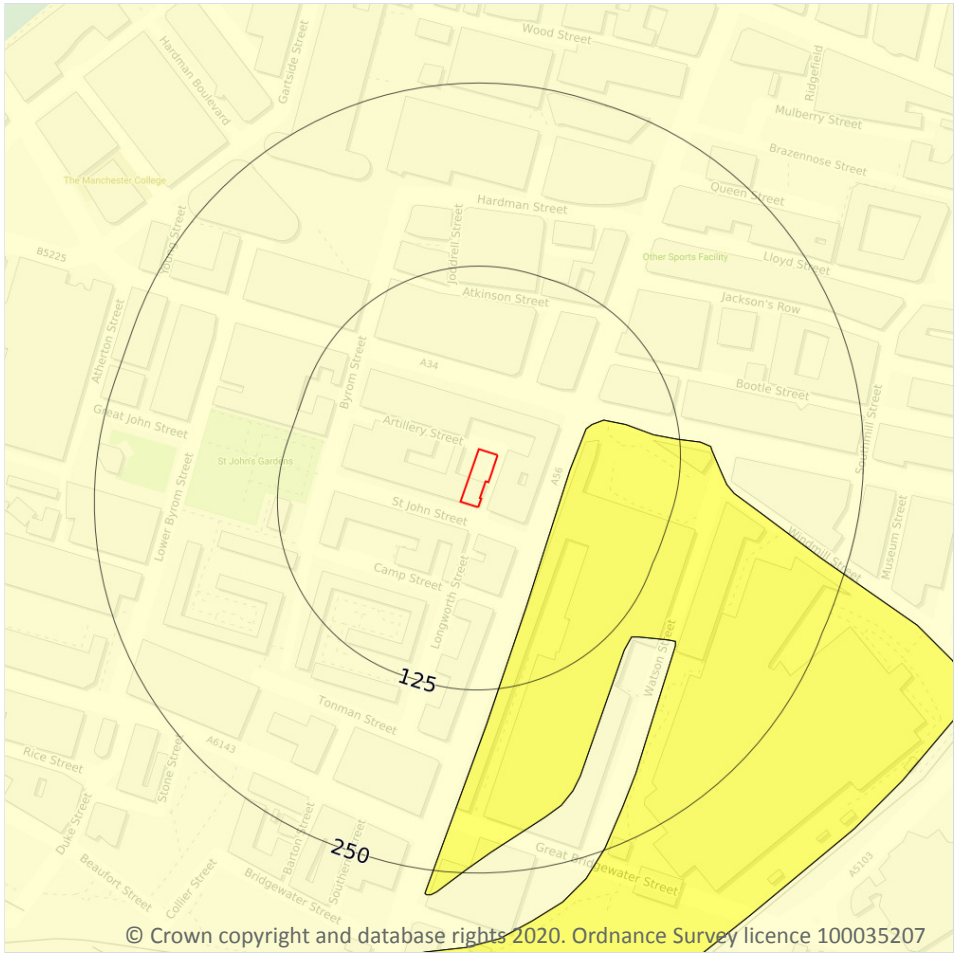
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 124**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



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Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

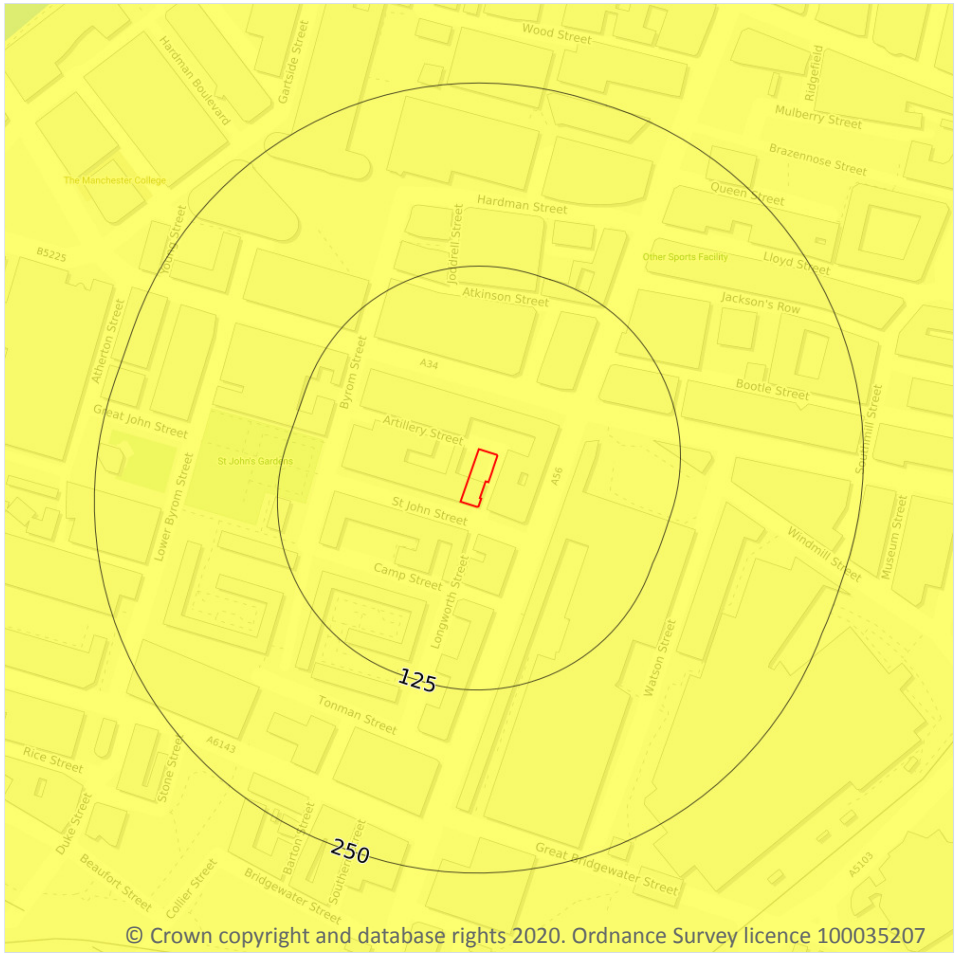
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 125**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

