



50 Fountain Street, Manchester

**Phase 1 Desk Study
Assessment Report**

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author	Helen Gribbon
signature	
date	15.06.2021
approved	Kevin Gilsenan
signature	
date	15.06.2021

Contact Details:-

Helen Gribbon | Director
MIStructE, CEng, BEng, MScArch

**Carvers Warehouse, 77 Dale Street
Manchester, M1 2HG**

e: helengribbon@renaissance-ltd.com

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DRAWINGS

Drawing Number	Rev	Title
C4683/01	-	Site Location Plan
FSM-REN-00-00-DR-S-00020	P01	Site Constraints Plan

APPENDICES

APPENDIX A	Methodology and Guidance
APPENDIX B	Historical Maps
APPENDIX C	Geo-Environmental Data Report
APPENDIX D	Coal Authority Search
APPENDIX E	UXO Screening Map

1.0 INTRODUCTION

1.1 Context

1.1.1 This report describes a Phase I Desk Study Assessment carried out by renaissance, in conjunction with Brownfield Solutions Limited on a site off Fountain Street, Manchester.

1.1.2 This report has been completed in general accordance with the following guidance:

- Environment Agency guidance - Land Contamination: Risk Management (LCRM).
- CLR11 – Model Procedures for the Management of Land Contamination.
- BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites.
- BS5930: 2015+A1:2020 Code of Practice for Ground Investigations.
- BS EN 1997-1:2004+A1:2013 Eurocode 7. Geotechnical design. General rules plus UK National Annex.
- BS EN 1997-2:2007 Eurocode 7 Geotechnical design. Ground investigation and testing plus UK National Annex.

1.2 Proposed Development

1.2.1 The proposed development is for a 7-storey plus basement office building. The existing building will be demolished, and the proposed new development is to be constructed while retaining the existing Grade II listed façade.

1.3 Objectives and Scope

1.3.1 The objectives of this assessment were to determine the environmental setting and ground conditions of the site, highlighting potential areas of concern that may govern the redevelopment.

1.3.2 The scope of works comprises a Desk Study and site walk-over, with a review of the site, surroundings, historical uses and environmental setting in order to develop a preliminary Conceptual Site Model (CSM).

1.4 Limitations

1.4.1 This desk study assessment has been prepared in accordance with the relevant legislative framework, guidance and risk assessment methodology as outlined in Appendix A.

1.4.2 The findings and opinions conveyed via this desk study are based on information obtained from a number of sources as detailed within this report, renaissance have assumed this information is correct and reliable. Nevertheless, renaissance cannot and does not guarantee the authenticity or reliability of the information it has relied upon.

1.4.3 There may be other conditions prevailing on the site which are outside the scope of work and have not been highlighted by this assessment and therefore have not been taken into account by this report. Responsibility cannot be accepted for such site conditions not revealed by the assessment.

1.4.4 This report has been prepared for the sole use and reliance of the Client, Prudential UK Real Estate Partnership Limited. No other third parties may rely upon or reproduce the contents of this report

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- 1.4.5 Any recommendations made in this report should be confirmed with the Regulatory Authorities prior to implementation to ensure compliance.
- 1.4.6 This assessment has been based on the proposed planning layouts provided. Any subsequent change to the planning layout may have an impact on the validity of recommendations made within this report. Furthermore, new information, changed practices or new legislation may necessitate revised interpretation of the report after the date of its submission.
- 1.4.7 The site plans enclosed in this report should not be scaled off. Any site boundary line depicted on plans does not imply legal ownership of land.
- 1.4.8 Notwithstanding site observations concerning the presence or otherwise of archaeological issues, asbestos-containing materials (ACM) or invasive weeds (e.g. Japanese knotweed), this report does not constitute a formal survey of these potential issues.

2.0 THE SITE

2.1 Location

- 2.1.1 The site is located off Fountain Street Manchester, M2 2AS. It is situated within Manchester City Centre, centred on National Grid Reference 384065, 398214 as shown on the Site Location Plan, Drawing No. C4683/01.

2.2 Site Description

- 2.2.1 Renaissance have undertaken a walkover and the main site features and potential issues identified during this survey in addition to information taken from satellite imagery and street view are detailed below and are shown on the Site Constraints Plan, Drawing No FSM-REN-00-00-DR-S-00020-P01.

Feature	Description
Site Area	Approximately 0.1 hectares.
Site Access	There are no access restrictions at the site. Access to the building can be obtained from Concert Lane to the north or Fountain Street to the south. It is understood no access can be gained from Spring Gardens to the west.
Current Land Use and Site Features	The site is currently used for office premises and is built from brick and stone construction. The building is 5 storeys in height and has a basement/semi-basement across the footprint ranging from 1.25m to 3.00m in depths which is used for car parking and houses an electricity substation.
Potential Sources of Gross Contamination	An electricity substation is understood to be located within the basement, the age of which is unknown.
Vegetation	Some trees are present towards the south of the building, along Fountain Street.
Topography	The site is generally flat in level however access to the building from Fountain Street is higher in level than the surrounding pavement.
Site Boundaries	All site boundaries are open, Concert Lane bounds the site to the north, Fountain Street to the south and Spring Gardens to the west. The eastern boundary is defined by the adjacent office buildings.
Surrounding Area	The site is set within a largely commercial district with office buildings, banks and restaurants surrounding the site.

3.0 GEO-ENVIRONMENTAL SETTING

3.1 Historical Setting

3.1.1 A review of the available historical Ordnance Survey Maps and satellite imagery has been conducted, with the pertinent issues that may have affected the site, or its environs, summarised below. The Historical Maps are presented in Appendix B. A review of the historical industrial data within the geo-environmental data report has also been undertaken below, the report is presented in Appendix C.

3.1.2 Notable features within 100m of the site boundary have been presented. Any features that have potentially been infilled will be considered up to 250m from the site boundary.

Feature	Distance	Years Present	Description
Pump	Onsite – Southern area	1851 only	The earliest map available shows the site to span over several buildings, one labelled office, with a pump present towards the south of the site. The pump is no longer labelled on the subsequent map dated 1891.
Cabinet Manufactory and pump	60m SW	1851 only	Both manufactories appeared on the earliest map available but were no longer labelled on subsequent maps, in addition the building footprints for both had change and the buildings are presumed to have been demolished and replaced with unknown buildings.
Coach Manufactory	60m W	1851 only	
Electricity substation	95m N	1948 - 1967	The substation first appeared on the map dated 1948 and remained until the map dated 1980-1985.

