



8-8a St John Street

Ground Conditions Desk Study Report

For Vision Developments

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Executive summary

Site information and setting	
Objectives	Ground Conditions Desk Study Report.
Client	Vision Developments.
Site name and location	8-8a St John Street, Manchester, M3 4DU.
Proposed development	Hydrock understands that the proposed development is to comprise a two-storey residential dwelling in the north with a private garden in the centre. The remainder of the centre of the site will be a shared landscaped area for users of 8-8a St John Street. The development will also include the refurbishment of the grade II listed buildings in the south. 8-8a St John Street will be refurbished for residential use with a three-storey extension onto the north west of the property.
Site description	The site is flat and rectangular in shape. The centre and north are block paved and includes raised planters. In the south of the site there are two three properties, No. 8 is mid terraced and No. 8a is an end terrace with a basement accessed via Longworth Street, it is assumed No 8 also has a basement, both are understood to be occupied by office space.
Desk study summary	
Topography	The site is relatively flat.
Hydrology	There are no surface water courses within 250m of the site boundary.
Site History	<ul style="list-style-type: none"> » In 1851 nine houses are recorded across most of the site numbers 8 and 8a St John Street and No. 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 No. 6 and 8 (Longworth Street) are no longer recorded, in 1962 houses No. 10, 12 and 14 are no longer recorded and from 1980 No. 16 is no longer recorded. » From 1985 the site remains in its current configuration with 8 and 8a St John Street in the south of the site and six brick-built planters in the centre and north.
Geology	The geology at the site consists of Glaciofluvial Sheet Deposits likely extending to between 4m and 5m deep, overlying the Chester Formation (up to 130m in thickness).
Natural geological hazards	<p>Shallow cohesive deposits may be subject to shrink or swell if trees are removed/planted.</p> <p>Historical boreholes appear to show no shallow groundwater within the Glaciofluvial Sheet Deposits, therefore the risk of running sands is anticipated to be low.</p> <p>Granular Glaciofluvial Sheet Deposits may be loose in density, trenches remaining open for a period of time may be subject to collapse and therefore trench support may be necessary</p>
Anthropomorphic geotechnical hazards	<p>Made Ground is likely to be present on the site associated with the former terraced houses, and these may have included basement which have been backfilled.</p> <p>The Made Ground may also contain elevated sulphates.</p> <p>There is an existing basement which may span both 8 and 8a St John Street. New foundations associated with the extension of No 8 have the possibility to pose lateral pressures which could damage the walls of the existing basement. It may be that foundations of the new extension need to found below the basement to avoid exerting lateral pressures.</p>
Hydrogeology	<p>The superficial deposits comprise a Secondary A aquifer and the Chester Formation is a Principal Aquifer.</p> <p>The site is not within a groundwater Source Protection Zone and there are no potable groundwater abstractions within 1km of the site.</p>
Radon	The site and surrounding are not affected by radon.

UXO risk	The preliminary UXO risk assessment indicates a low bomb risk.		
Geotechnical Risks			
Preliminary Geotechnical Hazards	<p>The following plausible geotechnical risks are identified:</p> <ul style="list-style-type: none">» 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.» Loose Made Ground and shallow groundwater, leading to difficulty with excavation due to trench instability.» Existing basement, possible lateral pressure exerted on the basement by foundations of the proposed extension.» 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 conceptual site model based on desk study			
Preliminary Geo-environmental Conclusions	<ul style="list-style-type: none">» 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, but this would need to be confirmed by appropriate intrusive investigation, testing and assessment of the results of the investigation.		
	Source(s)	◀ potential Impact on ▶	Receptor(s)
	Made Ground, associated with associated with former housing including elevated concentrations of metals, metalloids, petroleum hydrocarbons, asbestos fibres, Asbestos Containing Materials and PAH (S01).		Site users Groundwater
	Asbestos within existing buildings (S02).		Site users
	Ground gases (carbon dioxide and methane) from deep Made Ground associated with former terraced houses possibly including backfilled basements (S03).		Site Users Buildings
Future considerations			
Recommendations	<p>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:</p> <ul style="list-style-type: none">» 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).		

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 June 2024, Hydrock Consultants Limited (Hydrock) was commissioned by Vision Developments (the Client) to undertake a Ground Conditions Desk Study Report at 8-8a St John Street. The site is located at 8-8a St John Street, Manchester, M3 4DU.

The site is flat and rectangular in shape. The centre and north are block paved and includes raised planters. In the south of the site there are two three properties, No. 8 is mid terraced and No. 8a is an end terrace with a basement accessed via Longworth Street, it is assumed No 8 also has a basement, both are understood to be occupied by office space.

Hydrock understands that the proposed development is to comprise a two-storey residential dwelling in the north with a private garden in the centre. The remainder of the centre of the site will be a shared landscaped area for users of 8-8a St John Street. The development will also include the refurbishment of the grade II listed buildings in the south. 8-8a St John Street will be refurbished for residential use with a three-storey extension onto the north west of the property.

The proposed site plan is shown on Tim Groom Architects Drawing, referenced 1084-TGA-ZZ-ZZ-DR-A-95201_PO3 presented in Appendix A.

The investigation works have been undertaken in accordance with Hydrock's proposal referenced (16488-GNST-FP-GE-0001, Dated May 30th 2024) and the Client's instructions to proceed (via email dated 4th June 2024).

1.2 Objectives

The works have been commissioned to support the planning application.

The objectives of the Phase 1 Desk Study are to formulate a preliminary Ground Model and an Initial Conceptual Site Model of the site to identify and make a preliminary assessment of any potential 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 any; 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 any; flooding warning areas, local landfills, pollution incidents, abstractions, environmental permits etc. All of 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;
 - » preliminary UXO risk assessment;
 - » the Coal Authority's Interactive Viewer;
- » development of a preliminary Ground Model representing ground conditions at the site;

- » development of an initial Conceptual Site Model (iCSM), including identification of potential contaminant linkages;
- » a qualitative assessment of any geo-environmental risks identified; and
- » identification of any plausible geotechnical hazards.

1.4 Available information

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

- » Tim Groom Architects. 6th January 2025. 'Proposed Site Plan, St John Street, Manchester', Ref: 1084-TGA-ZZ-ZZ-DR-A-95201_P03.

It is understood that the Client has obtained assignment of the above documents and Hydrock has assumed full reliance can be placed upon their contents. Should this not be the case, Hydrock should be informed at the earliest opportunity.

1.5 Regulatory context and guidance

The methods used follow a risk-based approach, the first stage of which is a Phase 1 desk study and field reconnaissance, with any potential geo-environmental risks assessed qualitatively. This is done using the 'source-pathway-receptor contaminant linkage' concept to assess risk as introduced in the Environmental Protection Act 1990 (EPA, 1990). Any potential geotechnical risks are also assessed from the Phase 1 desk study and site reconnaissance stage.

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

2. 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 D and include:

- » Third-party environmental report (Groundsure report, reference HYD-3C6-F91-ZV2-73I);
- » Historical Ordnance Survey mapping;
- » BGS Archive Records;
- » Zetica UXB Risk Maps (<https://zeticauxo.com/downloads-and-resources/risk-maps/>);
- » Preliminary UXO Desk Top Study (Reference EP11635-00); and
- » Coal Authority's Interactive Viewer (<http://mapapps2.bgs.ac.uk/coalauthority/home.html>).

2.2 Site referencing

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
(Reproduced with permission from Groundsure)

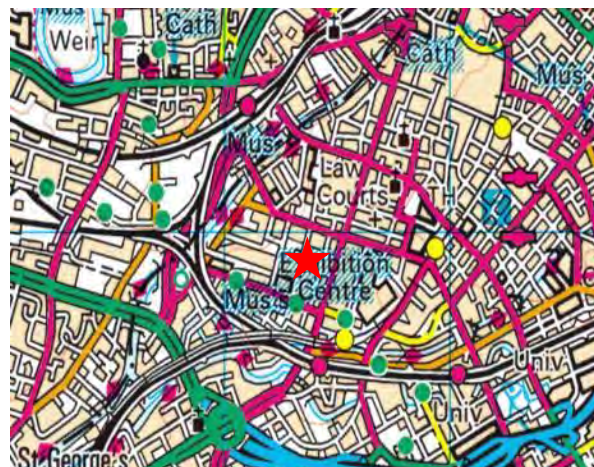


Figure 2.2: Extract from the Ordnance Survey Map.
(OS licence AC0000817865).

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 description of the site is presented in Table 2.2 and selected photographs from the walkover are presented in Figure 2.3 to Figure 2.6. Additional photographs are presented in Appendix B.

Table 2.2: Site description

Item	Brief Description
Site access	8-8a St John Street are accessed through doors off St John Street. The north east is accessed via a metal gate present on Artillery Street.

Item	Brief Description
Site area	The site is rectangular in shape and has an area of approximately 0.05ha.
Elevation.	The site and surrounding area are relatively flat.
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 of the site is Artillery Street which beyond is a car park and further offices.
Present land use and vegetation	The north 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 of the site is block paved between the raised planters. In the south of the site there are two, three storey brick built terraced properties, No 8 is mid terrace and No8a is the end of the terraced row. No. 8a have a basement accessed via Longworth Street and it is assumed that No. 8 also has a basement. Both properties are occupied by offices.
General site sensitivity	The site is within an urban area situated in Spinningfields south west of Manchester City Centre. Both 8 and 8a St John Street are classified as Grade II listed building. Properties also listed on St John Street include No.10 and No. 12-16. St John Street as being classified as a Manchester district conversation area since 1970.

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



Figure 2.3: Longworth Street and access to basement on east of No. 8a.



Figure 2.4: Looking towards 8-8a St John Street.



Figure 2.5: Facing towards access to the north of the site.



Figure 2.6: Raised planters and blocked paving.

2.4 Site history

A study of historical Ordnance Survey maps (Appendix D) 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 1:1,056; OS Map 1891 1:500; OS Maps 1848-1896 1:10,560	Nine buildings are shown across the majority of the site. The buildings are likely residential, 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 adjoined out buildings are recorded on the western boundary, assumed to be used for storage.	Fustian Stiffening Works is recorded 60m north west. Unnamed building 10m north. A Timber Yard is shown 20m south west with an associated unspecified tank 25m south west. A Timber Yard is present 70m 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. A tramway is shown 50m east. In 1891 two further Timber Yard shown at 20m and 40m north west of the site. Alport Brass works is shown 95m south west. The Royal Eye Hospital is 70m west.
OS Maps 1908-1949 1:2, 500; OS Map 1948 1:1, 250; OS Maps 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 Goods 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 Yards to the north west are 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 490m south.
OS Maps 1951 - 1955 1:1, 250; OS Map 1957 1:2,500; OS Map 1956 1:10, 560	Property numbers 6 and 8 (Longworth Street) are no longer recorded and likely demolished. The north 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 and Manchester & Salford Hospital for Skin Disease are shown 10m north. Warehouse 20m south west is recorded as Autofax House. In 1956 the hospital is recorded 7m north.
OS Map 1963 1:1,250;	Property numbers 10, 12 and 14 are no longer recorded and demolished. Only 8-8a and 16 remain in the south. The centre and north are vacant and historical photographs suggest the area was used for parking.	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 Map 1973 1:1,250 OS Map 1972 1:10,000	No significant onsite change.	Printing works to the north are no longer recorded. Two garages recorded at 110m and 150m north respectively. In 1970 Deansgate Station is repurposed for a car

Reference	Key features on site	Key features off-site
		park and Good station and Central station >200m south east are recorded as disused.
OS Map 1985 1:1,250; OS Maps 1980-1988 1:10,000	Property 16 is no longer recorded and demolished. The site within wits current configuration with six raised brick-built planters in the centre and north. Properties 8 -8a remain in the south of the site	Oversea House and car park is shown 10m north in the location of the former hospital. The Good Station >200 south east is repurposed for a car park.
OS Map 2003 1:1,250; OS Maps 1994-2024 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 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 below:

Table 2.4: Geology

Ref. for Figures	Location	Stratigraphic Name	Description
Superficial Deposits (Figure 2.7)			
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 2.8)			
1	On site.	Chester 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
2	Offsite 30m 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

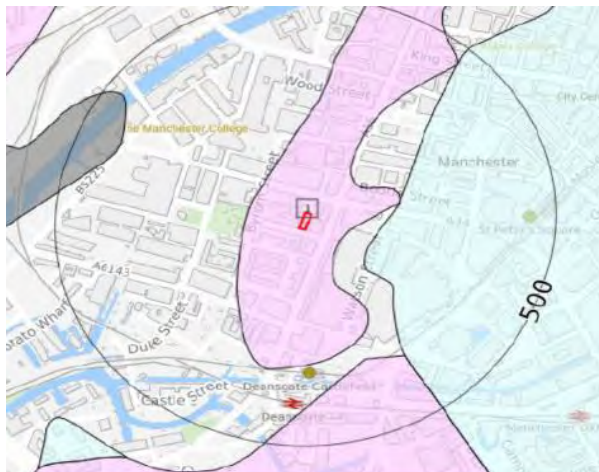


Figure 2.7: Superficial deposits.
(Reproduced with permission from Groundsure)



Figure 2.8: Solid geology.
(Reproduced with permission from Groundsure)

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.

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

- » SJ89NW66, located 40m 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 Formation); and
- » SJ89NW81, located 50m 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); and
 - » Blue clay becoming hard red marl between 7.47m and 10.82m bgl. (Manchester Marl Formation).

No records of groundwater is recorded 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.

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. The horizontal permeability will likely be similar to vertical permeability (i.e. $k_h > k_v$). Groundwater flow is likely to be variable and discontinuous as water migrates around low permeability areas.
Solid Geology		
Chester Formation	Principal Aquifer	Moderate to high porosity sandstone, moderate to 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 is one active licensed groundwater abstractions within 1000m of the site. Listed in Table 2.6. There are two historical abstractions at 270m and 320m west, groundwater abstracted for a heat pump and for non-evaporative cooling.

Table 2.6: Groundwater abstractions

Location relative to site	Purpose of abstraction
780m north	General cooling (owned by BT PLC)

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 280m south east of the site.



Figure 2.9: Abstractions and source protection zone locations (Reproduced from Groundsure)

2.6.4 Groundwater levels, recharge, and flow

Shallow groundwater may be present within the Glaciofluvial Sheet Deposits. Due to the intergranular nature of the Glaciofluvial Sheet Deposits there is a possibility of vertical connection between groundwater in the superficial deposits and groundwater in the Chester Formation.

Given that the site is predominantly hardstanding, infiltration of surface water through the unsaturated zone of the Made Ground and mobilisation of leachable contamination will be limited.

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 will either drain south towards the River Medlock or East towards the River Irwell. Given the proximity of the site to the River Medlock or Irwell of greater than 400m, shallow groundwater underlying the site is unlikely to be in direct hydraulic continuity with the surface water features.

The River Irwell is likely in direct hydraulic continuity with shallow groundwater in the Alluvium recorded 480m west. The River Medlock is likely to be in direct hydraulic continuity with shallow groundwater in the Glaciofluvial Sheet Deposits recorded 400m south.

2.6.5 Groundwater quality

The groundwater body beneath the site (Manchester and East Cheshire Perm-Triassic Sandstone Aquifers) is currently (2019 Cycle 3) 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 was for groundwater status to be 'good' by 2021.

2.6.6 Groundwater flooding

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

If shallow groundwater is present within the Glaciofluvial Sheet Deposits, the granular nature of these deposits could give rise to groundwater flooding following seasonal variation in groundwater.

2.7 Hydrology

2.7.1 Surface water system and drainage

There are no records of surface water features within 250m of the site boundary.

2.7.2 Surface water abstractions and discharges

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

There are seven active licensed surface water discharges within 1km of the site. They are listed in Table 2.7. As the site is unlikely to be in hydraulic continuity with the River Irwell or River Medlock and due to the distance between the site and the river, these discharges are unlikely to impact the subject site.

Table 2.7: Surface water discharges

Location Relative to Site	Discharge Detail
375m west	Trade discharge cooling water to the River Irwell
425m north	Trade discharge cooling water to the River Irwell
435m north	Sewage discharge (storm overflow) to the River Irwell
440m north west	Sewage discharge (storm overflow) to the River Irwell

Location Relative to Site	Discharge Detail
440m west	Trade discharge process effluent to the River Irwell
490m south	Sewage discharge (storm overflow) to the River Medlock
490m west	Sewage discharge (storm overflow) to the River Irwell

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 (2019 cycle 3) overall status under the Water Framework Directive is 'moderate'.

The water body is currently 'moderate' status due to Ammonia, Biochemical Oxygen Demand and Dissolved Oxygen. The objective is for Ammonia, Biochemical Oxygen Demand and Dissolved Oxygen is to be 'good' by 2027, however this is with low confidence due to expense.

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).

The risk from surface water flooding (pluvial flooding) is recorded a negligible on the site.

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 Mining and mineral extraction

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. The site is classed as a low risk development area with regards to past coal mining. There are no mine entries or underground workings recorded within 2km of the site boundary.

A borehole SJ89NW220 drilled 190m north west at 383439E and 398152N, proved bedrock of red grey locally marly sandstone between 2.43m to 136.55m bgl. The BGS map of Manchester indicates that at least 300m of the Sherwood Sandstone Group overlies the coal measures.

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

2.9 Natural ground instability

If shallow Cohesive deposits are 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.

Historical boreholes appear to show no shallow groundwater within the Glaciofluvial Sheet Deposits, therefore the risk of running sands is anticipated to be low.

If the granular Glaciofluvial Sheet Deposits are loose in density, trenches remaining open for a period of time may be subject to collapse and therefore trench support may be necessary.

2.10 Anthropogenic ground instability

Made Ground is likely to be present on the site associated with the former terraced houses, which may have included basement which have been backfilled. This represents a geotechnical risk due

to the presence of heterogeneous Made Ground. Foundations will need to be deepened to below the Made Ground.

The Made Ground may also contain elevated sulphates. As part of future ground investigation, the concentrations of sulphates within the Made Ground should be assessed to ensure concrete is suitably classified to avoid future degradation.

There is an existing basement which may span both 8 and 8a St John Street. New foundations associated with the extension of No 8 have the possibility to pose lateral pressures which could damage the walls of the existing basement.

It may be that foundations of the new extension need to found below the basement to avoid exerting lateral pressures. As the site is a Grade II listed building, prior to construction of the extension, discussions should be held with the relevant heritage parties and Manchester City Council.

2.11 Waste management

There are no current or historical landfill site recorded within 250m of the site. There was one historical waste recycling sites recorded within 250m of the site. The site was situated 200m north east and was used as a recycling storage facility.

There are seven waste exemptions within 250m of the site, at 80m west for sorting and denaturing of drugs, 120m south west for use of waste in construction, 150m north west for use of waste in construction and 205m north for storage of waste in a secure place. These waste exemptions are related to a small volume of potential contaminants and are unlikely to pose a risk to the site.

2.12 Regulatory Information

Information in the Groundsure Report (Appendix D), relating to various regulatory controls has been reviewed, with a summary presented below in Table 2.8.

Table 2.8: Regulatory information within 500m of the site

Regulatory Data	Distance from Site	Details	Potential Risk	Comment
Local Authority Pollution Prevention and Controls	345m south east	Part A (1) Manchester Heat Network Tradeco	No	Due to its proximity to the site. Located on a hydrogeological downgradient.
	440m north east	Permitted Dry Cleaning	No	Due to small volume of waste and distance from the site
Pollution Incidents	N/A	No entries for pollution incidents were recorded within 500m of the site.	No	-
Trade Directory Entries (24 within 250m- the closest summarised)	20m north	Active Medical Equipment supplies	No	Due to the small volumes of potential contaminants involved in these activities.
	25m east	Active Published Goods (3D printing)		
	85m north	Active Published Goods (3D printing)		
	85m north	Active Vehicle Hire and Rental		

Regulatory Data	Distance from Site	Details	Potential Risk	Comment
List 2 Dangerous Substances	410m north	Manchester Civil Justice Services for pH	No	No due to the distance from the subject site.
Control of major accident hazards sites (COMAH)	N/A	No entries on for Control of major accident hazards sites (COMAH) were recorded within 500m of the site.	No	-
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	N/A	No entries on notification of installations handling hazardous substances were recorded within 500m of the site.	No	-

2.13 Natural soil chemistry

Information contained within the environmental report (Appendix D) 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 2.9.

Table 2.9: Natural soil chemistry

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

The data in Table 2.9 is below generic assessment criteria for a conservative residential with plant uptake reuse scenario and therefore is not considered to pose a risk to the site.

2.14 Radon

The radon risk is reported in the environmental report. The guidance indicates that the site is not in a Radon Affected Area and no radon protection measures are required.

2.15 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 2.10.

Table 2.10: 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

Data	Comment	Further Assessment Required
Geology Type	The ground conditions comprise a >5m of Glaciofluvial Deposits over Chester 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
Indicator of Aerial Delivered UXO	Screening against the regional bomb risk map (Manchester) Appendix D 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 D, 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. Initial conceptual site model

3.1 Introduction

The initial Conceptual Site Model (CSM) incorporates evidence from the site walkover, the Desk Study and previous investigations carried out at the site. The formulation of an initial CSM is a key component of the LCRM methodology, and 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 CS 641 and CD 622.

The following section sets out the identified geotechnical hazards and the development elements potentially affected (see Table E.1 in Appendix E 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.
- » Loose Made Ground, leading to difficulty with excavation and collapse of side walls.
- » Attack of buried concrete by aggressive ground conditions.
- » Obstructions associated with former terraced houses.
- » Existing below ground structures to remain (8-8a basements to remain and neighbouring properties).
- » Shallow groundwater.

3.3.3 Potential development elements affected

Development elements potentially affected by geotechnical hazards are:

- » Buildings – foundations.
- » Buildings – floor Slabs
- » 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 contaminant linkages, based on the source-pathway-receptor (SPR) approach.

A viable contaminant 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.

3.4.2.1 Potential on-site sources of contamination

- » Made Ground, associated with associated with former housing including elevated concentrations of metals, metalloids, petroleum hydrocarbons, asbestos fibres, Asbestos Containing Materials (ACM) and PAH (S01).
- » Asbestos within existing buildings (S02).
- » Ground gases (carbon dioxide and methane) from deep Made Ground associated with former terraced houses possibly including backfilled basements (S03).

3.4.2.2 Potential off-site sources of contamination

- » Hydrocarbon fuels and solvents from the operation of former Timber Yards, Good Station or Stiffening Works including leakage from unspecified or unrecorded tanks, 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 Formation (R03).

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/dissolved phase 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 Formation (P06).

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.

An assessment of the Source – Pathway – Receptor linkages is undertaken following the assessment (Section 3.4) and is presented in Appendix F (Table F.2). The potential active pathways of moderate risk are summarised below within Figure 3.1.

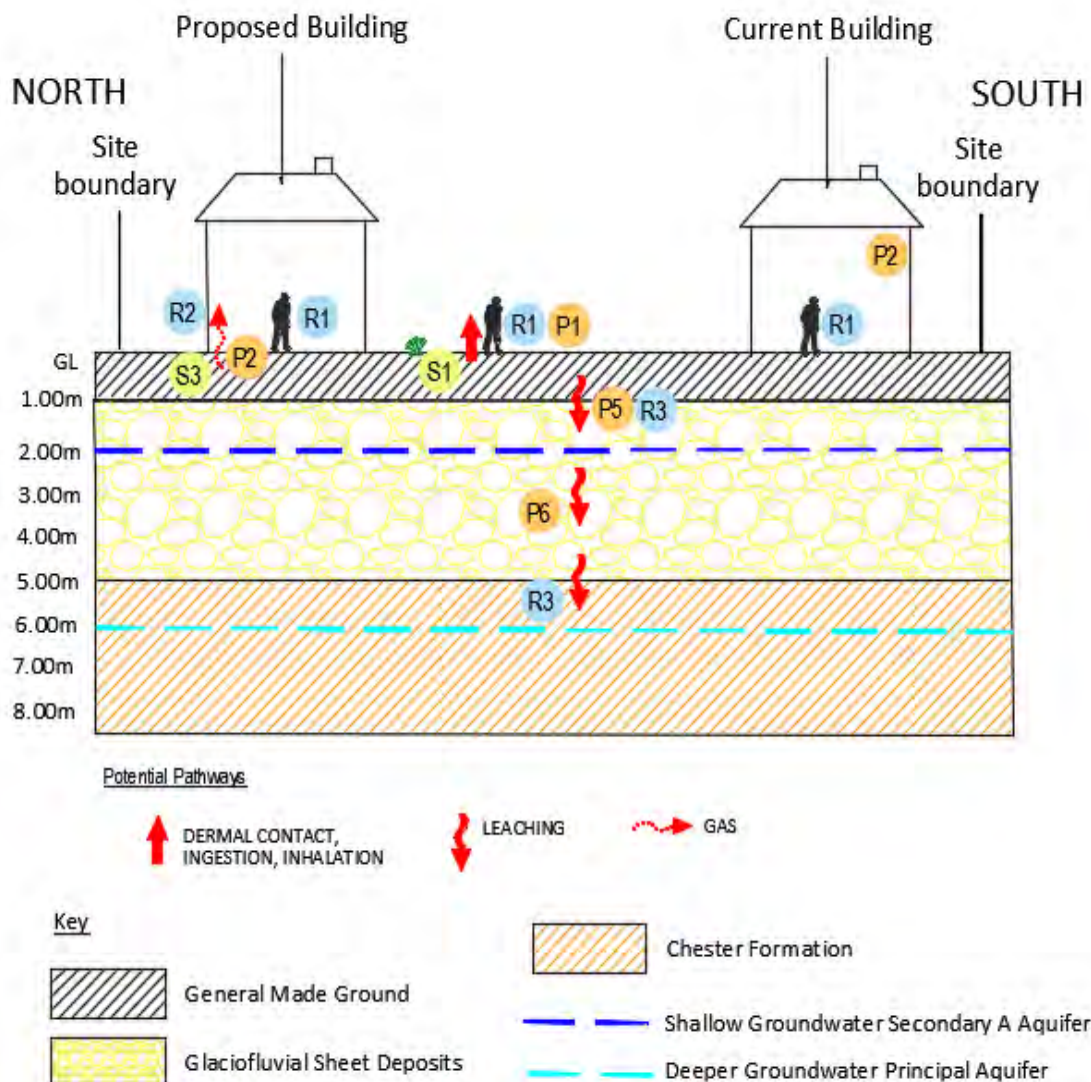


Figure 3.1: Potential active pathways of moderate risk and ground model

3.4.5 Potential implications of climate change

Climate change has the potential to change the risk profile for conceptual site models and associated contaminant linkages. The impact of climate change on the CSM is site-specific, and a qualitative assessment of the potential impact of climate change on the CSM for this site is summarised below. The assessment has primarily utilised the guidance in Environment Agency

(2010)¹ and SoBRA (2022)² which set out the UK context to climate change and land contamination. Both guidance documents advocate a “what if” scenario approach in the context of changes in ambient temperatures, an increase in the frequency of extreme rainfall/storm events and heatwaves/droughts, and long-term changes in groundwater and sea levels.

Those “what if” scenarios that are relevant to this CSM are:

- » Increased long-term rainfall leading to increased infiltration and seasonally higher groundwater and water levels in surface waters- *An increase in the groundwater table within the Glaciofluvial Sheet Deposits could increase the risk of groundwater flooding. Also, if the groundwater rises into a granular Made Ground leachable contaminants could then be mobilised.*
- » Rising sea-level leading to increased coastal erosion and/or coastal flooding. - *The site is not within close proximity to the coast and therefore is unlikely to be impacted by coastal erosion.*
- » Rising sea-level leading to rise in groundwater levels and/or saline intrusion. - *due to the proximity between the site and the coast, the Chester Formation underlying the site is unlikely to be impacted by saline intrusions.*
- » Increased frequency and/or magnitude of extreme rainfall events leading to short-term surface flooding, surface water run-off, groundwater flooding, and/or land-based erosion. - *An increase in the groundwater table within the Glaciofluvial Sheet Deposits could increase the risk of groundwater flooding.*
- » Increased frequency and/or magnitude of storm events leading to short-term drops in barometric pressure and/or high winds. - *Drops in barometric pressure could increase flows and ground gas concentrations should the Made Ground contain significant organic pockets/bands.*
- » Occurrence of extreme cold and hot weather events leading to changes in ground conditions such as soil temperature, evapo(trans)piration, and soil moisture (for example freeze-thaw effects and desiccation), decreased infiltration and fall in groundwater and surface water levels. - *the site is anticipated to be underlain by granular soils therefore changes in moisture content are unlikely to have a significant impact on the soils.*
- » Long-term decrease in rainfall leading to lower infiltration and fall in groundwater and surface water levels. - *a fall in the groundwater table is unlikely to impact the CSM unless significant concentrations of volatile organic compounds or light end petroleum hydrocarbons (possible LNAPL) are encountered.*

¹ Environment Agency, 2010. Guiding Principles for Land Contamination. Part 2. FAQs, technical information, detailed advice and references, March 2010.

² SoBRA, 2022. Guidance on Assessing Risk to Controlled Waters from UK Land Contamination Under Conditions of Future Climate Change, Society of Brownfield Risk Assessment, August 2022.

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.
- » Loose Made Ground and shallow groundwater, leading to difficulty with excavation due to trench instability.
- » Existing Basement, possible lateral pressure exerted on the basement by foundations of the proposed extension.
- » Potential for obstructions associated with former terrace housing 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.

4.2 Geoenvironmental conclusions

Based on historical and current land uses:

- » 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, 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)
Made Ground, associated with associated with former housing including elevated concentrations of metals, metalloids, petroleum hydrocarbons, asbestos fibres, Asbestos Containing Materials and PAH (S01).		Site users Groundwater
Asbestos within existing buildings (S02).		Site users
Ground gases (carbon dioxide and methane) from deep Made Ground associated with former terraced houses possibly including backfilled basements (S03).		Site Users Buildings

5. Uncertainties and limitations

5.1 General comments

Hydrock Consultants Limited (Hydrock) has prepared this report in accordance with the instructions of Vision Developments (the Client), by e-mail dated June 2024 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 2024. 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.

Hydrock has used reasonable skill, care and diligence in the design of the investigation of the site and in its interpretation of the information obtained. The inherent variation of ground conditions allows only definition of the actual conditions at the locations and depths of trial pits and boreholes at the time of the investigation. At intermediate locations, conditions can only be inferred.

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

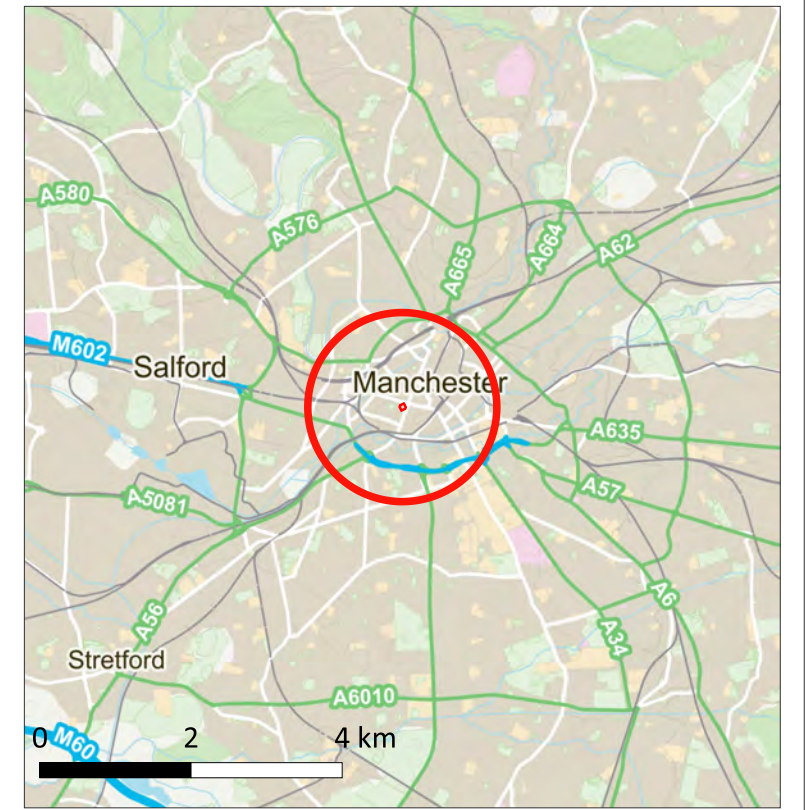
In order to confirm the actual risks to receptors and confirm the ground conditions with respect to potential geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken. This investigation will need to:

- » 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'.

Appendix A Drawings

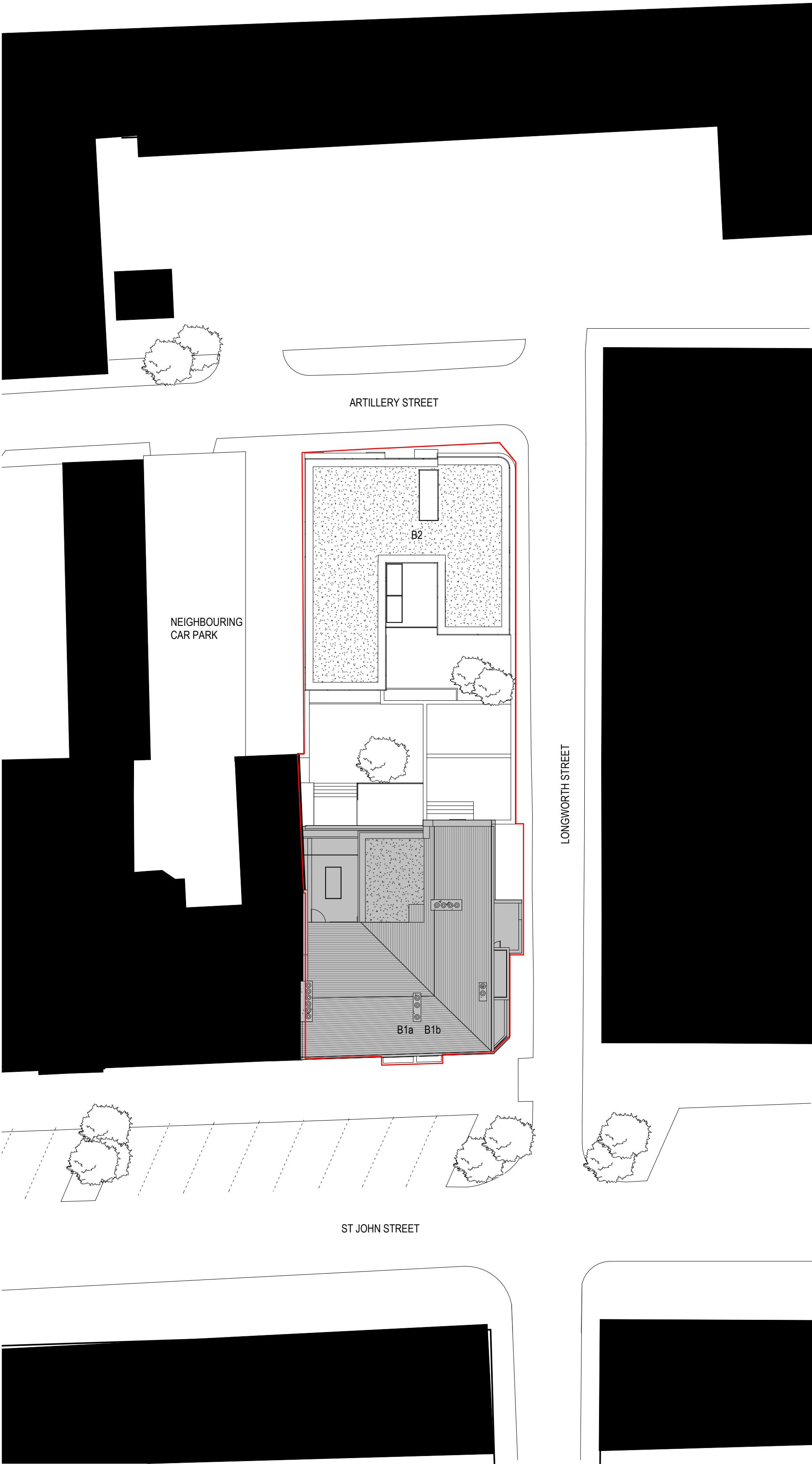


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<div>KEY PLAN</div> <div><div></div>Site Boundary</div>	<div>NOTES</div> <div>1. Contains OS data © Crown copyright and database right (2022)</div>	<div>REVISIONS</div> <table><tr><th>REV.</th><th>DRAWN BY INITIALS</th><th>CHECKED BY INITIALS</th><th>DATE</th><th>REVISION NOTES/COMMENTS</th></tr><tr><td>P01</td><td>RS</td><td>AC</td><td>10/07/24</td><td>First issue</td></tr></table>				REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS	P01	RS	AC	10/07/24	First issue	<div><div>Hydrock</div></div>	<div>TITLE</div> <div>SITE LOCATION PLAN</div>	
		REV.	DRAWN BY INITIALS	CHECKED BY INITIALS	DATE	REVISION NOTES/COMMENTS												
		P01	RS	AC	10/07/24	First issue												
		<div>HYDROCK PROJECT NO.</div> <div>16488</div>		<div>SCALE @ A3</div> <div>1:600</div>														
		<div>CLIENT</div> <div>Vision Developments</div>		<div>PURPOSE OF ISSUE</div> <div>SUITABLE FOR INFORMATION</div>		<div>STATUS</div> <div>S2</div>												
<div>PROJECT</div> <div>8-8a St John Street</div>		<div>DRAWING NO.</div> <div>16488-HYD-XX-XX-RP-GE-0001</div>		<div>REVISION</div> <div>P01</div>														



<div>KEY PLAN</div> <div><div><div><div></div></div><div>Site Boundary [1]</div></div><div><div><div></div></div><div>Current Site Features (Points)</div></div><div><div><div></div></div><div>Block Paving</div></div><div><div><div></div></div><div>Access to rear of site</div></div><div><div><div></div></div><div>Stairs down to basement</div></div></div> <div><div><div></div></div><div>Current Site Features (Polygons)</div></div> <div><div><div></div></div><div>Three storey building with basement</div></div> <div><div><div></div></div><div>Raised planters with mature trees</div></div> <div><div><div></div></div><div>Block paving</div></div>



General Notes

Use figured dimensions only. Do not scale off this drawing. All dimensions must be set out and checked by the contractor on site prior to commencement of construction. Any variations between drawings and site must be reported to TGA before work proceeds.

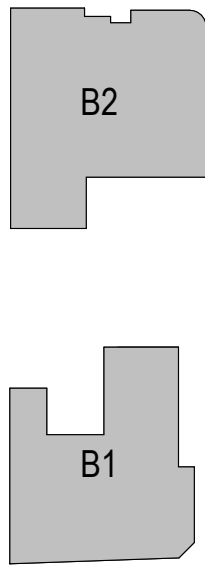
Drawings to be read in conjunction with Architectural Specification, Structural Engineer's Drawings and Specifications, Mechanical & Electrical Engineer's Drawings and Specifications, all Supplemental Information, including but not limited to, Detailed Fire Strategy, Acoustic Report, Thermal Report & Overheating Report.

No portion of the Works to commence without acceptance of the required submittals by the Employer.

Main Contractor to submit relevant documents to building regulation and legislation approval authorities as required to comply with the Specification.

Red Line Boundary

Key Plan



Rev	Description	Date	By
P01	Draft Planning Issue	12.11.24	SD
P02	Draft Issue to Design Team	13.12.24	SD
P03	Issue to Design Team	06.01.25	SD

Title
Proposed Site Plan

Drawing No.
1084-TGA-ZZ-ZZ-DR-A-95201

Revision
P03

Status
Planning

Scale
As indicated@A1

Project
St John Street

Client
Mr. Ford

TIM GROOM ARCHITECTS

Eastgate, 2 Castle Street, Manchester, M3 4LZ

0161 870 1152

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Appendix B Field reconnaissance photographs

Site Investigation Photograph 1

Direction
Photograph
Taken: Facing
north

Description:
Looking towards
8-8a St John
Street.



Site Investigation Photograph 2

Direction
Photograph
Taken: Facing
north west

Description:
Longworth Street
and access to
basement on east
of No. 8a.



**Site Investigation
Photograph 3**

Direction
Photograph
Taken: N/A

Description: Steps
down to the
basement level
from Longworth
Street.

**Site Investigation
Photograph 4**

Direction
Photograph
Taken: Facing
west

Description: : Rear
of the site from
Longworth Street.



Site Investigation Photograph 5

Direction
Photograph
Taken: Facing
south

Description:
Facing towards
gated access to
the north of the
site.



Site Investigation Photograph 6

Direction
Photograph
Taken: Facing
south

Description:
Raised planters/
mature trees and
blocked paving.



Appendix C 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.

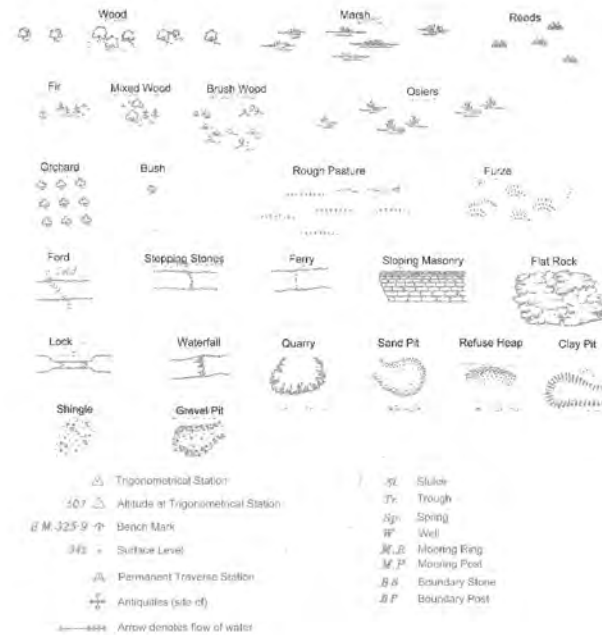
If you have a query regarding any of the maps provided please contact Groundsure's technical helpline. We will endeavour to answer any queries you may have.

