Next Generation Engineering Consultancy Services

Phase 1 Geoenvironmental Desk Study & Ground Stability Risk Assessment for Manchester One, 49-53, Portland Street, Manchester, M1 3LD

Project No: NX469



Client

bruntwood SciTech

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EXECUTIVE SUMMARY

Site Location & Access	Manchester One, 49-53, Portland Street, Manchester, M1 3LD
Grid Reference	384288E 397961N
Current Site Use	The site comprises an existing multi-storey building with a new reception and workspaces set across 21 floors and an adjacent 2-storey commercial building in the north of site. There is also a carpark and an associated ramp to the rear of the building. Chorlton Street bounds the site to the north with more multi-storey buildings located beyond that. To the east is a multistorey car park, retail and office buildings located beyond. To the south is Sackville Street, where multistorey buildings and a ground level carpark are located. To the west of the site there is Portland Street with retail units and commercial buildings located on it. An external site walkover has been carried out by NX Consulting to establish that no significant potential sources of contamination are present associated with the current development. No unstable slopes, invasive knotweed or significant induced surface settlements were observed within during the site walkover.
Development Proposals	This report is required as part of a pre-acquisition assessment on behalf of the Client Bruntwood Scitech and the site is to be retained in its existing commercial end use.
Site History	**On-Site** Historical mapping indicates the following: • 1851 – 1948: The site lies within a heavily built-up area of commercial, residential and industrial land use. On-site features include residential buildings and associated yards, a timber yard, pub and a street running through the center of the site. • 1948 – 1964: Buildings are no longer marked on site. Previous buildings were possibly destroyed by bombing during WWII. • 1964 – Present: The site has been redeveloped to include 1no. building, St Andrew's House (later renamed Portland Tower), and a ramp leading to a bus station and car park. The site remains largely unchanged up to the present day. **Offsite** Potentially contaminative uses identified in the surrounding area

	have included electrical substations, a print works, mills, manufactories, coal yards, timber yards, copper and zinc manufacturing, reservoirs and steel works. General redevelopment of the site and surrounding area which may have been a source of made ground.
Utility Locations	Underground services impact the site and the engineer should familiarise themselves with their presence and implications on the development.
Landfill Sites & Ground Gases	No current or historic landfill sites are recorded within 500m of the site. Given the developmental history of the site and surrounding area, the risk from hazardous ground gas is considered to be Low to Moderate due to the possible presence of made ground beneath the site. The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.
Geological Mapping	Drift deposits are shown to comprise Glacial Till which mainly consist of clay with less frequent sands, silts and gravels. The solid geology comprises the Chester Pebble Beds Formation (sandstone). There are several faults recorded in the search area, the closest being a normal fault located 76m southwest of the site, the downthrown side is the northeast.
Mining Risk & Ground Stability	The site lies in the coal mining reporting area as defined by the coal authority. However, based on NX Consulting's knowledge of the area and cover of overlying sandstone, the site is considered to be at a low risk of mining related impacts. The Groundsure report lists an unspecified shaft located 889m to the northeast of the site. There are no other records of historical mining on or near the site. Johnson, Poole and Bloomer records are listed as being obtainable within a 1000m boundary of this site. Other ground subsidence categories are listed as having a very low to negligible risk.
Flood Risk	The site is not located within any Flood Risk Zones 2 or 3. The site is stated to be at very low risk from surface water flooding from rivers or the sea. The drainage engineer should establish if further works are required in this regard.

Geotechnical Considerations	Based on information from adjacent sites, a bored piled solution is likely to be the most suitable solution for new developments; socketed into the sandstone bedrock. Obstructions in the form of relict foundations, infilled cellars/basements and roads/infrastructure should be anticipated across the site. Heavy plant and machinery will be required to break out existing slabs/retaining walls/ground beams and cellars/basement slabs. These materials will require 'grubbing out' and treatment (screening/crushing/segregation and reused (where appropriate) on site to prevent formation of the piled foundations and services formation. The nearest proximity the Guardian Underground Tunnel Exchange (GUTE) tunnel network has to the site is located approximately 40m southwest between Sackville Street and Abingdon Street when the tunnel is reported to lie trending NW-SE (https://hidden-manchester.org.uk/tunnels.html). It is unlikely that any underground tunnels should impact the site. Any new construction works may need to consider the tunnel presence. Existing piles and possibly oversize foundation bases are likely to be present upon site and during site preparation will need to be recorded /surveyed to enable foundations and infrastructure to the new development to be designed. A perched and discontinuous groundwater regime is likely to be present within granular soils within the upper 3m to 5m of strata. Excavations are unlikely to remain fully dry but should be able to be controlled by a screened sump pump techniques within the upper 3.00mbgl of strata. Soakaways are unlikely to be suitable due to the nature of made ground and relatively impervious Glacial Clay at the site. Based on the published geology, there is considered to be a very low risk to the proposed development from shallow mineworkings.
Unexploded Ordnance	The regional unexploded bomb risk map from Zetica indicates that the site is in an area at moderate risk from possible Unexploded Ordnance (UXO) resulting from the Second World War. (Zetica, 2020). It is recommended that a Stage 2 Detailed Unexploded Ordnance Desktop Threat Assessment of the site is carried out prior to any

	construction or intrusive works. Given the potential bombing areas identified upon historical mapping, mitigation measures are likely to be required for all development works; comprising the following: • Operational UXO Risk Management Plan – appropriate site management documentation should be held onsite to guide and plan for the actions which should be undertaken in the event of a suspected or real UXO discovery; • UXO Safety & Awareness Briefings – the briefings are essential when there is a possibility of explosive ordnance encounter and are a vital part of the general safety requirement. All personnel working onsite should receive a briefing on the identification of a UXO, what actions they should take to keep people and equipment away from such a hazard and to alert site management. • Information concerning the nature of the UXO threat should be held in the site office and displayed for general information on notice boards, both for reference and as a reminder for ground workers. • The safety and awareness briefing is an essential part of the Health & Safety Plan for the site and helps to evidence conformity with the principles laid down in the CDM regulations, 2015. • All window sampling and excavations should have an explosive Ordnance Disposal (EOD) Banksman Support – EOD Engineer to survey and / or supervise the window sampling and excavations for UXO and to identify any suspicious items as the work proceeds in the EOD Banksman role. • All boreholes and piling: should include intrusive Magnetometer Surveys – an intrusive survey (employing down-hole magnetometer or MagCone techniques) ahead of boreholes and piling is highly recommended. Such a survey should extend to the maximum bomb penetration depth or to the maximum depth of the works, whichever is encountered first.
Contaminated land & intrusive site investigation works	The Site is not included on the list of sites designated as contaminated land. With respect to existing commercial development, the likelihood of action being taken under the Environmental Protection Act 1990 is considered to be low. The areas of greatest concern are likely to be possible

	contamination associated with made ground across the site. The extent of soil and groundwater contamination is not yet known however, given the available historical information on previous uses, gross contamination is unlikely. Ground conditions are expected to be typical for this area of Manchester, considering the site's previous use. Standard contaminated land planning conditions (requiring investigation, risk assessment, remediation strategy, implementation and validation) are likely to be applied to any planning consent and will require staged regulatory approval. Given the proposed end use, the risk to future end users of the site is considered to be low to moderate; whilst the risk to controlled waters in relation to the currently proposed development is considered to be low to moderate. This risk would need to be re-assessed if the end use was changed to a more sensitive setting such as residential. In order to address the potential pollutant linkages a site investigation would be required in accordance with relevant guidance documents (including BS101751 and BS59301). The intrusive works should include geotechnical considerations with regards to proposed buildings and infrastructure on site. This report should be sufficient for the Local Planning Authority to consider any future planning applications. Outline planning conditions relating to contamination may need to be addressed prior to occupation and/or pre-commencement of development works.

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1.0 INTRODUCTION

1.1 Instruction

NX Consulting Limited have been commissioned by Bruntwood Scitech (The Client) to conduct a Phase 1 Geoenvironmental Desk Study on Manchester One, 49-53, Portland Street, Manchester, M1 3L.

This report is required as part of a pre-acquisition assessment on behalf of the Client Bruntwood Scitech and the site is to be retained in its existing commercial end use.

1.2 Scope of Work

Guidance set out in LCRM1[1], GPLC1-3[2] and the National Planning Policy Framework (NPPF)[3] states that a Preliminary Risk Assessment with a site reconnaissance is required as a minimum to ascertain if there is a potential contamination risk.

The aim of any Desk Top Study is to assess the potential ground related risks at the site. In order to achieve the above stated aims and objectives, the following scope of works has been determined:

- Present a discussion of the current site status and key environmental influences around the site.
- Undertake and present a historical site and area review, primarily referring to old Ordnance Survey Maps.
- Undertake preliminary data searches.
- Present a discussion of the ground and groundwater conditions within the topographical and area context.
- Present a preliminary ground contamination assessment discussing the results of the research above, not only concerning potential on-site conditions and contamination but also with an overview of the potential for migration on or off-site with respect to the surrounding neighbouring sites.
- The information gathered will be used to identify potential geotechnical constraints associated with the redevelopment of the site.
- Present a preliminary qualitative risk assessment and make recommendations for a characterisation stage of physical investigation and testing, if appropriate.

1 EA (2020). "Land contamination risk management (LCRM).
2 EA (2016). "Guiding Principles for Land Contamination." GPLC1-3.
3 DCL (2021). "National Planning Policy Framework." Department of Communities and Local Government.

1.3 Report Layout

- Section 2 of this report provides a summary of the Phase 1 desk study findings; including the site history, as established from available public record information.
- Section 3 details the preliminary risk assessment
- Section 4 presents a summary of conclusions and recommendations.

1.4 Limitations

The accuracy of the data supplied by third parties should be considered in the context of any known site conditions for which NX Consulting Limited cannot be held liable.

The comments made in this report are based on the data available at the time of its completion. Any unusual or conflicting evidence discovered during any future site works must be presented to NX Consulting as soon as possible so that any implications may be considered.

This report is provided for the benefit only of the party to whom it is addressed. NX Consulting does not extend responsibility to any third party for the whole or any part of the contents. Nx Consulting owes no duty of care in relation to this report to any third party. The investigation and reportage has been undertaken with all reasonable skill, care and due diligence. NX Consulting disclaims any responsibility to the client or others in respect of any matter(s) outside this agreed scope of the above works.

In addition to the above it should be noted that when investigating or developing land, sub-surface conditions might vary both spatially and over time. Whilst this investigation and subsequent interpretation has been undertaken to reasonably characterise current sub-surface conditions at the site within the scope of works and agreed budget, the absence of certain ground, contamination or groundwater conditions at the individual locations is not a guarantee that these conditions do not exist elsewhere on the site. Additional information, changes in legislation or revised practices may necessitate re-interpretation of part or all of this report.

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2.0 PHASE 1 ASSESSMENT SUMMARY

This section summarises pertinent information gained from reviewing the Groundsure Geoinsight, Enviroinsight Reports and Historical Mapping. Full copies are presented in Appendix B and C respectively.

2.1 Site Location & Setting

Site Location	Manchester One, 49-53, Portland Street, Manchester, M1 3LD	
Site Description	The site comprises an existing multi-storey building with a new reception and workspaces set across 21 floors and an adjacent 2-storey commercial building in the north of site. There is also a carpark and an associated ramp to the rear of the building. Chorlton Street bounds the site to the north with more multi-storey buildings located beyond that. To the east is a multistorey car park, retail and office buildings located beyond. To the south is Sackville Street, where multistorey buildings and a ground level carpark are located. To the west of the site there is Portland Street with retail units and commercial buildings located on it. An external site walkover has been carried out by NX Consulting to establish that no significant potential sources of contamination are present associated with the current development. No unstable slopes, invasive knotweed or significant induced surface settlements were observed within during the site walkover.	
Grid Reference	384288E 397961N	
Site Area	Approximately 0.35 hectares	
Site Setting	Surrounding area:	North: Commercial and retail East: Commercial and retail South: Commercial and retail West: Commercial and retail

2.2 Geology, Hydrology and Hydrogeology

Table 2.2 – Summary of Geology Hydrology and Hydrogeology	
Drift Geology	On site: Glacial Till (normally clays with occasional sands and gravels)
	Immediate surrounding area: Glaciofluvial deposits of sand and gravel
Solid Geology	On Site: Chester Pebble Beds Formation, Sandstone.

Table 2.2 – Summary of Geology Hydrology and Hydrogeology	
	Immediate surrounding area: Chester Pebble Beds Formation, Sandstone.
Faults	There are several faults recorded in the search area, the closest being a normal fault located 76m southwest of the site, the downthrown side is the northeast.
Hydrology	There were 2no. surface water features within 250m of the site: • 151m south, Rochdale Canal • 224m south east, inland river not influenced by normal tidal action.
Hydrogeology	Superficial deposits - Secondary Aquifer 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). Bedrock deposits – Principle Aquifer (Geology of high inter-granular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale).
Water Abstractions	There is two historical groundwater abstractions within 500m of the site. 1. Is located 154m to the west of the site and was for cooling purposes; 2. Is located 213m to the south east of site and was also for cooling purposes.
Source Protection Zone	The site is not within a currently defined groundwater source protection zone. The site is classed as having low soil leaching potential.
Flood Risk	The site is not located within any Flood Risk Zones 2 or 3. The site is stated to be at very low risk from surface water flooding from rivers or the sea. The site does not benefit from Environment Agency defined flood defenses. The site is at moderate risk of groundwater flooding.
Shrink Swell Clays	Very low risk.
Landslides	Very low risk.

Table 2.2 – Summary of Geology Hydrology and Hydrogeology	
Ground Dissolution of soluble Rocks	Negligible risk.
Compressible deposits	Negligible risk.
Collapsible Deposits	Very low risk
Running Sands	Very Low risk

2.3 Mining Extraction and Natural Cavities

Table 2.3 – Mining and Mineral Extraction	
Coal Mining	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.
Johnson Poole and Bloomer	Johnson, Poole and Bloomer records are listed as being obtainable within a 1000m boundary of this site.
Other mining	None identified.
Historic Ground Workings	There are five entries for historical surface ground workings within 250m of the site: • 132m south east, canal. • 147m south east, ponds. • 173m east, unspecified wharf. • 213m south east, unspecified wharf. • 223m north east, pond. There are no entries for historical underground workings within 1000m of the site.

2.4 Ground Stability Risk Assessment

Published Geology

According to the British Geological Survey map, sheet No85 (Manchester) Solid and Drift editions, the site is shown to be underlain by Drift deposits comprising Glacio-Fluvial Sheet Deposits, overlying Chester Pebble Beds.

Coal Authority

The Coal Authority website shows the site as lying within a coal mining reporting area, but not within a development high risk area, or within an area of probable shallow coal mine workings.

Based on the published geology and Coal Authority data, the risk of the site being affected by shallow mineworkings is considered to be very low.

Heave/Shrinkage

Trees may be present in the area, which have the potential to cause heave/shrinkage and any new developments may require heave/shrinkage protection measures in line with NHBC Chapter 4.2 Guidance.

Guardian Underground Telephone Exchange (GUTE) Tunnel

It is understood by NX Consulting that the GUTE tunnels underlie certain areas of Manchester City Centre. The nearest proximity the tunnel network has to the site is located approximately 40m southwest between Sackville Street and Abingdon Street when the tunnel is reported to lie trending NW-SE (https://hidden-manchester.org.uk/tunnels.html).

It is unlikely that any underground tunnels should impact the site. Any new construction works may need to consider the tunnel presence.

2.5 Site History

Historical maps of the site area have been obtained from Groundsure. Pertinent information determined from review of these maps is set out in the following table; a full copy of the maps is presented in Appendix C.

Table 2.4 – Site History

Map Date	On Site Potentially Contaminative Past Uses	Off Site Potentially Contaminative Past Uses
1851 – 1948	The site lies within a heavily built-up area of commercial, residential and industrial land use. On-site features include residential buildings and associated yards, a timber yard, pub and a street running through the center of the site.	• (1851) The site lies within a highly industrialised area. Land uses include mills, manufactories, coal yards, timber yards, copper and zinc manufacturing, reservoirs and steel works.

Table 2.4 – Site History		
Map Date	**On Site Potentially Contaminative Past Uses**	**Off Site Potentially Contaminative Past Uses**
1948 – 1964	Buildings are no longer marked on site. Previous buildings were likely destroyed by bombing in WWII.	• (1893) Manchester Royal Infirmary, 230m north east. • (1893) Picadilly Cotton Mill, 250m east. • (1893) Timber Yard, 240m south. • (1893) Unspecified Wharf, 170m south. • (1893) Tramway, 10m north west. • (1893) Canal, 125m south east. • (1908) Unspecified Wharf, 250m east. • (1908) Unspecified Wharf, 250m south east. • (1908) Electricity Station, 225m south west. • (1948) Garage, 100m north west.
1964 – Present	The site has been redeveloped to include 1no. building, St Andrew's House (later renamed Portland Tower), and a ramp leading to a bus station and car park. The site remains largely unchanged up to the present day.	• (1964) Bus Station and Car Park, 20m south east.

2.6 Environmental Information

Table 2.5 – Environmental Information	
Environmental permits, incidents and registers	No pollution incidents have been recorded within 250m of the site. 2no. Part A(2) or Part B Activities have been identified within 500m and are as follows: • 349m W, dry cleaning activities. • 470m NW, dry cleaning activities.
Landfill Sites and Other Waste Disposal Facilities	No current landfill sites or waste treatment sites recorded within 1000m of the site. There were no instances of historical landfill sites within 500m of

	site, the nearest three are as follows:
Potentially contaminative land uses	45no. current, potentially contaminative land uses have been identified by the GroundSure report, the most potentially significant are summarised as follows: • On-site, scrap metal merchants. • On-site, colours, chemicals and water softeners suppliers. • 51m south east, coach and bus station. • 61m north west, print related equipment. • 65m east, medical supplies and equipment. • 119m west, scrap metal merchants. • 161m east, moorings and unloading facilities. • 164m north waste collection processing and disposal equipment • 167m west, 189m east, electrical sub station 99no. historical, potentially contaminative land uses have been identified by the GroundSure report, the most potentially significant are summarised as follows: • 14m south east, bus station. • 173m east, unspecified wharf. • 208m north east, infirmary. • 210m south west, electricity station. • Multiple entries of unspecified commercial/industrial/mills and works.
Ecological Setting	No significant sites within 1000m.
Radon	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

2.7 Nearby BGS Boreholes & Anticipated Ground Conditions

BGS Ref: - Portland Street - SJ89NW317.

Site Investigation Logs for Borehole No. 6, – Portland Street (company not noted):

This borehole was taken on site to a depth of 12.19m bgl. Logs indicate ground conditions of filled/made ground to a depth of 0.76m bgl. This is followed by soft clays to a depth of 9.60m bgl. Red sandstone bedrock is encountered at 9.60m bgl and continues until the terminus of the borehole at 12.19m bgl. No water strikes are noted on the logs.

BGS Ref: - Bloom Street - SJ89NW3511.

Site Investigation Logs for Borehole No 3, – Bloom Street – Manchester City Council:

This borehole was taken 75m south east of the site to a depth of 8.95m bgl. Logs indicate made ground of clay, ash, brick etc to a depth of 0.5m bgl followed by stiff brown clays to a depth of 8.90m bgl. Red/brown sandstone is encountered at 8.90m and continues to the end of the borehole at 8.95m bgl. Water entry is noted at 8.40m bgl.

2.8 Unexploded Ordnance (UXO)

The regional unexploded bomb risk map from Zetica indicates that the site is in an area at Moderate risk from possible Unexploded Ordnance (UXO) resulting from the Second World War. (Zetica, 2020).

It is recommended that a Stage 2 Detailed Unexploded Ordnance Desktop Threat Assessment of the site is carried out prior to any construction or intrusive works.

Mitigation measures are likely to be required for all development works; comprising the following:

- Operational UXO Risk Management Plan – appropriate site management documentation should be held onsite to guide and plan for the actions which should be undertaken in the event of a suspected or real UXO discovery;
- UXO Safety & Awareness Briefings – the briefings are essential when there is a possibility of explosive ordnance encounter and are a vital part of the general safety requirement. All personnel working onsite should receive a briefing on the identification of a UXO, what actions they should take to keep people and equipment away from such a hazard and to alert site management.
- Information concerning the nature of the UXO threat should be held in the site office and displayed for general information on notice boards, both for reference and as a reminder for ground workers.
- The safety and awareness briefing is an essential part of the Health & Safety Plan for the site and helps to evidence conformity with the principles laid down in the CDM regulations, 2015.
- All window sampling and excavations should have an explosive Ordnance Disposal (EOD) Banksman Support – EOD Engineer to survey and / or supervise the window sampling and excavations for UXO and to identify any suspicious items as the work proceeds in the EOD Banksman role.
- All boreholes and piling: should include intrusive Magnetometer Surveys – an intrusive survey (employing down-hole magnetometer or MagCone techniques) ahead of boreholes and piling is highly recommended. Such a survey should extend to the maximum bomb penetration depth or to the maximum depth of the works, whichever is encountered first.

3.0 PRELIMINARY CONCEPTUAL MODEL

The site characterisation attempts to identify potential previous and existing site sources of contamination. The conceptual model links the identified sources likely to cause significant possibility of significant harm via pathways to identified critical receptors. The conceptual model is therefore based on a number of identified source-pathway-receptor scenarios. For land to be classified as contaminated a significant pollutant linkage will need to be identified which will include each component of the conceptual model. The absence or removal of a source or interception of a pathway will 'break' the pollutant linkage.

The conceptual model is characterised by identification of the following:

- On-site sources, which may impact on-site receptors via plausible pathways.
- On-site source, which may impact off-site receptors via plausible pathways.
- Off-site sources, which may impact on-site receptors via plausible pathways.

The change of land use will require assessment of the new site development layout within the context of introducing new exposure pathways. The planning regime will require assessment of the site to ensure the new development will not be classed as contaminated land as defined in the Contaminated Land (Scotland) Regulations 2000.

3.1 Risk Assessment

Section 6.3 of the CIRIA Report "Contaminated Land Risk Assessment: A Guide to Good Practice" (CIRIA Report C552) describes in detail the concepts underlying the risk-based approach to assessing potentially contaminated land, introduce the roles of key legislation and describe the qualitative methodology adopted for evaluating and characterising risk.

Current best practice in the UK promotes a risk-based approach to dealing with both soil and groundwater contamination. The principal aim of the approach is to ensure protection of human health and the environment in a thorough, transparent and cost-effective manner.

Fundamental to the risk-based approach is the concept that for 'Contaminated Land' to be designated, as a consequence of historic activities, a pathway for contamination must be shown to exist between a source of contamination and a receptor. The combined presence of a source, pathway and a receptor is described as a 'pollutant linkage'.

The concepts associated with a contaminant source, pathway and receptor are defined in DETR Circular 02/2000 'Contaminated Land Environmental Protection Act 1990: Part II A'. A **source** of contamination may be considered as a 'substance which is in, on or under land that has the potential to cause harm or to cause pollution of controlled waters'. A **receptor** can be considered as either 'a living

organism, a group of living organisms, an ecological system or a piece of property which is being, or could be harmed, by a contaminant or controlled waters which are being, or could be, polluted by a contaminant'. A **pathway** may be considered as one or more routes by, or through, which a receptor is being, or could be, exposed to or affected by a contaminant. Typical pathways may include migration in groundwater, surface water run-off or infiltration, inhalation, dermal contact and ingestion.

The risks posed by an identified pollutant linkage can often be mitigated by removing the source of contamination, treating the source of contamination, blocking the relevant pathway(s) or by protecting the receptor.

PRINCIPLES OF RISK EVALUATION

The risk evaluation methodology presented below is qualitative in nature, and is therefore a subjective method. It is based upon guidance presented in CIRIA publication referenced C552, 'Contaminated land risk assessment ~ A guide to good practice', 2001 and involves the classification of the following:

The magnitude of the potential **consequence** (severity) of risk occurring (Table C 1).

The magnitude of the **probability** (likelihood) of the risk occurring (Table C 2).

These are then considered in conjunction to give a risk matrix (Table C 3)

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in 'significant harm' as defined by the Environmental Protection Act 1990, Part II A. Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem (note the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health ('significant harm' as defined in DETR, 2000). Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem. (Note: the definitions of ecological systems within Draft Circular on Contaminated Land, DETR, 2000).	Concentrations of a contaminant from site exceed the generic, or site-specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in the *Draft Circular on Contaminated Land,* DETR, 2000). Damage to sensitive buildings/structures/ services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discolouration of concrete.

Table C 1: Classification of Consequence

Classification	Definition
High likelihood	There is a pollution linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low Likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is a pollution linkage but circumstances are such that it is improbable that an event would occur even in the very long term.

Table C 2: Classification of Probability

		Consequence			
		Severe	*Medium*	*Mild*	*Minor*
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk	Very Low Risk

Table C3: Comparison of Consequence Against Probability

Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

Table C 4: Description of the classified risks and likely action required

Table 1.0. Phase 1 Conceptual Site Model (CSM) and Preliminary Risk Assessment (Existing End Use)

SOURCE -PATHWAY -RECEPTOR LINKAGE				QUALITATIVE RISK ASSESSMENT		
Potential Contaminant Source	**Location**	**Receptors**	**Pathways to Receptors**	**Associated Hazard (Potential Severity)**	**Likelihood of Occurrence**	**Risk***
Potential contaminants may be present within Made Ground beneath the site - Ash and clinker used for levelling / drainage: heavy metals, sulphates and PAHs. - Hydrocarbons - Asbestos Containing Material (ACM), - PCBs from nearby electrical substation Asbestos Containing Materials may also present within existing structures.	Possibly within sub surface strata & Groundwater. Possibly within existing structures	Ground water (Principal Aquifer)	Vertical percolation to groundwater	Groundwater (Severe – pollution of sensitive water resource)	Unlikely Majority of building hardstanding cover will restrict percolation/infiltration.	**Low/Moderate**
		Surface Water	Lateral percolation & Surface Run-off to surface water	Groundwater (Medium – pollution of sensitive water resource)	Low likelihood, no surface water features identified in close proximity to site.	**Low/Moderate**
		End user of site.	Direct contact, Ingestion, Inhalation (Dust and Vapours)	Human Health (Severe).	Unlikely. No significant sources of contamination recorded. Asbestos could be present in Made Ground associated with existing and demolished buildings. Building cover will restrict potential impact.	**Low/Moderate**
		Site workers, demolition staff, construction staff,	Direct contact, Ingestion, Inhalation (Dust and Vapours)	Human Health (Minor – providing suitable PPE equipment is worn)	If conditions assessed and correct PPE, dust suppression, and other health and safety measures are applied then the likelihood can be reduced to low likelihood.	**Low/Moderate**

** Risk refers to the potential risk that the Source, Pathway, Receptor linkage is complete and is used to determine if any further investigation/measures are required. It does not indicate immediate emergency risk to any individual or feature present on the site unless specifically noted.*

Table and Summary of Potential Risks, Sheet 2

SOURCE -PATHWAY -RECEPTOR LINKAGE				QUALITATIVE RISK ASSESSMENT		
Contaminant	**Location**	**Receptors**	**Pathways to Receptors**	**Associated Hazard (Potential Severity)**	**Likelihood of Occurrence**	**Risk***
Mobile/volatile contaminants from onsite / off site Sources.	Possibly within sub surface strata & Groundwater.	End user of site	Direct contact, Ingestion, Inhalation (Dust and Vapours)	Human Health (Medium)	Low Likelihood, dependent upon presence of historic contaminants. Building cover will restrict potential impact.	**Low/Moderate**
		Construction workers if applicable	Direct contact, Ingestion, Inhalation (Dust and Vapours)	Human Health (Minor – Providing suitable PPE equipment is worn)	Low Likelihood, dependent upon presence of historic contaminants.	**Low Low/Moderate risk (if PPE equipment not worn)**
Hazardous Ground Gas associated with potential Made Ground/infilled watercourses.	Possibly within strata beneath the site/surrounding area	End user of site	Migration through strata and accumulation under buildings of explosive and asphyxiating gases.	Human Health (Severe)	Unlikely, no recorded landfills within 250m of the site boundary. Gas monitoring recommended prior to future development.	**Low/Moderate**
		Buildings & Infrastructure	Migration through strata and accumulation under buildings of explosive and asphyxiating gases.	Buildings & Infrastructure (Severe)	Unlikely, dependent upon presence of historic contaminants.	**Low Low/Moderate risk (if PPE equipment not worn)**
Historic coal mining	On site	Buildings & Infrastructure	Coal mining and shafts beneath the site causing surface ground instability causing building subsidence and collapse	Buildings & Infrastructure (Severe)	Unlikely, based on geology and local knowledge.	**Low/Moderate**

***** *Risk refers to the potential risk that the Source, Pathway, Receptor linkage is complete and is used to determine if any further investigation/measures are required. It does not indicate immediate emergency risk to any individual or feature present on the site unless specifically noted.*

4.0 CONCLUSIONS & RECOMMENDATIONS

NX Consulting Limited have been commissioned by Bruntwood Scitech (The Client) to conduct a Phase 1 Geoenvironmental Desk Study on Manchester One, 49-53, Portland Street, Manchester, M1 3L.

It is understood that the site is to be retained in its existing commercial end use with no significant development plans proposed.

Contamination

The site comprises an existing multi-storey building with a new reception and workspaces set across 21 floors and an adjacent 2-storey commercial building in the north of site. There is also a carpark and an associated ramp to the rear of the building.

Historical mapping shows the site to have comprised residential buildings and associated yards, a timber yard, pub, St Andrew's House (later renamed Portland Tower), a bus station and car park.

Potential contamination sources potentially affecting the site were identified as heavy metals, PAHs, asbestos, petroleum hydrocarbons and gas (carbon dioxide, methane and depleted oxygen).

Migration pathways from potential contamination associated with previous site activities are likely to be restricted by majority building and hardstanding cover.

We consider that the risks posed to identified receptors are sufficiently low to not warrant extensive remedial activities of the site, in its current configuration. Further investigation, risk assessment and remediation will be necessary throughout any future development process, to discharge outlying planning conditions; relating to contamination.

Where potential issues have been identified within the Phase I report, it is considered that appropriate remedial mitigation measures can be implemented during construction.

A site investigation should be undertaken for any redevelopment were to be carried out. Any site investigation should be carried in accordance with relevant guidance documents (including BS101751 and BS59301).

Unexploded Ordnance

The regional unexploded bomb risk map from Zetica indicates that the site is in an area at moderate risk from possible Unexploded Ordnance (UXO) resulting from the Second World War. (Zetica, 2020).

It is recommended that a Stage 2 Detailed Unexploded Ordnance Desktop Threat Assessment of the site is carried out prior to any construction or intrusive works.

Mitigation measures may be required for development works at this site, which are summarised in Section 2.8 of this report.

Geotechnical Considerations

Based on information from adjacent sites, a bored piled solution is likely to be the most suitable solution for new developments; socketed into the sandstone bedrock.

Obstructions in the form of relict foundations, infilled cellars/basements and roads/infrastructure should be anticipated across the site. Heavy plant and machinery will be required to break out existing slabs/retaining walls/ground beams and cellars/basement slabs.

These materials will require 'grubbing out' and treatment (screening/crushing/segregation and reused (where appropriate) on site to prevent formation of the piled foundations and services formation.

Existing piles and possibly oversize foundation bases are likely to be present upon site and during site preparation will need to be recorded /surveyed to enable foundations and infrastructure to the new development to be designed.

The nearest proximity the Guardian Underground Tunnel Exchange (GUTE) tunnel network has to the site is located approximately 40m southwest between Sackville Street and Abingdon Street when the tunnel is reported to lie trending NW-SE (https://hidden-manchester.org.uk/tunnels.html).

A perched and discontinuous groundwater regime is likely to be present within granular soils within the upper 3m to 5m of strata. Excavations are unlikely to remain fully dry but should be able to be controlled by a screened sump pump techniques within the upper 3.00mbgl of strata.

Soakaways are unlikely to be suitable due to the nature of made ground and relatively impervious Glacial Clay at the site.

Surface treatment should be anticipated within all areas comprising excavation, crushing, screening with reuse and/or removal from site.

Based on the published geology, there is considered to be a very low risk to the proposed development from shallow mineworkings.

Any future site investigation works carried out should be designed to establish the following:

1. Possible localised deep made ground and / or relic in-ground structures (from former buildings) which could affect groundworks (e.g. grubbing out of structures) and type of foundations required.

2. The strength and variability of superficial deposits. Glacial Till is anticipated which is likely to be at least medium strength however softer ground /organic ground / granular pockets may be present.

3. The depth to and strength/variability of the sandstone bedrock for pile design.

4. The depth of groundwater and variability of the water table should be confirmed. Although groundwater is anticipated to be localised, discontinuous and perched on and within the Glacial Till.

5. Plasticity of clay deposits should be confirmed to identify the shrinkability risk, particularly in the location of historical / current / proposed trees.

6. Indicative CBR values of the ground for pavement design should be calculated.

7. Sulphate content of the made ground and natural ground should be confirmed to assess the concrete requirements.

8. Chemical testing of soils should be carried out to establish potential risks to human health and controlled water receptors.

Flood Risk

The site is not located within any Flood Risk Zones 2 or 3.

The site is stated to be at very low risk from surface water flooding from rivers or the sea.

The drainage engineer should establish if further works are required in this regard.

Planning

This report should be sufficient for the Local Planning Authority to consider the application in line with the National Planning Policy Framework. However, outline planning conditions relating to contamination may need to be addressed prior to occupation and/or pre-commencement of development works.

This report should be issued to the regulatory authorities to prevent delays in the project.

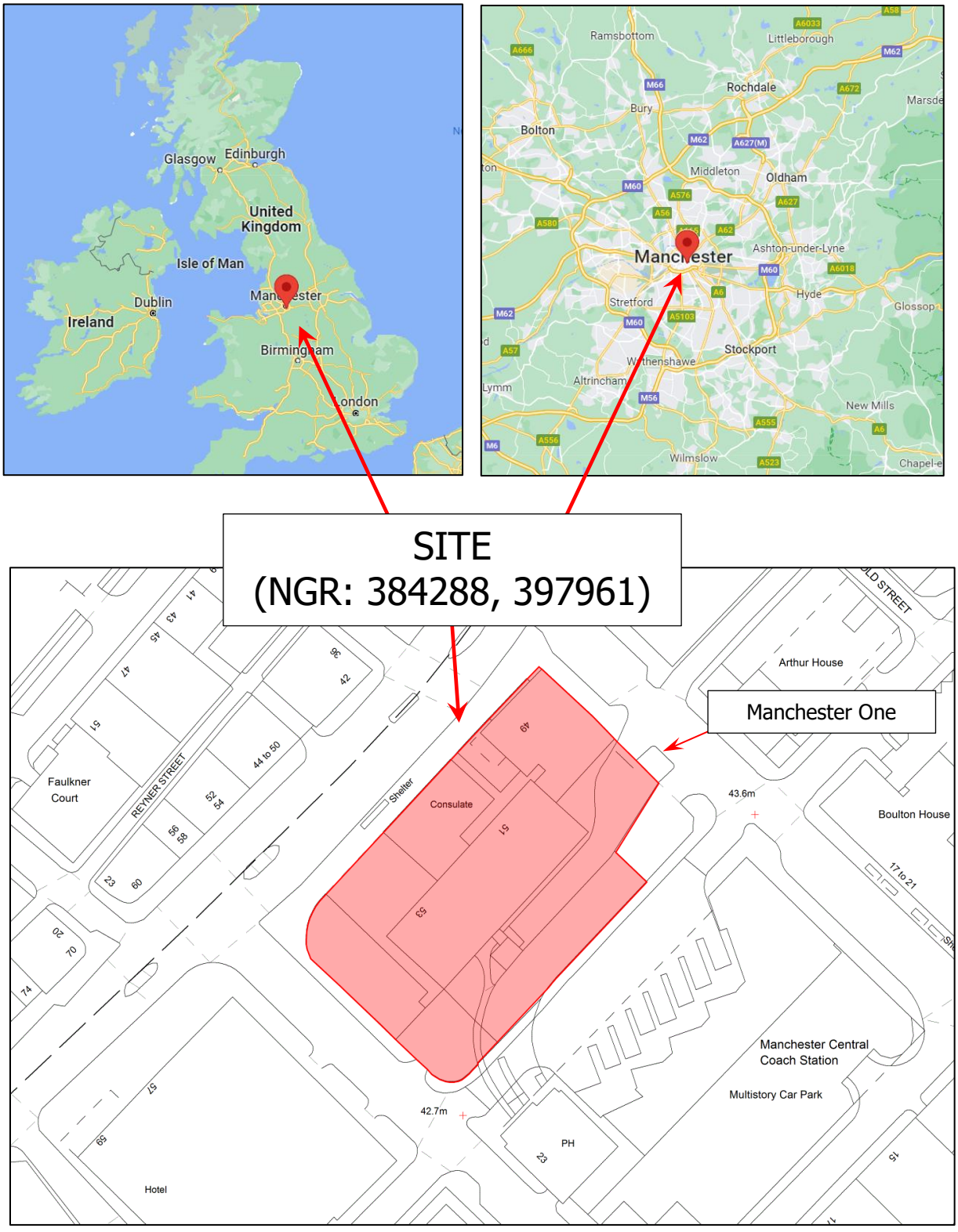
APPENDICES

Appendix A – Drawings & Photographs

Appendix B – Groundsure Report

Appendix C – Historical Mapping

Appendix A – Drawings & Photographs



nxconsulting

Next Generation Engineering Consultancy Services

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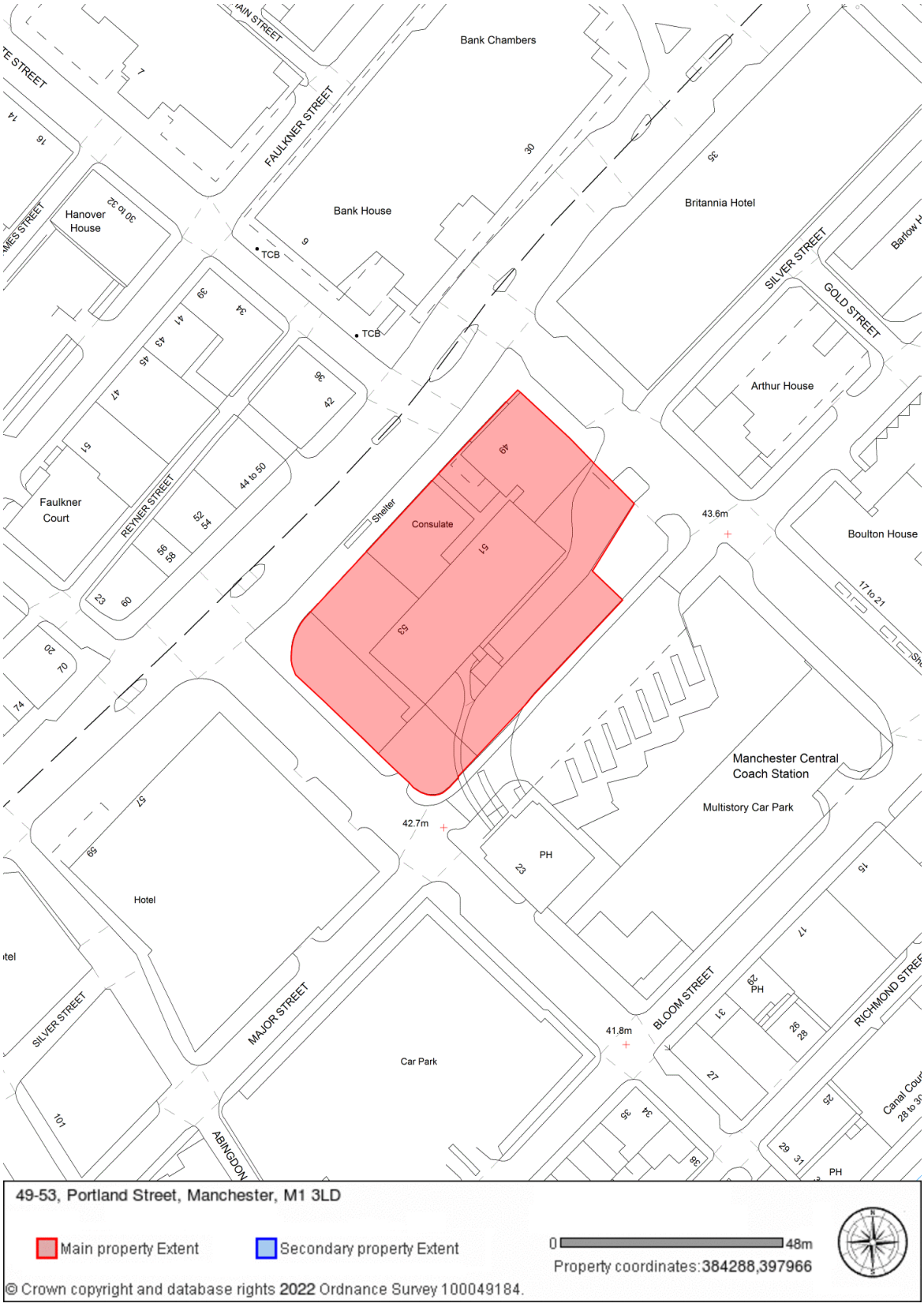
Ref: NX469 Figure 1

Project:

Manchester One, - , Portland Street, Manchester
M 3LD

Title:

Site Location Plan



nxconsulting

Next Generation Engineering Consultancy Services

Tel: 0161 904 0187
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Web: www.nxconsulting.org.uk

Ref: NX469 Figure 2

Project:

Manchester One, 49-53 Portland Street, Manchester, M1 3LD

Title:

Site Boundary Plan



Plate 1 – Manchester One, looking south from Portland Street.



Plate 2 – Manchester One, looking west from Chorlton Street.



Plate 3 – Looking east along the sites northern boundary, Portland Street.



Plate 4 – Car park area to the rear, looking southwest.