3.1.3 In summary, the map evidence indicates that the site was initially a series of unnamed buildings, one labelled as offices, and remained so until the map dated 1980, where the footprint remained the same however the site now formed 2 buildings, and by the map dated 1990 the site formed just one building labelled as a bank. Due to the change in architecture, the western portion of the site appears to be the original building while the remainder is more modern in construction, indicating the site has had partial demolition and reconstruction.

3.1.4 The surrounding area of the site is mainly offices and business; historical features include manufactory and an electricity substation.

3.2 Published Geology

3.2.1 The following publications of the British Geological Survey (BGS) were examined in respect of the geology underlying the site:

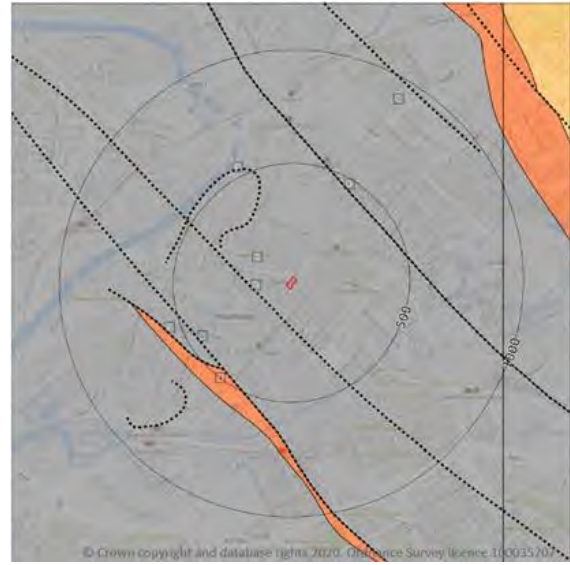
- British Geological Survey (BGS) 1:50,000 Scale Geological Map Sheet 85, Manchester Bedrock and Superficial Edition.
- BGS Geology of Britain Map Viewer.
- BGS Geo Index Onshore.
- Geo-Environmental Data Report.

3.2.2 Extracts of the 1:10,000 geological mapping from the Geo-Environmental Data Report are presented below for reference:

BGS 1:10 000 Superficial Geology



BGS 1:10 000 Solid Geology



Made Ground

- 3.2.3 BGS mapping does not display any made ground deposits on site, however based on the historical mapping and the development that has taken place, made ground deposits are highly likely to be present.

Superficial Deposits

- 3.2.4 The site is indicated to be underlain by Devensian Till. This stratum typically comprises clay with varying amounts of sand and gravel as minor constituents.

Solid Geology

- 3.2.5 The deeper solid geology is indicated to sandstone as part of the Chester Formation.

- 3.2.6 No faults are shown on or within an influencing distance of the site.

3.3 BGS Boreholes

- 3.3.1 There are no BGS borehole records within a relevant distance of the site.

3.4 Natural Geological Hazards

- 3.4.1 The BGS GeoSure Data presented within the Geo-Environmental Data Report is summarised in the table below:

Hazard	BGS Hazard Rating	Comments
Shrink Swell Clays	Very Low	Ground conditions predominantly low plasticity.
Running Sands	Very Low	Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.
Compressible Ground	Negligible	Compressible strata are not thought to occur.
Collapsible Deposits	Very Low	Deposits with potential to collapse when loaded and saturated are unlikely to be present.

Landslides	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.
Soluble Rocks	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.

3.5 Natural Soil Chemistry

3.5.1 Information contained within the Geo-Environmental Data Report gives indicative natural concentration values (estimated) for the natural soils at the site.

3.5.2 The values presented in the table below indicate the expected natural background concentration levels, and thereby provide a baseline guideline estimate that can be used to assess the significance of any chemical test data acquired from any future intrusive investigations at the site.

Element	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
Concentration (mg/kg)	15-25	No data	100-200	60-120	1.8	60-90	30-45

3.6 Mining and Mineral Extraction

Coal Mining

3.6.1 The online Coal Authority Interactive Map layers have been reviewed and the details are summarised in the table below:

Relevant Interactive Map Data	Issue at Subject Site?
Coal Authority Reporting Area	Yes
Development High Risk Area	No
Past Shallow Coal Mine Workings	No
Portable Shallow Coal Mine Workings	No
Mine Entries within 20m	No

3.6.2 As the site lies within the Coal Authority Reporting Area, a mining search has been undertaken as the site could be affected by past or current coal mining.

3.6.3 The mining searches are presented in Appendix D, the main findings of which are presented below.

Highlighted Evidence	Issue	Details
Past Underground Mining	No	
Present Underground Mining	No	
Future Underground Mining	No	
Mine Entries	No	
Past, present and future opencast coal mining	No	
Coal mining subsidence	No	

Mine gas	No	
Withdrawal of support	No	
Information from the Cheshire Brine Subsidence Compensation Board	No	

3.7 Hydrogeology

3.7.1 Based on the inferred geology, a summary of the Environment Agency aquifer designations is presented in the table below:

Stratum	Coverage	Aquifer Designation	Groundwater Vulnerability
Superficial	Full Site	Secondary Undifferentiated. (Undifferentiated). The classification is assigned where it is not possible to attribute either category A or B to the aquifer.	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.
Bedrock	Full Site	Principal Aquifer. This is 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.	

3.7.2 The site is not indicated to lie within 500m of a Source Protection Zone.

3.7.3 The nearest active groundwater abstraction licence is 589m north west of the site for general cooling. The nearest historic licence is 197m south of the site for general cooling.

3.7.4 The nearest historic potable water abstraction licence is 978m north of the site for drinking water. There are no active licence records within 2000m of the site.

3.7.5 The nearest Water Framework Directive (WFD) Groundwater Body is located on site and is the Manchester and East Cheshire Permo-Triassic Sandstone Aquifers, with an overall poor chemical rating (2015).

3.8 Hydrology

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

3.8.2 The nearest watercourse to the site is the Rochdale Canal, which lies at a distance of 480m south-east of the site at its closest point.

3.8.3 The nearest historical surface water abstraction licence is 1745m south-west of the site for general cooling. There are no active licences within 2000m of the site.

3.8.4 There are no licenced discharge consent records within 500m of the site.

3.8.5 Information obtained from the Environment Agency (EA) Risk of Flooding from Rivers and the Sea (RoFRaS) database indicates that there are no records relating at the site.