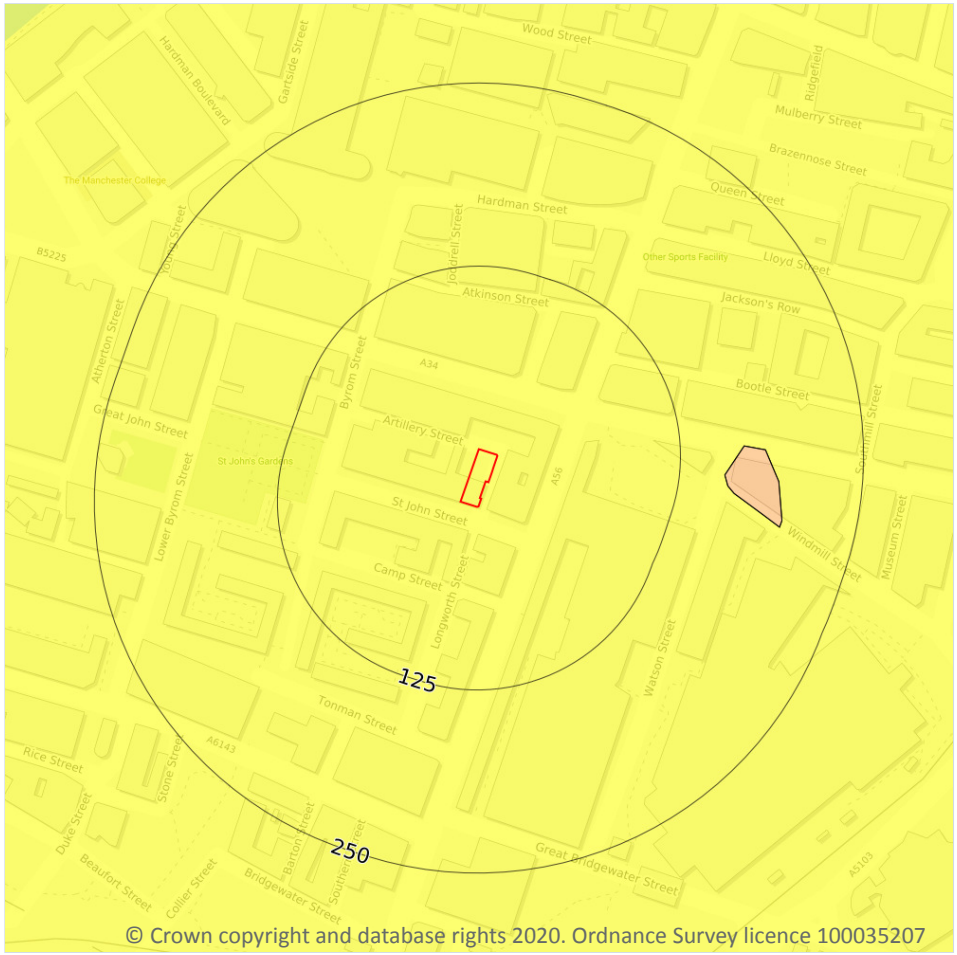
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 126**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

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

17.5 Landslides

Records within 50m	1

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

Features are displayed on the Natural ground subsidence - Landslides map on **page 127**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 128**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities

18.1 Natural cavities

Records within 500m	0

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

This data is sourced from Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	0

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

This data is sourced from Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site	1

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

Location	Details
On site	**In addition to being located inside an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property which may supplement this information. Further details and a quote for services can be obtained by emailing this report to enquiries.gs@jpb.co.uk.**

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	1

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

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

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

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

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

18.13 Clay mining

Records on site	0

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

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

19 Radon



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 133**

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

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m	6

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

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 - 200 mg/kg**	**60 - 120 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**30 - 45 mg/kg**
16m NE	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
23m SE	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
23m E	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
46m NW	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
46m N	25 - 35 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m	5

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	**19**	**3.3**	**253**	**174**	**0.2**	**58**	**35**	**24**	**12**
15m S	18	3.2	461	317	0.2	55	34	23	12
23m E	18	3.2	67	46	0.4	59	30	23	6
39m SE	17	3	66	45	0.4	57	29	22	6
46m N	21	3.7	136	93	0.2	61	35	25	13

This data is sourced from the British Geological Survey.

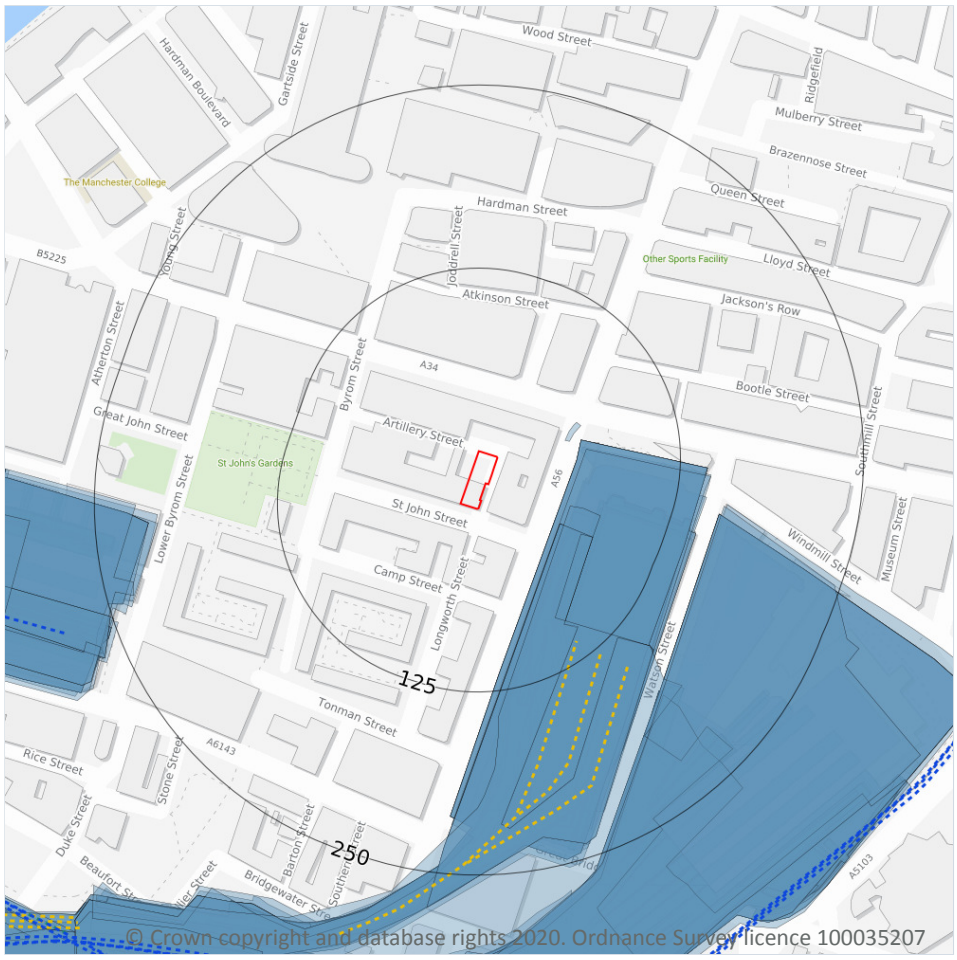
20.3 BGS Measured Urban Soil Chemistry

Records within 50m	**0**

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



Site Outline

Search buffers in metres (m)

- Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	51

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

Features are displayed on the Railway infrastructure and projects map on **page 136**

Location	Land Use	Year of mapping	Mapping scale
48m E	Railway Sidings	1891	500
51m E	Railway Sidings	1938	10560
51m E	Railway Sidings	1932	10560
51m E	Railway Sidings	1916	10560
51m E	Railway Sidings	1905	10560
55m E	Railway Sidings	1923	10560
56m SE	Railway Sidings	1971	10000
56m SE	Railway Sidings	1978	10000
56m SE	Railway Sidings	1985	10000
57m E	Railway	1922	-
58m E	Railway Sidings	1956	10560
61m E	Railway Sidings	1908	2500
61m E	Railway Sidings	1922	2500
61m E	Railway Sidings	1932	2500
61m E	Railway	1932	-
62m E	Railway	1933	-
64m E	Railway Sidings	1951	1250

Location	Land Use	Year of mapping	Mapping scale
64m E	Railway Sidings	1948	1250
64m E	Railway Sidings	1963	2500
64m E	Railway Sidings	1948	2500
64m E	Railway Sidings	1979	2500
80m E	Railway Sidings	1963	2500
89m SE	Railway Sidings	1973	1250
97m S	Railway Sidings	1948	1250
110m S	Railway Sidings	1955	-
117m S	Railway Sidings	1979	1250
148m SE	Railway Sidings	1973	1250
157m E	Railway Sidings	1896	10560
164m E	Railway Sidings	1891	500
175m SE	Railway Sidings	1893	2500
175m SE	Railway Sidings	1963	2500
177m SE	Railway Sidings	1951	1250
177m SE	Railway Sidings	1948	1250
187m S	Railway Sidings	1955	-
189m S	Railway Sidings	1979	1250
207m W	Railway Sidings	1896	10560
207m W	Railway Sidings	1916	10560
214m W	Railway Sidings	1938	10560
214m W	Railway Sidings	1932	10560
214m W	Railway Sidings	1905	10560
214m W	Railway Sidings	1923	10560
222m W	Railway Sidings	1956	10560
229m SE	Railway	1893	-
237m W	Railway Sidings	1948	2500
237m W	Railway Sidings	1979	2500

Location	Land Use	Year of mapping	Mapping scale
237m W	Railway Sidings	1955	-
238m W	Railway Sidings	1948	1250
238m W	Railway Sidings	1963	1250
238m W	Railway Sidings	1979	1250
238m W	Railway Sidings	1981	1250
244m W	Railway Sidings	1891	500

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	**0**

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	**3**

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

Features are displayed on the Railway infrastructure and projects map on **page 136**

Location	Description
113m SE	Dismantled
130m SE	Dismantled
149m SE	Dismantled

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0

Currently existing railway lines, including standard railways, narrow gauge, funicular, trams and light railways.

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0

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

This data is sourced from HS2 ltd.

Data providers

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

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BGS Archive Records

160

RECORD OF WELL (SHAFT OR BORE)

1" N.S. 85
6" S.

SJ 89 NW 20

At Allied Dairies Ltd. Hardman Street. Deansgate

Town or Village Manchester County Lancs. Six-inch quarter sheet 104 SW.

Exact site (A rough sketch-map or a tracing from a map is very desirable)

in parish of

Level of ground surface above sea-level (O.D.) + 93 ft. If well starts below ground surface, state how far ft.

Shaft ft., diameter ft. Bore 448 ft. Diameter of bore: at top ins.; at bottom ins.

Details of permanent lining tubes (internal diameters preferred)

Water struck at depths of (feet)

Rest-level of water giving 200,000 gallons per day. below top of well 60 ft. above feet. Suction at feet. Yield on hours' days' test (with pump of capacity g.p.h.); depressing water level to feet see card index

below top. Time of recovery hrs. Amount normally pumped daily g.p.h. for hours.

Quality (attach copy of analysis if available)

Sunk by T. Matthews for Mr. Date of well 1934.

Information from

(For Survey use only). GEOLOGICAL CLASSIFICATION.	NATURE OF STRATA (and any additional remarks).	THICKNESS Feet.	THICKNESS Inches.	DEPTH Feet.	DEPTH Inches.
	cellar floor 9 ft. below street level.				
	Gravel	8	-	8	-
	Red sandstone	122	-	130	-
	Red marl	6	-	136	-
	Sandy marl	3	6	139	6
	Marly sandstone	12	6	152	-
	Mottled marl	24	-	176	-
	Marly sandstone	10	-	186	-
	Sandstone	16	-	202	-
	Marl	10	6	212	6
	Marly sandstone	11	6	224	-
	Red sandstone	47	-	271	-
	Grey sandstone	12	-	283	-
	Red & grey sandstone	114	-	397	-
	Red & green mottled marls	51	-	448	-

No cores preserved.

Saw sample from 332 ft. of dark red & white fissured sandstone limy

Saw samples from 440 ft. of red & green mottled marl rough textured & purplish - on breaking samples yielded comparing with marly boring at Power Supply Station, Water St. (104 NW):-
The record may be interpreted as Bunter with marl partings to 397 ft. & fault into Ardwick Marls, or as
Bunter to 130 ft. (Fault in the first 100 ft.)
M/or marls to 224 ft.
Collyhurst to 397 ft.
Ardwick marls to 448 ft.

I am a bit doubtful about referring all the red & grey sst. (114 ft. to 397 ft). to the Collyhurst. The sample brought in (332 ft.) is most unlike Collyhurst and could well be one of grits of Ardwick Group cf. the grit proved in Salford Gas Works boring.