Technical Help
Tel 0800 028 0000

insight@groundsure.com
WWW.GROUNDSURE.COM

COUNTY SERIES 1:2,500

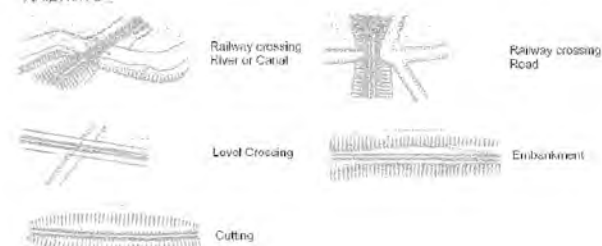
GENERAL FEATURES



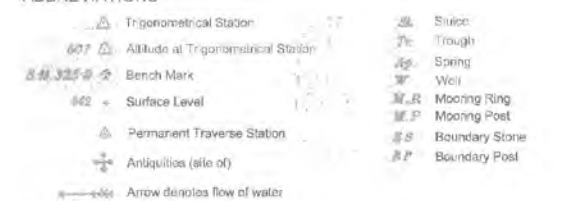
ROADS



RAILWAYS

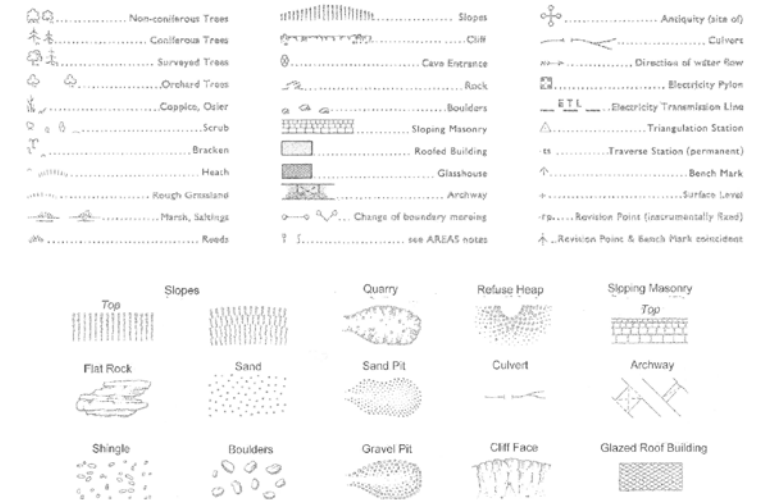


ABBREVIATIONS

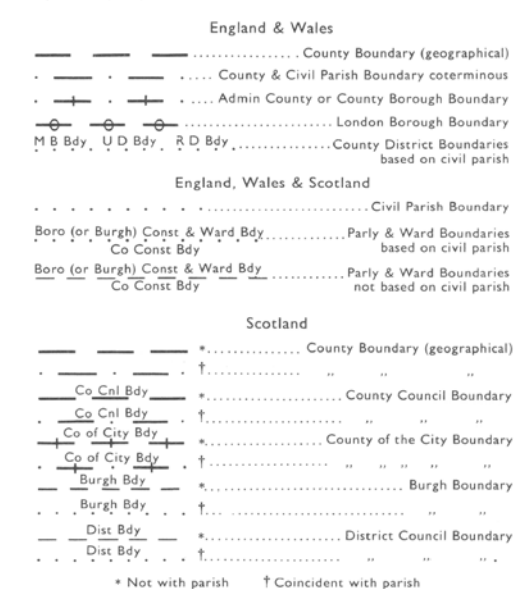


NATIONAL GRID 1:2,500 & 1:1,250

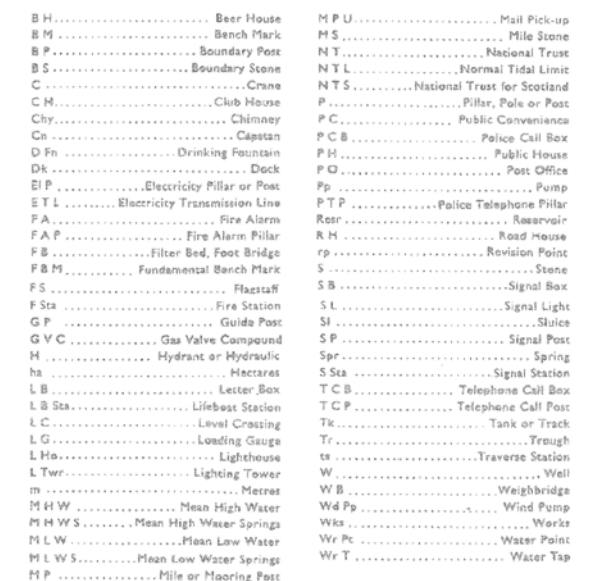
GENERAL FEATURES



BOUNDARIES



ABBREVIATIONS





Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series Town Plan

Map date: 1891

Scale: 1:500

Printed at: 1:1,000



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

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

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Production date: 05 July 2024

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0 50m

Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1893

Scale: 1:2,500

Printed at: 1:2,500



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Revised 1893
Edition N/A
Copyright N/A
Levelled N/A

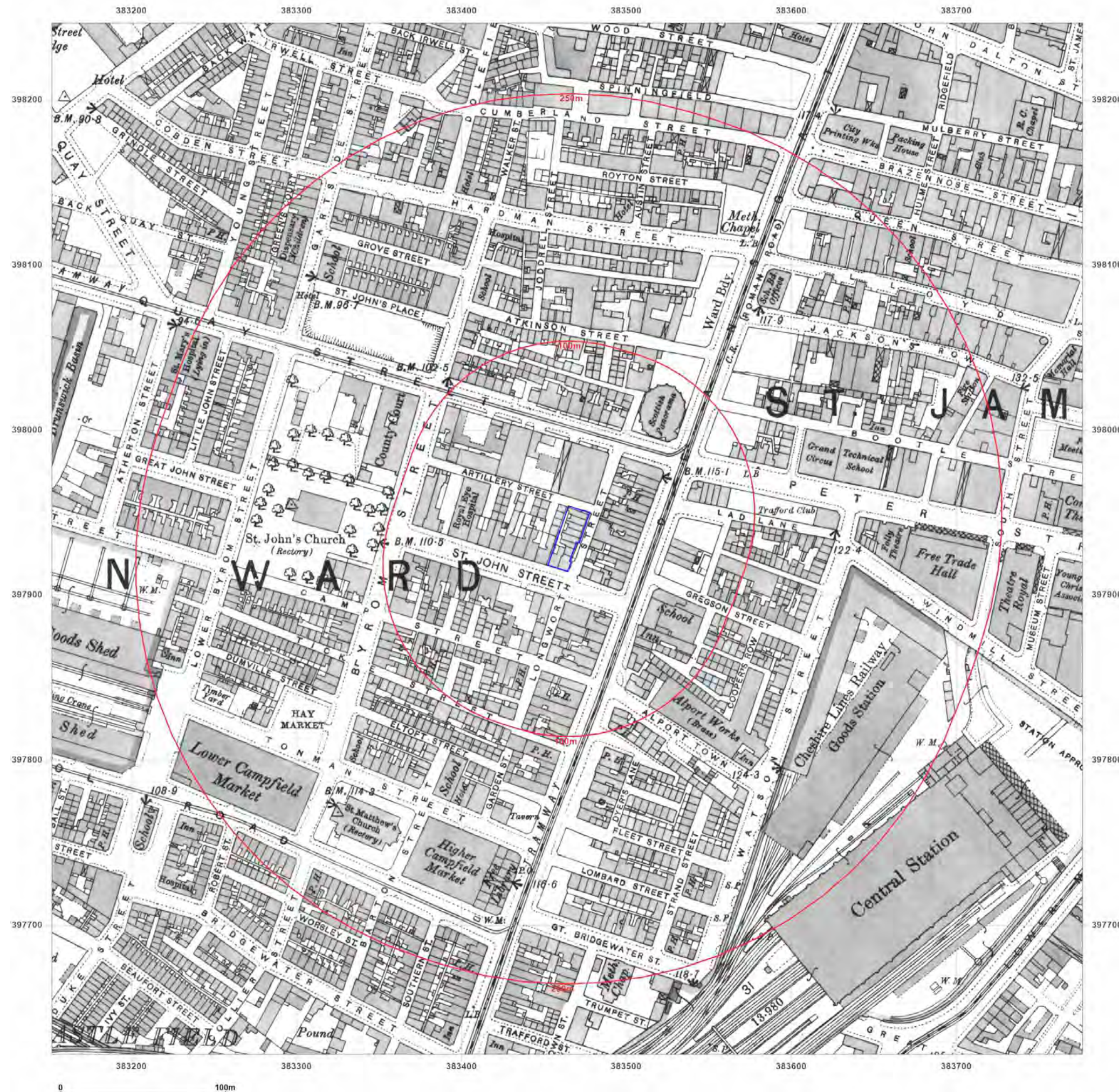


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1908

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1908
Revised 1908
Edition N/A
Copyright N/A
Levelled N/A

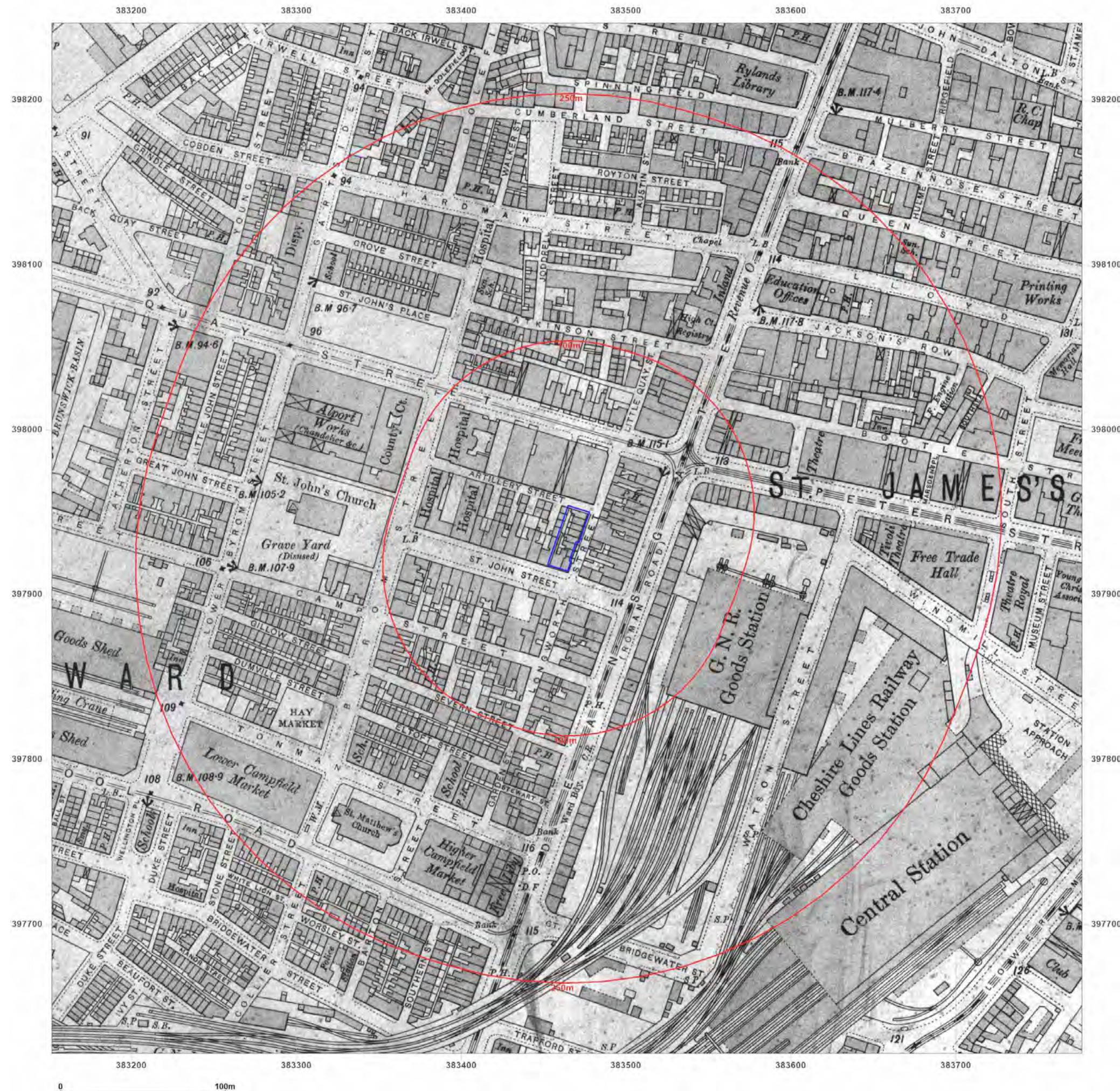


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1922
Revised 1922
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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1932

Scale: 1:2,500

Printed at: 1:2,500



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

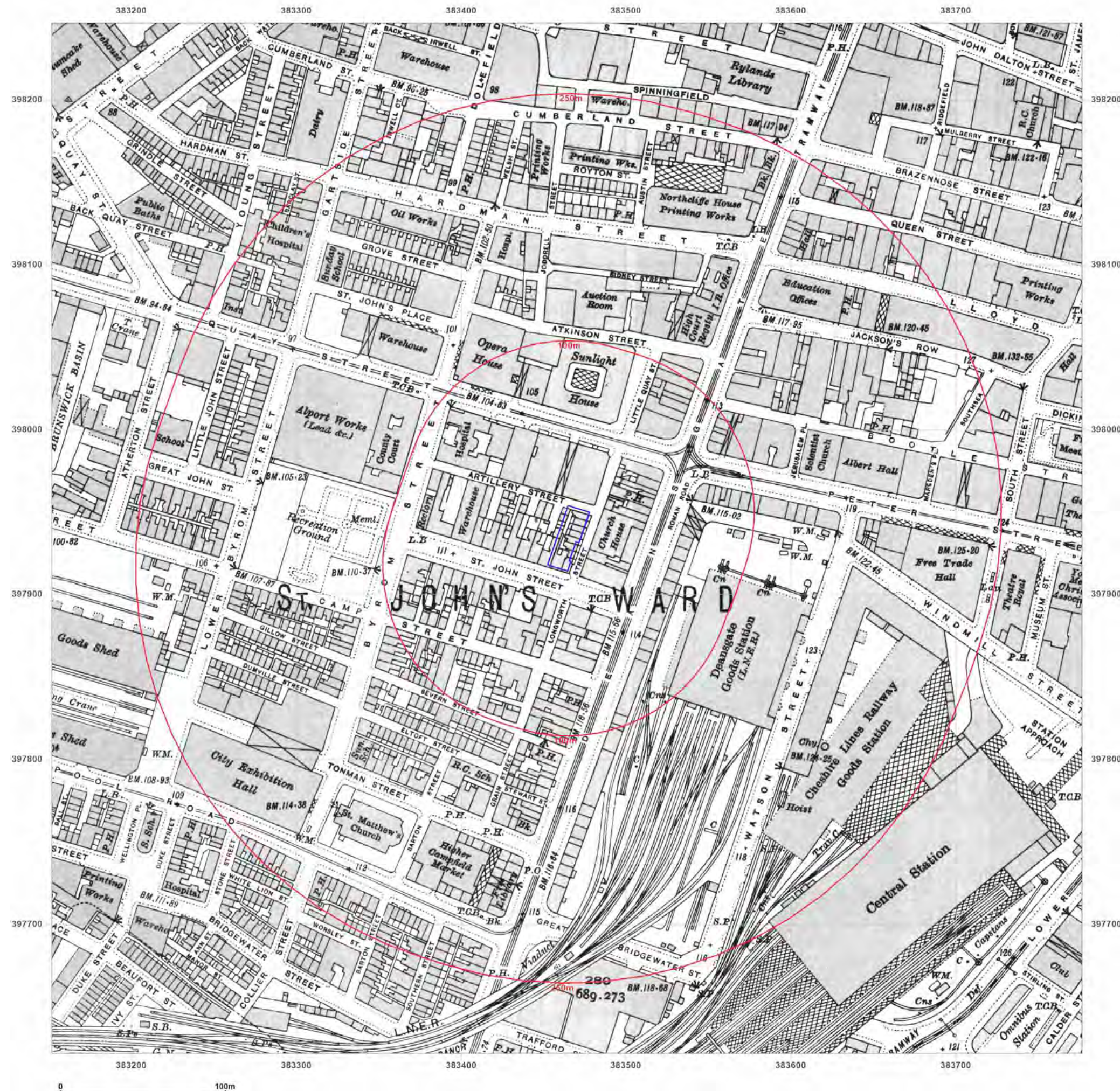


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1948

Scale: 1:1,250

Printed at: 1:2,000



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

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

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

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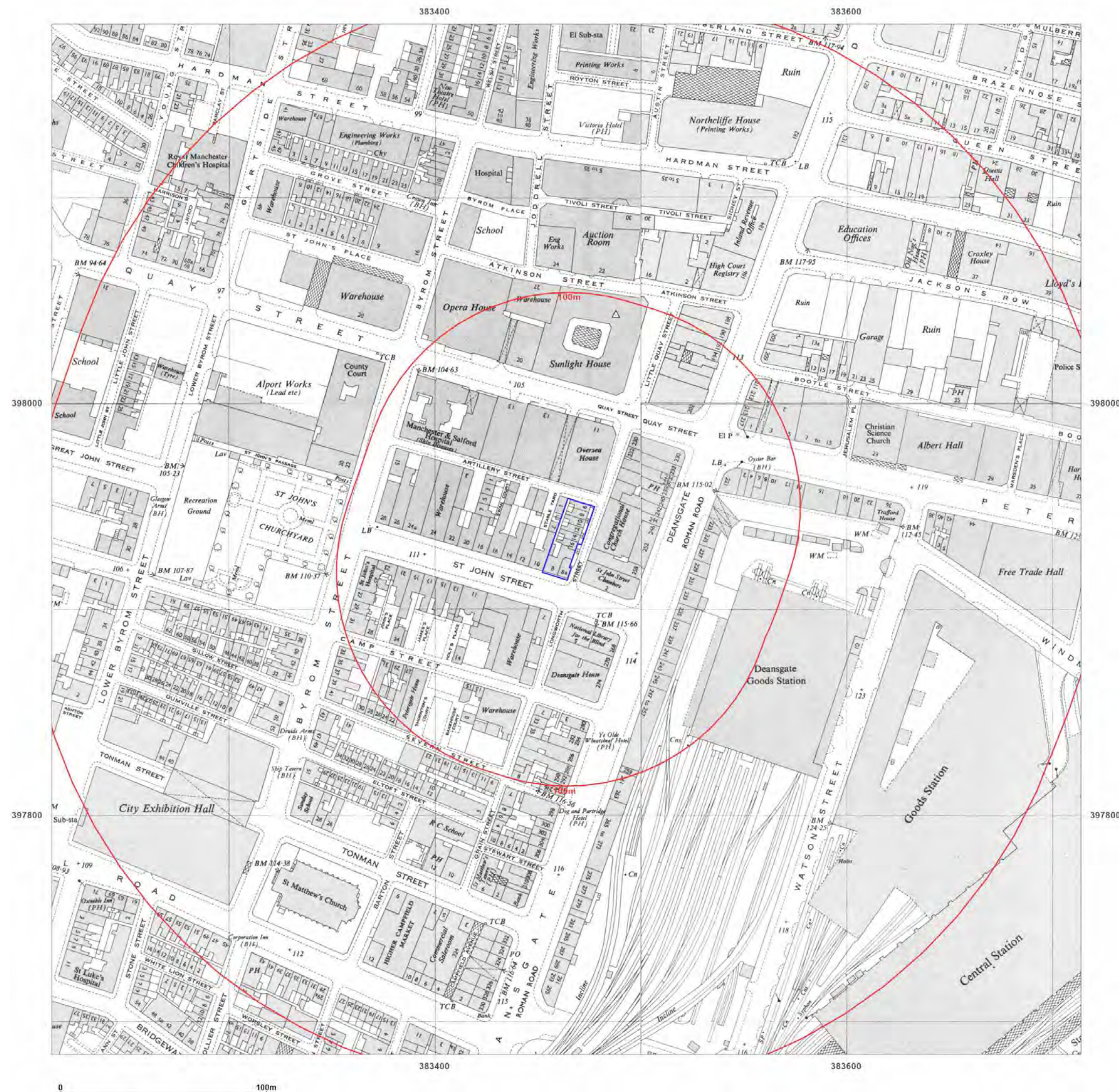


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

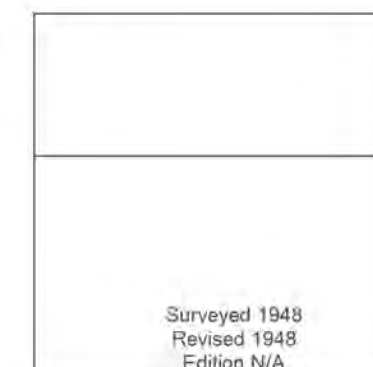
Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1949

Scale: 1:2,500

Printed at: 1:2,500



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

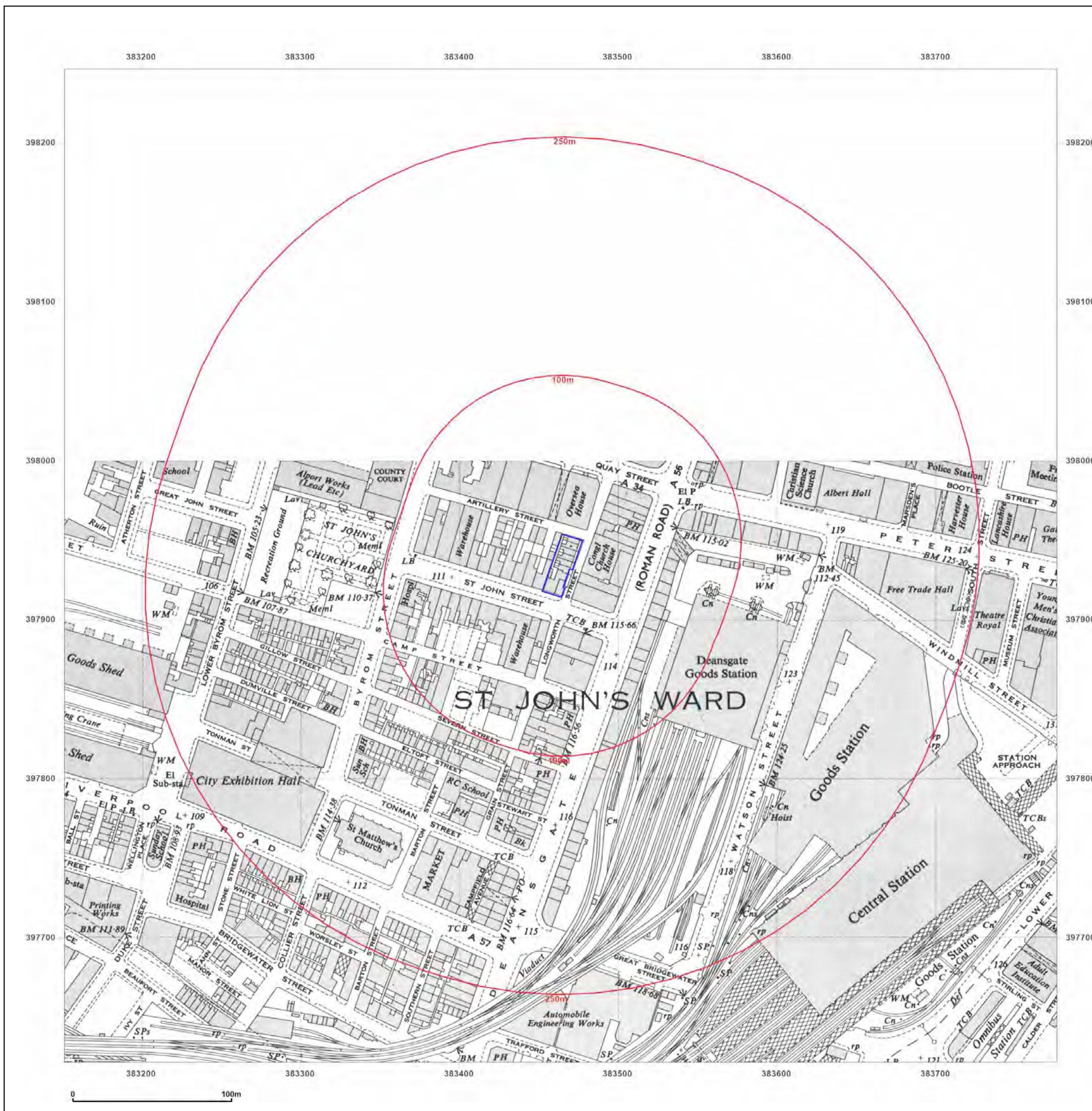


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Site Details:

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Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1951-1955

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1948
Revised 1955
Edition N/A
Copyright N/A
Levelled 1927

Surveyed 1948
Revised 1955
Edition N/A
Copyright 1955
Levelled 1927

Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled 1927

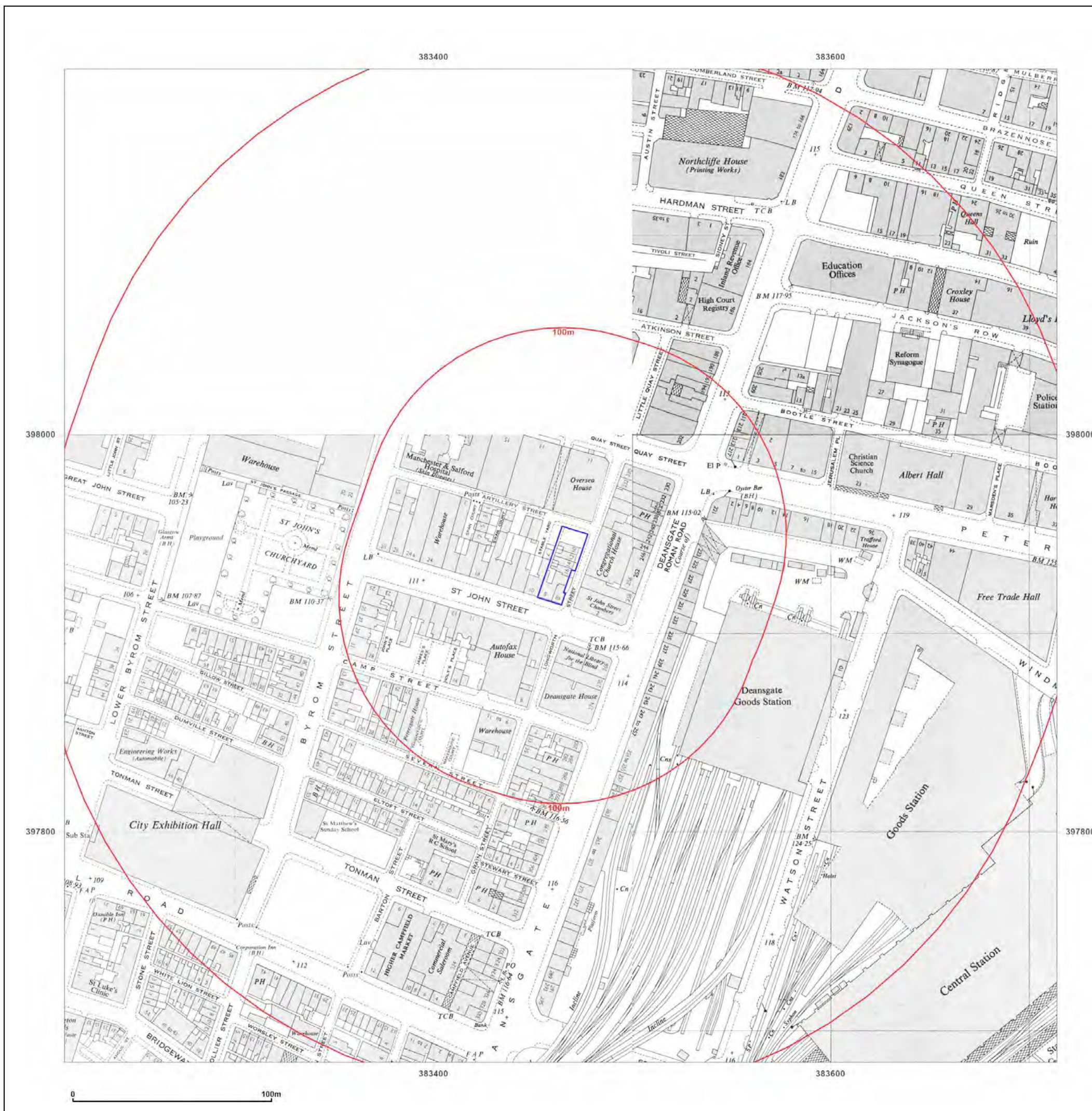


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

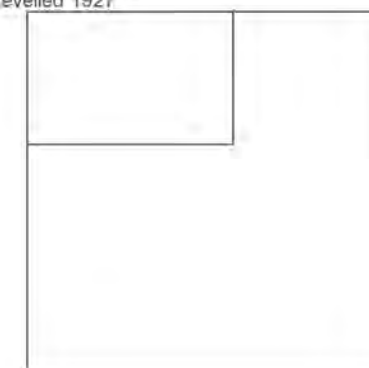
Map date: 1957

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1948
Revised 1957
Edition N/A
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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1957

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1953
Revised 1953
Edition N/A
Copyright 1957
Levelled 1927

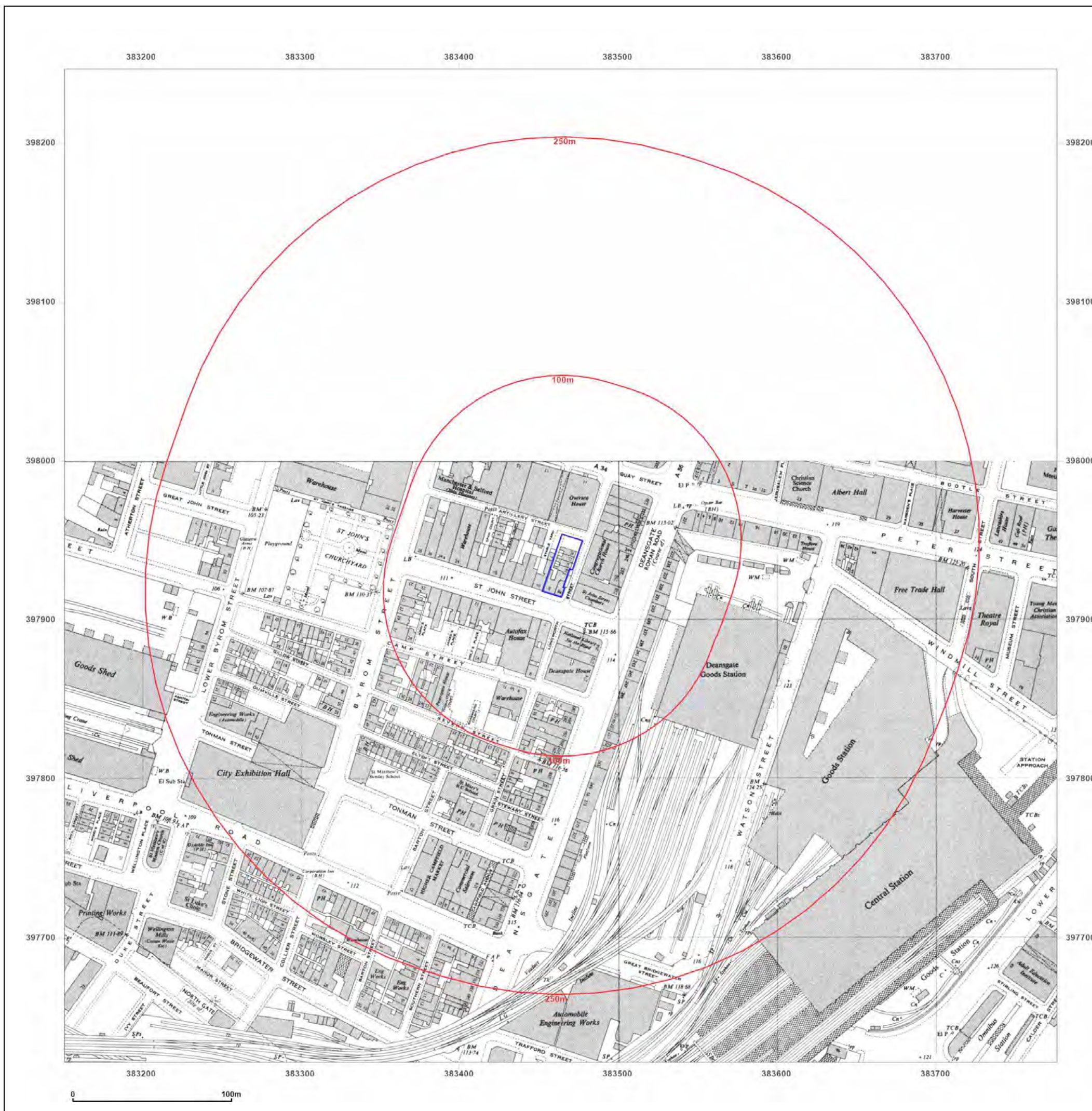


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1962-1963

Scale: 1:1,250

Printed at: 1:2,000



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Surveyed 1948
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Site Details:

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Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1970-1973

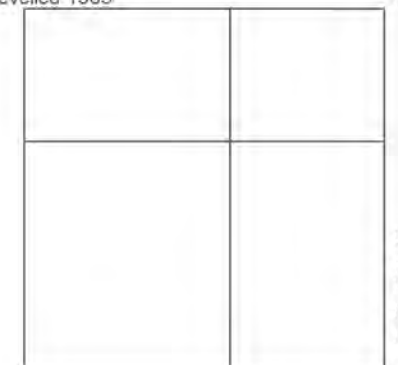
Scale: 1:1,250

Printed at: 1:2,000



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

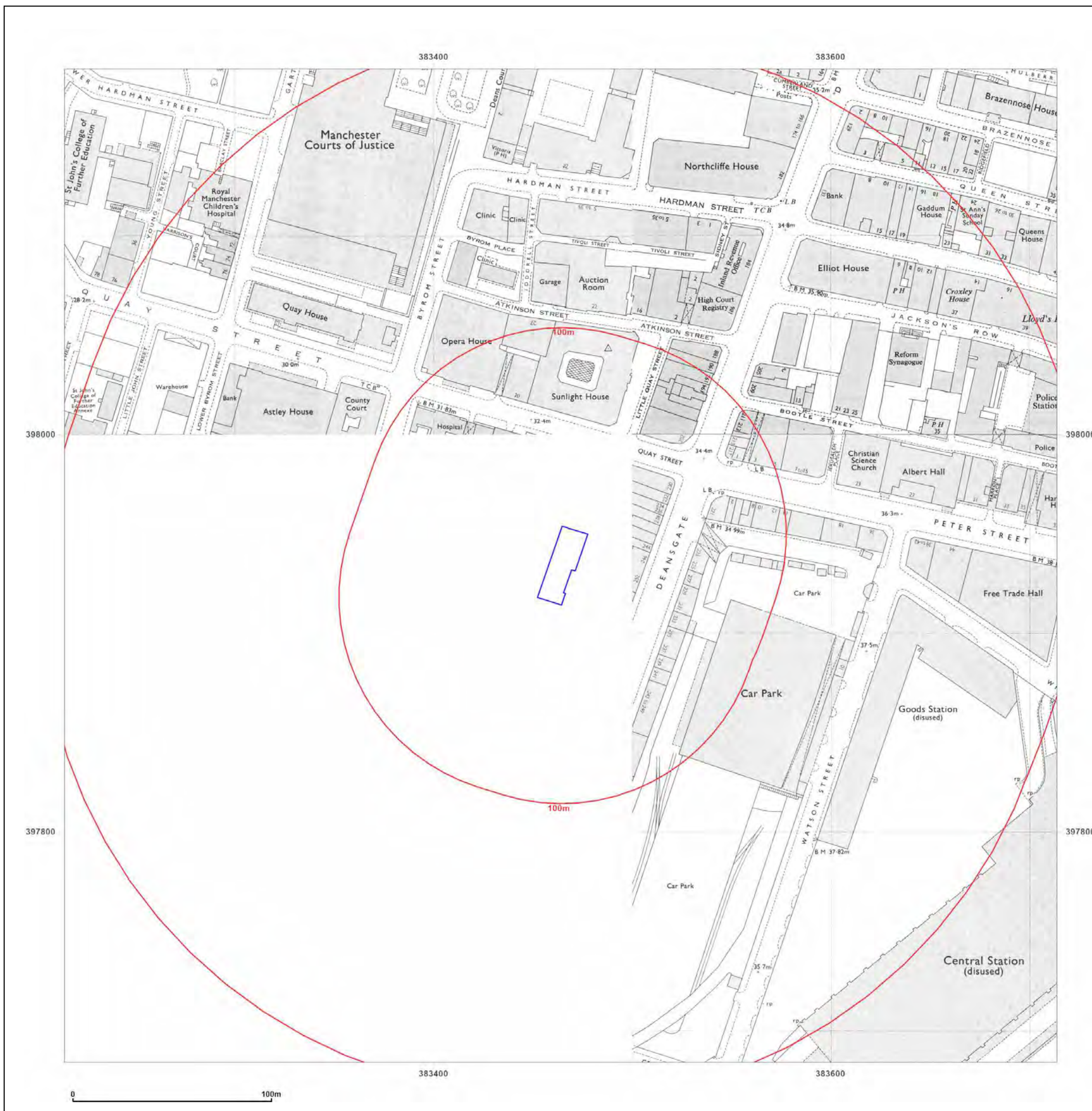


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1980-1985

Scale: 1:1,250

Printed at: 1:2,000



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Revised N/A
Edition N/A
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Site Details:

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Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1986-1990

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1949
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Edition N/A
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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

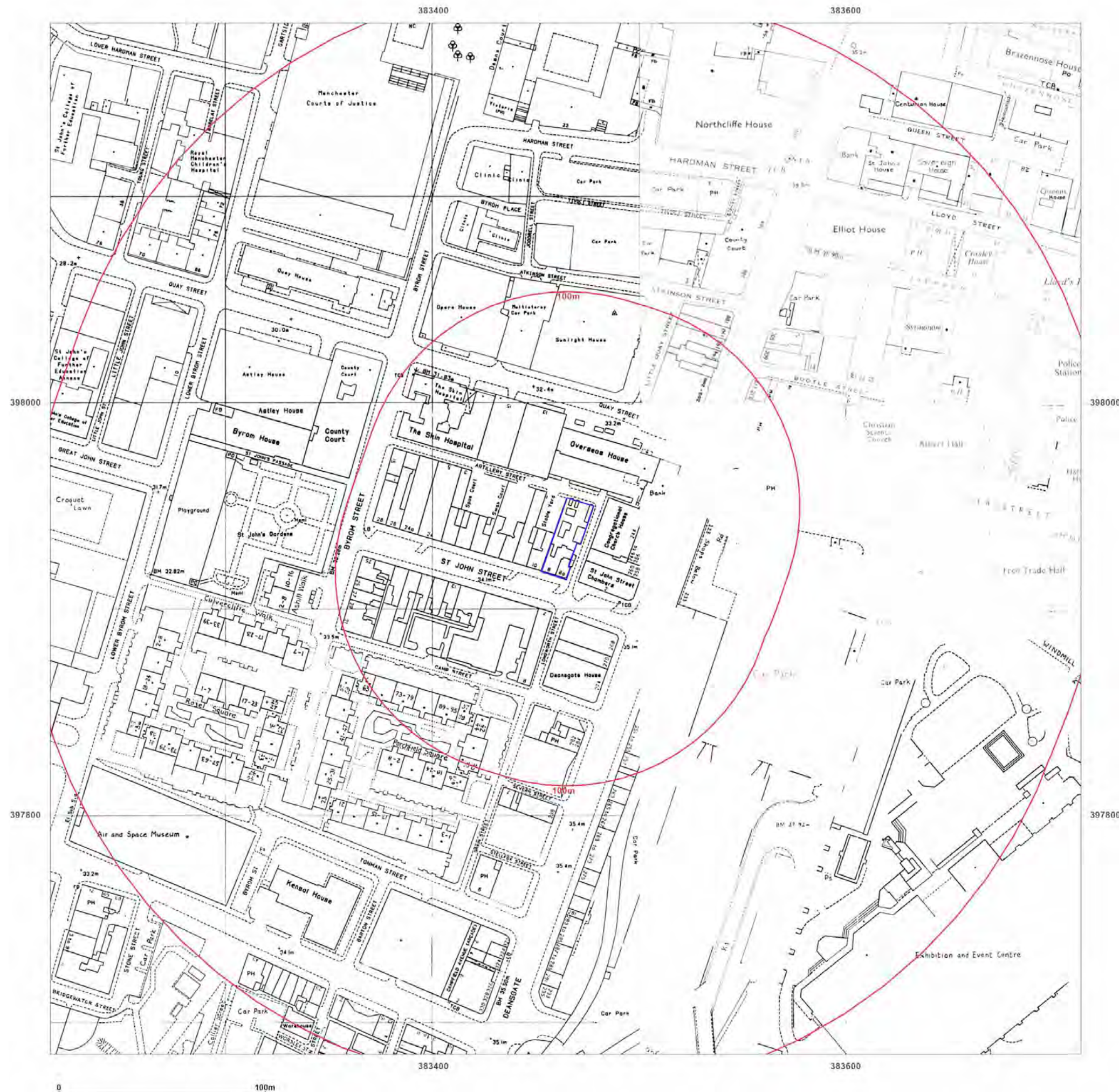


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Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1988-1992

Scale: 1:1,250

Printed at: 1:2,000



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

Surveyed 1948
Revised 1989
Edition N/A
Copyright 1989
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Surveyed 1948
Revised 1979
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Surveyed 1948
Revised 1987
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Copyright 1988
Levelled 1963



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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1992-1994

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
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Site Details:

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Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1994-1995

Scale: 1:1,250

Printed at: 1:2,000



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Revised 1995
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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1994-1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed N/A
Revised N/A
Edition N/A
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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



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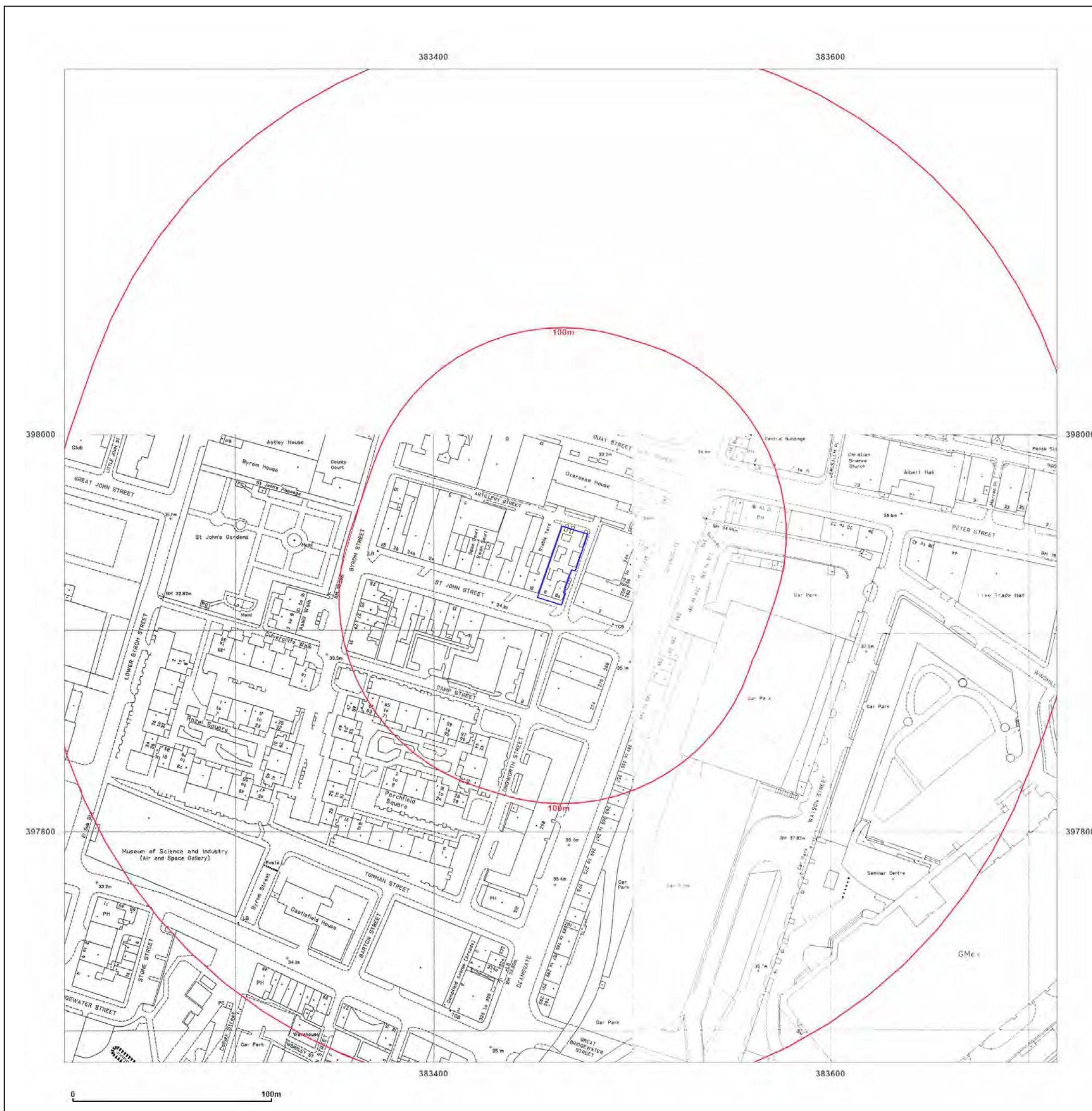


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000



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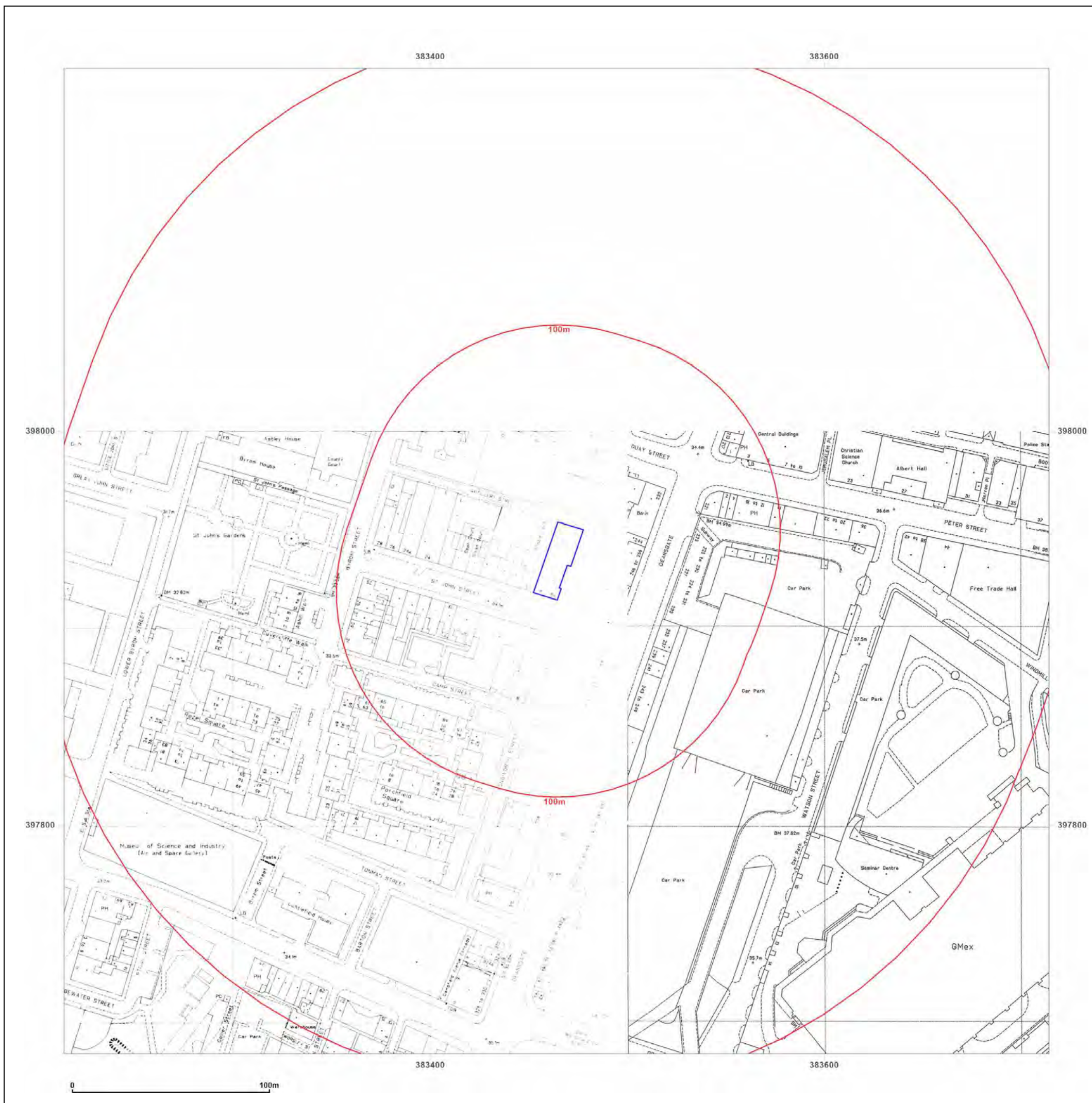


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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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HISTORICAL MAP PACK LEGEND

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

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COUNTY SERIES 1:10,560

VEGETATION



Fir Wood



Mixed Wood



Orchard



Rough Pasture



Marsh



Deciduous Wood



Brushwood



Reeds

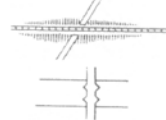


Furze

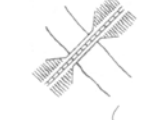


Osiers

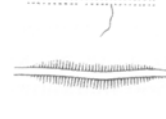
ROADS



Railway over Road



Road over River or Canal



Railway over River



Road over Stream



Raised Road

RAILWAYS



Double Lines of Railway



Single Lines of Railway and Tramway

GENERAL FEATURES



Gravel Pit



Quarry



Other Pits



Sand Pit



Shingle



Antiquities, Site of

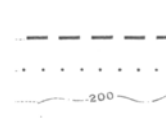


Arrow, showing direction of flow of water



Trigonometrical Station

BOUNDARIES



County Boundary



Parish Boundary



Contours



Parliamentary Division Boundary



Union Boundary



Rural District Boundary

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

HEIGHTS (METRES)

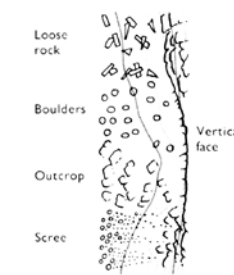
Values are given in metres above mean sea level at Newlyn.