- 3.8.6 The site is not indicated to lie within an EA designated Zone 2 / Zone 3 flood plain.
- 3.8.7 The British Geological Survey indicate there is a potential for groundwater flooding at the subject site, with a moderate risk rating. Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.
- 3.8.8 No further consideration of flood risk is undertaken in this report. Specialist flood risk advice should be sought with regards to drainage and flooding.

3.9 Geo-Environmental Searches

- 3.9.1 A summary of the relevant environmental aspects, both on site and within 500m of the site contained in the Geo-Environmental Data Report, are presented in the table below:

Entry	On-site	0-249m	250-500m	Details
Environmental Permits, Incidents and Registers	0	1	3	The closest record is for a Part B process 201m west of the site at Johnsons Cleaners for processes relating to dry cleaning.
Pollution Incidents	0	0	1	The closest record was 320m east of the site in 2002, there was a minor impact to land and no impact to water and air. The pollutant was not identified.
Landfill Sites	0	0	0	
Waste Sites	0	0	2	The closest historical waste site is 405m west for a recycling storage facility.
Waste Exemptions	0	2	7	The closest waste exemption is 43m north east for screening and blending of waste not on a farm.
Control of Major Accident Hazard (COMAH) Sites	0	0	0	
Consents issued under planning (Hazardous Substances) Act 1990	0	0	0	
Radioactive Substances	0	0	0	
Fuel Station Entries	0	0	0	
Other Current industrial land uses	0	44	-	The closest record is 33m south east of the site for industrial products (published goods). Several other records include infrastructure and facilities, repair and servicing, industrial products and recycling services.
National Grid Services	0	0	0	

3.10 Radon

- 3.10.1 Information from the environmental database report indicates the property is not in a radon affected area and therefore no radon protective measures are necessary in accordance with BRE Report 211 'Radon – Guidance on protective measures for new dwellings' 2015 Edition.

3.11 UXO Risk

- 3.11.1 In accordance with CIRIA Report C681, renaissance have reviewed non-specialist UXO data for the site using the online Zetica Bomb Risk Mapping data.
- 3.11.2 There is no indication of former military use from the desk study however there is a "ruin" located within 600m of the site on the historical map dated 1948 which could be indicative of bomb damage. The map indicates the site to be in an area where the bomb risk is moderate. A copy of the map is presented in Appendix E.
- 3.11.3 Since the site is considered to be at moderate bomb risk, in order to determine if and what further action may be required to mitigate the risk, the next stage would be to follow the recommended process set out in CIRIA Report C681 and carry out a preliminary risk assessment or undertake a full detailed risk assessment. Intrusive works on site may also require supervision by a UXO specialist.

4.0 DESK STUDY SUMMARY AND RISK ASSESSMENT

4.1 Introduction

- 4.1.1 The risk posed by any contaminants in soil or groundwater will depend on the nature and level of the source, the probability of exposure occurring, the potential pollution pathway and the likely effects on the receptors.
- 4.1.2 A contaminant is defined as a substance that has the potential to cause harm, a risk is considered to exist if such a substance is present at sufficient concentrations to cause harm and if a pathway is present through which a receptor could be exposed to the contaminant.
- 4.1.3 The following sections discuss the identified potential on-site and off-site sources, and any pollution that could impact receptors via the pathways associated with the proposed development. Pollution linkages are assessed which may represent a risk to human health and/or controlled water receptors from the information gained from the desk study searches. The assessment has been carried out on a qualitative basis and aims to produce a complete and comprehensive Preliminary Conceptual Site Model.
- 4.1.4 Three potential impacts exist for any given site and all three need to be considered in the qualitative risk assessment, these are:
- On- site impacts
 - The site impacting its surroundings.
 - Off-site sources impacting the subject site.

4.2 Potential Contaminative Sources

On-Site

- 4.2.1 From the information obtained during the desk study the following sources have been identified by the desk study which may affect the redevelopment of the site for commercial end use:
- Made ground associated with the former buildings and possible infilled pump.
 - Electricity substation
 - Ground gas from deep made ground (if present).

Off-Site

- 4.2.2 The following off-site sources have been identified by the desk study which may affect the redevelopment of the site
- Cabinet and Coach Manufactories (60m SW)
- 4.2.3 The electricity substation north of the site has been discounted due to the distance from the site. PCBs are likely to be present due to the age of this however the mobility of this contaminant is low and they are unlikely to migrate to site.

Associated Contaminants

- 4.2.4 The contaminants commonly associated with the potential sources of contamination identified are tabulated below:

Contaminative Sources	Department of the Environment Industry Profile or Other Source	Commonly Associated Contaminants
On Site		
Made ground	-	Heavy metals, polycyclic aromatic hydrocarbons (PAHs), asbestos, ground gases (carbon dioxide and methane).
Electricity Substation	Electrical Works	Polychlorinated biphenyls (PCBs)
Off Site		
Cabinet and Coach Manufactories	Miscellaneous Industries	Heavy metals, polycyclic aromatic hydrocarbons (PAHs), asbestos, petroleum hydrocarbons.

4.3 Pathways

4.3.1 A pathway is defined as a medium by which a contaminant comes into contact with, or otherwise impacts a receptor.

4.3.2 At this stage the potential contaminants identified above are considered to present potential risks to site end users and controlled waters through the following pathways:

Potential Pathways	
Pathways in respect to Human Health	• Ingestion of contaminated soils. • Dermal contact with contamination. • Inhalation of dusts. • Inhalation of gases or vapours in both indoor and outdoor air.
Pathways in respect to Controlled Waters – Groundwater	• Leaching of mobile contamination into groundwater via the unsaturated zone. • Migration of perched groundwater in any permeable soils or along existing or proposed service runs. • Migration into the saturated zone and flow through the Secondary Undifferentiated Aquifer and the Principal Aquifer underlying the site.
Pathways in respect to Property/structures/water pipes	• Direct contact with substances deleterious to building materials and potable water supply pipelines. • Migration of ground gases (methane) into confined spaces (explosion and damage to property).

4.4 Receptors

4.4.1 The identified receptors are listed below:

- Commercial end users (human health).
- Structures/Property/portable water supply pipes.
- Superficial Till. Secondary A Aquifer (Controlled waters).
- Sandstone Bedrock Principal Aquifer. (Controlled waters).
- Construction workers.

4.4.2 The nearest watercourse to the site (the Rochdale Canal) has been discounted as a receptor due to the distance and that canals are man-made structures which are likely to be clay lined and therefore not in hydraulic continuity with any underlying aquifers. In addition, this is not considered to be a sensitive receptor.