L.H.T.

GEOLOGICAL SURVEY AND MUSEUM, SOUTH KENSINGTON, LONDON, S.W.7.

For Survey use only

Date received	G.S.M. Office File No.	Site marked on 1" map (use symbol)

(*11815) Wt.29051/O.869 10,000 9/39 A.& E.W.Ltd. Gp.686

(B11867) W&S 17552—8154—5,000 12/26 Gp. 160. O.A.

4th G.S.M. Nos. 75-79

SJ 89NW 64-68

SECTION OF Sewer Shafts at Deansgate, Manchester

Maps; One-inch 85 Six-inch 1045 S.W.E County Lancs.

Height above O.D. Latitude Longitude

Communicated by Manchester Corporation Date of Sinking

Made by Dip of Strata

		Thickness.			Depth from Surface.		
		Metres			Metres		
No. 68 / 68	Deansgate: Corner of Lombard St.						
	Made ground.	3·66	12	–	3·66	12	–
	Sandstone	7·01	23	–	10·67	35	–
No. 76 / 67	02. Deansgate opposite Camp St. Corner.						
	Ballast & made ground.	2·13	7	–	2·13	7	–
	Sandstone.	11·28	37	–	13·41	44	–
No. 77 / 66	03. Deansgate, opposite St. John's Street corner.						
	Ballast & loose ground.	3·66	12	–	3·66	12	–
	Ballast & loose ground	4·27	14	–	7·93	26	–
	Sandstone.	5·18	17	–	13·11	43	–
No. 78 / 65	05. Deansgate, Jackson's Row Corner.						
	Ballast & loose ground	3·66	12	–	3·66	12	–
	Sandstone.	9·14	30	–	12·80	42	–
No. 79 / 64	07. Deansgate, Corner of John Dalton Street.						
	Made ground } Ballast & gravel }	3·35	11	–	3·35	11	–
	Gravel, sand, & marl.	3·05	10	–	6·40	21	–
	Sandstone	7·32	24	–	13·72	45	–

British Geological Survey

(621) Wt. 5990—S.33 2000 6/22 Gp. 147 M.R.Co.Ltd.

51 G.S.M. Nos. 58

SECTION OF Manchester — SJ 89 NW 81 84 (E. NW. Centre of Sheet) MANCHESTER.

Maps: One-inch 85 Six-inch 104 S.W.E. County Lancs.

Height above O.D. — Latitude — Longitude —

Communicated by Manchester Corporation City Engineer. Date of sinking —

Made by Contractor Resident Engineers Notes. Dip of Strata —

		Thickness.			Depth from Surface.		
No. 58 No. 1 **81**	Corner of Quay St. & Longworth St.						
	Gravel & sand.	0·91	3	—	091	3	—
	Red loam	2·44	8	—	3·35	11	—
	Grey loam.	4·12	13	6	7·47	24	6
	Blue clay	1·98	6	6	9·45	31	—
	Hard red marl.	1·37	4	6	1082	35	6
No. 59 No. 2. **82**	Corner of Byron St. & Quay St.						
	Filling	2·44	8	—	2·44	8	—
	Gravel & sand.	2·74	9	—	5·18	17	—
	Yellow loam.	1·22	4	—	6·40	21	—
	Red sand rock.	2·13	7	—	8·53	28	—
No. 60 **83**	No. 3. Corner of Quay St. & Lower Byron Street.						
	Filling	0·91	3	—	091	3	—
	Yellow marl	0·31	1	—	1·22	4	—
	Blue clay.	0·31	1	—	1·52	5	—
	Yellow clay	1·22	4	—	2·74	9	—
	Dark loam.	0·76	2	6	351	11	6
	Gravel & sand.	0·61	2	—	4·12	13	6
	Hard red sand rock.	2·74	9	—	6·82	22	6
No. 61 **84**	Corner of Quay St. & Atherton Street.						
	Filling	0·91	3	—	0·91	3	—
	Sand	1·83	6	—	2·74	9	—
	Red sand rock	2·74	9	—	5·49	18	—

Regional Bomb Risk Map

Zetica UXB Risk Maps

REGIONAL UNEXPLODED BOMB RISK

MANCHESTER

DENSITY OF BOMBS PER BOROUGH

Borough	High explosive	Anti-personnel	Incendiary
Bolton	45	0	0
Eccles	114	1	0
Manchester	712	18	7
Middleton	37	0	0
Oldham	25	1	0
Salford	406	29	16
Stretford	456	64	0
Swinton & Pendlebury	92	2	0
Urmston	122	5	0
Worsley	32	2	0

On average, 10% of high explosive and 50% of incendiary bombs failed to explode.