Appendix B – Groundsure Report

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

49-53, PORTLAND STREET, MANCHESTER, M1 3LD

Order Details

Date: 14/07/2022

Your ref: NX469

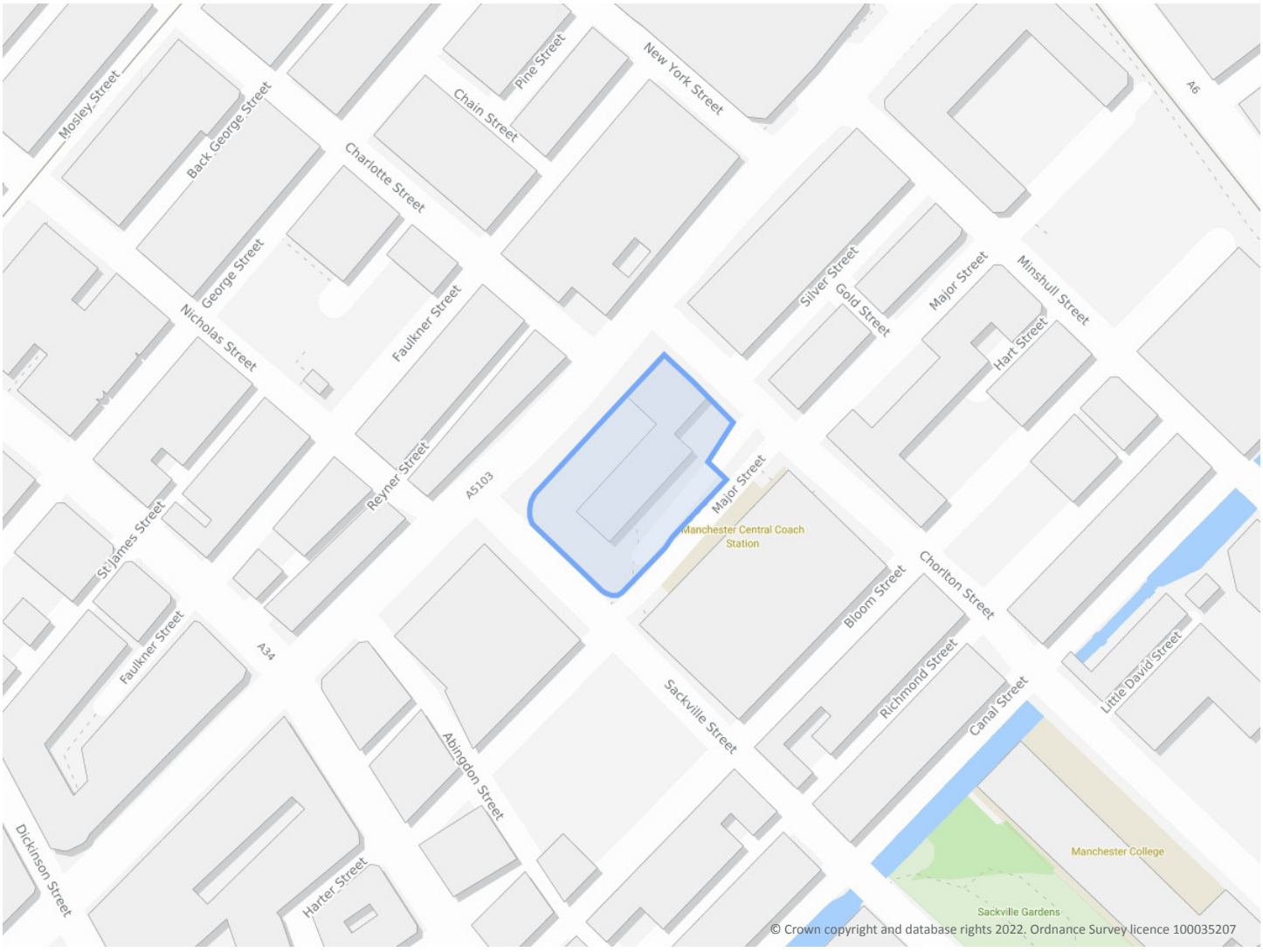
Our Ref: GS-8905458

Site Details

Location: 384288 397961

Area: 0.35 ha

Authority: Manchester City Council



Summary of findings p. 2

OS MasterMap site plan p.12

Aerial image p. 8

groundsure.com/insightuserguide

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	0	2	10	87	-
17	1.2	Historical tanks	0	0	3	35	-
19	1.3	Historical energy features	0	0	5	10	-
20	1.4	Historical petrol stations	0	0	0	0	-
20	1.5	Historical garages	0	0	5	16	-
21	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
22	2.1	Historical industrial land uses	0	4	14	146	-
28	2.2	Historical tanks	0	0	3	41	-
30	2.3	Historical energy features	0	0	7	33	-
32	2.4	Historical petrol stations	0	0	0	0	-
32	2.5	Historical garages	0	0	13	40	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
35	3.1	Active or recent landfill	0	0	0	0	-
35	3.2	Historical landfill (BGS records)	0	0	0	0	-
36	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
36	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
36	3.5	Historical waste sites	0	0	0	0	-
36	3.6	Licensed waste sites	0	0	0	0	-
36	3.7	Waste exemptions	0	0	0	9	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
38	4.1	Recent industrial land uses	5	0	40	-	-
42	4.2	Current or recent petrol stations	0	0	0	0	-
42	4.3	Electricity cables	0	0	0	0	-
42	4.4	Gas pipelines	0	0	0	0	-
42	4.5	Sites determined as Contaminated Land	0	0	0	0	-

42	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
43	4.7	Regulated explosive sites	0	0	0	0	-
43	4.8	Hazardous substance storage/usage	0	0	0	0	-
43	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
43	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
43	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	0	0	3	-
44	**4.12**	**Radioactive Substance Authorisations**	0	0	0	6	-
45	**4.13**	**Licensed Discharges to controlled waters**	0	0	10	29	-
50	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
51	4.15	Pollutant release to public sewer	0	0	0	0	-
51	4.16	List 1 Dangerous Substances	0	0	0	0	-
51	4.17	List 2 Dangerous Substances	0	0	0	0	-
51	**4.18**	**Pollution Incidents (EA/NRW)**	0	0	0	2	-
52	4.19	Pollution inventory substances	0	0	0	0	-
52	4.20	Pollution inventory waste transfers	0	0	0	0	-
52	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
53	**5.1**	**Superficial aquifer**	Identified (within 500m)				
55	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
57	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
58	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
58	5.5	Groundwater vulnerability- local information	None (within 0m)				
59	**5.6**	**Groundwater abstractions**	0	0	4	0	47
72	**5.7**	**Surface water abstractions**	0	0	0	0	2
73	**5.8**	**Potable abstractions**	0	0	0	0	10
76	5.9	Source Protection Zones	0	0	0	0	-
76	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
77	**6.1**	**Water Network (OS MasterMap)**	0	0	6	-	-

78	6.2	Surface water features	0	0	6	-	-
78	6.3	WFD Surface water body catchments	1	-	-	-	-
79	6.4	WFD Surface water bodies	0	0	1	-	-
79	6.5	WFD Groundwater bodies	1	-	-	-	-

Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
81	7.1	Risk of flooding from rivers and the sea	None (within 50m)				
81	7.2	Historical Flood Events	0	0	0	-	-
81	7.3	Flood Defences	0	0	0	-	-
82	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
82	7.5	Flood Storage Areas	0	0	0	-	-
83	7.6	Flood Zone 2	None (within 50m)				
83	7.7	Flood Zone 3	None (within 50m)				

Page	Section	Surface water flooding	
84	8.1	Surface water flooding	1 in 100 year, Greater than 1.0m (within 50m)

Page	Section	Groundwater flooding	
86	9.1	Groundwater flooding	Moderate (within 50m)

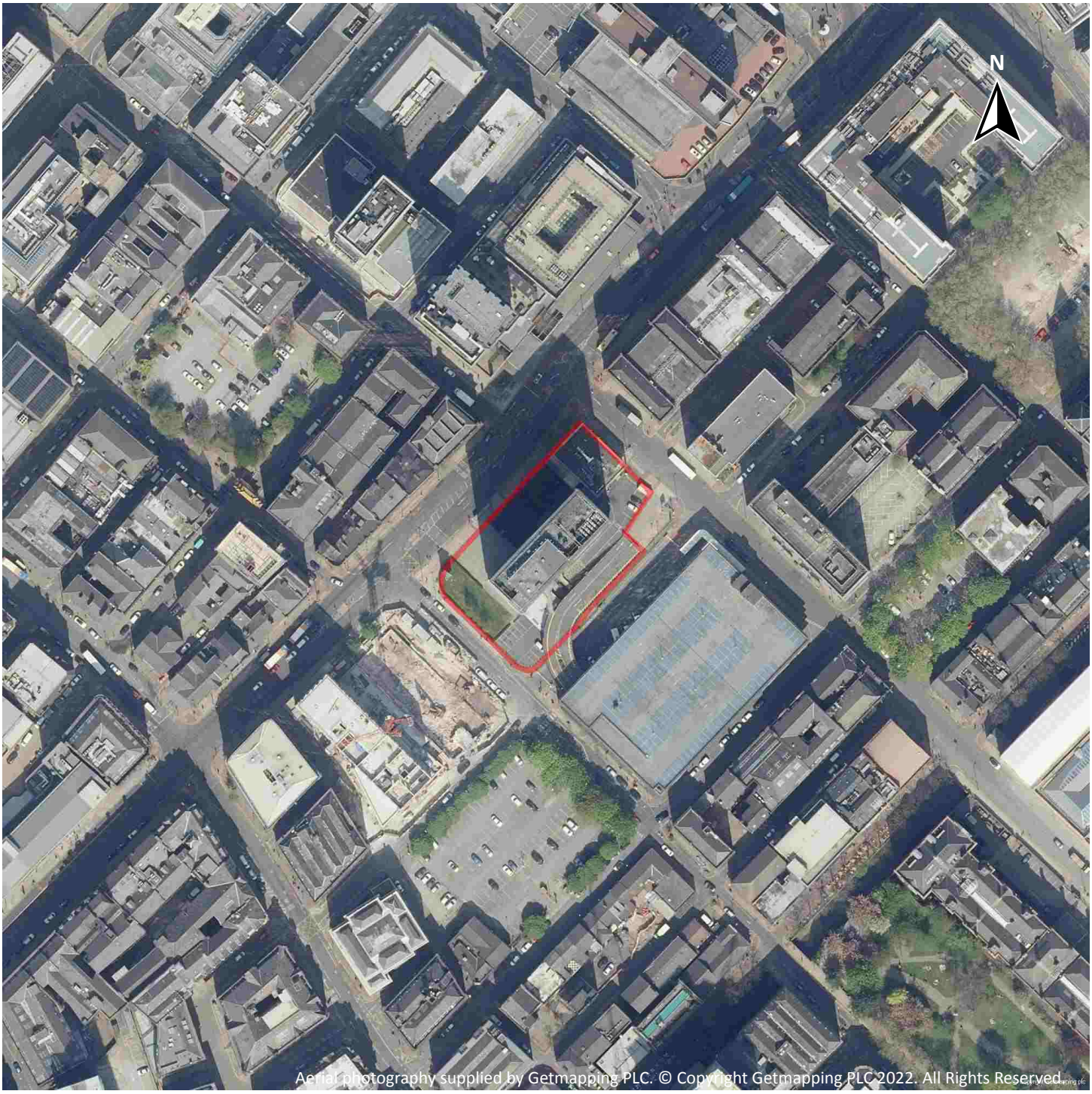
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
87	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
87	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
87	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
87	10.4	Special Protection Areas (SPA)	0	0	0	0	0
88	10.5	National Nature Reserves (NNR)	0	0	0	0	0
88	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
88	10.7	Designated Ancient Woodland	0	0	0	0	0
88	10.8	Biosphere Reserves	0	0	0	0	0
89	10.9	Forest Parks	0	0	0	0	0
89	10.10	Marine Conservation Zones	0	0	0	0	0
89	10.11	Green Belt	0	0	0	0	0
89	10.12	Proposed Ramsar sites	0	0	0	0	0

89	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
90	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
90	10.15	Nitrate Sensitive Areas	0	0	0	0	0
90	**10.16**	**Nitrate Vulnerable Zones**	0	0	0	1	3
91	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
92	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
93	11.1	World Heritage Sites	0	0	0	-	-
94	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
94	11.3	National Parks	0	0	0	-	-
94	**11.4**	**Listed Buildings**	0	4	74	-	-
98	**11.5**	**Conservation Areas**	0	1	4	-	-
98	11.6	Scheduled Ancient Monuments	0	0	0	-	-
99	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
100	**12.1**	**Agricultural Land Classification**	Urban (within 250m)				
101	12.2	Open Access Land	0	0	0	-	-
101	12.3	Tree Felling Licences	0	0	0	-	-
101	12.4	Environmental Stewardship Schemes	0	0	0	-	-
101	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
102	13.1	Priority Habitat Inventory	0	0	0	-	-
102	13.2	Habitat Networks	0	0	0	-	-
102	13.3	Open Mosaic Habitat	0	0	0	-	-
102	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
103	**14.1**	**10k Availability**	Identified (within 500m)				
104	**14.2**	**Artificial and made ground (10k)**	0	0	1	1	-
105	**14.3**	**Superficial geology (10k)**	1	0	0	0	-

106	14.4	Landslip (10k)	0	0	0	0	-
107	**14.5**	**Bedrock geology (10k)**	1	0	0	2	-
108	**14.6**	**Bedrock faults and other linear features (10k)**	0	0	1	3	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
109	**15.1**	**50k Availability**	Identified (within 500m)				
110	**15.2**	**Artificial and made ground (50k)**	0	0	1	0	-
111	15.3	Artificial ground permeability (50k)	0	0	-	-	-
112	**15.4**	**Superficial geology (50k)**	1	0	0	0	-
113	**15.5**	**Superficial permeability (50k)**	Identified (within 50m)				
113	15.6	Landslip (50k)	0	0	0	0	-
113	15.7	Landslip permeability (50k)	None (within 50m)				
114	**15.8**	**Bedrock geology (50k)**	1	0	0	2	-
115	**15.9**	**Bedrock permeability (50k)**	Identified (within 50m)				
115	**15.10**	**Bedrock faults and other linear features (50k)**	0	0	1	3	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
116	**16.1**	**BGS Boreholes**	1	2	111	-	-
Page	Section	Natural ground subsidence					
122	**17.1**	**Shrink swell clays**	Very low (within 50m)				
123	**17.2**	**Running sands**	Very low (within 50m)				
124	**17.3**	**Compressible deposits**	Negligible (within 50m)				
125	**17.4**	**Collapsible deposits**	Very low (within 50m)				
126	**17.5**	**Landslides**	Very low (within 50m)				
127	**17.6**	**Ground dissolution of soluble rocks**	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
129	18.1	Natural cavities	0	0	0	0	-
130	18.2	BritPits	0	0	0	0	-
130	**18.3**	**Surface ground workings**	0	0	18	-	-
131	18.4	Underground workings	0	0	0	0	0
131	18.5	Historical Mineral Planning Areas	0	0	0	0	-

131	18.6	Non-coal mining	0	0	0	0	0
131	18.7	Mining cavities	0	0	0	0	0
132	**18.8**	**JPB mining areas**	Identified (within 0m)				
132	**18.9**	**Coal mining**	Identified (within 0m)				
132	18.10	Brine areas	None (within 0m)				
133	18.11	Gypsum areas	None (within 0m)				
133	18.12	Tin mining	None (within 0m)				
133	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
134	**19.1**	**Radon**	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
135	**20.1**	**BGS Estimated Background Soil Chemistry**	2	0	-	-	-
135	**20.2**	**BGS Estimated Urban Soil Chemistry**	4	3	-	-	-
136	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
137	21.1	Underground railways (London)	0	0	0	-	-
137	21.2	Underground railways (Non-London)	0	0	0	-	-
138	21.3	Railway tunnels	0	0	0	-	-
138	21.4	Historical railway and tunnel features	0	0	0	-	-
138	21.5	Royal Mail tunnels	0	0	0	-	-
138	21.6	Historical railways	0	0	0	-	-
138	**21.7**	**Railways**	0	0	19	-	-
139	21.8	Crossrail 1	0	0	0	0	-
140	21.9	Crossrail 2	0	0	0	0	-
140	**21.10**	**HS2**	0	0	0	2	-

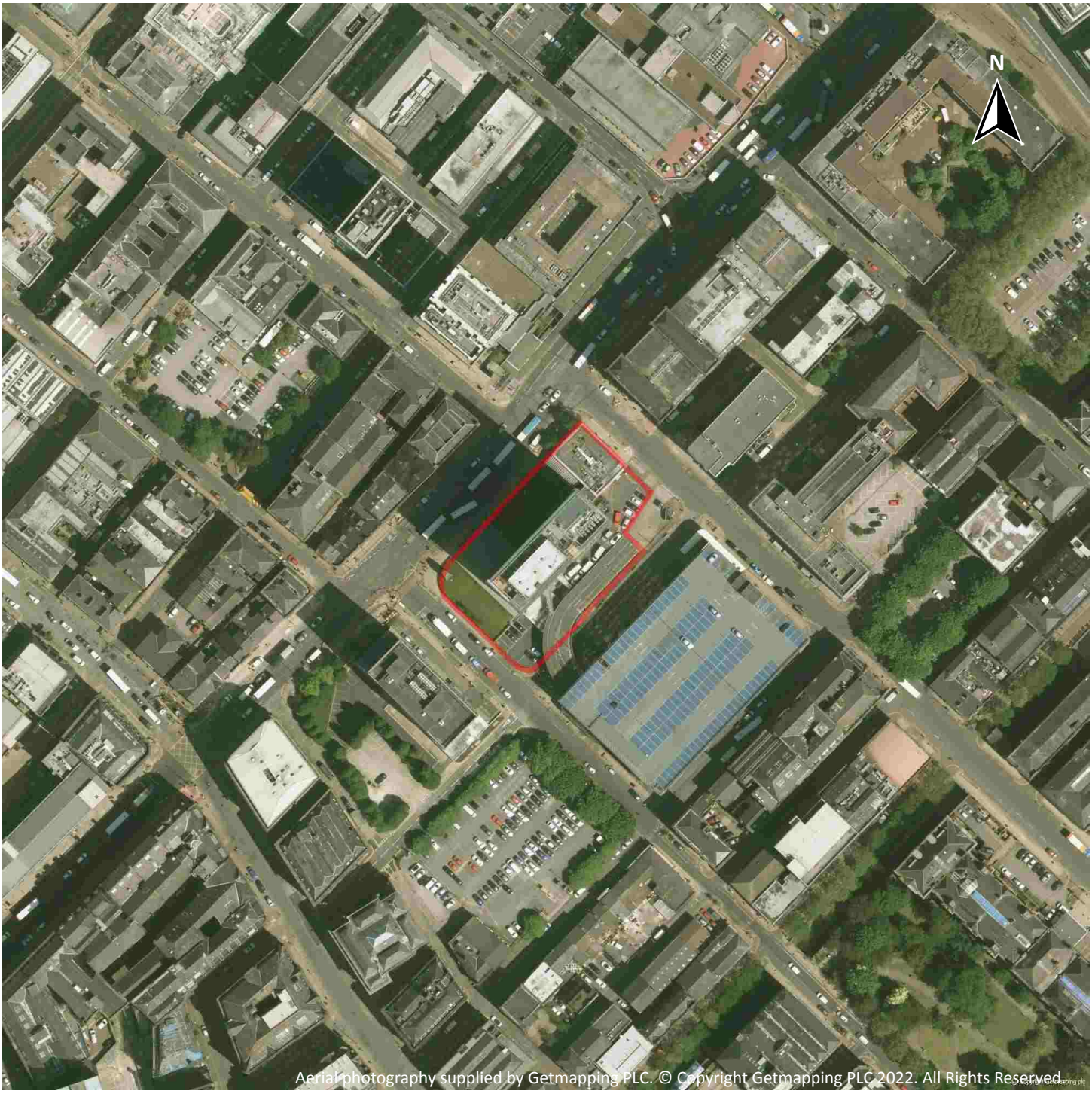
Recent aerial photograph



Capture Date: 22/04/2019

Site Area: 0.35ha

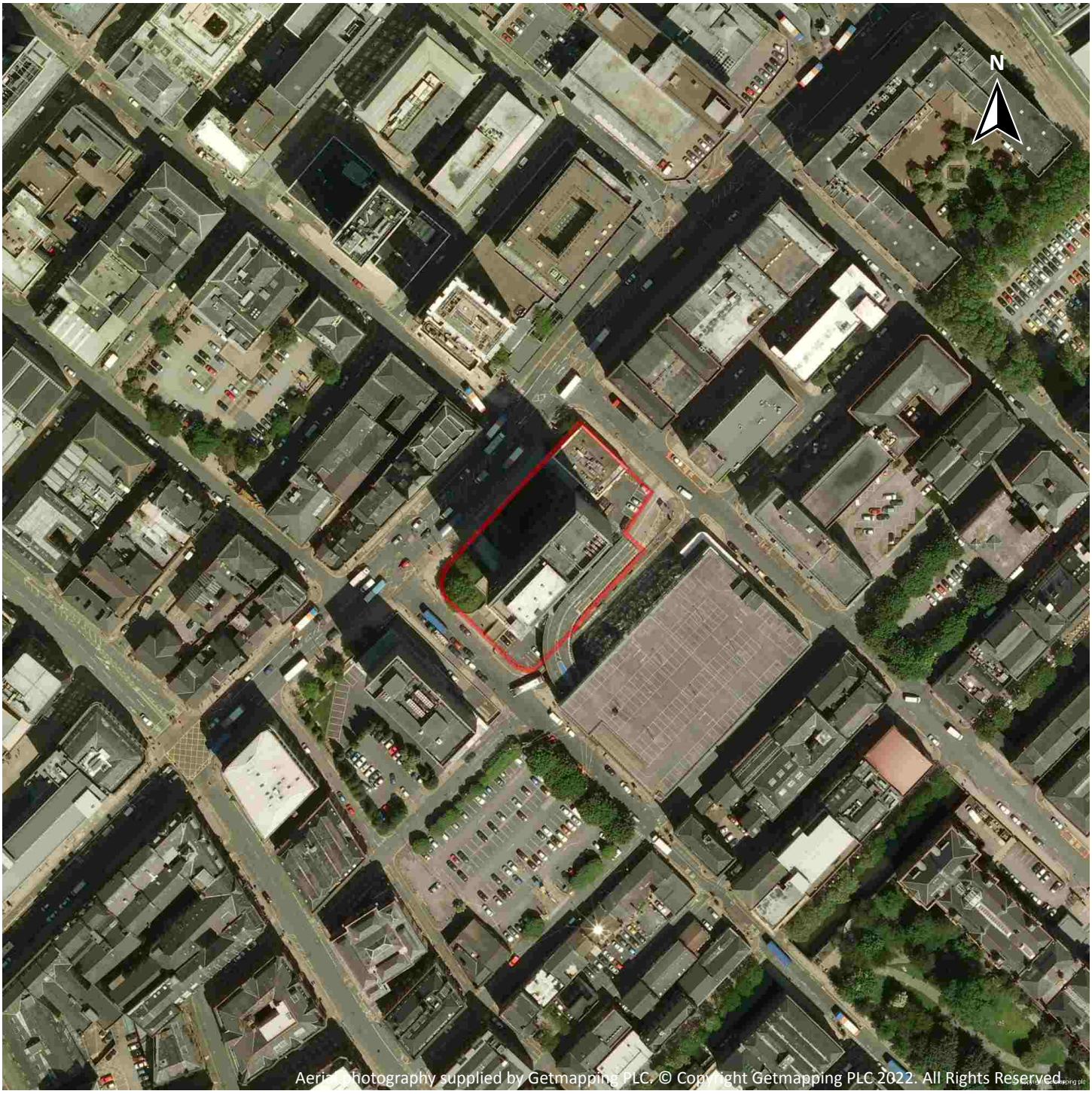
Recent site history - 2015 aerial photograph



Capture Date: 11/06/2015

Site Area: 0.35ha

Recent site history - 2009 aerial photograph



Capture Date: 02/06/2009

Site Area: 0.35ha

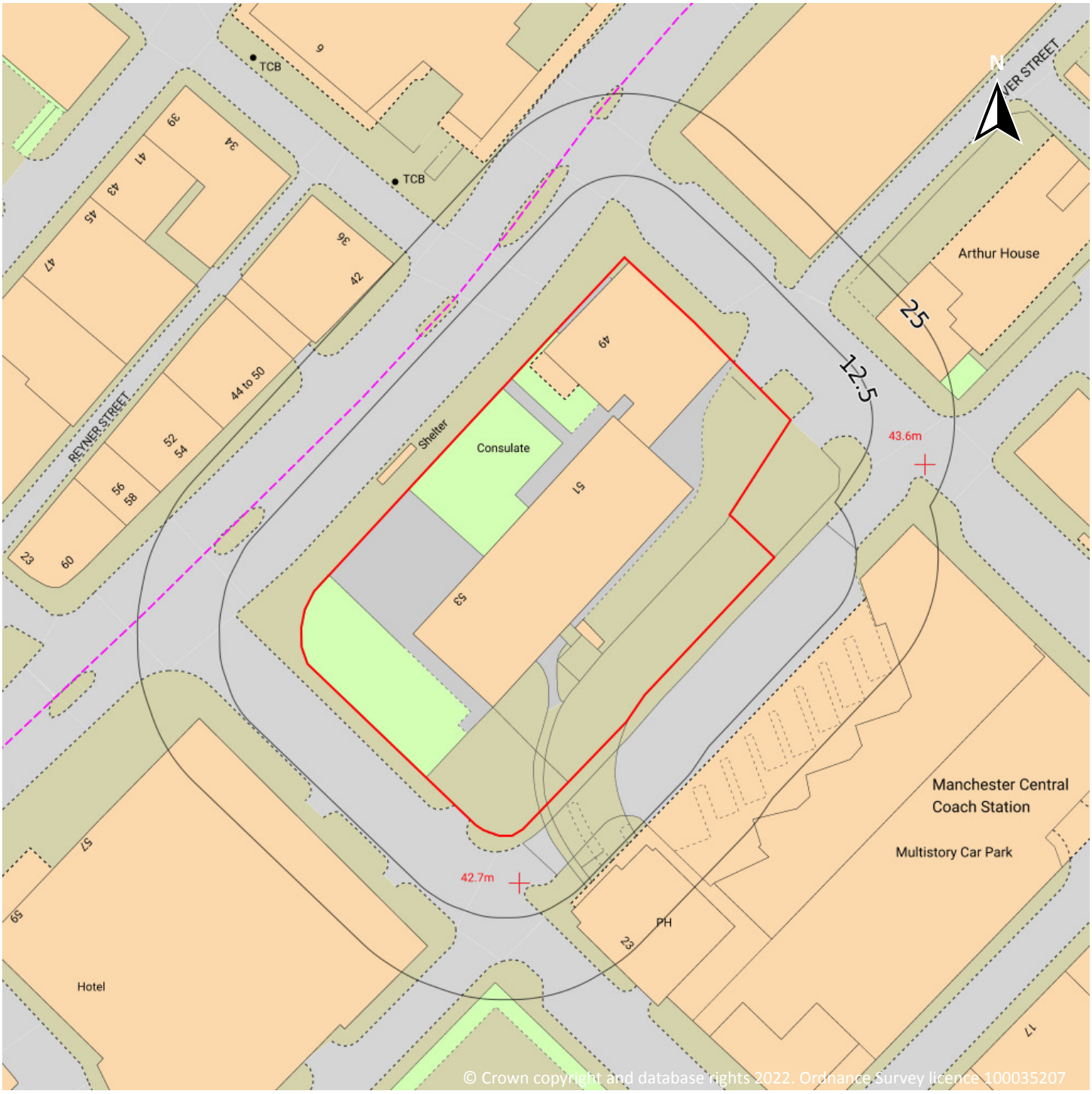
Recent site history - 2000 aerial photograph



Capture Date: 27/06/2000

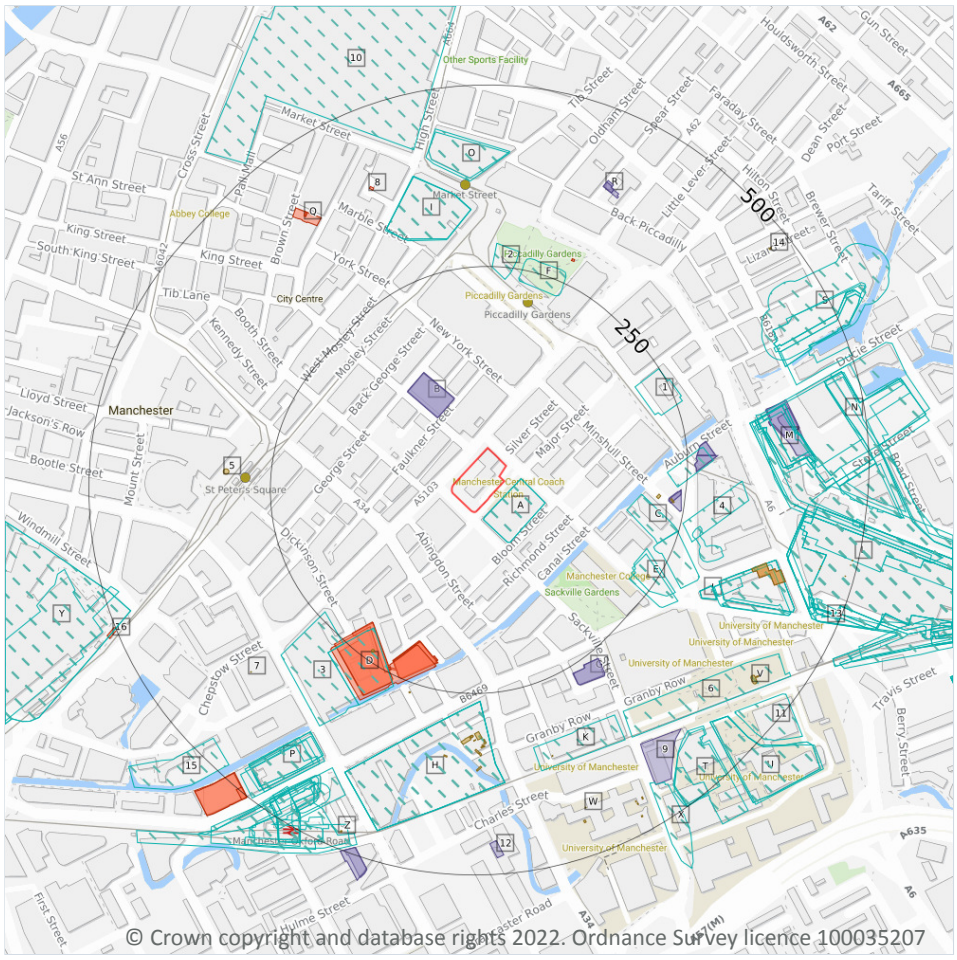
Site Area: 0.35ha

OS MasterMap site plan



Site Area: 0.35ha

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	99

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
A	14m SE	Bus Station	1978	884077

ID	Location	Land use	Dates present	Group ID
A	14m SE	Bus Station	1985 - 1994	952978
C	173m E	Unspecified Wharf	1915 - 1923	848098
1	208m NE	Infirmary	1915 - 1923	975872
D	210m SW	Electricity Station	1916 - 1923	992043
E	212m SE	Ice Works	1915	808540
E	213m SE	Unspecified Wharf	1890	826601
C	222m E	Unspecified Works	1915 - 1923	898319
E	225m SE	Unspecified Works	1923	830436
F	229m NE	Unspecified Pit	1956	840494
2	233m N	Bus Station	1978	842917
3	240m SW	Unspecified Commercial/Industrial	1923	796724
4	253m E	Unspecified Mill	1915 - 1923	946972
H	261m S	Unspecified Mills	1916	861845
H	261m S	Unspecified Commercial/Industrial	1923	874542
H	261m S	Unspecified Commercial/Industrial	1905	968335
H	261m S	Unspecified Mills	1932 - 1938	989884
E	270m E	Unspecified Ground Workings	1934 - 1938	906423
I	292m N	Unspecified Commercial/Industrial	1938	873846
I	293m N	Unspecified Commercial/Industrial	1931	885632
I	293m N	Unspecified Commercial/Industrial	1916	924604
J	309m SE	Police Station	1985 - 1994	879174
J	309m SE	Police Station	1971	907595
J	309m SE	Police Station	1978	978804
J	323m SE	Fire Station	1934 - 1938	857211
J	324m SE	Police Station	1915 - 1923	846961
J	327m SE	Fire Station	1985 - 1994	864327
J	327m SE	Fire Station	1978	872224
J	327m SE	Fire Station	1956 - 1971	924791

ID	Location	Land use	Dates present	Group ID
K	331m SE	Unspecified Commercial/Industrial	1923	796719
L	341m E	Railway Sidings	1915	849007
L	341m E	Railway Sidings	1934 - 1938	899923
6	342m SE	Unspecified Commercial/Industrial	1923	796723
L	344m E	Railway Sidings	1923	879517
J	345m SE	Fire Engine Station	1915 - 1923	869627
M	347m E	Railway Building	1890	820433
M	348m E	Goods Shed	1915	885654
M	348m E	Goods Shed	1934 - 1938	924820
L	351m E	Railway Sidings	1956	950162
M	352m E	Goods Shed	1905	923774
M	352m E	Goods Shed	1923	979300
L	354m E	Railway Sidings	1890 - 1905	979002
N	358m E	Unspecified Commercial/Industrial	1956	796797
J	364m E	Police Station	1934 - 1938	903287
O	368m N	Unspecified Commercial/Industrial	1938	796725
O	372m N	Unspecified Ground Workings	1931	800625
P	376m SW	Hospital	1956 - 1971	915521
P	376m SW	Hospital	1978	957282
P	381m SW	Hospital	1916	938342
N	389m E	Goods Station	1890 - 1938	979048
P	389m SW	Hospital	1923	848326
P	392m SW	Coal Wharf	1851	794097
S	392m NE	Unspecified Wharf	1956	971868
P	399m SW	Hospital	1932 - 1938	949847
L	402m E	Railway Stations	1915	887476
L	402m E	Railway Stations	1934 - 1938	900032
P	402m SW	Gas Works	1851	802208

ID	Location	Land use	Dates present	Group ID
S	403m NE	Unspecified Wharf	1890 - 1923	976213
L	404m E	Railway Station	1956	935665
L	405m E	Railway Station	1923	941202
L	405m E	Railway Station	1890 - 1905	959335
S	405m NE	Unspecified Wharf	1934	971276
S	407m NE	Unspecified Warehouses	1915	933374
S	407m NE	Unspecified Warehouses	1934 - 1938	964840
S	410m NE	Unspecified Warehouse	1923	807197
L	413m E	Railway Station	1985 - 1994	890876
L	413m E	Railway Station	1971	897274
L	413m E	Railway Station	1978	897926
L	414m E	Railway Station	1851	942543
T	420m SE	Unspecified Works	1915 - 1923	954702
P	420m SW	Railway Station	1988 - 1994	912150
L	423m E	Railway Sidings	1851	923729
10	423m N	Bus Station	1985 - 1994	940823
P	423m SW	Railway Building	1956	820261
T	424m SE	Iron Works	1890	822793
P	427m SW	Tanks	1851	832185
P	430m SW	Railway Station	1956	923967
P	431m SW	Railway Sidings	1985 - 1994	928139
P	431m SW	Railway Station	1896	887032
P	432m SW	Railway Sidings	1905 - 1938	864885
P	432m SW	Railway Station	1905 - 1938	962635
U	433m SE	Unspecified Mills	1934 - 1938	854159
U	433m SE	Unspecified Mills	1915	967472
U	436m SE	Unspecified Mills	1923	914258
X	445m SE	Unspecified Works	1915 - 1923	951103

ID	Location	Land use	Dates present	Group ID
T	448m SE	Railway Sidings	1915 - 1923	959198
11	449m SE	Unspecified Works	1915 - 1923	934829
L	460m E	Railway Building	1938	820435
L	460m E	Grain Store	1915 - 1923	946860
P	461m SW	Railway Station	1971	960776
P	461m SW	Railway Station	1985	962611
P	461m SW	Railway Station	1978	981767
13	467m SE	Railway Buildings	1923	833658
15	472m SW	Corporation Yard	1905 - 1938	920120
Y	472m W	Railway Sidings	1905 - 1916	871753
Y	472m W	Railway Sidings	1932 - 1938	982150
Y	479m W	Railway Station	1956	888631
P	480m SW	Railway Sidings	1896	989778
L	484m E	Railway Building	1905 - 1938	893315

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	**38**

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
C	211m E	Unspecified Tank	1891	115912
C	231m E	Unspecified Tank	1891	115913
D	234m SW	Unspecified Tank	1891	115965
D	263m S	Unspecified Tank	1891	115964

ID	Location	Land use	Dates present	Group ID
H	303m S	Unspecified Tank	1891	115962
H	307m S	Tanks	1891	106792
5	308m W	Unspecified Tank	1994 - 1999	133983
H	308m S	Unspecified Tank	1893	115963
H	310m S	Unspecified Tank	1891	115960
H	313m S	Unspecified Tank	1891	115949
H	314m S	Unspecified Tank	1891	115961
H	315m S	Unspecified Tank	1891	115947
H	317m S	Unspecified Tank	1891 - 1893	141146
H	321m S	Unspecified Tank	1891	115959
H	322m S	Unspecified Tank	1891	115948
H	327m S	Unspecified Tank	1891	115958
H	331m S	Tanks	1891	106786
H	337m S	Tanks	1891	106782
H	350m S	Tanks	1891	106787
K	352m S	Unspecified Tank	1891	115946
J	362m E	Gas Meter Testing Station	1948	120722
7	371m SW	Unspecified Tank	1891	115956
V	433m SE	Unspecified Tank	1952 - 1955	134489
W	434m S	Unspecified Tank	1891	115941
V	439m SE	Unspecified Tank	1891	115938
W	450m S	Unspecified Tank	1891	115940
L	451m E	Unspecified Tank	1891	115916
L	451m E	Unspecified Tank	1891	115915
X	455m SE	Unspecified Tank	1891	115944
X	455m SE	Unspecified Tank	1891	115942
X	459m SE	Unspecified Tank	1891	115945
14	470m NE	Unspecified Tank	1891	115967

ID	Location	Land use	Dates present	Group ID
Z	475m S	Unspecified Tank	1955	136262
Z	476m S	Unspecified Tank	1953	136354
X	477m SE	Unspecified Tank	1891	115943
L	487m E	Unspecified Tank	1891	115922
L	491m E	Unspecified Tank	1891	115914
L	491m E	Unspecified Tank	1891	115911

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**15**

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
D	193m S	Electricity Station	1948	73425
D	193m S	Electricity Station	1950	68267
D	193m S	Electricity Station	1955	77896
D	199m S	Electricity Station	1908 - 1922	81883
D	205m SW	Electricity Station	1950 - 1955	66381
F	283m NE	Electricity Substation	1986 - 1995	72406
J	362m E	Gas Meter Testing Station	1948	63684
Q	386m NW	Electricity Substation	1953	74071
8	389m NW	Electricity Substation	1995	62186
Q	406m NW	Electricity Substation	1953 - 1967	74509
Q	406m NW	Electricity Substation	1948 - 1968	80770
P	486m SW	Hydraulic Power Station	1948 - 1979	64692

ID	Location	Land use	Dates present	Group ID
P	487m SW	Hydraulic Power Station	1948 - 1973	64396
P	495m SW	Electricity Substation	1948 - 1999	65682
16	499m W	Electricity Substation	1948 - 1985	80627

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	**21**

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
B	79m NW	Garage	1953 - 1965	27406
B	79m NW	Garage	1948 - 1953	24294
C	228m E	Garage	1948 - 1971	25857
C	228m E	Garage	1968 - 1984	24849
C	228m E	Garage	1955 - 1965	25421
G	258m SE	Garage	1985 - 1990	27728
G	259m SE	Garage	1948 - 1968	26993
C	260m E	Garage	1948	24212

ID	Location	Land use	Dates present	Group ID
C	260m E	Garage	1971	22467
C	263m E	Garage	1971	23089
C	264m E	Garage	1948 - 1971	25009
M	366m E	Garage	1990	23753
M	367m E	Garage	1971	20840
M	380m E	Garage	1971	21466
R	388m NE	Garage	1953	21528
R	390m NE	Garage	1965	23515
R	391m NE	Garage	1953	25567
9	392m SE	Garage	1952 - 1955	26338
12	454m S	Garage	1948 - 1955	24945
Z	490m S	Garage	1955 - 1990	26377
Z	490m S	Garage	1948 - 1998	27861

This data is sourced from Ordnance Survey / Groundsure.

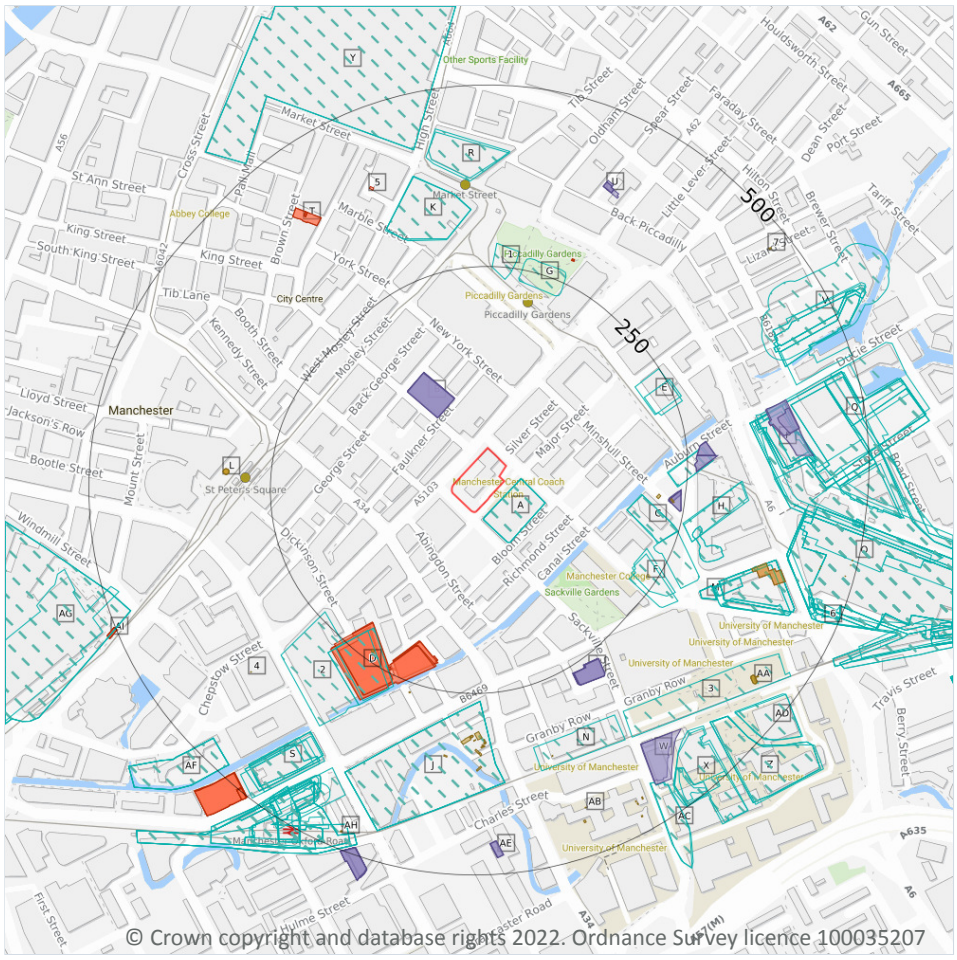
1.6 Historical military land

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	164

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 22**

ID	Location	Land Use	Date	Group ID
A	14m SE	Bus Station	1988	952978
A	14m SE	Bus Station	1978	884077
A	14m SE	Bus Station	1985	952978

ID	Location	Land Use	Date	Group ID
A	14m SE	Bus Station	1994	952978
C	173m E	Unspecified Wharf	1923	848098
C	174m E	Unspecified Wharf	1915	848098
E	208m NE	Infirmary	1923	975872
D	210m SW	Electricity Station	1916	992043
F	212m SE	Ice Works	1915	808540
E	213m NE	Infirmary	1915	975872
F	213m SE	Unspecified Wharf	1890	826601
D	218m SW	Electricity Station	1923	992043
C	222m E	Unspecified Works	1923	898319
C	224m E	Unspecified Works	1915	898319
F	225m SE	Unspecified Works	1923	830436
G	229m NE	Unspecified Pit	1956	840494
1	233m N	Bus Station	1978	842917
2	240m SW	Unspecified Commercial/Industrial	1923	796724
H	253m E	Unspecified Mill	1923	946972
H	255m E	Unspecified Mill	1915	946972
J	261m S	Unspecified Mills	1938	989884
J	261m S	Unspecified Mills	1932	989884
J	261m S	Unspecified Mills	1916	861845
J	261m S	Unspecified Commercial/Industrial	1905	968335
J	261m S	Unspecified Commercial/Industrial	1923	874542
F	270m E	Unspecified Ground Workings	1938	906423
F	270m E	Unspecified Ground Workings	1934	906423
K	292m N	Unspecified Commercial/Industrial	1938	873846
K	293m N	Unspecified Commercial/Industrial	1931	885632
K	293m N	Unspecified Commercial/Industrial	1916	924604
M	309m SE	Police Station	1971	907595

ID	Location	Land Use	Date	Group ID
M	309m SE	Police Station	1988	879174
M	309m SE	Police Station	1978	978804
M	309m SE	Police Station	1985	879174
M	309m SE	Police Station	1994	879174
M	323m SE	Fire Station	1938	857211
M	323m SE	Fire Station	1934	857211
M	324m SE	Police Station	1923	846961
M	326m SE	Police Station	1915	846961
M	327m SE	Fire Station	1971	924791
M	327m SE	Fire Station	1956	924791
M	327m SE	Fire Station	1988	864327
M	327m SE	Fire Station	1978	872224
M	327m SE	Fire Station	1985	864327
M	327m SE	Fire Station	1994	864327
N	331m SE	Unspecified Commercial/Industrial	1923	796719
O	341m E	Railway Sidings	1938	899923
O	341m E	Railway Sidings	1934	899923
O	341m E	Railway Sidings	1915	849007
3	342m SE	Unspecified Commercial/Industrial	1923	796723
O	344m E	Railway Sidings	1923	879517
M	345m SE	Fire Engine Station	1923	869627
M	346m SE	Fire Engine Station	1915	869627
P	347m E	Railway Building	1890	820433
P	348m E	Goods Shed	1938	924820
P	348m E	Goods Shed	1934	924820
P	348m E	Goods Shed	1915	885654
O	351m E	Railway Sidings	1956	950162
P	352m E	Goods Shed	1905	923774

ID	Location	Land Use	Date	Group ID
P	352m E	Goods Shed	1923	979300
O	354m E	Railway Sidings	1905	979002
Q	358m E	Unspecified Commercial/Industrial	1956	796797
M	364m E	Police Station	1938	903287
M	364m E	Police Station	1934	903287
R	368m N	Unspecified Commercial/Industrial	1938	796725
O	371m E	Railway Sidings	1890	979002
R	372m N	Unspecified Ground Workings	1931	800625
S	376m SW	Hospital	1971	915521
S	376m SW	Hospital	1956	915521
S	376m SW	Hospital	1978	957282
S	381m SW	Hospital	1916	938342
Q	389m E	Goods Station	1938	979048
Q	389m E	Goods Station	1934	979048
Q	389m E	Goods Station	1915	979048
S	389m SW	Hospital	1923	848326
S	392m SW	Coal Wharf	1851	794097
V	392m NE	Unspecified Wharf	1956	971868
S	399m SW	Hospital	1938	949847
S	399m SW	Hospital	1932	949847
Q	401m E	Goods Station	1905	979048
Q	401m E	Goods Station	1890	979048
Q	401m E	Goods Station	1923	979048
O	402m E	Railway Stations	1938	900032
O	402m E	Railway Stations	1934	900032
O	402m E	Railway Stations	1915	887476
S	402m SW	Gas Works	1851	802208
V	403m NE	Unspecified Wharf	1905	976213

ID	Location	Land Use	Date	Group ID
V	403m NE	Unspecified Wharf	1890	976213
V	403m NE	Unspecified Wharf	1923	976213
O	404m E	Railway Station	1956	935665
O	405m E	Railway Station	1905	959335
O	405m E	Railway Station	1890	959335
O	405m E	Railway Station	1923	941202
V	405m NE	Unspecified Wharf	1934	971276
V	405m NE	Unspecified Wharf	1915	976213
V	407m NE	Unspecified Warehouses	1938	964840
V	407m NE	Unspecified Warehouses	1934	964840
V	407m NE	Unspecified Warehouses	1915	933374
V	410m NE	Unspecified Warehouse	1923	807197
O	413m E	Railway Station	1971	897274
O	413m E	Railway Station	1988	890876
O	413m E	Railway Station	1978	897926
O	413m E	Railway Station	1985	890876
O	413m E	Railway Station	1994	890876
O	414m E	Railway Station	1851	942543
X	420m SE	Unspecified Works	1923	954702
S	420m SW	Railway Station	1988	912150
S	420m SW	Railway Station	1994	912150
O	423m E	Railway Sidings	1851	923729
S	423m SW	Railway Building	1956	820261
Y	423m N	Bus Station	1988	940823
Y	423m N	Bus Station	1985	940823
Y	423m N	Bus Station	1994	940823
X	424m SE	Iron Works	1890	822793
S	427m SW	Tanks	1851	832185

ID	Location	Land Use	Date	Group ID
S	430m SW	Railway Station	1956	923967
S	431m SW	Railway Sidings	1988	928139
S	431m SW	Railway Sidings	1985	928139
S	431m SW	Railway Sidings	1994	928139
S	431m SW	Railway Station	1896	887032
S	432m SW	Railway Station	1938	962635
S	432m SW	Railway Sidings	1938	864885
S	432m SW	Railway Station	1932	962635
S	432m SW	Railway Sidings	1932	864885
S	432m SW	Railway Station	1916	962635
S	432m SW	Railway Sidings	1916	864885
S	432m SW	Railway Station	1905	962635
S	432m SW	Railway Sidings	1905	864885
S	432m SW	Railway Sidings	1923	864885
S	432m SW	Railway Station	1923	962635
Z	433m SE	Unspecified Mills	1938	854159
Z	433m SE	Unspecified Mills	1934	854159
Z	433m SE	Unspecified Mills	1915	967472
Z	436m SE	Unspecified Mills	1923	914258
AC	445m SE	Unspecified Works	1923	951103
AC	445m SE	Unspecified Works	1915	951103
X	448m SE	Railway Sidings	1923	959198
X	448m SE	Unspecified Works	1915	954702
AD	449m SE	Unspecified Works	1915	934829
AD	450m SE	Unspecified Works	1923	934829
X	451m SE	Railway Sidings	1915	959198
O	460m E	Railway Building	1938	820435
O	460m E	Grain Store	1915	946860