4.5 Preliminary Conceptual Site Model

- 4.5.1 The information obtained in the previous sections has been used to compile a Preliminary CSM. The identified potential contaminants and receptors have been assessed in the table below as to whether a plausible source-pathway-receptor pollutant linkage for the proposed end use of the site exists. The risk classification has been estimated in accordance with information in the renaissance Guidance and Methodology in Appendix A.
- 4.5.2 The Preliminary CSM's are presented in the tables overleaf, any assessed risk above moderate will possibly require further action:

Human Health						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
On site Made ground Metals, PAH's, asbestos	Root uptake, ingestion, direct contact, inhalation of dusts	End-users	Unlikely	Medium	Low	Evidence from mapping suggests the site hasn't been redeveloped many times, so made ground is likely to be limited in thickness and any contamination associated with this will be small scale. In addition, the proposed development will include a new building and basement structure across the site, which will mitigate any contact between soils and site end users. The risk is considered to be low.
On site Made ground Metals and organic contamination	Migration into/chemical attack of water supply pipelines	Water Pipelines / End users	Unlikely	Medium	Low	Contaminants within the soil/groundwater could potentially attack the clean potable water supply pipe, contaminants should be assessed to determine the correct pipe material and level of precautions required.
On site Electricity Substation PCBs	Ingestion, direct contact, inhalation of dusts / vapours	End-users	Likely	Medium	Moderate	The age of the substation is unknown therefore it is assumed PCBs are present within this, the mobility of which is low so contamination if present, will be localised. At this stage the risk is considered moderate and further investigation will be required to confirm the risk.
On site Made Ground Ground Gas (carbon dioxide and methane)	Migration into confined spaces, inhalation and asphyxiation/ explosion	End users, Property / structure	Unlikely	Severe	Moderate/ Low	Deep made ground may be present in the vicinity of the pump if this has been infilled, and the composition of this is unknown however if any putrescible material is present it is likely to have degassed by now, further investigation is required to confirm the risk.

Off site Manufactories Metals, PAH's, asbestos	Ingestion, direct contact, inhalation of dusts	End-users	Unlikely	Medium	Low	It is unknown what processes occurred at the offsite manufactories however contamination associated with these is unlikely to migrate to site due to the impermeable nature of the superficial deposits at the site. The risk is considered to be low.
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Controlled Waters						
Potential Source	Potential Pathway	Potential Receptor	Likelihood	Severity	Level of Risk	Justification
Made Ground PAH's, Metals	Leaching through unsaturated zone / Migration through saturated zone	Secondary A Aquifer (Ground-water)	Unlikely	Medium	Low	Gross contamination is not anticipated on site, the site is currently surfaced in hardstanding and will remain so, with a new surface water drainage system installed which will further reduce the risk to controlled waters. By virtue of the development taking place, this should contribute to an overall "betterment" of groundwater quality.
	Migration through saturated zone	Principal Aquifer (Ground-water)	Unlikely	Medium	Low	There are no groundwater abstraction licences or Source Protection Zones near the site. As stated above, the site is currently surfaced in hardstanding and will remain so, with a new surface water drainage system installed which will further reduce the risk to controlled waters. Furthermore, the impermeable nature of the overlying superficial deposits will restrict downward migration of any contamination.
Electricity Substation PCBs	Leaching through unsaturated zone / Migration through saturated zone	Secondary A Aquifer (Ground-water)	Unlikely	Medium	Low	PCBs may be present on site however as stated above, the site is surfaced in hardstanding with surface water drainage and will remain so, this will significantly reduce infiltration and leaching into the superficial deposits
	Migration through saturated zone	Principal Aquifer (Ground-water)	Unlikely	Medium	Low	There are no groundwater abstraction licences or Source Protection Zones near the site. As stated above, the site is currently surfaced in hardstanding and will remain so, with a new surface water drainage system installed which will further reduce the risk to controlled waters. Furthermore, the impermeable nature of the overlying superficial deposits will restrict downward migration of any contamination.

Human Health Risk - Summary

- 4.5.3 Based on the preliminary CSM and the current use of the site, the overall risk from land contamination at the site is considered to be **low to moderate** for a redeveloped site. This would need to be confirmed by appropriate intrusive investigation, testing and assessment.
- 4.5.4 A potential on-site gas source has been identified associated with the made ground associated with previous developments and a potentially infilled pump. The preliminary CSM considers the sources to be a moderate/low risk to site end users and property.
- 4.5.5 In accordance with CIRIA C665 and as set out in Appendix A of this report, the gas generation potential is considered to be very low/low. The sensitivity of the development is low on account of the proposed commercial use.
- 4.5.6 In line with current guidance, it is recommended that ground gas monitoring should comprise 4 visits over a 1 month period.

Controlled Waters Risk - Summary

- 4.5.7 Based on the preliminary CSM, renaissance believes the overall risk to controlled waters at the site is **low** for the following reasons:
- No significant contamination is anticipated on site.
 - The nearest watercourse is over 450m away and has been discounted as it is not considered to be a sensitive receptor.
 - The site is underlain by low permeability clays which will inhibit lateral and vertical contaminant migration.
 - The site does not lie within 500m of an SPZ.
 - There are no groundwater abstractions within 2000m.
 - There are no potable (sensitive) water abstractions within 2000m.

The above assessed level of risk will need to be confirmed by intrusive investigation and quantitative risk assessment.

5.0 PRELIMINARY GEOTECHNICAL ASSESSMENT

5.1 Hazard Identification

5.1.1 Potential geotechnical hazards based on the expected ground conditions are listed below:

- Made ground of unknown nature; if placed in a non-engineered manner may cause excessive settlement of foundations, highways and infrastructure.
- Attack of buried concrete by aggressive ground conditions; the site may contain unknown made ground and potentially sulphate bearing soils. The coal measures are known to be high in naturally occurring sulphates
- Shrink / swell of clay; settlement / heave of foundations when located within the influence of trees and vegetation.

5.2 Foundations Design

5.2.1 The proposed development will comprise 7 storeys plus a basement structure. In light of the likely imposed loads it is likely that a deep foundation solution, such as piles or vibro stone columns, will be required. However, the exact type of foundation solution should be informed by an onsite intrusive investigation to confirm ground conditions.