OTHER WWII TARGETS

- military
- transport
- utilities
- industry
- docks
- other

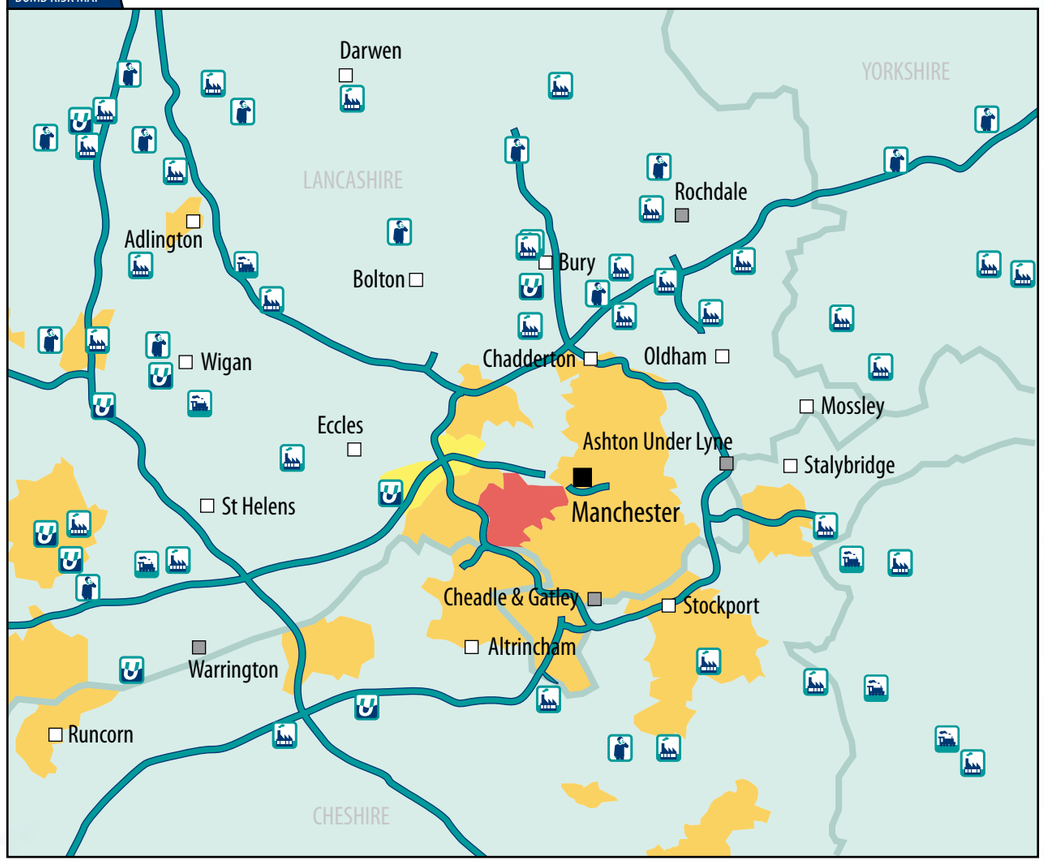
BOMB TONNAGE

- >1000
- >500
- >100
- >0
- unverified

BOMB RISK

- high
- moderate
- low

BOMB RISK MAP



The information in this regional UXB risk map is derived from a number of sources and should be read in conjunction with the "Users' Guide" (printed overleaf). Zetica cannot guarantee the accuracy or completeness of the information or data.

This map covers regions of coast with beaches, estuaries and alike. Further consideration of the bomb risk is required in these areas. The often inaccessible nature and changing ground conditions (e.g. movement of silt that may contain ordnance) means that historical bombing records for these areas are often poor or inaccurate and further assessment of the bomb risk may be required as part of a site specific study.

A FOUR-STEP PROCESS

Risk assessment and method statement from a qualified explosive ordnance clearance (EOC) operative.

Surface geophysical survey to allow shallow groundwork.

MAGCONE detects UXBs and obstructions on piling layout to the no-risk depth.

Detected UXBs can be dealt with by our EOC engineers and a Clearance Certificate issued for the site.

For more details on this and related services, telephone: +44 (0) 1993 886682 or visit our website: www.zetica.com

zetica

BOMB MAP USERS' GUIDE

Sources of information and explanation of bomb risk

Why?

Unexploded bombs (UXB) still present a risk to construction projects long after the end of the Second World War (WWII). UXBs often entered the ground unnoticed at high velocity and penetrated to a depth of several metres. Here they remain – vulnerable to disturbances from construction work. Beyond the depth of shallow excavation work, the greatest risk is to piling, drilling and probing crews. A piling rig could repeatedly hit a UXBs with considerable force before the crew realises an obstruction has been impacted. It could then be up to 72 hours before the detonator activates.

Who?

The responsibility for avoiding UXB risk usually lies with construction companies or house builders particularly those who are redeveloping urban sites. In addition, project engineering or environmental consultants are expected to advise their clients of a site's history. Other interested parties include those organisations whose employees are physically at most risk from intrusive works, normally piling companies, drillers or probing operators.

How?

UXB risk should be assessed for every site, but especially those in known heavily bombed areas or those situated near war-time strategic installations that were priority targets for enemy aircraft, for example, airfields. Zetica's regional bomb risk map is therefore a first point of reference from which the relative, potential abundance of UXBs can be judged. Consultants then advise their clients that an ordnance-risk desk study is required, which they may obtain from external sources. Construction companies or house builders who assess their own risk could choose to come direct to Zetica.

When?

Do not wait for the piling or drilling company to be on site before thinking about UXB risk – it will inevitably cause delays and higher costs. Request the regional bomb risk map from Zetica as soon as a site is being considered, and then use it to help you or your clients to decide if an ordnance-risk desk study is required.

Where?

Maps can be obtained for any county in England, Scotland, Wales or Northern Ireland – or for any London borough. They can help determine the areas that were most heavily bombed – but no part of the country should be considered 100% safe from UXB risk. Even remote rural areas can have a high risk if, for example, they were locations for decoy airfields or beacons that were lit to fool enemy pilots into thinking they had located a burning city that had been successfully hit by others in the raid.

How to use this regional map

This map is designed to give you an indication of the potential risk from UXBs in your area. If you are conducting work that involves excavation, piling or other disturbance of the ground, then you should use the map to identify the category of risk for your site.

The risk boundaries are a guide, compiled from data based on the political areas for which records are held; being just outside a high-risk area does not mean there is no UXB risk. You should use the map to assist in your decision of whether to investigate the UXB risk further.

Information on the regional risk remaining from UXBs in the UK

Zetica has built the largest UXB database of its kind in the UK. It includes a unique digital library of bomb census data, and maps showing key strategic points and bombing densities from the First and Second World Wars. The main sources of information include records from central government (Public Records Office), the Ministry of Defence, and the German Luftwaffe.

Using information from this database, Zetica has published maps of UXB risk on a regional, county and borough scale. The maps indicate relative degrees of UXB risk based on available records for bombing densities and known targeted areas for regions within the UK. The risk is broken down into individual boroughs, towns or cities. The data are based on the historical boroughs and are then overlaid onto the modern map. It is important to note that more-detailed research may be required for individual sites, particularly where proximity to a potential WWII target means the local risk may be higher.

High risk

Areas designated as high risk are those that show a high density of bombing hits (50+ bombs per 1000 acres) and abundant potential WWII targets. In high-risk regions, further action to mitigate UXB risk is considered essential.

Moderate risk

Moderate-risk regions are those that show a bomb density of between 11 and 50 bombs per 1000 acres and that may contain potential WWII targets. Action to mitigate the risk is considered essential, albeit more likely that a reduced scope of work is required compared with that needed for high-risk regions.