ID	Location	Land Use	Date	Group ID
S	461m SW	Railway Station	1971	960776
S	461m SW	Railway Station	1978	981767
S	461m SW	Railway Station	1985	962611
O	461m E	Grain Store	1923	946860
6	467m SE	Railway Buildings	1923	833658
AF	472m SW	Corporation Yard	1938	920120
AF	472m SW	Corporation Yard	1932	920120
AF	472m SW	Corporation Yard	1916	920120
AF	472m SW	Corporation Yard	1905	920120
AF	472m SW	Corporation Yard	1923	920120
AG	472m W	Railway Sidings	1938	982150
AG	472m W	Railway Sidings	1932	982150
AG	472m W	Railway Sidings	1916	871753
AG	472m W	Railway Sidings	1905	871753
AG	479m W	Railway Station	1956	888631
S	480m SW	Railway Sidings	1896	989778
O	484m E	Railway Building	1938	893315
O	484m E	Railway Building	1934	893315
O	486m E	Railway Building	1915	893315
O	486m E	Railway Building	1905	893315
O	486m E	Railway Building	1923	893315

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	**44**

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 22**

ID	Location	Land Use	Date	Group ID
C	211m E	Unspecified Tank	1891	115912
C	231m E	Unspecified Tank	1891	115913
D	234m SW	Unspecified Tank	1891	115965
D	263m S	Unspecified Tank	1891	115964
J	303m S	Unspecified Tank	1891	115962
J	307m S	Tanks	1891	106792
J	308m S	Unspecified Tank	1893	115963
L	308m W	Unspecified Tank	1996	133983
L	308m W	Unspecified Tank	1995	133983
L	308m W	Unspecified Tank	1994	133983
L	308m W	Unspecified Tank	1999	133983
J	310m S	Unspecified Tank	1891	115960
J	313m S	Unspecified Tank	1891	115949
J	314m S	Unspecified Tank	1891	115961
J	315m S	Unspecified Tank	1891	115947
J	317m S	Unspecified Tank	1891	141146
J	317m S	Unspecified Tank	1893	141146
J	321m S	Unspecified Tank	1891	115959
J	322m S	Unspecified Tank	1891	115948
J	327m S	Unspecified Tank	1891	115958
J	331m S	Tanks	1891	106786
J	337m S	Tanks	1891	106782
J	350m S	Tanks	1891	106787
N	352m S	Unspecified Tank	1891	115946
M	362m E	Gas Meter Testing Station	1948	120722
4	371m SW	Unspecified Tank	1891	115956
AA	433m SE	Unspecified Tank	1955	134489
AA	433m SE	Unspecified Tank	1955	134489

ID	Location	Land Use	Date	Group ID
AA	434m SE	Unspecified Tank	1952	134489
AB	434m S	Unspecified Tank	1891	115941
AA	439m SE	Unspecified Tank	1891	115938
AB	450m S	Unspecified Tank	1891	115940
O	451m E	Unspecified Tank	1891	115916
O	451m E	Unspecified Tank	1891	115915
AC	455m SE	Unspecified Tank	1891	115944
AC	455m SE	Unspecified Tank	1891	115942
AC	459m SE	Unspecified Tank	1891	115945
7	470m NE	Unspecified Tank	1891	115967
AH	475m S	Unspecified Tank	1955	136262
AH	476m S	Unspecified Tank	1953	136354
AC	477m SE	Unspecified Tank	1891	115943
O	487m E	Unspecified Tank	1891	115922
O	491m E	Unspecified Tank	1891	115914
O	491m E	Unspecified Tank	1891	115911

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	**40**

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 22**

ID	Location	Land Use	Date	Group ID
D	193m S	Electricity Station	1948	73425
D	193m S	Electricity Station	1950	68267
D	193m S	Electricity Station	1955	77896
D	199m S	Electricity Station	1908	81883

ID	Location	Land Use	Date	Group ID
D	200m S	Electricity Station	1922	81883
D	205m SW	Electricity Station	1950	66381
D	205m SW	Electricity Station	1955	66381
G	283m NE	Electricity Substation	1995	72406
G	284m NE	Electricity Substation	1986	72406
M	362m E	Gas Meter Testing Station	1948	63684
T	386m NW	Electricity Substation	1953	74071
T	386m NW	Electricity Substation	1953	74071
5	389m NW	Electricity Substation	1995	62186
T	406m NW	Electricity Substation	1967	74509
T	406m NW	Electricity Substation	1953	74509
T	406m NW	Electricity Substation	1968	80770
T	406m NW	Electricity Substation	1948	80770
T	406m NW	Electricity Substation	1953	80770
S	486m SW	Hydraulic Power Station	1979	64692
S	486m SW	Hydraulic Power Station	1948	64692
S	487m SW	Hydraulic Power Station	1951	64396
S	487m SW	Hydraulic Power Station	1973	64396
S	487m SW	Hydraulic Power Station	1948	64396
S	495m SW	Electricity Substation	1979	65682
S	496m SW	Electricity Substation	1985	65682
S	496m SW	Electricity Substation	1951	65682
S	496m SW	Electricity Substation	1988	65682
S	496m SW	Electricity Substation	1973	65682
S	496m SW	Electricity Substation	1948	65682
S	496m SW	Electricity Substation	1996	65682
S	496m SW	Electricity Substation	1995	65682
S	496m SW	Electricity Substation	1994	65682

ID	Location	Land Use	Date	Group ID
S	496m SW	Electricity Substation	1999	65682
AI	499m W	Electricity Substation	1985	80627
AI	500m W	Electricity Substation	1951	80627
AI	500m W	Electricity Substation	1973	80627
AI	500m W	Electricity Substation	1948	80627
AI	500m W	Electricity Substation	1979	80627
AI	500m W	Electricity Substation	1963	80627
AI	500m W	Electricity Substation	1948	80627

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	**0**

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	**53**

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 22**

ID	Location	Land Use	Date	Group ID
B	79m NW	Garage	1953	27406
B	79m NW	Garage	1953	27406
B	79m NW	Garage	1965	27406
B	79m NW	Garage	1948	24294
B	79m NW	Garage	1953	24294

ID	Location	Land Use	Date	Group ID
C	228m E	Garage	1952	25857
C	228m E	Garage	1948	25857
C	228m E	Garage	1968	24849
C	228m E	Garage	1965	25421
C	228m E	Garage	1955	25421
C	229m E	Garage	1964	25857
C	229m E	Garage	1971	25857
C	229m E	Garage	1984	24849
I	258m SE	Garage	1990	27728
I	258m SE	Garage	1990	27728
I	258m SE	Garage	1985	27728
I	259m SE	Garage	1964	26993
I	259m SE	Garage	1948	26993
I	259m SE	Garage	1965	26993
I	259m SE	Garage	1965	26993
I	259m SE	Garage	1955	26993
I	259m SE	Garage	1968	26993
I	259m SE	Garage	1950	26993
C	260m E	Garage	1948	24212
C	260m E	Garage	1971	22467
C	263m E	Garage	1971	23089
C	264m E	Garage	1971	25009
C	264m E	Garage	1948	25009
P	366m E	Garage	1990	23753
P	367m E	Garage	1971	20840
P	380m E	Garage	1971	21466
U	388m NE	Garage	1953	21528
U	390m NE	Garage	1965	23515

ID	Location	Land Use	Date	Group ID
U	391m NE	Garage	1953	25567
U	391m NE	Garage	1953	25567
W	392m SE	Garage	1952	26338
W	393m SE	Garage	1955	26338
AE	454m S	Garage	1953	24945
AE	454m S	Garage	1948	24945
AE	454m S	Garage	1955	24945
AH	490m S	Garage	1955	26377
AH	490m S	Garage	1987	27861
AH	490m S	Garage	1969	27861
AH	490m S	Garage	1948	27861
AH	490m S	Garage	1953	27861
AH	490m S	Garage	1962	27861
AH	490m S	Garage	1965	26377
AH	490m S	Garage	1965	26377
AH	490m S	Garage	1968	26377
AH	491m S	Garage	1990	26377
AH	491m S	Garage	1985	26377
AH	491m S	Garage	1995	27861
AH	491m S	Garage	1998	27861

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	9

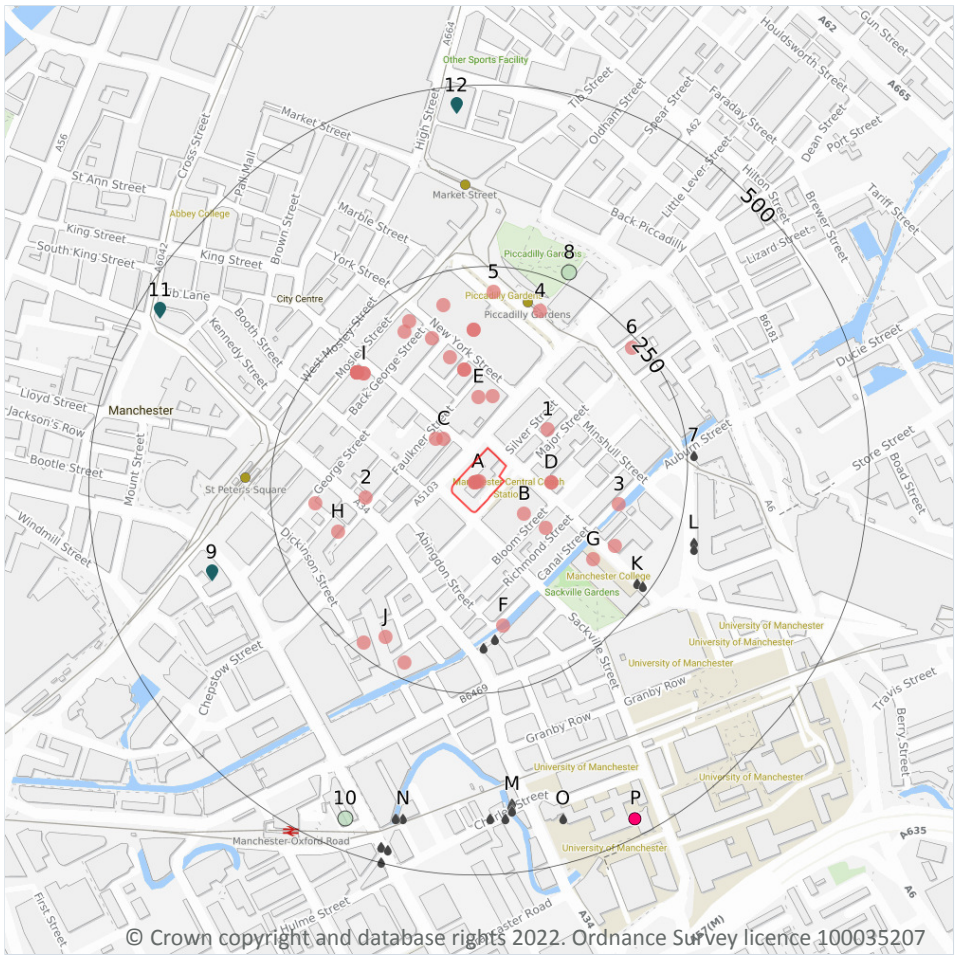
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 35**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	274m W	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
A	274m W	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
B	311m S	LINEAR NETWORK: MAINLINE RAILWAY BETWEEN MANCHESTER AIRPORT AIRPORT AND BARROW-IN-FURNESS	EPR/BE5446FE/A001	Disposing of waste exemption	Non-Agricultural Waste Only	Deposit of waste from a railway sanitary convenience
B	312m S	Bridgewater House 60 Whitworth Street MANCHESTER M1 6LT	EPR/NF0707MF/A001	Disposing of waste exemption	Non-Agricultural Waste Only	Deposit of waste from a railway sanitary convenience
C	317m NW	11 York Street, York Street, Manchester, M2 2BE	WEX111733	Treating waste exemption	Not on a farm	Screening and blending of waste
C	317m NW	11 York Street, York Street, Manchester, M2 2BE	WEX111733	Using waste exemption	Not on a farm	Use of waste in construction
1	426m SE	Michael Smith Building, Dover Street, Manchester, M13 9PL	WEX086269	Treating waste exemption	Not on a farm	Treatment of kitchen waste in a wormery
2	473m W	Brazennose House M2 5PB	EPR/ZE5544KA/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
3	487m W	Windmill Green, 24 Mount Street, Manchester, M2 3NN	WEX105155	Using waste exemption	Not on a farm	Use of waste in construction

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

4 Current industrial land use



4.1 Recent industrial land uses

Records within 250m	45

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 38**

ID	Location	Company	Address	Activity	Category
A	**On site**	**Cundall**	**Manchester, Greater Manchester, M1**	**Civil Engineers**	**Engineering Services**
A	**On site**	**Scrap a Car Manchester**	**53, Portland Street, Manchester, Greater Manchester, M1 3LD**	**Scrap Metal Merchants**	**Recycling Services**

ID	Location	Company	Address	Activity	Category
A	**On site**	**Leaflet Distribution Manchester**	**Portland Tower, Portland Street, Manchester, Greater Manchester, M1 3HU**	**Distribution and Haulage**	**Transport, Storage and Delivery**
A	**On site**	**Rina**	**53, Portland Street, Manchester, Greater Manchester, M1 3LD**	**Civil Engineers**	**Engineering Services**
A	**On site**	**Medusa 19 Ltd**	**2nd Floor, Manchester, Greater Manchester, M1 1EZ**	**Colours, Chemicals and Water Softeners and Supplies**	**Industrial Products**
B	51m SE	Coach Station	Greater Manchester, M1	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
C	53m NW	Vina Karaoke Bar	34, Charlotte Street, Manchester, Greater Manchester, M1 4FD	Electronic Equipment	Industrial Products
C	61m NW	Hong Kong Printing Co Ltd	41, Faulkner Street, Manchester, Greater Manchester, M1 4EE	Published Goods	Industrial Products
D	65m E	Broome & Wellington	Boulton House 17-21, Chorlton Street, Manchester, Greater Manchester, M1 3HY	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
D	65m E	Newsco Insider Ltd	Eighth Floor Boulton House 17-21, Chorlton Street, Manchester, Greater Manchester, M1 3HY	Published Goods	Industrial Products
E	72m N	Proveca	9, Charlotte Street, Manchester, Greater Manchester, M1 4ET	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
E	72m N	Daisy Group Plc	Bank Chambers, Faulkner Street, Manchester, Greater Manchester, M1 4EH	Radar and Telecommunications Equipment	Industrial Products
1	76m NE	Print Chain	Barlow House 4, Minshull Street, Manchester, Greater Manchester, M1 3DZ	Published Goods	Industrial Products
B	86m SE	Sports Fashion Distribution UK Ltd	Richmond House 15, Bloom Street, Manchester, Greater Manchester, M1 3HZ	Distribution and Haulage	Transport, Storage and Delivery
E	112m N	St John Ambulance	Faulkner House, Faulkner Street, Manchester, Greater Manchester, M1 4DY	Ambulance and Medical Transportation Services	Health Support Services
E	112m N	St John Ambulance Supplies	Fifth Floor Faulkner House, Faulkner Street, Manchester, Greater Manchester, M1 4DY	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products

ID	Location	Company	Address	Activity	Category
2	119m W	Scrap That Car	91, Princess Street, Manchester, Greater Manchester, M1 4HT	Scrap Metal Merchants	Recycling Services
E	136m N	British Engineering Services	5, New York Street, Manchester, Greater Manchester, M1 4JB	Civil Engineers	Engineering Services
F	161m S	Landing Stage	Greater Manchester, M1	Moorings and Unloading Facilities	Water
3	161m E	Landing Stage	Greater Manchester, M1	Moorings and Unloading Facilities	Water
G	163m SE	Electricity Sub Station	Greater Manchester, M1	Electrical Features	Infrastructure and Facilities
E	164m N	Nxgen Europe Ltd	City Tower, Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT	Office and Shop Equipment	Industrial Products
E	164m N	Weeshred Ltd	Fourteenth Floor City Tower, Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT	Waste Collection, Processing and Disposal Equipment	Industrial Products
H	167m W	Electricity Sub Station	Greater Manchester, M1	Electrical Features	Infrastructure and Facilities
E	169m NW	Atkins Group	The Exchange 3, New York Street, Manchester, Greater Manchester, M1 4HN	Civil Engineers	Engineering Services
G	176m SE	United Global	Minshull House 47, Chorlton Street, Manchester, Greater Manchester, M1 3FY	Distribution and Haulage	Transport, Storage and Delivery
H	189m W	Electricity Sub Station	Greater Manchester, M1	Electrical Features	Infrastructure and Facilities
I	195m NW	Hazexperts	International House, 61 Mosley Street, Manchester, Greater Manchester, M2 3HZ	Recycling, Reclamation and Disposal	Recycling Services
I	195m NW	Imex Health UK	International House, 61 Mosley Street, Manchester, Greater Manchester, M2 3HZ	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
E	197m NW	A D T	1, New York Street, Manchester, Greater Manchester, M1 4HD	Special Purpose Machinery and Equipment	Industrial Products
4	202m N	Piccadilly Gardens (Mancheste r Metrolink)	Greater Manchester, M1	Tram, Metro and Light Railway Stations and Stops	Public Transport, Stations and Infrastructure
I	202m NW	C F E S	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Cooling and Refrigeration	Industrial Products

ID	Location	Company	Address	Activity	Category
I	202m NW	North West Lightning Protection Ltd	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Industrial Engineers	Engineering Services
I	202m NW	Prime Power Solution	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Electrical Motors and Generators	Industrial Products
I	202m NW	Total Towing	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Vehicle Repair, Testing and Servicing	Repair and Servicing
I	202m NW	Trustech	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
I	202m NW	Ibuybeds	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Beds and Bedding	Consumer Products
I	202m NW	P P E Universe	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Workwear	Industrial Products
E	206m NW	Aecom Europe Ltd	1, New York Street, Manchester, Greater Manchester, M1 4HD	Civil Engineers	Engineering Services
E	206m N	City Tower	City Tower, Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT	Business Parks and Industrial Estates	Industrial Features
J	210m SW	China House	Greater Manchester, M1	Sand, Gravel and Clay Extraction and Merchants	Extractive Industries
5	215m N	Bus Station	Greater Manchester, M1	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
J	228m SW	Electricity Sub Station	Greater Manchester, M1	Electrical Features	Infrastructure and Facilities
J	235m SW	Storebox	Linley House, Dickinson Street, Manchester, Greater Manchester, M1 4LF	Container and Storage	Transport, Storage and Delivery
6	238m NE	Unified Theory of Everything	Apartment 314 The Grand 1, Aytoun Street, Manchester, Greater Manchester, M1 3DA	Published Goods	Industrial Products

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	0

Open, closed, under development and obsolete petrol stations.

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

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

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

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

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

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

Records within 500m	3

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

Features are displayed on the Current industrial land use map on **page 38**

ID	Location	Address	Details	
9	349m W	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
11	470m NW	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
12	473m N	Johnsons Cleaners UK Ltd, 24 High Street, City Centre, Manchester, M4 1QB	Process: Dry Cleaning Status: Current 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 **6**

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

Features are displayed on the Current industrial land use map on **page 38**

ID	Location	Address	Details	
P	476m SE	Umist, Po Box 88, Sackville Street, Manchester, M60 1QD	Operator: Umist Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AC8878 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled
P	476m SE	Umist, Po Box 88,sackville Street, Manchester, M60 1QD	Operator: Umist Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AC8886 Date of approval: 06/03/2001	Effective from: 06/03/2001 Last date of update: 01/01/2015 Status: Revoked/cancelled
P	476m SE	Umist, Po Box 88, Sackville Street, Manchester, M60 1QD	Operator: Umist Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG4009 Date of approval: 16/01/1995	Effective from: 16/02/1995 Last date of update: 01/01/2015 Status: Superseded By Variation
P	476m SE	Umist, Po Box 88, Sackville Street, Manchester, M60 1QD	Operator: Umist Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG4009 Date of approval: 30/01/1997	Effective from: 25/02/1997 Last date of update: 01/01/2015 Status: Superseded By Variation

ID	Location	Address	Details	
P	476m SE	Umist, Po Box 88, Sackville Street, Manchester, M60 1QD	Operator: Umist Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG4009 Date of approval: 13/11/1997	Effective from: 11/12/1997 Last date of update: 01/01/2015 Status: Superseded By Variation
P	476m SE	Umist, Po Box 88, Sackville Street, Manchester, M60 1QD	Operator: Umist Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG4009 Date of approval: 09/04/2002	Effective from: 06/05/2002 Last date of update: 01/01/2015 Status: Revoked/cancelled

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

4.13 Licensed Discharges to controlled waters

Records within 500m **39**

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 38**

ID	Location	Address	Details	
F	178m S	GSHP SERVING ORIGIN DEVELOPMENT, 56 PRINCESS STREET, MANCHESTER, M1 6JA	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: NPSWQD004449 Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 05/03/2009 Effective Date: 01/04/2009 Revocation Date: 15/04/2009
F	178m S	GSHP SERVING ORIGIN DEVELOPMENT, 56 PRINCESS STREET, MANCHESTER, M1 6JA	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: NPSWQD004449 Permit Version: 2 Receiving Water: GROUNDWATER	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 16/04/2009 Effective Date: 16/04/2009 Revocation Date: 31/03/2013
F	178m S	GSHP SERVING ORIGIN DEVELOPMENT, 56 PRINCESS STREET, MANCHESTER, M1 6JA	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: NPSWQD004449 Permit Version: 3 Receiving Water: GROUNDWATER	Status: SURRENDERED UNDER EPR 2010 Issue date: 28/10/2011 Effective Date: 01/04/2013 Revocation Date: 03/10/2014
F	188m S	GSHP SERVING ORIGIN DEVELOPMENT, 56 PRINCESS STREET, MANCHESTER, M1 6JA	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: NPSWQD004449 Permit Version: 1 Receiving Water: GROUNDWATER	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 05/03/2009 Effective Date: 01/04/2009 Revocation Date: 15/04/2009

ID	Location	Address	Details	
F	188m S	GSHP SERVING ORIGIN DEVELOPMENT, 56 PRINCESS STREET, MANCHESTER, M1 6JA	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: NPSWQD004449 Permit Version: 2 Receiving Water: GROUNDWATER	Status: NEW CONSENT (WRA 91, S88 & SCHED 10 AS AMENDED BY ENV ACT 1995) Issue date: 16/04/2009 Effective Date: 16/04/2009 Revocation Date: 31/03/2013
F	188m S	GSHP SERVING ORIGIN DEVELOPMENT, 56 PRINCESS STREET, MANCHESTER, M1 6JA	Effluent Type: TRADE DISCHARGES - COOLING WATER Permit Number: NPSWQD004449 Permit Version: 3 Receiving Water: GROUNDWATER	Status: SURRENDERED UNDER EPR 2010 Issue date: 28/10/2011 Effective Date: 01/04/2013 Revocation Date: 03/10/2014
K	231m SE	CHORLTON STREET CSO 281J2, CHORLTON STREET, MANCHESTER, GREATER MANCHESTER, M1 3HW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0162 Permit Version: 3 Receiving Water: DUKES TUNNEL	Status: VARIED UNDER EPR 2010 Issue date: 05/02/2016 Effective Date: 05/02/2016 Revocation Date: 10/04/2018
K	231m SE	CHORLTON STREET CSO 281J2, CHORLTON STREET, MANCHESTER, GREATER MANCHESTER, M1 3HW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0162 Permit Version: 4 Receiving Water: SHOOTERS BROOK TRIB RVR MEDLOC	Status: VARIED UNDER EPR 2010 Issue date: 11/04/2018 Effective Date: 11/04/2018 Revocation Date: -
K	239m SE	CHORLTON STREET CSO 281J2, CHORLTON STREET, MANCHESTER, GREATER MANCHESTER, M1 3HW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0162 Permit Version: 1 Receiving Water: DUKES TUNNEL	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	239m SE	CHORLTON STREET CSO 281J2, CHORLTON STREET, MANCHESTER, GREATER MANCHESTER, M1 3HW	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0162 Permit Version: 2 Receiving Water: DUKES TUNNEL	Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 04/02/2016
7	258m E	AYTOUN ST/AUBURN ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0370 Permit Version: 1 Receiving Water: -	Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 01/01/1995 Revocation Date: 27/03/2015

ID	Location	Address	Details	
L	273m E	AYTOUN ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982630 Permit Version: 1 Receiving Water: SHOOTERS BROOK	Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 30/09/1994 Revocation Date: 30/10/2018
L	273m E	AYTOUN ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0318 Permit Version: 1 Receiving Water: SHOOTERS BROOK	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/01/1995
L	277m E	MINSHULL ST/WHITWORTH ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0355 Permit Version: 1 Receiving Water: -	Status: SURRENDERED UNDER EPR 2010 Issue date: - Effective Date: 01/01/1995 Revocation Date: 18/07/2014
M	405m S	PRINCESS ST/GRANBY ROW CS, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982956 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: CONSENT REVOKED - DISCHARGE CEASED (WRA 91, SCHED 10 & 6) Issue date: - Effective Date: 23/06/1995 Revocation Date: 31/03/1998
M	405m S	PRINCESS ST/WHITWORTH ST CSO 282MN, 67 WHITWORTH ST, MANCHESTER, GREATER MANCHESTER, M1 6LQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982950 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 23/06/1995 Revocation Date: 19/10/2020
M	409m S	PRINCESS ST/WHITWORTH ST CSO 282MN, 67 WHITWORTH ST, MANCHESTER, GREATER MANCHESTER, M1 6LQ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982950 Permit Version: 2 Receiving Water: RIVER MEDLOCK VIA SWS	Status: VARIED UNDER EPR 2010 Issue date: 20/10/2020 Effective Date: 20/10/2020 Revocation Date: -
M	412m S	CHARLES ST PRINCESS ST CSO 28116, 106 PRINCESS STREET, MANCHESTER, M1 6NG	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0166 Permit Version: 3 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 21/03/2018 Effective Date: 01/04/2018 Revocation Date: -

ID	Location	Address	Details	
M	415m S	CHARLES ST PRINCESS ST CSO 28116, 106 PRINCESS STREET, MANCHESTER, M1 6NG	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0166 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 02/09/2010
M	415m S	CHARLES ST PRINCESS ST CSO 28116, 106 PRINCESS STREET, MANCHESTER, M1 6NG	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0166 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 31/03/2018
M	415m S	WHITWORTH ST/SACKVILLE ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0253 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/01/2017
M	422m S	112-116 PRINCESS STREET, MANCHESTER, GREATER MANCHESTER	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991403 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 24/04/1989 Revocation Date: 31/03/1992
M	422m S	112-116 PRINCESS STREET, MANCHESTER, GREATER MANCHESTER	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991403 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1992 Revocation Date: 10/02/1993
M	422m S	112-116 PRINCESS STREET, MANCHESTER, GREATER MANCHESTER	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991403 Permit Version: 3 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 11/02/1993 Revocation Date: 01/11/1994
M	424m S	CHARLES STREET CSO, 7 CHARLES STREET, MANCHESTER, M1 7EN	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0183 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 02/09/2010
M	424m S	CHARLES STREET CSO, 7 CHARLES STREET, MANCHESTER, M1 7EN	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0183 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 31/03/2018

ID	Location	Address	Details	
M	424m S	CHARLES STREET CSO, 7 CHARLES STREET, MANCHESTER, M1 7EN	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0183 Permit Version: 3 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 19/03/2018 Effective Date: 01/04/2018 Revocation Date: -
N	433m S	YORK ST/CHARLES ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0281 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 09/08/2019
N	435m S	MALLARD STREET/CHARLES STREET CSO, MALLARD STREET, MANCHESTER, GREATER MANCHESTER, M1 6EY	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982736 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 30/09/1994 Revocation Date: 09/07/2020
N	435m S	MEDLOCK ST(OFF CHARLES ST), MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0343 Permit Version: 1 Receiving Water: -	Status: CONSENT REVOKED OR REVISED - NEW CONSENT ISSUED (37(1)) Issue date: - Effective Date: 01/01/1995 Revocation Date: 01/01/1995
N	437m S	MALLARD STREET/CHARLES STREET CSO, MALLARD STREET, MANCHESTER, GREATER MANCHESTER, M1 6EY	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 016982736 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 10/07/2020 Effective Date: 10/07/2020 Revocation Date: -
O	439m S	112-116 PRINCESS STREET, MANCHESTER, GREATER MANCHESTER	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991403 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 24/04/1989 Revocation Date: 31/03/1992
O	439m S	112-116 PRINCESS STREET, MANCHESTER, GREATER MANCHESTER	Effluent Type: MISCELLANEOUS DISCHARGES - SURFACE WATER Permit Number: 016991403 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/04/1992 Revocation Date: 10/02/1993
N	479m S	OXFORD ROAD/GROSVENOR STREET CSO, 137 OXFORD ROAD, MANCHESTER, GREATER MANCHESTER, M1 7DZ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0189 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 02/09/2010

ID	Location	Address	Details	
N	479m S	OXFORD ROAD/GROSVENOR STREET CSO, 137 OXFORD ROAD, MANCHESTER, GREATER MANCHESTER, M1 7DZ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0189 Permit Version: 2 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 03/09/2010 Effective Date: 03/09/2010 Revocation Date: 04/02/2016
N	479m S	OXFORD ROAD/GROSVENOR STREET CSO, 137 OXFORD ROAD, MANCHESTER, GREATER MANCHESTER, M1 7DZ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0189 Permit Version: 3 Receiving Water: RIVER MEDLOCK	Status: VARIED UNDER EPR 2010 Issue date: 05/02/2016 Effective Date: 05/02/2016 Revocation Date: 28/03/2021
N	479m S	OXFORD/NEW WAKEFILD ST, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0165 Permit Version: 1 Receiving Water: RIVER MEDLOCK	Status: REVOKED - UNSPECIFIED Issue date: - Effective Date: 01/01/1995 Revocation Date: 31/03/1998
N	480m S	OXFORD ROAD/GROSVENOR STREET CSO, 137 OXFORD ROAD, MANCHESTER, GREATER MANCHESTER, M1 7DZ	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0189 Permit Version: 4 Receiving Water: RIVER MEDLOCK VIA SWS	Status: VARIED UNDER EPR 2010 Issue date: 29/03/2021 Effective Date: 29/03/2021 Revocation Date: -
N	498m S	OXFORD RD, MANCHESTER, GREATER MANCHESTER	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: 01MAN0342 Permit Version: 1 Receiving Water: -	Status: POST NRA LEGISLATION WHERE ISSUE DATE > 31-AUG-89 (HISTORIC ONLY) Issue date: - Effective Date: 01/01/1995 Revocation Date: 19/12/1999

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

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

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

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

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

4.17 List 2 Dangerous Substances

Records within 500m	0

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

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	2

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

Features are displayed on the Current industrial land use map on **page 38**

ID	Location	Details	
8	266m NE	Incident Date: 12/02/2002 Incident Identification: 57989 Pollutant: Pollutant Not Identified Pollutant Description: Not Identified	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
10	458m S	Incident Date: 12/07/2001 Incident Identification: 15886 Pollutant: Oils and Fuel Pollutant Description: Diesel	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m	0

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

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

4.20 Pollution inventory waste transfers

Records within 500m	0

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

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

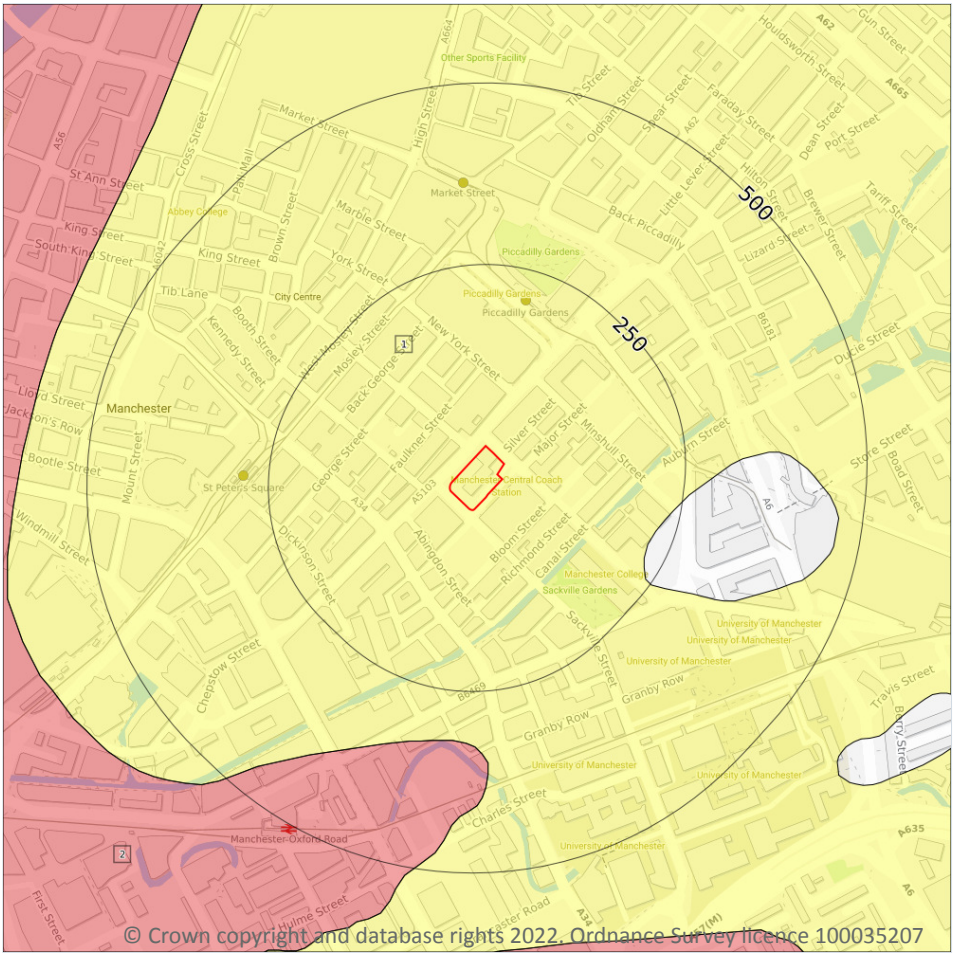
4.21 Pollution inventory radioactive waste

Records within 500m	0

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

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

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive
- Unknown

5.1 Superficial aquifer

Records within 500m	2

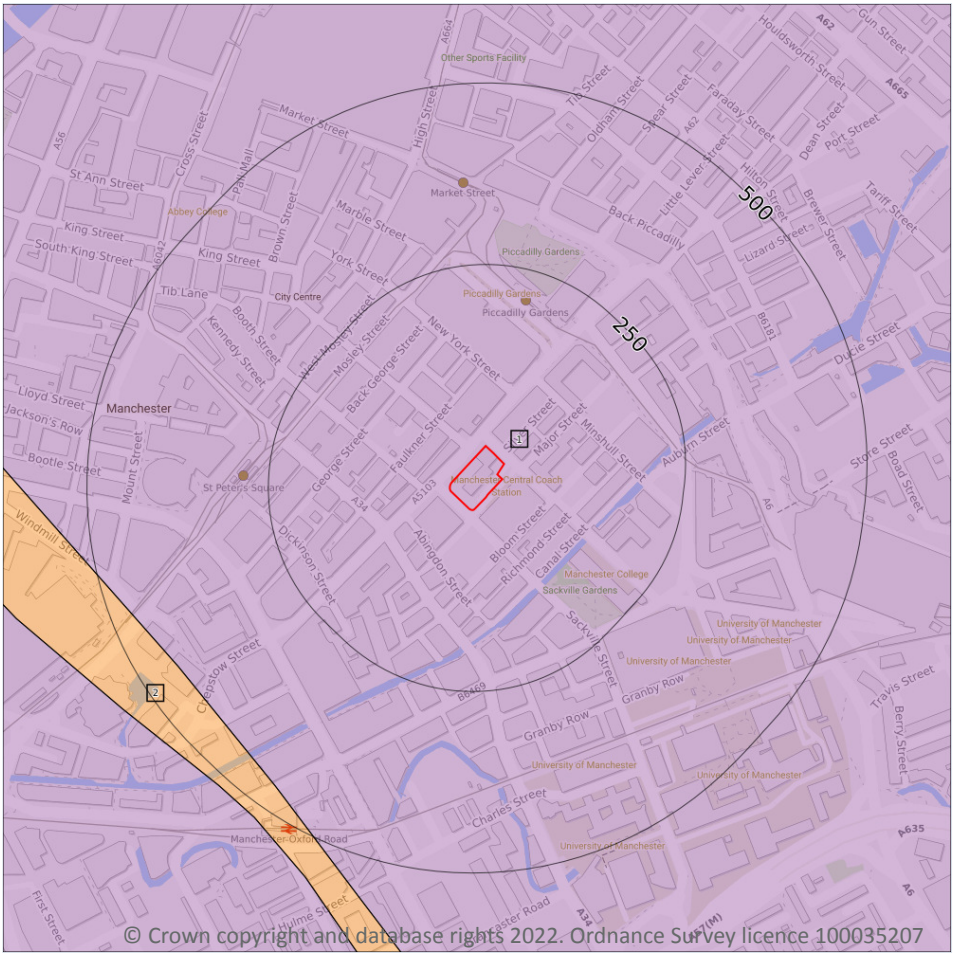
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 53**

ID	Location	Designation	Description
1	**On site**	**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**
2	318m S	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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

Bedrock aquifer



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5.2 Bedrock aquifer

Records within 500m	2

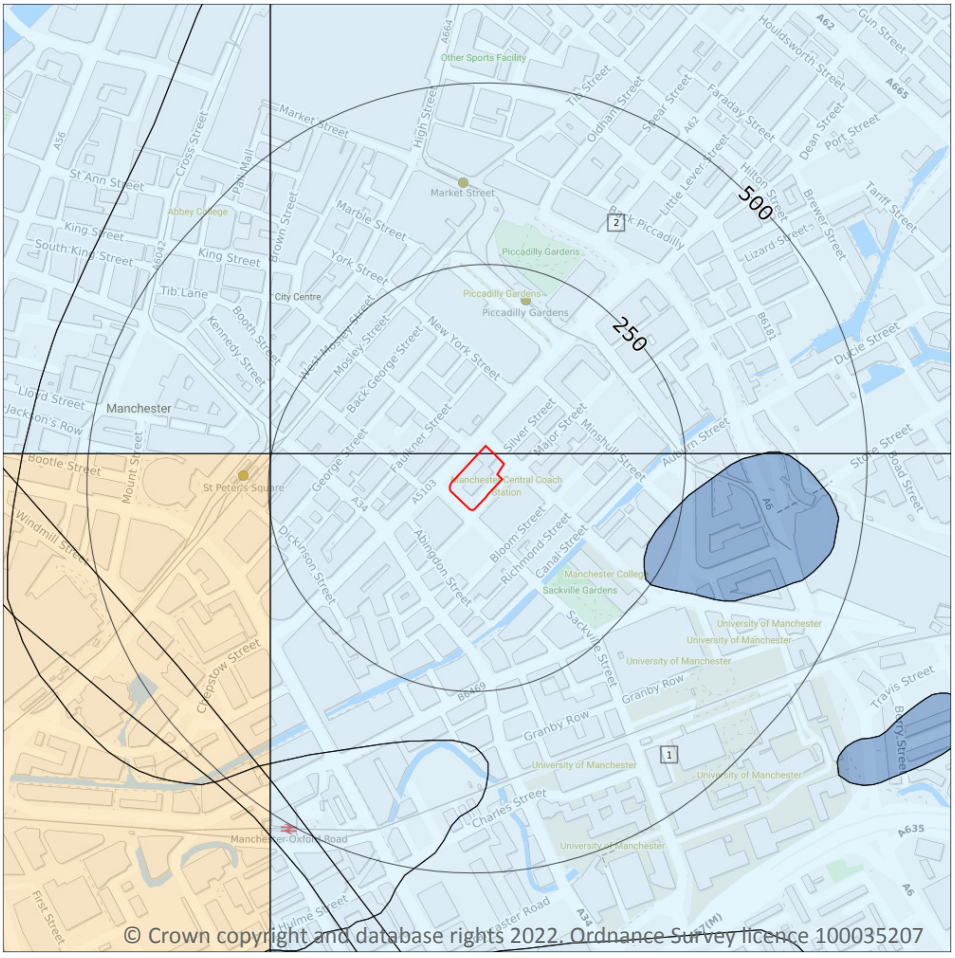
Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 55**

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	444m SW	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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

Groundwater vulnerability



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	2

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 57**

ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	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
2	On site	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: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0

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

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

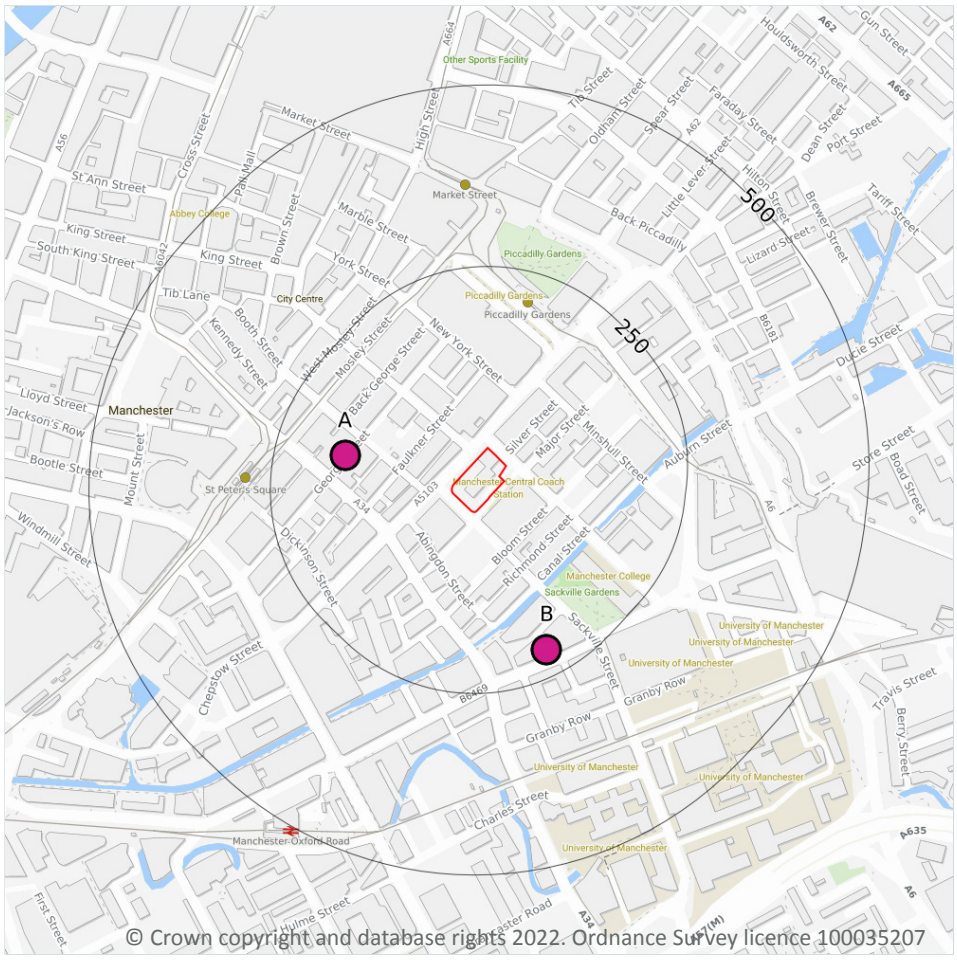
5.5 Groundwater vulnerability- local information

Records on site	0

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

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

Abstractions and Source Protection Zones



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5.6 Groundwater abstractions

Records within 2000m	51

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 59**

ID	Location	Details	
A	154m W	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: -
A	154m W	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: -
B	213m SE	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: -
B	213m SE	Status: Historical Licence No: NW/069/0006/001 Details: Non-Evaporative Cooling Direct Source: Ground Water - North West Region Point: BOREHOLES AT ORIGIN DEVELOPMENTS, MANCHESTER Data Type: Point Name: West Contracting Easting: 384378 Northing: 397733	Annual Volume (m^3): 139128 Max Daily Volume (m^3): 1010 Original Application No: - Original Start Date: 19/01/2009 Expiry Date: 31/03/2015 Issue No: 1 Version Start Date: 19/01/2009 Version End Date: -

ID	Location	Details	
-	837m S	Status: Active Licence No: NW/069/0006/003 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LOWER CHATHAM STREET Data Type: Point Name: Manchester Metropolitan University Easting: 384180 Northing: 397091	Annual Volume (m^3): 283,240 Max Daily Volume (m^3): 1,532 Original Application No: 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: -
-	837m S	Status: Active Licence No: NW/069/0006/003 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LOWER CHATHAM STREET Data Type: Point Name: Manchester Metropolitan University Easting: 384180 Northing: 397091	Annual Volume (m^3): 283,240 Max Daily Volume (m^3): 1,532 Original Application No: 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: -
-	911m NW	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: -
-	911m NW	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	
-	911m NW	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: -
-	978m W	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: -
-	1013m SE	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: -
-	1013m SE	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	
-	1101m W	Status: Historical Licence No: NW/069/0004/019 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Ground Water - North West Region Point: ST JOHNS MANCHESTER Data Type: Poly4 Name: Manchester Quays Development (MGY) Ltd Easting: 383094 Northing: 398099	Annual Volume (m^3): 543,120 Max Daily Volume (m^3): 1,488 Original Application No: - Original Start Date: 13/09/2019 Expiry Date: 31/12/2020 Issue No: 1 Version Start Date: 13/09/2019 Version End Date: -
-	1230m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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: -
-	1236m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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: -
-	1239m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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	
-	1254m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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: -
-	1270m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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: -
-	1272m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1272m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -

ID	Location	Details	
-	1272m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1272m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1272m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1272m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1276m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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: -
-	1296m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1296m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1296m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1296m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1296m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1296m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1299m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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	
-	1303m SW	Status: Active Licence No: NW/069/0004/003 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m^3): 274,115 Max Daily Volume (m^3): 751 Original Application No: 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: -
-	1303m SW	Status: Active Licence No: NW/069/0004/003 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m^3): 274,115 Max Daily Volume (m^3): 751 Original Application No: 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: -
-	1316m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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: -
-	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 1) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -

ID	Location	Details	
-	1317m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	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 1) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1317m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	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 1 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1317m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1328m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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: -
-	1343m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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: -
-	1357m SW	Status: Active 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): 260,172 Max Daily Volume (m^3): 712.80 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	
-	1700m 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: -
-	1700m 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: -
-	1700m N	Status: Active Licence No: 2569004011 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT DERBY BREWERY, CHEETHAM, MANCHESTER 3 Data Type: Point Name: JOSEPH HOLT LTD Easting: 384100 Northing: 399700	Annual Volume (m^3): 45,460 Max Daily Volume (m^3): 181.84 Original Application No: 0423 Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -
-	1700m N	Status: Active Licence No: 2569004011 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT DERBY BREWERY, CHEETHAM, MANCHESTER 3 Data Type: Point Name: JOSEPH HOLT LTD Easting: 384100 Northing: 399700	Annual Volume (m^3): 45,460 Max Daily Volume (m^3): 181.84 Original Application No: 0423 Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -

ID	Location	Details	
-	1832m 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: -
-	1832m 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: -
-	1842m SE	Status: Historical Licence No: NW/069/0004/005 Details: Heat Pump Direct Source: Ground Water - North West Region Point: AREA OF ABSTRACTION - LOWER CARBONIFEROUS LIMESTONE Data Type: Poly4 Name: G T Energy UK Limited Easting: 385729 Northing: 396778	Annual Volume (m^3): 2,049,840 Max Daily Volume (m^3): 8640 Original Application No: - Original Start Date: 17/01/2013 Expiry Date: 16/01/2037 Issue No: 2 Version Start Date: 11/06/2013 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 59**

ID	Location	Details	
-	1832m W	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: -
-	1832m W	Status: Historical Licence No: 2569007053 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R IRWELL AT IRWELL WORKS, ORDSALL LANE, SALFORD Data Type: Point Name: CDS COMPUTER DESIGN SYSTEMS LTD Easting: 382500 Northing: 397400	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 22/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1987 Version End Date: -

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

5.8 Potable abstractions

Records within 2000m	**10**

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 59**

ID	Location	Details	
-	1272m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -

ID	Location	Details	
-	1272m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1272m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1296m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1296m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1296m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	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 1) AT PREMISES, STRANGEWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	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 1) AT PREMISES, STRANGEWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	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 1 AT PREMISES STRANGEWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m^3): 500000 Max Daily Volume (m^3): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1832m 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	0

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

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

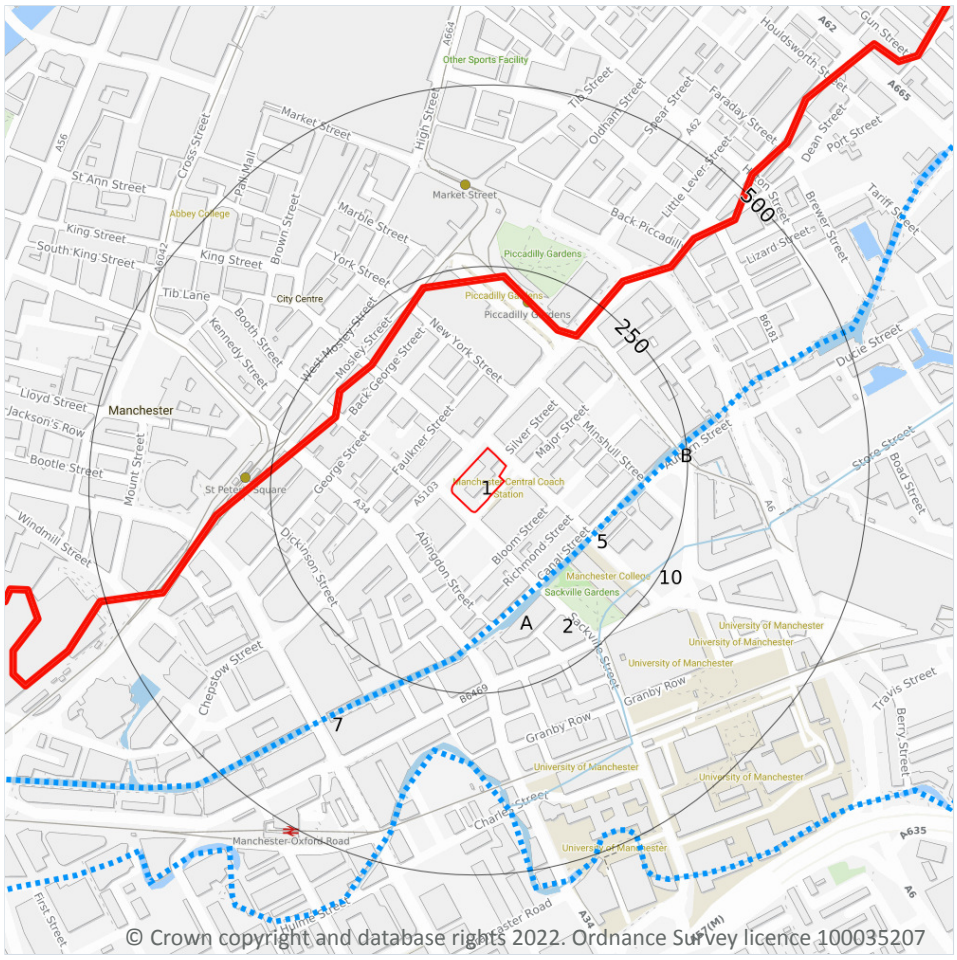
5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

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

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

6 Hydrology



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	**6**

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 77**

ID	Location	Type of water feature	Ground level	Permanence	Name
5	138m SE	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal

ID	Location	Type of water feature	Ground level	Permanence	Name
7	151m S	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
A	151m S	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	224m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	228m E	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal
B	248m E	Canal. A manmade watercourse for inland navigation.	On ground surface	Watercourse contains water year round (in normal circumstances)	Rochdale Canal

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	**6**

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

Features are displayed on the Hydrology map on **page 77**

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 77**

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

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

6.4 WFD Surface water bodies

Records identified	**2**

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

Features are displayed on the Hydrology map on **page 77**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
4	133m SE	Canal	Rochdale Canal, western section	GB71210517	Moderate	Fail	Moderate	2019
13	333m S	River	Medlock (Lumb Brook to Irwell)	GB112069061152	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 77**

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

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

7 River and coastal flooding

7.1 Risk of flooding from rivers and the sea

Records within 50m	0

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

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

7.2 Historical Flood Events

Records within 250m	0

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

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

7.3 Flood Defences

Records within 250m	0

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

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

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

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

7.5 Flood Storage Areas

Records within 250m	0

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

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

River and coastal flooding - Flood Zones

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.