5.3 Sustainable Drainage Systems (SUDs)

5.3.1 Given the site is underlain by low permeability clays, it is unlikely that drainage to SuDS such as traditional soakaways will be suitable.

6.0 OTHER DEVELOPMENT CONSTRAINTS

6.1 Constraints Identification

- 6.1.1 Asbestos was not covered in this report. It should be noted that an asbestos demolition survey will be required prior to any demolition of structures. If asbestos is present in soils, these will need to be dealt with in accordance with the Control of Asbestos Regulations (CAR) 2012.
- 6.1.2 No invasive species have been noted, however it would be prudent to undertake a specialist survey prior to any works on site.
- 6.1.3 There are known services on site, these may need to be disconnected prior to any construction activities. An electricity substation is understood to be present within the existing basement.
- 6.1.4 The preliminary risk assessment undertaken within this Desk Study may identify potential risks to site demolition and construction workers. However, full consideration of occupational health and safety issues is beyond the scope of this report.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Geo-Environmental

- 7.1.1 The site has a limited history of past uses, however an electricity substation is present. Based on the proposed commercial development, the overall risk to human health is considered to be low to moderate.
- 7.1.2 There is considered a risk from ground gas due to the presence of made ground associated with the infilled pump, gas monitoring is recommended to confirm the risk.
- 7.1.3 The risk to controlled waters is considered to be low, and no further investigation is recommended to this regard.
- 7.1.4 The risk from off-site sources of contamination is considered to be low.
- 7.1.5 The site is located in a moderate UXO area and further work is recommended in the form of a Detailed Desk study to confirm what mitigation measures will be required.

7.2 Geotechnical

- 7.2.1 The proposed development will comprise a 7-storey building plus basement. Intrusive investigations will be required to confirm the most suitable foundation solution and to obtain parameters for concrete classification, floor slab and highways design.

7.3 Further Work

- 7.3.1 To confirm the risks to the identified receptors and confirm the ground conditions in respect to the identified geotechnical and geo-environmental risks, an appropriate intrusive investigation will need to be undertaken.
- 7.3.2 Therefore, to allow future development of the site the following further works are recommended, although this list is not exhaustive and should be read in conjunction with any planning conditions that are applicable to the site.
- Detailed UXO Desk Study.
 - Topographical survey / service trace.
 - Demolition Asbestos survey.
 - Intrusive site investigations (post demolition) comprising:
 - Windowless sampling and cable percussive drilling / cored drilling.
 - Installation of standpipes in boreholes to allow gas concentrations and groundwater levels to be monitored.
 - Geotechnical testing of soils and rocks.
 - Contamination analyses of soils, assessment and recommendations based on the above, including requirements for further work, if necessary.

8.0 REFERENCES

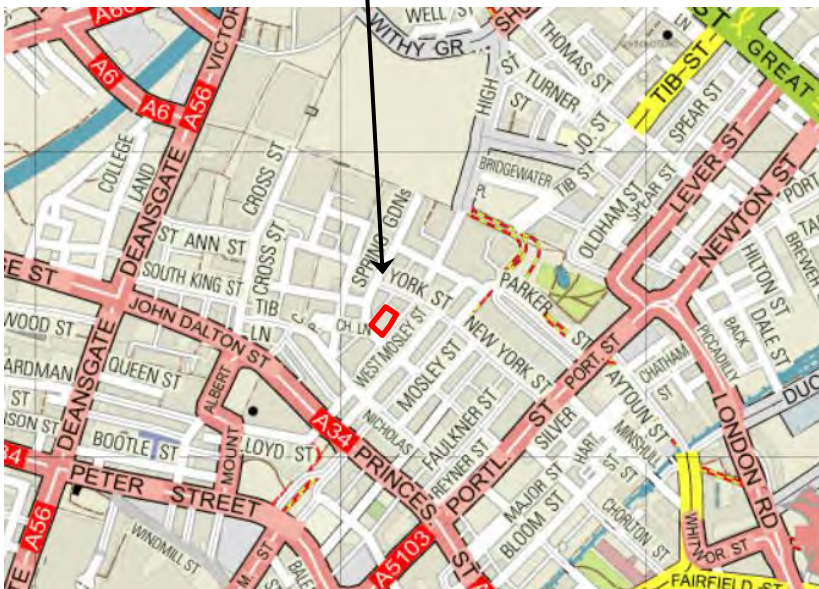
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DRAWINGS