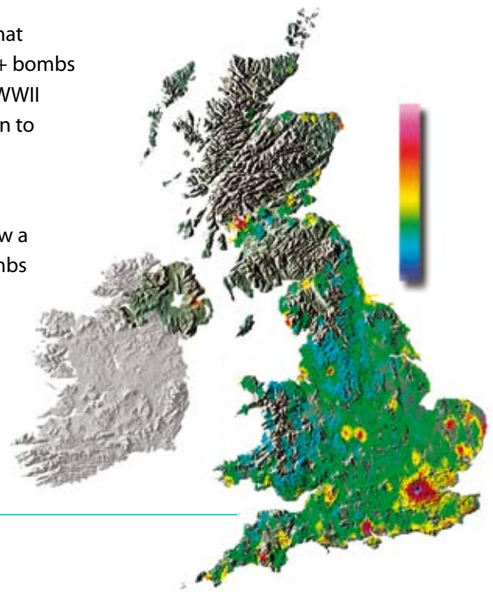
Low risk

Low-risk regions are those with a bombing density of up to 10 bombs per 1000 acres. These areas are considered to have a significant but low UXB risk. In general, further action to mitigate the risk is considered prudent, although not essential. Care is required when assessing the risk for specific sites where the risk may be higher because of local wartime activity.

Other WWII targets

Other regions with the risk of UXBs are key strategic points as defined by the government during WWII as representing potential enemy targets. Where these exist outside areas mapped as high, moderate or low risk, a site-specific assessment of the UXB risk may be required.

Relative UXB risk across UK



What to do if…

…you have a site that has a potential UXB risk

In the absence of current legislation requiring you to address the risk from UXBs, your responsibilities under health and safety legislation and regulations such as construction design and management require that you address all identified risks. The first stage is to request further advice from a professional adviser such as Zetica, or to gain more site-specific information by commissioning an ordnance-risk desk study. Then a strategy to deal with the risk can be established that is tailored to your proposed work.

…you find a suspect item or require advice

If during site works you find a suspect (ordnance-related) item, it is very important that you do not touch or move it (even if it has already been moved by an excavator). If it is clearly ordnance related, then dial 999 and ask for the police. Ensure that the area around the item is kept as clear as possible without placing yourself at risk. If you are unsure and do not wish to cause undue alarm, or you just require some advice, then you can call Zetica. We have experienced qualified UXB specialists on hand who can offer support and advice during any site works.

More-detailed procedures should be established in advance if you are in an area where the risk of finding a UXB is shown to be significant (moderate to high).

Site-specific desktop studies

Zetica is able to provide high-quality, site-specific UXB risk information for any residential, industrial or commercial property in the UK. These desktop studies provide details of the bombing density within an area and for the site itself, in order to indicate the risks of UXBs still being present. A risk assessment is provided to facilitate informed decision making on whether any further risk mitigation measures are required.

Preliminary UXO Desk Top Study

1st Line Defence Limited
Unit 3, Maple Park, Essex Road, Hoddesdon,
Herts, EN11 0EX
Tel: +44 (0)1992 245 020
E-mail: info@1stlinedefence.co.uk
Company No: 7717863
VAT No: 128 8833 79

www.1stlinedefence.co.uk

Express Preliminary UXO Risk Assessment

Client	Hydrock
Project	8- 8a St. John Street, Manchester
Site Address	8- 8a St. John Street, Manchester, M3 4DU
Report Reference	EP11635-00
Date	27/07/20
Originator	KH

Assessment Objective

This preliminary risk assessment is a qualitative screening exercise to assess the likely potential of encountering unexploded ordnance (UXO) at the 8- 8a St. John Street, Manchester site. The assessment involves the consideration of the basic factors that affect the potential for UXO to be present at a site as outlined in Stage One of the UXO risk management process.

Background

This assessment uses the sources of information available in-house to 1st Line Defence Ltd to enable the placement of a development site in context with events that may have led to the presence of German air-delivered or Allied military UXO. The report will identify any immediate necessity for risk mitigation or additional research in the form of a Detailed UXO Risk Assessment. It makes use of 1st Line Defence's extensive historical archives, library and unique geo-databases, as well as internet resources, and is researched and compiled by UXO specialists and graduate researchers.

The assessment directly follows CIRIA C681 guidelines "Unexploded Ordnance, a Guide for the Construction Industry". The document will therefore assess the following factors:

- Basic Site Data
- Previous Military Use
- Indicators of potential aerial delivered UXO threat
- Consideration of any Mitigating Factors
- Extent of Proposed Intrusive Works
- Any requirement for Further Work

It should be noted that the vast majority of construction sites in the UK will have a low or negligible risk of encountering UXO and should be able to be screened out at this preliminary stage. The report is meant as a common sense 'first step' in the UXO risk management process. The content of the report and conclusions drawn are based on basic, preliminary research using the information available to 1st Line Defence at the time this report was produced. It should be noted that the only way to entirely negate risk from UXO to a project would be to support the works proposed with appropriate UXO risk mitigation measures. It is rarely possible to state that there is absolutely 'no' risk from UXO to a project.

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Risk Assessment Considerations	
Site location and description/current use	The site is located in the City Centre of Manchester, situated at the junction of St John Street and Longworth Street. The site is bordered by these streets to south and east, respectively, with Artillery Street running adjacent to the site's northern boundary. Residential housing and Byron Street rest west of the site. The site consists of a single multi- storey structure, utilised for commercial business facing St Johns Street, as well as an open area of hardstanding ground within the north of the site. This area includes some soft- ground in the form of several planters containing vegetation and trees forming a small courtyard.  The site is approximately centred on the OS grid reference: **SJ 83458 97922**.
Are there any indicators of current/historical military activity on/close to the site?	1st Line Defence could find no evidence of any current or former military activity within or in the immediate vicinity of the site.
What was the pre- and post-WWII history of the site?	Prior to WWII, the site appears to have consisted of several structures, likely residential in nature. Residential structures were also situated to the west of the site. *Artillery Street* was situated to the north of the site and *St John Street* was situated south of the site. Post- war mapping shows no changes within the site boundary and minimal changes to the surrounding area. Structures just east of the site, across *Longworth Road* appear to have been cleared and replaced by one larger structure named *St John Street Chambers*. However, no other significant changes appeared to have occurred around the site following the war.
Was the area subject to bombing during WWII?	During WWII, the site was situated within the County Borough of Manchester, which sustained an overall low density of bombing according to official Home Office Bombing Statistics with an average of 27.1 items of ordnance recorded per 1,000 acres. This consisted of 712 high explosive bombs, 18 parachute mines, 7 oil bombs and one V-1 flying bomb, culminating in 738 incidents over 27,321 acres. No evidence could be found to suggest that the site suffered any direct strikes from bombing during WWII. Several incidents are recorded in the vicinity of the site, all indicated as "fire bombs" on Manchester bomb mapping. This included one fire bomb atop a Church House just east of the site, across *Longworth Road*. Another was recorded just north of the site, across *Artillery Street*. No HE bombs were recorded in the immediate vicinity of the site.