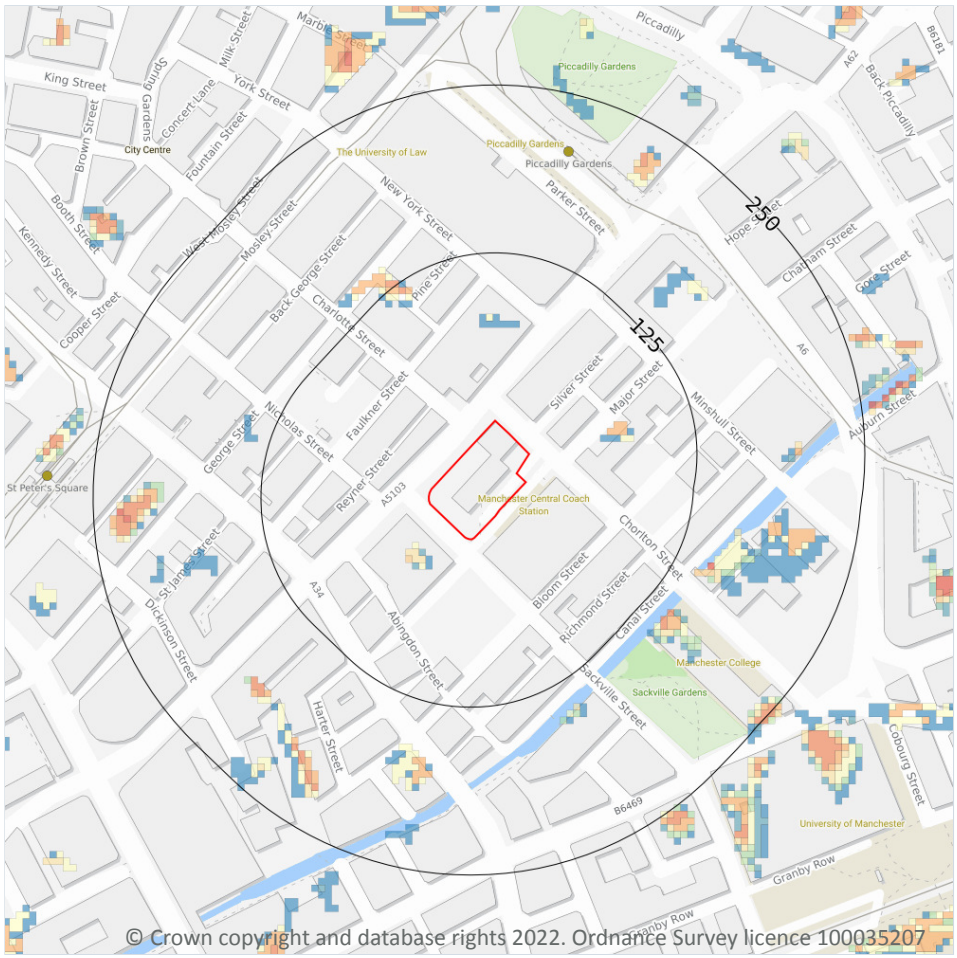
7.7 Flood Zone 3

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



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Site Outline

Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**1 in 100 year, Greater than 1.0m**

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

Features are displayed on the Surface water flooding map on **page 84**

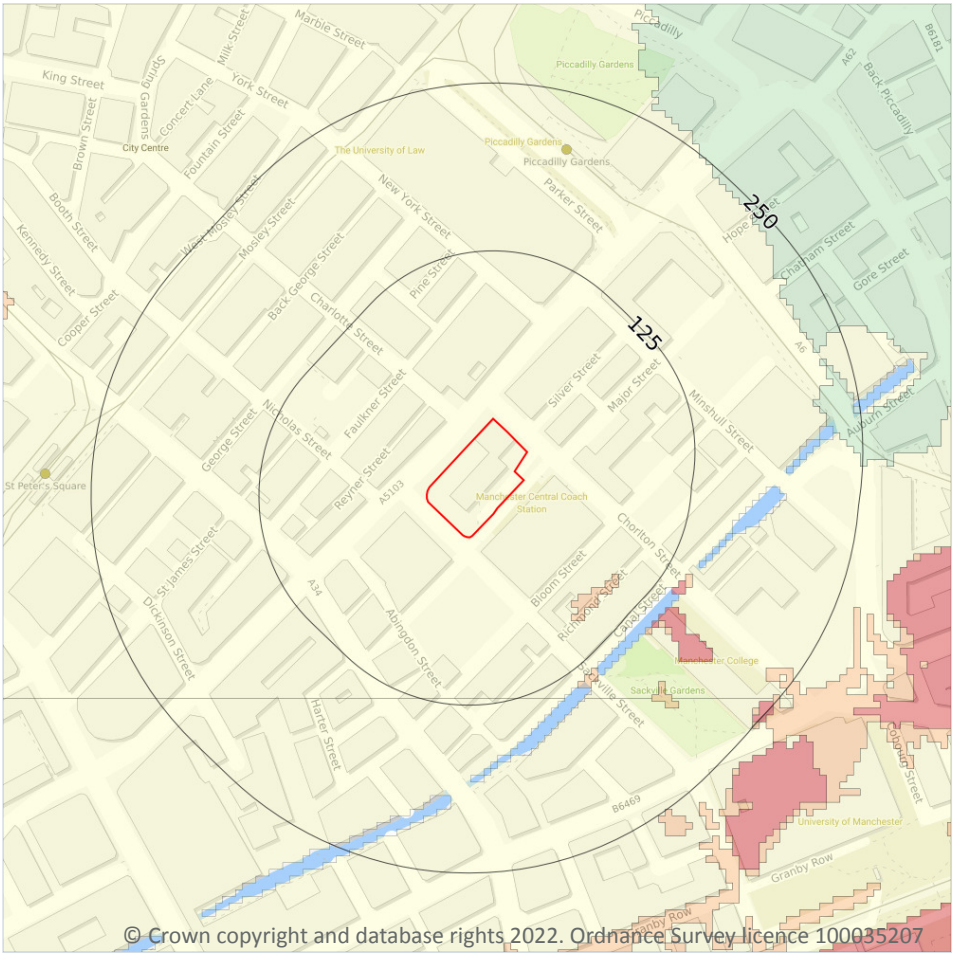
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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 86**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	0

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

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

10.7 Designated Ancient Woodland

Records within 2000m	0

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

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	4

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

Location	Name	Type	NVZ ID	Status
389m NE	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	Existing
624m N	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	638	Existing
1019m NW	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	643	Existing
1602m 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 91**

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

This data is sourced from Natural England.

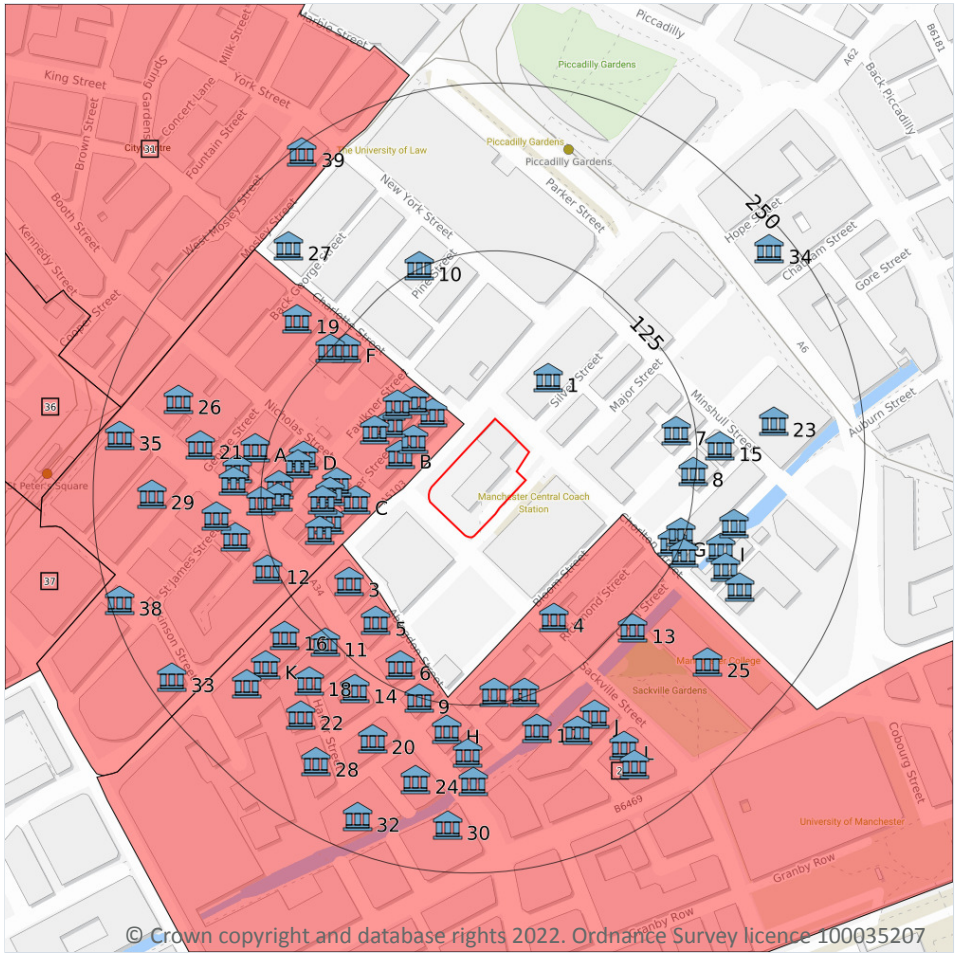
10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	78

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 93**

ID	Location	Name	Grade	Reference Number	Listed date
B	34m NW	52 and 54, Portland Street, Deansgate, Manchester, M1	II	1246953	06/06/1994
B	34m NW	44-50, Portland Street, Deansgate, Manchester, M1	II	1247041	06/06/1994
B	37m NW	Fraser House, Deansgate, Manchester, M1	II	1283064	03/10/1974
1	49m NE	Britannia Hotel, Piccadilly, Manchester, M1	II*	1246952	25/02/1952
B	53m NW	Lindencourt House, Deansgate, Manchester, M1	II	1208396	03/10/1974

ID	Location	Name	Grade	Reference Number	Listed date
C	54m W	70 and 72, Portland Street (See Details For Further Address information), Deansgate, Manchester, M1	II	1271071	06/06/1994
B	55m NW	45 and 47, Faulkner Street, Deansgate, Manchester, M1	II	1200830	20/06/1988
B	60m NW	No. 49, Faulkner Street, Deansgate, Manchester, M1	II	1200831	06/06/1994
B	61m NW	Nos. 41 and 43, Faulkner Street, Deansgate, Manchester, M1	II	1200829	03/10/1974
C	69m W	55, Faulkner Street (See Details For Further Address information), Deansgate, Manchester, M1	II	1217991	06/06/1994
C	73m W	57, Faulkner Street, Deansgate, Manchester, M1	II	1218005	06/06/1994
C	76m W	Nos 74-78, and No 80 (The Grey Horse Public House) and Attached Railings, Portland Street, Deansgate, Manchester, M1	II	1246954	06/06/1994
C	79m W	59 and 61, Faulkner Street, Deansgate, Manchester, M1	II	1282964	06/06/1994
3	85m SW	Former Pickles Building, Piccadilly, Manchester, M1	II	1246955	03/10/1974
C	85m W	Circus Tavern and Attached Railings, Deansgate, Manchester, M1	II	1247057	06/06/1994
4	85m SE	27, Sackville Street, Piccadilly, Manchester, M1	II	1247607	06/06/1994
5	92m SW	101, Princess Street, Piccadilly, Manchester, M1	II	1270899	03/10/1974
D	98m W	16, Nicholas Street, Deansgate, Manchester, M1	II	1271453	06/06/1994
D	100m W	46, 48 and 50, Faulkner Street, Deansgate, Manchester, M1	II	1282962	06/06/1994
6	108m SW	103, Princess Street, Piccadilly, Manchester, M1	II*	1247391	11/05/1972
7	111m E	8, Minshull Street (See Details For Further Address information), Piccadilly, Manchester, M1	II	1219858	06/06/1994
D	112m W	52 and 54, Faulkner Street, Deansgate, Manchester, M1	II	1282963	06/06/1994
D	112m W	No. 56, Faulkner Street, Deansgate, Manchester, M1	II	1200832	06/06/1994
E	117m S	Former Warehouse, Piccadilly, Manchester, M1	II	1431770	19/01/2016
F	117m NW	Austin House, Deansgate, Manchester, M1	II	1197783	03/10/1974
G	119m E	The Churchill Public House, Piccadilly, Manchester, M1	II	1197758	06/06/1994
E	122m S	51 and 53, Richmond Street, Piccadilly, Manchester, M1	II	1270835	06/06/1994
G	122m E	9, Richmond Street, Piccadilly, Manchester, M1	II	1247476	06/06/1994
8	123m E	11, Bloom Street, Piccadilly, Manchester, M1	II	1208005	06/06/1994
D	125m W	87-91, Princess Street, Deansgate, Manchester, M1	II	1247390	06/06/1994

ID	Location	Name	Grade	Reference Number	Listed date
9	126m S	Brazil House, Piccadilly, Manchester, M1	II	1270871	03/10/1974
F	126m NW	No, 12, Charlotte Street and No. 17, George Street, Deansgate, Manchester, M1	II	1208392	03/10/1974
10	127m NW	Telephone Buildings, Deansgate, Manchester, M1	II	1255051	20/06/1988
11	129m SW	Eastern House Portland House, Piccadilly, Manchester, M1	II	1247058	06/06/1994
G	130m SE	39, Chorlton Street, Piccadilly, Manchester, M1	II	1283091	06/06/1994
12	131m SW	No. 36, Princess Street, No. 94, Portland Street, and No. 75, Faulkner Street, Deansgate, Manchester, M1	II	1247384	06/06/1994
13	133m SE	Rochdale Canal Boundary Wall To Canal Between Sackville Street and Chorlton Street, Piccadilly, Manchester, M1	II	1270837	06/06/1994
A	134m W	35, 37 and 39a, George Street (See Details For Further Address information), Deansgate, Manchester, M1	II	1200836	06/06/1994
14	141m SW	Transact House, Piccadilly, Manchester, M1	II	1247386	06/06/1994
15	142m E	Minshull House, Piccadilly, Manchester, M1	II	1197926	06/06/1994
A	144m W	39 and 41, George Street, Deansgate, Manchester, M1	II	1218183	06/06/1994
H	144m S	109, Princess Street, Piccadilly, Manchester, M1	II	1270914	03/10/1974
A	146m W	83, Princess Street, Deansgate, Manchester, M1	II	1270913	06/06/1994
16	147m SW	Basil House, Piccadilly, Manchester, M1	II	1246956	06/06/1994
A	147m W	34, Princess Street, Deansgate, Manchester, M1	II	1247383	06/06/1994
17	150m S	Boundary Wall To Rochdale Canal Between Princess Street and Sackville Street Rochdale Canal Boundary Wall To Canal Street Between Princess Street and Sackville Street, Piccadilly, Manchester, M1	II	1247555	06/06/1994
I	153m E	Rochdale Canal Lock Number 86, To East of Chorlton Street, Piccadilly, Manchester, M1	II	1247481	06/06/1994
I	158m E	Rochdale Canal Boundary Wall To Canal Between Chorlton Street and Minshull Street, Piccadilly, Manchester, M1	II	1247478	06/06/1994
18	159m SW	Langley Buildings, Piccadilly, Manchester, M1	II	1247385	06/06/1994
A	159m W	26-30, Princess Street, Deansgate, Manchester, M1	II	1246961	06/06/1994
19	159m NW	Charlotte House, Deansgate, Manchester, M1	II	1197782	03/10/1974
H	160m S	New Union Public House, Piccadilly, Manchester, M1	II	1247444	03/10/1974

ID	Location	Name	Grade	Reference Number	Listed date
J	161m SE	42 and 44, Sackville Street, Piccadilly, Manchester, M1	II	1270791	03/10/1974
I	162m SE	Mintierna House, Piccadilly, Manchester, M1	II	1197759	06/06/1994
J	164m SE	3, Brazil Street, Piccadilly, Manchester, M1	II	1283077	06/06/1994
20	166m SW	Rhodesia House, Piccadilly, Manchester, M1	II	1270911	06/06/1994
K	172m SW	109 and 111, Portland Street, Piccadilly, Manchester, M1	II	1271095	06/06/1994
21	174m W	The Athenaeum, Deansgate, Manchester, M1	II*	1270889	03/10/1974
I	178m SE	Minshull House, Piccadilly, Manchester, M1	II	1283092	08/05/1990
22	181m SW	2, Harter Street, Piccadilly, Manchester, M1	II	1200841	06/06/1994
H	182m S	Rochdale Canal Lock Number 87, To East of Princess Street, With Cast Iron Footbridge Beside Street, Piccadilly, Manchester, M1	II	1247580	06/06/1994
23	184m E	City Police Courts, Piccadilly, Manchester, M1	II*	1219894	03/10/1974
24	184m S	Lionesse House, Piccadilly, Manchester, M1	II	1247387	06/06/1994
25	192m SE	The Shena Simon Sixth-Form College, Piccadilly, Manchester, M1	II	1270607	06/06/1994
L	192m SE	46, Sackville Street, Piccadilly, Manchester, M1	II	1247608	06/06/1994
K	192m SW	113-119, Portland Street, Piccadilly, Manchester, M1	II	1246957	28/02/1989
26	199m W	Manchester Art Gallery, Deansgate, Manchester, M2	I	1282980	25/02/1952
27	200m NW	The Portico Library and The Bank Public House, Deansgate, Manchester, M2	II*	1197930	25/02/1952
28	202m SW	104, Bloom Street (See Details For Further Address information), Piccadilly, Manchester, M1	II	1218476	06/06/1994
29	206m W	Princess Buildings, Deansgate, Manchester, M1	II	1247380	03/10/1974
L	208m SE	Regency House With Barclays Bank, Piccadilly, Manchester, M1	II	1254835	06/06/1994
30	215m S	Central House, Piccadilly, Manchester, M1	II	1247389	03/10/1974
32	224m S	Former Electricity Power Station, Piccadilly, Manchester, M1	II	1255031	06/06/1994
33	232m SW	32, Dickinson Street (See Details For Further Address information), Deansgate, Manchester, M1	II	1247060	28/02/1989
34	235m NE	Grand Hotel, Piccadilly, Manchester, M1	II	1197797	20/10/1987
35	235m W	14 and 16, Princess Street (See Details For Further Address information), Deansgate, Manchester, M2	II	1271097	03/10/1974

ID	Location	Name	Grade	Reference Number	Listed date
38	243m W	63, George Street, Deansgate, Manchester, M1	II	1218197	03/10/1974
39	245m NW	Royal Bank of Scotland, Deansgate, Manchester, M2	II*	1220165	25/02/1952

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

11.5 Conservation Areas

Records within 250m	**5**

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

Features are displayed on the Visual and cultural designations map on **page 93**

ID	Location	Name	District	Date of designation
A	14m NW	George Street	Manchester	01/06/1985
2	68m SE	Whitworth Street and Princess Street	Manchester	01/09/1974
31	215m NW	Upper King Street	Manchester	04/11/1970
36	238m W	Albert Square	Manchester	01/04/1972
37	240m W	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**

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.

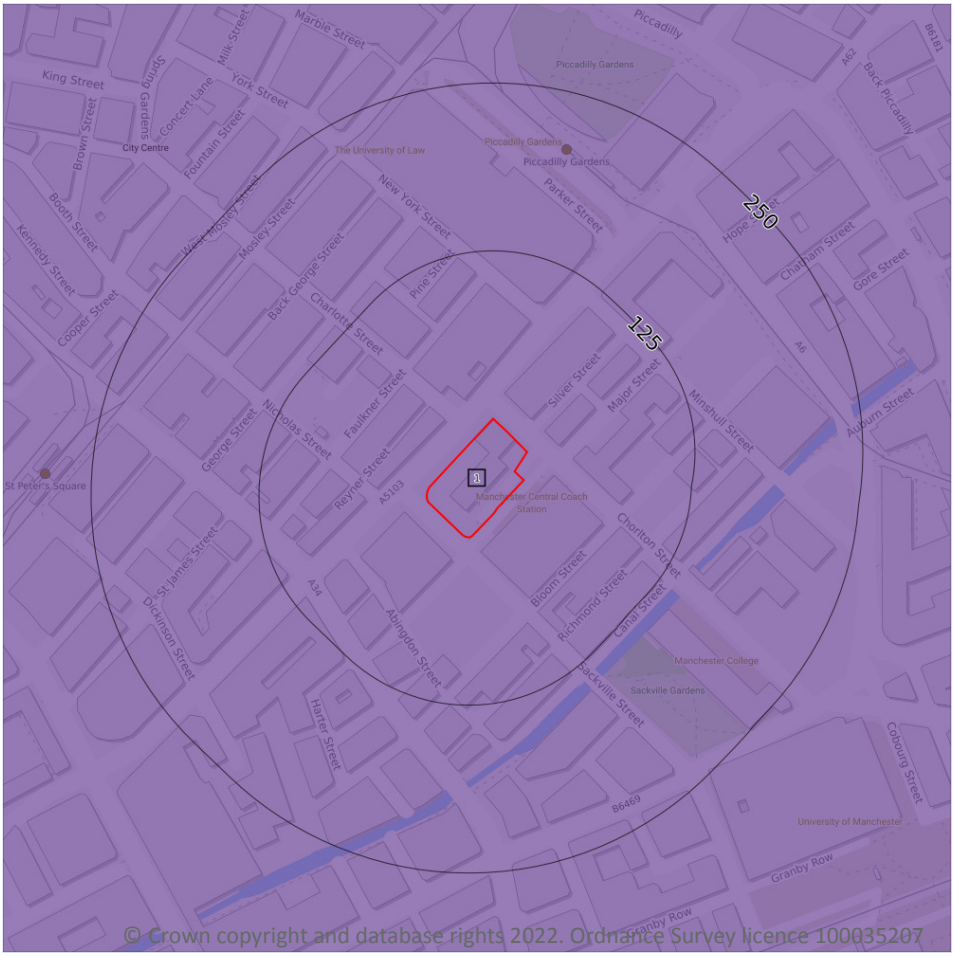
11.7 Registered Parks and Gardens

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



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- 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 100**

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

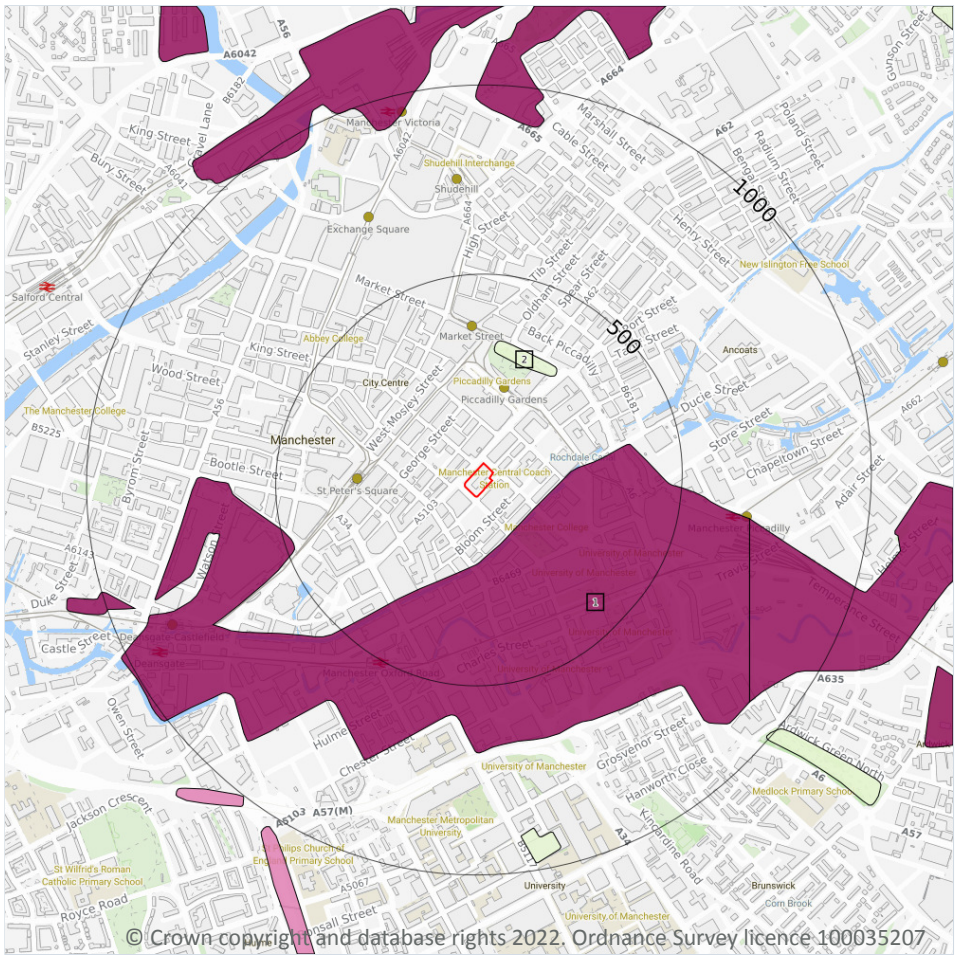
An indication on the coverage of 1:10,000 scale geology data for the site, the most detailed dataset provided by the British Geological Survey. Either 'Full', 'Partial' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 103**

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

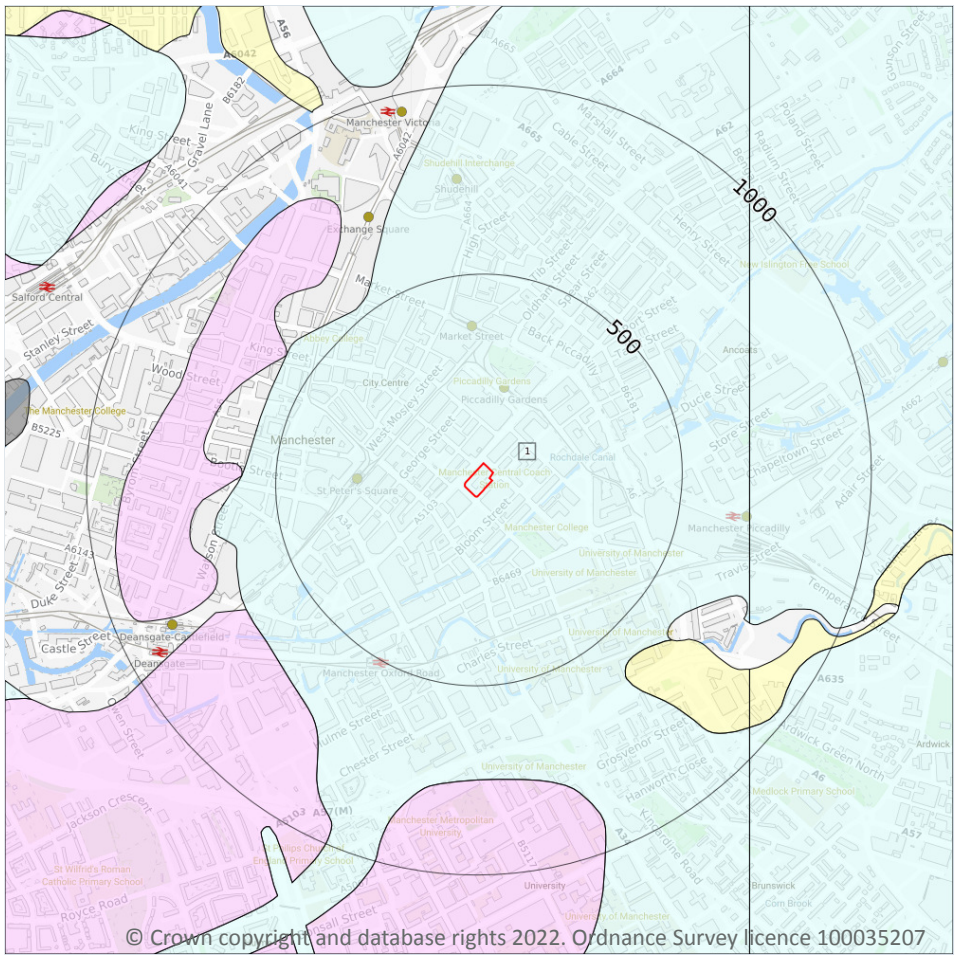
Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 104**

ID	Location	LEX Code	Description	Rock description
1	131m SE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	275m N	WMGR-ARTDP	Infilled Ground	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	1

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 105**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**

This data is sourced from the British Geological Survey.

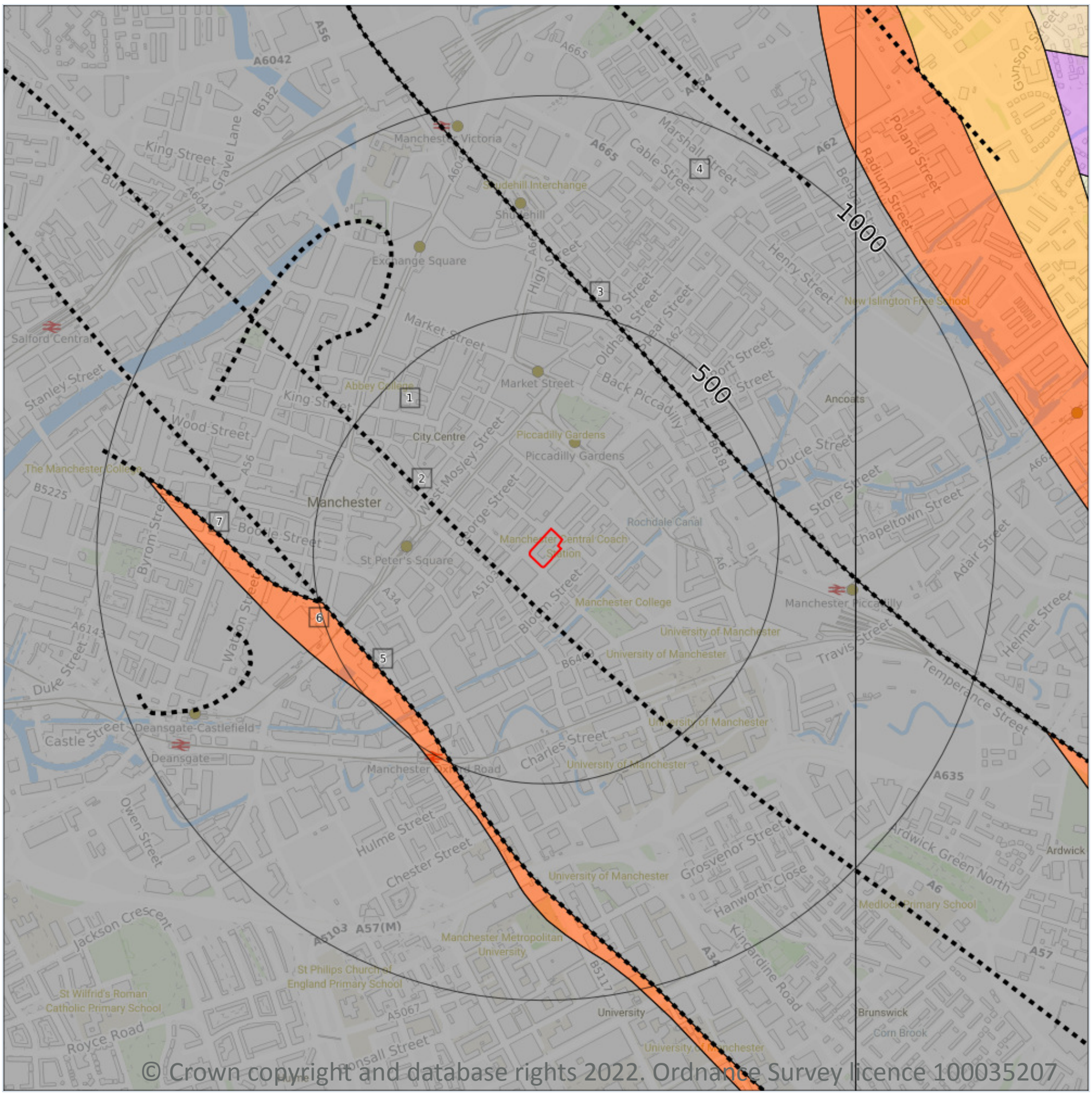
14.4 Landslip (10k)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	3

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 107**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CPB-SDST**	**Chester Pebble Beds Formation - Sandstone**	**Early Triassic Epoch**
4	423m NE	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
6	435m SW	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	**4**

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 107**

ID	Location	Category	Description
2	76m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
3	423m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
5	435m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
7	491m W	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

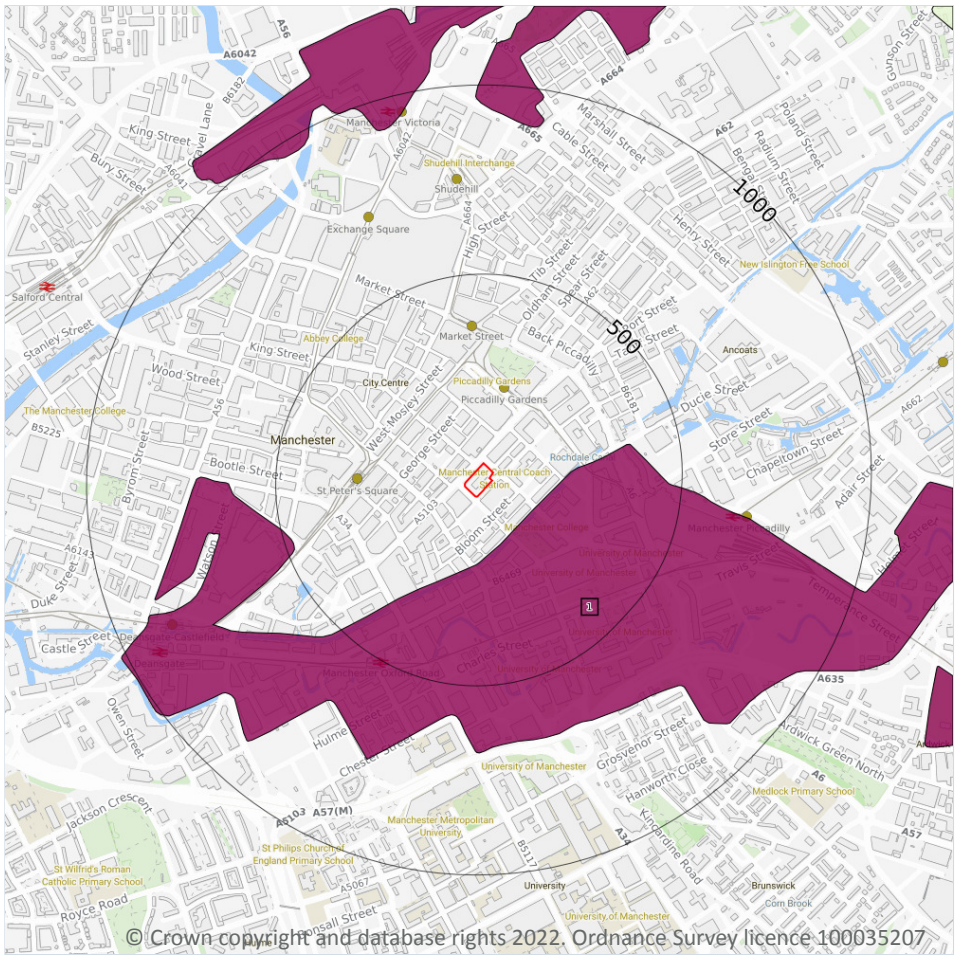
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 109**

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 110**

ID	Location	LEX Code	Description	Rock description
1	131m SE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

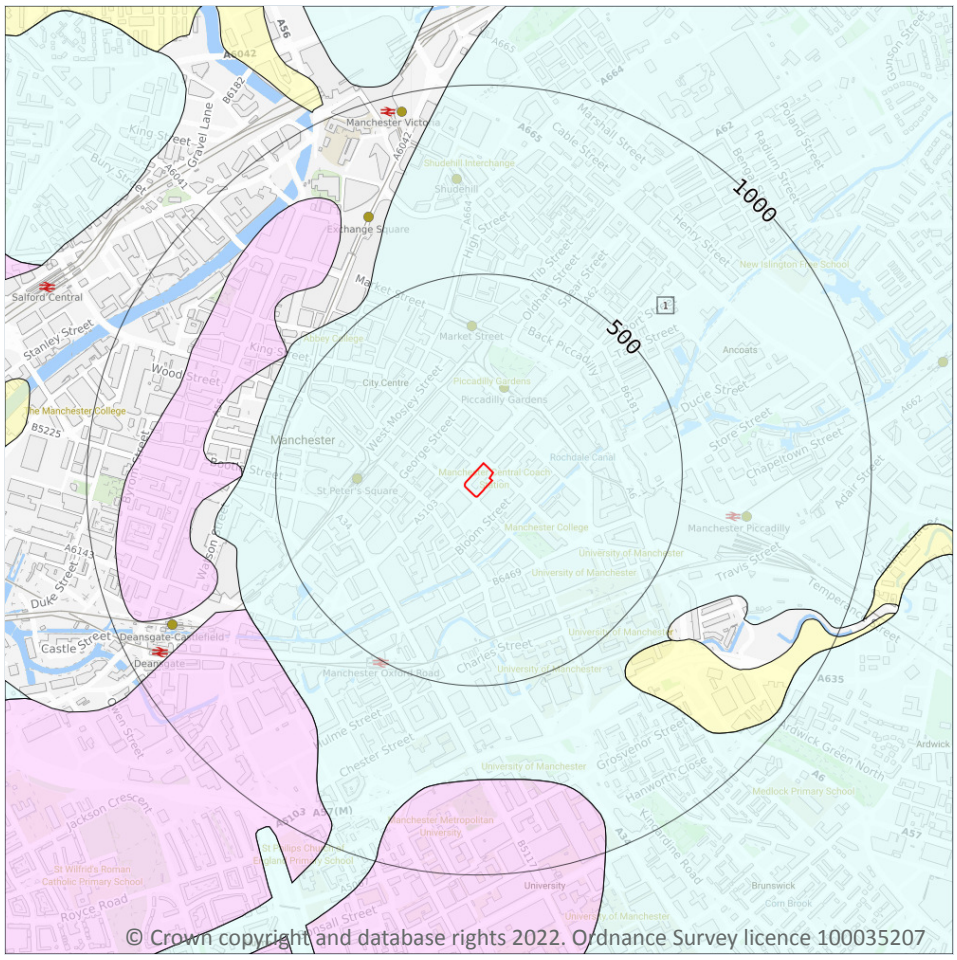
15.3 Artificial ground permeability (50k)

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	1

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 112**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**

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	**Mixed**	**High**	**Low**

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.