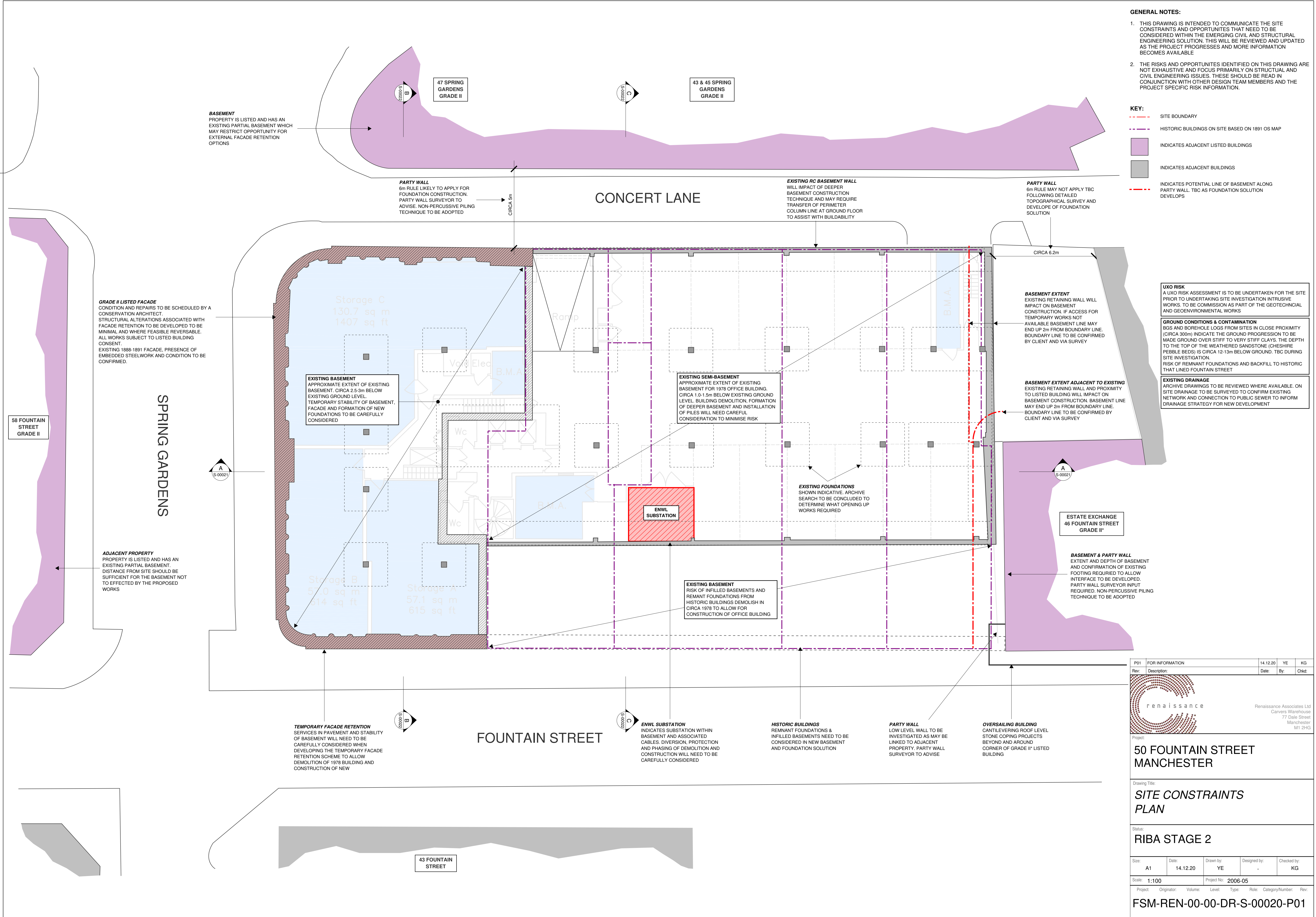


SITE LOCATION

NEAREST POSTCODE: M2 2AS



REV	DATE	DESCRIPTION	BY	CKD
 renaissance				
CLIENT PRUDENTIAL UK REAL ESTATE PARTNERSHIP LIMITED				
PROJECT TITLE 50 FOUNDATION STREET, MANCHESTER				
DRAWING TITLE SITE LOCATION PLAN				
DRAWING No. C4683/01	REVISION -	SCALE NTS	DATE 17/12/20	
DRAWN BY SD		CHECKED BY JMC		



APPENDIX A

Methodology and Guidance

Desk Study Methodology and Guidance

This Appendix provides information on the approaches, methods and guidance used by Brownfield Solutions Ltd in the preparation of this report.

The term 'geo-environmental' is used to describe aspects relating to ground-related environmental issues (such as potential soils and groundwater contamination). The term 'geotechnical' is used to describe aspects relating to the physical nature of the site (such as foundation requirements). It should be noted that this is an integrated investigation and these two main aspects are related, unless otherwise specified within the report.

Desk Studies are written in broad agreement with BS 10175:2011+A1:2013. The first stage of a two-staged investigation and assessment of a site is the Preliminary Investigation (BS 10175:2011+A1:2013), often referred to as a Phase 1 Desk Study Assessment, comprising a desk study and walk-over survey, which culminates in the Preliminary Risk Assessment. A preliminary conceptual site model (CSM) is developed. From this are identified any geotechnical and geo-environmental hazards and the qualitative degree of risk associated with them.

From the geo-environmental perspective, the hazard Identification process uses professional judgement to evaluate all the hazards in terms of possible contaminant linkages (of source-pathway-receptor). Possible contaminant linkages are potentially unacceptable risks in terms of the current contaminated land regime legal framework and require either remediation or further assessment. These are normally addressed via intrusive ground investigation and generic risk assessment.

The second stage is the Ground Investigation, Generic Risk Assessment and Geotechnical Interpretation. This represents the further assessment mentioned above. The Ground Investigation comprises field work and laboratory testing based on the findings of the Preliminary Risk Assessment, to reduce uncertainty in the geotechnical and geo-environmental hazard identification. This may include the initial, main and supplementary Investigations described in BS 10175:2011+A1:2013.

Legislative Background

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act.
- The DETR circular 02/2000 Environmental Protection Act 1990: Part IIA Contaminated Land.
- The Contaminated Land (England) Regulations 2000.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

- 1) Significant harm is being caused or there is a significant possibility of such harm being caused;
- 2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

- **Source** - substances that are potential contaminants or pollutants that may cause harm;
- **Pathway** - a potential route by which contaminants can move from the source to the receptor;
- **Receptor** - a receptor that may be harmed, for example the water environment, humans and water.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused. The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the SPR approach is 'suitable for use' criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents

This report has been prepared in accordance with the list of guidance below however the list is not exhaustive:

- DETR Circular 02/2000, Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990.
- CLR11 – Model Procedures.
- Brownfields – Managing the development of previously developed land – A client's guide, CIRIA 2002.
- DEFRA and Environment Agency publications CLR7 – 10, supported by the TOX guides and SGV guides, dated March 2002.
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002.
- Contamination and Environmental Matters - Their implications for Property Professionals (2nd Edition RICS Nov 2003).
- BS 10175:2011+A2:2017.

Relevant Legislative Documents

The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012).
- The Environment Protection Act (1990).
- The Water Resources Act (1991).
- The Environment Act (1995).
- The Contaminated Land (England) Act (2000).
- The Pollution Prevention and Control (England and Wales) Regulations (2000).
- The Landfill Regulations (England and Wales) Regulations (2002).
- The Landfill (England and Wales) (Amendment) Regulations (2004).
- Contaminated Land (England) Regulations (2012).
- Health and Safety at Work Act.

Contaminated Land Risk Assessment

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:

Hazard Identification → Hazard Assessment → Risk Estimation → Risk Evaluation

CLR11 outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process. Under CLR11, three tiers of risk assessment exist - Preliminary, Generic Quantitative and Detailed Quantitative.

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552:

- **High likelihood:** There is a pollution linkage and an event 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 it is probable that an event will occur. Circumstances are such that the 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 even over a longer period such event would take place, and is less likely in the short term;
- **Unlikely:** There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.

The severity is also classified using a system based on CIRIA C552. The terms and definitions are:

- **Severe:** Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse;
- **Medium:** Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of 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 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment;
Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.
- **Minor:** harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.

Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low
	No Linkage	No risk			

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

- **Very high:** 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 is currently happening. This risk, if realised, could result in substantial liability. Urgent investigation and remediation are likely to be required;
- **High:** 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 is required and remedial works may be necessary in the short term and are likely over the longer term;
- **Moderate:** It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it would be more likely to be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term;
- **Low:** 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:** 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.