Surface heights determined by ground survey 163m

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.

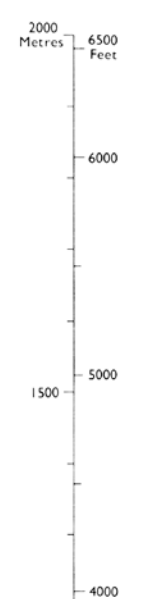
Contours are at 5 metres vertical interval.

ROCK FEATURES



CONVERSION SCALE

Metres - Feet

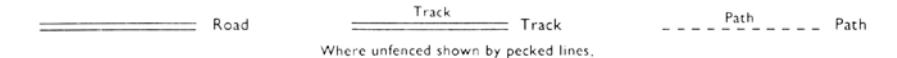


ABBREVIATIONS

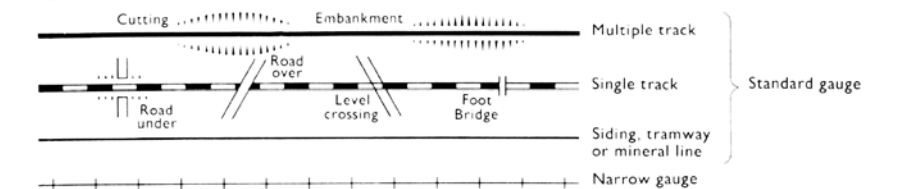
BP,BS Boundary Post or Stone
Ch Church
CH Club House
F Sta Fire Station
FB Foot Bridge
Fn Fountain
GP Guide Post
MP,MS Mile Post or Stone
P Pole or Post
Pol Sta Police Station

PO Post Office
PC Public Convenience
PH Public House
S Stone
Spr Spring
TCB Telephone Call Box
TCP Telephone Call Post
TH Town Hall
W Well
Y Youth hostel

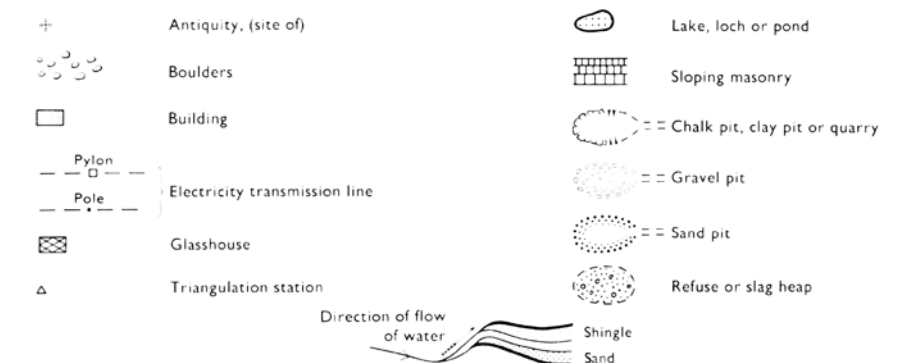
ROADS



RAILWAYS



GENERAL FEATURES



VEGETATION



In some areas bracken (wavy lines) and rough grassland (dotted area) are shown separately.

Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1848

Scale: 1:10,560

Printed at: 1:10,560



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

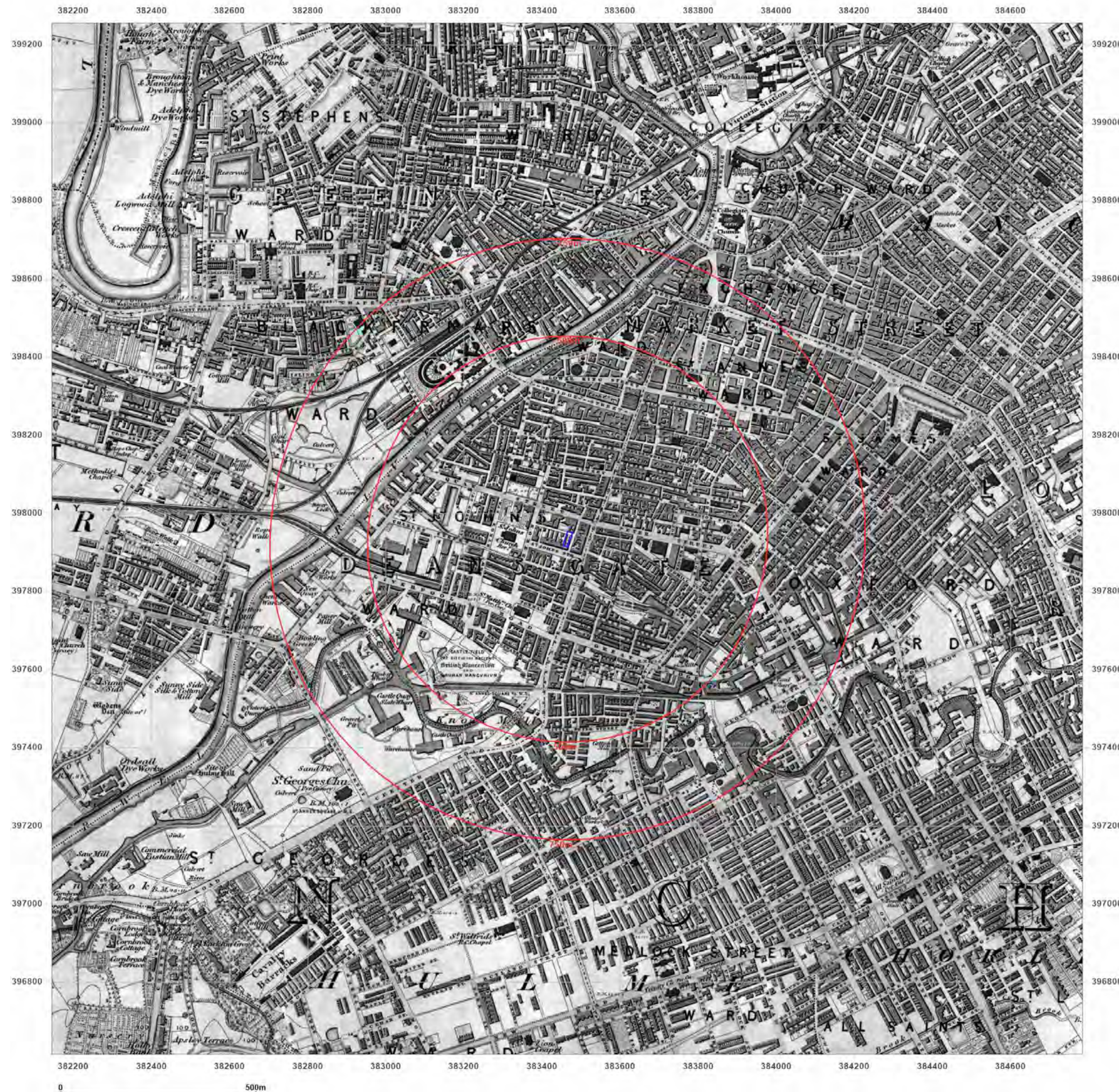


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

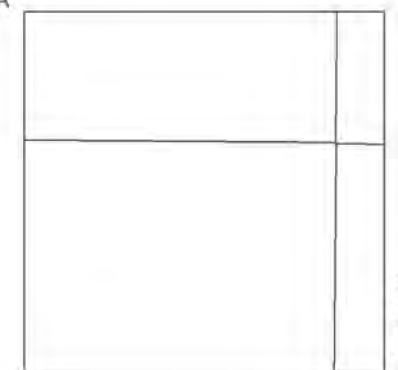
Map date: 1890-1894

Scale: 1:10,560

Printed at: 1:10,560



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Revised 1889
Edition 1894
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Surveyed 1890
Revised 1890
Edition N/A
Copyright N/A
Levelled N/A

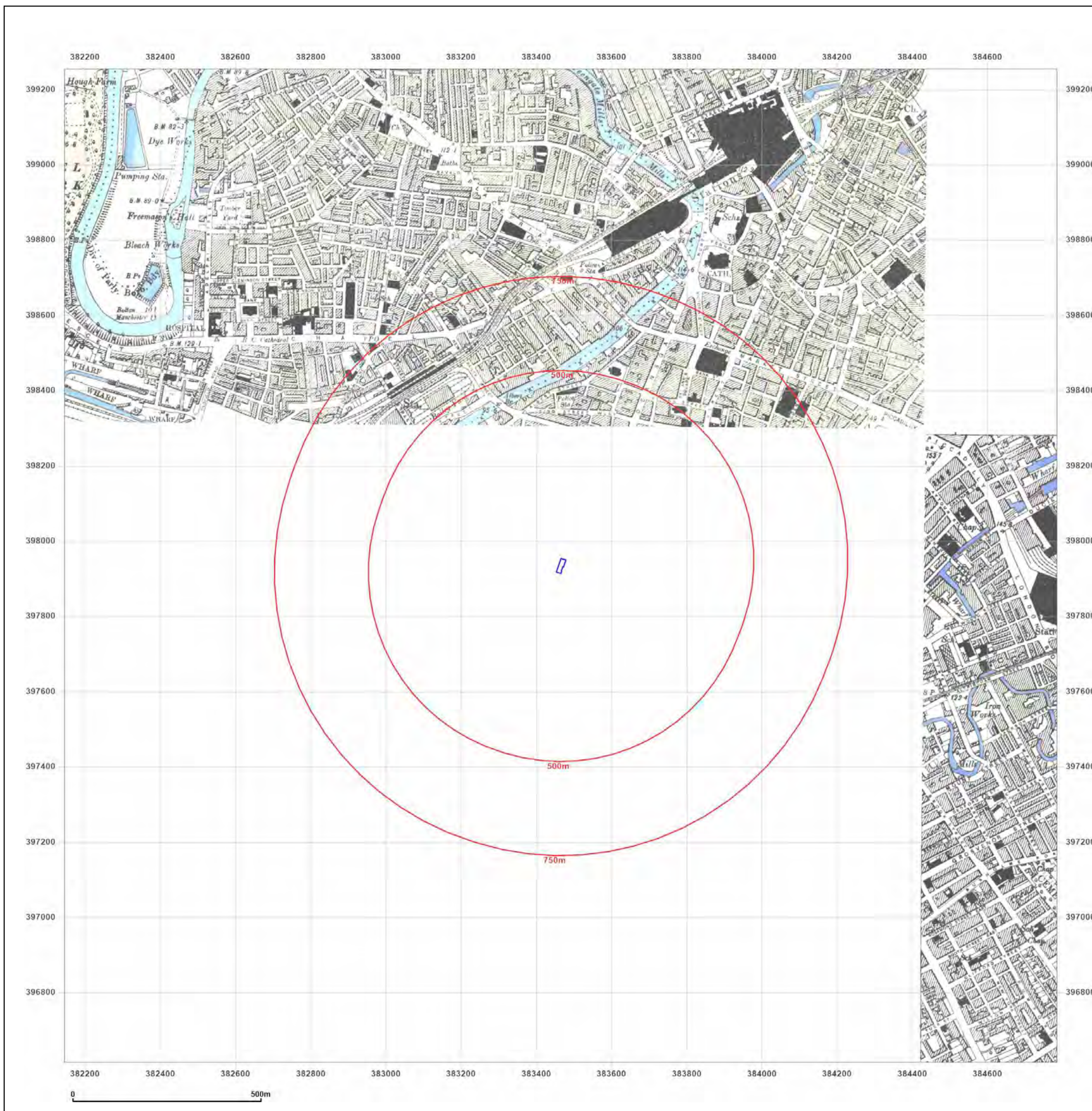


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1891-1896

Scale: 1:10,560

Printed at: 1:10,560



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

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

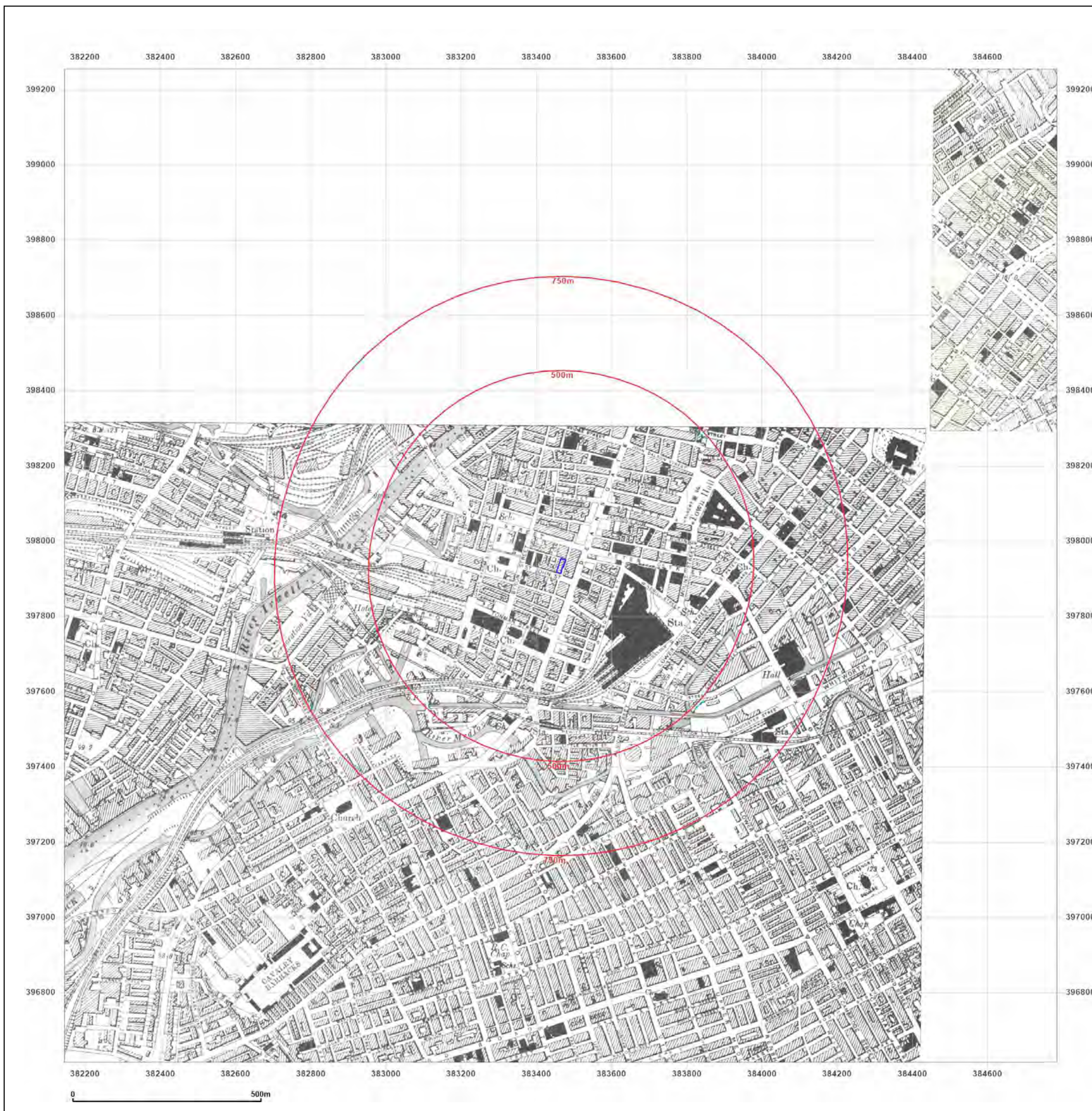


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1905-1906

Scale: 1:10,560

Printed at: 1:10,560



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

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

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

Surveyed 1844
Revised 1905
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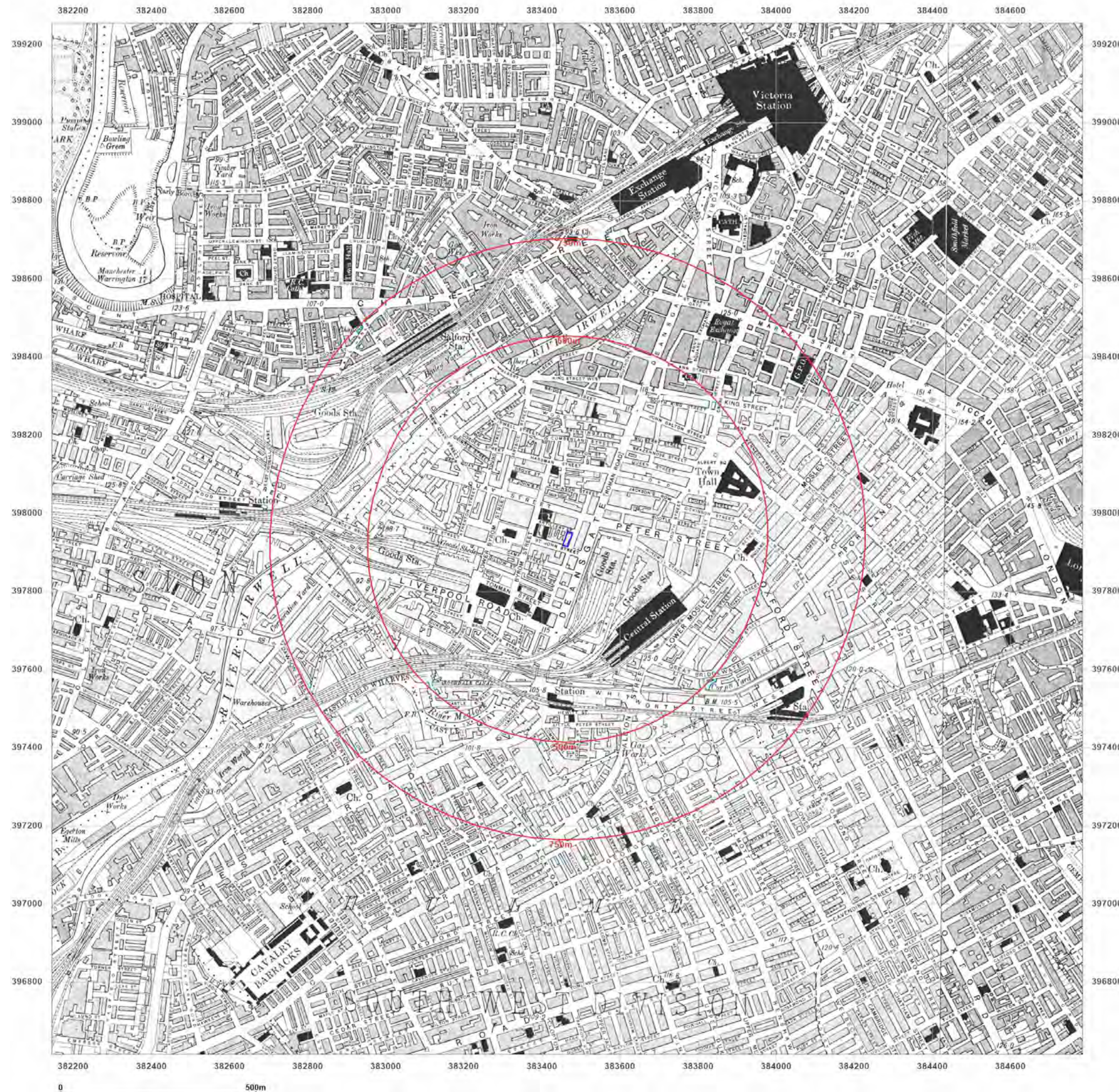


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1915-1916

Scale: 1:10,560

Printed at: 1:10,560



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



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

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

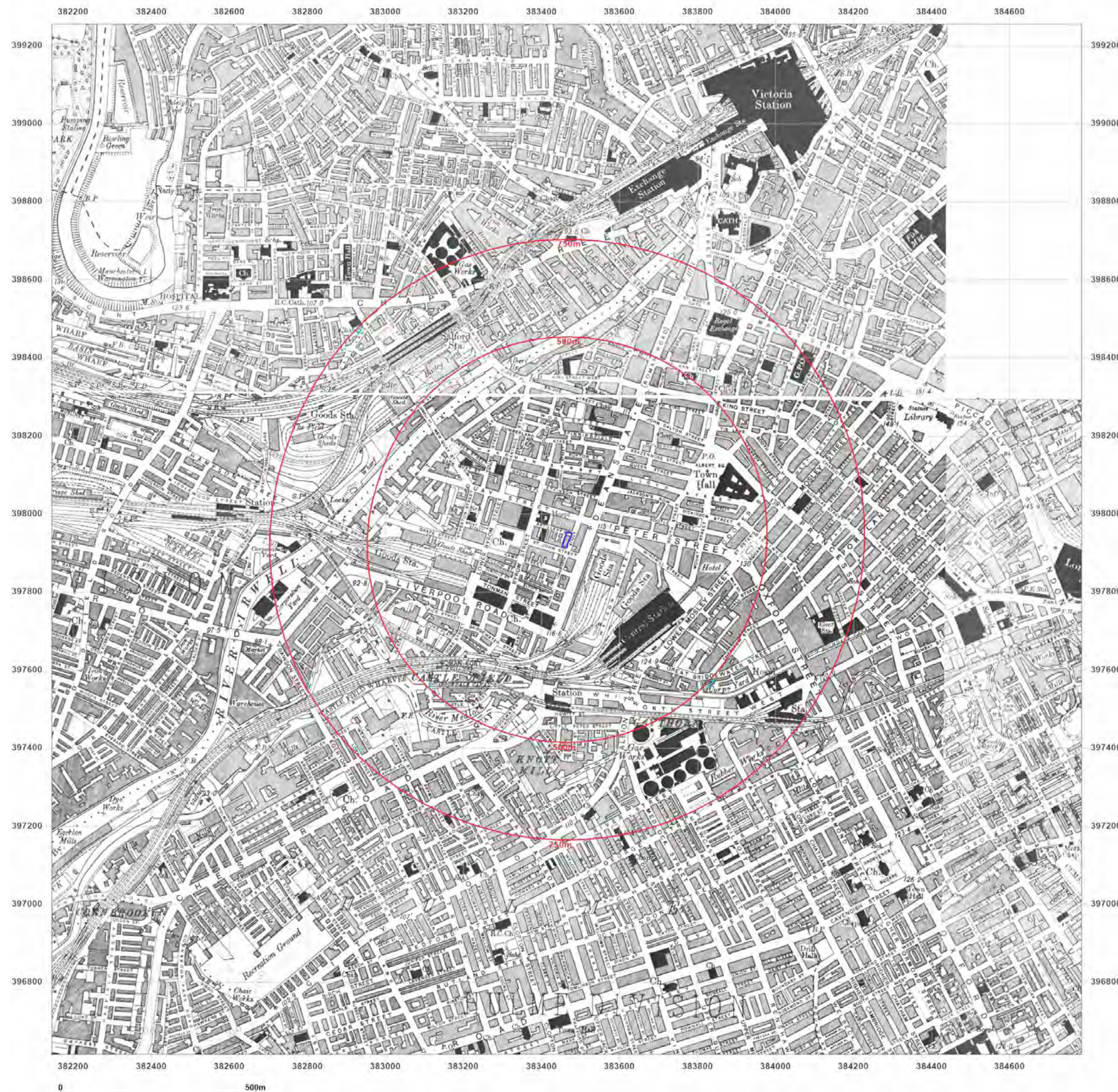


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1921-1923

Scale: 1:10,560

Printed at: 1:10,560



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

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

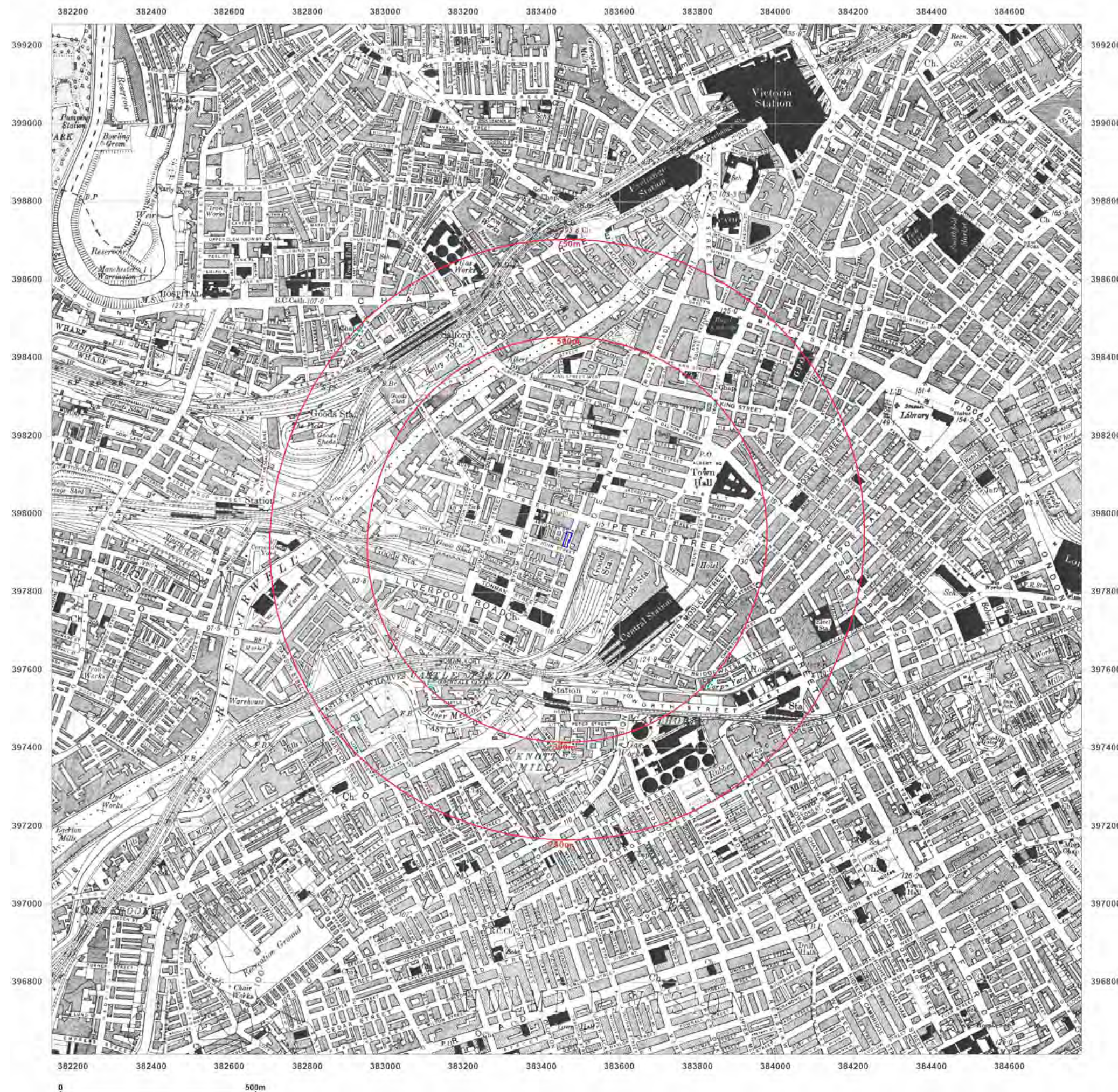


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1931-1934

Scale: 1:10,560

Printed at: 1:10,560



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

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

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

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

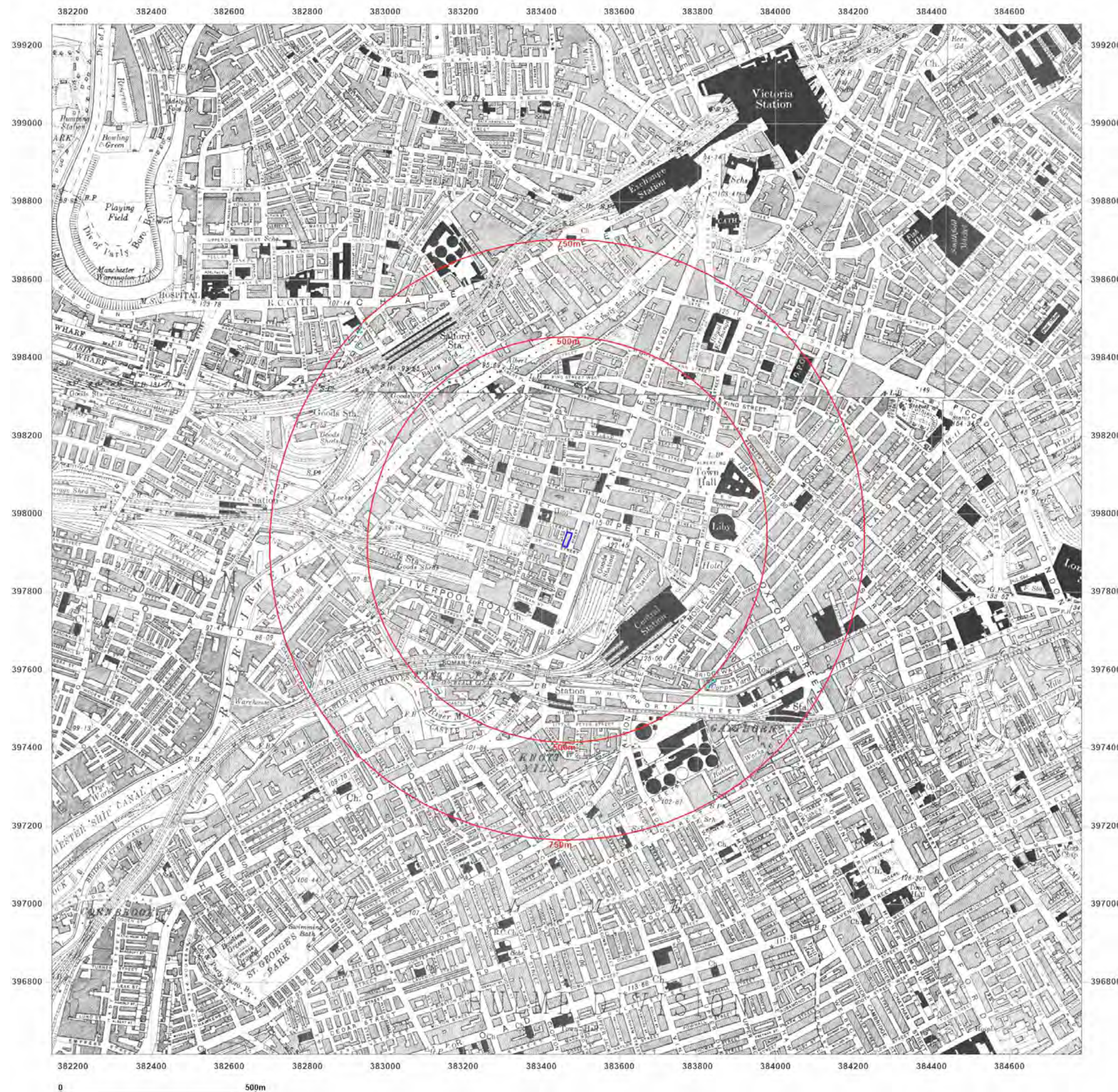


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: County Series

Map date: 1938

Scale: 1:10,560

Printed at: 1:10,560



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



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

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

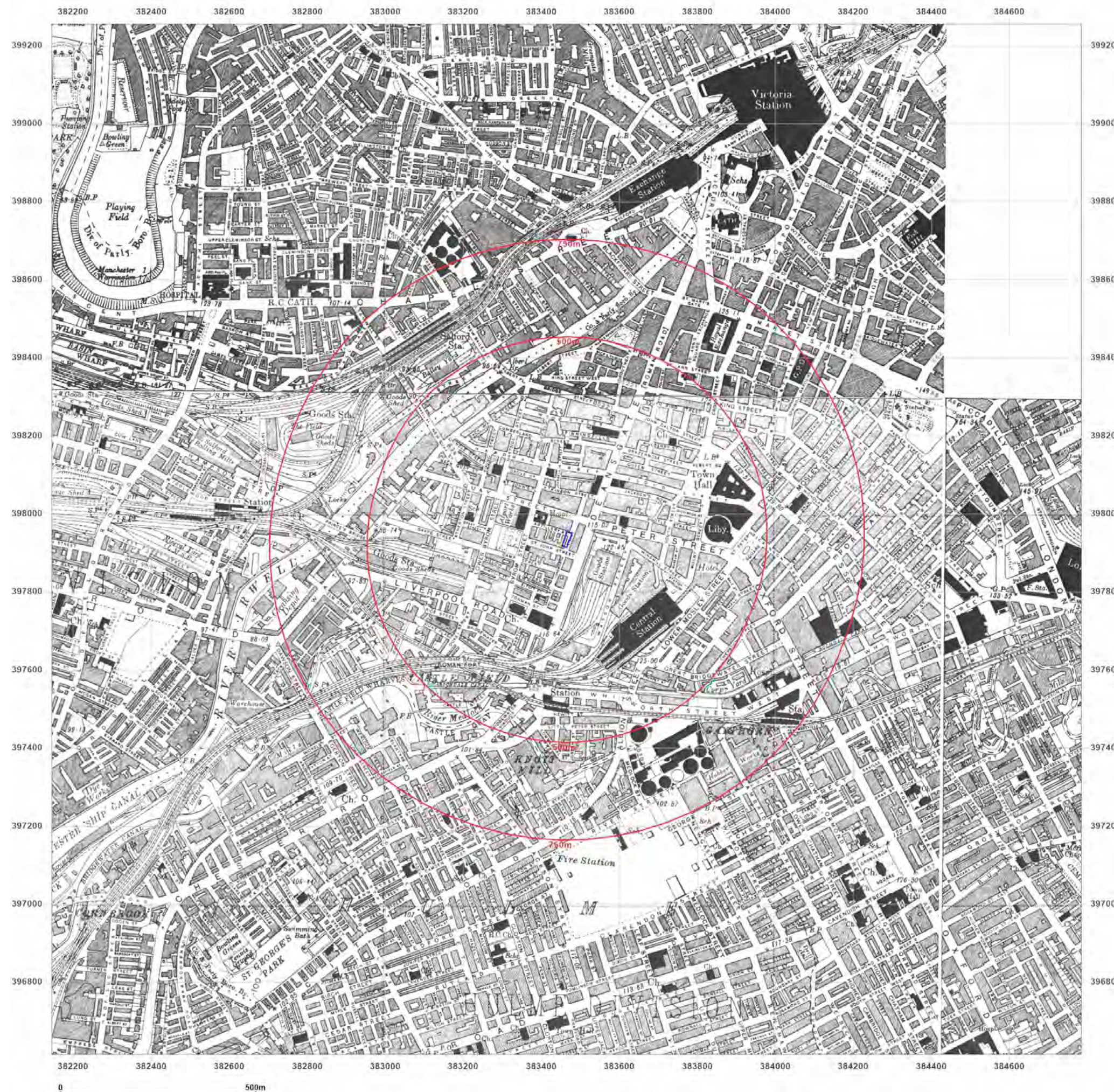


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: Provisional

Map date: 1956

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1956
Revised 1956
Edition N/A
Copyright N/A
Levelled N/A

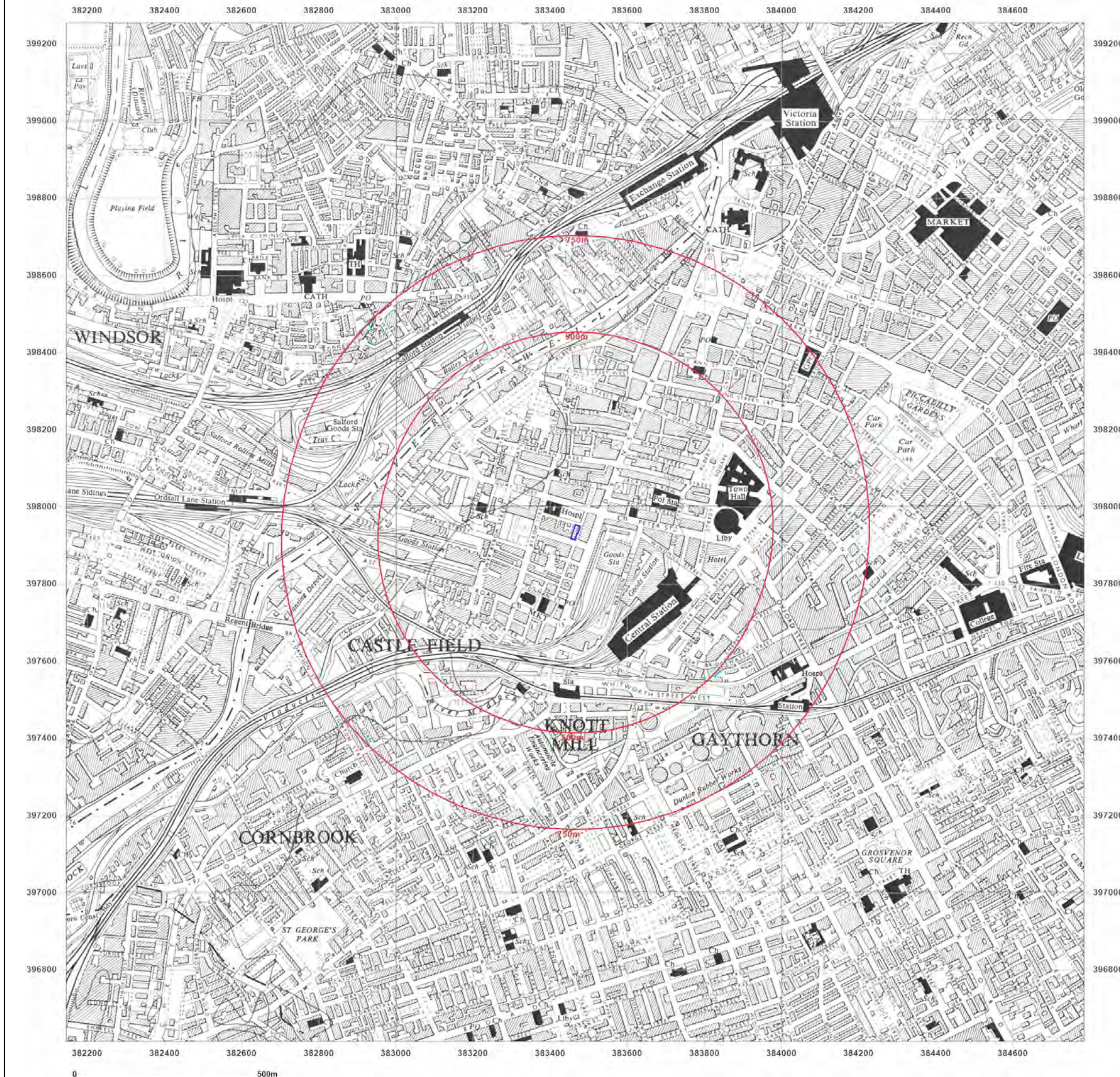


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1972

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1971
Revised 1972
Edition N/A
Copyright 1972
Levelled 1972