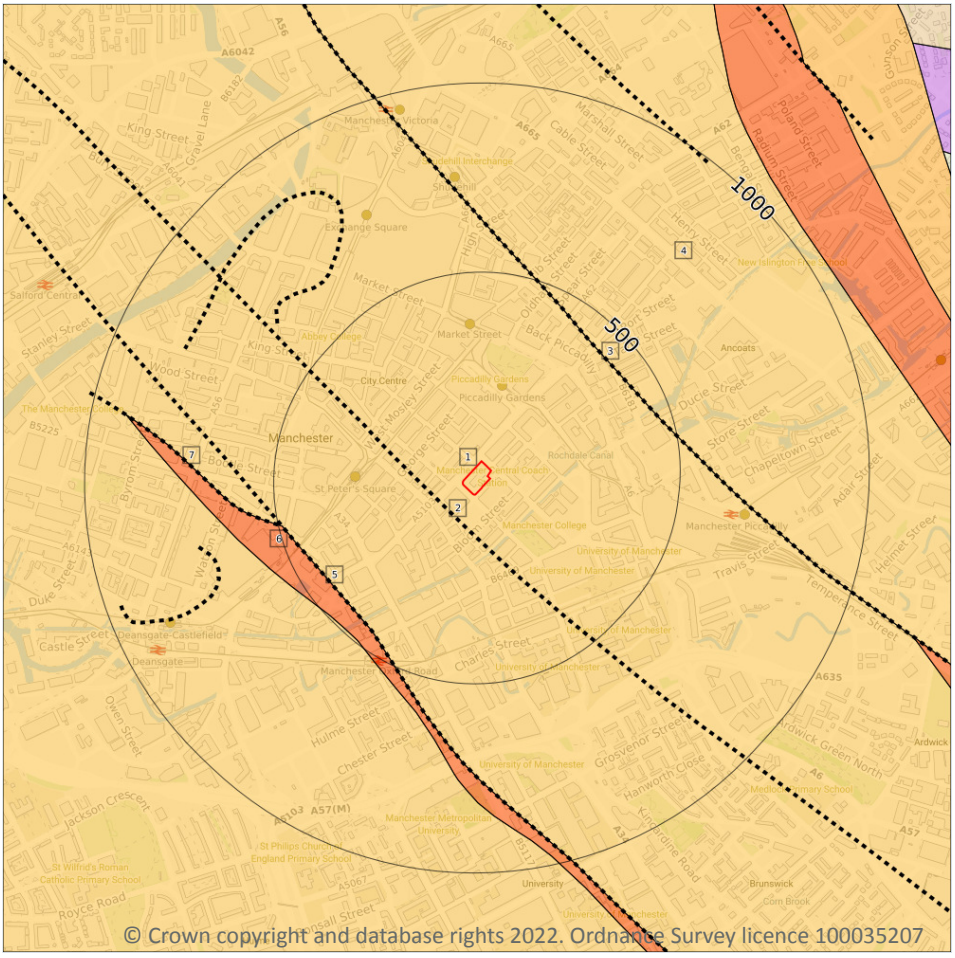
15.7 Landslip permeability (50k)

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 **3**

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 114**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CHES-SDST**	**CHESTER FORMATION - SANDSTONE**	**OLENEKIAN**
4	423m NE	CHES-SDST	CHESTER FORMATION - SANDSTONE	OLENEKIAN
6	435m SW	MM-MDST	MANCHESTER MARLS FORMATION - MUDSTONE	-

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Moderate**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	4

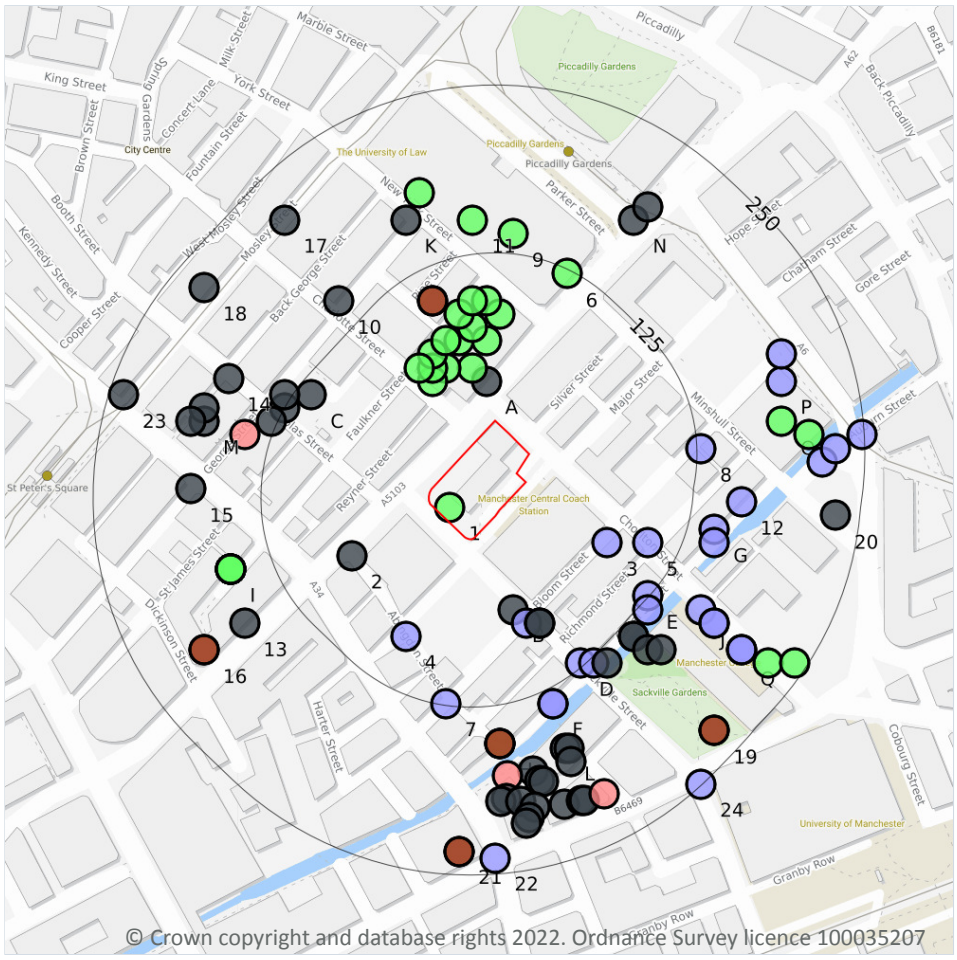
Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 114**

ID	Location	Category	Description
2	76m SW	FAULT	Fault, inferred
3	423m NE	FAULT	Fault, inferred
5	435m SW	FAULT	Fault, inferred
7	490m W	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



16.1 BGS Boreholes

Records within 250m **114**

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 116**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	**On site**	**384263 397946**	**PORTLAND STREET & CAR PARK. BH'S 6**	**12.19**	**N**	**1042483**
A	30m N	384290 398040	PORTLAND STREET 5/5A	-	Y	N/A
A	43m NW	384280 398050	PORTLAND STREET MANCHESTER 12	13.71	N	1043782

ID	Location	Grid reference	Name	Length	Confidential	Web link
A	54m NW	384260 398050	PORTLAND STREET MANCHESTER 11	12.64	N	1043781
A	54m NW	384250 398040	PORTLAND STREET MANCHESTER 10	18.89	N	1043780
A	60m N	384290 398070	PORTLAND STREET MANCHESTER 13	13.71	N	1043783
B	61m SE	384310 397870	SACKVILLE STREET / BLOOM STREET 3	-	Y	N/A
A	61m NW	384250 398050	PORTLAND STREET MANCHESTER 6	12.19	N	1043776
A	65m NW	384270 398070	PORTLAND STREET MANCHESTER 7	19.38	N	1043777
A	68m NW	384250 398060	PORTLAND STREET MANCHESTER 2	12.37	N	1043772
A	68m NW	384240 398050	PORTLAND STREET MANCHESTER 1	18.25	N	1043771
A	70m NW	384260 398070	PORTLAND STREET MANCHESTER 3	13.71	N	1043773
2	70m SW	384190 397910	PORTLAND STREET 4/4A	-	Y	N/A
A	71m N	384280 398080	PORTLAND STREET MANCHESTER 8	13.59	N	1043778
B	74m SE	384320 397860	BLOOM STREET/ABINGDON STREET 4	8.7	N	1045706
3	75m SE	384380 397920	BLOOM STREET/ABINGDON STREET 3	8.95	N	1045705
A	80m N	384300 398090	PORTLAND STREET MANCHESTER 14	21.33	N	1043784
B	80m SE	384330 397860	SACKVILLE STREET / BLOOM STREET 2	-	Y	N/A
B	80m SE	384330 397860	SACKVILLE STREET / BLOOM STREET 1	-	Y	N/A
A	84m N	384270 398090	PORTLAND STREET MANCHESTER 4	13.62	N	1043774
4	86m SW	384230 397850	BLOOM STREET/ABINGDON STREET 5	9.05	N	1045707
A	90m N	384290 398100	PORTLAND STREET MANCHESTER 9	13.71	N	1043779
A	91m N	384280 398100	PORTLAND STREET MANCHESTER 5	17.37	N	1043775
A	101m NW	384250 398100	NO DETAILS	-1.0	N	1042454
5	101m SE	384410 397920	CANAL STREET SEWER RENEWAL SCHEME 4A	5.5	N	1045630
C	114m NW	384160 398030	CHINESE CAR PARK MANCHESTER 3	-	Y	N/A
6	122m NE	384350 398120	CITY CENTRE - PHASE 2 37	19.49	N	1043535
D	122m SE	384360 397830	CANAL STREET SEWER RENEWAL SCHEME 3	7.1	N	1045629
7	124m S	384260 397800	BLOOM STREET/ABINGDON STREET 6	1.2	N	1045708
E	124m SE	384410 397880	CANAL STREET SEWER RENEWAL SCHEME 2	6.7	N	1045628
C	125m NW	384140 398020	CHINESE CAR PARK MANCHESTER 1A	-	Y	N/A

ID	Location	Grid reference	Name	Length	Confidential	Web link
8	128m E	384450 397990	BLOOM STREET/ABINGDON STREET 2	8.0	N	1045704
D	129m SE	384370 397830	CANAL STREET SEWER RENEWAL SCHEME 3	6.0	N	1045635
C	129m NW	384130 398010	GEORGE STREET SEWER REPLACEMENT SCHEME 3	-	Y	N/A
C	130m NW	384140 398030	CHINESE CAR PARK MANCHESTER 2	-	Y	N/A
E	131m SE	384410 397870	CANAL STREET SEWER RENEWAL SCHEME 4	4.7	N	1045636
D	136m SE	384380 397830	SACKVILLE GARDENS 3	-	Y	N/A
F	137m SE	384340 397800	CANAL STREET SEWER RENEWAL SCHEME 2	5.8	N	1045634
F	137m SE	384340 397800	CANAL STREET SEWER RENEWAL SCHEME 1	5.8	N	1045633
E	137m SE	384400 397850	SACKVILLE GARDENS T1	-	Y	N/A
E	137m SE	384400 397850	SACKVILLE GARDENS 2	-	Y	N/A
9	140m N	384310 398150	PICCADILLY HOTEL. NO.4 BH	20.42	N	1042501
C	145m W	384110 398000	POST OFFICE GEORGE ST. MANCHESTER	196.6	N	1045475
G	145m E	384460 397930	CANAL STREET SEWER RENEWAL SCHEME 6	4.0	N	1045638
10	146m NW	384180 398100	GEORGE STREET SEWER REPLACEMENT SCHEME 2	-	Y	N/A
G	148m E	384460 397920	CANAL STREET SEWER RENEWAL SCHEME 5	4.2	N	1045637
11	150m N	384280 398160	PICCADILLY HOTEL. TOWER BLOCK NO.7	23.77	N	1042502
E	151m SE	384410 397840	SACKVILLE GARDENS 1	-	Y	N/A
H	154m S	384300 397770	BLOOM STREET/ABINGDON STREET 7	10.5	N	1045709
H	154m S	384300 397770	NO DETAILS	-1.0	N	1042456
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 10	11.0	N	1045859
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 7	10.3	N	1045856
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 1	11.0	N	1045850
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 12	10.8	N	1045861
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 3	11.5	N	1045852
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 5	11.5	N	1045854
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 2	10.5	N	1045851

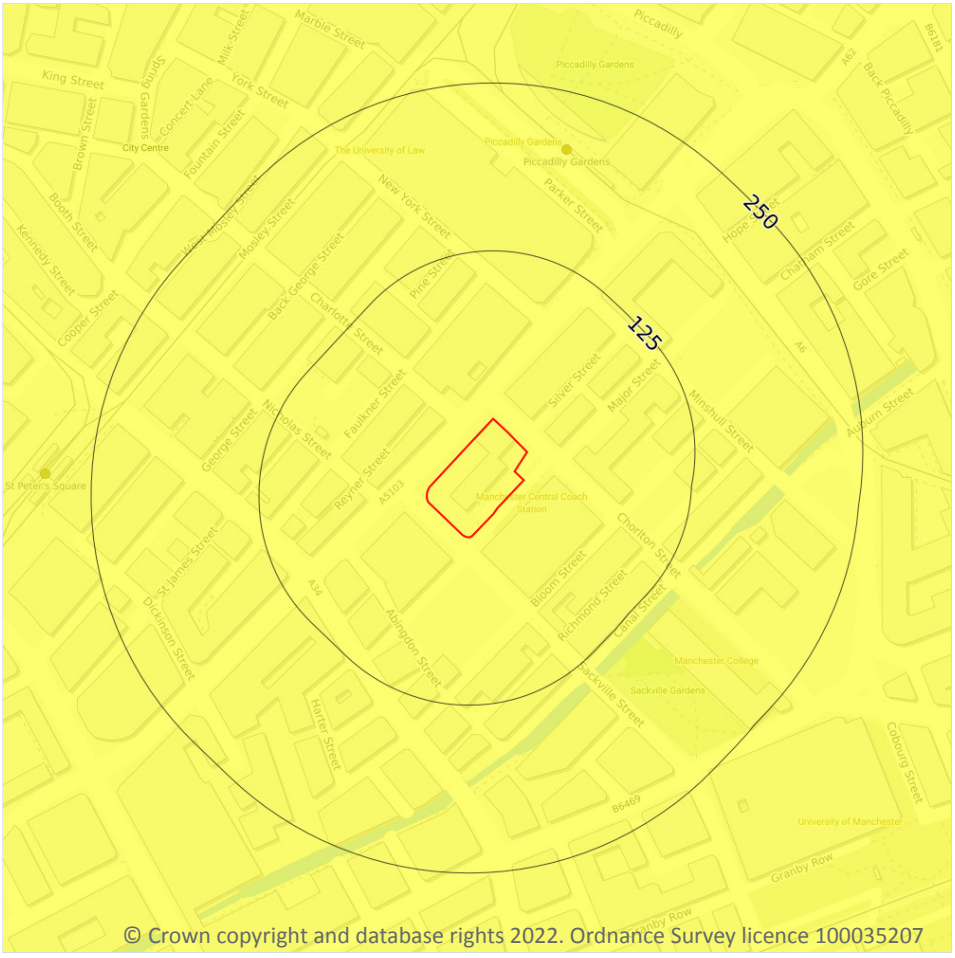
ID	Location	Grid reference	Name	Length	Confidential	Web link
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 6	10.2	N	1045855
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 9	9.8	N	1045858
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 11	11.0	N	1045860
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 4	10.2	N	1045853
I	156m W	384100 397900	PORTLANDS STREET NW TELECOMS BOARD HQ 8	10.5	N	1045857
E	158m SE	384420 397840	SACKVILLE GARDENS T2	-	Y	N/A
12	161m E	384480 397950	CANAL STREET SEWER RENEWAL SCHEME 1	5.5	N	1045627
J	161m SE	384450 397870	CANAL STREET SEWER RENEWAL SCHEME 7	4.6	N	1045639
K	164m NW	384230 398160	GEORGE STREET SEWER REPLACEMENT SCHEME 1	-	Y	N/A
13	164m SW	384110 397860	PORTLAND STREET 3	-	Y	N/A
L	170m SE	384349 397767	PRINCESS STREET, MANCHESTER BH101	-	Y	N/A
L	171m SE	384352 397767	PRINCESS STREET, MANCHESTER TP101	-	Y	N/A
14	172m NW	384098 398042	G.P.O. MANCHESTER	-	Y	N/A
J	175m SE	384460 397860	CANAL STREET SEWER RENEWAL SCHEME 8	6.6	N	1045640
J	175m SE	384460 397860	CANAL STREET SEWER RENEWAL SCHEME 5	6.3	N	1045631
M	176m W	384080 398010	ATHENAEUM LINK BH2	-	Y	N/A
15	177m W	384070 397960	GEORGE STREET SEWER REPLACEMENT SCHEME 4	-	Y	N/A
H	178m S	384325 397750	PRINCESS STREET, MANCHESTER TP107	-	Y	N/A
H	178m S	384306 397746	ORIGIN DEVELOPMENT, BH 1 (RECHARGE)	90.0	N	18108076
K	179m N	384240 398180	PICCADILLY HOTEL. TOWER BLOCK NO.10	23.93	N	1042503
M	179m W	384080 398020	ATHENAEUM LINK BH3	-	Y	N/A
L	181m SE	384353 397757	PRINCESS STREET, MANCHESTER TP106	-	Y	N/A
N	182m NE	384400 398160	PICADILLY GARDENS TP5	-	Y	N/A
M	186m W	384070 398010	ATHENAEUM LINK BH1	-	Y	N/A
H	186m S	384330 397743	PRINCESS STREET, MANCHESTER TP102	-	Y	N/A
H	188m S	384333 397742	PRINCESS STREET, MANCHESTER BH102	-	Y	N/A
O	190m E	384510 398010	MANCHESTER FGC/3235. 2	18.0	N	1042545

ID	Location	Grid reference	Name	Length	Confidential	Web link
H	195m S	384305 397729	PRINCESS STREET, MANCHESTER TP103	-	Y	N/A
N	196m NE	384410 398170	PORTLAND STREET 6	-	Y	N/A
P	196m E	384510 398040	MANCHESTER FGC/3235. 1	10.0	N	1042544
H	197m S	384301 397727	PRINCESS STREET, MANCHESTER BH103	-	Y	N/A
H	199m S	384316 397727	PRINCESS STREET, MANCHESTER TP108	-	Y	N/A
16	200m SW	384080 397840	NO DETAILS	-1.0	N	1042455
P	202m E	384510 398060	BLOOM STREET/ABINGDON STREET 1	8.0	N	1045703
Q	203m SE	384480 397840	CANAL STREET SEWER RENEWAL SCHEME 10	5.2	N	1045642
Q	203m SE	384480 397840	CANAL STREET SEWER RENEWAL SCHEME 9	7.2	N	1045641
H	205m S	384326 397723	PRINCESS STREET, MANCHESTER TP109	-	Y	N/A
O	209m E	384530 398000	MANCHESTER FGC/3235. 3	15.0	N	1042546
H	209m S	384348 397725	PRINCESS STREET, MANCHESTER TP110	-	Y	N/A
H	211m SE	384361 397728	PRINCESS STREET, MANCHESTER TP105	-	Y	N/A
H	212m SE	384363 397728	PRINCESS STREET, MANCHESTER BH105	-	Y	N/A
H	212m S	384322 397715	PRINCESS STREET, MANCHESTER TP104	-	Y	N/A
H	213m SE	384378 397733	ORIGIN DEVELOPMENT, BH 2 (ABH)	90.0	N	18108077
H	215m S	384320 397711	PRINCESS STREET, MANCHESTER BH104	-	Y	N/A
17	217m NW	384140 398160	MOSLEY STREET SEWER RECONSTRUCTION 1	-	Y	N/A
O	218m E	384540 397980	AYTOUN STREET MANCHESTER BH3	2.4	N	1045731
Q	225m SE	384500 397830	CANAL STREET SEWER RENEWAL SCHEME 6	11.0	N	1045632
18	226m NW	384080 398110	MOSLEY STREET SEWER RECONSTRUCTION 2	-	Y	N/A
O	228m E	384550 397990	AYTOUN STREET MANCHESTER BH2	5.1	N	1045730
19	228m SE	384460 397780	HIGH SCHOOL MANCHESTER OB	-1.0	N	1045473
20	232m E	384550 397940	MINSHULL STREET MAIN DRAINAGE	-	Y	N/A
21	233m S	384270 397690	GALBRAITH STREET MANCHESTER OB	-1.0	N	1045470
22	238m S	384297 397685	MANCHESTER CORP. SHOOTERS BROOK RELIEF SEWER	7.62	N	1042252
23	239m W	384020 398030	MOSLEY STREET SEWER RECONSTRUCTION 3	-	Y	N/A
Q	242m SE	384520 397830	MANCHESTER METROPOLITAN UNIVERSITY 3	14.6	N	1043371

ID	Location	Grid reference	Name	Length	Confidential	Web link
O	248m E	384570 398000	AYTOUN STREET MANCHESTER BH1	4.0	N	1045729
24	249m SE	384450 397740	SACKVILLE STREET 1	7.5	N	1043691

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



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Site Outline

Search buffers in metres (m)

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

17.1 Shrink swell clays

Records within 50m	1

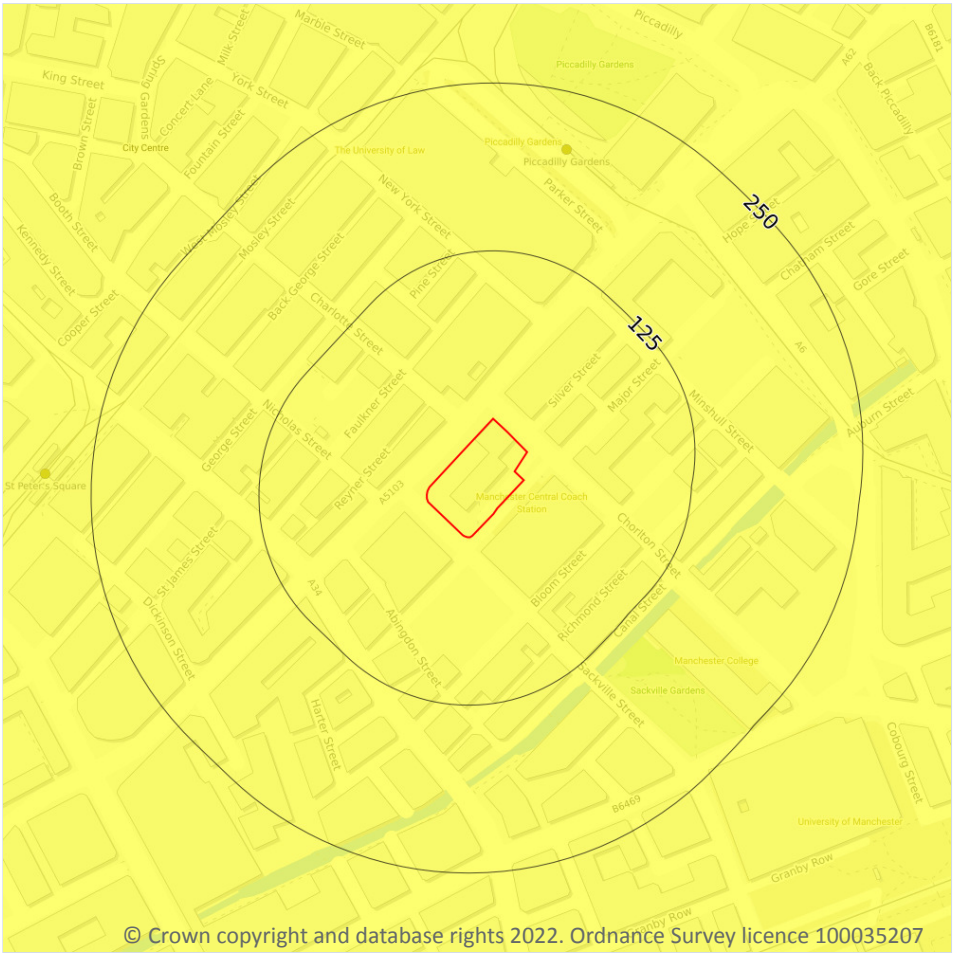
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 122**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



17.2 Running sands

Records within 50m	1

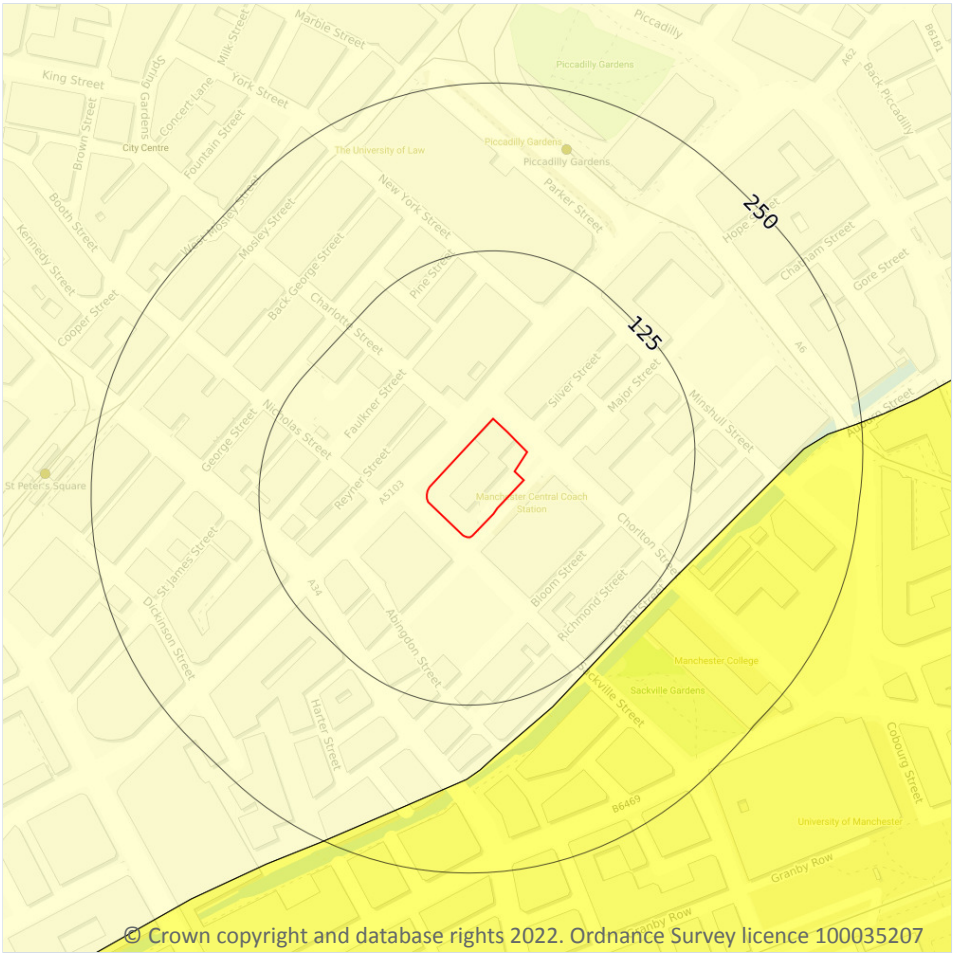
The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 123**

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



Site Outline

Search buffers in metres (m)

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

17.3 Compressible deposits

Records within 50m	1

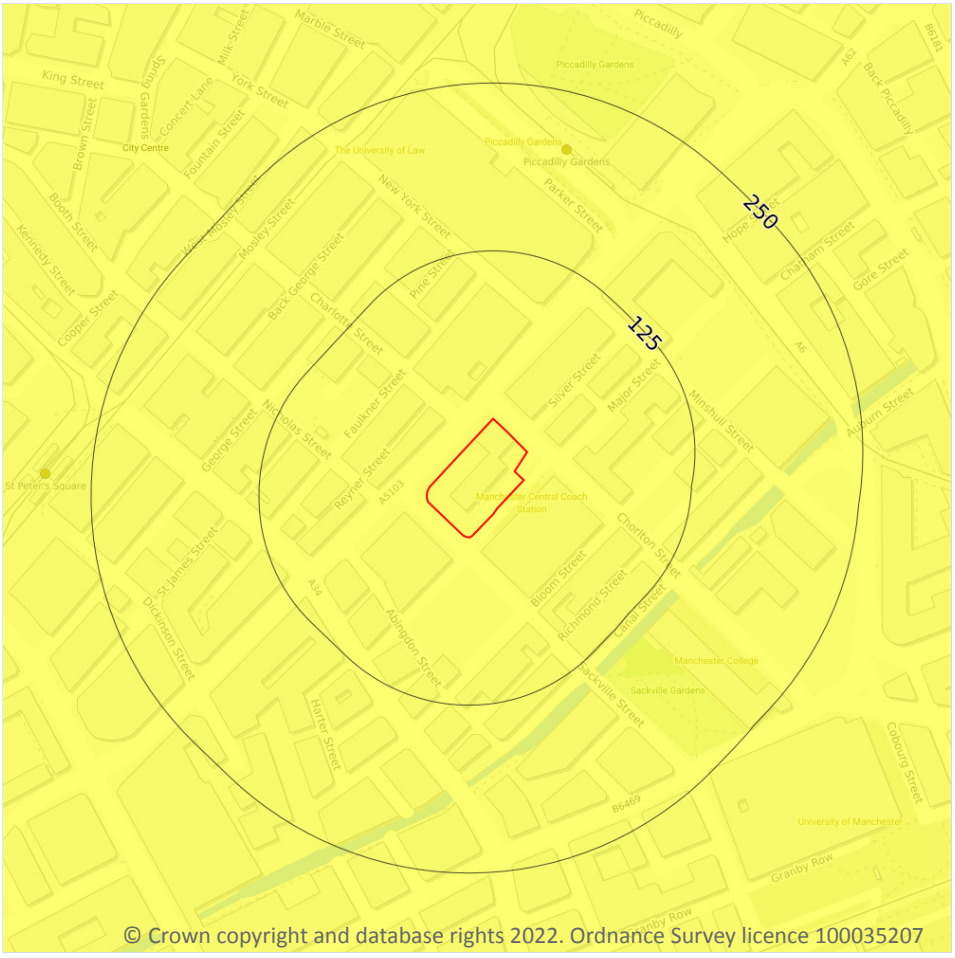
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 124**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



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Site Outline

Search buffers in metres (m)

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

17.4 Collapsible deposits

Records within 50m	1

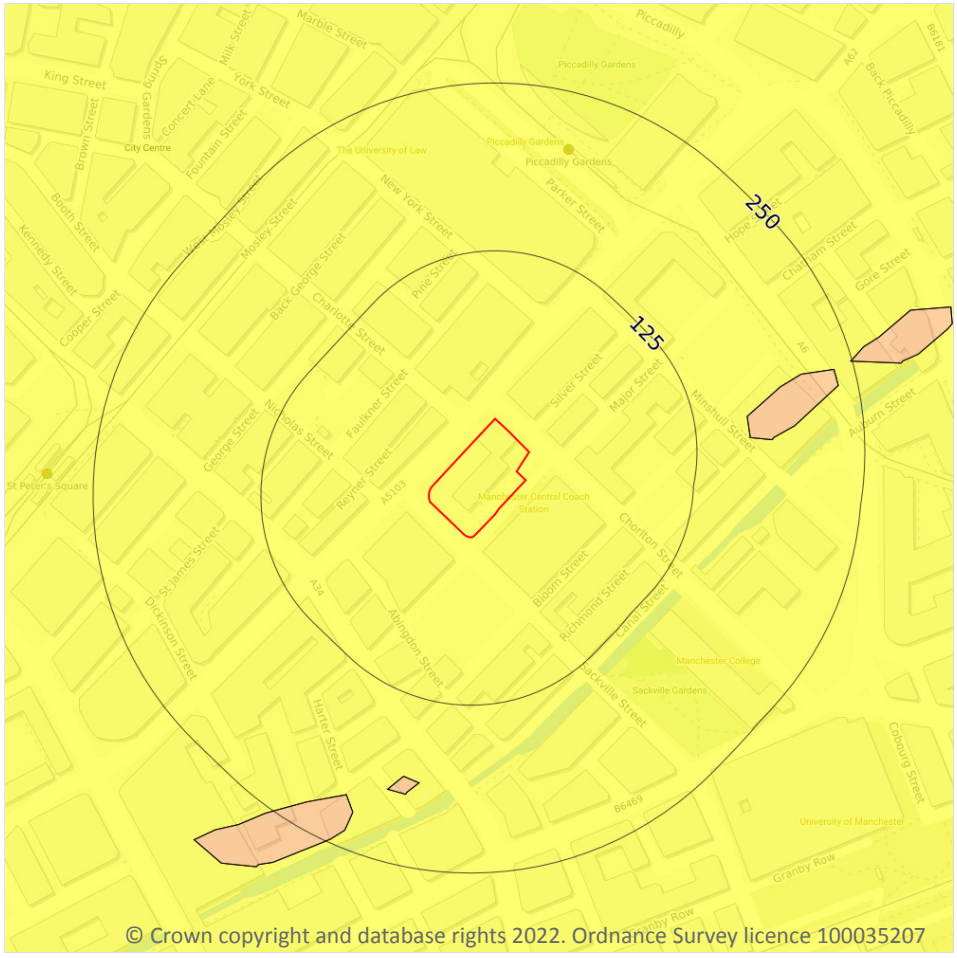
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



17.5 Landslides

Records within 50m	1

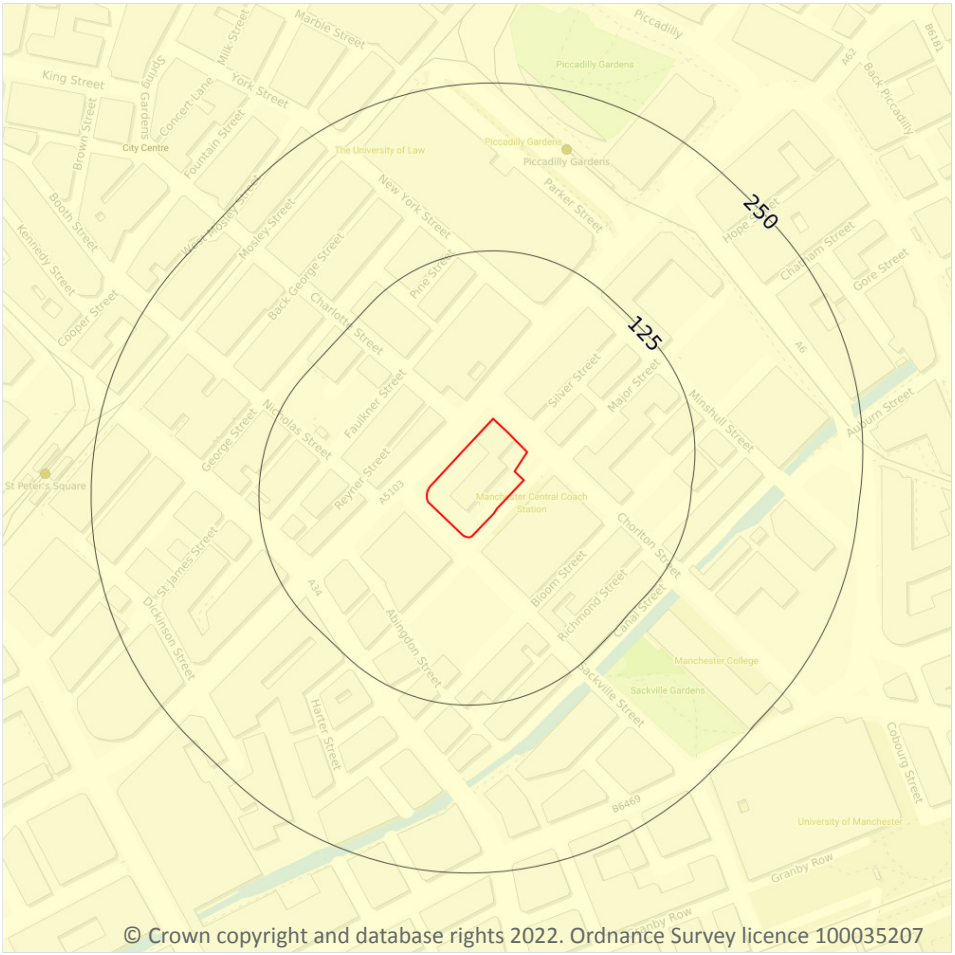
The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

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

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



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Site Outline

Search buffers in metres (m)

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

17.6 Ground dissolution of soluble rocks

Records within 50m	1

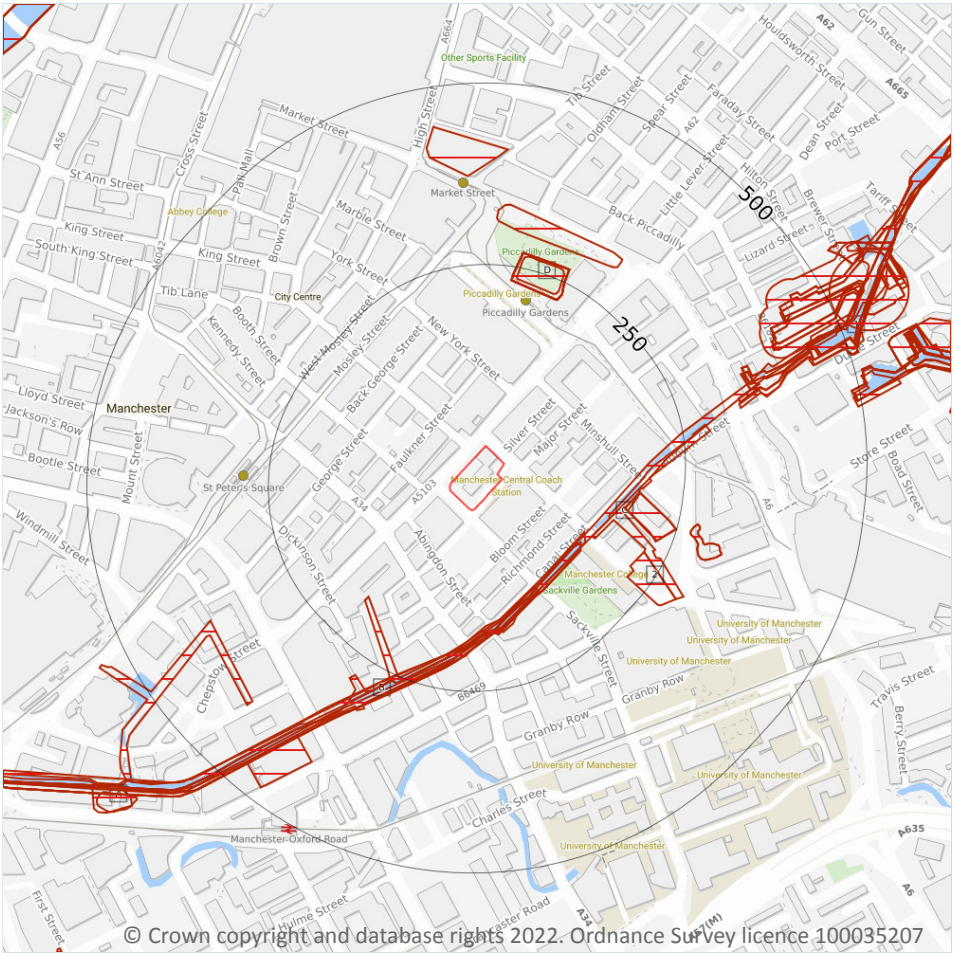
The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 127**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 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.

18.2 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	18

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 129**

ID	Location	Land Use	Year of mapping	Mapping scale
A	132m SE	Canal	1896	1:10560
1	133m SE	Canal	1956	1:10560
B	135m SE	Canal	1938	1:10560
B	135m SE	Canal	1932	1:10560
B	135m SE	Canal	1916	1:10560
B	135m SE	Canal	1905	1:10560
B	135m SE	Canal	1923	1:10560
A	136m SE	Canal	1988	1:10000
C	147m SE	Ponds	1890	1:10560
C	173m E	Unspecified Wharf	1923	1:10560
C	174m E	Unspecified Wharf	1915	1:10560
2	213m SE	Unspecified Wharf	1890	1:10560
D	223m NE	Pond	1971	1:10000
D	223m NE	Pond	1988	1:10000
D	223m NE	Pond	1978	1:10000
D	223m NE	Pond	1985	1:10000
D	223m NE	Pond	1994	1:10000

ID	Location	Land Use	Year of mapping	Mapping scale
D	229m NE	Unspecified Pit	1956	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	0

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

This data is sourced from Stantec UK Ltd.

18.8 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.

18.9 Coal mining

Records on site	1

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

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

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

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

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

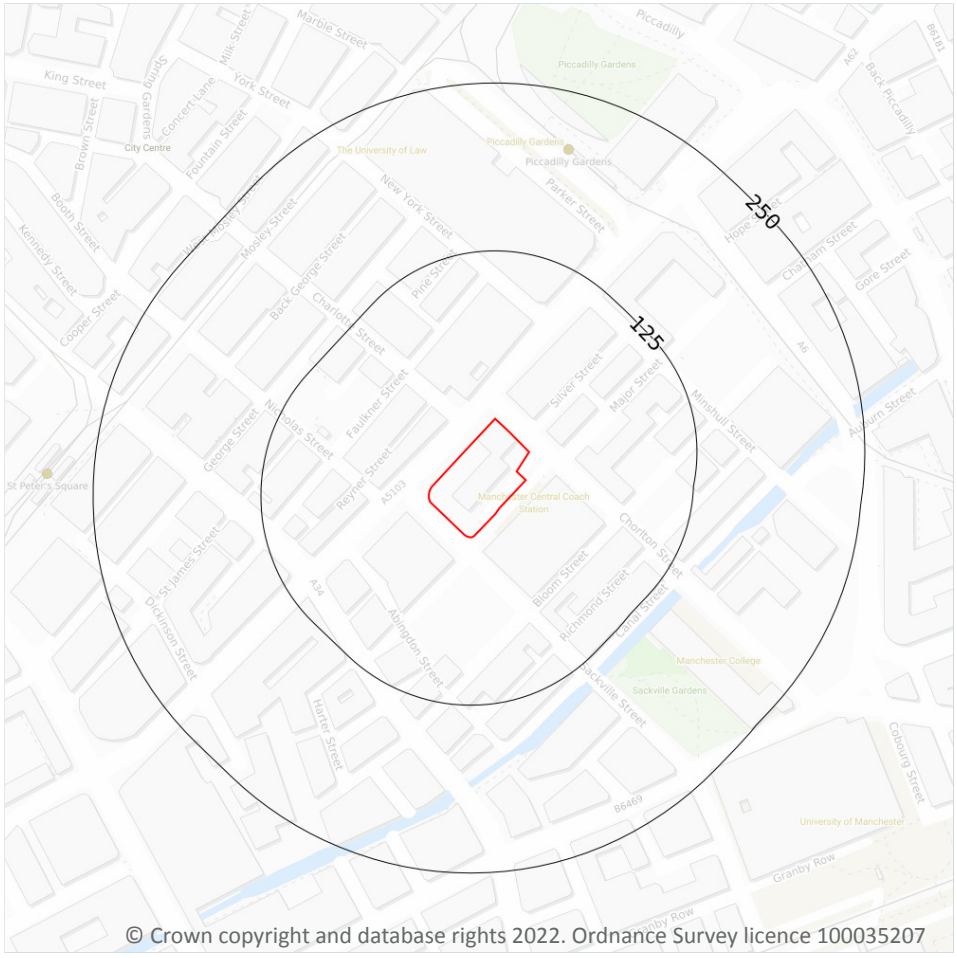
18.13 Clay mining

Records on site	0

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

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

19 Radon



Site Outline

Search buffers in metres (m)

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

19.1 Radon

Records on site	1

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

Features are displayed on the Radon map on **page 134**

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

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

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m **2**

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

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

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m **7**

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

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	**14**	**2.5**	**112**	**77**	**0.6**	**58**	**38**	**18**	**7**
On site	**19**	**3.3**	**102**	**70**	**0.5**	**65**	**34**	**21**	**7**
On site	**8**	**1.4**	**99**	**68**	**0.5**	**46**	**35**	**12**	**7**
On site	**8**	**1.4**	**88**	**60**	**0.5**	**47**	**32**	**12**	**6**
22m S	21	3.7	114	78	0.6	66	39	23	7
30m SE	30	5.3	112	77	0.5	74	35	29	7

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)
47m W	12	2.1	53	36	0.4	55	25	17	6

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m	**0**

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

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects



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

21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	0

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.

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	19

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

Features are displayed on the Railway infrastructure and projects map on **page 137**

Location	Name	Type
187m NE		light_rail
190m NE	Not given	Multi Track
194m NE	Metrolink	light_rail
199m NE	Metrolink	tram
202m NE	Metrolink	light_rail
213m NW		light_rail
215m NW	Not given	Multi Track
216m N		light_rail
216m N		light_rail
216m NW	Not given	Multi Track
217m NW	Metrolink	light_rail
227m NW	Not given	Multi Track
232m N	Not given	Multi Track
235m W	Not given	Single Track
235m W	Not given	Single Track
235m NW	Not given	Multi Track
242m W		light_rail
243m N	Not given	Single Track
246m E		light_rail

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	**0**

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	2

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.

Features are displayed on the Railway infrastructure and projects map on **page 137**

Location	Track Type	Speed (mph)	Speed (km/h)	Status
497m E	Bridge/Viaduct	50mph	80kph	Current preferred consultation route
498m E	Bridge/Viaduct	50mph	80kph	Current preferred consultation route

This data is sourced from HS2 ltd.

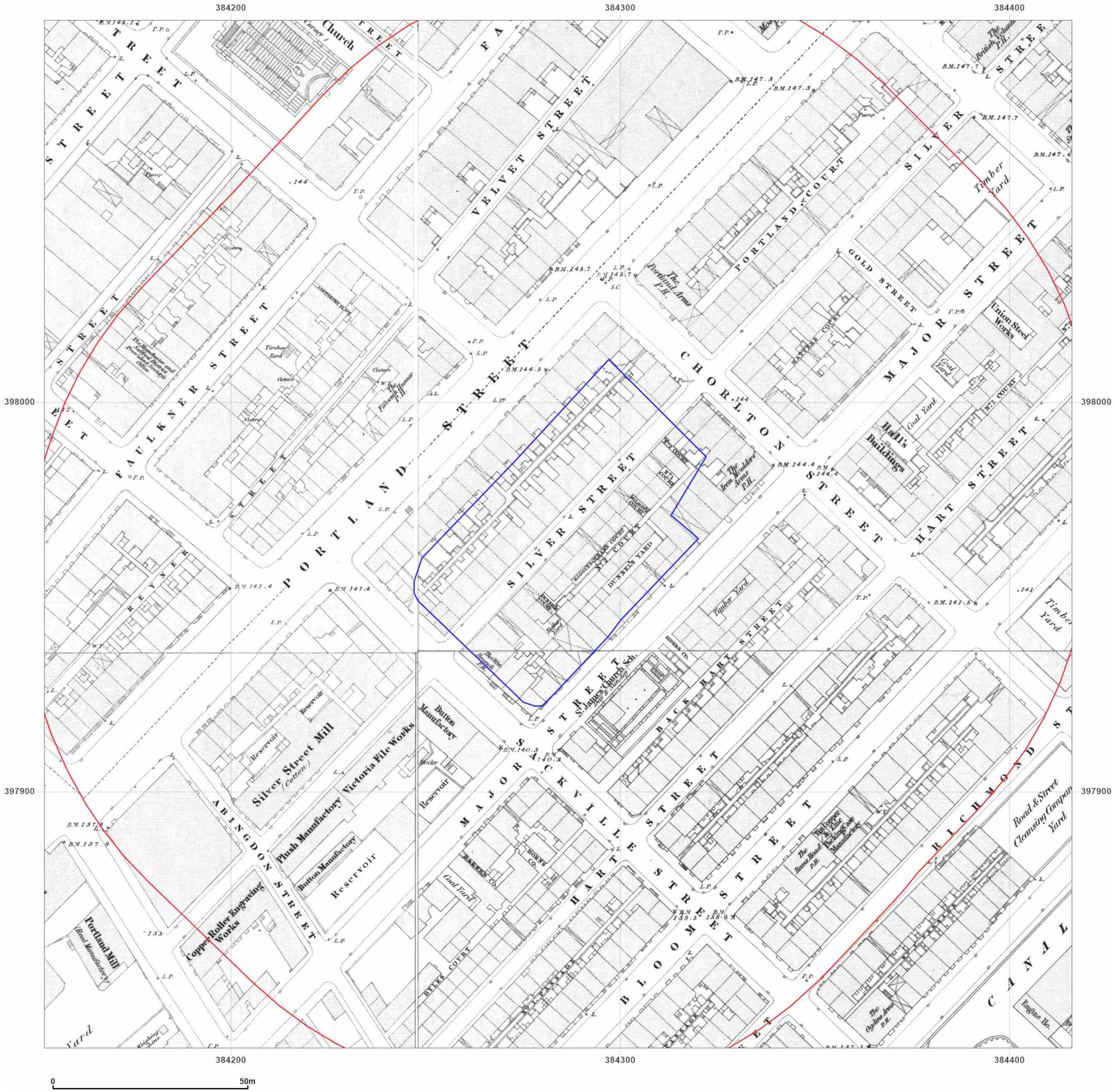
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Groundsure works with respected data providers to bring you the most relevant and accurate information. To find out who they are and their areas of expertise see https://www.groundsure.com/sources-reference.