Some linkages may be identified which constitutes a theoretical connection between a source and a receptor, but professional judgement shows them not to be possible for some reason. These are labelled 'no linkage' in the summary table and no further action is required.

Ground Gas Guidance

Redevelopment on brownfield sites is an ever-increasing occurrence, including those sites where a potential ground gas issue is present.

BS8485:2015+A1:2019 and CIRIA C665 is the current guidance which gives up-to-date advice on all aspects of ground gas. It outlines good practice in investigation, the collection of relevant data and monitoring programmes in a risk-based approach to gas contaminated land. Two semi-quantitative methods are set out for the assessment of risk:

- 1 For low rise housing with a ventilated under floor void at minimum 150 mm (Boyle and Witherington);
- 2 For all other development types (Wilson and Card).

Both methods use the concept of Gas Screening Values (GSVs) to identify levels of risk. The mitigation and management of potentially unacceptable risk is described with reference to both passive and active systems of gas. Source removal is also discussed as an option.

CIRIA C665 and the advice it contains has been prepared to be generally consistent with CLR11 *Model Procedures for the management of land contamination* (Defra and Environment Agency, 2004a). The aim of CIRIA C665 is a consistent approach to decision making, particularly relating to the scope of protective design measures on a site-specific basis.

Legislative Framework

CIRIA C665 provides technical guidance however also recognises the context into which the guidance has to be employed. Government policy is based upon a “suitable for use approach”, which is relevant to both the current and proposed future use of land. When considering the current use of land, Part IIA of the Environment Protection Act 1990 provides the regulatory regime. The presence of hazardous ground gases could provide the “source” in a “pollutant linkage” which could lead the regulator to determine that considerable harm or there is a significant possibility of such harm being caused. Under such circumstances, the regulator would determine the land to be “contaminated land” under the provisions of the Act, setting out the process of remediation as described in the DETR Circular 02/2000 *Statutory guidance on contaminated land* (DETR, 2000a).

Frequency and Duration of Monitoring

The monitoring period for a specific site covers the “worst case” scenario. A “worst case” scenario will occur during falling atmospheric pressure and, in particular, weather conditions such as rainfall, frost and dry weather.

The benefits of the additional information and whether it is likely to change the scope of gas protection should be considered, as are the consequences of failing to characterise adequately pollutant linkages. Investigations concerned with soil gas are required to provide monitoring data sufficient to allow prediction of worst case conditions enabling the confident assessment of risk and subsequent design of appropriate gas protection schemes. Monitoring programmes should not be an academic exercise in data collection.

Below are matrices that will aid in determining an appropriate number of gas monitoring visits and the length of monitoring period.

Typical/idealised periods of monitoring

		Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	1 month	2 months	3 months	6 months	12 months
	Moderate (Flats)	2 months	3 months	6 months	12 months	24 months
	High (Residential with Gardens)	3 months	6 months	6 months	12 months	24 months

Typical/idealised frequency of monitoring

		Generation of Potential Source				
		Very Low	Low	Moderate	High	Very High
Sensitivity of Development	Low (Commercial)	4	6	6	12	12
	Moderate (Flats)	6	6	9	12	24
	High (Residential with Gardens)	6	9	12	24	24

Note

- 1 NHBC guidance also recommends this period of monitoring (Boyle and Witherington, 2007).
- 2 There is no industry consent over “high”, “medium” or “low” generation potential of source.
- 3 At least two sets of readings should be at low and falling atmospheric pressure (but not restricted to periods below <1000 mb) known as worst case conditions. Historical data can be used as part of the data set (Table 5.5b).

It is recommended that newly installed monitoring wells are left for 24 hours to allow the soil gas to reach equilibrium. It should be recognised, however, that some soil gas regimes could take considerably longer (up to seven days). Interpretation of any initial readings should take this equilibrium process into account.

APPENDIX B

Historical Maps



Site Details:

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MANCHESTER, M2 2AS

Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: County Series Town Plan

Map date: 1891

Scale: 1:500

Printed at: 1:1,000



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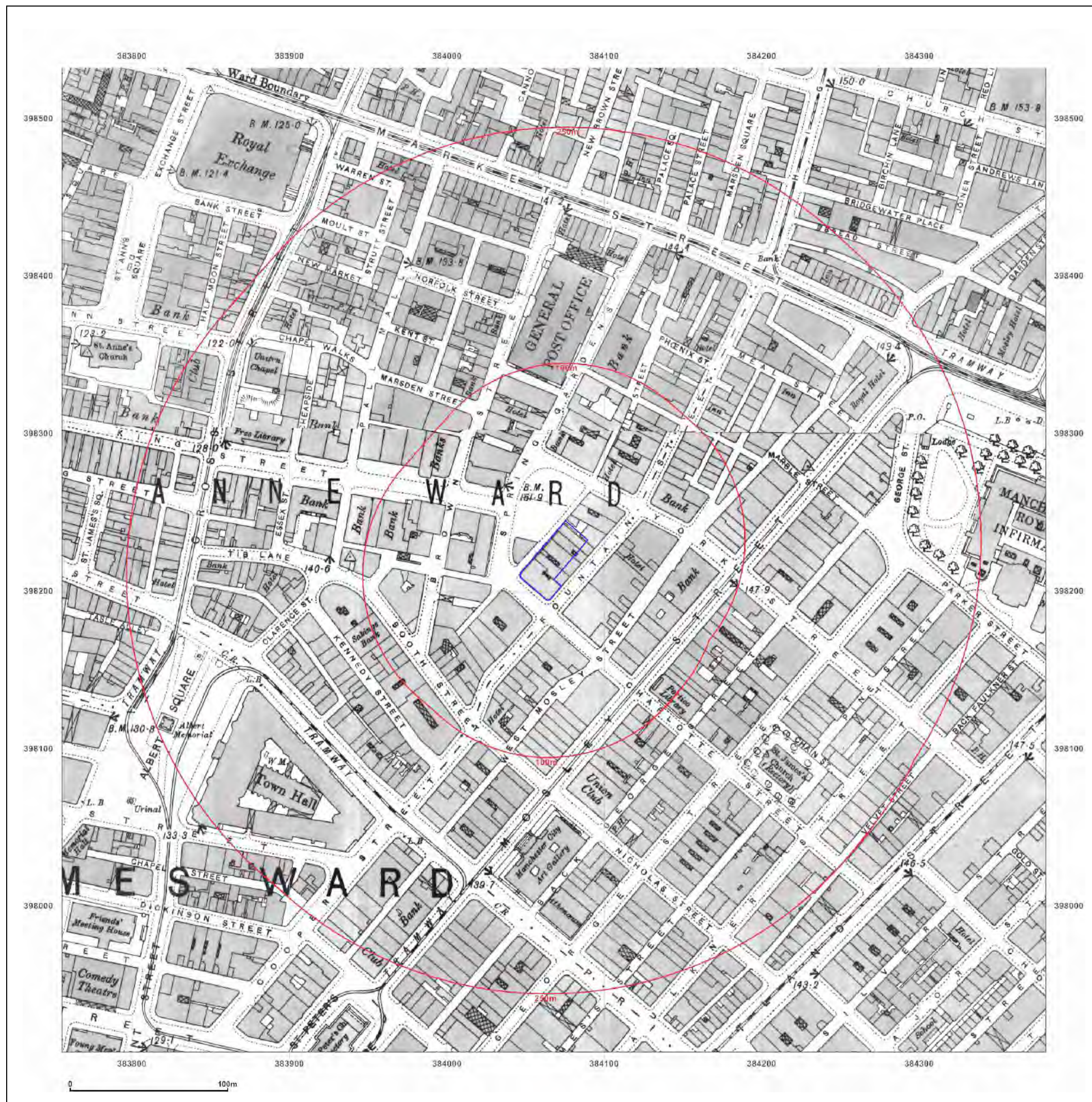