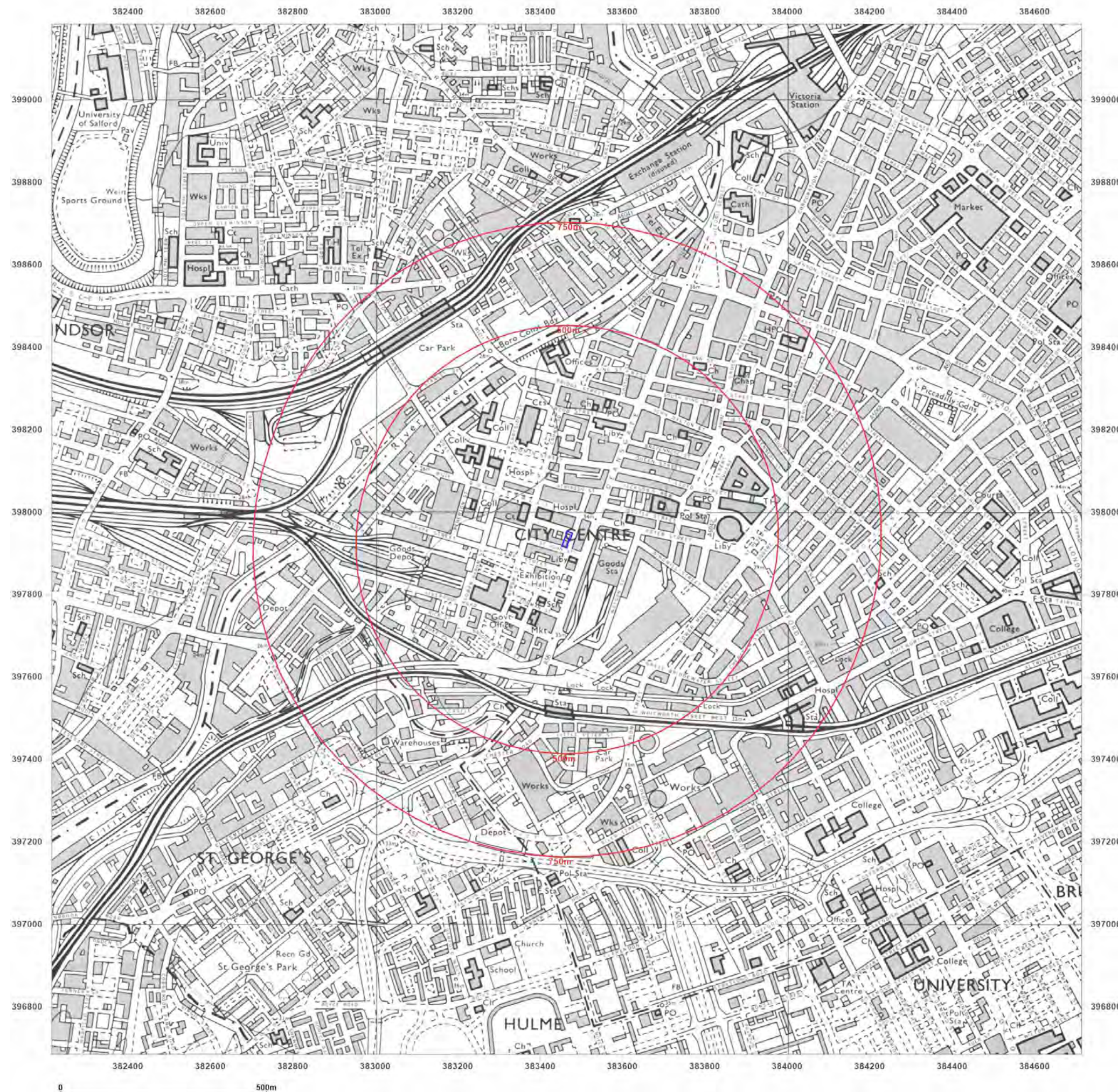


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1980

Scale: 1:10,000

Printed at: 1:10,000



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

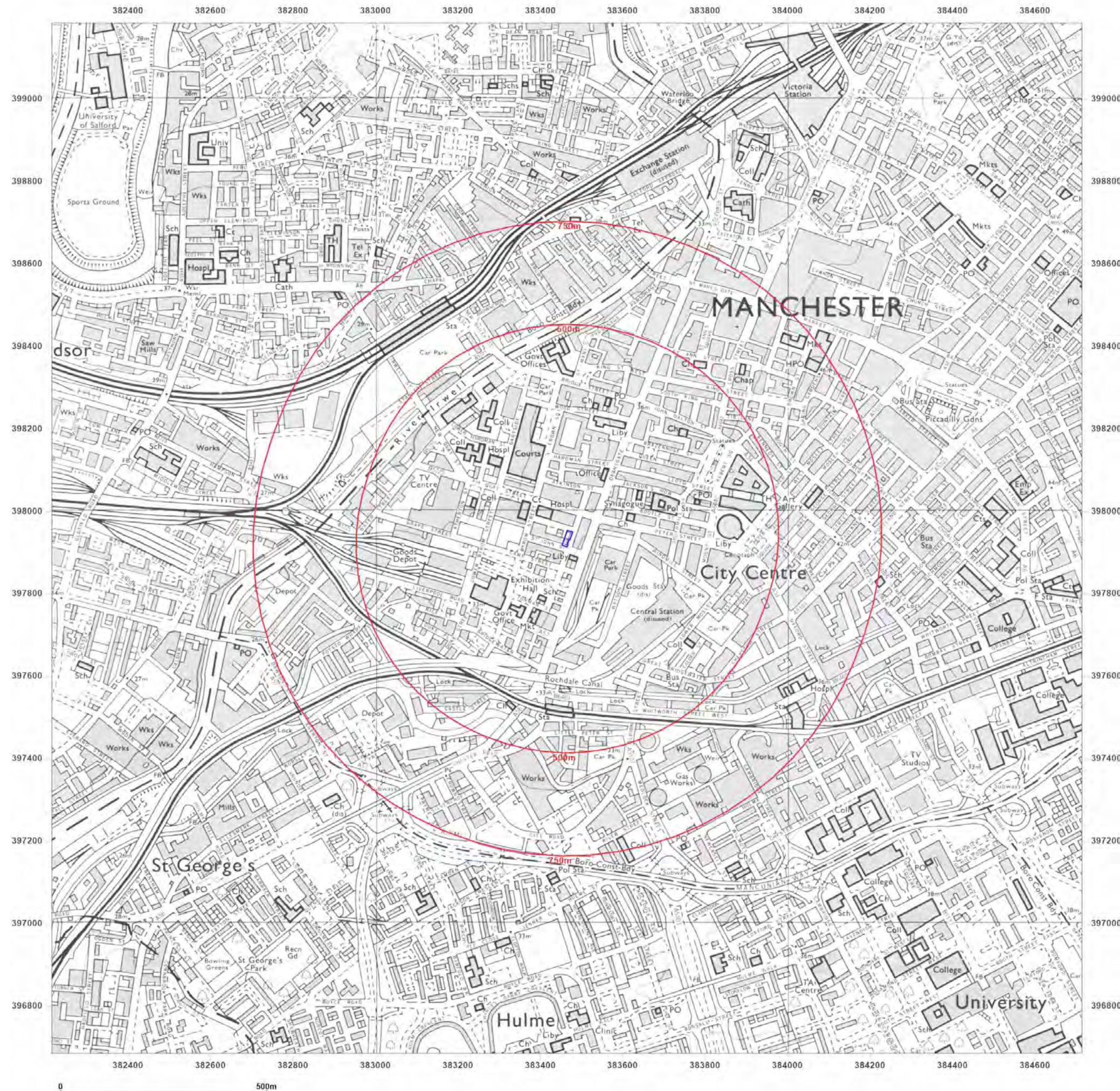


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1985

Scale: 1:10,000

Printed at: 1:10,000



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

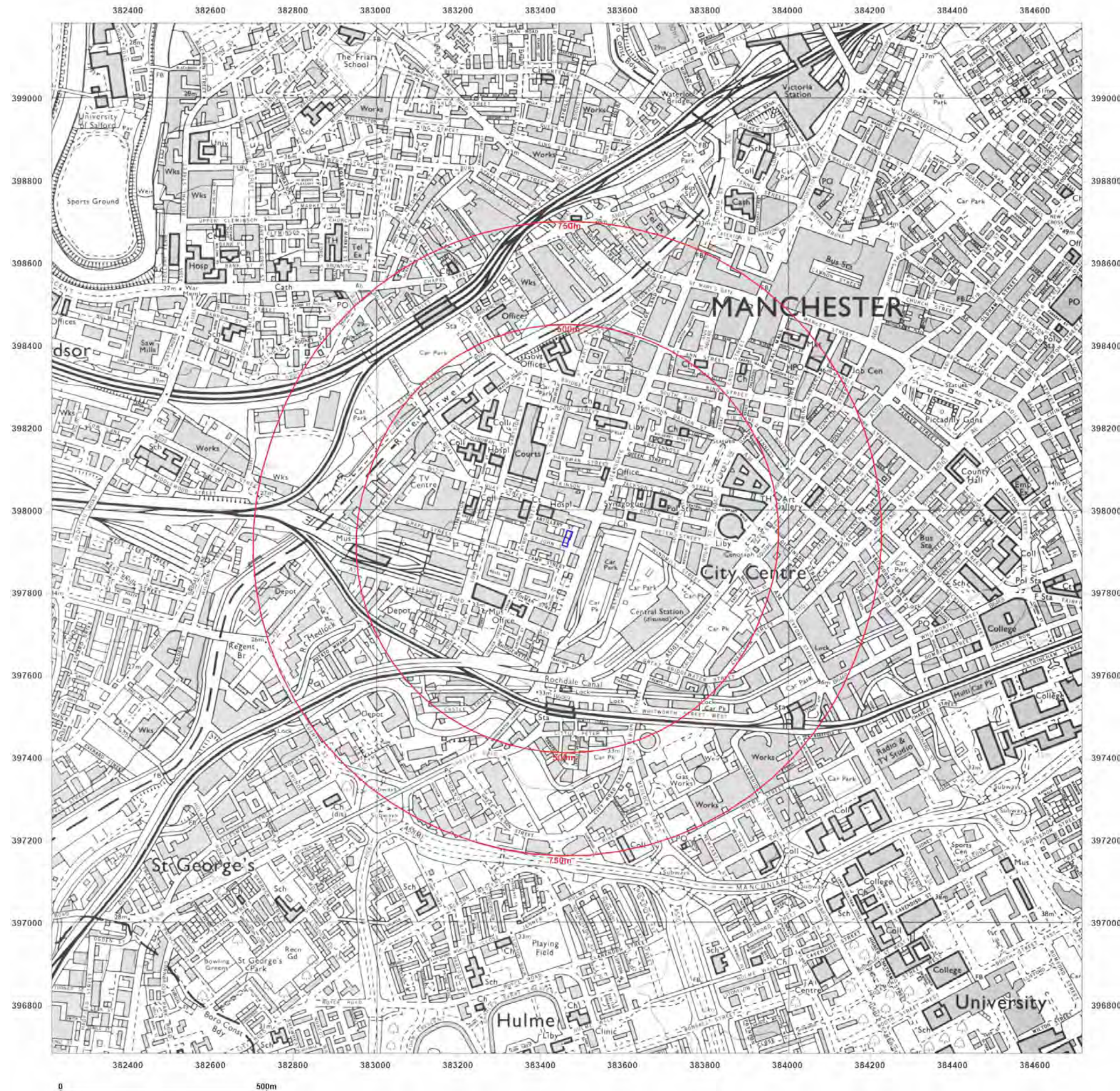


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1988

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1986
Revised 1988
Edition N/A
Copyright N/A
Levelled N/A

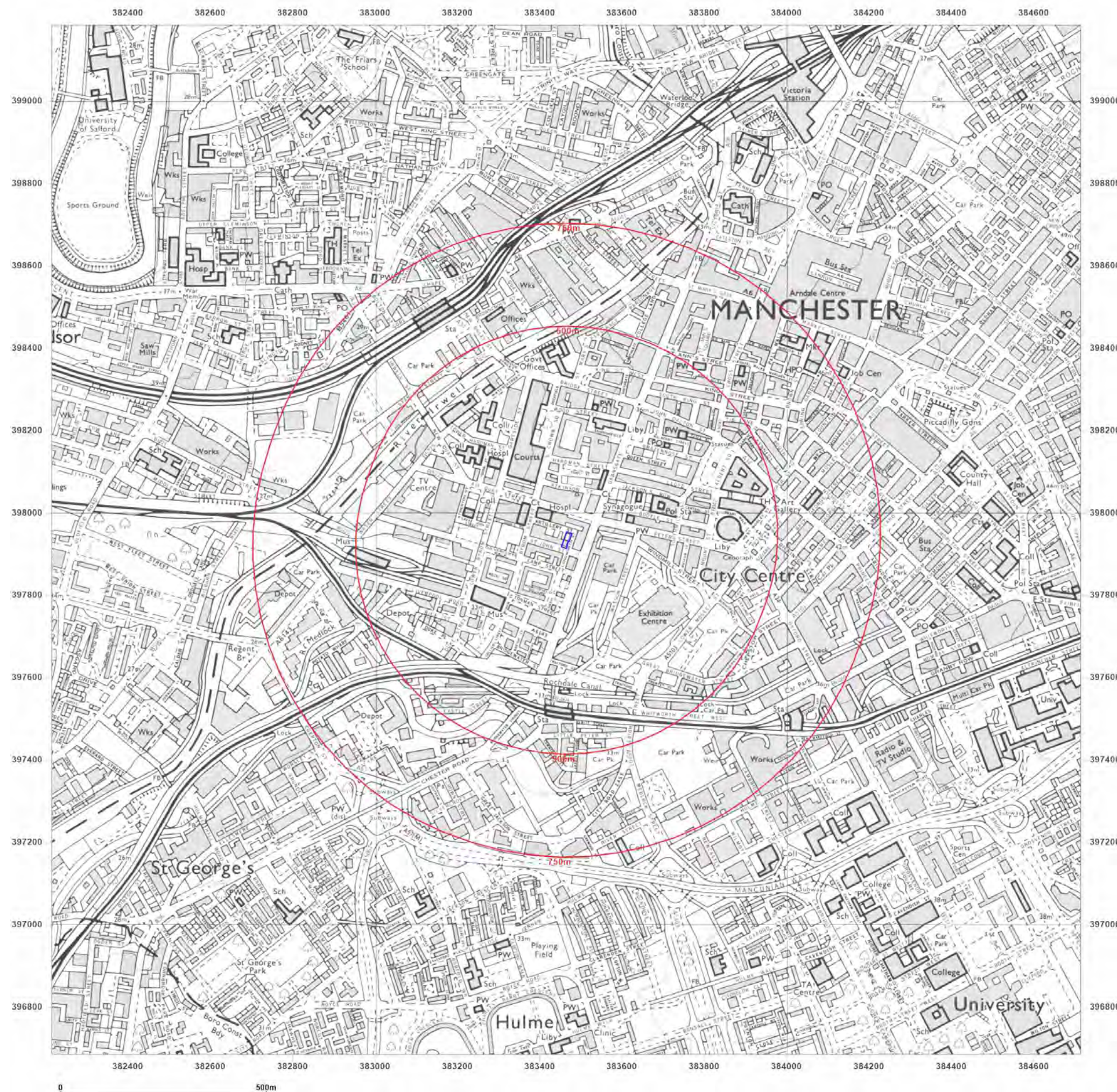


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 1994

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1986
Revised 1994
Edition N/A
Copyright N/A
Levelled N/A

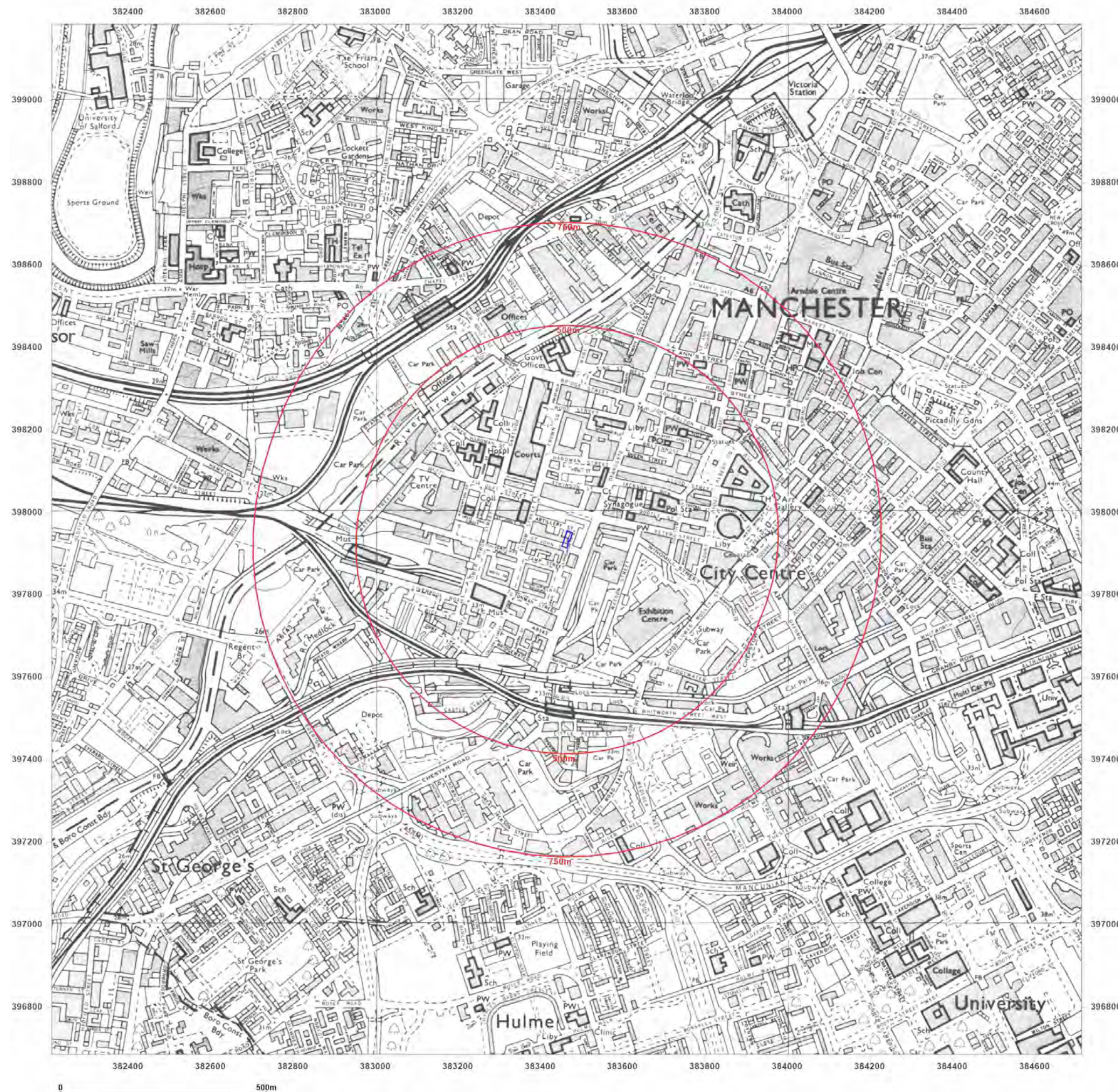


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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000

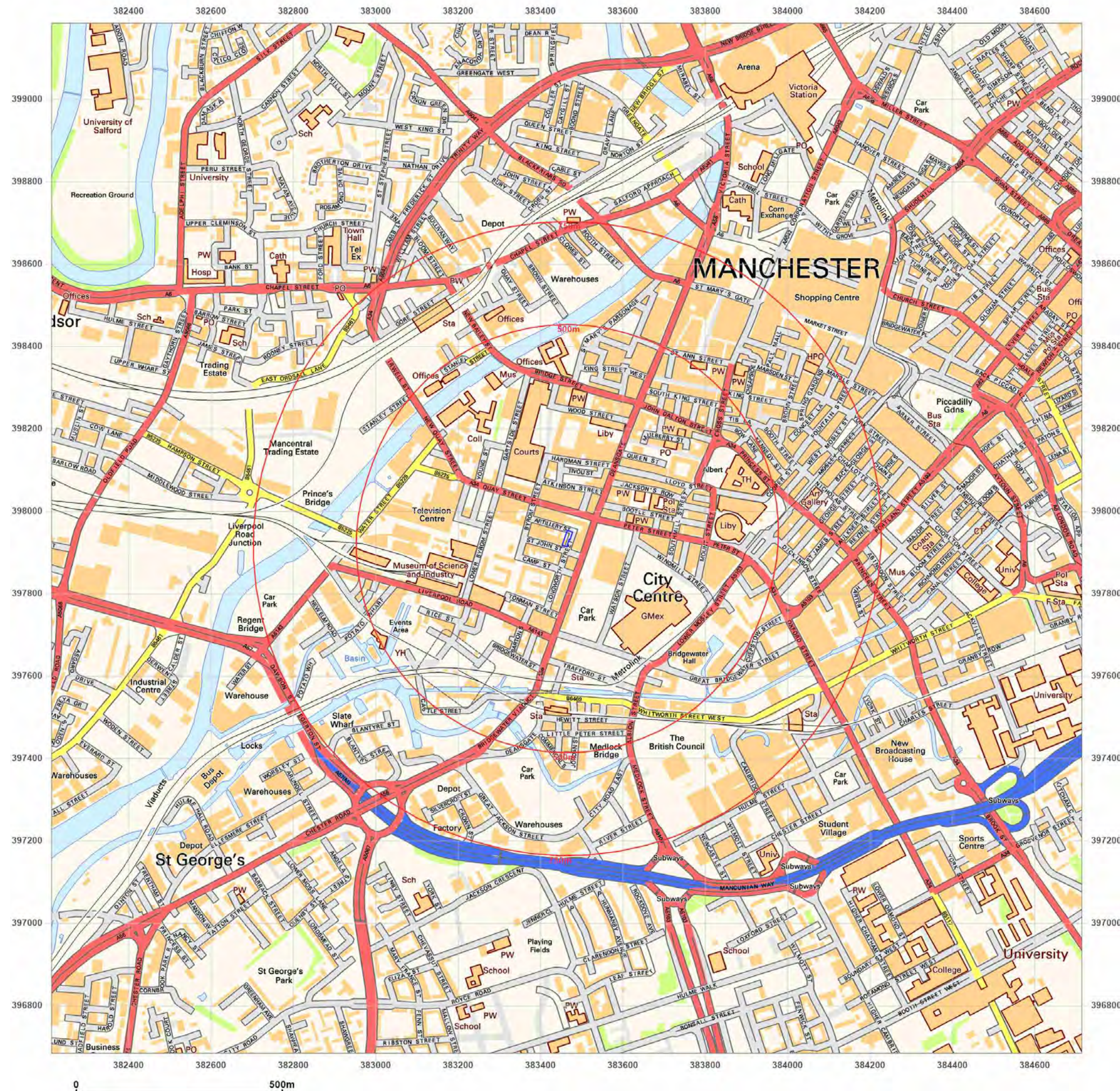


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Site Details:

8-8a St John Street, Manchester,
M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



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Site Details:

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M3 4DU

Client Ref: PO35093
Report Ref: HYD-FO5-48Z-FN4-M6T
Grid Ref: 383464, 397934

Map Name: National Grid

Map date: 2024

Scale: 1:10,000

Printed at: 1:10,000

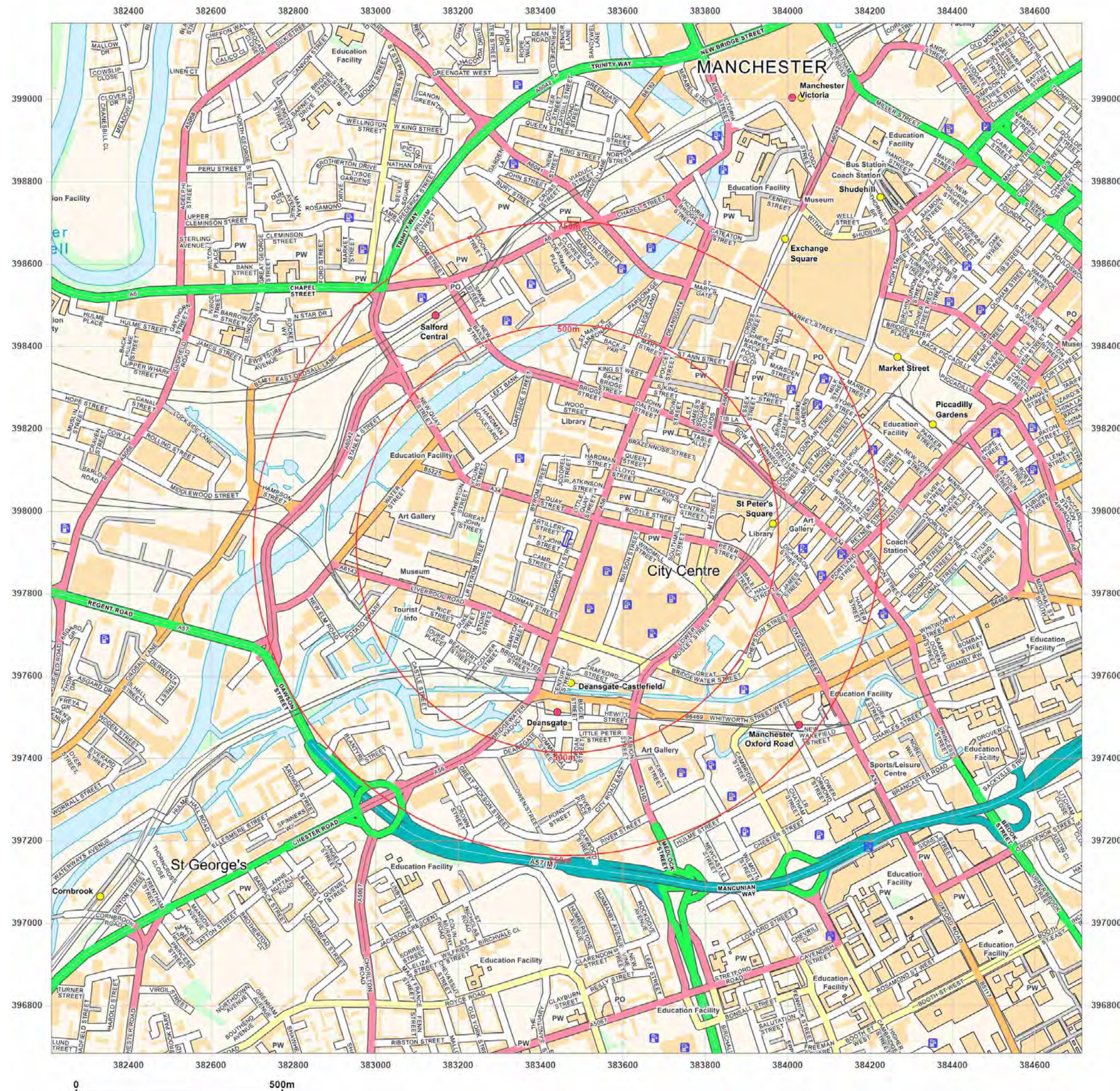


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Appendix D Desk study research information

Groundsure Geo+Enviro Insight

8-8a St John Street, Manchester, M3 4DU

Order Details

Date: 05/07/2024
Your ref: PO35093
Our Ref: HYD-3C6-F91-ZV2-73I

Site Details

Location: 383464 397934
Area: 0.05 ha
Authority: [Manchester City Council](#) ↗



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Summary of findings

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

[p. 9 >](#)

OS MasterMap site plan

[p.14 >](#) **[Insight User Guide](#)** ↗

Contact us with any questions at:

info@groundsure.com ↗

01273 257 755

Summary of findings

Page	Section	Past land use >	On site	0-50m	50-250m	250-500m	500-2000m
15 >	1.1 >	Historical industrial land uses >	0	4	55	87	-
21 >	1.2 >	Historical tanks >	0	1	12	29	-
23 >	1.3 >	Historical energy features >	0	0	4	29	-
24	1.4	Historical petrol stations	0	0	0	0	-
25 >	1.5 >	Historical garages >	0	0	9	19	-
26	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
27 >	2.1 >	Historical industrial land uses >	0	6	79	154	-
36 >	2.2 >	Historical tanks >	0	1	26	51	-
39 >	2.3 >	Historical energy features >	0	0	12	51	-
42	2.4	Historical petrol stations	0	0	0	0	-
42 >	2.5 >	Historical garages >	0	0	13	37	-
Page	Section	Waste and landfill >	On site	0-50m	50-250m	250-500m	500-2000m
45	3.1	Active or recent landfill	0	0	0	0	-
45	3.2	Historical landfill (BGS records)	0	0	0	0	-
46	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
46	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
46 >	3.5 >	Historical waste sites >	0	0	1	3	-
47	3.6	Licensed waste sites	0	0	0	0	-
47 >	3.7 >	Waste exemptions >	0	0	7	69	-
Page	Section	Current industrial land use >	On site	0-50m	50-250m	250-500m	500-2000m
54 >	4.1 >	Recent industrial land uses >	0	2	22	-	-
56	4.2	Current or recent petrol stations	0	0	0	0	-
56	4.3	Electricity cables	0	0	0	0	-
57	4.4	Gas pipelines	0	0	0	0	-
57	4.5	Sites determined as Contaminated Land	0	0	0	0	-



57	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
57	4.7	Regulated explosive sites	0	0	0	0	-
57	4.8	Hazardous substance storage/usage	0	0	0	0	-
58	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
58 >	4.10 >	Licensed industrial activities (Part A(1)) >	0	0	0	2	-
58 >	4.11 >	Licensed pollutant release (Part A(2)/B) >	0	0	0	3	-
59	4.12	Radioactive Substance Authorisations	0	0	0	0	-
59 >	4.13 >	Licensed Discharges to controlled waters >	0	0	0	34	-
65	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
65	4.15	Pollutant release to public sewer	0	0	0	0	-
65	4.16	List 1 Dangerous Substances	0	0	0	0	-
65 >	4.17 >	List 2 Dangerous Substances >	0	0	0	1	-
65	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
66	4.19	Pollution inventory substances	0	0	0	0	-
66	4.20	Pollution inventory waste transfers	0	0	0	0	-
66	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology >	On site	0-50m	50-250m	250-500m	500-2000m
67 >	5.1 >	Superficial aquifer >	Identified (within 500m)				
69 >	5.2 >	Bedrock aquifer >	Identified (within 500m)				
71 >	5.3 >	Groundwater vulnerability >	Identified (within 50m)				
72	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
72	5.5	Groundwater vulnerability- local information	None (within 0m)				
73 >	5.6 >	Groundwater abstractions >	0	0	0	4	52
87 >	5.7 >	Surface water abstractions >	0	0	0	0	2
88 >	5.8 >	Potable abstractions >	0	0	0	0	10
91 >	5.9 >	Source Protection Zones >	0	0	0	1	-
91	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology >	On site	0-50m	50-250m	250-500m	500-2000m
92 >	6.1 >	Water Network (OS MasterMap) >	0	0	1	-	-



93	6.2	Surface water features	0	0	0	-	-
93 >	6.3 >	WFD Surface water body catchments >	1	-	-	-	-
93 >	6.4 >	WFD Surface water bodies >	0	0	0	-	-
94 >	6.5 >	WFD Groundwater bodies >	1	-	-	-	-
Page	Section	River and coastal flooding >	On site	0-50m	50-250m	250-500m	500-2000m
95	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
96 >	7.2 >	Historical Flood Events >	0	0	1	-	-
96	7.3	Flood Defences	0	0	0	-	-
96	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
96	7.5	Flood Storage Areas	0	0	0	-	-
97	7.6	Flood Zone 2	None (within 50m)				
97	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
98	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding >					
99 >	9.1 >	Groundwater flooding >	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
100	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
100	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
100	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
100	10.4	Special Protection Areas (SPA)	0	0	0	0	0
101	10.5	National Nature Reserves (NNR)	0	0	0	0	0
101	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
101	10.7	Designated Ancient Woodland	0	0	0	0	0
101	10.8	Biosphere Reserves	0	0	0	0	0
102	10.9	Forest Parks	0	0	0	0	0
102	10.10	Marine Conservation Zones	0	0	0	0	0
102	10.11	Green Belt	0	0	0	0	0
102	10.12	Proposed Ramsar sites	0	0	0	0	0



102	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
103	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
103	10.15	Nitrate Sensitive Areas	0	0	0	0	0
103 >	10.16 >	Nitrate Vulnerable Zones >	0	0	0	0	4
104 >	10.17 >	SSSI Impact Risk Zones >	1	-	-	-	-
105	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
106	11.1	World Heritage Sites	0	0	0	-	-
107	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
107	11.3	National Parks	0	0	0	-	-
107 >	11.4 >	Listed Buildings >	1	6	30	-	-
109 >	11.5 >	Conservation Areas >	1	1	3	-	-
109	11.6	Scheduled Ancient Monuments	0	0	0	-	-
110	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations >	On site	0-50m	50-250m	250-500m	500-2000m
111 >	12.1 >	Agricultural Land Classification >	Urban (within 250m)				
112	12.2	Open Access Land	0	0	0	-	-
112	12.3	Tree Felling Licences	0	0	0	-	-
112	12.4	Environmental Stewardship Schemes	0	0	0	-	-
112	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
113	13.1	Priority Habitat Inventory	0	0	0	-	-
113	13.2	Habitat Networks	0	0	0	-	-
113	13.3	Open Mosaic Habitat	0	0	0	-	-
113	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
114 >	14.1 >	10k Availability >	Identified (within 500m)				
115 >	14.2 >	Artificial and made ground (10k) >	0	1	0	1	-
116 >	14.3 >	Superficial geology (10k) >	1	0	1	2	-

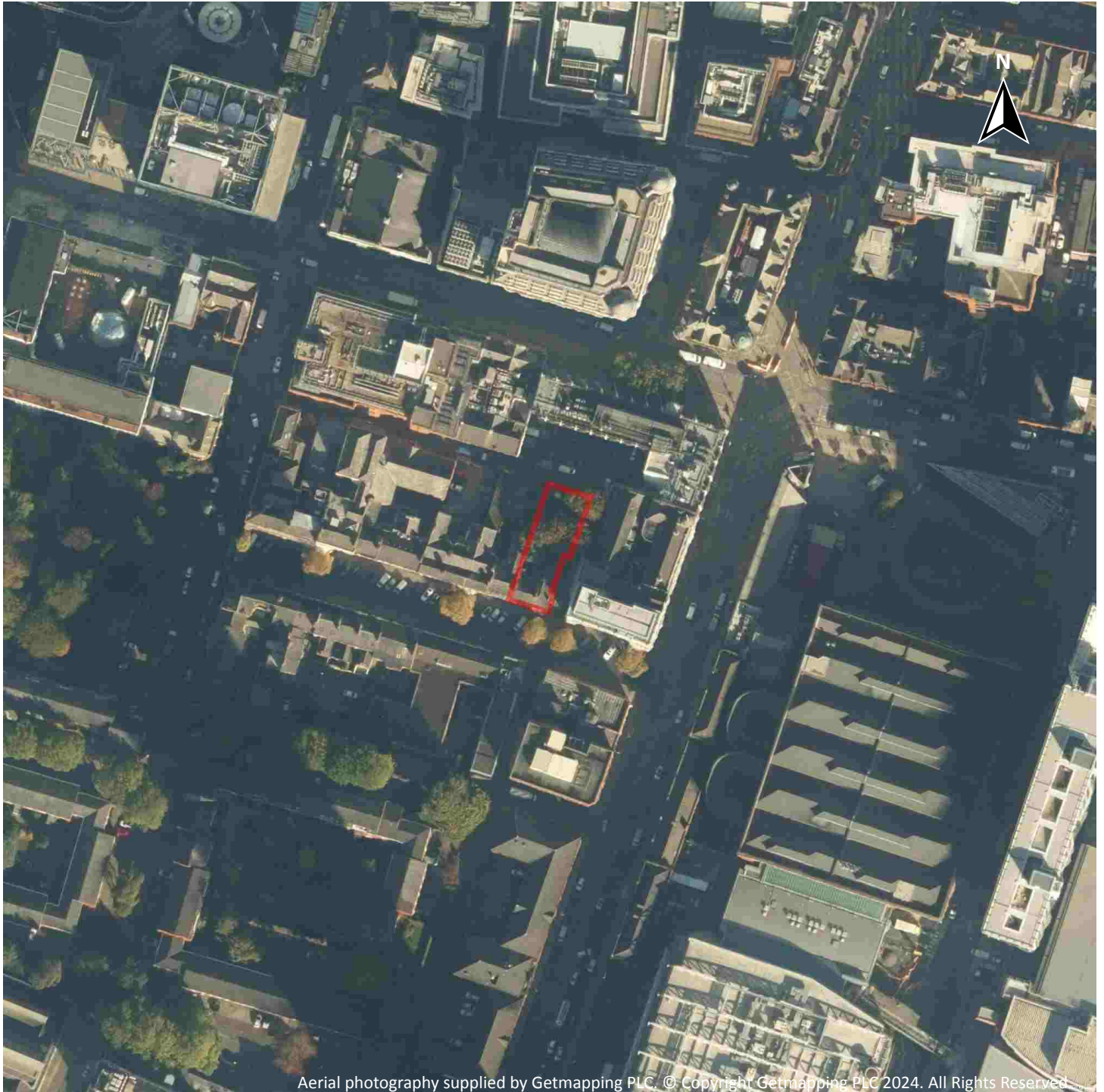
117	14.4	Landslip (10k)	0	0	0	0	-
118 >	14.5 >	Bedrock geology (10k) >	1	1	0	0	-
119 >	14.6 >	Bedrock faults and other linear features (10k) >	0	0	3	2	-
Page	Section	Geology 1:50,000 scale >	On site	0-50m	50-250m	250-500m	500-2000m
120 >	15.1 >	50k Availability >	Identified (within 500m)				
121 >	15.2 >	Artificial and made ground (50k) >	0	0	1	0	-
122	15.3	Artificial ground permeability (50k)	0	0	-	-	-
123 >	15.4 >	Superficial geology (50k) >	1	0	1	2	-
124 >	15.5 >	Superficial permeability (50k) >	Identified (within 50m)				
124	15.6	Landslip (50k)	0	0	0	0	-
124	15.7	Landslip permeability (50k)	None (within 50m)				
125 >	15.8 >	Bedrock geology (50k) >	1	1	0	0	-
126 >	15.9 >	Bedrock permeability (50k) >	Identified (within 50m)				
126 >	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
127 >	16.1 >	BGS Boreholes >	0	2	78	-	-
Page	Section	Natural ground subsidence >					
132 >	17.1 >	Shrink swell clays >	Negligible (within 50m)				
133 >	17.2 >	Running sands >	Very low (within 50m)				
134 >	17.3 >	Compressible deposits >	Negligible (within 50m)				
135 >	17.4 >	Collapsible deposits >	Very low (within 50m)				
136 >	17.5 >	Landslides >	Very low (within 50m)				
137 >	17.6 >	Ground dissolution of soluble rocks >	Negligible (within 50m)				
Page	Section	Mining and ground workings	On site	0-50m	50-250m	250-500m	500-2000m
139	18.1	BritPits	0	0	0	0	-
139	18.2	Surface ground workings	0	0	0	-	-
139	18.3	Underground workings	0	0	0	0	0
139	18.4	Underground mining extents	0	0	0	0	-
140	18.5	Historical Mineral Planning Areas	0	0	0	0	-



140	18.6	Non-coal mining	0	0	0	0	0
140 >	18.7 >	JPB mining areas >	Identified (within 0m)				
140	18.8	The Coal Authority non-coal mining	0	0	0	0	-
141	18.9	Researched mining	0	0	0	0	-
141	18.10	Mining record office plans	0	0	0	0	-
141	18.11	BGS mine plans	0	0	0	0	-
141 >	18.12 >	Coal mining >	Identified (within 0m)				
142	18.13	Brine areas	None (within 0m)				
142	18.14	Gypsum areas	None (within 0m)				
142	18.15	Tin mining	None (within 0m)				
142	18.16	Clay mining	None (within 0m)				
Page	Section	Ground cavities and sinkholes	On site	0-50m	50-250m	250-500m	500-2000m
143	19.1	Natural cavities	0	0	0	0	-
143	19.2	Mining cavities	0	0	0	0	0
143	19.3	Reported recent incidents	0	0	0	0	-
143	19.4	Historical incidents	0	0	0	0	-
144	19.5	National karst database	0	0	0	0	-
Page	Section	Radon >					
145 >	20.1 >	Radon >	Less than 1% (within 0m)				
Page	Section	Soil chemistry >	On site	0-50m	50-250m	250-500m	500-2000m
147 >	21.1 >	BGS Estimated Background Soil Chemistry >	1	5	-	-	-
147 >	21.2 >	BGS Estimated Urban Soil Chemistry >	1	4	-	-	-
148	21.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects >	On site	0-50m	50-250m	250-500m	500-2000m
149	22.1	Underground railways (London)	0	0	0	-	-
149	22.2	Underground railways (Non-London)	0	0	0	-	-
150	22.3	Railway tunnels	0	0	0	-	-
150 >	22.4 >	Historical railway and tunnel features >	0	1	50	-	-
152	22.5	Royal Mail tunnels	0	0	0	-	-

152 >	22.6 >	Historical railways >	0	0	3	-	-
153	22.7	Railways	0	0	0	-	-
153	22.8	Crossrail 1	0	0	0	0	-
153	22.9	Crossrail 2	0	0	0	0	-
153	22.10	HS2	0	0	0	0	-

Recent aerial photograph



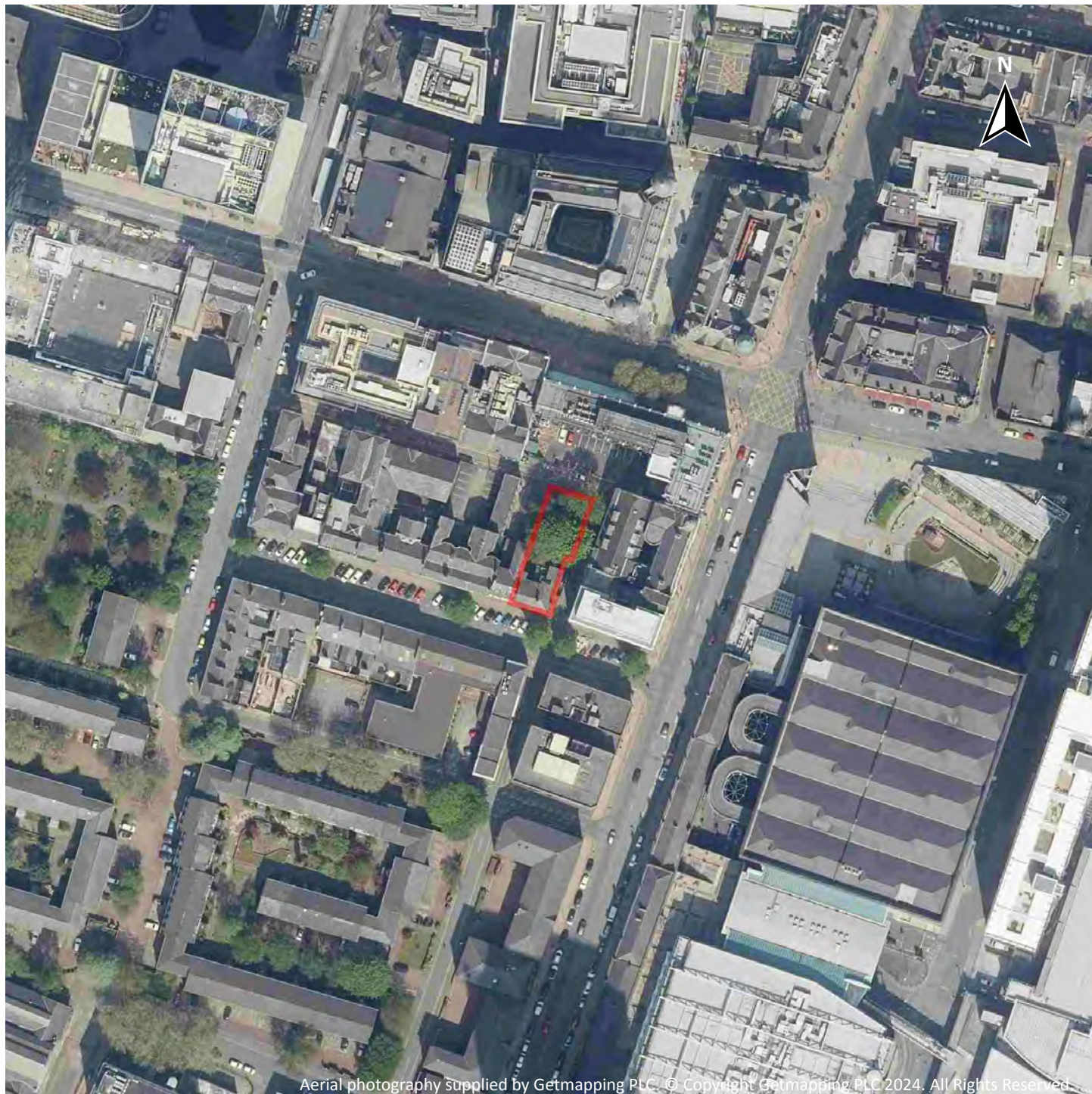
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved

Capture Date: 18/10/2022

Site Area: 0.05ha



Recent site history - 2019 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



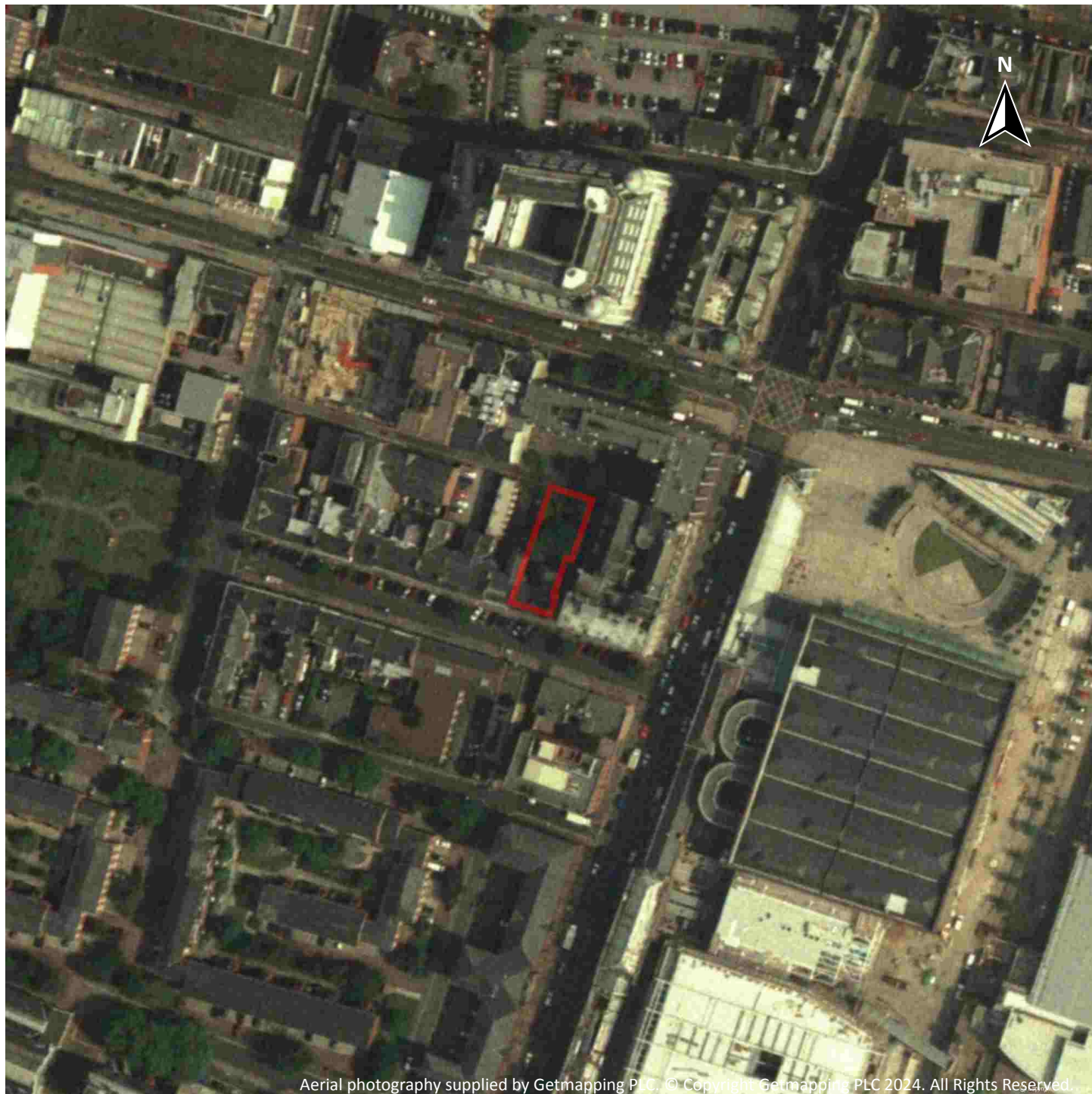
Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2024. All Rights Reserved.