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Appendix C – Historical Mapping



Groundsure INSIGHTS

Site Details:

49-53, PORTLAND STREET,
MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: 1056 Scale Town Plan

Map date: **1851**

Scale: 1:1,056

Printed at: 1:1,056

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Surveyed 1849
Revised N/A
Edition 1851
Copyright N/A
Levelled N/A

Surveyed 1849
Revised N/A
Edition 1851
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Edition 1851
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Site Details:

49-53, PORTLAND STREET,
MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series Town Plan

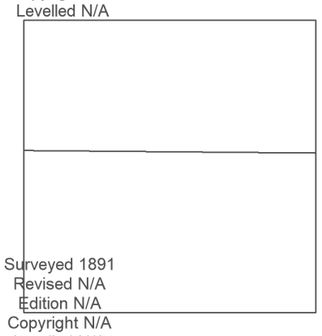
Map date: **1891**

Scale: 1:500

Printed at: 1:1,000

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Edition 1891
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

Map date: **1889-1893**

Scale: 1:2,500

Printed at: 1:2,500

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Revised N/A
Edition 1889
Copyright N/A
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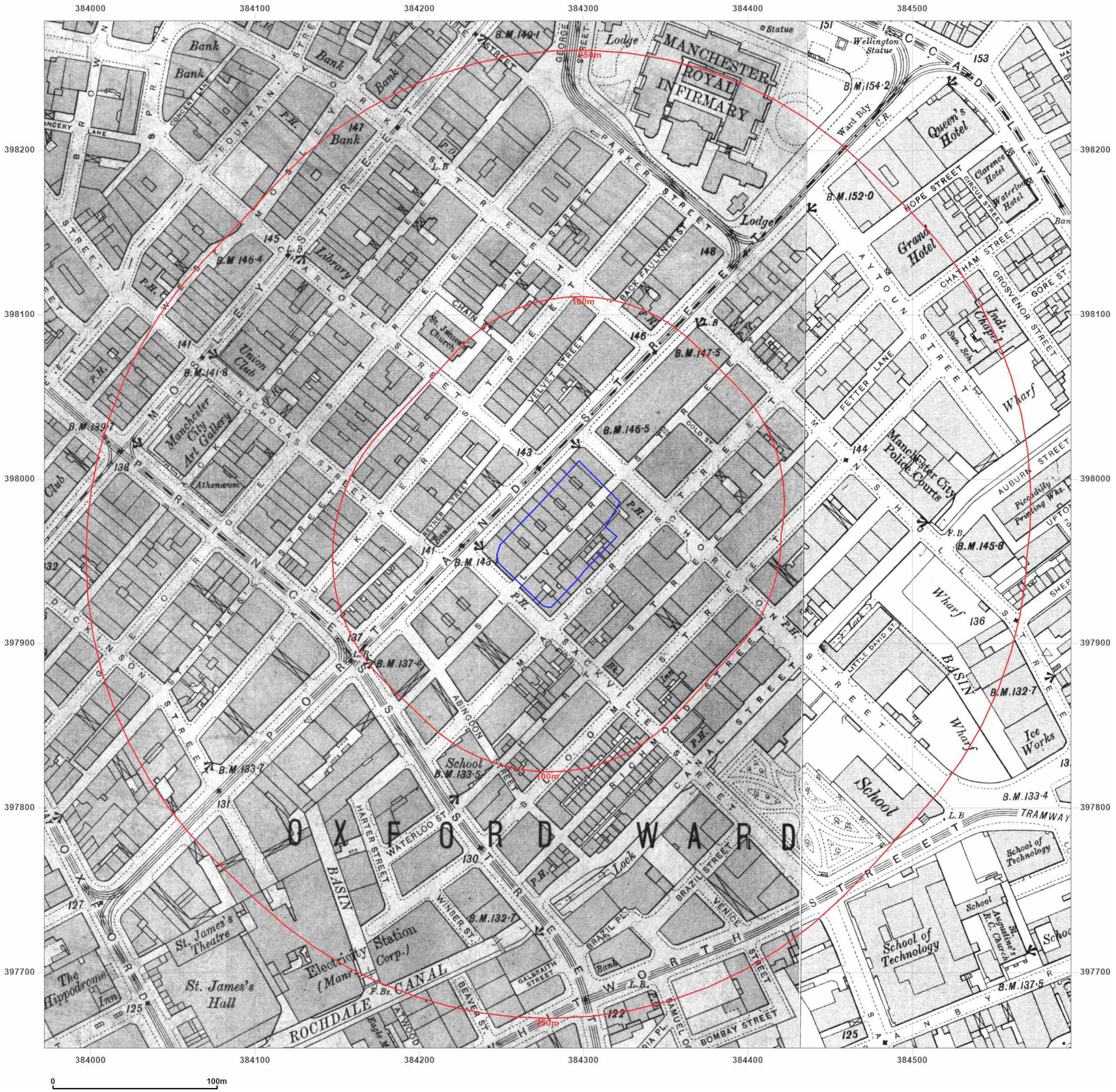
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

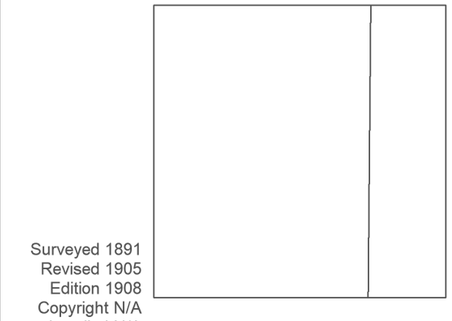
Map Name: County Series

Map date: **1908**

Scale: 1:2,500

Printed at: 1:2,500

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Grid Ref: 384284, 397966

Map Name: County Series

Map date: **1922**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1922
Revised 1916
Edition 1922
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

Map date: **1932**

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1932
Edition N/A
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Revised 1932
Edition N/A
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Levelled 1927

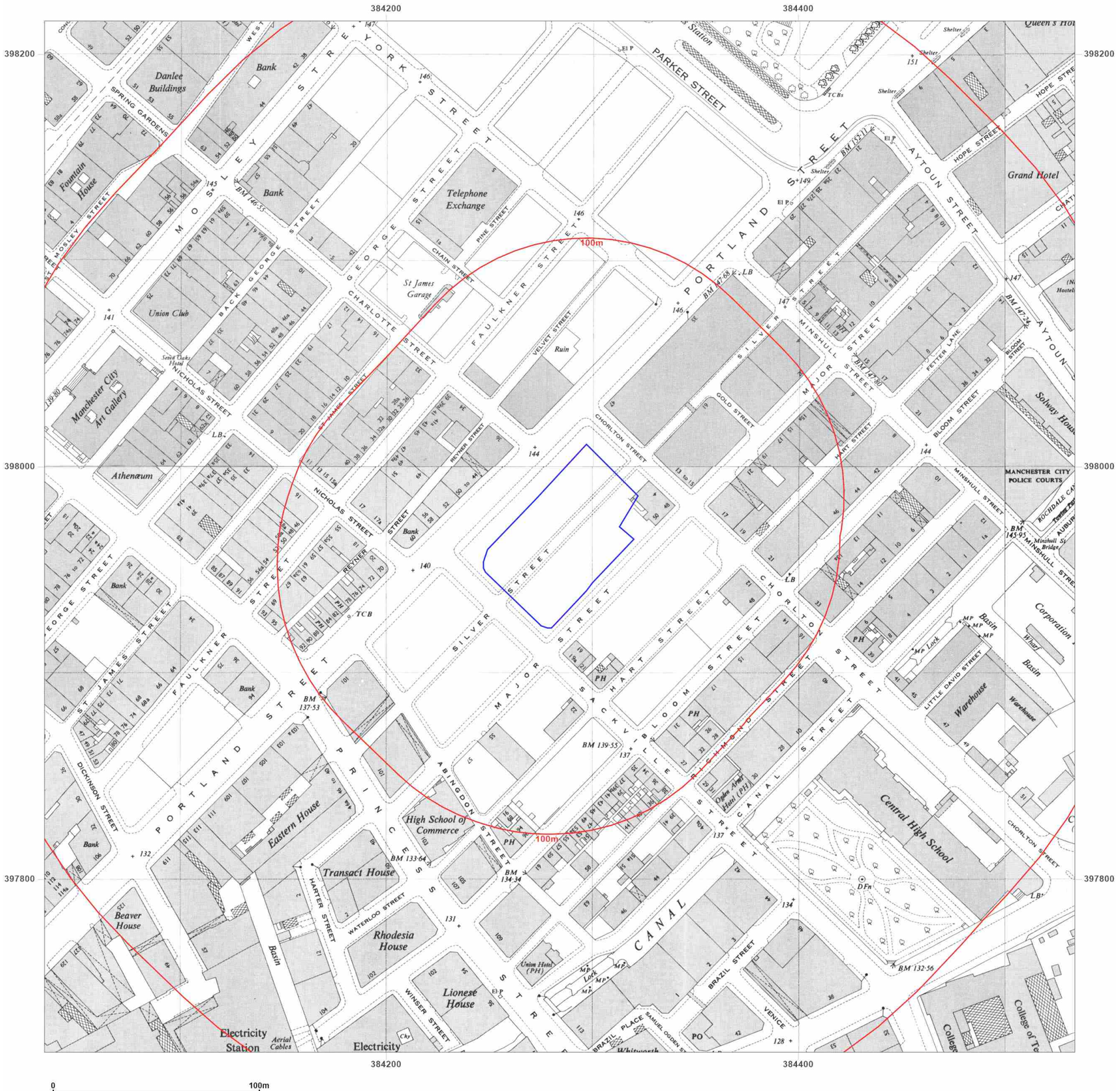
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1948**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1948
Edition N/A
Copyright 1948
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Surveyed 1948
Revised 1948
Edition N/A
Copyright 1948
Levelled 1929

Surveyed 1948
Revised 1948
Edition N/A
Copyright 1948
Levelled 1929

Surveyed 1948
Revised 1948
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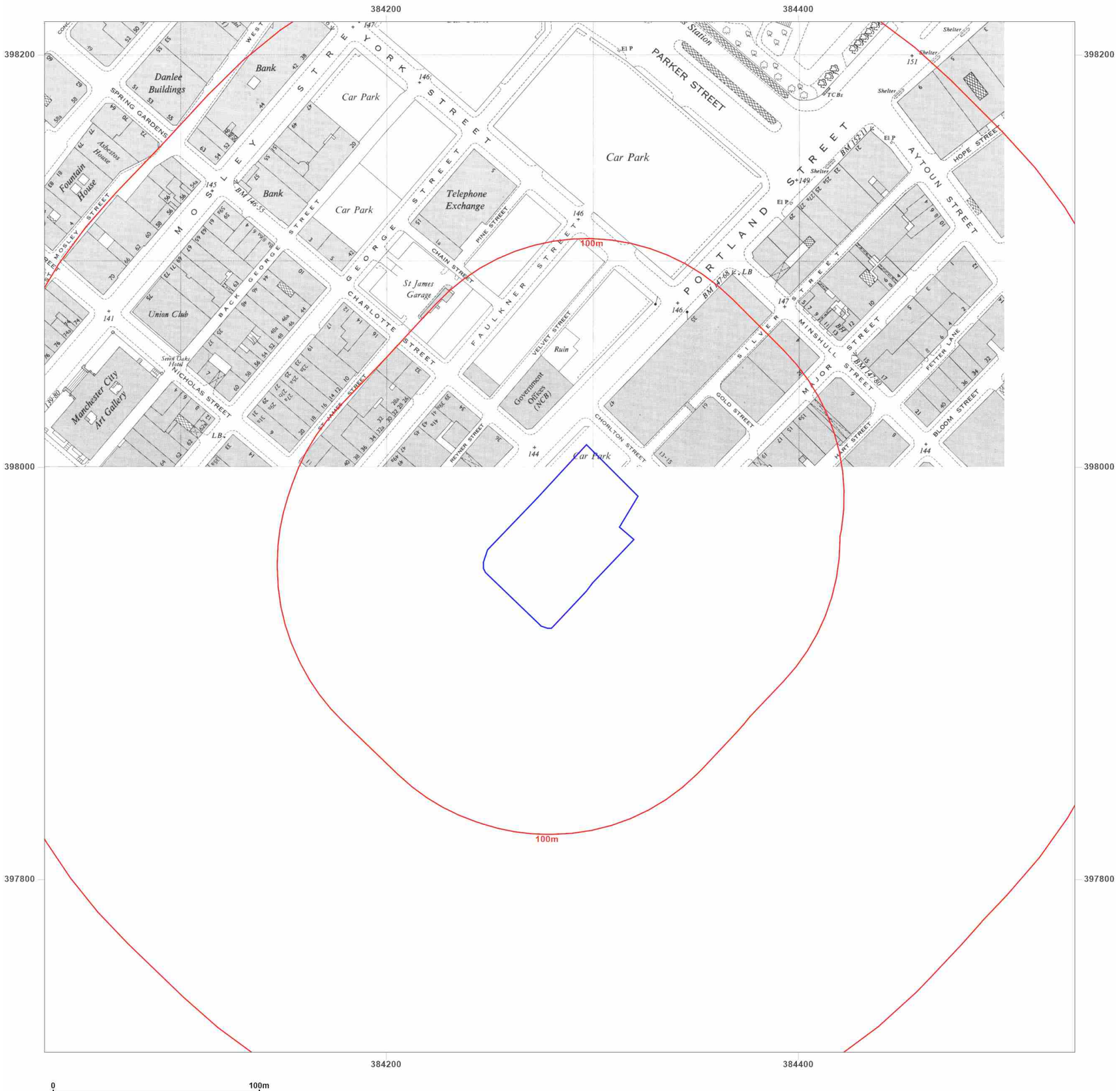
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

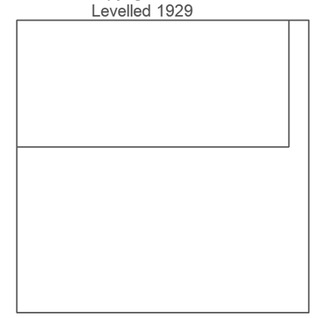
Map date: **1953**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1951
Revised 1951
Edition N/A
Copyright 1953
Levelled 1929



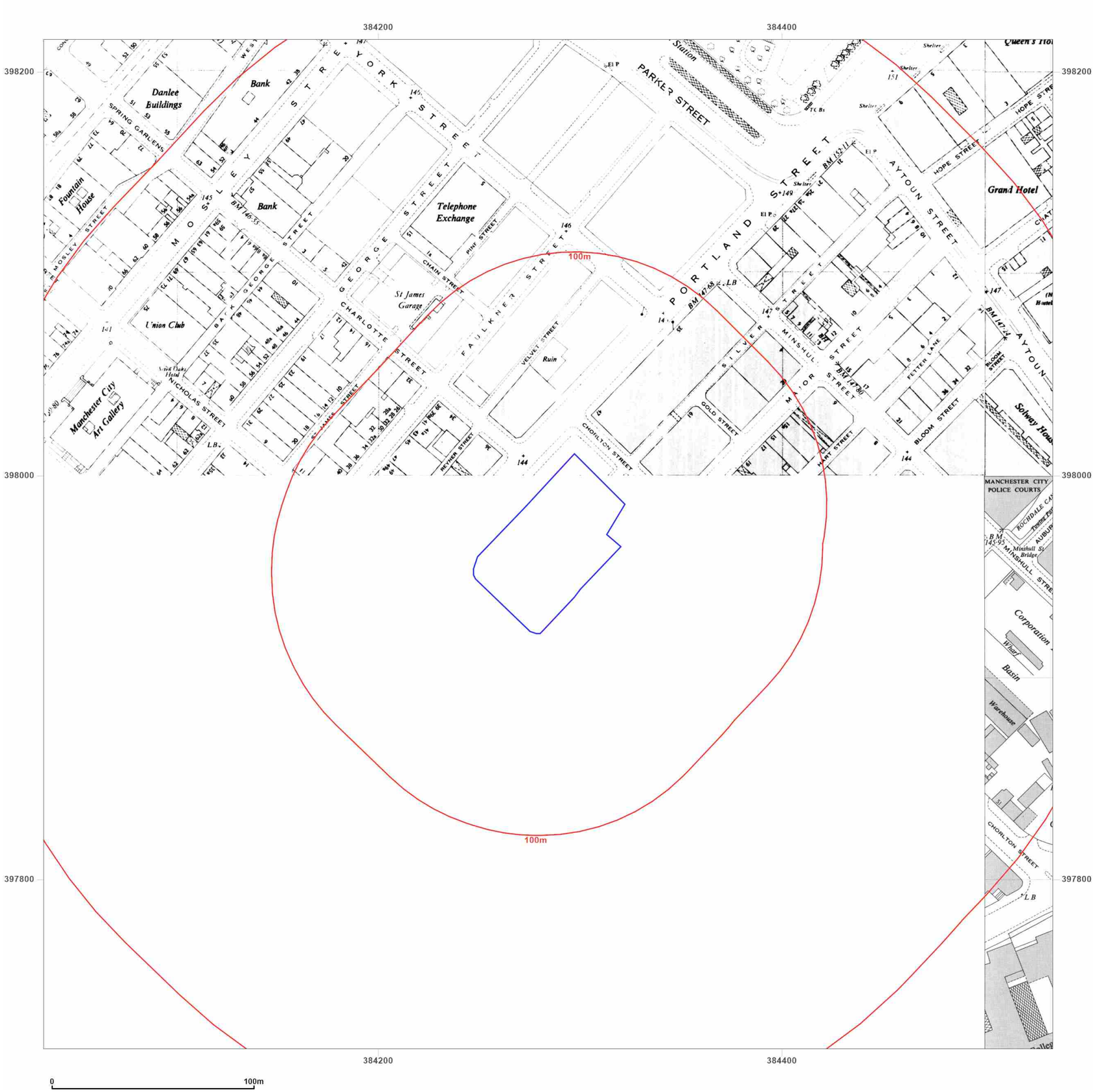
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid
Map date: **1951-1954**
Scale: 1:1,250
Printed at: 1:2,000

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

Surveyed 1948
Revised 1953
Edition 1954
Copyright N/A
Levelled N/A

Surveyed 1953
Revised 1953
Edition N/A
Copyright 1952
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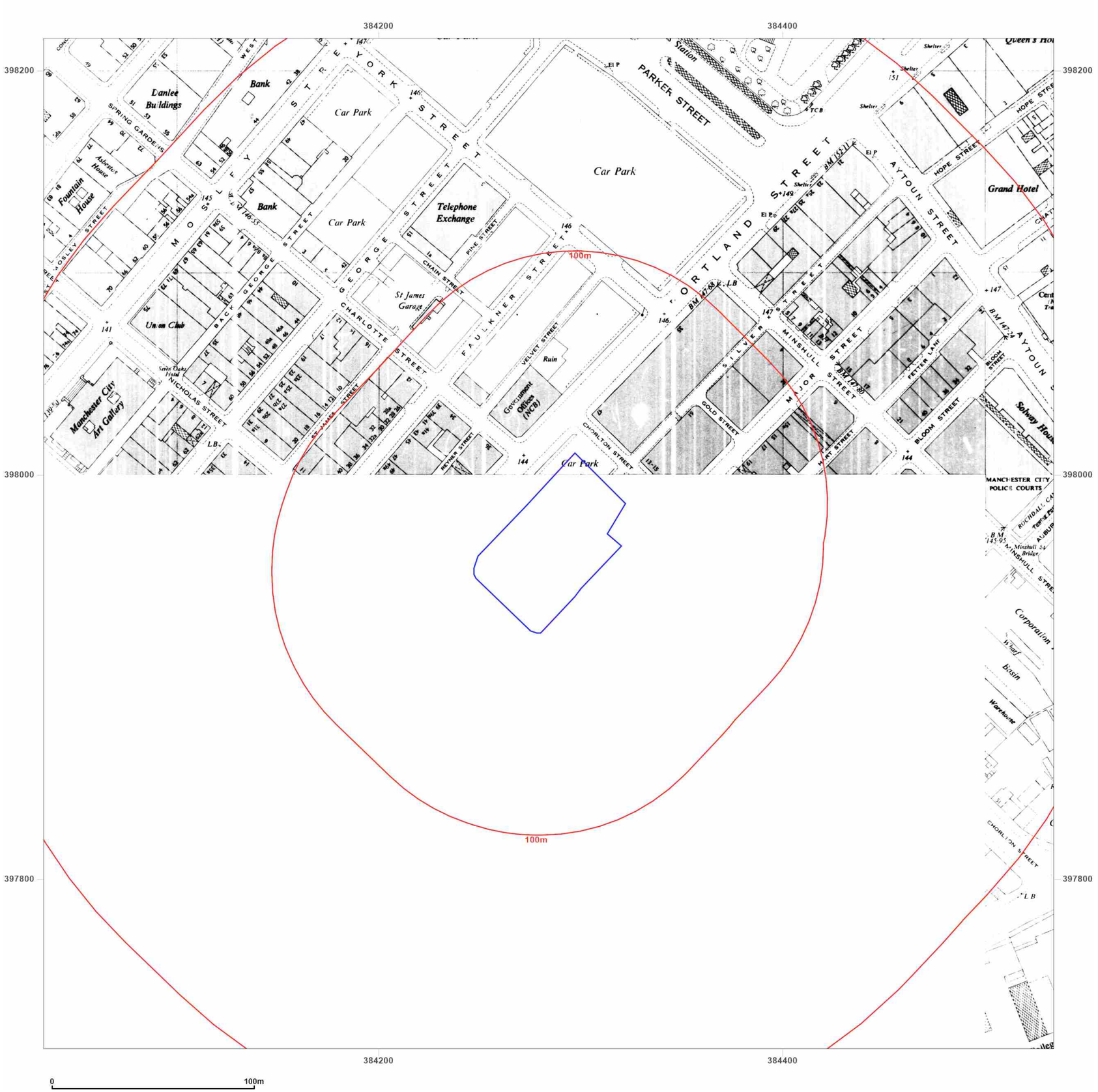
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Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1951-1954**

Scale: 1:1,250

Printed at: 1:2,000

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Edition N/A
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Revised 1953
Edition 1954
Copyright N/A
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Surveyed N/A
Revised N/A
Edition N/A
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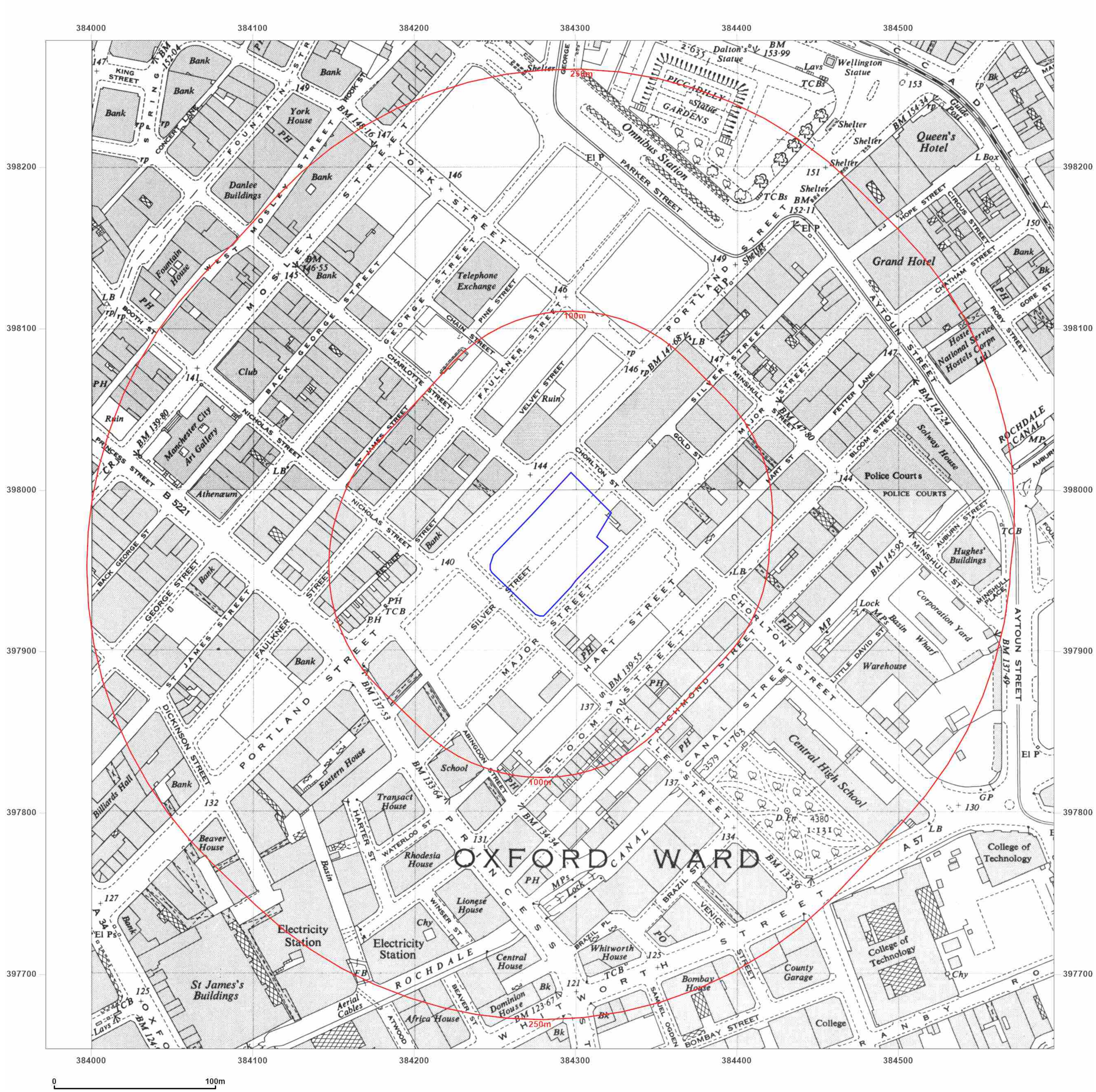
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1950-1954**

Scale: 1:2,500

Printed at: 1:2,500

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Revised 1948
Edition N/A
Copyright 1954
Levelled 1929

Surveyed 1948
Revised 1948
Edition N/A
Copyright 1950
Levelled 1929

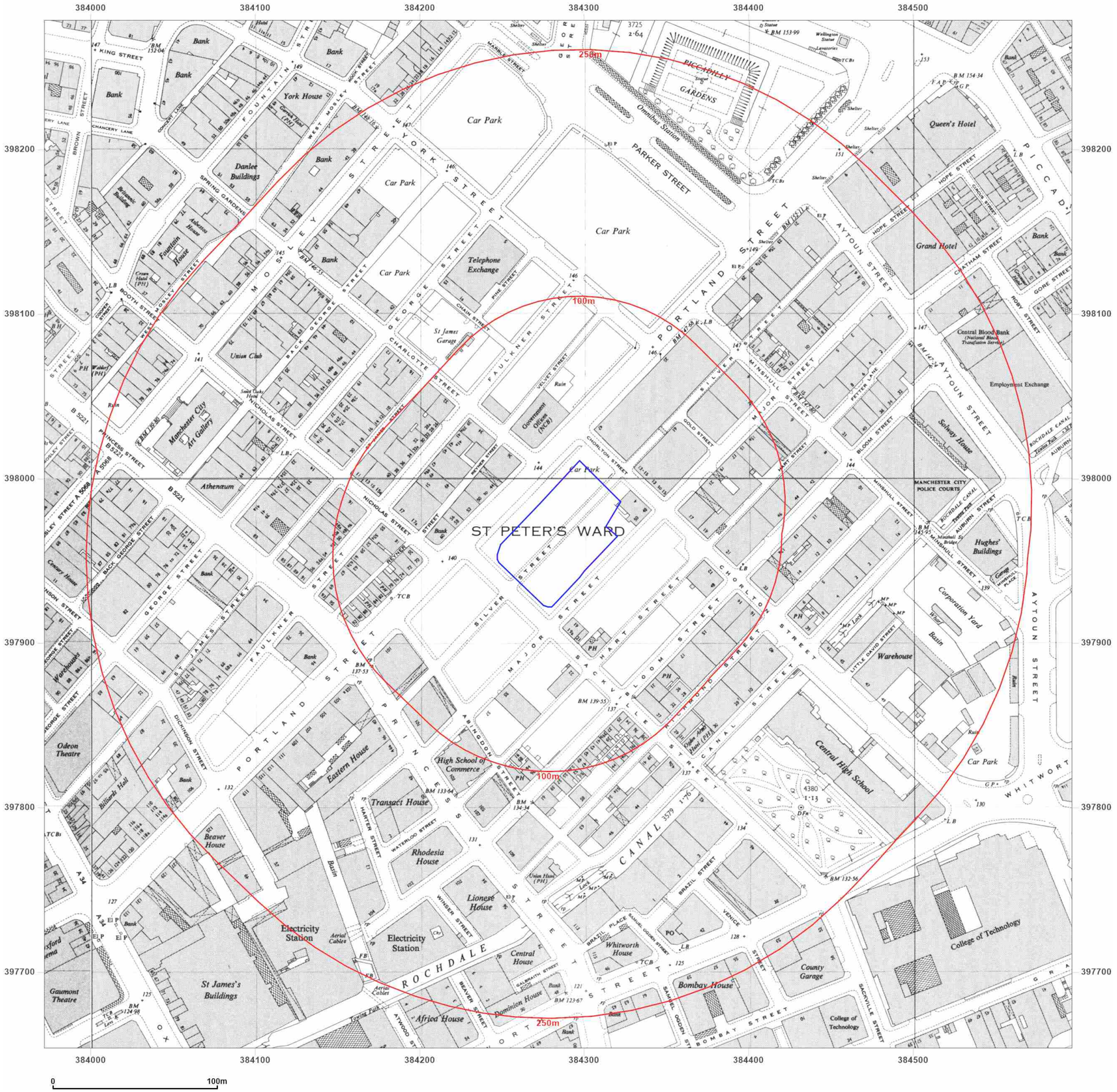
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1954-1958**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed N/A
Revised 1957
Edition N/A
Copyright 1958
Levelled 1927

Surveyed 1953
Revised 1953
Edition N/A
Copyright 1954
Levelled 1929

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

Surveyed 1953
Revised 1953
Edition N/A
Copyright N/A
Levelled 1929

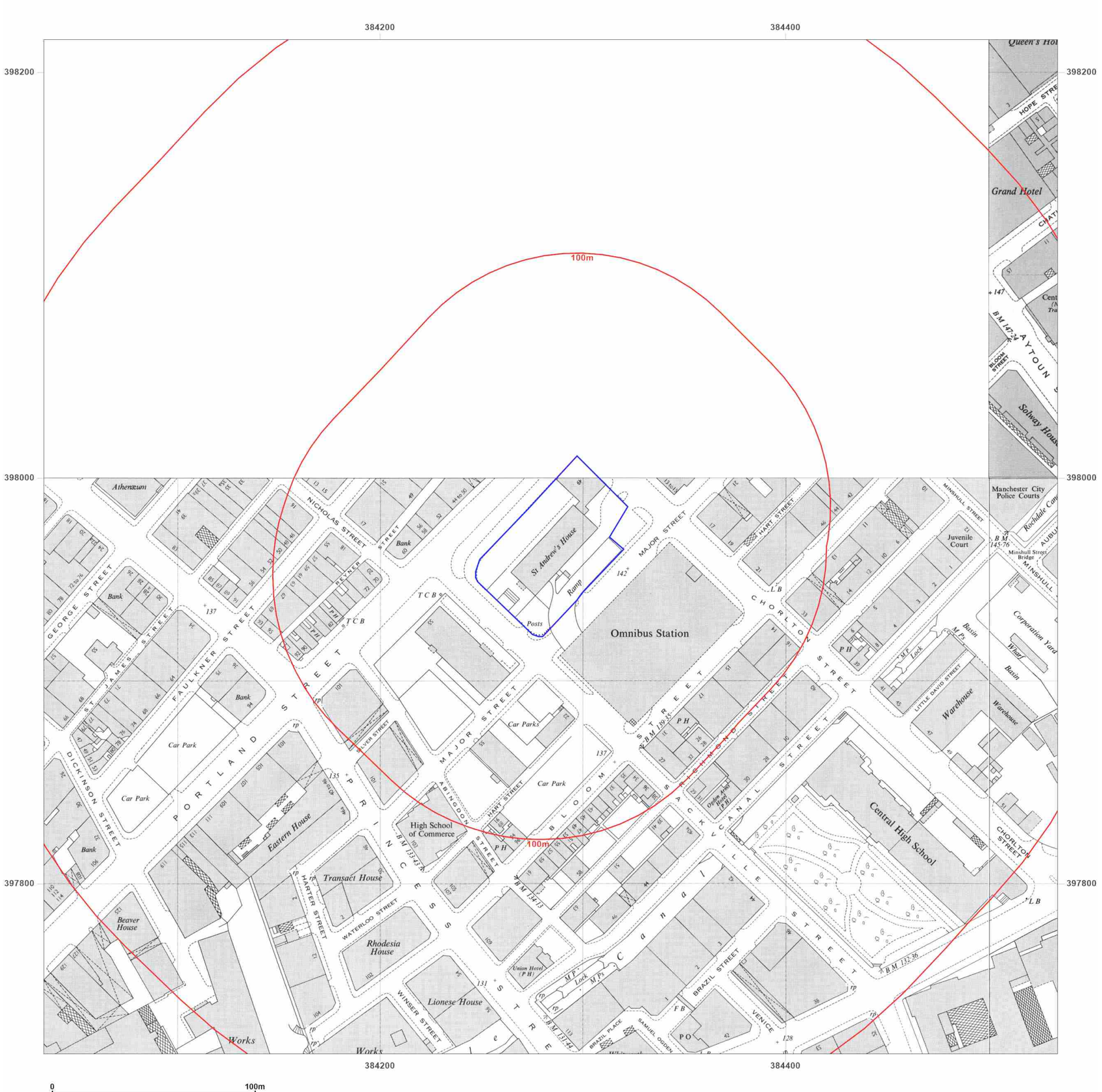
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1960-1964**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1953
Edition N/A
Copyright 1960
Levelled 1929

Surveyed 1948 Revised 1963 Edition N/A Copyright 1964 Levelled 1958	Surveyed 1963 Revised 1963 Edition N/A Copyright 1964 Levelled 1959

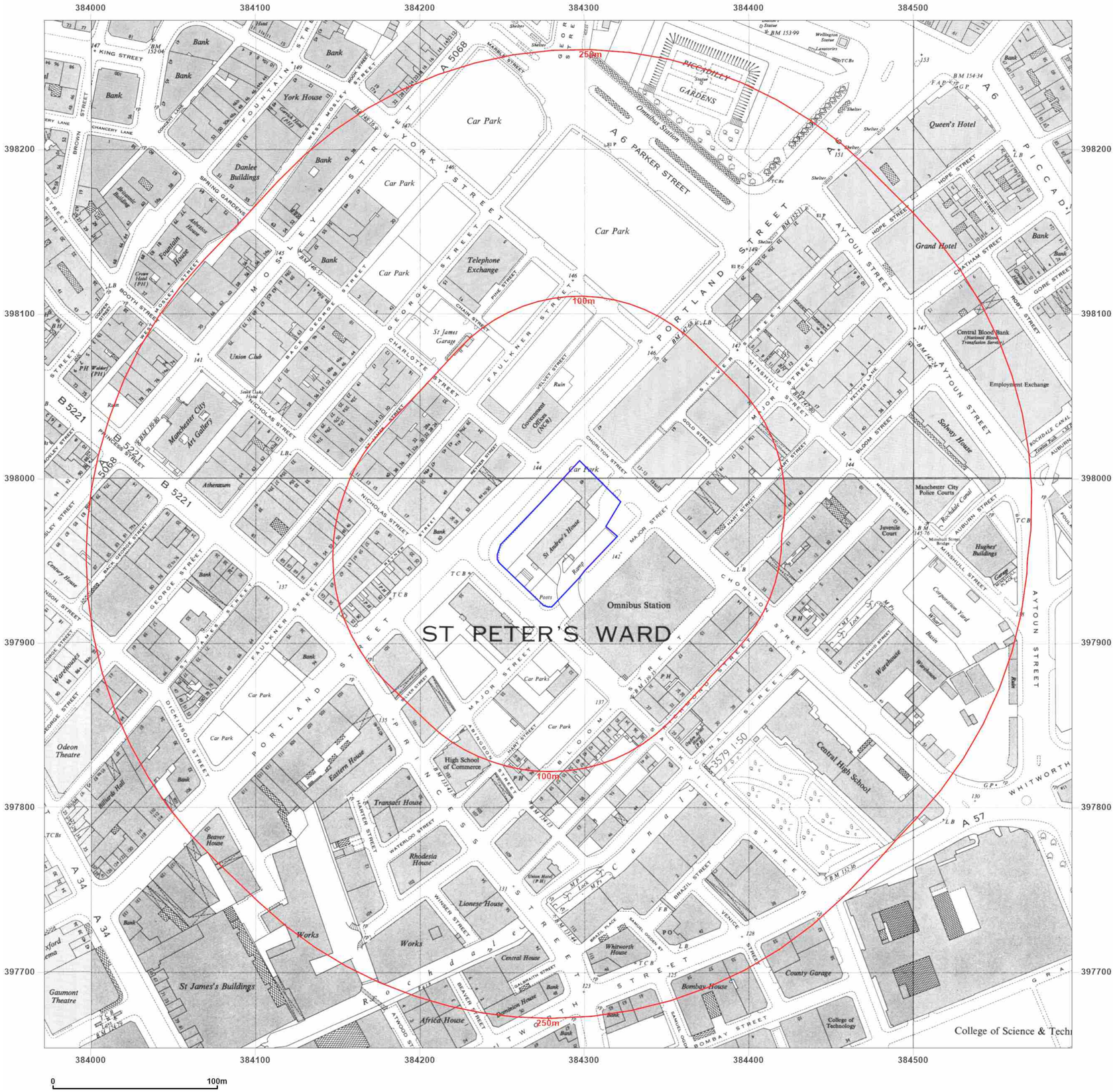
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1963-1965**

Scale: 1:2,500

Printed at: 1:2,500

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

Surveyed N/A
Revised 1964
Edition N/A
Copyright 1965
Levelled 1959

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

Surveyed 1963
Revised 1963
Edition N/A
Copyright 1965
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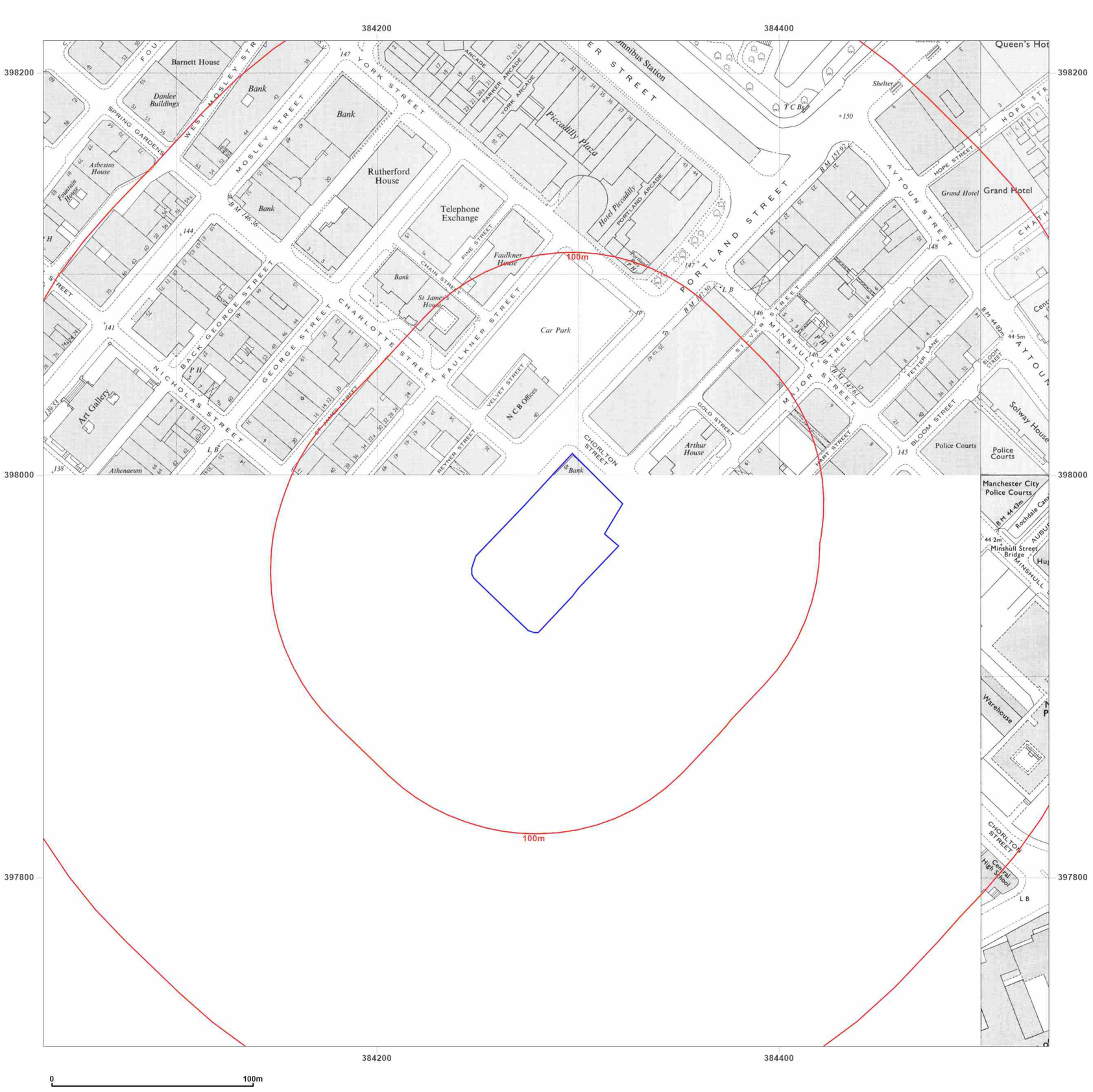
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Site Details:

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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1968-1971**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1967
Edition N/A
Copyright 1968
Levelled 1964

Surveyed 1948
Revised 1970
Edition N/A
Copyright 1971
Levelled 1964

Surveyed 1948
Revised 1970
Edition N/A
Copyright 1971
Levelled 1964

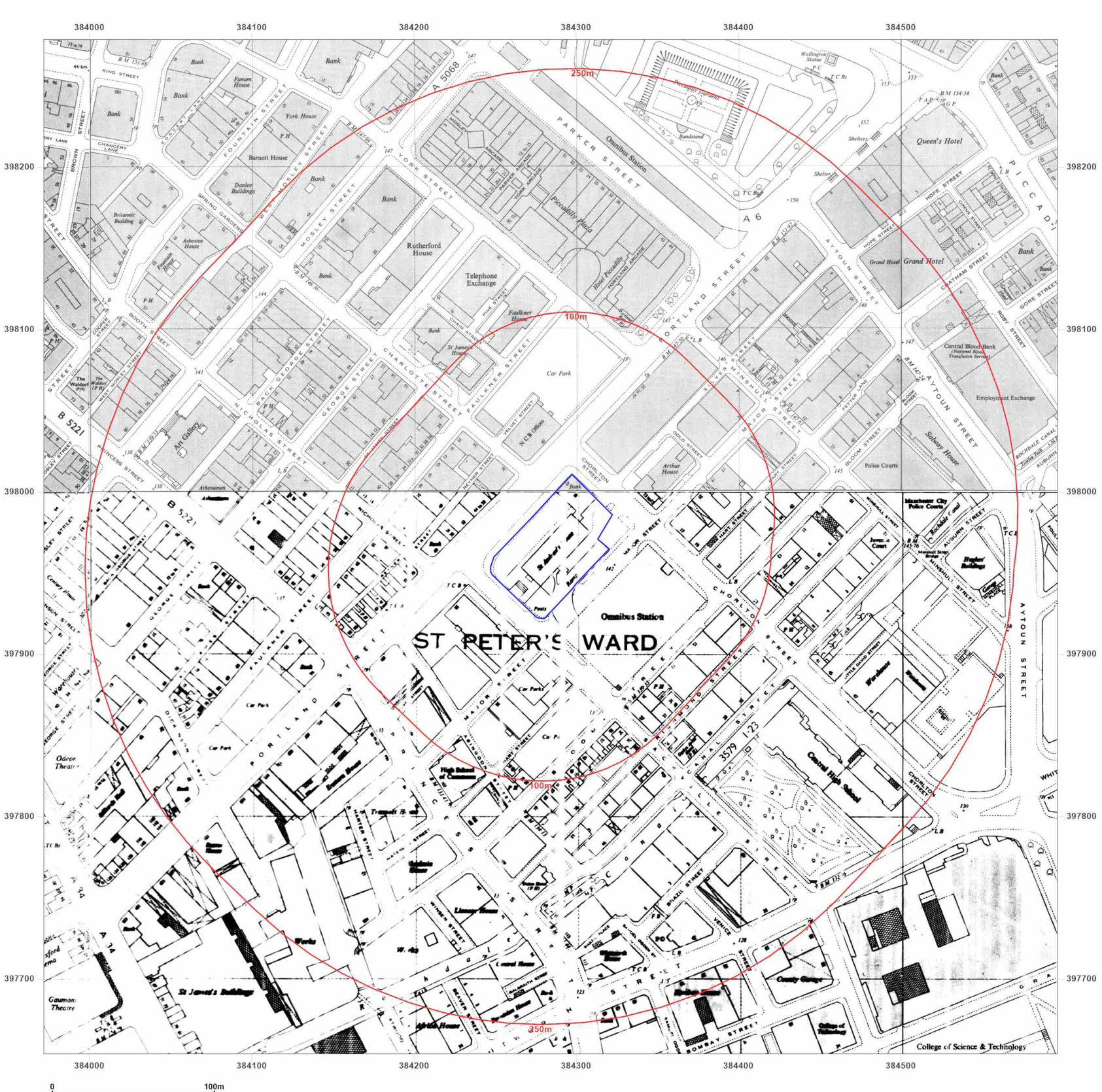
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Site Details:

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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1964-1971**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1949
Revised 1970
Edition N/A
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Levelled 1964

Surveyed 1967
Revised 1967
Edition N/A
Copyright 1969
Levelled 1964

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

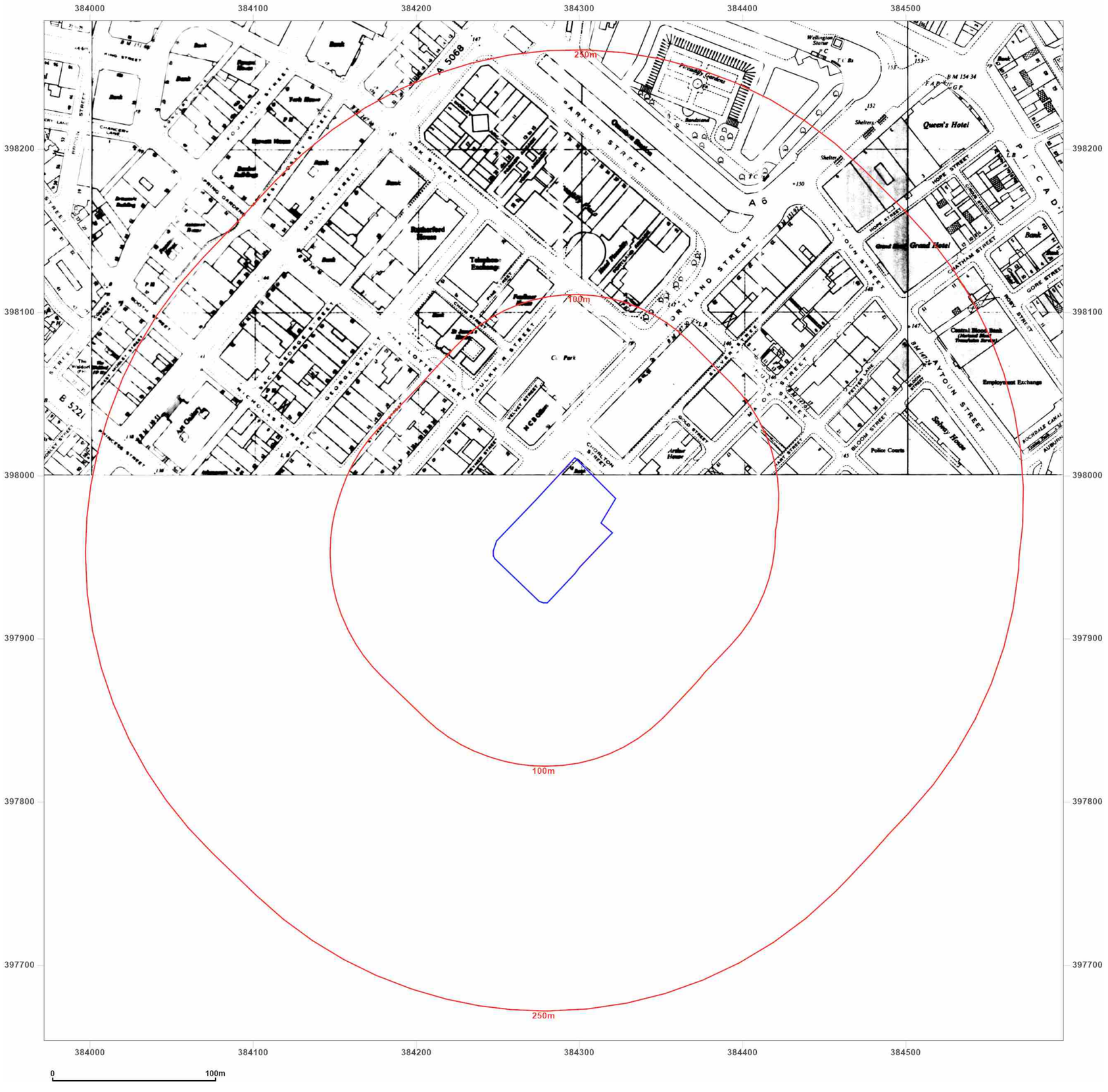
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Site Details:

49-53, PORTLAND STREET,
MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1969-1971**

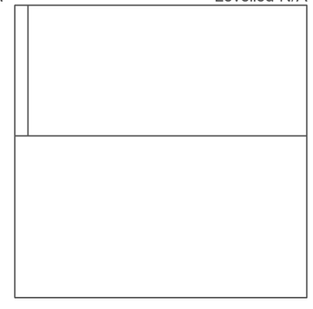
Scale: 1:2,500

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

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



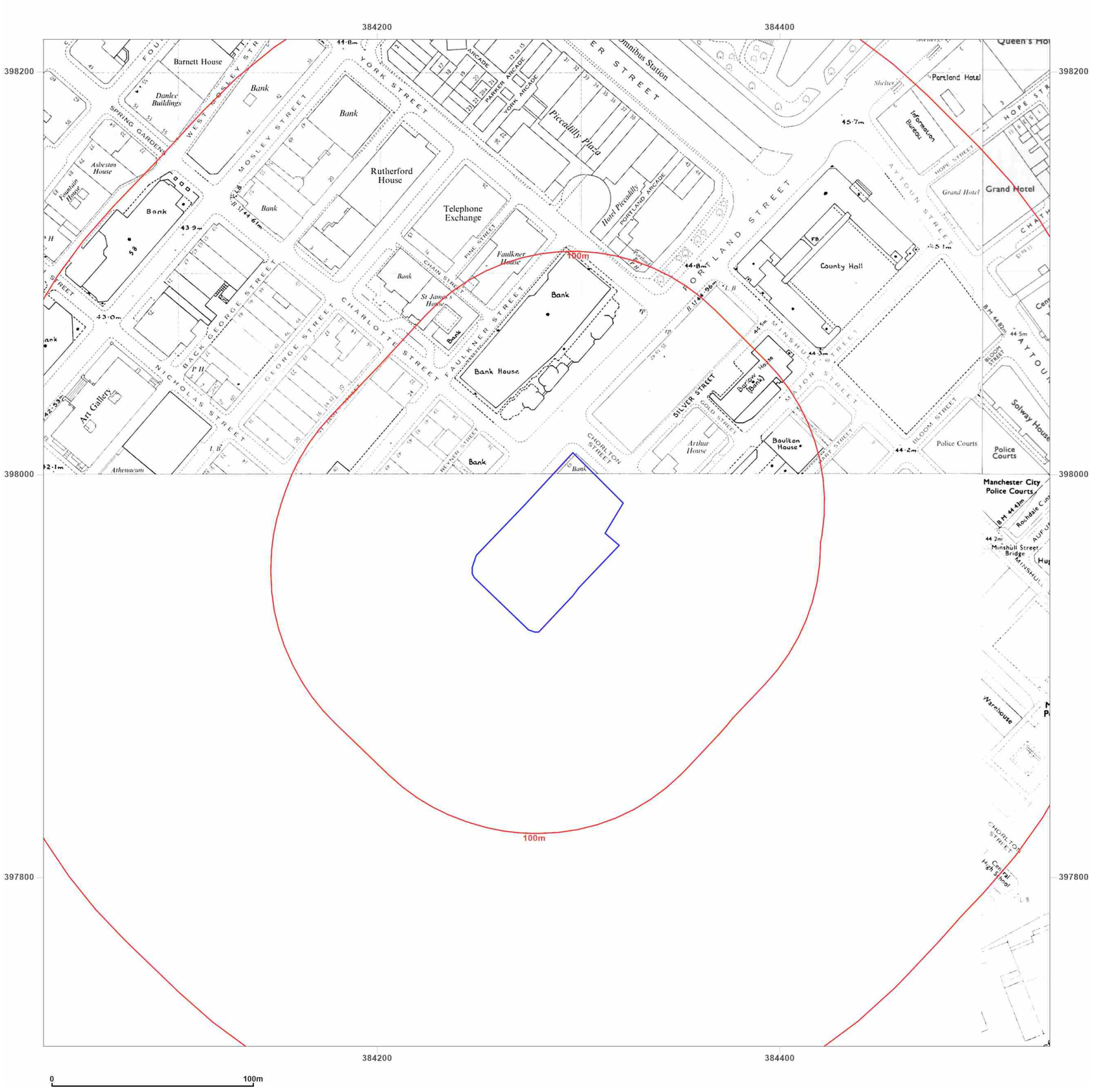
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Site Details:

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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1971-1980**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1948
Revised 1970
Edition N/A
Copyright 1971
Levelled 1964

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

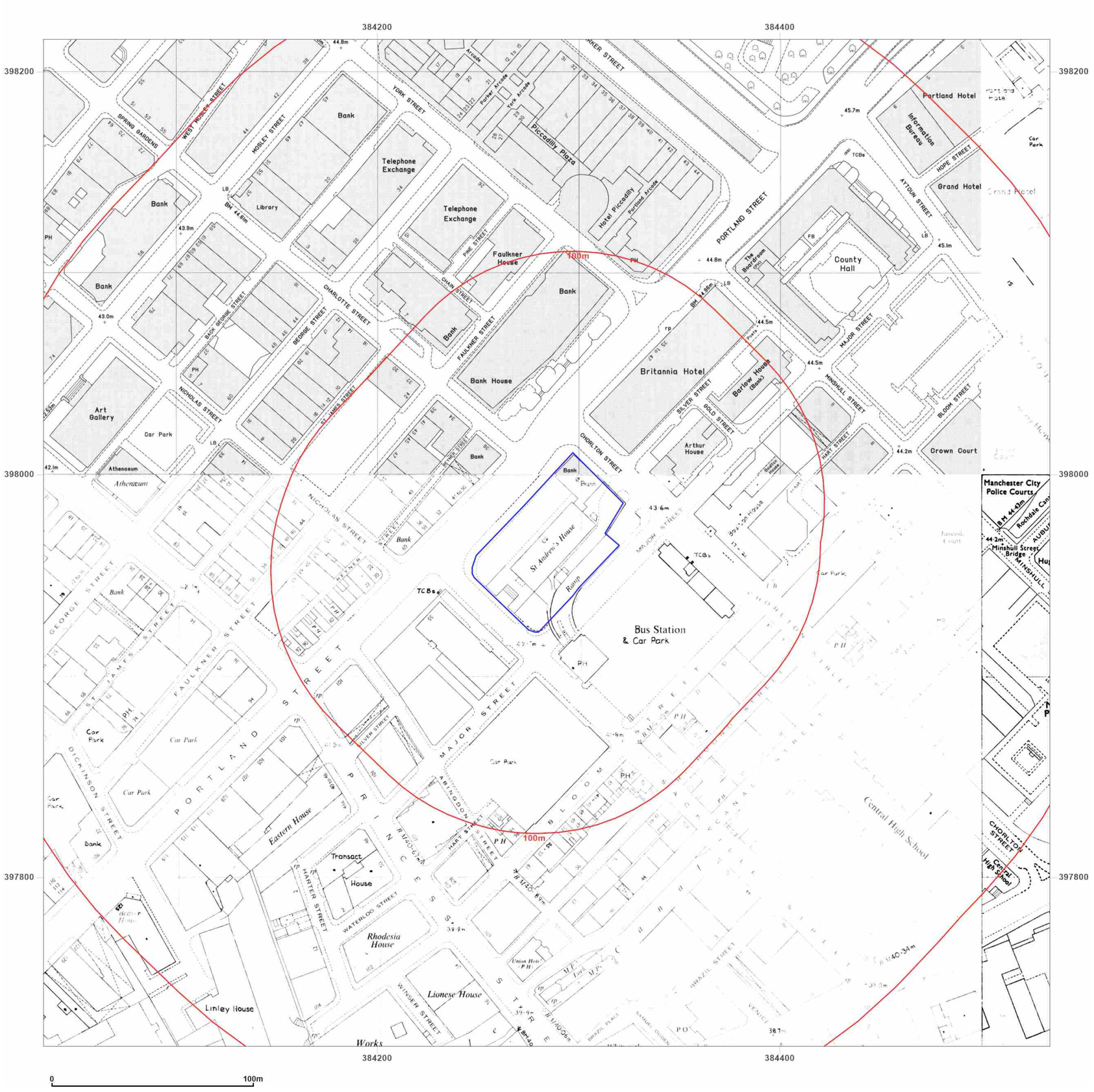
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Site Details:

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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1984-1986**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1948 Revised 1985 Edition N/A Copyright 1986 Levelled 1964	Surveyed N/A Revised N/A Edition N/A Copyright 1985 Levelled N/A
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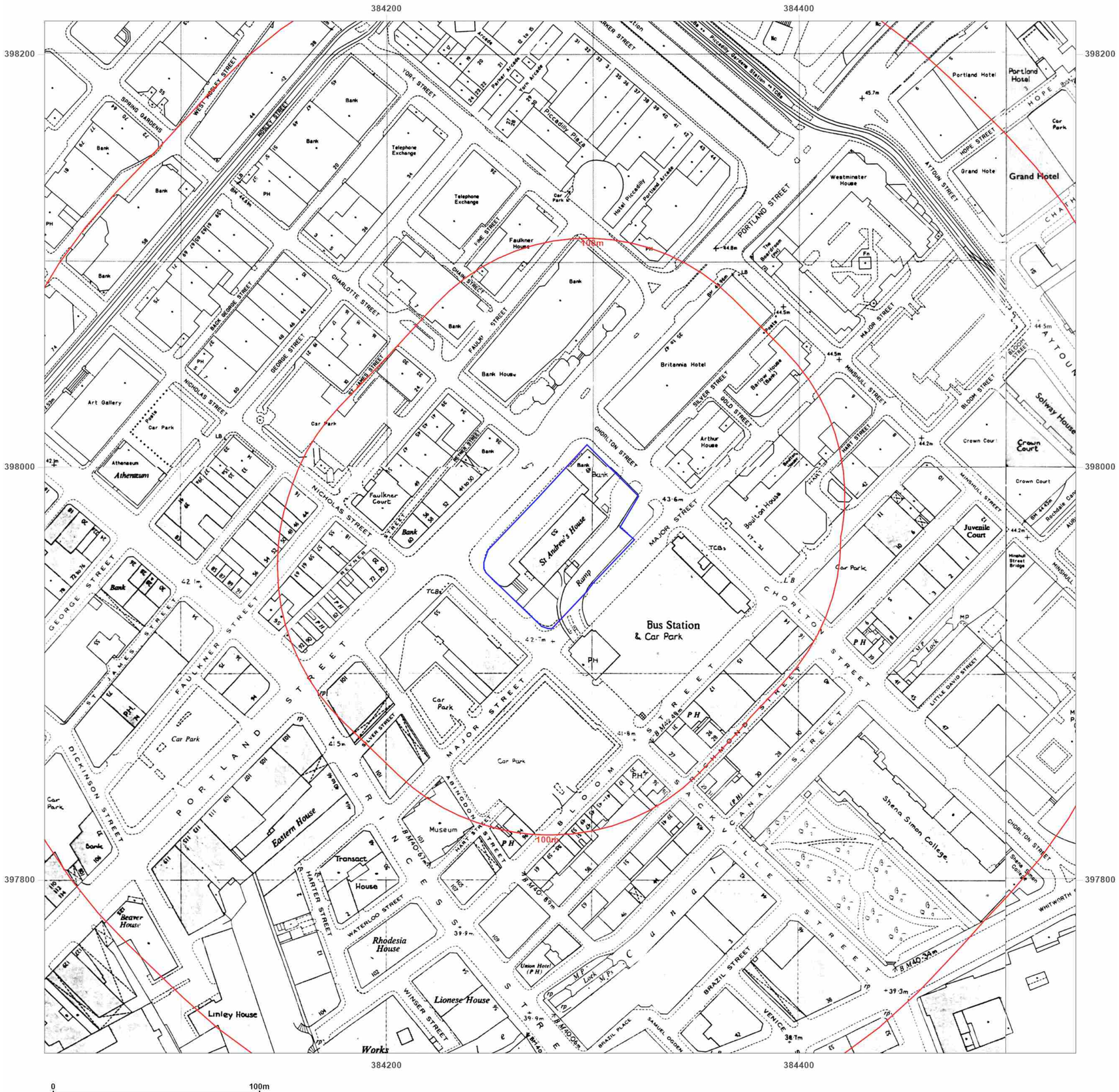
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1990-1992**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1963
Revised 1990
Edition N/A
Copyright 1990
Levelled 1963

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Levelled 1963

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

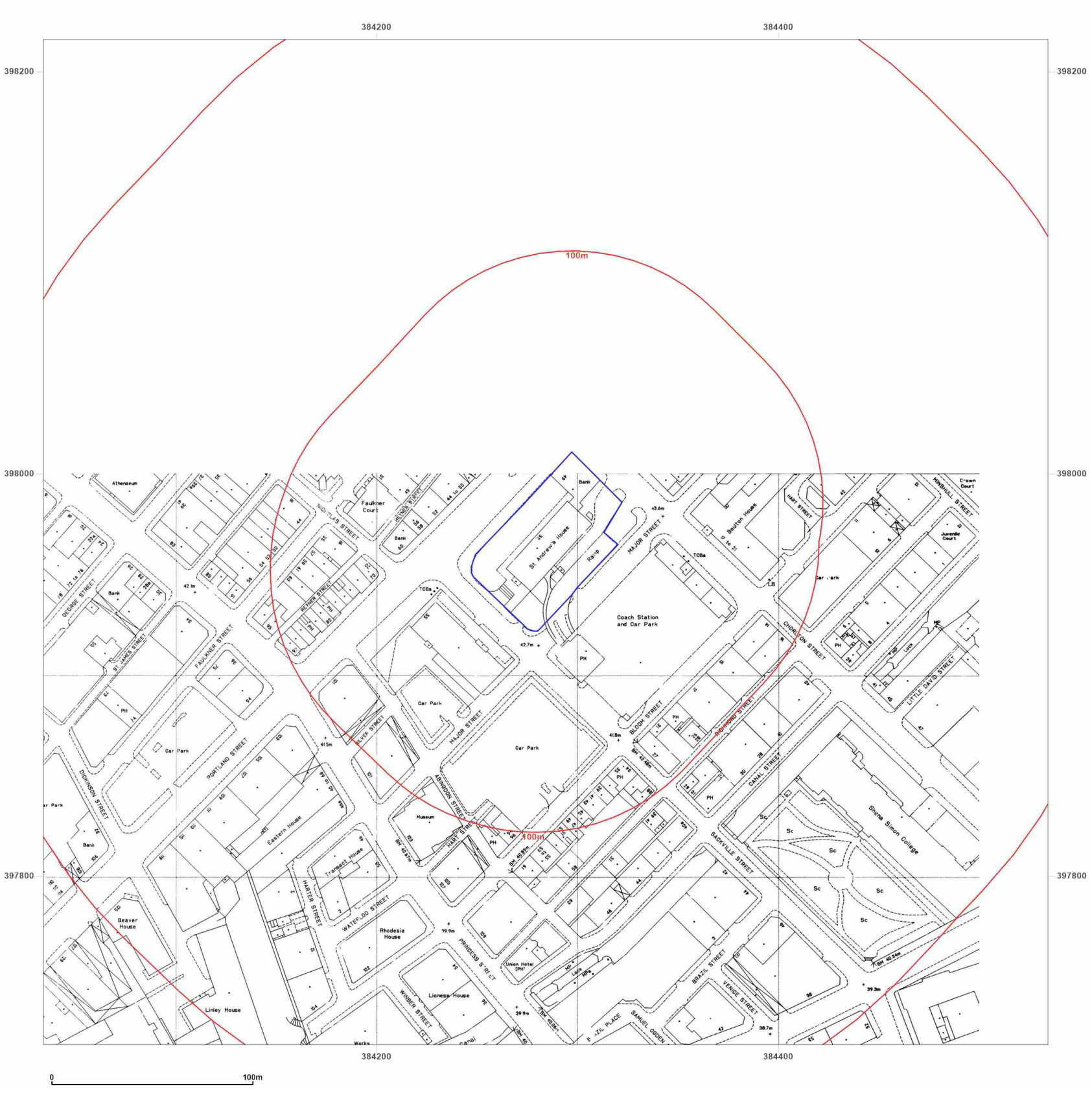
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Site Details:

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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

Printed at: 1:2,000

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

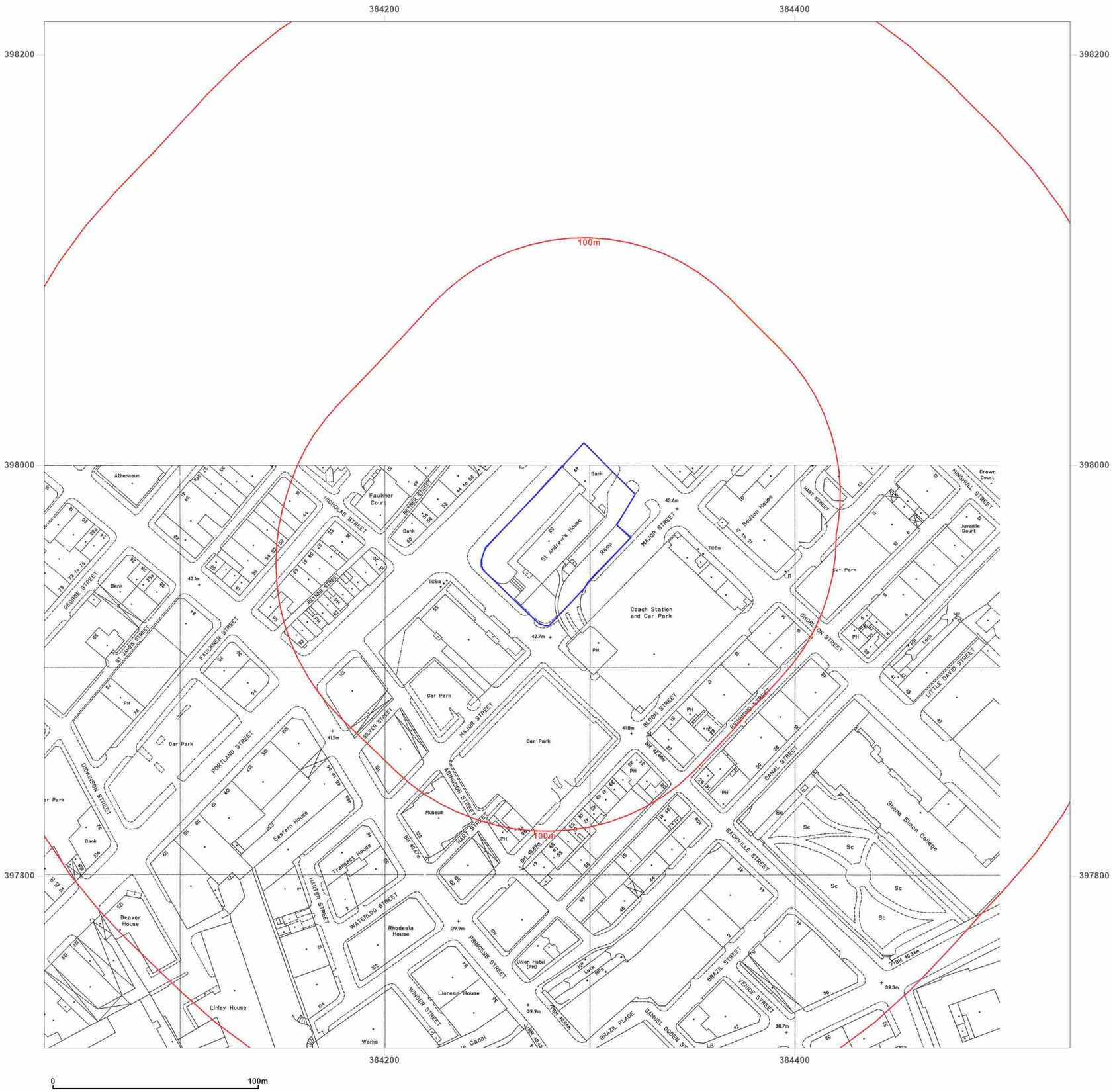
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Site Details:

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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

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

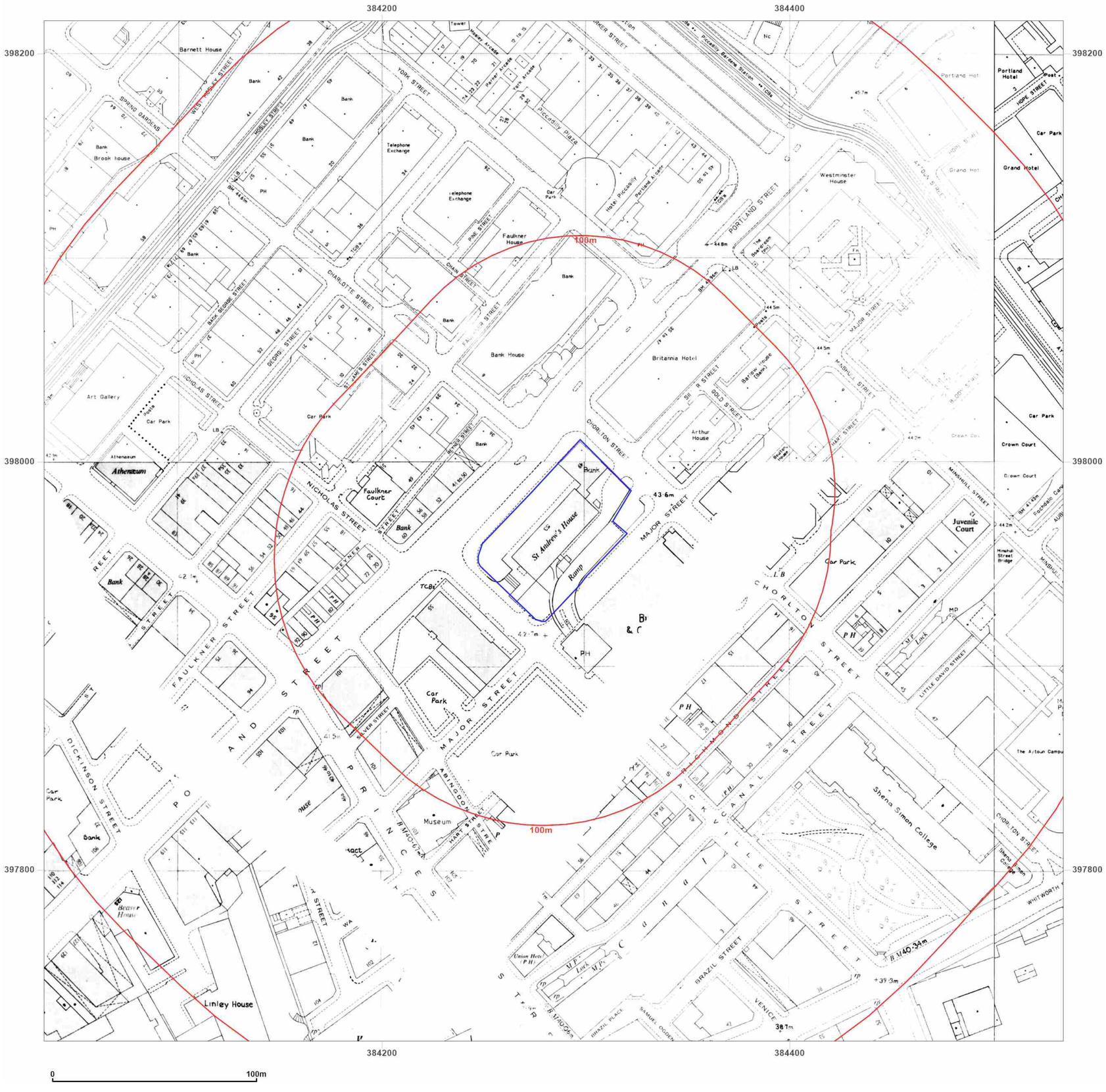
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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1990-1995**

Scale: 1:1,250

Printed at: 1:2,000

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

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

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Edition N/A
Copyright 1990
Levelled 1963

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Copyright 1995
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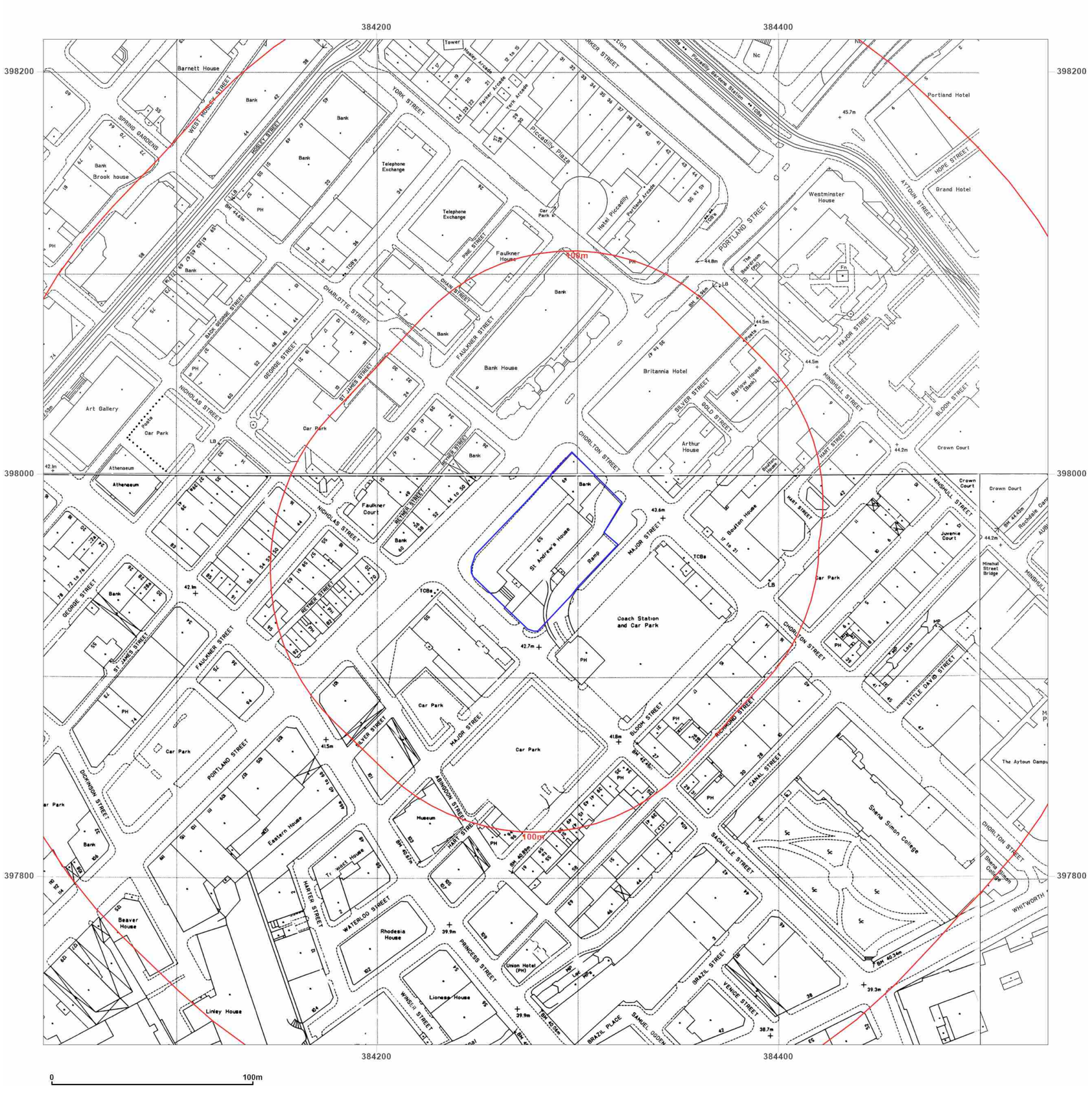
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Site Details:

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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1992 Revised 1992 Edition N/A Copyright 1992 Levelled N/A	Surveyed 1995 Revised 1995 Edition N/A Copyright 1995 Levelled N/A

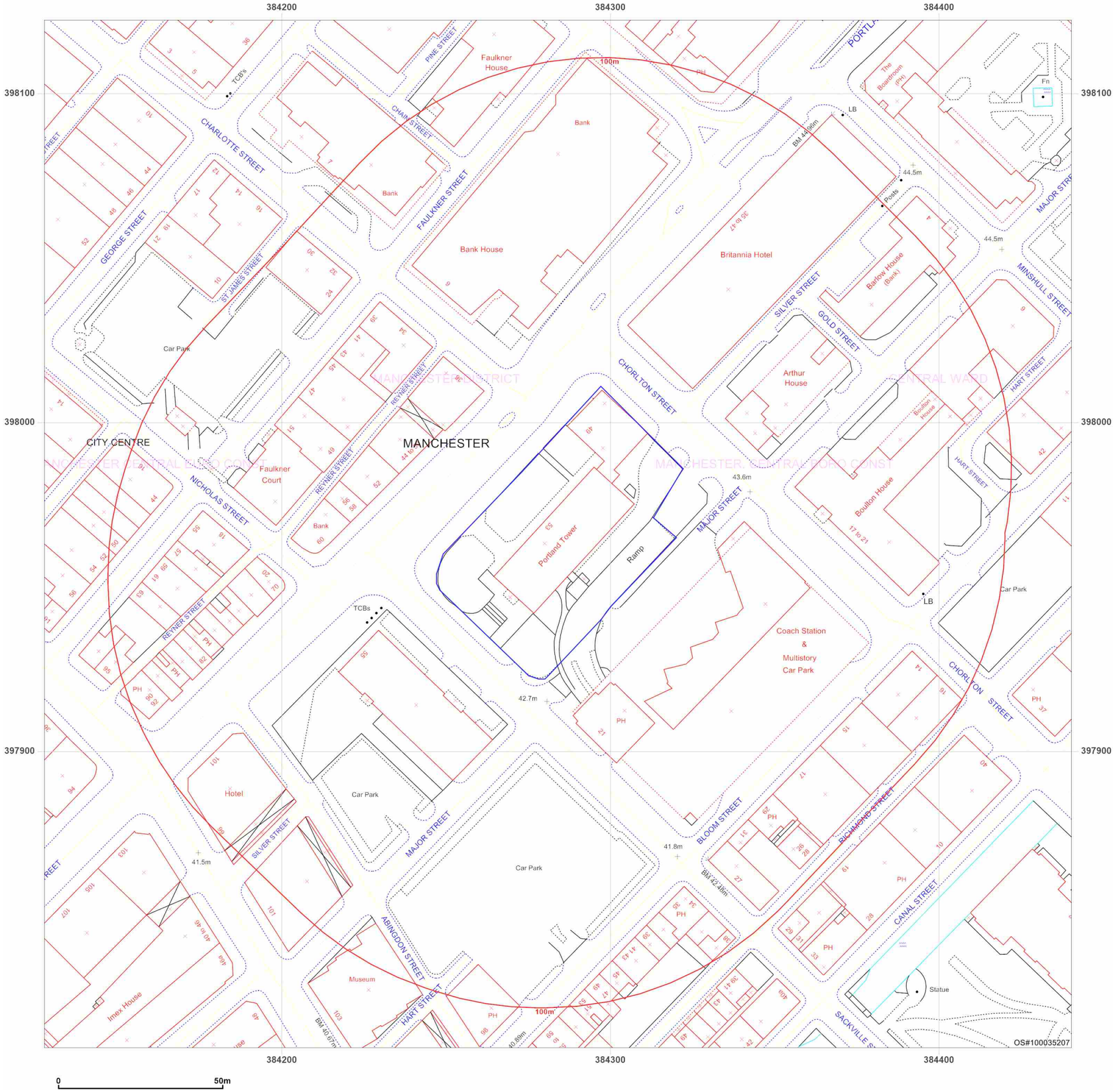
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: LandLine

Map date: **2003**

Scale: 1:1,250

Printed at: 1:1,250

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2003

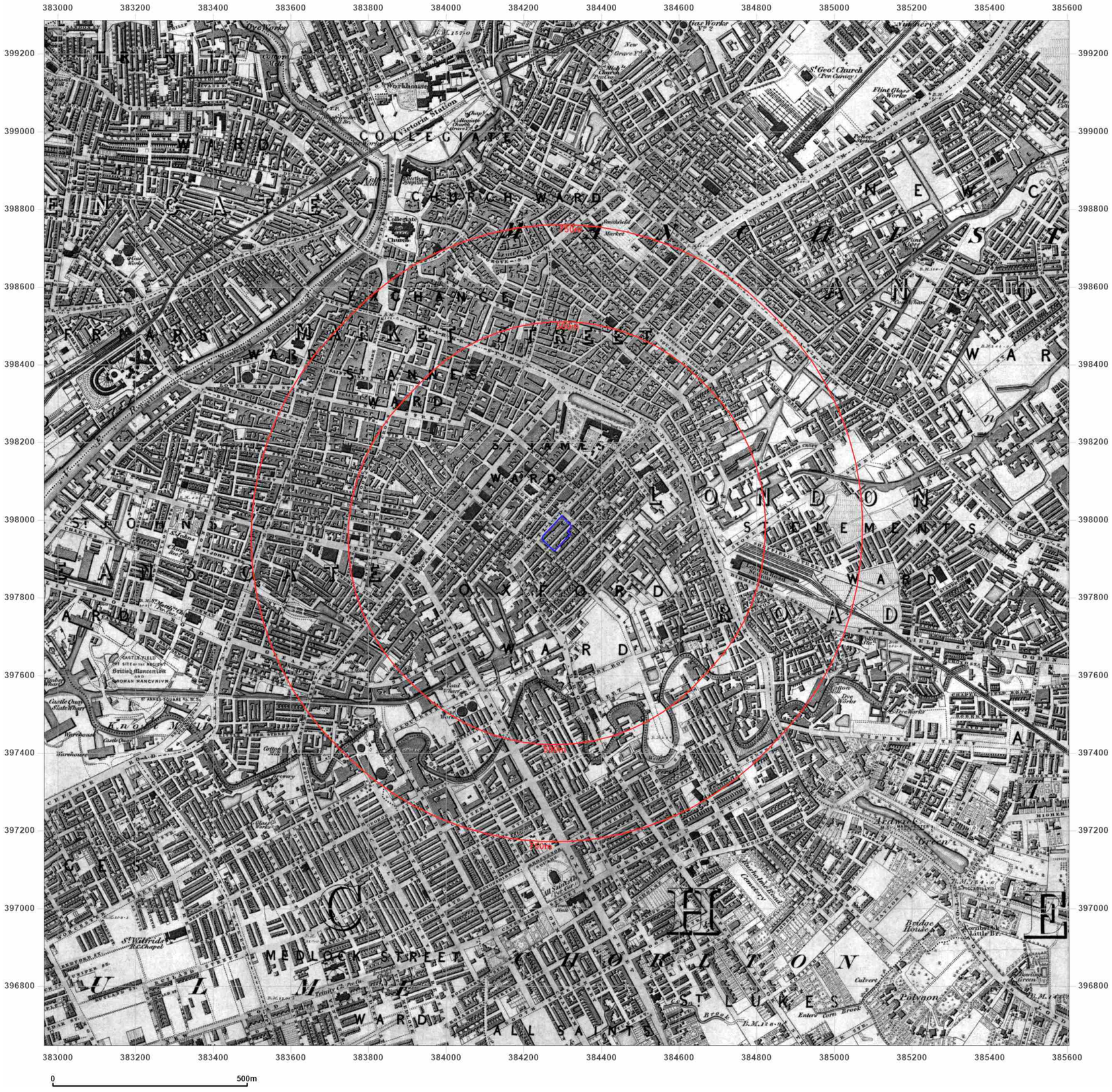
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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

Map date: **1848**

Scale: 1:10,560

Printed at: 1:10,560

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

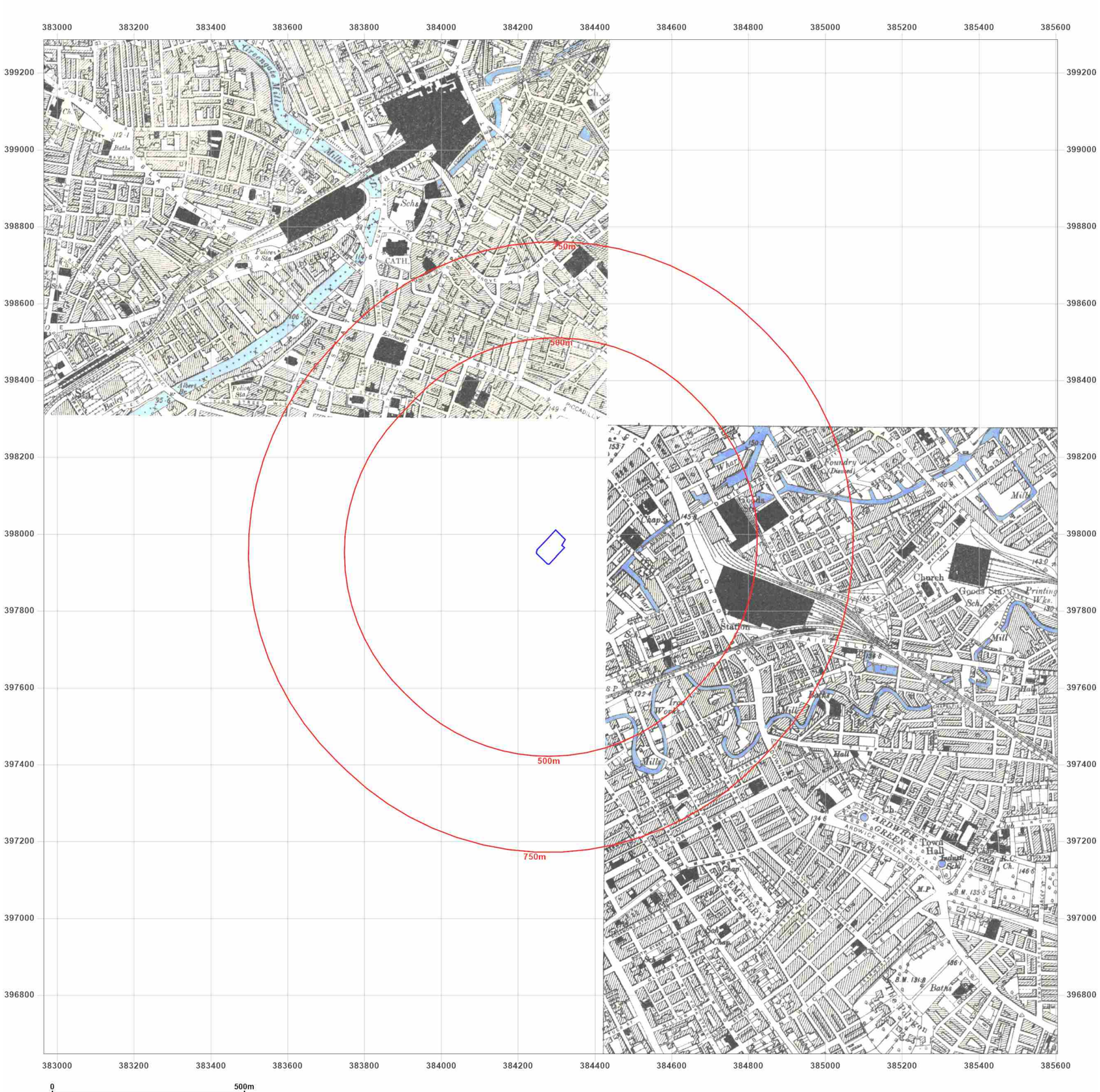
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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

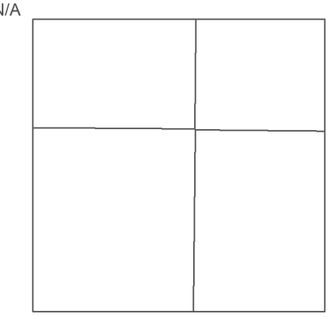
Map date: **1890-1894**

Scale: 1:10,560

Printed at: 1:10,560

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



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

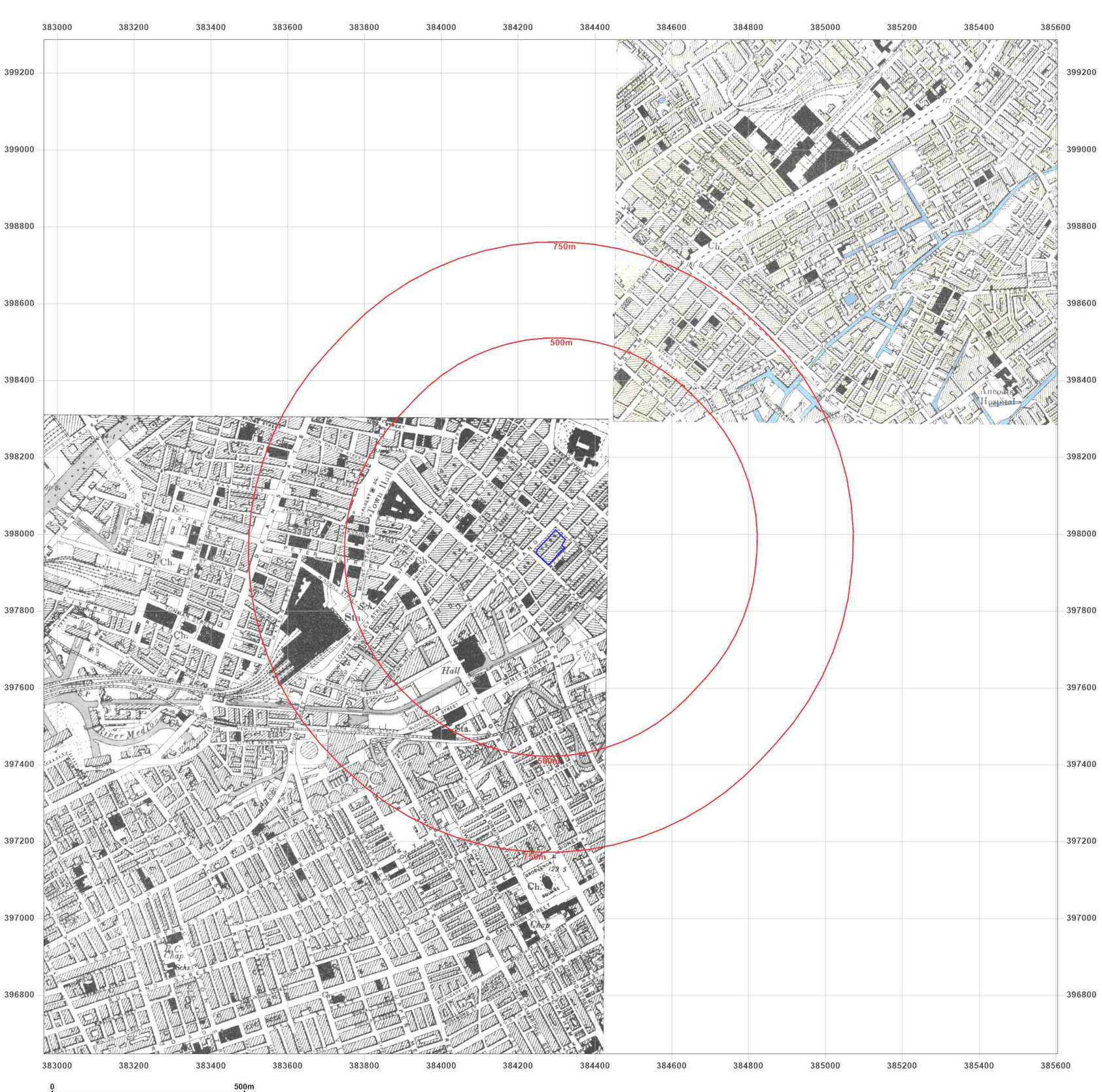
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