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Is there any evidence of bomb damage on/close to the site?	Low-resolution aerial photography of the site indicates that the structures on site appeared to survive the war externally intact. In addition, no indications of bomb damage were evident on site when comparing pre-and post-WWII OS mapping – no structures on site were cleared or labelled as 'ruin' – both of which are often indicative of bomb damage.
To what degree would the site have been subject to access?	Given that the site was occupied by apparently undamaged residential structures during the war, it is thought likely that the structures on site would have been regularly accessed. In addition, the site was bordered by roadways to the immediate north, east and south, increasing the general level of observation on site.
To what degree has the site been developed post-WWII?	OS mapping indicates the wartime structures on- site to have remained unchanged until the late 1950's, when structures adjacent the sites northern boundary were removed, with small structures or a courtyard apparently constructed in their place by the 1970's. At the southern end of the site, structures identified as units 8 and 8a appear unchanged from their wartime state.
What is the nature and extent of the intrusive works proposed?	The nature and extent of works proposed was not available at the time of writing.

Summary and Conclusions

During WWII, the site was situated in the County Borough of Manchester, which sustained an overall low bombing density according to Home Office Bombing Statistics. No bombs were recorded directly on site during the war. However, several 'fire bombs' are recorded in close proximity to the site, including one just east of the site across *Longworth Road*. The site does not appear to have been damaged during the war when comparing pre- and post-WWII OS mapping – no structures on site were labelled as 'ruin' or cleared. Structures to the east of the site appear to have been cleared and replaced by a larger structure following the war, which may have been a consequence of the 'fire bomb' recorded here.

As the site was occupied by residential housing and bordered by three roadways, it is anticipated that the site would have been frequently accessed during the war, increasing the likelihood that items of UXO would have been spotted and reported.

Recommendations

Based on the lack of bombing recorded on site and the minimal extent of damage recorded to structures in the immediate site area, the risk from UXO is not considered to be significantly higher than the 'background risk' of finding UXO within this area of the United Kingdom. Whilst it would be possible to conduct a Detailed UXO Risk Assessment, it is not anticipated that any further findings would significantly alter the risk of encountering unexploded ordnance within the site. It is therefore recommended that **no further action** is taken.

If the client has any anecdotal or empirical evidence of UXO risk on site, please contact 1st Line Defence.

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It should be noted that although the risk from unexploded ordnance on this site has been assessed as low/minimal, this does not mean there is 'no' risk of encountering UXO. This preliminary report has been undertaken with due diligence, and all reasonable care has been taken to access and analyse relevant historical information. By necessity, when dealing historical evidence, and when making assessments of UXO risk, various assumptions have to be made which we have discussed and justified within this report. Our reports take a common-sense and practical approach to the assessment of UXO risk, and we strive to be reasonable and pragmatic in our conclusions. As referenced, it would be possible to undertake further research into this site, but based on the evidence to hand, this is not deemed strictly necessary, and no reasonably justifiable requirement for proactive on-site mitigation has been identified.

It should however be stressed that if any suspect items are encountered during the proposed works, 1st Line Defence should be contacted for advice/assistance, and to re-assess the risk as necessary. Furthermore, we would recommend that ground personnel are always made aware of the potential for encountering UXO, what to look out for and what to do in the unlikely event that a suspect item is encountered, and that a UXO Risk Management Plan is put together for the proposed works. We would be happy to provide a template and guidance for this – contact us on 01992 245020. Should the scope of works change or additional works be proposed, 1st Line Defence should be contacted to re-evaluate the risk.

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Appendix D

Preliminary Geotechnical Risk Register

Geotechnical Hazard Identification – Desk Study Stage

Potential geotechnical hazards have been assessed in accordance with the general requirements of ICE/DETR Document 'Managing Geotechnical Risk' and the HE documents HD 41/15 and CD 622. The following pages set out the identified geotechnical risks and hazards which are associated with the proposed development and establish the approach which is to be taken to manage the risks including the geotechnical input and analysis.

Table E.1 is a preliminary assessment of possible geotechnical hazards at the site at Desk Study stage. This information is used to assist with site investigation design.

Table E.1: Possible geotechnical hazards

Hazard	Comment	Hazard status based on desk study	
		Could be present and / or affect site (i.e. Plausible)	Unlikely to be present and/or affect site
Uncontrolled Made Ground (variable strength and compressibility).	Potential for dee Made ground associated with former properties	✓	-
Soft / loose compressible ground (low strength and high settlement potential).	Within the sand and gravels of the glaciofluvial sheet deposits	✓	-
Shrink swell of the clay fraction of soils under the influence of vegetation.	If present within the glaciofluvial sheet deposits	✓	-
Variable lateral and vertical changes in ground conditions.	Unlikely due to the size of the site	-	✓
High sulphates present in the soils.	Within the Made Ground	✓	-
Adverse chemical ground conditions, (e.g. expansive slag).	Unlikely to be high percentage of slag within the Made ground	-	✓
Obstructions.	From previous housing	✓	-
Existing below ground structures to remain (on or off- foundations and basements).	Foundation of onsite building possible basements in off-site buildings.	✓	-
Shallow groundwater.	Within the sands and gravels.	✓	-
Changing groundwater conditions.	Unlikely to be fast recharge rates in an urban area covered by hardstanding.	✓	-
Risk from erosion.	Due to distance to rivers.	-	✓
Risk from flooding.	Flood Zone 1.	-	✓
Running sands and / or loose Made Ground, leading to difficulty with excavation and collapse of side walls.	Within Made Ground and Glaciofluvial Sheet Deposits.	✓	-
Slope stability issues – general slopes.	No slopes present.	-	✓
Slope stability issues – retaining walls.	No slopes present.	-	✓
Earthworks – settlement (due to placement of fill on soft / loose ground).	Site is flat.	-	✓