Capture Date: 02/06/2009

Site Area: 0.05ha



Recent site history - 2000 aerial photograph



Capture Date: 27/06/2000

Site Area: 0.05ha



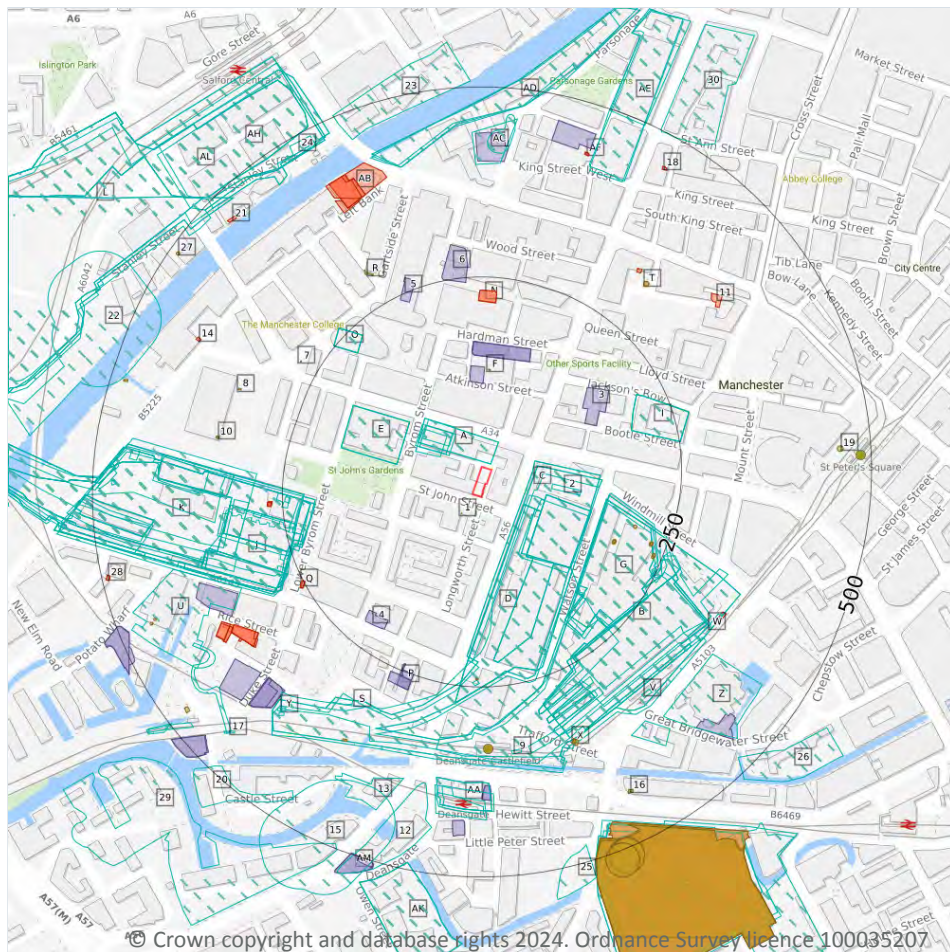
OS MasterMap site plan



Site Area: 0.05ha



1 Past land use



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

1.1 Historical industrial land uses

Records within 500m

146

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

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

ID	Location	Land use	Dates present	Group ID
A	7m N	Hospital	1956 - 1972	879488



ID	Location	Land use	Dates present	Group ID
A	7m N	Hospital	1980	992702
A	45m NW	Hospital	1916	875319
A	50m NW	Hospital	1932 - 1938	869533
A	51m NW	Hospital	1985 - 1988	985880
B	51m E	Railway Sidings	1905 - 1916	979135
B	51m E	Railway Sidings	1932 - 1938	996911
B	55m E	Railway Sidings	1923	961415
C	55m E	Railway Buildings	1923	810636
D	56m SE	Railway Sidings	1972	888823
D	56m SE	Railway Sidings	1985	965779
D	56m SE	Railway Sidings	1980	994576
A	56m NW	Hospital	1923	994712
B	58m E	Railway Sidings	1956	938222
C	71m SE	Goods Station	1905 - 1938	953299
C	72m SE	Goods Station	1956	917923
C	79m E	Disused Goods Station	1980	817824
C	79m E	Goods Station	1972	947488
2	82m E	Railway Buildings	1923	810635
E	107m W	Unspecified Commercial/Industrial	1923	872303
E	107m W	Unspecified Commercial/Industrial	1905	934160
E	107m W	Unspecified Works	1932 - 1938	967713
G	156m E	Goods Station	1932 - 1938	967290
G	156m E	Goods Station	1905 - 1916	974221
G	157m E	Goods Station	1956	963807
H	157m E	Railway Station	1896	948108
H	157m E	Railway Sidings	1896	1005691
G	159m E	Goods Station	1923	958822
I	191m E	Police Station	1980	914364



ID	Location	Land use	Dates present	Group ID
I	191m E	Police Station	1956 - 1972	952220
I	191m E	Police Station	1985 - 1994	996946
J	207m W	Railway Buildings	1896	810649
K	207m W	Railway Sidings	1896	990314
L	207m W	Railway Sidings	1916 - 1938	923062
L	207m W	Railway Sidings	1894	942068
B	214m S	Railway Building	1923	854222
J	214m W	Goods Sheds	1905 - 1938	891142
K	214m W	Railway Sidings	1923	978214
M	214m W	Railway Sidings	1905	871411
M	214m W	Railway Sidings	1932	1009972
K	222m W	Railway Sidings	1956	881875
K	222m W	Goods Depot	1972	969057
K	222m W	Goods Depot	1980	982780
O	222m NW	Hospital	1980	926920
O	222m NW	Hospital	1972	944331
O	222m NW	Hospital	1985 - 1994	998033
J	230m W	Goods Station	1956	810453
J	235m W	Railway Building	1985	964774
J	235m W	Railway Building	1980	984510
J	235m W	Railway Building	1972	1002551
H	235m SE	Railway Station	1932 - 1938	887773
H	235m SE	Railway Station	1905 - 1916	905658
H	235m SE	Railway Station	1923	910657
H	237m SE	Railway Station	1956	946401
J	239m W	Railway Building	1905 - 1923	1004146
J	241m W	Railway Buildings	1932 - 1938	943938
B	241m S	Railway Building	1923	854221



ID	Location	Land use	Dates present	Group ID
H	241m SE	Disused Station	1985	917245
H	241m SE	Disused Station	1980	987897
K	251m W	Railway Sidings	1988 - 1994	916623
J	264m SW	Railway Sidings	1956	927260
J	265m SW	Railway Building	1972	933625
J	265m SW	Railway Building	1985	937253
J	265m SW	Railway Building	1980	968055
J	272m SW	Goods Sheds	1905 - 1938	871028
K	285m W	Unspecified Commercial/Industrial	1848	822349
K	294m W	Railway Sidings	1848	1003395
S	308m SW	Railway Buildings	1905 - 1938	863965
K	315m W	Railway Building	1980	884566
K	315m W	Railway Building	1985	930816
K	315m W	Railway Building	1956 - 1972	944339
K	317m W	Railway Sidings	1985	871710
K	317m W	Railway Sidings	1980	986444
K	317m W	Railway Sidings	1972	988416
K	326m W	Goods Sheds	1905 - 1938	951907
U	328m SW	Unspecified Depot	1985 - 1988	885508
V	335m SE	Railway Building	1905 - 1938	932943
9	336m S	Railway Building	1905 - 1938	933452
W	339m SE	Railway Building	1932 - 1938	889705
K	348m W	Railway Building	1896	969758
V	365m SE	Bus Station	1980	856994
Z	367m SE	Cotton Mills	1848	825898
Y	373m SW	Railway Building	1916	960031
AA	374m S	Railway Station	1956 - 1972	941476
AA	374m S	Railway Station	1980	998002



ID	Location	Land use	Dates present	Group ID
Y	377m SW	Railway Building	1932 - 1938	932961
Y	379m SW	Railway Building	1923	854220
AA	383m S	Railway Station	1985 - 1994	986222
12	384m S	Unspecified Commercial/Industrial	1848	822314
AA	384m S	Railway Station	1905 - 1938	897469
13	384m S	Unspecified Commercial/Industrial	1848	822320
AA	393m S	Railway Station	1896	1007364
AC	398m N	Police Station	1894	858828
Y	400m SW	Unspecified Ground Workings	1848	814699
15	407m S	Quay	1905 - 1938	975316
AD	408m N	Unspecified Commercial/Industrial	1938	861965
AD	409m N	Unspecified Commercial/Industrial	1906 - 1916	875702
AD	412m N	Unspecified Commercial/Industrial	1931	943667
AC	414m N	Tanks	1848	827417
AE	414m N	Unspecified Commercial/Industrial	1906 - 1916	903339
AE	418m NE	Unspecified Commercial/Industrial	1931 - 1938	936368
K	421m W	Railway Building	1985 - 1994	863485
K	421m W	Railway Building	1956 - 1972	869148
K	421m W	Railway Building	1980	956414
K	422m W	Railway Buildings	1896	810648
K	427m W	Goods Station	1905 - 1938	894322
K	437m W	Railway Building	1932 - 1938	902477
K	437m W	Railway Building	1905 - 1916	918964
K	441m W	Railway Building	1916 - 1923	904279
17	442m SW	Railway Building	1905 - 1923	944816
AG	454m S	Unspecified Commercial/Industrial	1848 - 1896	983292
20	456m SW	Slate Wharf	1848	857272
AH	457m NW	Unspecified Yard	1956	894658



ID	Location	Land use	Dates present	Group ID
AI	457m NW	Railway Sidings	1956	987724
22	460m NW	Unspecified Wharf	1916 - 1923	924860
AG	461m S	Unspecified Commercial/Industrial	1932 - 1938	924691
AG	461m S	Gas Works	1905 - 1923	968250
AG	462m S	Unspecified Works	1972	881829
23	463m N	Unspecified Commercial/Industrial	1931	822343
K	467m W	Railway Buildings	1923	924628
AG	468m S	Unspecified Commercial/Industrial	1956	1002925
K	469m W	Railway Building	1923	855139
K	471m W	Railway Buildings	1932 - 1938	868414
K	471m W	Railway Buildings	1905 - 1916	996766
AH	474m NW	Unspecified Yard	1923	925226
AI	474m NW	Railway Sidings	1923	920576
24	475m NW	Unspecified Yard	1894	975390
Y	477m SW	Railway Buildings	1905	810633
25	478m S	Cotton Mill	1848	806913
26	481m SE	Corporation Yard	1905 - 1938	940902
AJ	484m S	Unspecified Tank	1956	947850
AJ	491m S	Unspecified Tank	1896	984138
AK	491m S	Automobile Works	1956	858949
AK	491m S	Unspecified Works	1980	901928
AK	491m S	Unspecified Works	1972	933496
AJ	492m S	Unspecified Tank	1932 - 1938	942139
AJ	492m S	Gasometer	1905 - 1923	1008259
AJ	492m S	Unspecified Tank	1972	861982
AJ	492m S	Unspecified Tank	1980 - 1985	979125
29	494m S	Quay	1848	960465
AL	494m NW	Railway Sidings	1938	866122



ID	Location	Land use	Dates present	Group ID
AL	494m NW	Railway Sidings	1906	873351
AL	494m NW	Railway Sidings	1931	1006442
AE	496m NE	Unspecified Commercial/Industrial	1894	952633
30	498m NE	Unspecified Commercial/Industrial	1894 - 1906	992714
Y	498m SW	Railway Building	1916 - 1923	907132

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

42

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

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

ID	Location	Land use	Dates present	Group ID
1	28m SW	Unspecified Tank	1891	115172
F	128m N	Unspecified Tank	1891	115170
G	182m SE	Unspecified Tank	1986	130493
G	182m SE	Unspecified Tank	1994 - 1999	147875
G	182m SE	Unspecified Tank	1988	132824
G	201m E	Unspecified Tank	1988 - 1999	148866
G	228m E	Unspecified Tank	1986	132999
G	228m E	Unspecified Tank	1994 - 1999	126977
G	229m E	Unspecified Tank	1988	139530
G	237m SE	Unspecified Tank	1988 - 1999	148102
G	237m SE	Unspecified Tank	1986	145853
B	239m S	Unspecified Tank	1957	156070
B	239m S	Unspecified Tank	1955	149684



ID	Location	Land use	Dates present	Group ID
7	275m NW	Unspecified Tank	1891	115077
R	289m NW	Unspecified Tank	1958	115081
R	299m NW	Unspecified Tank	1948	115080
T	315m NE	Tanks	1995	108665
T	315m NE	Unspecified Tank	1989	115175
8	332m W	Unspecified Tank	1957 - 1958	145562
X	340m S	Tanks	1951 - 1965	130425
X	340m S	Tanks	1948	143858
X	341m S	Tanks	1949	152322
V	341m SE	Unspecified Tank	1891	115293
10	341m W	Unspecified Tank	1891	115076
S	363m SW	Unspecified Tank	1932	115026
16	431m SE	Tanks	1891	108717
U	447m SW	Unspecified Tank	1963 - 1965	139504
U	453m SW	Unspecified Tank	1963 - 1965	133853
19	456m E	Unspecified Tank	1994 - 1999	127488
AG	461m S	Gas Works	1893 - 1908	129043
Y	468m SW	Unspecified Tank	1922	115025
AG	472m SE	Gas Works	1891	146932
AG	473m SE	Gas Works	1922	138279
M	477m W	Unspecified Tank	1948 - 1983	129159
AJ	485m S	Unspecified Tank	1969	130499
AJ	485m S	Unspecified Tank	1953	154985
AJ	486m S	Unspecified Tank	1957 - 1965	128947
AJ	486m S	Unspecified Tank	1949	143876
AJ	486m S	Unspecified Tank	1980 - 1985	137448
27	487m NW	Unspecified Tank	1893 - 1908	141124
AJ	490m S	Unspecified Tank	1932	134199



ID	Location	Land use	Dates present	Group ID
AJ	490m S	Gasometer	1908 - 1922	142772

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	33
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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

ID	Location	Land use	Dates present	Group ID
N	216m N	Electricity Substation	1948	90495
N	217m N	Electricity Substation	1958	91468
Q	248m SW	Electricity Substation	1948 - 1957	87242
Q	249m SW	Electricity Substation	1981 - 1995	80836
J	263m W	Electricity Substation	1994 - 1995	78584
J	264m W	Electricity Substation	1995	80928
J	265m W	Electricity Substation	1986 - 1990	76418
T	323m NE	Electricity Substation	1980 - 1995	71684
J	335m SW	Electricity Substation	1957	76855
J	336m SW	Electricity Substation	1995	69187
J	338m SW	Electricity Substation	1949 - 1955	72632
W	349m SE	Electricity Substation	1948 - 1985	85241
J	358m SW	Electricity Substation	1948	84176
J	361m SW	Electricity Substation	1986	81033
J	361m SW	Electricity Substation	1990	90860
J	362m SW	Electricity Substation	1981	75511
J	364m SW	Electricity Substation	1994 - 1995	71919



ID	Location	Land use	Dates present	Group ID
11	364m NE	Electricity Substation	1989 - 1995	82006
AB	380m NW	Hydraulic Power Station	1932 - 1984	87744
AB	383m NW	Hydraulic Power Station	1973	84088
AB	383m NW	Hydraulic Power Station	1948	72139
AB	384m NW	Power Station	1958	68707
AB	388m NW	Hydraulic Power Station	1933	89849
14	405m NW	Electricity Substation	1994 - 1996	75740
AF	432m N	Electricity Substation	1995	76703
AF	433m N	Electricity Substation	1980 - 1986	72233
18	455m NE	Electricity Substation	1986	65349
21	460m NW	Electricity Substation	1996	64718
AG	461m S	Gas Works	1893 - 1908	86780
AG	472m SE	Gas Works	1891	73990
AG	473m SE	Gas Works	1922	84456
28	489m W	Electricity Substation	1994 - 1997	72168
AJ	490m S	Gasometer	1908 - 1922	88154

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.



1.5 Historical garages

Records within 500m

28

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

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

ID	Location	Land use	Dates present	Group ID
F	110m N	Garage	1962 - 1973	26003
3	137m NE	Garage	1948	22733
F	145m N	Garage	1962	25804
F	145m N	Garage	1963	23891
F	145m N	Garage	1971	27309
4	200m SW	Garage	1981	22730
5	237m N	Garage	1948	22729
P	240m SW	Garage	1994 - 1995	27975
6	244m N	Garage	1948	22728
P	256m SW	Garage	1981 - 1990	28188
P	256m SW	Garage	1995	25530
J	335m SW	Garage	1981 - 1990	23619
Y	357m SW	Garage	1981 - 1986	30488
Y	358m SW	Garage	1963	25233
Y	360m SW	Garage	1965	29108
Y	364m SW	Garage	1981	22731
AA	380m S	Garage	1955 - 1981	30682
AA	380m S	Garage	1986 - 1990	27623
AC	402m N	Garage	1948	22199
Z	413m SE	Garage	1973	22727
AA	426m S	Garage	1960 - 1969	28379



ID	Location	Land use	Dates present	Group ID
AF	436m N	Garage	1948	22732
Y	473m SW	Garage	1963 - 1981	27617
Y	474m SW	Garage	1986	25384
U	487m SW	Boat Repair Yard	1948 - 1949	26403
U	487m SW	Boat Repair Yard	1953	24119
AM	498m S	Garage	1980	30971
AM	498m S	Garage	1969	28889

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

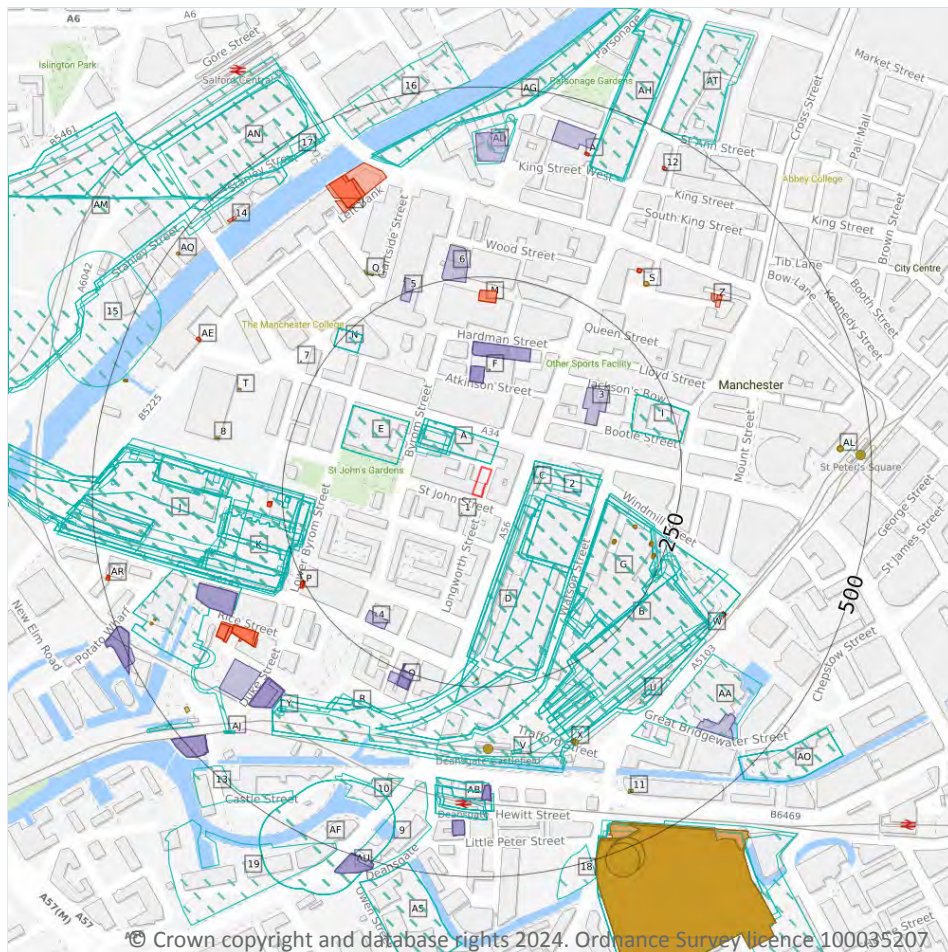
0

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

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



2 Past land use - un-grouped



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

2.1 Historical industrial land uses

Records within 500m

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 27](#) >

ID	Location	Land Use	Date	Group ID
A	7m N	Hospital	1972	879488
A	7m N	Hospital	1956	879488
A	7m N	Hospital	1980	992702



ID	Location	Land Use	Date	Group ID
A	45m NW	Hospital	1916	875319
A	50m NW	Hospital	1938	869533
A	50m NW	Hospital	1932	869533
A	51m NW	Hospital	1988	985880
A	51m NW	Hospital	1985	985880
B	51m E	Railway Sidings	1938	996911
B	51m E	Railway Sidings	1932	996911
B	51m E	Railway Sidings	1916	979135
B	51m E	Railway Sidings	1905	979135
B	55m E	Railway Sidings	1923	961415
C	55m E	Railway Buildings	1923	810636
D	56m SE	Railway Sidings	1972	888823
D	56m SE	Railway Sidings	1980	994576
D	56m SE	Railway Sidings	1985	965779
A	56m NW	Hospital	1923	994712
B	58m E	Railway Sidings	1956	938222
C	71m SE	Goods Station	1938	953299
C	71m SE	Goods Station	1932	953299
C	71m SE	Goods Station	1916	953299
C	71m SE	Goods Station	1905	953299
C	71m SE	Goods Station	1923	953299
C	72m SE	Goods Station	1956	917923
C	79m E	Goods Station	1972	947488
C	79m E	Disused Goods Station	1980	817824
2	82m E	Railway Buildings	1923	810635
E	107m W	Unspecified Works	1938	967713
E	107m W	Unspecified Works	1932	967713
E	107m W	Unspecified Commercial/Industrial	1905	934160



ID	Location	Land Use	Date	Group ID
E	107m W	Unspecified Commercial/Industrial	1923	872303
G	156m E	Goods Station	1938	967290
G	156m E	Goods Station	1932	967290
G	156m E	Goods Station	1916	974221
G	156m E	Goods Station	1905	974221
G	157m E	Goods Station	1956	963807
H	157m E	Railway Station	1896	948108
H	157m E	Railway Sidings	1896	1005691
G	159m E	Goods Station	1923	958822
I	191m E	Police Station	1972	952220
I	191m E	Police Station	1956	952220
I	191m E	Police Station	1988	996946
I	191m E	Police Station	1980	914364
I	191m E	Police Station	1985	996946
I	191m E	Police Station	1994	996946
J	207m W	Railway Sidings	1896	990314
K	207m W	Railway Buildings	1896	810649
L	207m W	Railway Sidings	1916	923062
B	214m S	Railway Building	1923	854222
J	214m W	Railway Sidings	1923	978214
K	214m W	Goods Sheds	1938	891142
K	214m W	Goods Sheds	1932	891142
K	214m W	Goods Sheds	1916	891142
K	214m W	Goods Sheds	1905	891142
K	214m W	Goods Sheds	1923	891142
L	214m W	Railway Sidings	1938	923062
L	214m W	Railway Sidings	1932	1009972
L	214m W	Railway Sidings	1905	871411



ID	Location	Land Use	Date	Group ID
J	222m W	Goods Depot	1972	969057
J	222m W	Railway Sidings	1956	881875
J	222m W	Goods Depot	1980	982780
N	222m NW	Hospital	1972	944331
N	222m NW	Hospital	1988	998033
N	222m NW	Hospital	1980	926920
N	222m NW	Hospital	1985	998033
N	222m NW	Hospital	1994	998033
K	230m W	Goods Station	1956	810453
K	235m W	Railway Building	1972	1002551
K	235m W	Railway Building	1980	984510
K	235m W	Railway Building	1985	964774
H	235m SE	Railway Station	1938	887773
H	235m SE	Railway Station	1932	887773
H	235m SE	Railway Station	1916	905658
H	235m SE	Railway Station	1905	905658
H	235m SE	Railway Station	1923	910657
H	237m SE	Railway Station	1956	946401
K	239m W	Railway Building	1916	1004146
K	239m W	Railway Building	1905	1004146
K	239m W	Railway Building	1923	1004146
K	241m W	Railway Buildings	1938	943938
K	241m W	Railway Buildings	1932	943938
B	241m S	Railway Building	1923	854221
H	241m SE	Disused Station	1980	987897
H	241m SE	Disused Station	1985	917245
J	251m W	Railway Sidings	1988	916623
J	251m W	Railway Sidings	1994	916623



ID	Location	Land Use	Date	Group ID
K	264m SW	Railway Sidings	1956	927260
K	265m SW	Railway Building	1972	933625
K	265m SW	Railway Building	1980	968055
K	265m SW	Railway Building	1985	937253
K	272m SW	Goods Sheds	1938	871028
K	272m SW	Goods Sheds	1932	871028
K	272m SW	Goods Sheds	1916	871028
K	272m SW	Goods Sheds	1905	871028
K	272m SW	Goods Sheds	1923	871028
J	285m W	Unspecified Commercial/Industrial	1848	822349
J	294m W	Railway Sidings	1848	1003395
R	308m SW	Railway Buildings	1938	863965
R	308m SW	Railway Buildings	1932	863965
R	308m SW	Railway Buildings	1916	863965
R	308m SW	Railway Buildings	1905	863965
R	308m SW	Railway Buildings	1923	863965
J	315m W	Railway Building	1972	944339
J	315m W	Railway Building	1980	884566
J	315m W	Railway Building	1985	930816
J	317m W	Railway Sidings	1972	988416
J	317m W	Railway Sidings	1980	986444
J	317m W	Railway Sidings	1985	871710
J	322m W	Railway Building	1956	944339
J	326m W	Goods Sheds	1938	951907
J	326m W	Goods Sheds	1932	951907
J	326m W	Goods Sheds	1916	951907
J	326m W	Goods Sheds	1905	951907
J	326m W	Goods Sheds	1923	951907



ID	Location	Land Use	Date	Group ID
K	328m SW	Unspecified Depot	1988	885508
K	328m SW	Unspecified Depot	1985	885508
U	335m SE	Railway Building	1938	932943
U	335m SE	Railway Building	1932	932943
U	335m SE	Railway Building	1916	932943
U	335m SE	Railway Building	1905	932943
U	335m SE	Railway Building	1923	932943
V	336m S	Railway Building	1938	933452
V	336m S	Railway Building	1932	933452
V	336m S	Railway Building	1916	933452
V	336m S	Railway Building	1905	933452
V	336m S	Railway Building	1923	933452
W	339m SE	Railway Building	1938	889705
W	339m SE	Railway Building	1932	889705
J	348m W	Railway Building	1896	969758
U	365m SE	Bus Station	1980	856994
AA	367m SE	Cotton Mills	1848	825898
Y	373m SW	Railway Building	1916	960031
AB	374m S	Railway Station	1972	941476
AB	374m S	Railway Station	1956	941476
AB	374m S	Railway Station	1980	998002
Y	377m SW	Railway Building	1938	932961
Y	377m SW	Railway Building	1932	932961
Y	379m SW	Railway Building	1923	854220
AB	383m S	Railway Station	1988	986222
AB	383m S	Railway Station	1985	986222
AB	383m S	Railway Station	1994	986222
9	384m S	Unspecified Commercial/Industrial	1848	822314



ID	Location	Land Use	Date	Group ID
AB	384m S	Railway Station	1938	897469
AB	384m S	Railway Station	1932	897469
AB	384m S	Railway Station	1916	897469
AB	384m S	Railway Station	1905	897469
AB	384m S	Railway Station	1923	897469
10	384m S	Unspecified Commercial/Industrial	1848	822320
AB	393m S	Railway Station	1896	1007364
AD	398m N	Police Station	1894	858828
Y	400m SW	Unspecified Ground Workings	1848	814699
AF	407m S	Quay	1938	975316
AF	407m S	Quay	1932	975316
AF	407m S	Quay	1916	975316
AF	407m S	Quay	1905	975316
AF	407m S	Quay	1923	975316
AG	408m N	Unspecified Commercial/Industrial	1938	861965
AG	409m N	Unspecified Commercial/Industrial	1906	875702
AG	412m N	Unspecified Commercial/Industrial	1931	943667
AG	412m N	Unspecified Commercial/Industrial	1916	875702
AD	414m N	Tanks	1848	827417
AH	414m N	Unspecified Commercial/Industrial	1906	903339
AH	418m NE	Unspecified Commercial/Industrial	1938	936368
AH	419m N	Unspecified Commercial/Industrial	1931	936368
AH	419m N	Unspecified Commercial/Industrial	1916	903339
J	421m W	Railway Building	1972	869148
J	421m W	Railway Building	1956	869148
J	421m W	Railway Building	1988	863485
J	421m W	Railway Building	1980	956414
J	421m W	Railway Building	1985	863485



ID	Location	Land Use	Date	Group ID
J	421m W	Railway Building	1994	863485
J	422m W	Railway Buildings	1896	810648
J	427m W	Goods Station	1938	894322
J	427m W	Goods Station	1932	894322
J	427m W	Goods Station	1916	894322
J	427m W	Goods Station	1905	894322
J	427m W	Goods Station	1923	894322
J	437m W	Railway Building	1938	902477
J	437m W	Railway Building	1932	902477
J	437m W	Railway Building	1916	918964
J	437m W	Railway Building	1905	918964
J	441m W	Railway Building	1916	904279
AJ	442m SW	Railway Building	1916	944816
AJ	442m SW	Railway Building	1905	944816
AJ	442m SW	Railway Building	1923	944816
J	442m W	Railway Building	1923	904279
AK	454m S	Unspecified Commercial/Industrial	1896	983292
13	456m SW	Slate Wharf	1848	857272
AM	457m NW	Railway Sidings	1956	987724
AN	457m NW	Unspecified Yard	1956	894658
15	460m NW	Unspecified Wharf	1916	924860
AK	461m S	Unspecified Commercial/Industrial	1938	924691
AK	461m S	Unspecified Commercial/Industrial	1932	924691
AK	461m S	Gas Works	1916	968250
AK	461m S	Gas Works	1905	968250
AK	461m S	Gas Works	1923	968250
AK	462m S	Unspecified Works	1972	881829
16	463m N	Unspecified Commercial/Industrial	1931	822343



ID	Location	Land Use	Date	Group ID
J	467m W	Railway Buildings	1923	924628
AK	468m S	Unspecified Commercial/Industrial	1956	1002925
J	469m W	Railway Building	1923	855139
J	471m W	Railway Buildings	1938	868414
J	471m W	Railway Buildings	1932	868414
J	471m W	Railway Buildings	1916	996766
J	471m W	Railway Buildings	1905	996766
AM	474m NW	Railway Sidings	1923	920576
AN	474m NW	Unspecified Yard	1923	925226
17	475m NW	Unspecified Yard	1894	975390
AN	475m NW	Railway Sidings	1894	942068
Y	477m SW	Railway Buildings	1905	810633
18	478m S	Cotton Mill	1848	806913
AO	481m SE	Corporation Yard	1938	940902
AO	481m SE	Corporation Yard	1932	940902
AO	481m SE	Corporation Yard	1916	940902
AO	481m SE	Corporation Yard	1905	940902
AO	481m SE	Corporation Yard	1923	940902
AP	484m S	Unspecified Tank	1956	947850
AP	491m S	Unspecified Tank	1896	984138
AS	491m S	Unspecified Works	1972	933496
AS	491m S	Automobile Works	1956	858949
AS	491m S	Unspecified Works	1980	901928
AP	492m S	Gasometer	1916	1008259
AP	492m S	Gasometer	1905	1008259
AP	492m S	Unspecified Tank	1938	942139
AP	492m S	Unspecified Tank	1932	942139
AP	492m S	Gasometer	1923	1008259



ID	Location	Land Use	Date	Group ID
AP	492m S	Unspecified Tank	1972	861982
AP	492m S	Unspecified Tank	1980	979125
AP	492m S	Unspecified Tank	1985	979125
19	494m S	Quay	1848	960465
AN	494m NW	Railway Sidings	1938	866122
AN	494m NW	Railway Sidings	1931	1006442
AN	494m NW	Railway Sidings	1916	923062
AN	494m NW	Railway Sidings	1906	873351
AH	496m NE	Unspecified Commercial/Industrial	1894	952633
Y	498m SW	Railway Building	1916	907132
AT	498m NE	Unspecified Commercial/Industrial	1906	992714
AT	499m NE	Unspecified Commercial/Industrial	1894	992714

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 27 >](#)

ID	Location	Land Use	Date	Group ID
1	28m SW	Unspecified Tank	1891	115172
F	128m N	Unspecified Tank	1891	115170
G	182m SE	Unspecified Tank	1986	130493
G	182m SE	Unspecified Tank	1996	147875
G	182m SE	Unspecified Tank	1995	147875
G	182m SE	Unspecified Tank	1994	147875
G	182m SE	Unspecified Tank	1999	147875
G	182m SE	Unspecified Tank	1988	132824



ID	Location	Land Use	Date	Group ID
G	201m E	Unspecified Tank	1996	148866
G	201m E	Unspecified Tank	1995	148866
G	201m E	Unspecified Tank	1994	148866
G	201m E	Unspecified Tank	1999	148866
G	201m E	Unspecified Tank	1988	148866
G	228m E	Unspecified Tank	1986	132999
G	228m E	Unspecified Tank	1996	126977
G	228m E	Unspecified Tank	1995	126977
G	228m E	Unspecified Tank	1994	126977
G	228m E	Unspecified Tank	1999	126977
G	229m E	Unspecified Tank	1988	139530
G	237m SE	Unspecified Tank	1996	148102
G	237m SE	Unspecified Tank	1995	148102
G	237m SE	Unspecified Tank	1994	148102
G	237m SE	Unspecified Tank	1999	148102
G	237m SE	Unspecified Tank	1988	148102
G	237m SE	Unspecified Tank	1986	145853
B	239m S	Unspecified Tank	1957	156070
B	239m S	Unspecified Tank	1955	149684
7	275m NW	Unspecified Tank	1891	115077
Q	289m NW	Unspecified Tank	1958	115081
Q	299m NW	Unspecified Tank	1948	115080
S	315m NE	Tanks	1995	108665
S	315m NE	Unspecified Tank	1989	115175
T	332m W	Unspecified Tank	1958	145562
T	333m W	Unspecified Tank	1957	145562
X	340m S	Tanks	1951	130425
X	340m S	Tanks	1948	143858



ID	Location	Land Use	Date	Group ID
X	341m S	Tanks	1949	152322
X	341m S	Tanks	1957	130425
X	341m S	Tanks	1965	130425
U	341m SE	Unspecified Tank	1891	115293
8	341m W	Unspecified Tank	1891	115076
R	363m SW	Unspecified Tank	1932	115026
11	431m SE	Tanks	1891	108717
K	447m SW	Unspecified Tank	1965	139504
K	448m SW	Unspecified Tank	1963	139504
K	453m SW	Unspecified Tank	1965	133853
K	454m SW	Unspecified Tank	1963	133853
AL	456m E	Unspecified Tank	1996	127488
AL	456m E	Unspecified Tank	1995	127488
AL	456m E	Unspecified Tank	1994	127488
AL	456m E	Unspecified Tank	1999	127488
AK	461m S	Gas Works	1908	129043
Y	468m SW	Unspecified Tank	1922	115025
AK	472m SE	Gas Works	1893	129043
AK	472m SE	Gas Works	1891	146932
AK	473m SE	Gas Works	1922	138279
L	477m W	Unspecified Tank	1951	129159
L	477m W	Unspecified Tank	1949	129159
L	477m W	Unspecified Tank	1956	129159
L	477m W	Unspecified Tank	1971	129159
L	477m W	Unspecified Tank	1963	129159
L	477m W	Unspecified Tank	1953	129159
L	477m W	Unspecified Tank	1948	129159
L	477m W	Unspecified Tank	1969	129159



ID	Location	Land Use	Date	Group ID
L	478m W	Unspecified Tank	1983	129159
AP	485m S	Unspecified Tank	1969	130499
AP	485m S	Unspecified Tank	1953	154985
AP	486m S	Unspecified Tank	1957	128947
AP	486m S	Unspecified Tank	1965	128947
AP	486m S	Unspecified Tank	1949	143876
AP	486m S	Unspecified Tank	1980	137448
AP	486m S	Unspecified Tank	1980	137448
AP	486m S	Unspecified Tank	1985	137448
AQ	487m NW	Unspecified Tank	1893	141124
AQ	487m NW	Unspecified Tank	1908	141124
AP	490m S	Gasometer	1908	142772
AP	490m S	Gasometer	1922	142772
AP	490m S	Unspecified Tank	1932	134199

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

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

Features are displayed on the Past land use - un-grouped map on [page 27 >](#)

ID	Location	Land Use	Date	Group ID
M	216m N	Electricity Substation	1948	90495
M	217m N	Electricity Substation	1958	91468
P	248m SW	Electricity Substation	1957	87242
P	248m SW	Electricity Substation	1949	87242
P	249m SW	Electricity Substation	1995	80836
P	249m SW	Electricity Substation	1994	80836