Map date: **1891-1896**

Scale: 1:10,560

Printed at: 1:10,560

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

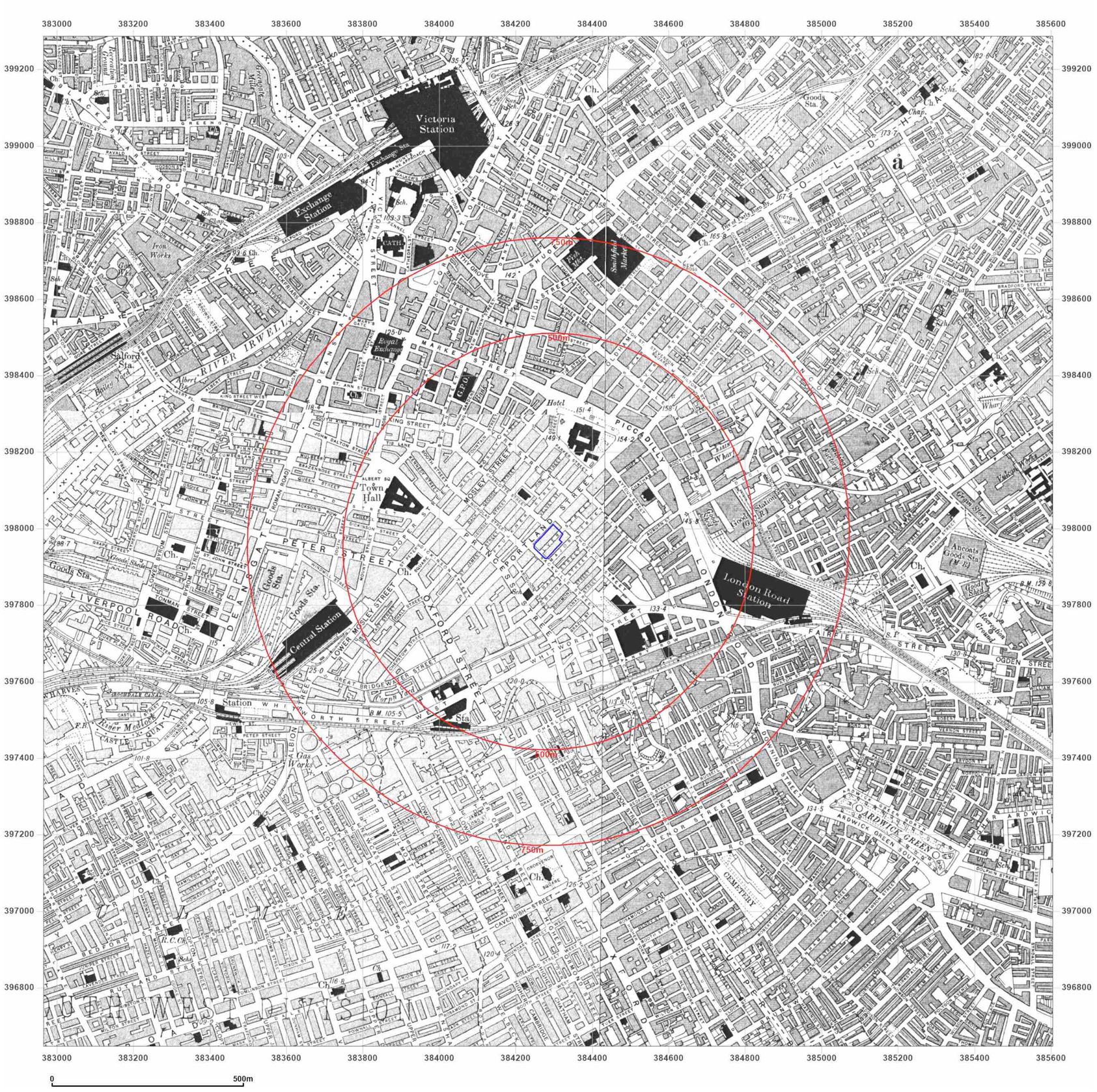
Surveyed 1894
Revised 1896
Edition 1896
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

Map date: **1905-1906**

Scale: 1:10,560

Printed at: 1:10,560

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

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

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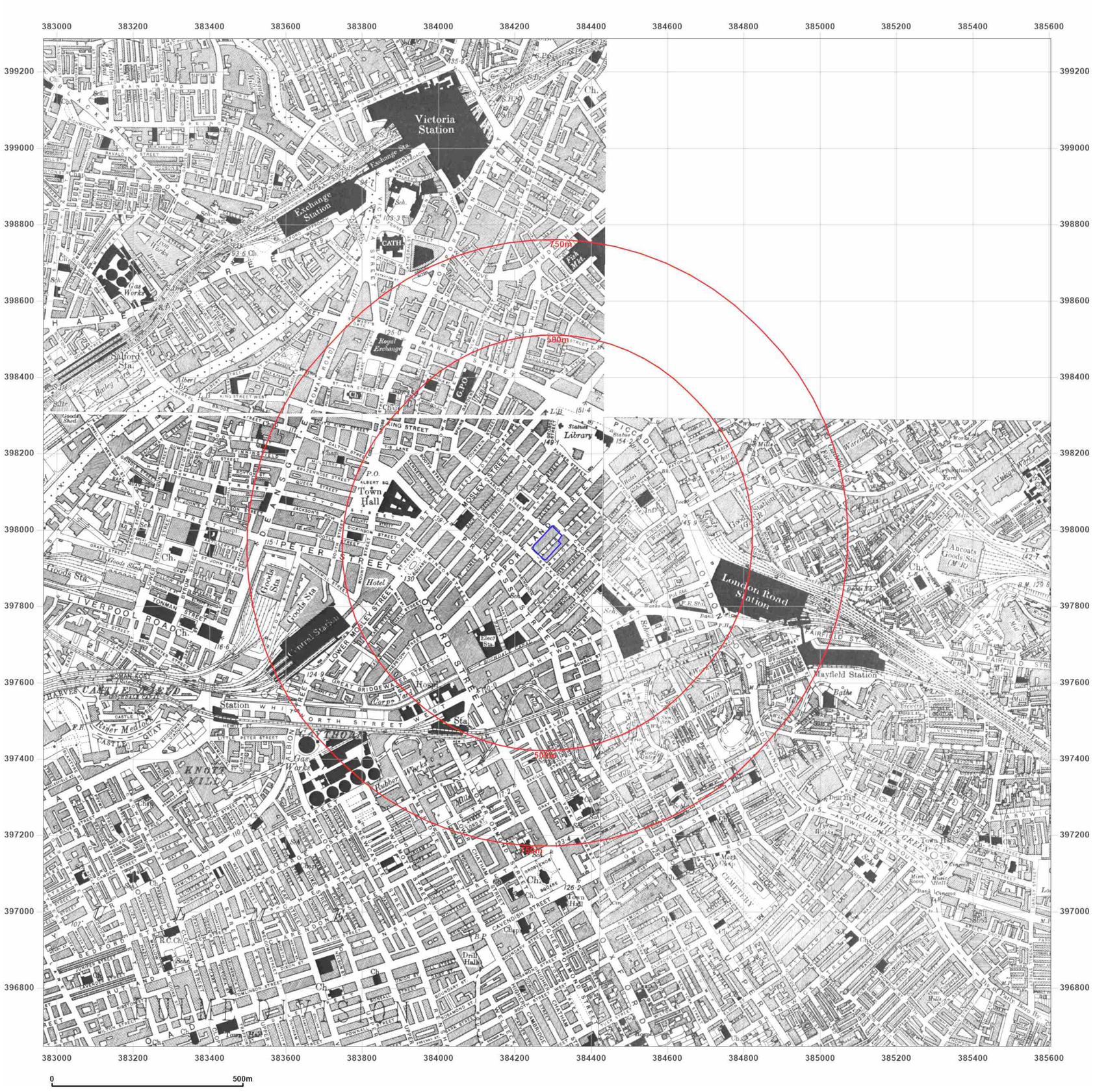
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

Map date: **1923**

Scale: 1:10,560

Printed at: 1:10,560

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

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

Surveyed 1844
Revised 1915
Edition 1923
Copyright N/A
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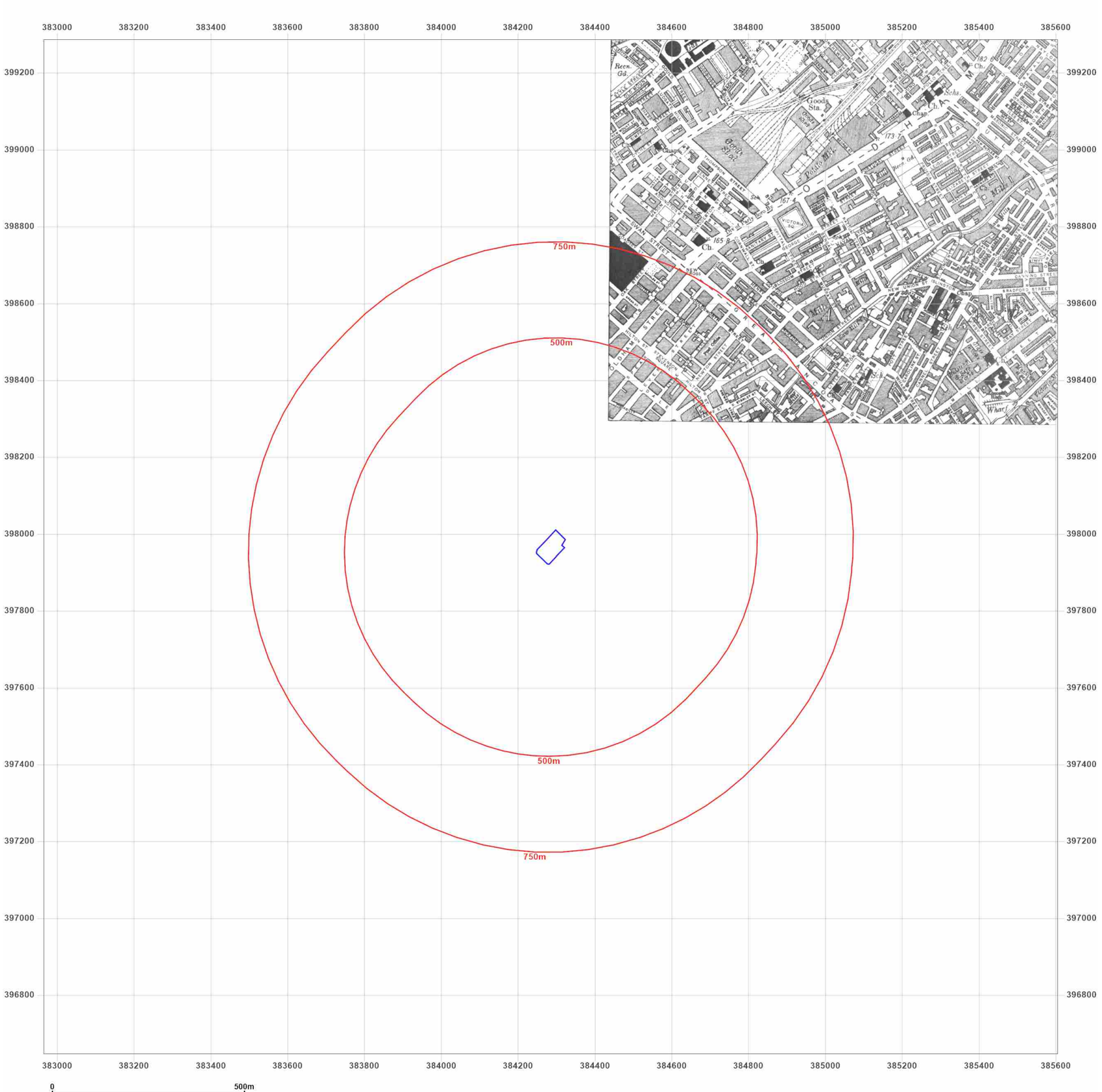
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Site Details:

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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

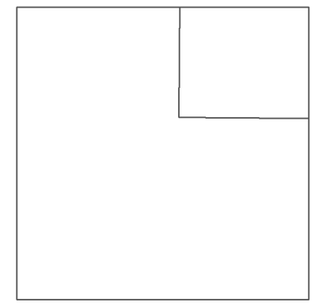
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Scale: 1:10,560

Printed at: 1:10,560

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Surveyed 1844
Revised 1921
Edition 1923
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Site Details:

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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

Map date: **1923**

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N
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Surveyed 1844
Revised 1916
Edition 1923
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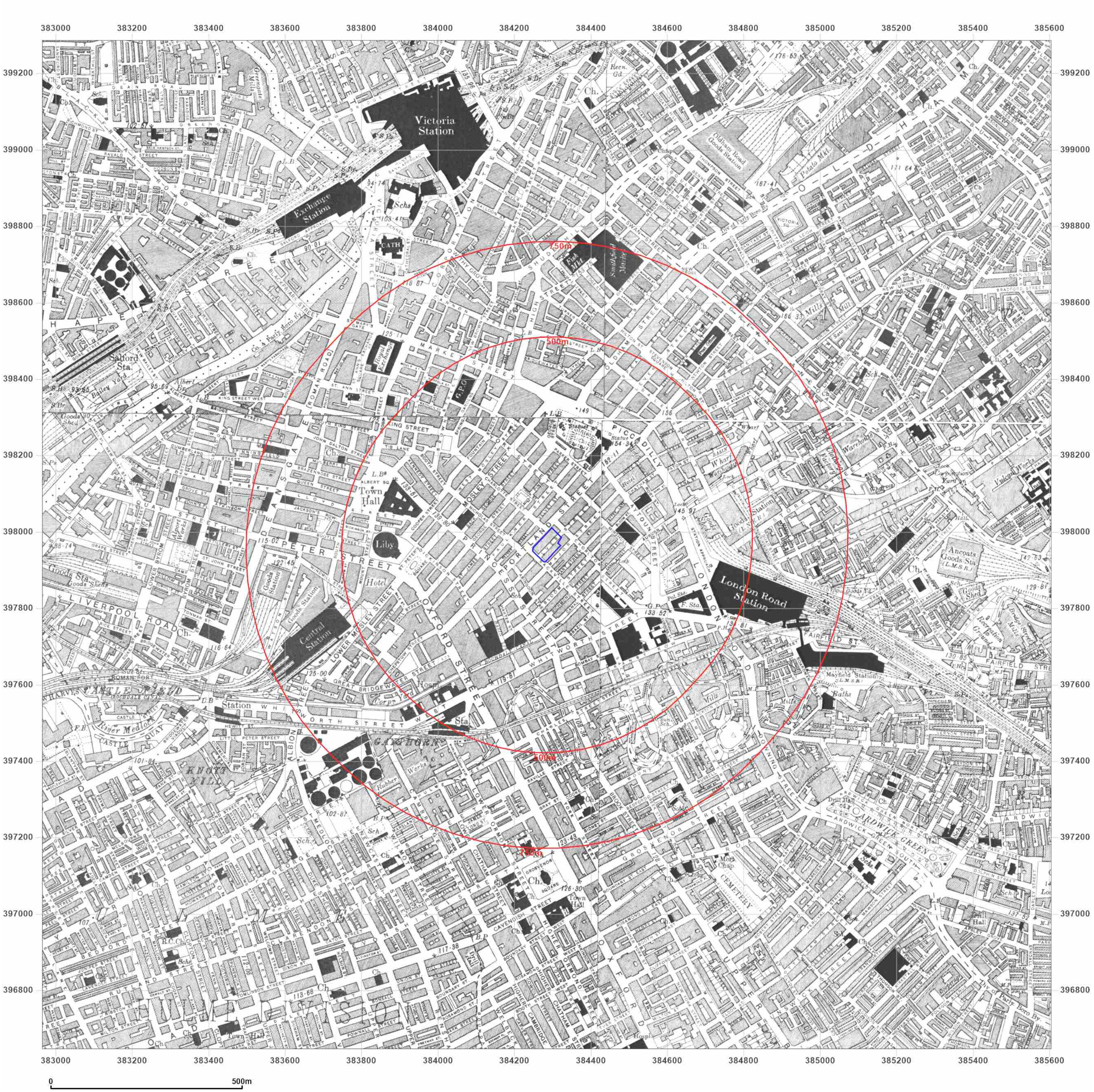
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Site Details:

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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

Map date: **1931-1934**

Scale: 1:10,560

Printed at: 1:10,560

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

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

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

Surveyed 1844
Revised 1934
Edition 1934
Copyright N/A
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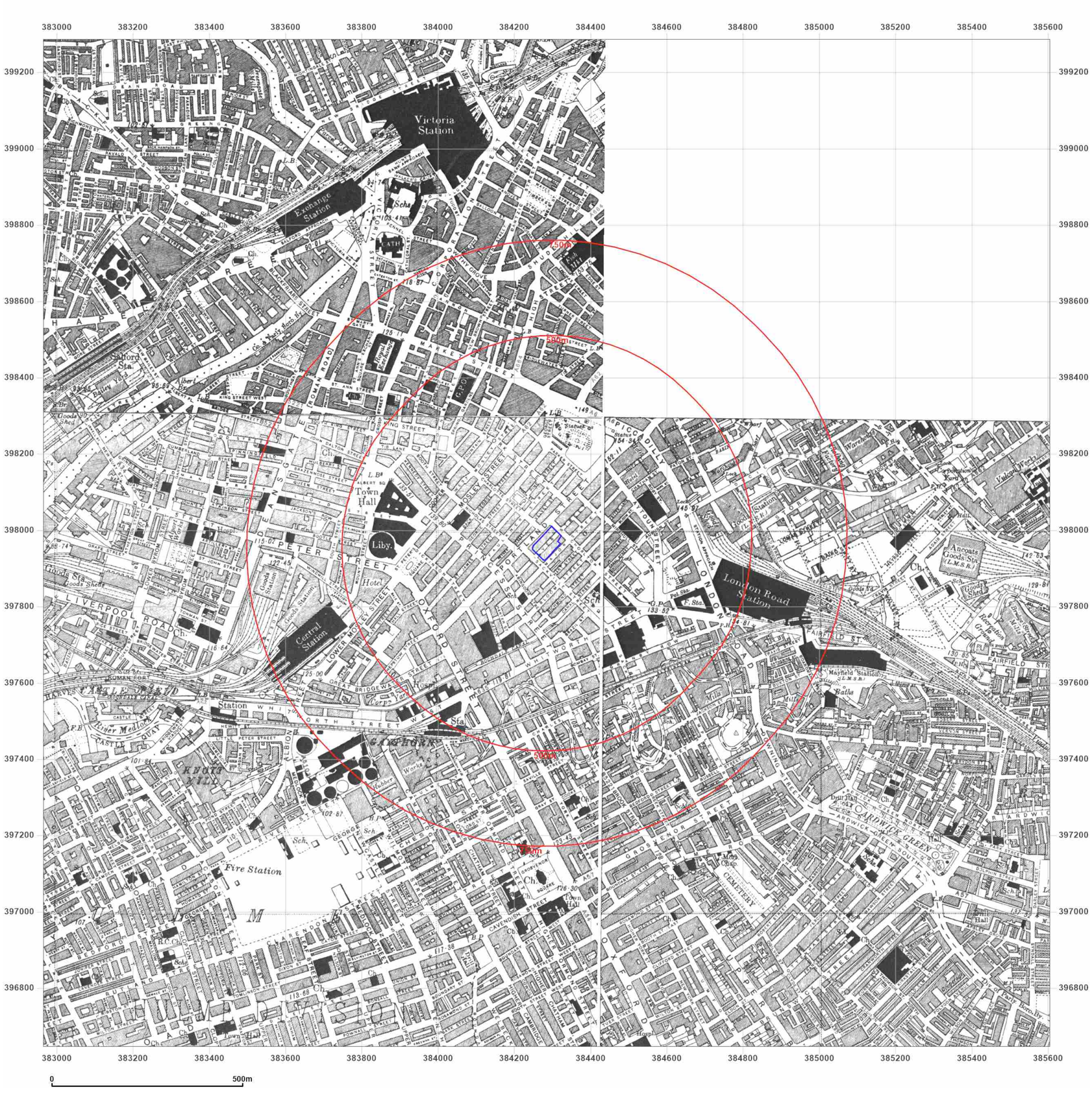
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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

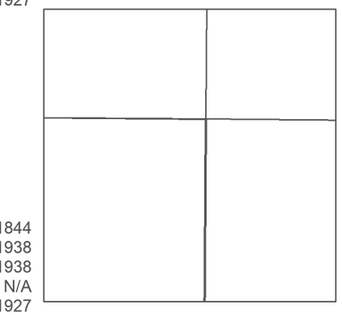
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Scale: 1:10,560

Printed at: 1:10,560

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



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

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

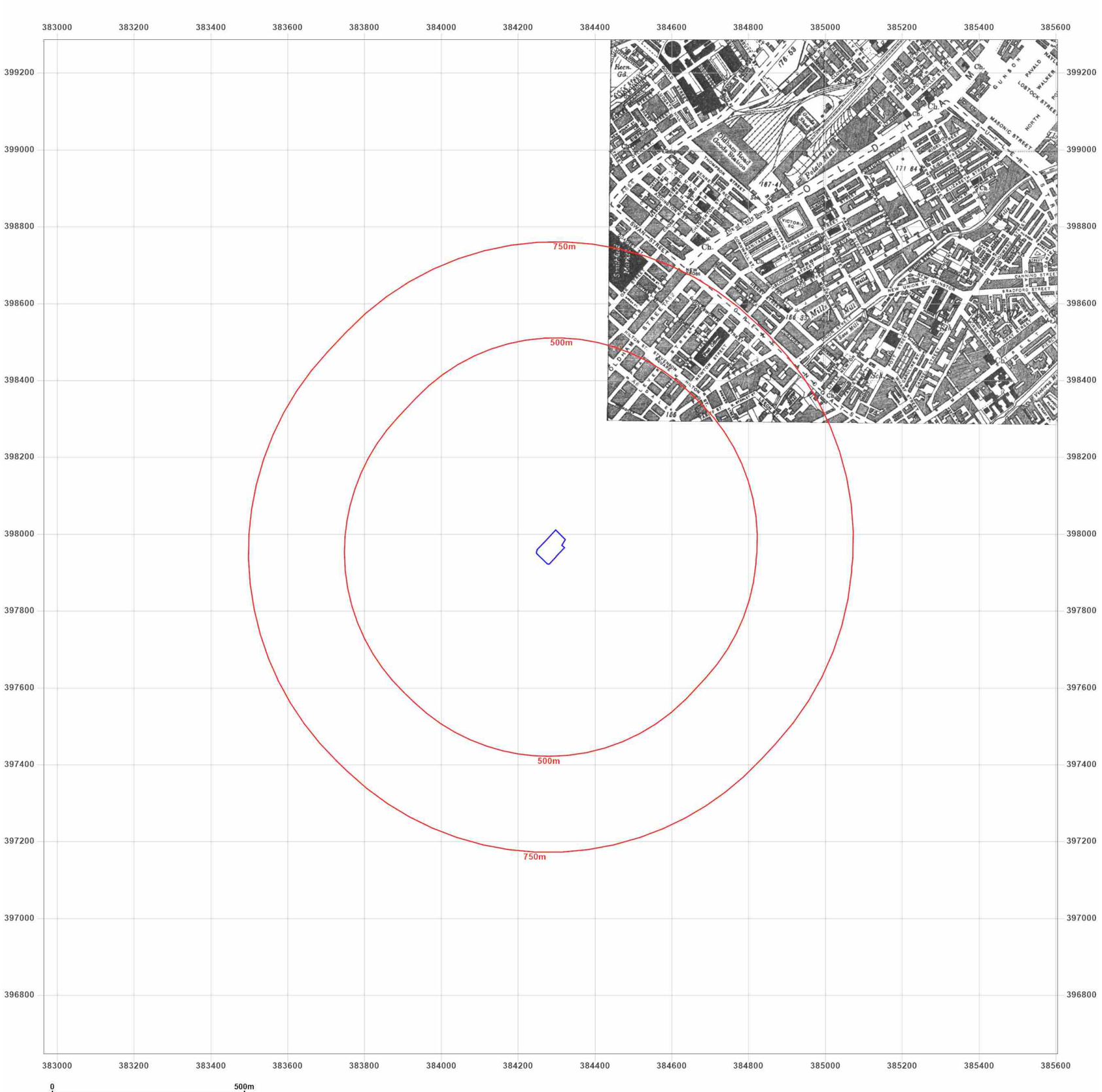
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Site Details:

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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: County Series

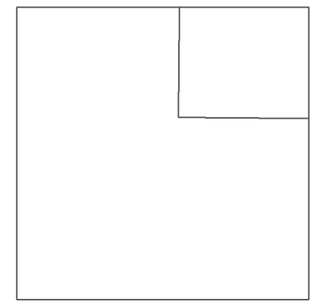
Map date: **1938**

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Printed at: 1:10,560

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



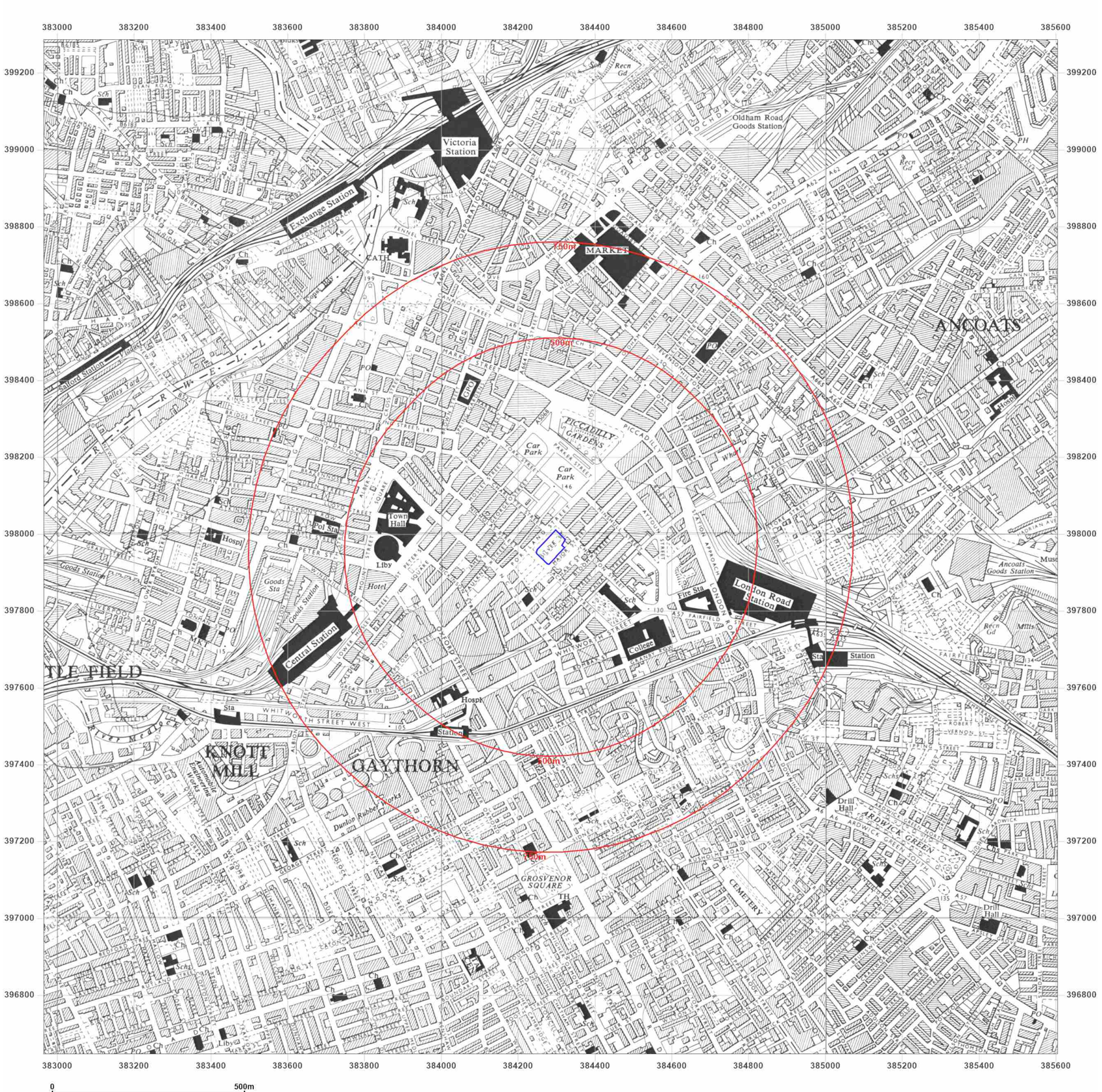
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Site Details:

49-53, PORTLAND STREET,
MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: Provisional

Map date: **1956**

Scale: 1:10,560

Printed at: 1:10,560

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

Surveyed 1956
Revised 1956
Edition N/A
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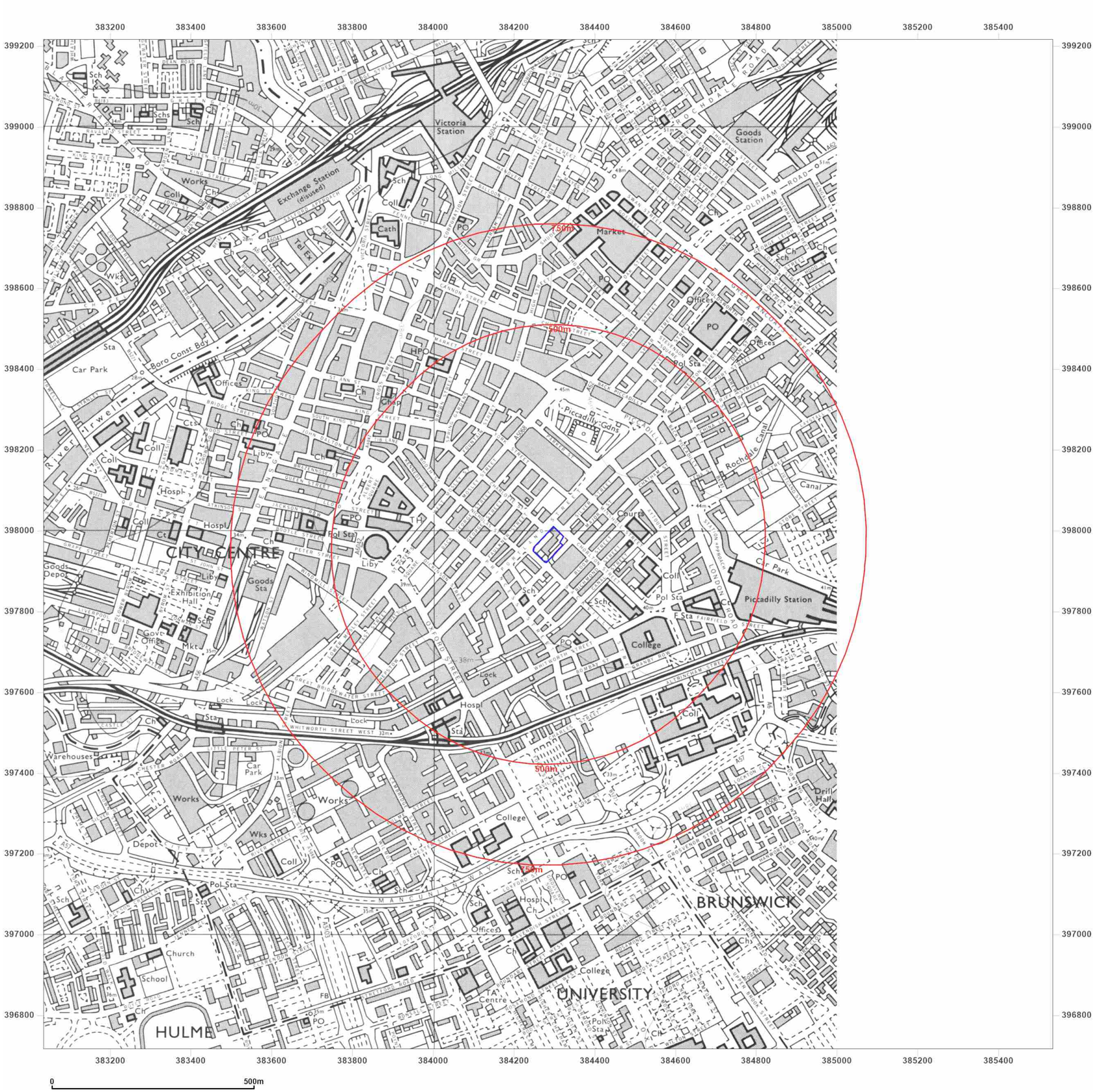
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Site Details:

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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1972**

Scale: 1:10,000

Printed at: 1:10,000

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

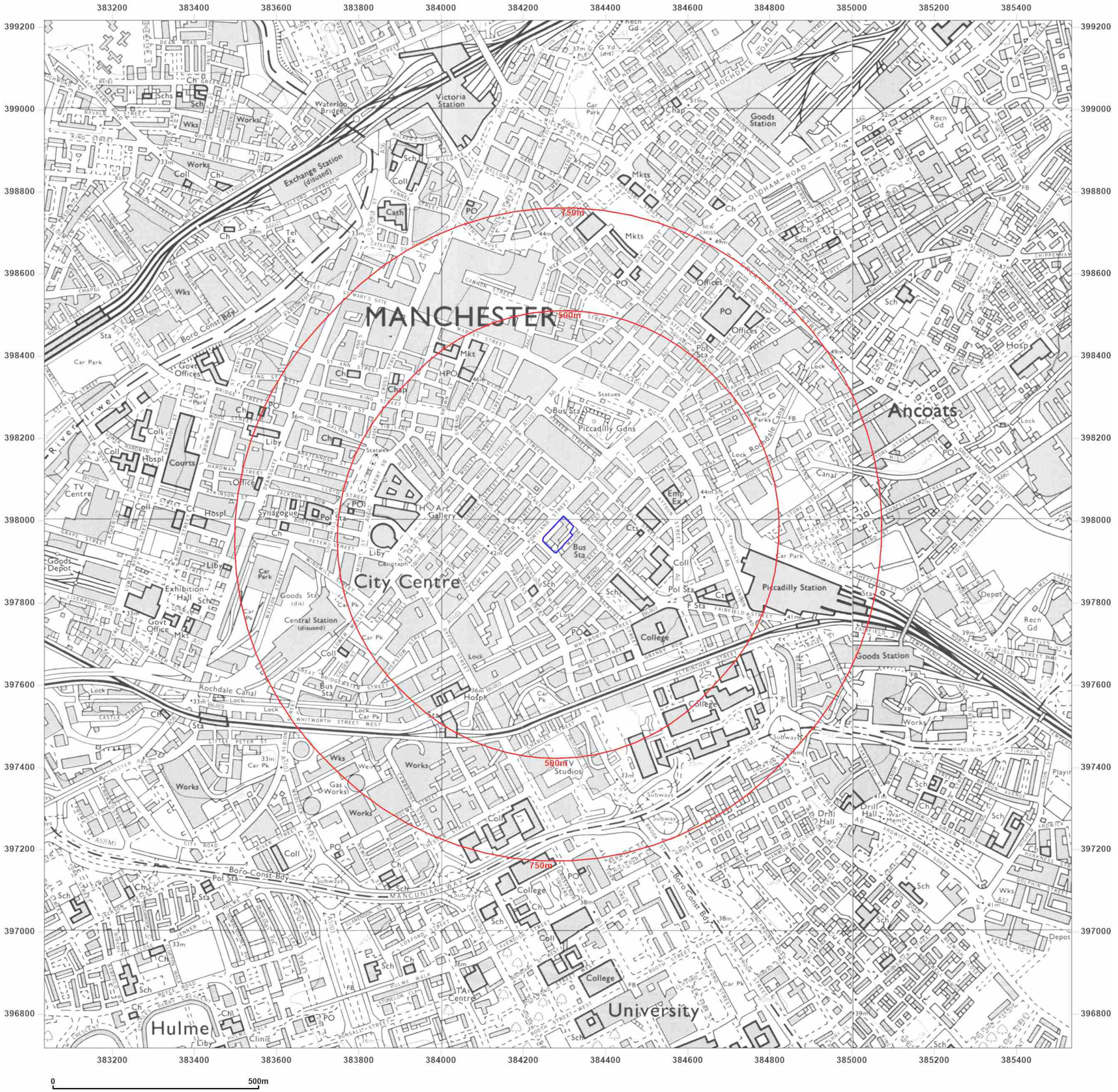
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1980-1981**

Scale: 1:10,000

Printed at: 1:10,000

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

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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1985**

Scale: 1:10,000

Printed at: 1:10,000

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

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

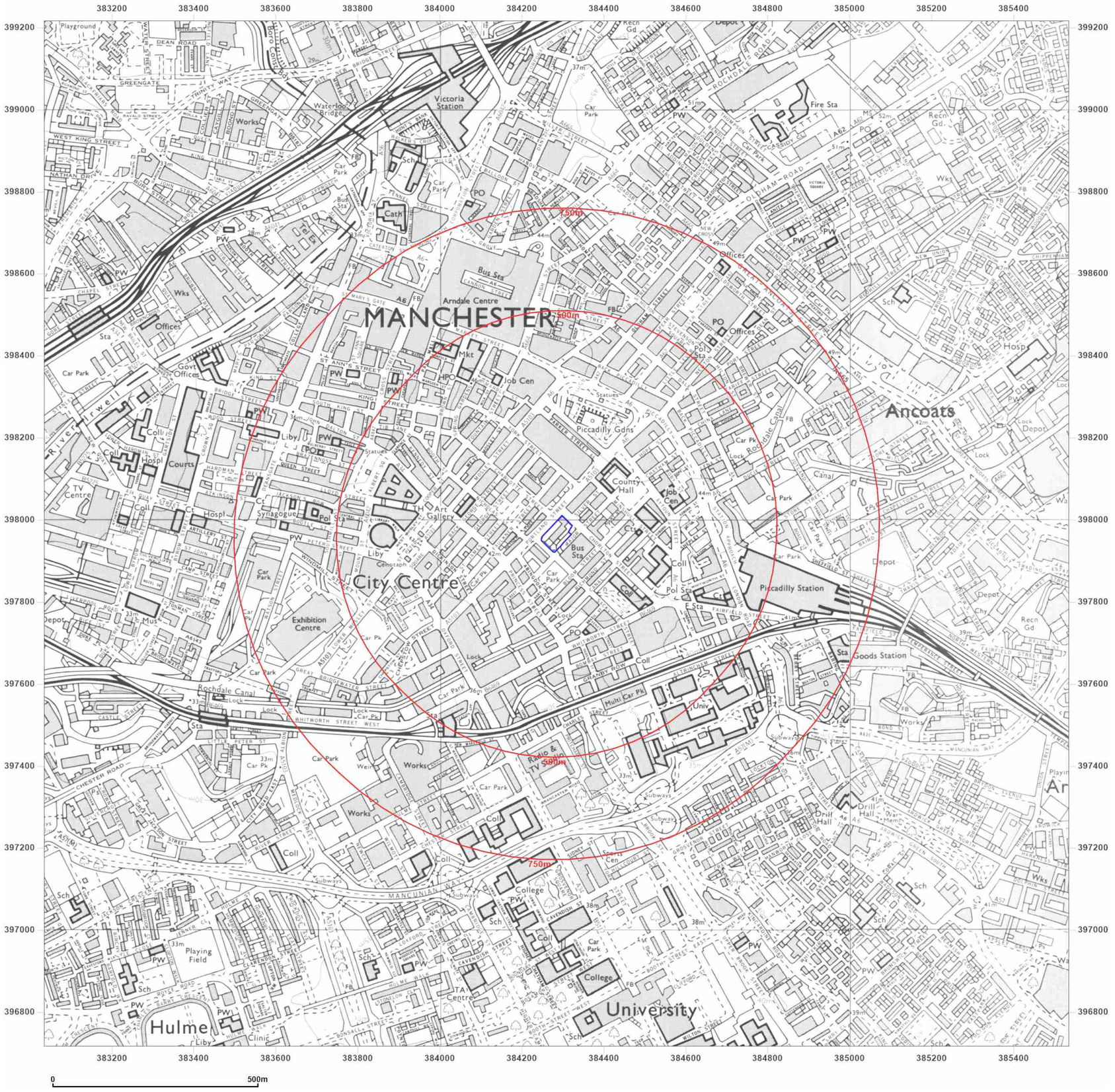
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1988-1991**

Scale: 1:10,000

Printed at: 1:10,000

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Surveyed 1986
Revised 1988
Edition N/A
Copyright 1988
Levelled 1981

Surveyed 1985
Revised 1991
Edition N/A
Copyright 1991
Levelled 1981

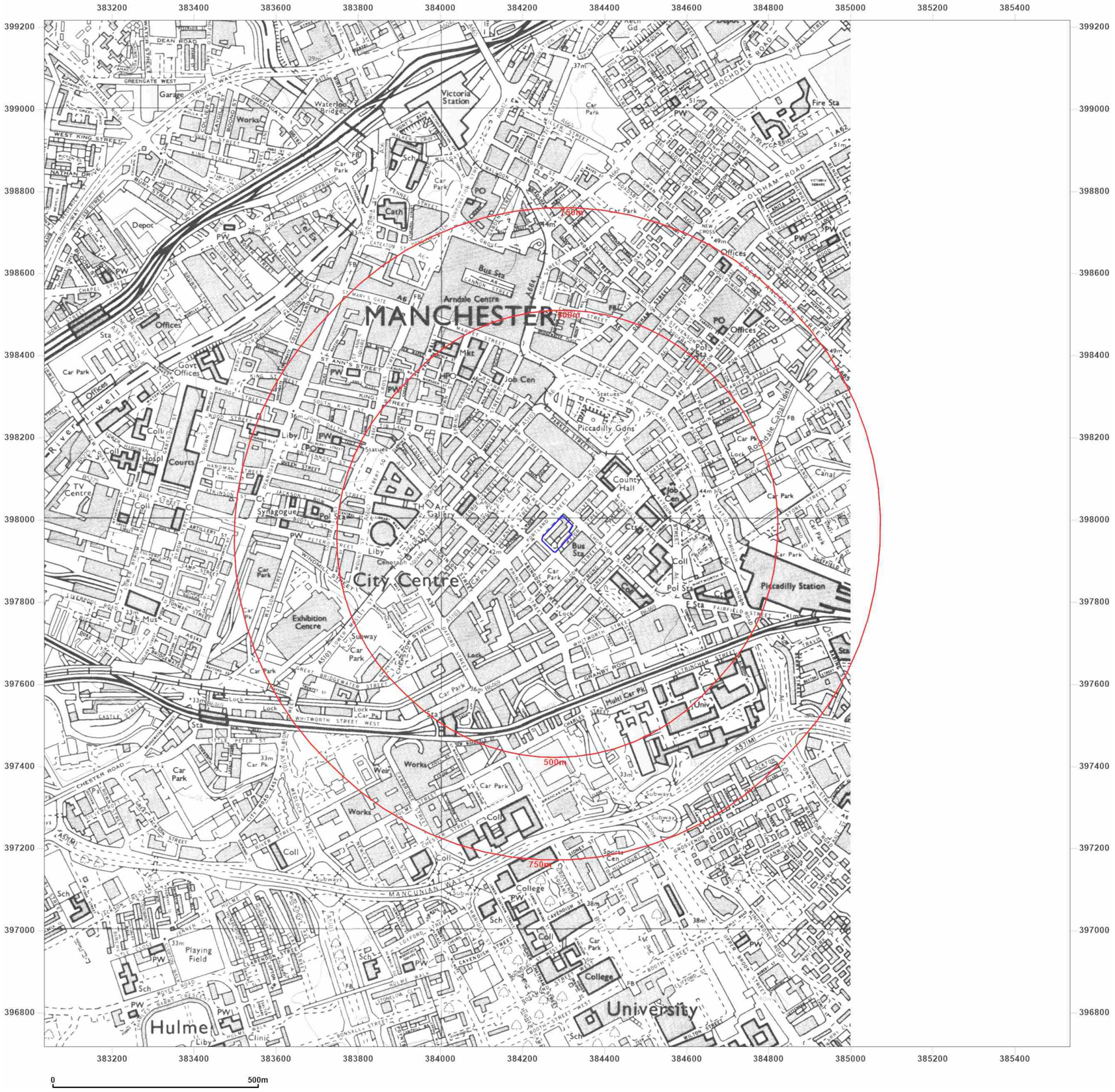
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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **1994**

Scale: 1:10,000

Printed at: 1:10,000

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MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

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2001

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Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

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2010

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Site Details:

49-53, PORTLAND STREET,
MANCHESTER, M1 3LD

Client Ref: NX469
Report Ref: GS-8905457
Grid Ref: 384284, 397966

Map Name: National Grid

Map date: **2022**

Scale: 1:10,000

Printed at: 1:10,000

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