Hazard	Comment	Hazard status based on desk study	
		Could be present and / or affect site (i.e. Plausible)	Unlikely to be present and/or affect site
Earthworks – poor bearing capacity of new fill.	Site is flat.	-	✓
Earthworks – unsuitability of site won material to be reused as fill.	Site is flat.	-	✓
Solution features in Chalk.	No present,	-	✓
Cavities in the Superficial Deposits due to solution features.	No risk.	-	✓
Dissolution (associated with “wet rock head”).	No risk.	-	✓
Brine extraction.	No risk.	-	✓
Mining.	Proven >130m of Chester Pebble Beds under the site and surrounding area.	-	✓
Cambered ground with gulls possibly present.	No risk.	-	✓
Relict Slip Surfaces.	No risk.	-	✓
Solifluction.	No risk.	-	✓
Problematic soils (silts and rewetting etc.).	No risk.	-	✓

Appendix E

Plausible Source-Pathway-Receptor Contaminant Linkages

Summary of Potential Contaminant Linkages

Table F.2 lists the plausible contaminant linkages which have been identified. These are considered as potentially unacceptable risks in line with guidelines published in CLR 11 and additional risk assessment is required.

Source – Pathway – Receptor Linkages have been assessed in general accordance with guidance in CIRIA Report C552 (Rudland et al 2001) but with the addition of a 'no linkage' category (See Table F.1). More details are given in the relevant Hydrock methodology, referenced in Appendix F, including descriptions of typical examples of probability and consequences.

It should be noted that whilst the risk assessment process undertaken in this report may identify potential risks to site demolition and redevelopment workers, consideration of occupational health and safety issues is beyond the scope of this report and need to be considered separately in the Construction Phase Health and Safety Plan.

Table F.1: Consequence versus probability assessment.

		Consequence			
Probability		Severe	Medium	Mild	Minor
	High Likelihood	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Low risk	Very low risk
	Low Likelihood	Moderate risk	Low risk	Low risk	Very low risk
	Unlikely	Low risk	Very low risk	Very low risk	Very low risk
	No Linkage	No risk			

Table F.2: Exposure model – preliminary risk assessment of source-pathway-receptor contaminant linkages

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments
Made Ground, associated with historic onsite housing including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials and PAH (S01)	Ingestion, inhalation or direct contact.	Site users.	Likely	Medium	Moderate	Made Ground is anticipated to be present across the site, in particular in the north east and centre, where former housing was present. If these former houses contained basements, which were backfilled there is the potential for deep Made Ground. The depth of the Made Ground requires further ground investigation and chemical testing to assess the risk posed to site end users. During the ground investigation samples will need to be collected of any suspected asbestos containing materials and also the soils will need to be analysed for non-visible loose fibres.
		Neighbours	Low likelihood	Medium	Low	
	Leaching through unsaturated zone.	Groundwater.	Likely	Medium	Moderate	There is potential for leaching of water through the brick-built planters into the underlying Made Ground. The site is underlain by a Secondary A aquifer, which is likely in vertical hydraulic continuity with the principal aquifer. Testing will be required to confirm the concentration of leachable contaminants within the Made Ground.
	Base flow from contaminated groundwater.	Surface water and possible abstractors.	Low likelihood	Medium	Low	Due to the distance between the subject site and the abstraction well (336m) and the likely low concentrations of leachable contaminants in the Made Ground, there will be dilution of contaminants within the groundwater to levels that will not pose a risk to the abstraction well. As the nearest surface water course is culverted any leachable contaminants if present from the site will not be able to mix with the water. Testing will be required to confirm concertation of leachable contaminants within the Made Ground.
	Direct Contact	Water Supply Pipe	Low likelihood	Medium	Low	Organic contaminants can degrade plastic pipes. Samples to be collected from depth of proposed pipework to confirm suitability for standard plastic pipework.

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments
Asbestos fibres from insulation or asbestos-containing materials in the buildings. (S02)	Fugitive dust.	On Site	Likely	Severe	High	Asbestos is likely to be present in the existing building and this will require removal prior to renovation. An Asbestos survey will need to be undertaken to confirm the presence/absence of ACM within the current building. Careful removal will be required prior to refurbishment. Removal under controlled conditions should limit the release of any fibres present to the air and the ground.
		Neighbours.	Unlikely	Severe	Low	
Ground gases (carbon dioxide and methane) from organic materials in the Made Ground onsite or possible deep Made Ground in the recorded Artificial Ground 50m east of the site. (S03 and S05)	Migration, build up and asphyxiation.	Site users.	Medium to Severe	Moderate to High	Moderate to High	Ground gas monitoring is recommended for the site as Made Ground is likely to be present across the site, associated with the former demolished buildings. Organic materials may be present, which have the potential to generate ground gases. Due to the permeable sand and gravel in the surrounding area there is potential for horizontal movement of ground gas generated from the artificial ground 50m east to the site. Due to the size of the former good stations formerly 50m east Made Ground at this location could be deep.
		Neighbours.	Medium	Moderate	Moderate	
	Migration, build up and explosion.	Site users.	Unlikely	Medium to Severe	Very low to Low	
		Neighbours.				
		Buildings on site.				
		Buildings on adjacent sites.				

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments
Petroleum hydrocarbons and VOC associated uncontrolled spills or leaking from former ASTs or USTs on the timber yard 20m south of the site. (S04)	Leaching through unsaturated zone.	Groundwater.	Low likelihood	Medium	Low	Due to the permeability of sand and gravels there is a possibility for a vertical pathway for spillages of fuels or solvents to reach the principal aquifer in the bedrock. However due to the likelihood for aerobic conditions within the sand and gravels and potential age of any dissolved or light non-aqueous phase liquids pre 1950s, natural attenuation will likely have been degraded any present contaminants to lower concentrations. The ground investigation will ensure no shallow entrained petroleum hydrocarbon are present below the site. Testing will be undertaken within the Glaciofluvial Sheet Deposits to ensure there are no elevated concentrations of petroleum hydrocarbon or chlorinated solvents. Ground gas monitoring will be undertaken to ensure no gas production is occurring. From degrading hydrocarbons.
	Vapours	Site users.				

Appendix F

Hydrock Methodologies

This appendix provides additional background information on certain approaches and methods used by Hydrock Consultants Limited in the preparation of this report.

The following Hydrock Methodologies apply to this report. These are not included, but are available on request by quoting the methodology reference, revision and date.

Reference	Name	Revision	Date
001	Desk Study	001	30/07/2018