ID	Location	Land Use	Date	Group ID
P	249m SW	Electricity Substation	1995	80836
P	249m SW	Electricity Substation	1981	80836
P	249m SW	Electricity Substation	1955	87242
P	249m SW	Electricity Substation	1948	87242
P	250m SW	Electricity Substation	1986	80836
P	250m SW	Electricity Substation	1990	80836
K	263m W	Electricity Substation	1995	78584
K	263m W	Electricity Substation	1994	78584
K	264m W	Electricity Substation	1995	80928
K	265m W	Electricity Substation	1986	76418
K	265m W	Electricity Substation	1990	76418
S	323m NE	Electricity Substation	1989	71684
S	323m NE	Electricity Substation	1995	71684
S	324m NE	Electricity Substation	1980	71684
S	324m NE	Electricity Substation	1986	71684
K	335m SW	Electricity Substation	1957	76855
K	336m SW	Electricity Substation	1995	69187
K	338m SW	Electricity Substation	1949	72632
K	338m SW	Electricity Substation	1955	72632
W	349m SE	Electricity Substation	1957	85241
W	349m SE	Electricity Substation	1965	85241
W	349m SE	Electricity Substation	1949	85241
W	349m SE	Electricity Substation	1985	85241
W	349m SE	Electricity Substation	1951	85241
W	349m SE	Electricity Substation	1973	85241
W	349m SE	Electricity Substation	1948	85241
K	358m SW	Electricity Substation	1948	84176
K	361m SW	Electricity Substation	1986	81033



ID	Location	Land Use	Date	Group ID
K	361m SW	Electricity Substation	1990	90860
K	362m SW	Electricity Substation	1981	75511
K	364m SW	Electricity Substation	1995	71919
K	364m SW	Electricity Substation	1994	71919
Z	364m NE	Electricity Substation	1989	82006
Z	372m NE	Electricity Substation	1995	82006
AC	380m NW	Hydraulic Power Station	1932	87744
AC	383m NW	Hydraulic Power Station	1984	87744
AC	383m NW	Hydraulic Power Station	1973	84088
AC	383m NW	Hydraulic Power Station	1948	72139
AC	384m NW	Power Station	1958	68707
AC	388m NW	Hydraulic Power Station	1933	89849
AE	405m NW	Electricity Substation	1994	75740
AE	405m NW	Electricity Substation	1996	75740
AI	432m N	Electricity Substation	1995	76703
AI	433m N	Electricity Substation	1980	72233
AI	433m N	Electricity Substation	1986	72233
12	455m NE	Electricity Substation	1986	65349
14	460m NW	Electricity Substation	1996	64718
AK	461m S	Gas Works	1908	86780
AK	472m SE	Gas Works	1893	86780
AK	472m SE	Gas Works	1891	73990
AK	473m SE	Gas Works	1922	84456
AR	489m W	Electricity Substation	1995	72168
AR	489m W	Electricity Substation	1995	72168
AR	489m W	Electricity Substation	1994	72168
AR	489m W	Electricity Substation	1997	72168
AP	490m S	Gasometer	1908	88154



ID	Location	Land Use	Date	Group ID
AP	490m S	Gasometer	1922	88154

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0
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Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. 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
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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 27 >](#)

ID	Location	Land Use	Date	Group ID
F	110m N	Garage	1962	26003
F	110m N	Garage	1973	26003
F	110m N	Garage	1971	26003
F	110m N	Garage	1963	26003
3	137m NE	Garage	1948	22733
F	145m N	Garage	1962	25804
F	145m N	Garage	1971	27309
F	145m N	Garage	1963	23891
4	200m SW	Garage	1981	22730
5	237m N	Garage	1948	22729
O	240m SW	Garage	1995	27975
O	240m SW	Garage	1994	27975

ID	Location	Land Use	Date	Group ID
6	244m N	Garage	1948	22728
O	256m SW	Garage	1981	28188
O	256m SW	Garage	1995	25530
O	257m SW	Garage	1986	28188
O	257m SW	Garage	1990	28188
K	335m SW	Garage	1981	23619
K	336m SW	Garage	1986	23619
K	336m SW	Garage	1990	23619
Y	357m SW	Garage	1981	30488
Y	358m SW	Garage	1963	25233
Y	358m SW	Garage	1986	30488
Y	360m SW	Garage	1965	29108
Y	364m SW	Garage	1981	22731
AB	380m S	Garage	1963	30682
AB	380m S	Garage	1981	30682
AB	380m S	Garage	1955	30682
AB	380m S	Garage	1957	30682
AB	380m S	Garage	1965	30682
AB	380m S	Garage	1986	27623
AB	380m S	Garage	1990	27623
AD	402m N	Garage	1948	22199
AA	413m SE	Garage	1973	22727
AB	426m S	Garage	1965	28379
AB	426m S	Garage	1960	28379
AB	426m S	Garage	1969	28379
AI	436m N	Garage	1948	22732
Y	473m SW	Garage	1965	27617
Y	474m SW	Garage	1963	27617

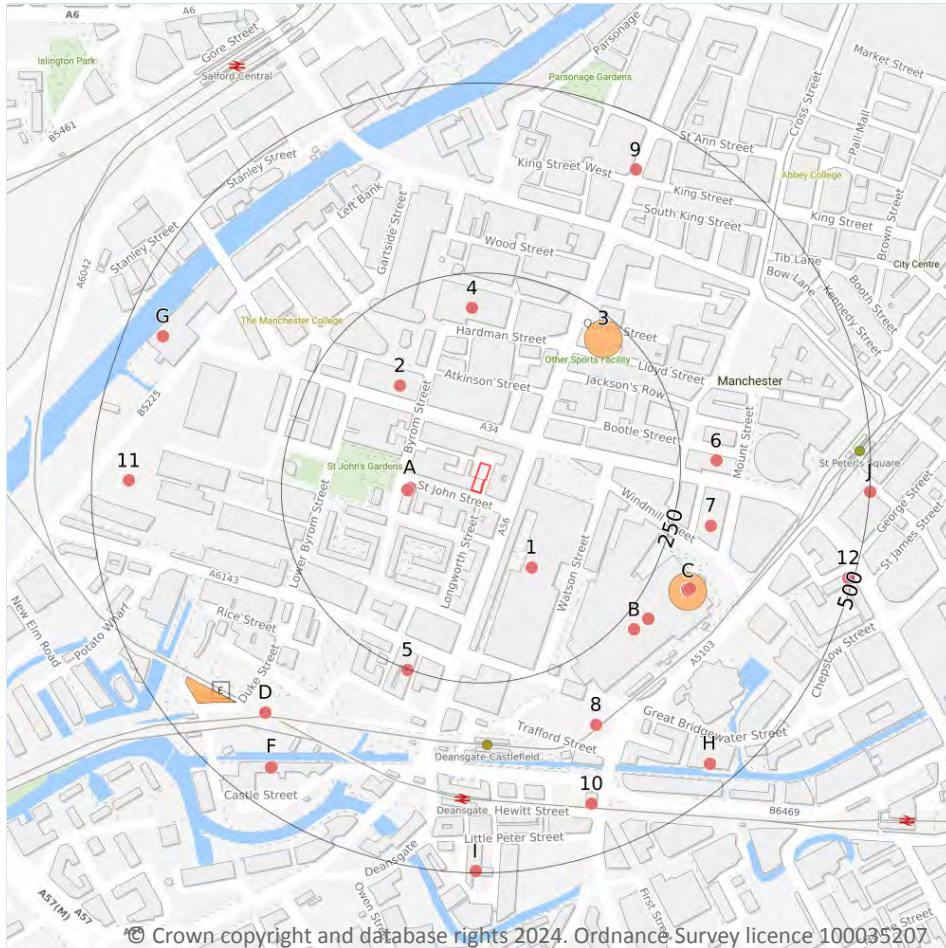


ID	Location	Land Use	Date	Group ID
Y	474m SW	Garage	1981	27617
Y	474m SW	Garage	1986	25384
K	487m SW	Boat Repair Yard	1949	26403
K	487m SW	Boat Repair Yard	1953	24119
K	488m SW	Boat Repair Yard	1949	26403
K	493m SW	Boat Repair Yard	1948	26403
K	495m SW	Boat Repair Yard	1953	24119
AU	498m S	Garage	1980	30971
AU	498m S	Garage	1980	30971
AU	498m S	Garage	1969	28889

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m**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 45 >](#)

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 whdrawn 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
E	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	1981
E	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
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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	76
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Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on [page 45 >](#)

ID	Location	Site	Reference	Category	Sub-Category	Description
A	81m W	25 St John Street M34dt	EPR/FE5081Q V/A001	Treating waste exemption	Non-agricultural waste only	Sorting and de-naturing of controlled drugs for disposal



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- agricultura l waste only	Sorting and de-naturing of controlled drugs for disposal
A	84m W	25, St. John Street, Manchester, M3 4dt	WEX243303	Treating waste exemption	Not on a farm	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- agricultura l waste only	Use of waste in the construction of entertainment or educational installations etc
2	147m NW	1 Spinningfields M3 3je	EPR/QE5341Z N/A001	Using waste exemption	Non- agricultura l waste only	Use of waste in construction
4	203m N	Barclays Bank Plc, 1st Floor, 3 Hardman Street Manchester M3 3hf	EPR/AH0474P P/A001	Storing waste exemption	Non- agricultura l waste only	Storage of waste in a secure place
5	252m S	6, Southern Street, Manchester, M3 4nj	WEX384675	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
B	271m SE	-	WEX346897	Treating waste exemption	Not on a farm	Screening and blending of waste
B	271m SE	-	WEX346897	Treating waste exemption	Not on a farm	Recovery of scrap metal
B	271m SE	-	WEX346897	Treating waste exemption	Not on a farm	Sorting mixed waste
B	271m SE	-	WEX346897	Treating waste exemption	Not on a farm	Treatment of waste food
B	271m SE	-	WEX346897	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
B	271m SE	-	WEX346897	Using waste exemption	Not on a farm	Use of waste in construction
B	271m SE	-	WEX346897	Using waste exemption	Not on a farm	Use of waste in the construction of entertainment or educational installations etc
B	271m SE	-	WEX346897	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)



ID	Location	Site	Reference	Category	Sub-Category	Description
B	271m SE	-	WEX346897	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	271m SE	-	WEX346897	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX217816	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX063339	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Using waste exemption	Not on a farm	Use of waste in construction
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	276m 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	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Sorting mixed waste
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Manual treatment of waste
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Treatment of waste food
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Screening and blending of waste
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Recovery of scrap metal
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Storing waste exemption	Not on a farm	Storage of waste in secure containers
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Storing waste exemption	Not on a farm	Storage of waste in a secure place



ID	Location	Site	Reference	Category	Sub-Category	Description
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX075609	Using waste exemption	Not on a farm	Use of waste in construction
B	276m 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	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Treatment of waste food
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Manual treatment of waste
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Sorting mixed waste
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Recovery of scrap metal
B	276m SE	Windmill Street, Manchester, M2 3gx	WEX220776	Treating waste exemption	Not on a farm	Screening and blending of waste
6	296m E	Brazennose House M2 5pb	EPR/ZE5544KA/A001	Storing waste exemption	Non-agricultural waste only	Storage of waste in a secure place
7	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
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	Preparatory treatments (baling, sorting, shredding etc)



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	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	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
C	301m 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
8	341m SE	Axis Tower, Albion Street, Manchester, M1 5nz	WEX220537	Using waste exemption	Not on a farm	Use of waste in construction



ID	Location	Site	Reference	Category	Sub-Category	Description
D	399m SW	-	WEX347217	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
D	399m SW	-	WEX347217	Treating waste exemption	Not on a farm	Aerobic composting and associated prior treatment
9	433m NE	All Roads In Greater Manchester	EPR/BF0503ZP/A001	Treating waste exemption	Non-agricultural waste only	Screening and blending of waste
10	435m S	Axis Tower, Albion Street, Manchester, M1 5nz	WEX074989	Using waste exemption	Not on a farm	Use of waste in construction
F	449m 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
G	450m NW	Water Street, Manchester, M3 4jq	WEX284357	Using waste exemption	Not on a farm	Use of waste in construction
G	450m NW	Water Street, Manchester, M3 4jq	WEX146528	Using waste exemption	Not on a farm	Use of waste in construction
F	451m SW	Bestway National Chemists Ltd, Bestway National Chemists Ltd, Merchants Warehouse, 21 Castle Street, Manchester, M3 4lz	NRW-WME074524	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
F	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
11	451m W	Factory, 161, Water Street, Manchester, M3 4jq	WEX286567	Using waste exemption	Not on a farm	Use of waste in construction
H	466m SE	Eversheds House 70 Great Bridgewater Street Manchester M1 5es	EPR/QE5657A K/A001	Using waste exemption	Non-agricultural waste only	Spreading waste on non-agricultural land to confer benefit
H	466m SE	Eversheds House 70 Great Bridgewater Street Manchester M1 5es	EPR/QE5657A K/A001	Treating waste exemption	Non-agricultural waste only	Treatment of kitchen waste in a wormery

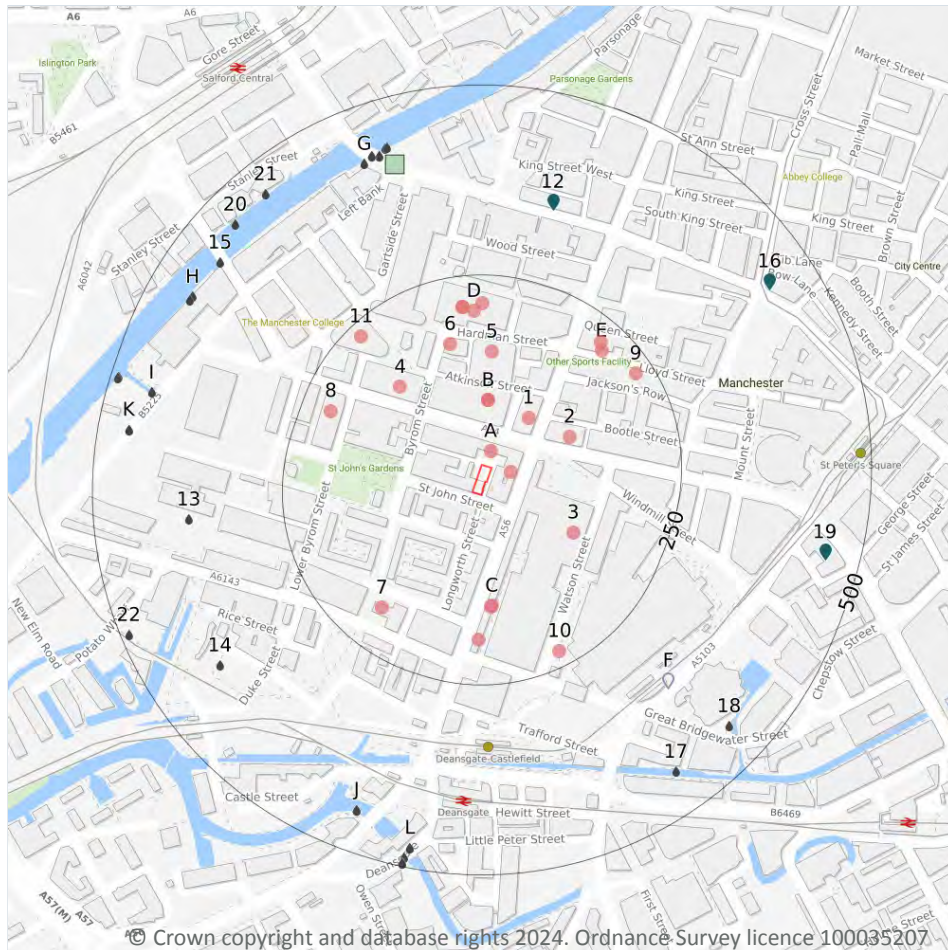


ID	Location	Site	Reference	Category	Sub-Category	Description
H	466m SE	Eversheds House 70 Great Bridgewater Street Manchester M1 5es	EPR/QE5657A K/A001	Using waste exemption	Non-agricultural waste only	Use of mulch
12	493m E	Oxford House, 16, Oxford Street, Manchester, M1 5ae	WEX331634	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
I	499m S	1, Alpha Place, Manchester, M15 4pp	WEX017965	Storing waste exemption	Not on a farm	Storage of waste in secure containers
I	499m S	1, Alpha Place, Manchester, M15 4pp	WEX017965	Storing waste exemption	Not on a farm	Storage of waste in a secure place
J	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
J	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



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Part A(1) industrial activities
- Licensed pollutant release (Part A(2)/B)
- Licensed Discharges to controlled waters
- List 2 Dangerous Substances

4.1 Recent industrial land uses

Records within 250m

24

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on [page 54](#) >

ID	Location	Company	Address	Activity	Category
A	21m N	Proveca	Unit 1, Overseas House, Quay Street, Manchester, Greater Manchester, M3 3HN	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
A	26m E	Hobs Repro	Deansgate Court, 244, Deansgate, Manchester, Greater Manchester, M3 4BQ	Published Goods	Industrial Products



ID	Location	Company	Address	Activity	Category
1	82m NE	Call Print	198, Deansgate, Manchester, Greater Manchester, M3 3NE	Published Goods	Industrial Products
B	85m N	Industrial Tomography Systems	Sunlight House, Quay Street, Manchester, Greater Manchester, M3 3JZ	Measurement and Inspection Equipment	Industrial Products
B	85m N	rentalcars.com	Sunlight House, Quay Street, Manchester, Greater Manchester, M3 3JZ	Vehicle Hire and Rental	Hire Services
2	110m NE	Waterman Group	South Central 11, Peter Street, Manchester, Greater Manchester, M2 5QR	Civil Engineers	Engineering Services
3	130m SE	Manchester Gin	2, Watson Street, Manchester, Greater Manchester, M3 4LP	Alcoholic Drinks	Foodstuffs
C	146m S	Natural Flooring Solutions	275, Deansgate, Manchester, Greater Manchester, M3 4EL	Construction Completion Services	Construction Services
C	147m S	Isovitallity Nutriceuticals Ltd	275, Deansgate, Manchester, Greater Manchester, M3 4EL	Catering and Non Specific Food Products	Foodstuffs
4	148m NW	Place North West	60, Quay Street, Manchester, Greater Manchester, M3 3JE	Published Goods	Industrial Products
5	150m N	Hey Little Cupcake	2, Hardman Street, Manchester, Greater Manchester, M3 3HF	Baking and Confectionery	Foodstuffs
6	164m N	John Good Shipping	4, Hardman Street, Manchester, Greater Manchester, M3 3HF	Distribution and Haulage	Transport, Storage and Delivery
C	190m S	Feather & Black Ltd	289-291, Deansgate, Manchester, Greater Manchester, M3 4EW	Beds and Bedding	Consumer Products
7	193m SW	N U Oil & Gas	Fifth Floor Castlefield House, Liverpool Road, Manchester, Greater Manchester, M3 4SB	Special Purpose Machinery and Equipment	Industrial Products
D	203m N	Green Remediation Ltd	3, Hardman Square, Manchester, Greater Manchester, M3 3EB	Demolition Services	Construction Services
D	209m N	General Medical Council	3, Hardman Street, Manchester, Greater Manchester, M3 3AW	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
D	210m N	E P O S Manchester	Unit 1-3, Hardman Street, Manchester, Greater Manchester, M1 1AG	Office and Shop Equipment	Industrial Products
8	211m NW	Manchester Airport Chauffeurs	Apartment 306 Rossetti Place 2, Lower Byrom Street, Manchester, Greater Manchester, M3 4AN	Vehicle Hire and Rental	Hire Services



ID	Location	Company	Address	Activity	Category
E	211m NE	Electricity Sub Station	Greater Manchester, M2	Electrical Features	Infrastructure and Facilities
D	213m N	Merlin Repair Specialists Ltd	3, Hardman Street, Manchester, Greater Manchester, M3 3HF	Industrial Coatings and Finishings	Industrial Products
E	219m NE	R G B Facades	St Johns House, 2, Queen Street, Manchester, Greater Manchester, M2 5JB	Distribution and Haulage	Transport, Storage and Delivery
9	227m NE	The Leaflet Company	14, Lloyd Street, Manchester, Greater Manchester, M2 5ND	Distribution and Haulage	Transport, Storage and Delivery
10	230m SE	Duffy Motors Manchester Ltd	Arch 16-17, Watson Street, Manchester, Greater Manchester, M3 4LP	Vehicle Repair, Testing and Servicing	Repair and Servicing
11	232m NW	Hydrock	3, Hardman Square, Manchester, Greater Manchester, M3 3EB	Civil Engineers	Engineering Services

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0
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Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
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High voltage underground electricity transmission cables.

This data is sourced from National Grid.



4.4 Gas pipelines

Records within 500m

0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m

0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m

0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

0

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

This data is sourced from Local Authority records.



4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

2

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

Features are displayed on the Current industrial land use map on [page 54 >](#)

ID	Location	Details	
F	346m SE	Operator: MANCHESTER HEAT NETWORK TRADECO LIMITED Installation Name: Manchester Civic Quarter Energy Centre Centre EPR/JP3700BU Process: TRANCHE A SG PERMITTING DATE 1ST OCTOBER 2019 Permit Number: JP3700BU Original Permit Number: JP3700BU	EPR Reference: EPR/JP3700BU Issue Date: 20/08/2020 Effective Date: 20/08/2020 Last date noted as effective: 23/11/2023 Status: Effective
F	346m SE	Operator: MANCHESTER HEAT NETWORK TRADECO LIMITED Installation Name: Manchester Civic Quarter Energy Centre Centre EPR/JP3700BU Process: NEW MEDIUM COMBUSTION PLANT Permit Number: JP3700BU Original Permit Number: JP3700BU	EPR Reference: EPR/JP3700BU Issue Date: 20/08/2020 Effective Date: 20/08/2020 Last date noted as effective: 23/11/2023 Status: Effective

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

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

Records within 500m

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 54 >](#)



ID	Location	Address	Details	
12	358m N	Granada Dry Cleaners, 71-73 Bridge Street, Manchester, M30 9BA	Process: Dry Cleaning Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
16	440m 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
19	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
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Records of the storage, use, accumulation and disposal of radioactive substances regulated under the Radioactive Substances Act 1993.

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

4.13 Licensed Discharges to controlled waters

Records within 500m	34
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Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

Features are displayed on the Current industrial land use map on [page 54](#) >

ID	Location	Address	Details	
13	375m W	SCIENCE AND INDUSTRY MUSEUM, LIVERPOOL ROAD, MANCHESTER, M3 4FP	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: EPRMP3829PD Permit Version: 1 Receiving Water: GW VIA BH & THE RIVER IRWELL	Status: NEW ISSUED UNDER EPR 2010 Issue date: 31/03/2023 Effective Date: 31/03/2023 Revocation Date: -



ID	Location	Address	Details	
14	403m SW	RICE ST NEAR CASTLE ST, MANCHESTER, GREATER 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
G	425m N	MANCHESTER CIVIL JUSTICE CENTRE, GARTSIDE STREET, MANCHESTER, M3 3EL	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: 016993601 Permit Version: 2 Receiving Water: RIVER IRWELL	Status: MODIFIED - (WRA 91 SCHD 10 - AS AMENDED BY ENV ACT 1995) Issue date: 26/04/2006 Effective Date: 01/01/2007 Revocation Date: -
G	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
G	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
G	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
G	431m N	BRIDGE ST WEST CSO (281F9), MANCHESTER, GREATER MANCHESTER, M60 9DJ	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: 25/11/2020
G	431m N	BRIDGE ST WEST CSO (281F9), MANCHESTER, GREATER MANCHESTER, M60 9DJ	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	
G	435m N	BRIDGE ST WEST CSO (281F9), MANCHESTER, GREATER MANCHESTER, M60 9DJ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016993550 Permit Version: 2 Receiving Water: THE RIVER IRWELL	Status: VARIED UNDER EPR 2010 Issue date: 26/11/2020 Effective Date: 26/11/2020 Revocation Date: -
G	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: -
15	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
H	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: -
H	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
I	442m W	ST JOHNS DEVELOPMENT SETTLEMENT TNK, QUAY STREET, MANCHESTER, LANCASHIRE, M3 2GS	Effluent Type: TRADE DISCHARGES - PROCESS EFFLUENT - NOT WATER COMPANY Permit Number: EPRMB3590DF Permit Version: 1 Receiving Water: TRIBUTARY OF THE RIVER IRWELL	Status: NEW ISSUED UNDER EPR 2010 Issue date: 15/05/2020 Effective Date: 15/05/2020 Revocation Date: -



ID	Location	Address	Details	
17	445m SE	TRUMPET STREET, SSO, MANCHESTER, GREATER 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
J	445m S	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	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
J	445m S	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	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
J	445m S	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	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
J	445m S	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	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
J	445m S	POTATO WHARF, OFF LIVERPOOL RD, MANCHESTER, GREATER MANCHESTER, M3 4LA	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



ID	Location	Address	Details	
18	445m SE	GREAT BRIDGEWATER ST CSO (281WI), 80 GREAT BRIDGEWATER STREET, GREAT ANCOATS, MANCHESTER, GREATER MANCHESTER, M1 5JG	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
20	453m NW	FEARNLEY DEVELOPMENTS LTD, SALFORD, GREATER MANCHESTER	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991429 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1900 Revocation Date: 01/11/1994
21	455m NW	FEARNLEY DEVELOPMENTS LTD, SALFORD, GREATER MANCHESTER	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991429 Permit Version: 1 Receiving Water: RIVER IRWELL	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1900 Revocation Date: 01/11/1994
K	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
K	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
K	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
L	473m S	DEANS GATE, L. PETER ST, MANCHESTER, GREATER 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	
L	473m S	DEANS_GATE, L. PETER ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0157 Permit Version: 1 Receiving Water: TUNNEL TO MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 02/09/2010
L	488m S	CHESTER ROAD/GREAT JACKSON ROAD CSO, 371 DEANS_GATE, MANCHESTER, GREATER MANCHESTER, M15 4UP	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982719 Permit Version: 3 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 29/03/2021 Effective Date: 29/03/2021 Revocation Date: -
22	489m SW	READY MIXED CONCRETE DEPOT, LIVERPOOL ROAD, GREATER MANCHESTER	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
I	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: SURRENDERED UNDER EPR 2010 Issue date: 19/03/2018 Effective Date: 01/04/2018 Revocation Date: 20/07/2021
I	490m W	WATER STREET CSO (284TV), WATER STREET, MANCHESTER, GREATER MANCHESTER, M3 4PU	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982993 Permit Version: 2 Receiving Water: RIVER IRWELL	Status: VARIED UNDER EPR 2010 Issue date: 20/10/2020 Effective Date: 20/10/2020 Revocation Date: -
L	495m S	CHESTER ROAD/GREAT JACKSON ROAD CSO, 371 DEANS_GATE, MANCHESTER, GREATER MANCHESTER, M15 4UP	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
L	495m S	CHESTER ROAD/GREAT JACKSON ROAD CSO, 371 DEANS_GATE, MANCHESTER, GREATER MANCHESTER, M15 4UP	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982719 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: MODIFIED - (WRA 91 SCHD 10 - AS AMENDED BY ENV ACT 1995) Issue date: - Effective Date: 01/12/1999 Revocation Date: 28/03/2021

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 54 >](#)

ID	Location	Name	Status	Receiving Water	Authorised Substances
G	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

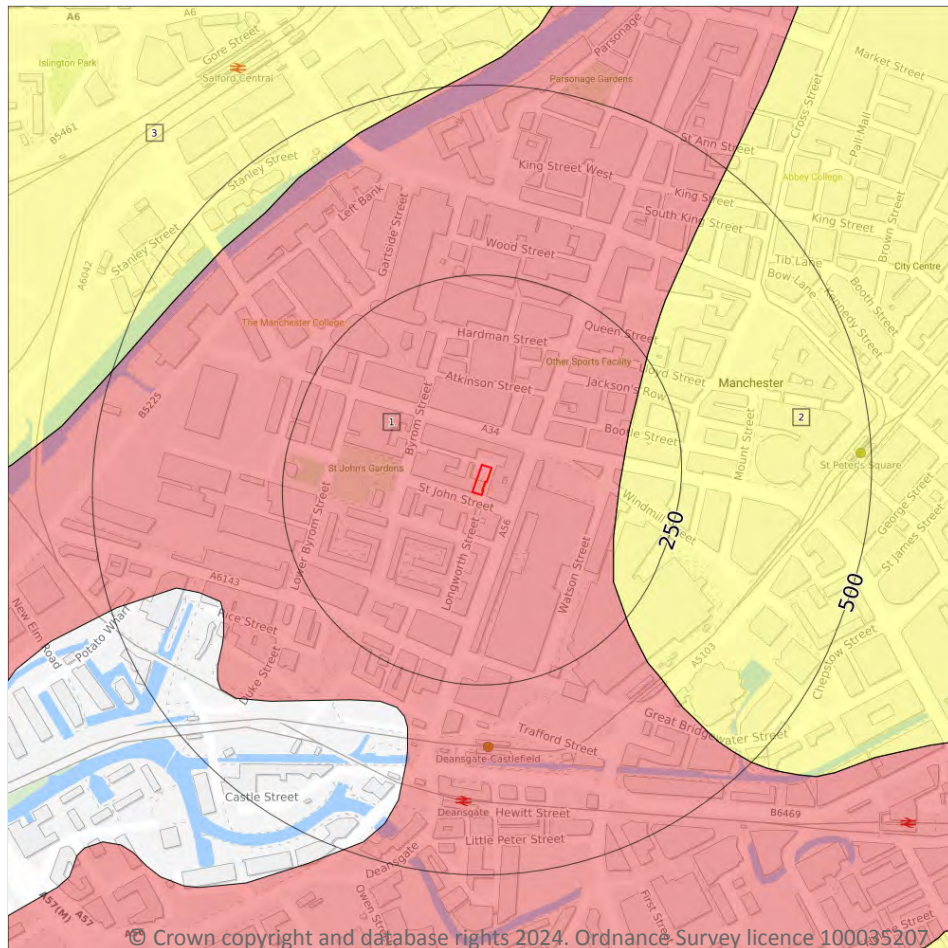
Records within 500m

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



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

5.1 Superficial aquifer

Records within 500m

3

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on [page 67](#) >

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

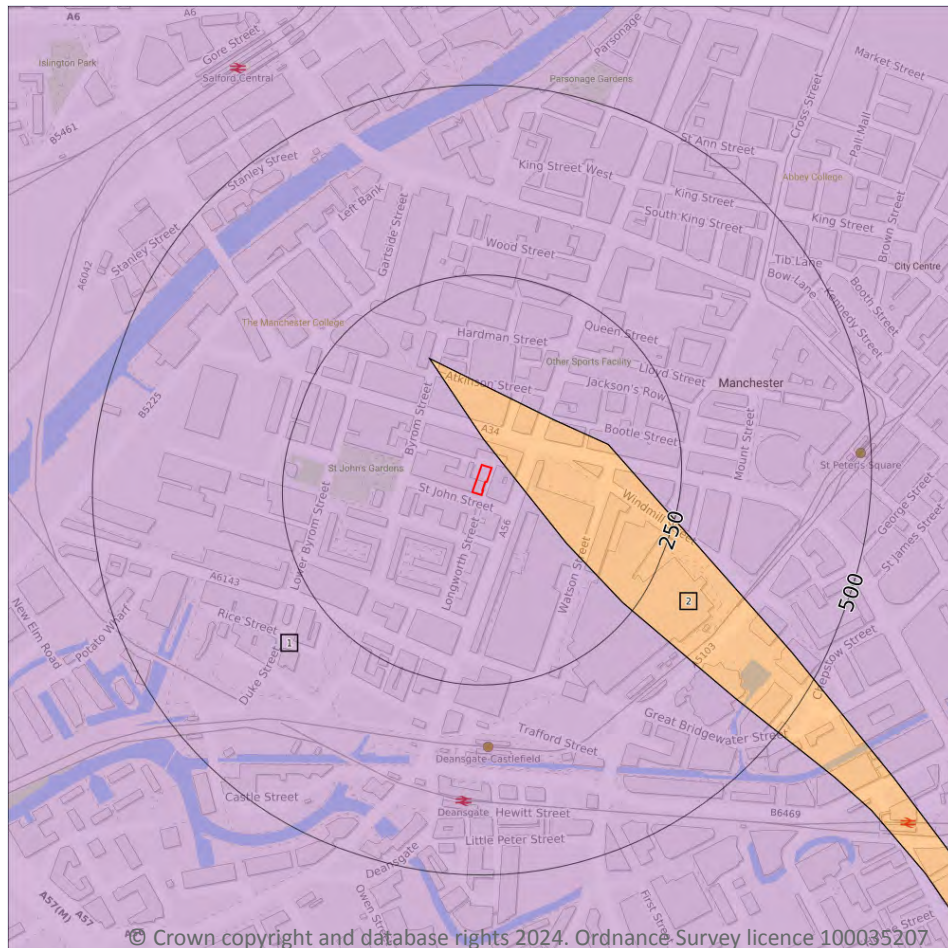


ID	Location	Designation	Description
3	437m NW	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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



Bedrock aquifer



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

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 69](#) >

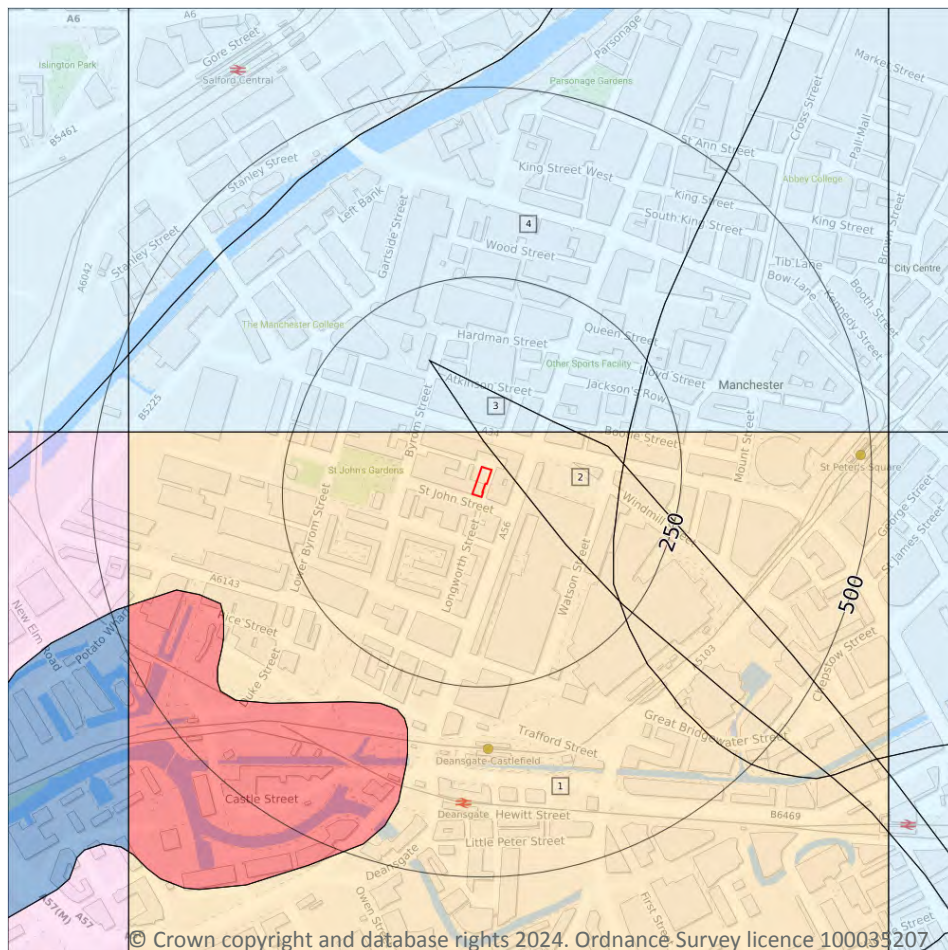
ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	15m NE	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers



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



Groundwater vulnerability



— Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

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 71](#) >



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	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: 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

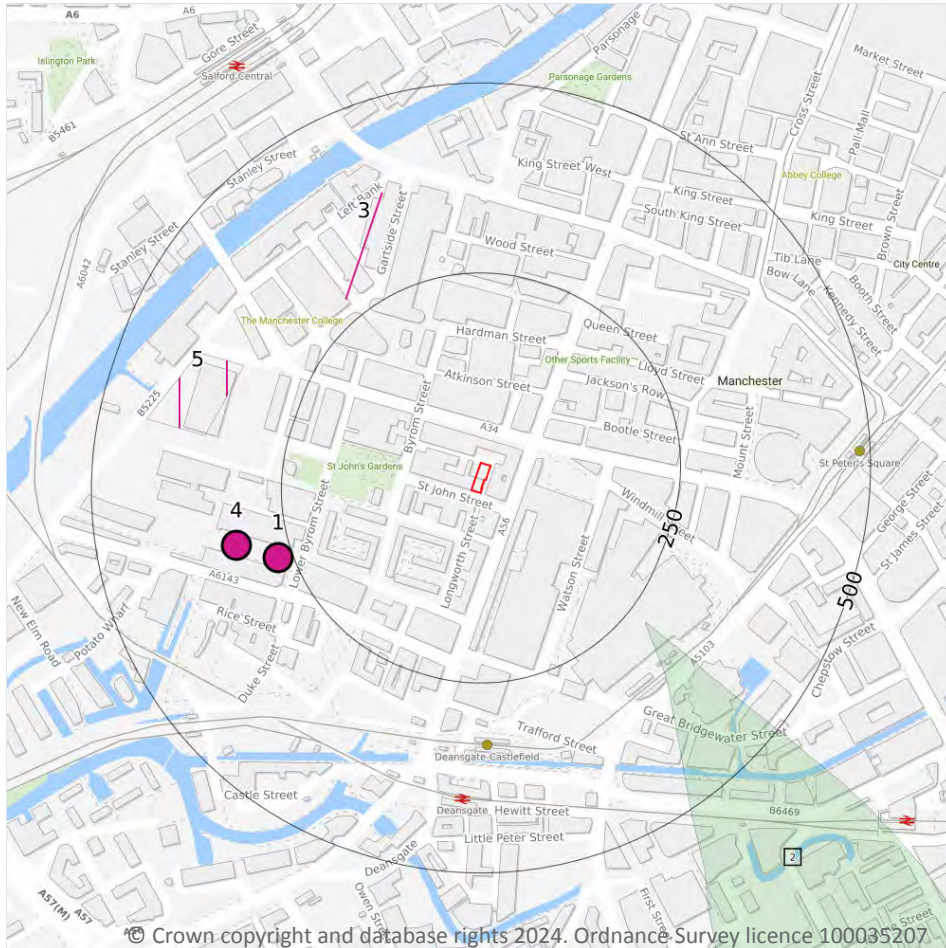
0

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



- Site Outline
- Search buffers in metres (m)**
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

56

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 73 >](#)



ID	Location	Details	
1	269m W	Status: Historical Licence No: NW/069/0004/021 Details: Heat Pump Direct Source: Ground Water - North West Region Point: CHESTER FORMATION AT SCIENCE MUSEUM (A) Data Type: Point Name: Science Museum Group Easting: 383198 Northing: 397829	Annual Volume (m ³): 346000 Max Daily Volume (m ³): 1728 Original Application No: NPS/WR/035329 Original Start Date: 31/03/2023 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 31/03/2023 Version End Date: -
3	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: -
4	317m W	Status: Historical Licence No: NW/069/0004/021 Details: Heat Pump Direct Source: Ground Water - North West Region Point: CHESTER FORMATION AT SCIENCE MUSEUM (B) Data Type: Point Name: Science Museum Group Easting: 383143 Northing: 397845	Annual Volume (m ³): 346000 Max Daily Volume (m ³): 1728 Original Application No: NPS/WR/035329 Original Start Date: 31/03/2023 Expiry Date: 31/03/2024 Issue No: 1 Version Start Date: 31/03/2023 Version End Date: -
5	336m NW	Status: Historical Licence No: NW/069/0004/019 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Ground Water - North West Region Point: ST JOHNS MANCHESTER Data Type: Poly4 Name: Manchester Quays Development (MGY) Ltd Easting: 383094 Northing: 398099	Annual Volume (m ³): 543120 Max Daily Volume (m ³): 1488 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: -



ID	Location	Details	
-	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: -
-	668m S	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW11 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383204 Northing: 397298	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	686m S	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW10 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383211 Northing: 397276	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	702m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW6 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383171 Northing: 397275	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -



ID	Location	Details	
-	703m S	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW9 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383223 Northing: 397253	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	729m S	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW8 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383224 Northing: 397225	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	735m S	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW5 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383193 Northing: 397230	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	736m W	Status: Active Licence No: NW/069/0004/022 Details: Dewatering Direct Source: Ground Water - North West Region Point: ABSTRACTION AREA AT TRINITY ISLANDS, MANCHESTER Data Type: Poly4 Name: Renaker Build Ltd Easting: 382705 Northing: 397822	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: NPS/WR/036441 Original Start Date: 05/09/2023 Expiry Date: 31/10/2024 Issue No: 1 Version Start Date: 05/09/2023 Version End Date: -



ID	Location	Details	
-	763m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW1 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383085 Northing: 397249	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	763m S	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW7 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383184 Northing: 397203	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	766m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW4 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383159 Northing: 397210	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	767m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW2 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383113 Northing: 397230	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -



ID	Location	Details	
-	767m SW	Status: Historical Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW3 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383140 Northing: 397217	Annual Volume (m ³): 260172 Max Daily Volume (m ³): 712.8 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 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: 2333 Original Start Date: 27/01/1971 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 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 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: -



ID	Location	Details	
-	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: -
-	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: -
-	1090m 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): 283240 Max Daily Volume (m ³): 1532 Original Application No: NPS/WR/015264 Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -
-	1090m 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): 283240 Max Daily Volume (m ³): 1532 Original Application No: NPS/WR/015264 Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -



ID	Location	Details	
-	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): 274115 Max Daily Volume (m ³): 751 Original Application No: NPS/WR/008077 Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -
-	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): 274115 Max Daily Volume (m ³): 751 Original Application No: NPS/WR/008077 Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -
-	1286m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1286m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -



ID	Location	Details	
-	1286m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1286m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1286m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1286m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -



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, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1317m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	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, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1317m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -



ID	Location	Details	
-	1317m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	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 STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	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): 23000 Max Daily Volume (m ³): 115 Original Application No: NPS/WR/030716 Original Start Date: 01/11/2000 Expiry Date: - Issue No: 4 Version Start Date: 21/12/2018 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: -



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, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1351m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	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, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1351m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -



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 NUMBER 1 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1351m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	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: -



ID	Location	Details	
-	1838m 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: 384085 Northing: 399685	Annual Volume (m ³): 75000 Max Daily Volume (m ³): 300 Original Application No: NPS/WR/037017 Original Start Date: 17/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 29/06/2023 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): 45460 Max Daily Volume (m ³): 181.84 Original Application No: 0423 Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -
-	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): 45460 Max Daily Volume (m ³): 181.84 Original Application No: 0423 Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 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: -
-	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: -
-	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 73 >](#)



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

Features are displayed on the Abstractions and Source Protection Zones map on [page 73 >](#)

ID	Location	Details	
-	1286m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -



ID	Location	Details	
-	1286m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1286m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	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, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	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, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -



ID	Location	Details	
-	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 STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	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, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	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, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	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 STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -



ID	Location	Details	
-	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
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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 73 >](#)

ID	Location	Type	Description
2	275m 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
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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



- 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 92](#) >

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 92 >](#)

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
1	On site	River	Irwell / Manchester Ship Canal (Irk to confluence with Upper Mers	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 92 >](#)

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
10	436m NW	River	Irwell / Manchester Ship Canal (Irk to confluence with Upper Mers	GB112069061452 ↗	Moderate	Fail	Moderate	2019



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

6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on [page 92](#) >

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
2	On site	Manchester and East Cheshire Permo-Triassic Sandstone Aquifers	GB41201G101100 ↗	Poor	Poor	Poor	2019

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



7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- 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 the sea

Records within 50m

0

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

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



7.2 Historical Flood Events

Records within 250m

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 95 >](#)

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.

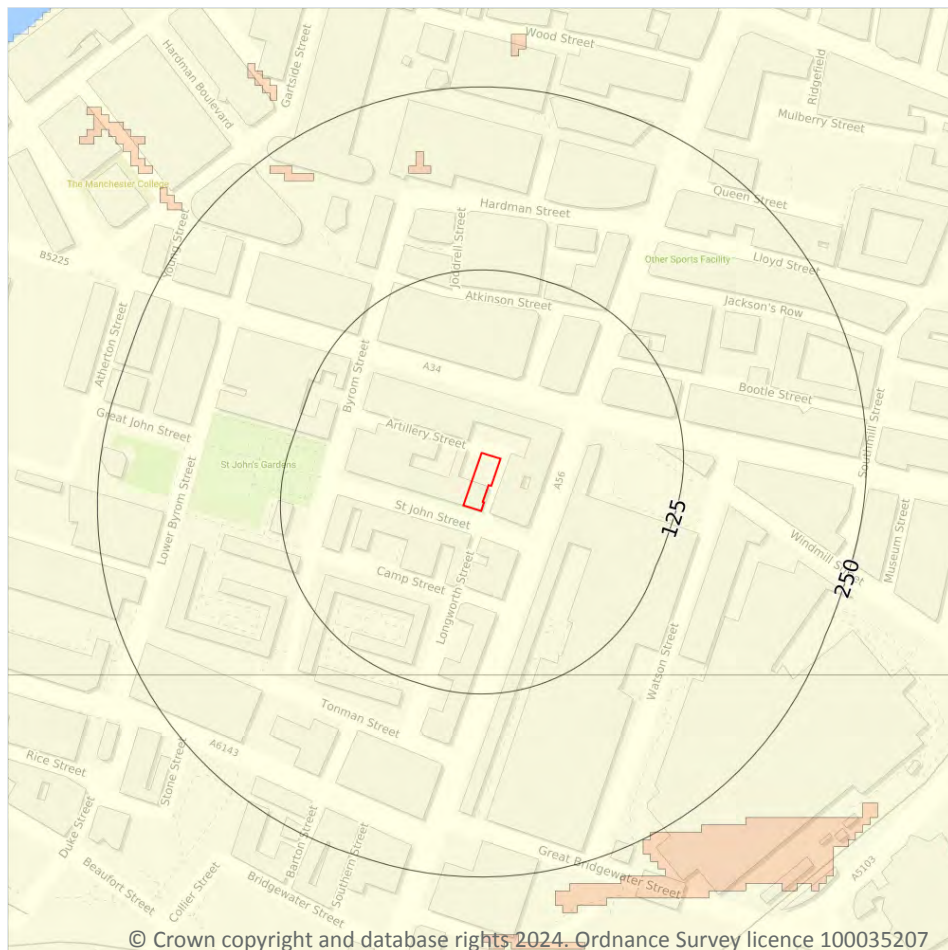
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the 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 99](#) >

This data is sourced from Ambienta 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**

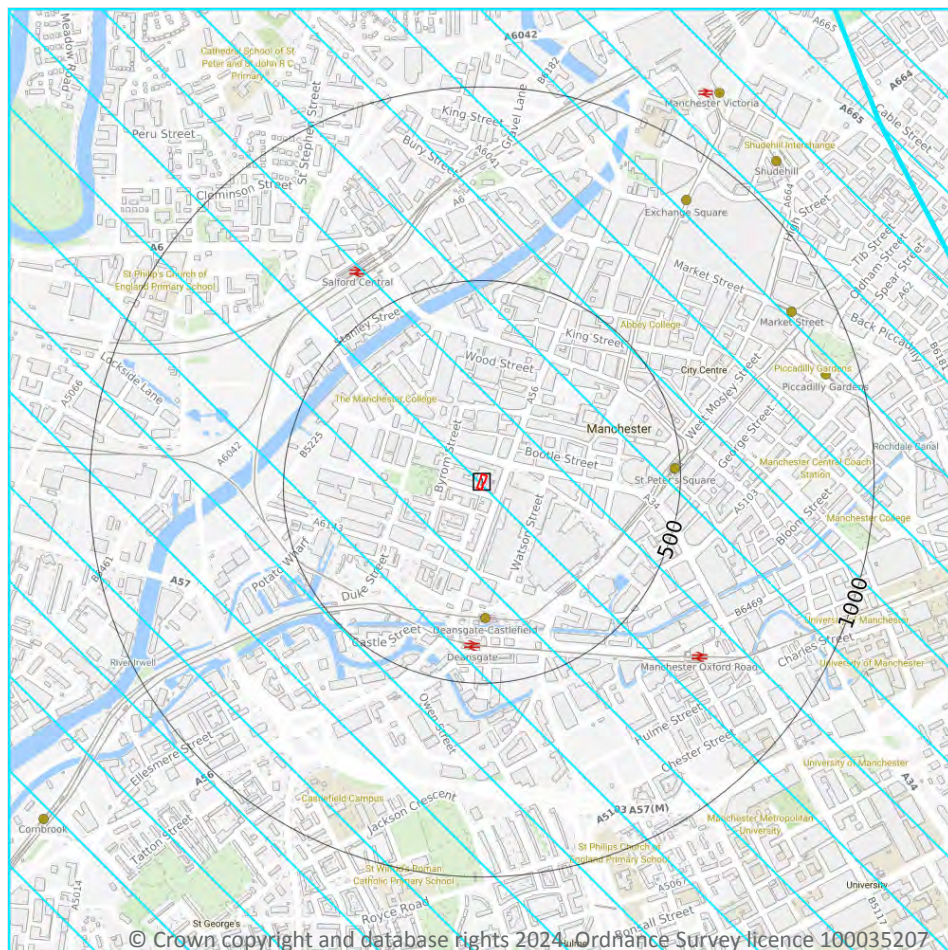
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
864m NE	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	Existing
866m NE	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	Existing
885m NW	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	643	Existing
1761m N	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	643	Existing

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



SSSI Impact Zones and Units



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

10.17 SSSI Impact Risk Zones

Records on site

1

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

Features are displayed on the SSSI Impact Zones and Units map on [page 104](#) >

ID	Location	Type of developments requiring consultation
1	On site	Air pollution - Livestock & poultry units with floorspace > 500m ² , slurry lagoons & digestate stores > 4000m ² . Combustion - General combustion processes > 50MW energy input. Incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.



This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

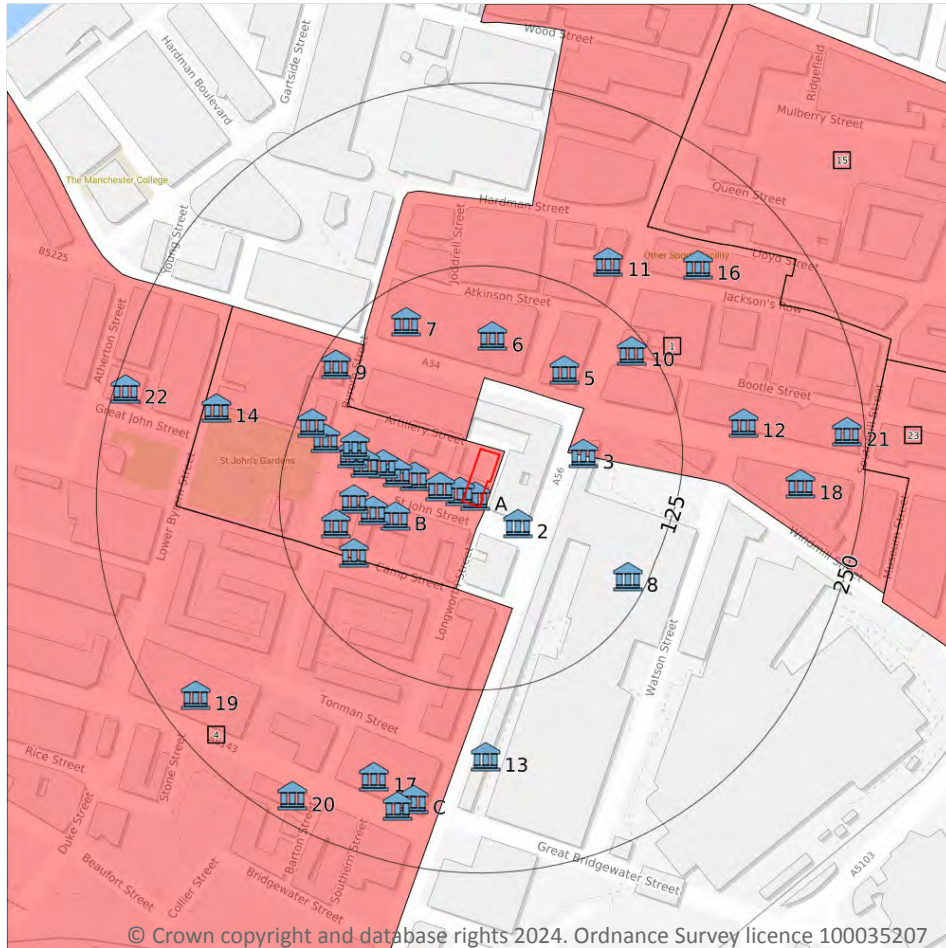
0

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

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



11 Visual and cultural designations



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

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m**0**

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

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

11.3 National Parks

Records within 250m**0**

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

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

11.4 Listed Buildings

Records within 250m**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 106 >](#)

ID	Location	Name	Grade	Reference Number	Listed date
A	On site	8 And 8a, St John Street	II	1270784	25/02/1952
A	3m SW	10, St John Street	II	1270785	25/02/1952
A	18m W	12-16, St John Street	II	1254466	25/02/1952
2	28m SE	K6 Telephone Kiosk In Front Of St John Street Chambers	II	1270788	29/10/1987
A	36m W	Nos. 18 And 20, St John Street	II	1254598	25/02/1952
B	47m SW	11-17, St John Street	II	1254465	25/02/1952



ID	Location	Name	Grade	Reference Number	Listed date
A	48m W	22, St John Street	II	1270787	25/02/1952
3	57m E	Former Entrance To Deansgate Goods Station Including Numbers 223 To 233	II	1282974	23/11/1979
A	60m W	24, St John Street	II	1270704	03/10/1974
B	62m W	19, St John Street	II	1270786	25/02/1952
A	72m W	24a And 26, St John Street	II	1254468	03/10/1974
5	73m NE	Royal London House	II	1200852	03/10/1974
B	74m W	21-25, St John Street	II	1270728	25/02/1952
6	77m N	Sunlight House	II	1270915	20/06/1988
B	82m SW	Manchester & Salford Junction Canal Tunnel	II	1405199	20/11/2012
A	82m W	28, St John Street	II	1254605	24/07/1974
A	82m W	15a, Byrom Street	II	1208232	03/10/1974
B	88m W	Numbers 25 To 31 And Attached Former Chapel	II	1208243	25/02/1952
7	101m NW	The Opera House	II	1247470	03/10/1974
A	102m W	Two Bollards At East End Of St Johns Passage	II	1197812	03/10/1974
8	111m SE	Deansgate Goods Station And Attached Carriage Ramp	II*	1268529	04/05/1979
A	114m W	No. 14, Byrom Street	II	1283039	30/03/1989
9	114m NW	Cobden House, 19 Quay Street	II*	1247447	03/10/1974
10	115m NE	Onward Buildings	II	1210092	06/06/1994
11	151m NE	184 And 186, Deansgate	II	1210068	03/10/1974
12	168m E	Albert Memorial Hall	II	1246727	30/04/1982
13	170m S	235-291, Deansgate	II	1210103	28/02/1989
14	180m W	Two Bollards At West End Of St Johns Passage	II	1291330	03/10/1974
16	188m NE	Elliot House	II	1200854	03/10/1974
17	198m S	Former Market Hall	II	1197915	17/05/1974
C	205m S	Castlefield Information Centre	II	1200853	17/05/1974
18	206m E	Free Trade Hall	II*	1246666	18/12/1963
C	212m S	K6 Telephone Kiosk Beside South West Corner Of Number 330 Deansgate	II	1219441	29/10/1987



ID	Location	Name	Grade	Reference Number	Listed date
19	225m SW	Museum Of Science And Industry, Air And Space Museum	II	1200807	17/05/1974
20	232m SW	29-41, Liverpool Road	II	1219402	06/06/1994
21	238m E	Harvester House	II	1246664	30/04/1982
22	243m W	St Johns College Of Further Education	II	1282969	06/06/1994

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

11.5 Conservation Areas

Records within 250m	5
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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 106 >](#)

ID	Location	Name	District	Date of designation
A	On site	St John Street	Manchester	04/11/1970
1	12m N	Deansgate and Peter Street	Manchester	26/06/1985
4	58m S	Castlefield	Manchester	13/10/1979
15	186m NE	Albert Square	Manchester	01/04/1972
23	249m E	St Peter's Square	Manchester	01/12/1973

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

11.6 Scheduled Ancient Monuments

Records within 250m	0
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A scheduled monument is an historic building or site that is included in the Schedule of Monuments kept by the Secretary of State for Digital, Culture, Media and Sport. The regime is set out in the Ancient Monuments and Archaeological Areas Act 1979. The Schedule of Monuments has c.20,000 entries and includes sites such as Roman remains, burial mounds, castles, bridges, earthworks, the remains of deserted villages and industrial sites. Monuments are not graded, but all are, by definition, considered to be of national importance.

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



11.7 Registered Parks and Gardens

Records within 250m

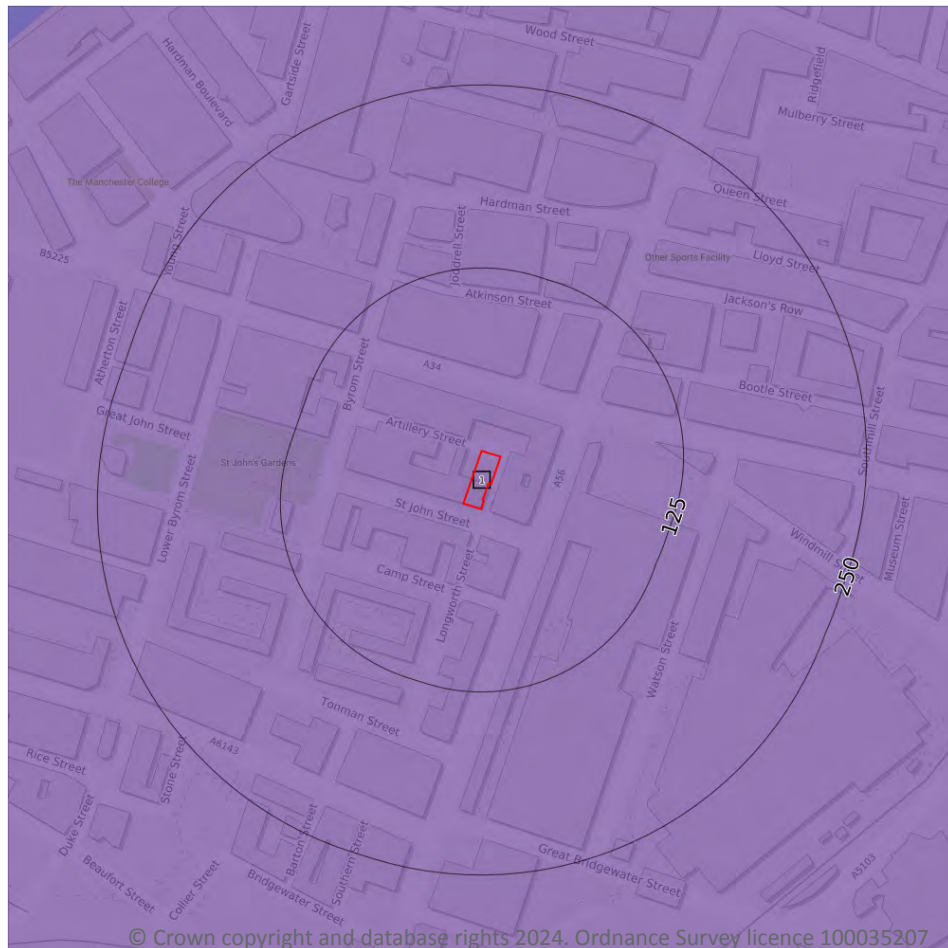
0

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

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



12 Agricultural designations



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

12.1 Agricultural Land Classification

Records within 250m

1

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

Features are displayed on the Agricultural designations map on [page 111](#) >

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. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

13 Habitat designations

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



— 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.

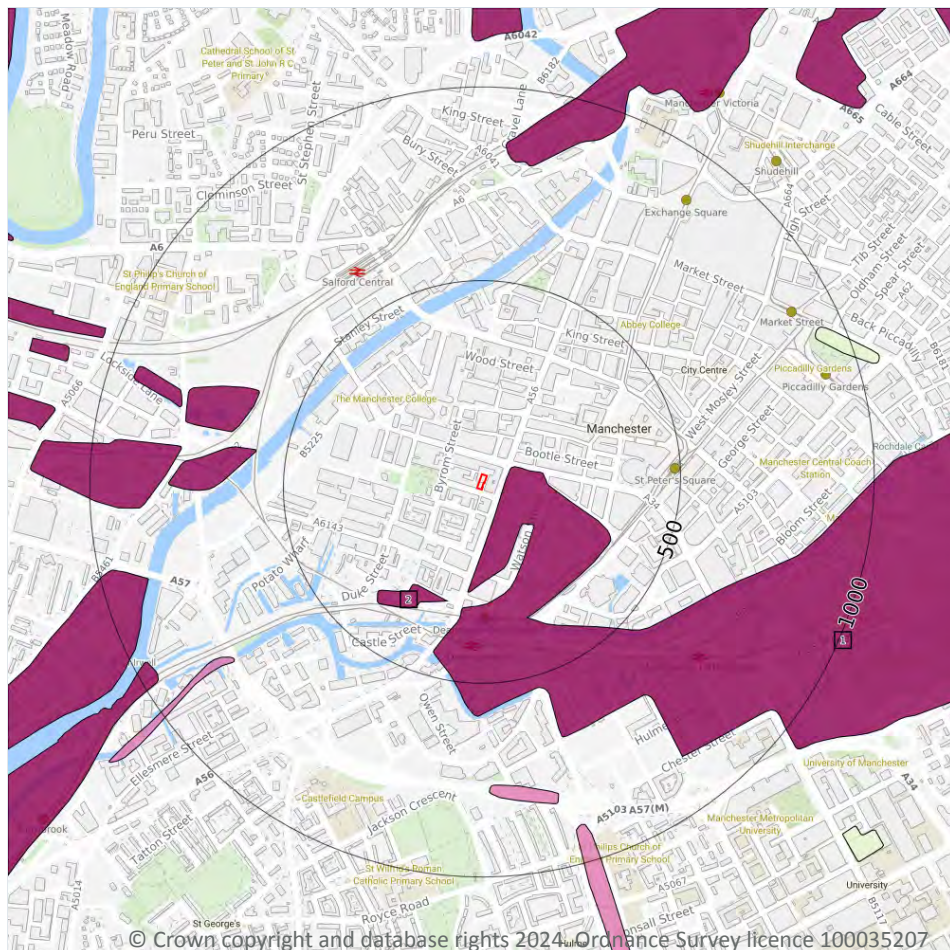
Features are displayed on the Geology 1:10,000 scale - Availability map on [page 114](#) >

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



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

14.2 Artificial and made ground (10k)

Records within 500m

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.

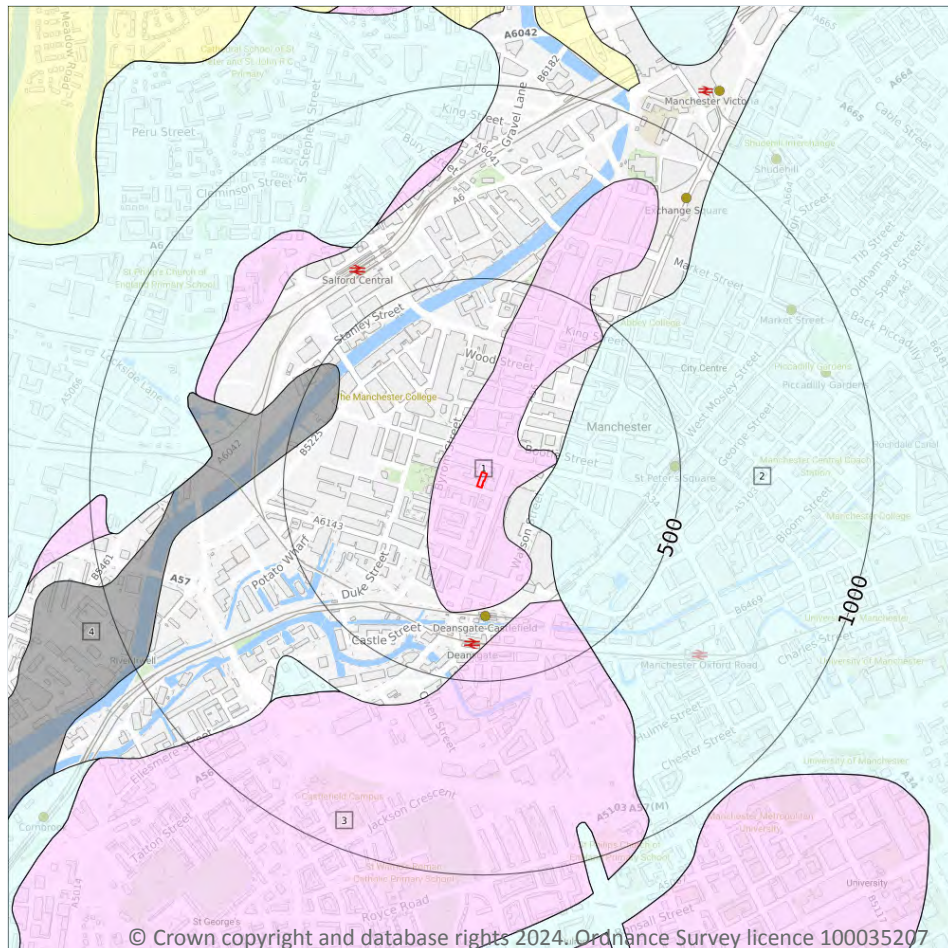
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on [page 115](#) >

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 116](#) >

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

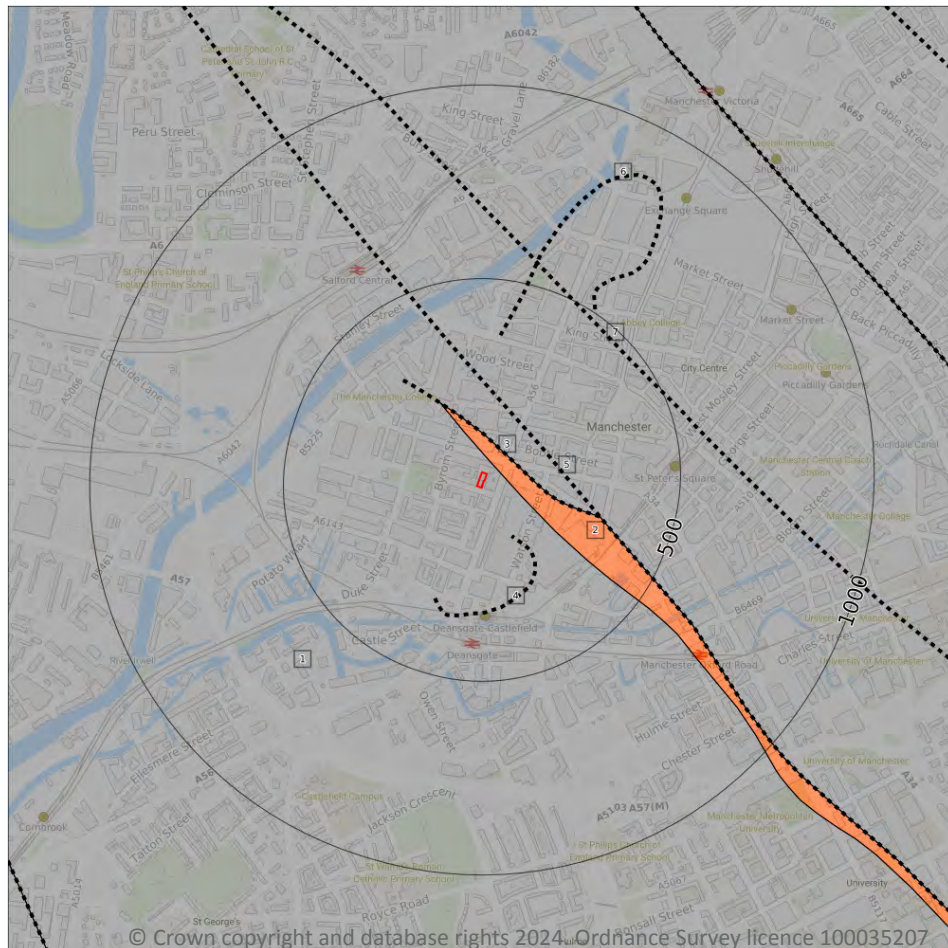
0

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 118](#) >

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.

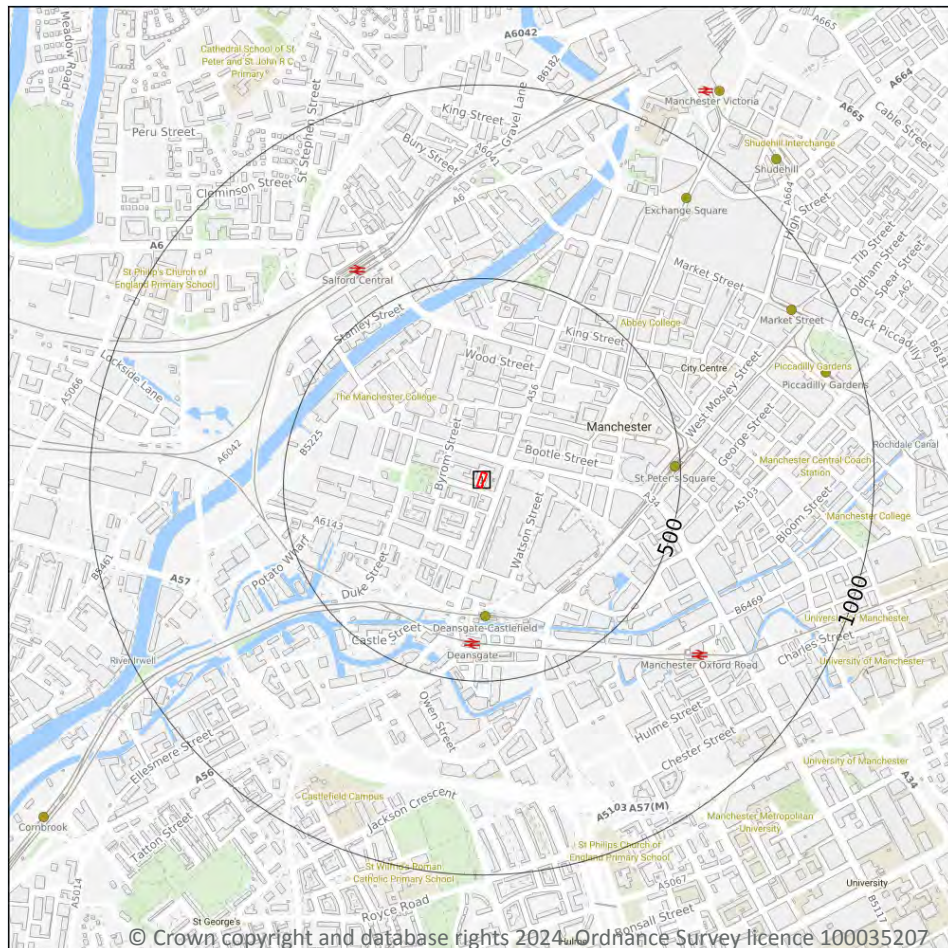
Features are displayed on the Geology 1:10,000 scale - Bedrock map on [page 118](#) >

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.

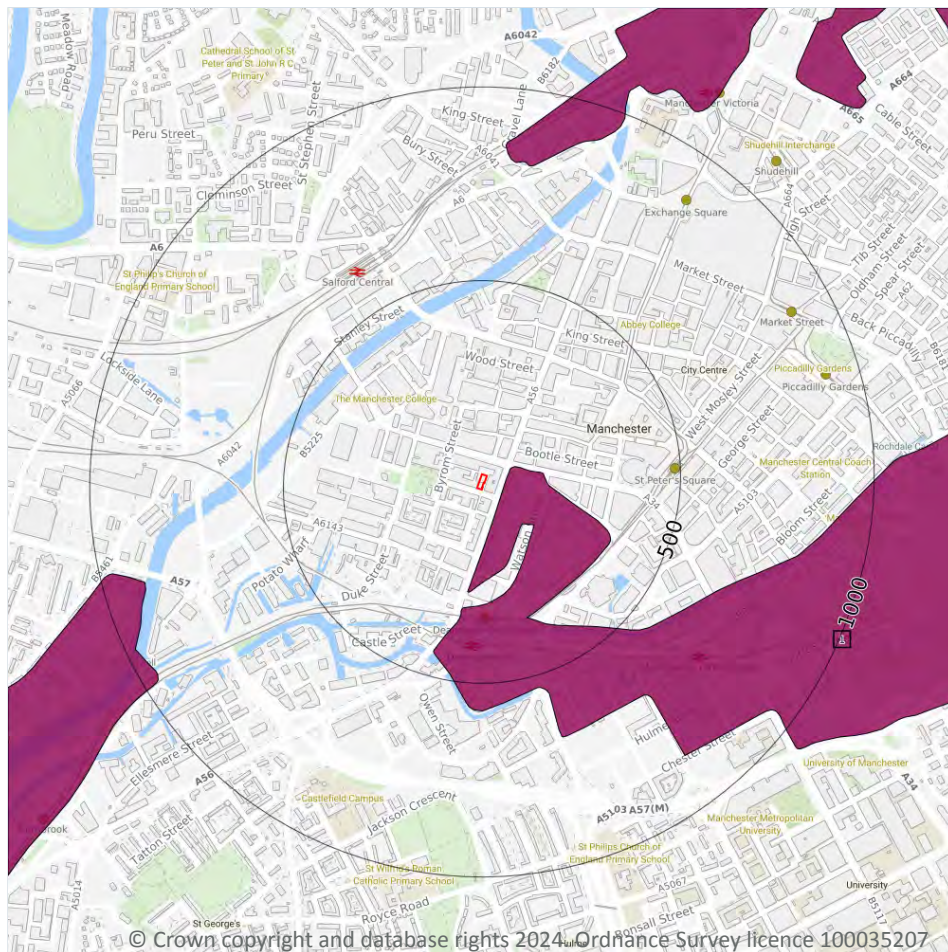
Features are displayed on the Geology 1:50,000 scale - Availability map on [page 120](#) >

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 121](#) >

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

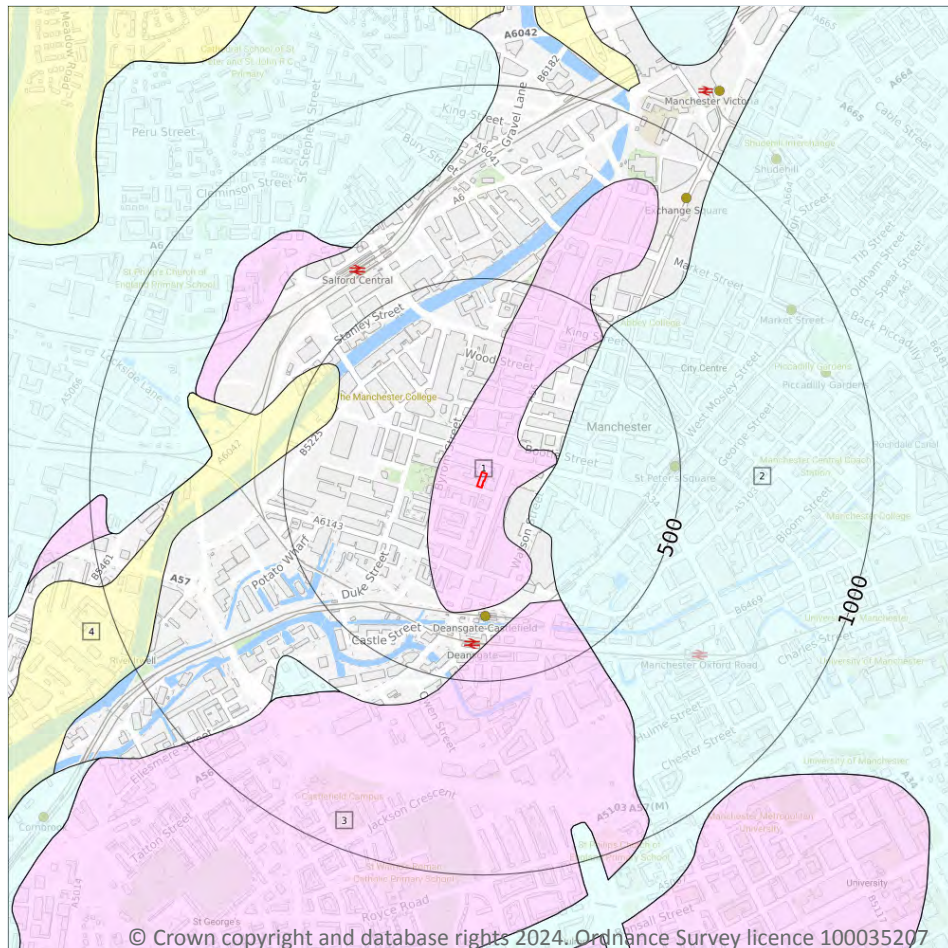
0

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



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 123](#) >

ID	Location	LEX Code	Description	Rock description
1	On site	GFSDDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
2	135m SE	TILLDD-DMTN	TILL, DEVENSIAN	DIAMICTON
3	323m S	GFSDDD-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

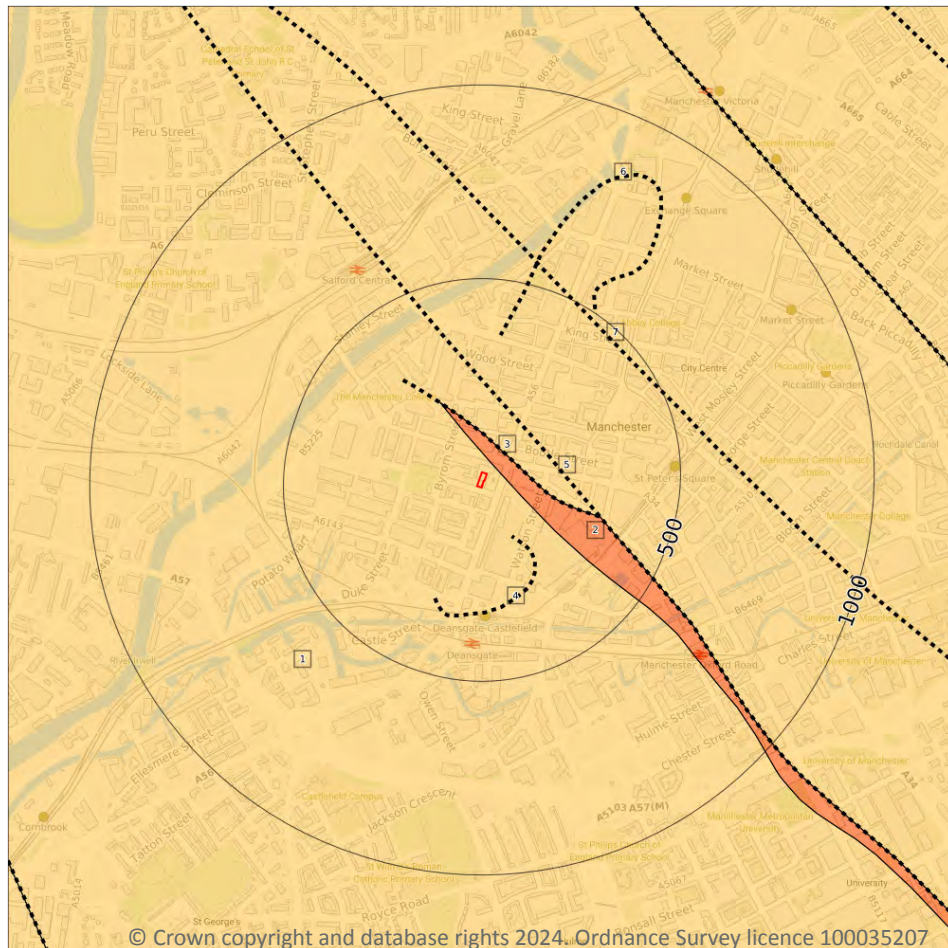
0

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



— 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 125 >](#)

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 NE	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.

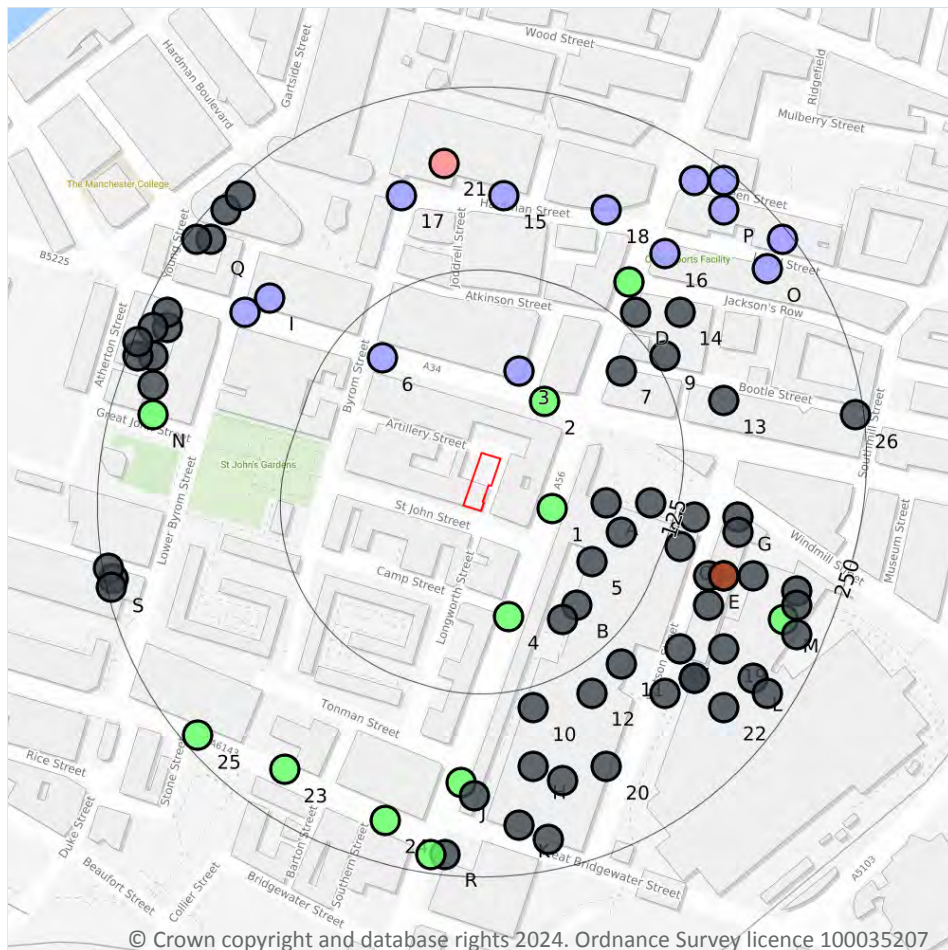
Features are displayed on the Geology 1:50,000 scale - Bedrock map on [page 125 >](#)

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	151m 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



— Site Outline
Search buffers in metres (m)

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

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 127](#) >

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	45m E	383513 397916	MANCHESTER CORP. DEANS_GATE	13.11	N	1042208 ↗
2	49m NE	383508 397989	MANCHESTER CORP. F.SEWER	10.82	N	1042223 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
3	61m N	383490 398010	QUAY STREET C	6.45	N	1043688 ↗
4	75m S	383483 397842	MANCHESTER CORP. DEANS_GATE	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	132m NE	383590 398020	DEANS_GATE/JACKSONS ROW 3	-	Y	N/A
C	135m E	383600 397890	FESTIVAL MARKETPLACE 1/2	-	Y	N/A
D	136m NE	383570 398050	DEANS_GATE/JACKSONS ROW 2	-	Y	N/A
C	138m E	383610 397910	FESTIVAL MARKETPLACE TP 1/1	-	Y	N/A
10	139m 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. DEANS_GATE	12.8	N	1042207 ↗
13	158m E	383630 397990	BOOTH STREET SEWER RENEWAL SCHEME 2	-	Y	N/A
14	158m NE	383600 398050	DEANS_GATE/JACKSONS ROW 1	-	Y	N/A
E	161m SE	383620 397870	FESTIVAL MARKETPLACE TP 2/2	-	Y	N/A
F	165m 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	168m 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	-1.0	N	15939135 ↗



ID	Location	Grid reference	Name	Length	Confidential	Web link
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
H	178m S	383500 397740	FESTIVAL MARKETPLACE TP 1/7	-	Y	N/A
I	179m NW	383320 398060	QUAY STREET D	4.65	N	1043689 ↗
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	185m SE	383610 397800	FESTIVAL MARKETPLACE 2/4	-	Y	N/A
F	185m 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	194m 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	213m 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 SE	383671 397840	CENTRAL STATION	12.8	N	1042388 ↗
M	221m E	383680 397860	FESTIVAL MARKETPLACE 2/1	-	Y	N/A



ID	Location	Grid reference	Name	Length	Confidential	Web link
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 ↗
O	224m NE	383660 398080	LLOYD STREET/HARDMAN STREET SEWER REP SCHEME 2	6.5	N	13468597 ↗
M	224m E	383680 397850	FESTIVAL MARKETPLACE STG 2 BHB	-	Y	N/A
N	227m W	383240 398000	QUAY STREET 2 MANCHESTER WS 1	-	Y	N/A
P	228m NE	383630 398120	BRAZENNOSE ST MANCHEST' 5/5A	7.1	N	1042728 ↗
K	229m S	383510 397690	FESTIVAL MARKETPLACE 1/8	-	Y	N/A
N	231m NW	383250 398040	QUAY STREET 2 MANCHESTER WS 6	-	Y	N/A
M	232m SE	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 NW	383240 398040	QUAY STREET 2 MANCHESTER WS 7	-	Y	N/A
Q	241m NW	383290 398120	GARTSIDE STREET MANCHESTER 3	-	Y	N/A
Q	241m NW	383300 398130	GARTSIDE STREET MANCHESTER 4	-	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 ↗

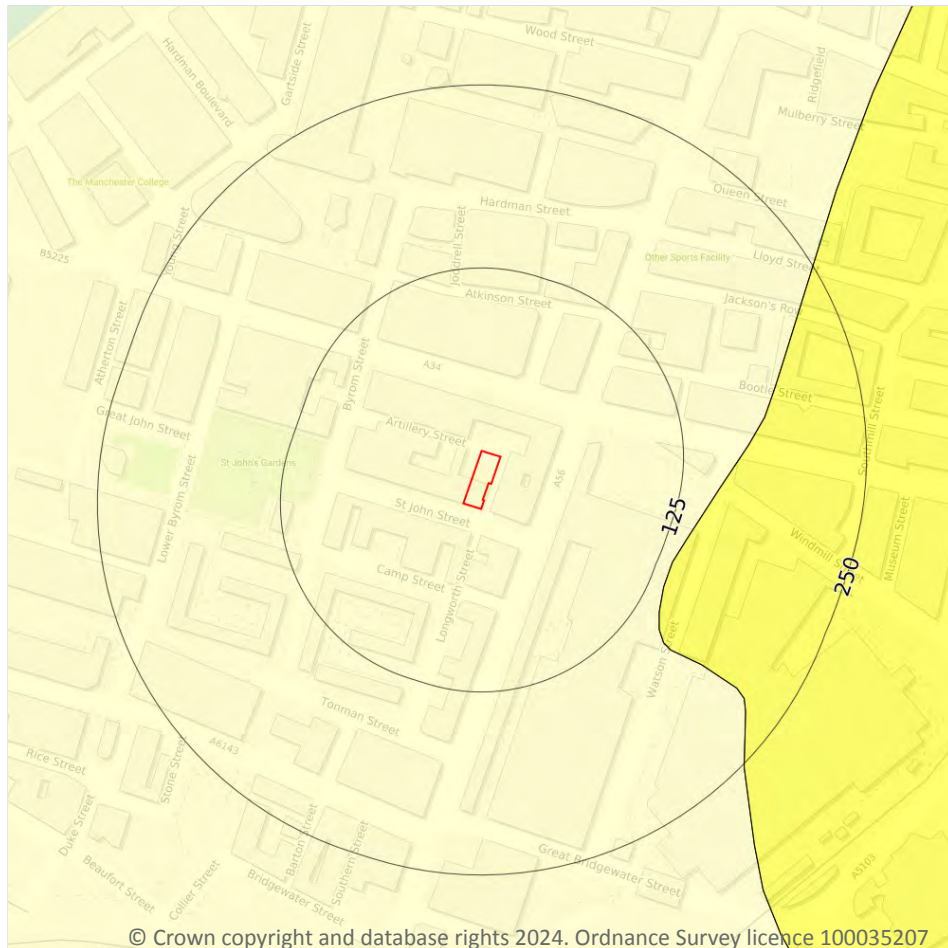


ID	Location	Grid reference	Name	Length	Confidential	Web link
O	244m NE	383670 398100	BRAZENNOSE ST MANCHESTER 6	7.7	N	1042729 ↗
26	244m E	383720 397980	BOOTH STREET SEWER RENEWAL SCHEME 3	-	Y	N/A
S	245m W	383213 397868	Museum Of Science & Industry, Manchester WS5	-	Y	N/A
S	246m W	383210 397875	Museum 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).

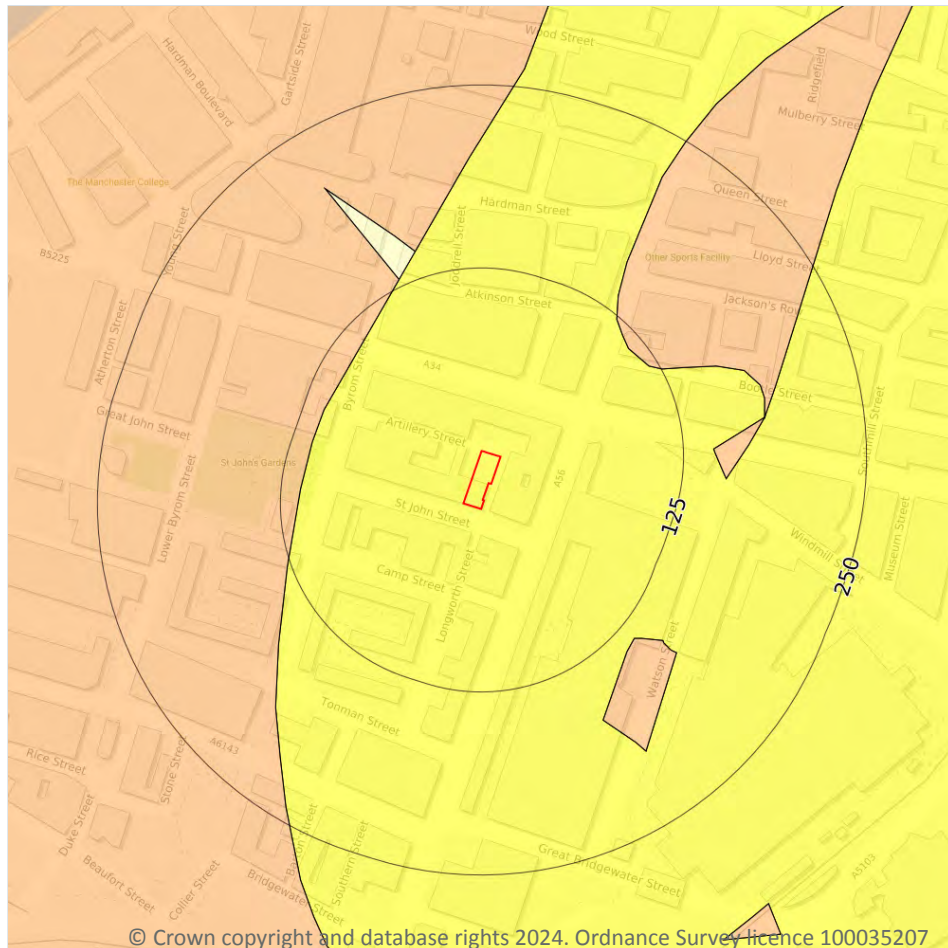
Features are displayed on the Natural ground subsidence - Shrink swell clays map on [page 132 >](#)

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.

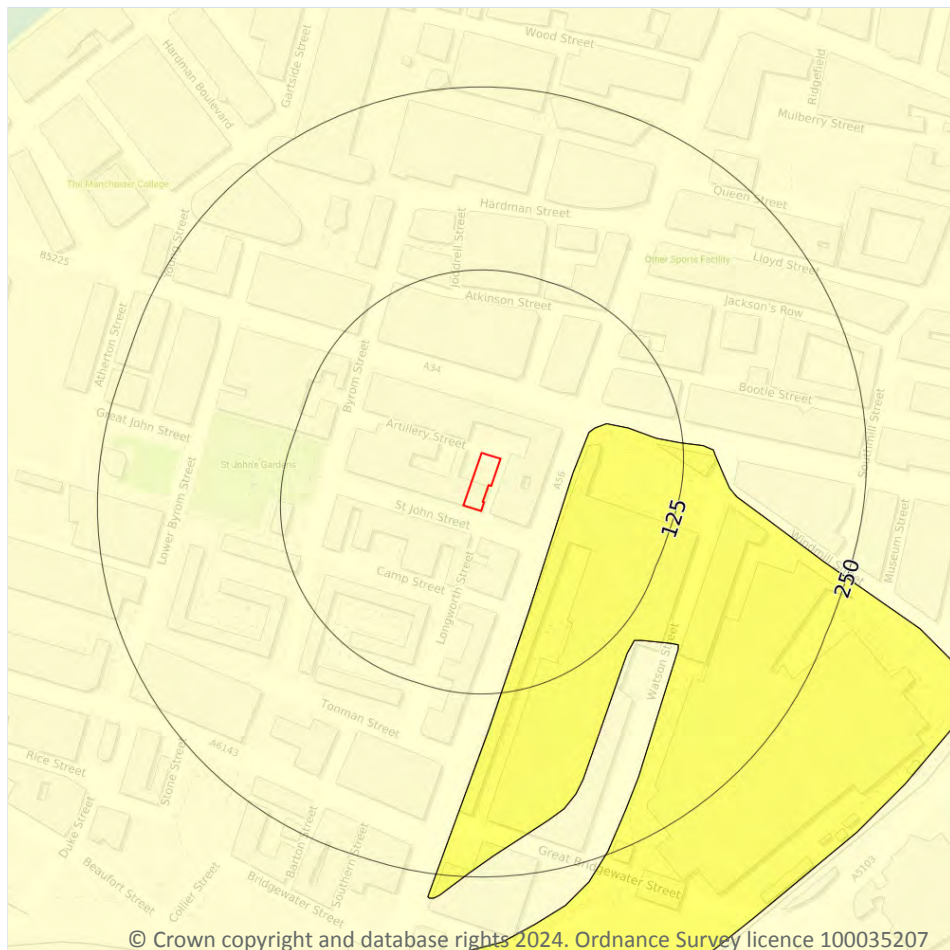
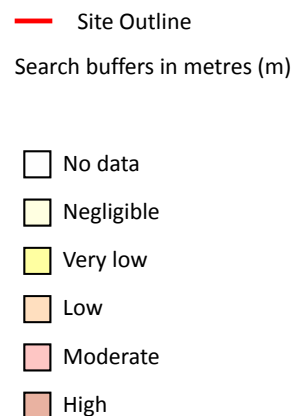
Features are displayed on the Natural ground subsidence - Running sands map on [page 133 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

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

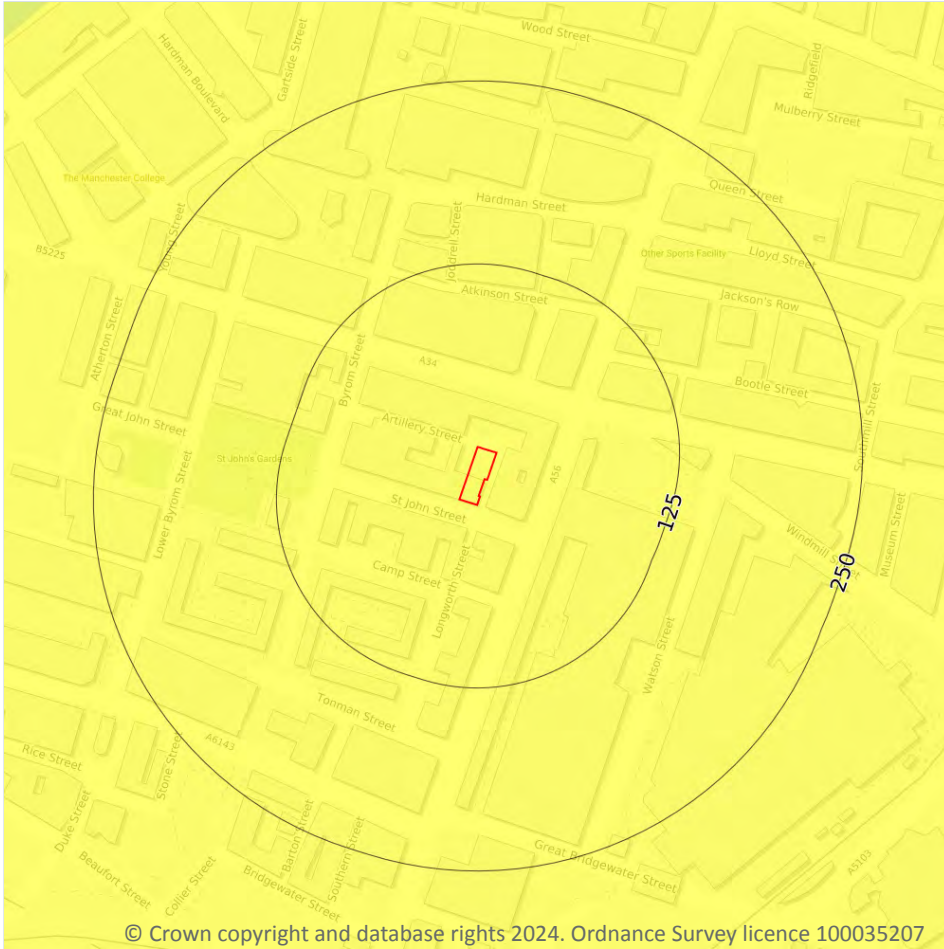
Features are displayed on the Natural ground subsidence - Compressible deposits map on [page 134](#) >

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



- 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 135](#) >

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.

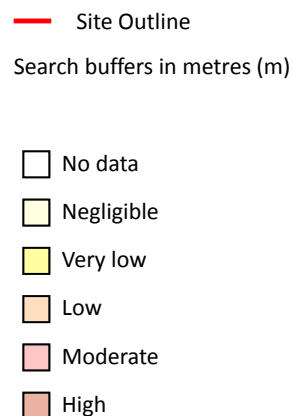
Features are displayed on the Natural ground subsidence - Landslides map on [page 136 >](#)

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on [page 137](#) >

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



This data is sourced from the British Geological Survey.



18 Mining and ground workings

18.1 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.

18.2 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 data is sourced from Ordnance Survey/Groundsure.

18.3 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 data is sourced from Ordnance Survey/Groundsure.

18.4 Underground mining extents

Records within 500m

0

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

This data is sourced from Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

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 JPB mining areas

Records on site

1

Areas which could be affected by former coal and other 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. Please note, the plans held by JPB may also relate to non-mining records. Further details and a quote for services (if appropriate) can be obtained by emailing this report to enquiries.gs@jpb.co.uk .

This data is sourced from Johnson Poole and Bloomer.

18.8 The Coal Authority non-coal mining

Records within 500m

0

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

This data is sourced from The Coal Authority.



18.9 Researched mining

Records within 500m

0

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

This data is sourced from Groundsure.

18.10 Mining record office plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.11 BGS mine plans

Records within 500m

0

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

This data is sourced from Groundsure.

18.12 Coal mining

Records on site

1

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

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

This data is sourced from the Coal Authority.



18.13 Brine areas

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

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

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

18.14 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.15 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

18.16 Clay mining

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

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

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

19 Ground cavities and sinkholes

19.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

19.2 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

19.3 Reported recent incidents

Records within 500m

0

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

This data is sourced from Groundsure.

19.4 Historical incidents

Records within 500m

0

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

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



This data is sourced from Groundsure.

19.5 National karst database

Records within 500m

0

This is a comprehensive database of national karst information gathered from a wide range of sources. BGS have collected data on five main types of karst feature: Sinkholes, stream links, caves, springs, and incidences of associated damage to buildings, roads, bridges and other engineered works.

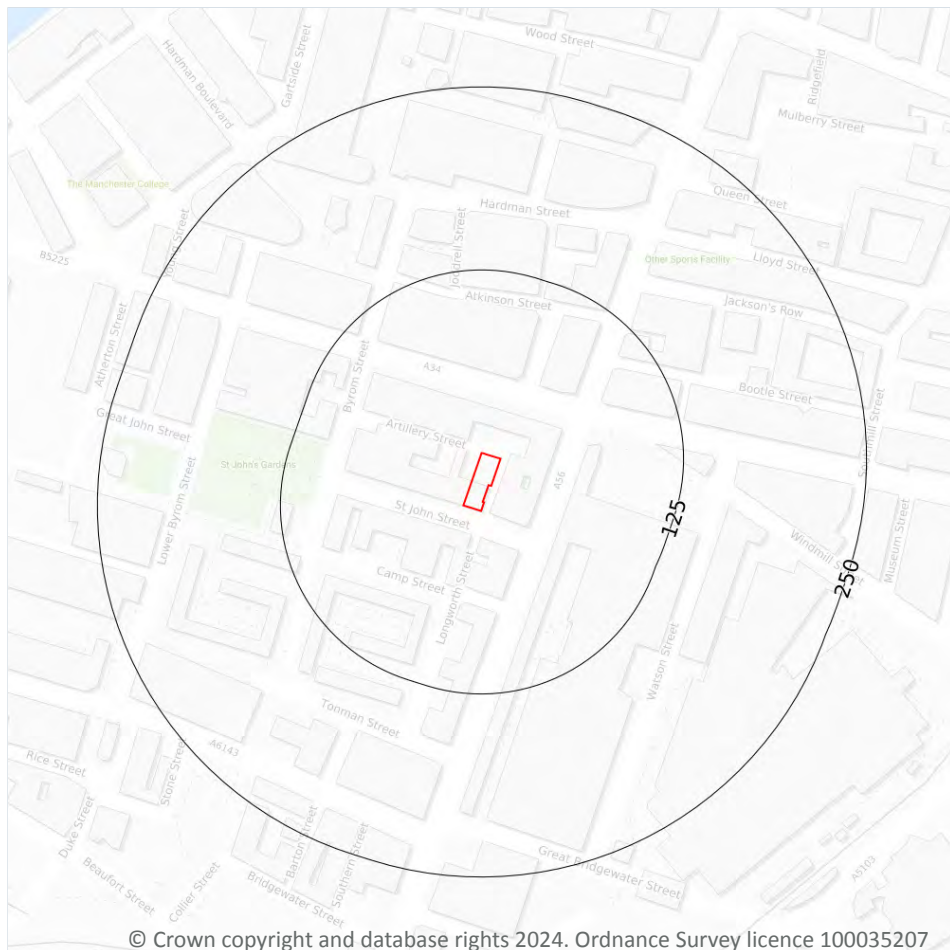
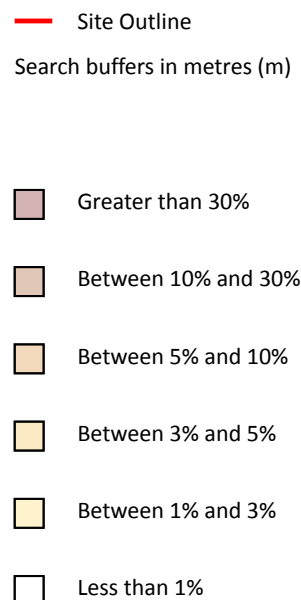
Since the database was set up in 2002 data covering most of the evaporite karst areas of the UK have now been added, along with data covering about 60% of the Chalk, and 35% of the Carboniferous Limestone outcrops. Many of the classic upland karst areas have yet to be included. Recorded so far are: Over 800 caves, 1300 stream sinks, 5600 springs, 10,000 sinkholes.

The database is not yet complete, and not all records have been verified. The absence of data does not mean that karst features are not present at a site. A reliability rating is included with each record.

This data is sourced from the British Geological Survey.



20 Radon



20.1 Radon

Records on site

1

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

Features are displayed on the Radon map on [page 145 >](#)

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



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



21 Soil chemistry

21.1 BGS Estimated Background Soil Chemistry

Records within 50m

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 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	15 - 25 mg/kg	No data	100 - 200 mg/kg	60 - 120 mg/kg	1.8 mg/kg	60 - 90 mg/kg	30 - 45 mg/kg
15m 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
22m 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 E	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
46m N	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

This data is sourced from the British Geological Survey.

21.2 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 km²).



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
14m S	18	3.2	461	317	0.2	55	34	23	12
22m NE	18	3.2	67	46	0.4	59	30	23	6
38m 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.

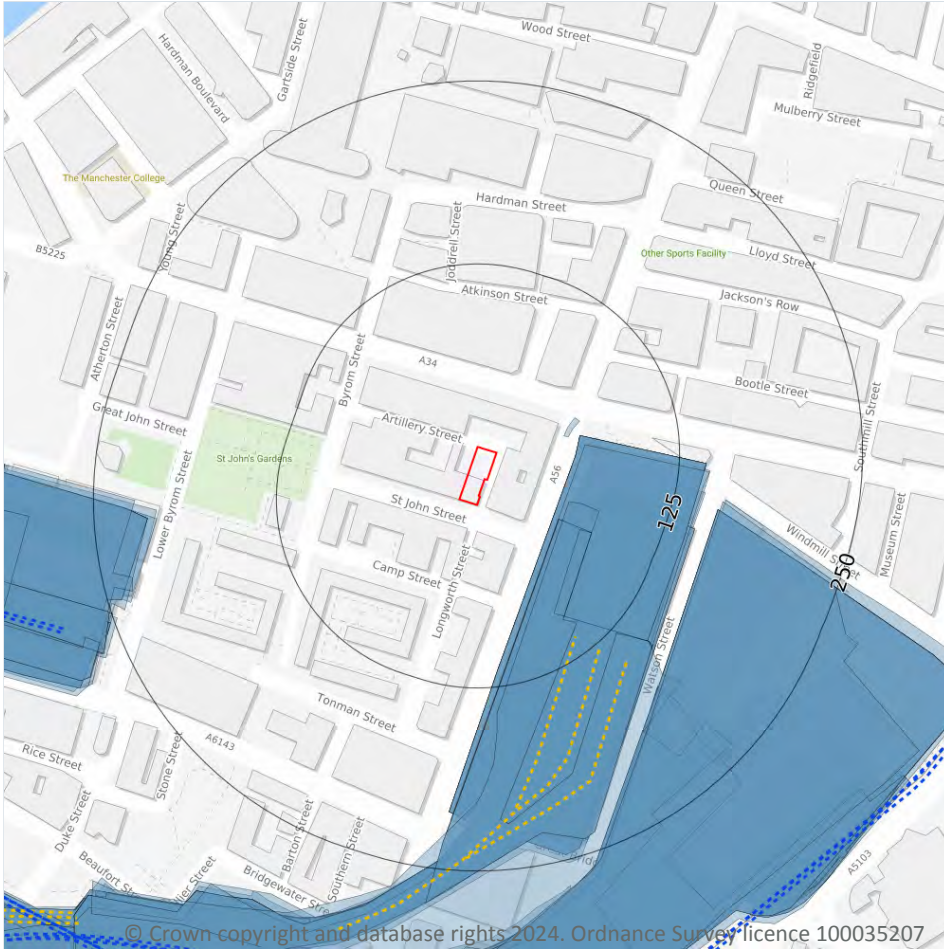
21.3 BGS Measured Urban Soil Chemistry

Records within 50m	0
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The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.

22 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)**
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

22.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

22.2 Underground railways (Non-London)

Records within 250m

0

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



This data is sourced from publicly available information by Groundsure.

22.3 Railway tunnels

Records within 250m	0
---------------------	---

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

22.4 Historical railway and tunnel features

Records within 250m	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 149 >](#)

Location	Land Use	Year of mapping	Mapping scale
47m NE	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	1972	10000
56m SE	Railway Sidings	1980	10000
56m SE	Railway Sidings	1985	10000
57m E	Railway	1922	-
58m E	Railway Sidings	1956	10560
61m SE	Railway Sidings	1908	2500
61m SE	Railway Sidings	1922	2500
61m SE	Railway Sidings	1932	2500
61m E	Railway	1932	-
62m E	Railway	1933	-
64m SE	Railway Sidings	1951	1250



Location	Land Use	Year of mapping	Mapping scale
64m SE	Railway Sidings	1948	1250
64m SE	Railway Sidings	1965	2500
64m SE	Railway Sidings	1949	2500
64m SE	Railway Sidings	1957	2500
80m E	Railway Sidings	1965	2500
89m SE	Railway Sidings	1973	1250
97m S	Railway Sidings	1948	1250
109m S	Railway Sidings	1955	-
116m S	Railway Sidings	1955	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	1965	2500
176m SE	Railway Sidings	1951	1250
176m SE	Railway Sidings	1948	1250
186m S	Railway Sidings	1955	-
189m S	Railway Sidings	1955	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	1949	2500
237m W	Railway Sidings	1957	2500



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

This data is sourced from Ordnance Survey/Groundsure.

22.5 Royal Mail tunnels

Records within 250m	0
----------------------------	----------

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

This data is sourced from Groundsure/the Postal Museum.

22.6 Historical railways

Records within 250m	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 149 >](#)

Location	Description
112m SE	Dismantled
129m SE	Dismantled
148m SE	Dismantled

This data is sourced from OpenStreetMap.



22.7 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.

22.8 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.

22.9 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.

22.10 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> ↗.

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: www.groundsure.com/terms-and-conditions-april-2023/ ↗.



BGS archive records

1" N.S. 85
S. 20
SHAFT (OR BORE)
SJ 89NW220

2.

Exact site _____ British Geological Survey _____ British Geology _____ (A rough sketch-map or a tracing from a map is very desirable)

_____ in parish of _____

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 below top of well 60 9 feet. Suction at _____ feet. Yield on _____ hours' test
giving _____ above _____ see card _____ days' index

200,000 gallons per day (with pump of capacity _____ g.p.h.); depressing water level to _____ feet 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

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 NX):-

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/br 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.

For Survey use only

Date received

G.B.M. Office
File No.

Site marked
on 1' map
(use symbol)

(*11815) Wt.29051/O.369 10,000 9/39
A.& E.W.Ltd. Gp.686

48 G.S.M. Nos. 75-79

SJ 89NW 64-68

SECTION OF *Series Shafts*at *Deansgate, Manchester*

British Geological Survey

Maps: One-inch *85*

British Geological Survey

Six-inch *104 S.W.E.*

British Geological Survey

County *Lancs.*

Height above O.D. _____

Latitude _____

Longitude _____

Communicated by _____

Date of Sinking _____

Made by _____

Dip of Strata _____

		Thickness.			Depth from Surface.		
		Metres			metres		
N⁶⁸ <i>68</i>	<i>Deansgate: Corner of Lombard St. made ground Sandstone</i>	3.66	12	-	3.66	12	-
		7.01	23	-	10.67	35	-
N⁶⁷ <i>67</i>	<i>02. Deansgate opposite Camp St. corner. Ballast & made ground. Sandstone.</i>	2.13	7	-	2.13	7	-
		11.28	37	-	13.41	44	-
N⁶⁶ <i>66</i>	<i>03. Deansgate, opposite St. John's Street corner. Ballast & loose ground. Ballast & loose ground Sandstone.</i>	3.66	12	-	3.66	12	-
		4.27	14	-	7.93	26	-
		5.18	17	-	13.11	43	-
N⁶⁵ <i>65</i>	<i>05. Deansgate, Jackson's Row corner. Ballast & loose ground Sandstone.</i>	3.66	12	-	3.66	12	-
		9.14	30	-	12.80	42	-
N⁶⁴ <i>64</i>	<i>07. Deansgate, corner of John Dalton Street. made ground } Ballast & gravel } Gravel, sand, & marl. Sandstone</i>	3.35	11	-	3.35	11	-
		3.05	10	-	6.40	21	-
		7.32	24	-	13.72	45	-

British Geological Survey

British Geological Survey

British Geological Survey

SECTION OF

81 89 W 81 84
(N.W. Corner of) MANCHESTER.

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

Height above O.D. — Latitude — Longitude —

Communicated by Manchester Corporation City Engineer. Date of sinking —

Made by Contractor Robert Engineers Works Dip of Strata —

No.	Section	Description	Thickness.			Depth from Surface.		
No. 58 81	Corner of Quay St. & Longwall St.	Gravel & sand.	0.91	3	—	0.91	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	10.82	35	6
No. 59 82	Corner of Byrom St. & Quay St.	Filling	2.44	8	—	2.44	8	—
		Gravel & sand.	2.74	9	—	5.18	17	—
		Yellow loam.	0.22	4	—	6.40	21	—
		Red sand rock.	2.13	7	—	8.53	28	—
No. 60 83	Corner of Quay St. & Lower Byrom Street.	Filling	0.91	3	—	0.91	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.	0.70	2	6	3.51	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. & Atterton 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

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

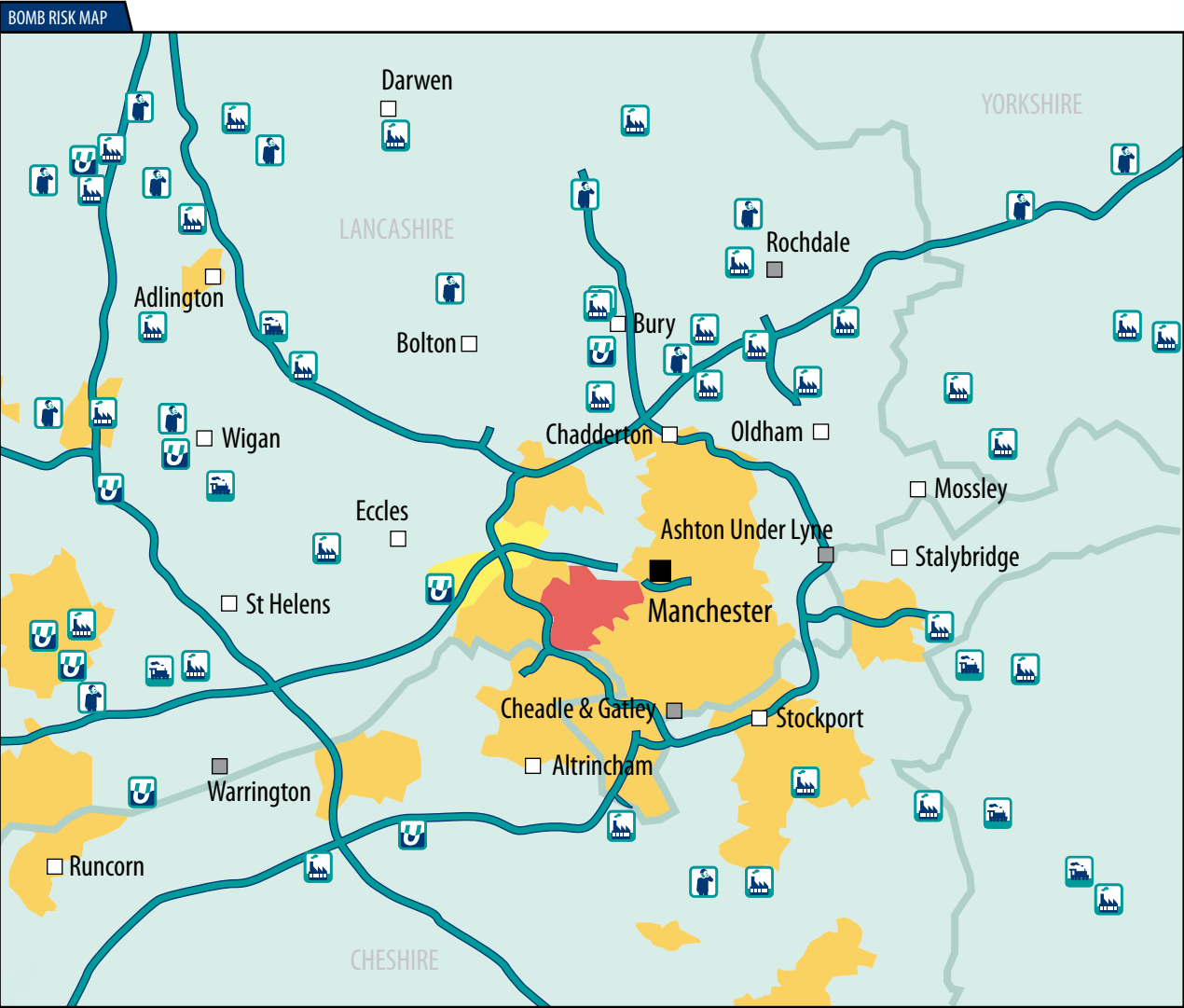
unverified

BOMB RISK

high

moderate

low



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

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.

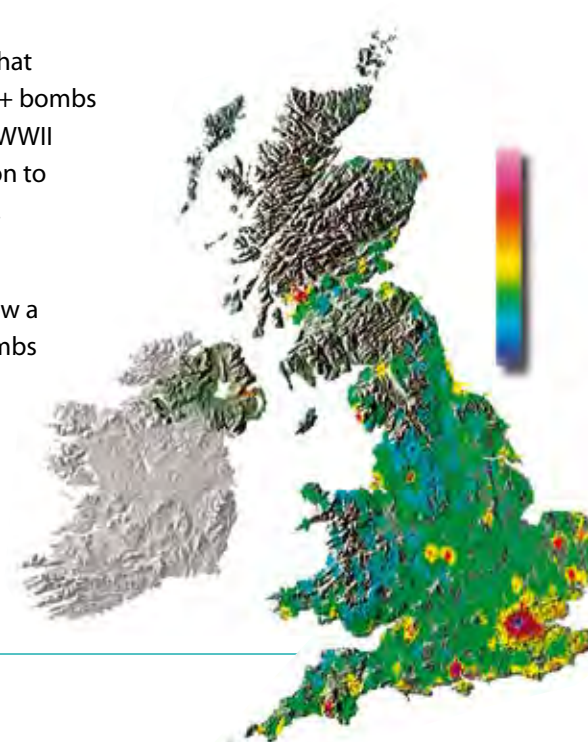
Low risk

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.

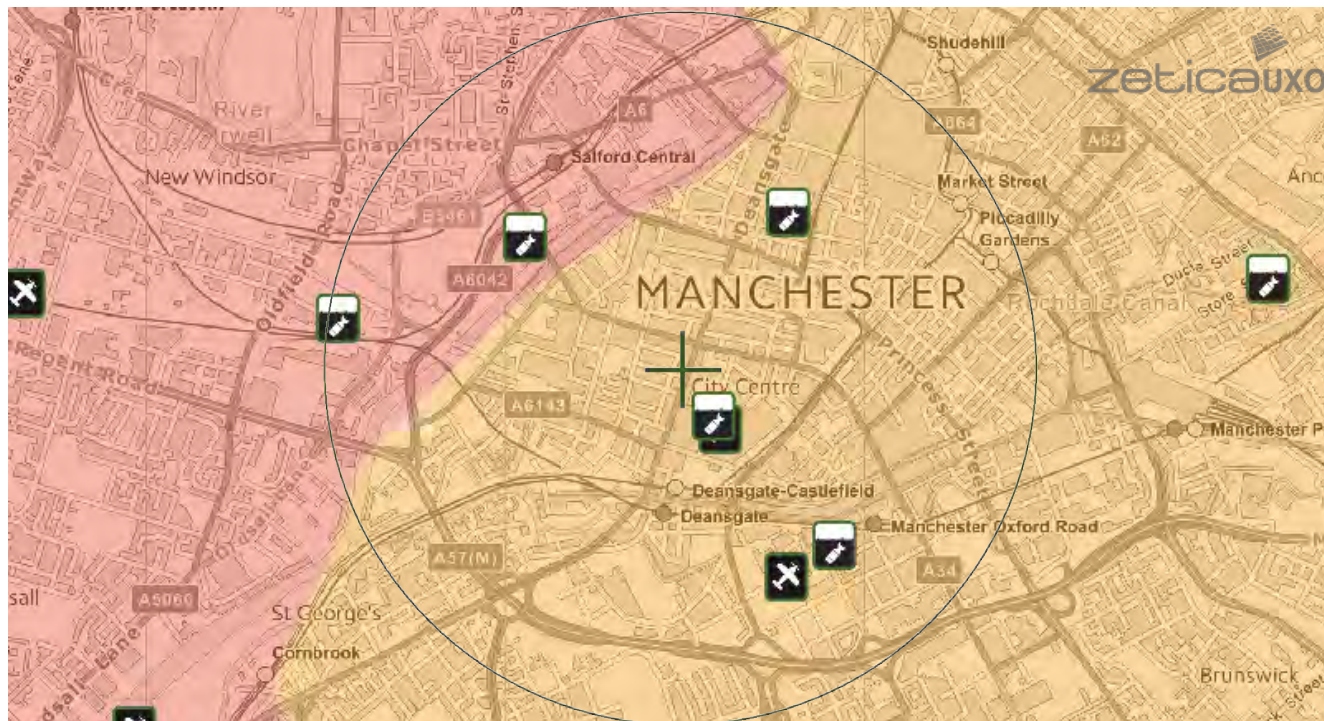
Zetica UXB risk maps

UNEXPLODED BOMB RISK MAP



SITE LOCATION

Location: M3 4DU,
Map Centre: 383457,397922



This map principally indicates a hazard from Unexploded Bombs (UXB) due to WWII bombardment. Other sources of Unexploded Ordnance (UXO) may be present. It should be noted that this map does not represent UXO risk and should not be reported as such when reproduced.

LEGEND

- High:** Areas indicated as having a bombing density of 50 bombs per 1000acre or higher.
- Moderate:** Areas indicated as having a bombing density of 15 to 49 bombs per 1000acre.
- Low:** Areas indicated as having 15 bombs per 1000acre or less.

- Military
- Industry
- UXO find
- Other
- Transport
- Docks
- Luftwaffe targets
- Utilities
- Bombing decoy
- Airfields

How to use your Unexploded Bomb (UXB) risk map?

This map indicates the potential for UXBs to be present because of World War Two (WWII) bombing. It can be incorporated into a technical report, such as a Phase 1 Desk Study, or similar document as an indication of the potential for UXO encounter on a Site. Other sources of UXO may also be indicated, although note that these are not comprehensive and more detailed research is required to confirm their presence.

What if my Site is in a moderate or high density area?

We typically recommend that a detailed UXO desk study and risk assessment is undertaken for sites in an area with a moderate or high bombing density. Additionally, if your site is in close proximity to a strategic target, military establishment, airfield or bombing decoy, then [additional detailed research](#) is recommended.

If my site is in a low risk area, do I need to do anything?

If both the map and other research confirm that there is a low potential for UXO to be present on your site, then, subject to your own comfort and risk tolerance, works can proceed with no special precautions.

If you are unsure whether other sources of UXO may be present, you can request one of our [pre-desk study assessments \(PDSA\)](#) by emailing a site boundary and location to pdsa@zetica.com.

You should never plan site work or undertake a risk assessment using these maps alone. More detail is required, to include an assessment of the likelihood of a source of UXO hazard from other military activity not reflected on these maps.

If I have any questions, who do I contact?

tel: [+44 \(0\) 1993 886682](tel:+44201993886682) email: uxo@zetica.com web: www.zeticauxo.com

The information in this UXB risk map is derived from a range of sources and should be used with the [accompanying notes on our website](#).

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgement. The copyright remains with Zetica Ltd.

Preliminary UXO Risk Assessment



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.



Risk Assessment Considerations	
Site location and description/current use	<p>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.</p> <p>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.</p> <p>The site is approximately centred on the OS grid reference: SJ 83458 97922.</p> 
Are there any indicators of current/historical military activity on/close to the site?	1 st 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?	<p>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. <i>Artillery Street</i> was situated to the north of the site and <i>St John Street</i> was situated south of the site.</p> <p>Post- war mapping shows no changes within the site boundary and minimal changes to the surrounding area. Structures just east of the site, across <i>Longworth Road</i> appear to have been cleared and replaced by one larger structure named <i>St John Street Chambers</i>. However, no other significant changes appeared to have occurred around the site following the war.</p>
Was the area subject to bombing during WWII?	<p>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.</p> <p>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 <i>Longworth Road</i>. Another was recorded just north of the site, across <i>Artillery Street</i>. No HE bombs were recorded in the immediate vicinity of the site.</p>



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.



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.



Appendix E 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 ground 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 deep Made ground associated with former terrace housing.	✓	-
Soft / loose compressible ground (low strength and high settlement potential).	The sand and gravels of the glaciofluvial sheet deposits may be loose in density.	✓	-
Shrink swell of the clay fraction of soils under the influence of vegetation.	If present shallow cohesive soils present within the glaciofluvial sheet deposits	✓	-
Variable lateral and vertical changes in ground conditions.	Heterogenous Made Ground may be present associated with backfilled basements.	✓	-
High sulphates present in the soils.	The Made Ground may contain elevated sulphates.	✓	-
Adverse chemical ground conditions, (e.g. expansive slag).	Unlikely to pose a risk to the site.	-	✓
Obstructions.	Associated with remaining subsurface foundations/basements from the former terrace housing.	✓	-
Existing below ground structures to remain (on or off- foundations and basements).	Lateral pressures exerted on the existing basement from foundations associated with the extension.	✓	-

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
Shallow groundwater.	May be present within the sand and gravels of the Glaciofluvial Sheet Deposits.	✓	-
Changing groundwater conditions.	Seasonal variation in groundwater may occur.	✓	-
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 the soils may be loose in density.	✓	-
Slope stability issues – general slopes.	No slopes present.	-	✓
Slope stability issues – retaining walls.	No slopes present or retaining walls proposed.	-	✓
Earthworks – settlement (due to placement of fill on soft / loose ground).	Site is flat so no earthworks required.	-	✓
Earthworks – poor bearing capacity of new fill.	Site is flat so no earthworks required.	-	✓
Earthworks – unsuitability of site won material to be reused as fill.	Site is flat so no earthworks required.	-	✓
Solution features in Chalk.	Not 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 Formation under the site and surrounding area.	-	✓
Cambered ground with gulls possibly present.	No risk.	-	✓
Relict Slip Surfaces.	No risk.	-	✓

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
Solifluction.	No risk.	-	✓
Problematic soils (silts and rewetting etc.).	No risk.	-	✓

Appendix F 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 LCRM (2023) 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 modified to add a 'no linkage' category and to remove low/moderate risk (See Table F.1).

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 – final source-pathway-receptor contaminant linkages

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments
Made Ground, associated with associated with former housing including elevated concentrations of metals, metalloids, petroleum hydrocarbons, asbestos fibres, Asbestos Containing Materials and PAH.	Ingestion, inhalation or direct contact.	Site users.	Likely	Medium	Moderate	Made Ground is anticipated to be present across the site, in the north and centre, where former housing was present. If these former houses contained basements, which were backfilled there is the potential for deep Made Ground.
		Neighbours	Low likelihood	Medium	Low	During the ground investigation chemical testing should be completed on the Made Ground to confirm if mitigation measures are required. There is unlikely to be significant contamination associated with Made Ground that could pose risk to offsite receptors.
	Leaching through unsaturated zone.	Groundwater within the Secondary A or Principal Aquifer.	Low likelihood to Likely	Low to Medium	Low to Moderate	The site is underlain by a Secondary A aquifer, which may be in vertical hydraulic continuity with the principal aquifer. Leaching of infiltrating through the unsaturated zone in the Made Ground will be limited the block paving onsite. The ground investigation should assess the risk the Made Ground poses to the shallow and deeper groundwater.
	Plant root uptake	Plant Life	No linkage			Proposed planting is unlikely within the existing Made Ground. Any Topsoil or subsoil within landscaped areas will be tested and ensured suitable for plant life.
	Direct Contact	Water Supply Pipe	Low likelihood	Medium	Low	Previous site uses do not appear to have included storage or use of petroleum hydrocarbons or VOCs. Therefore, the presence of contaminants that would pose a risk to PE pipe via degradation is considered to be low.
Asbestos within existing buildings	Fugitive dust.	Site users or neighbours	Low likelihood	Severe	Moderate	An Asbestos refurbishment survey should be completed on 8-8a St John Street. Careful removal will be required prior to refurbishment of the existing 8-8a St John Street. Removal under controlled conditions by a competent asbestos removal specialist will limit the release of any fibres present to the air. Via careful removal and use of control measures in accordance with CAR2012 the risk posed to receptors would be reduced to low.

Sources	Possible Pathways	Receptors	Probability	Consequence	Risk Level	Comments
Ground gases (carbon dioxide and methane) from deep Made Ground associated with former terraced houses possibly including backfilled basements.	Migration, build up and asphyxiation.	Site users.	Low likelihood to Likely	Low to Medium	Low to Moderate	Made Ground will likely be present associated with the former terraced houses. The Made Ground may be deep locally associated with backfilled basements. Due to the unknown composition of the Made Ground it may contain organic material and be greater than 1.00m in depth. Therefore, there is a potential for it to pose a ground gas risk to site end users and buildings. As part of the ground investigation a suitable gas monitoring regime should be completed. There is unlikely to be considerable flows and ground gas concentrations present that which could pose a risk to offsite receptors.
	Migration, build up and explosion.	Buildings on site.				
Hydrocarbon fuels and solvents from the operation of former Timber Yards, Good Station or Stiffening Works including leakage from unspecified or unrecorded tanks, the pipework between tanks and pumps, and general spillage, together with uncontrolled disposal and spillage from waste receptacles.	Leaching through unsaturated zone.	Site users	Low likelihood	Medium	Low	Due to the aerobic conditions within the sand and gravels and potential age of any dissolved or light non-aqueous phase liquids pre 1950s, natural attenuation will have broken down contaminants to lower concentrations which are not volatile.
	Migration of vapours through gaps in construction		Low likelihood	Medium	Low	
Ground gases (carbon dioxide and methane) from organic materials in the artificial ground shown, 50m east.	Migration, build up and asphyxiation.	Site users.	Low likelihood	Medium	Low	There is unlikely to be considerable flows generated whereby ground gas from the offsite source would migrate onto the subject site. Furthermore, the artificial Made Ground may contain cohesive and granular strata, with low permeability cohesive layer restricting ground gas migration.