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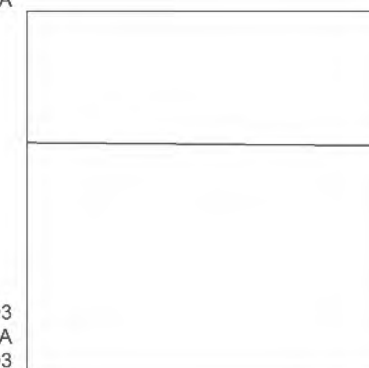
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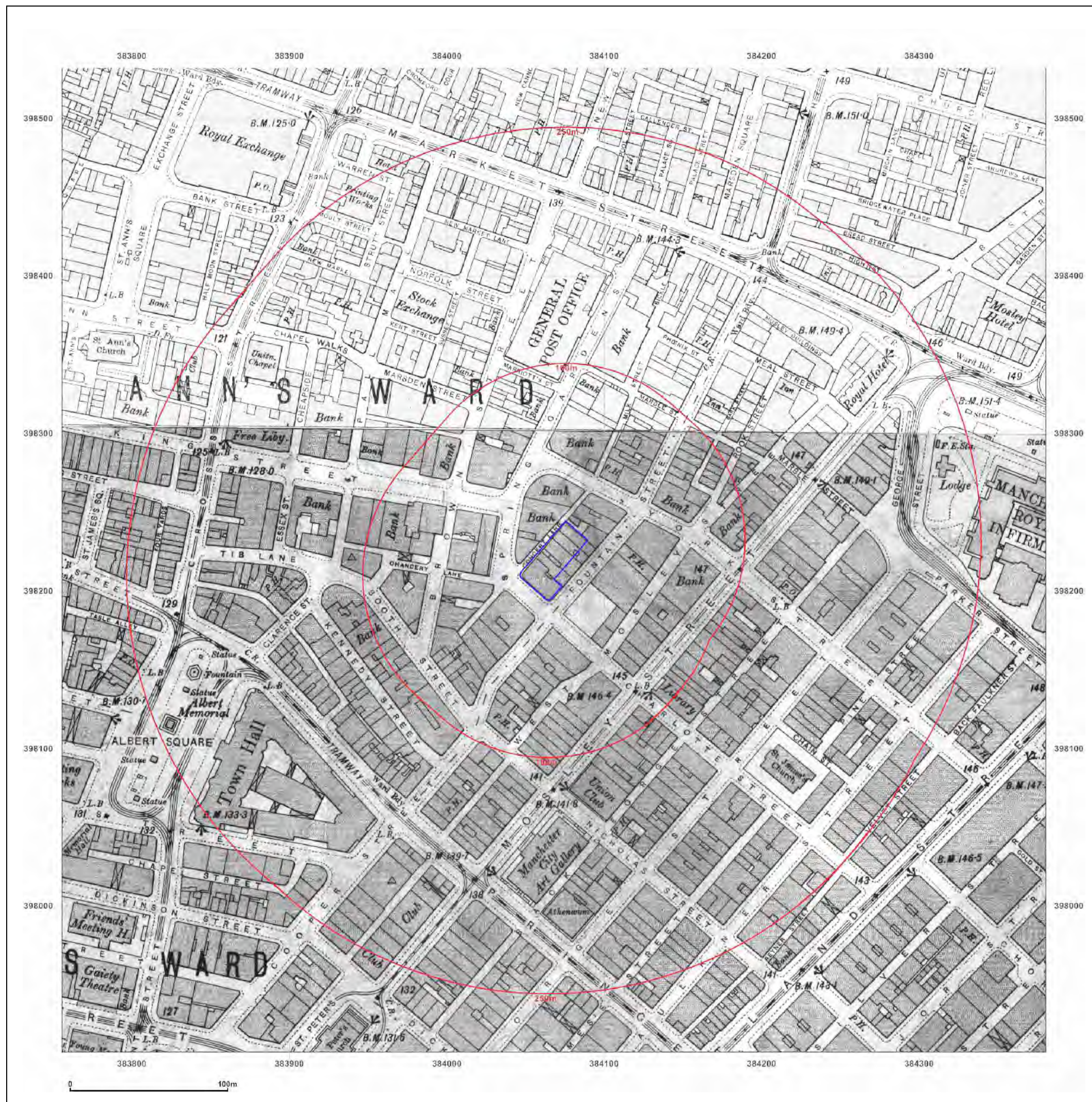


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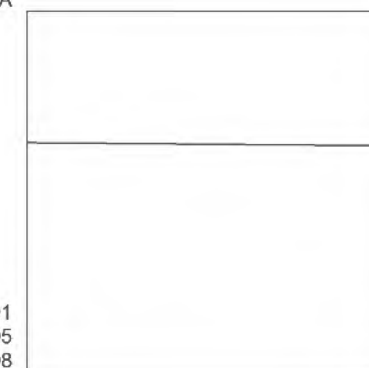
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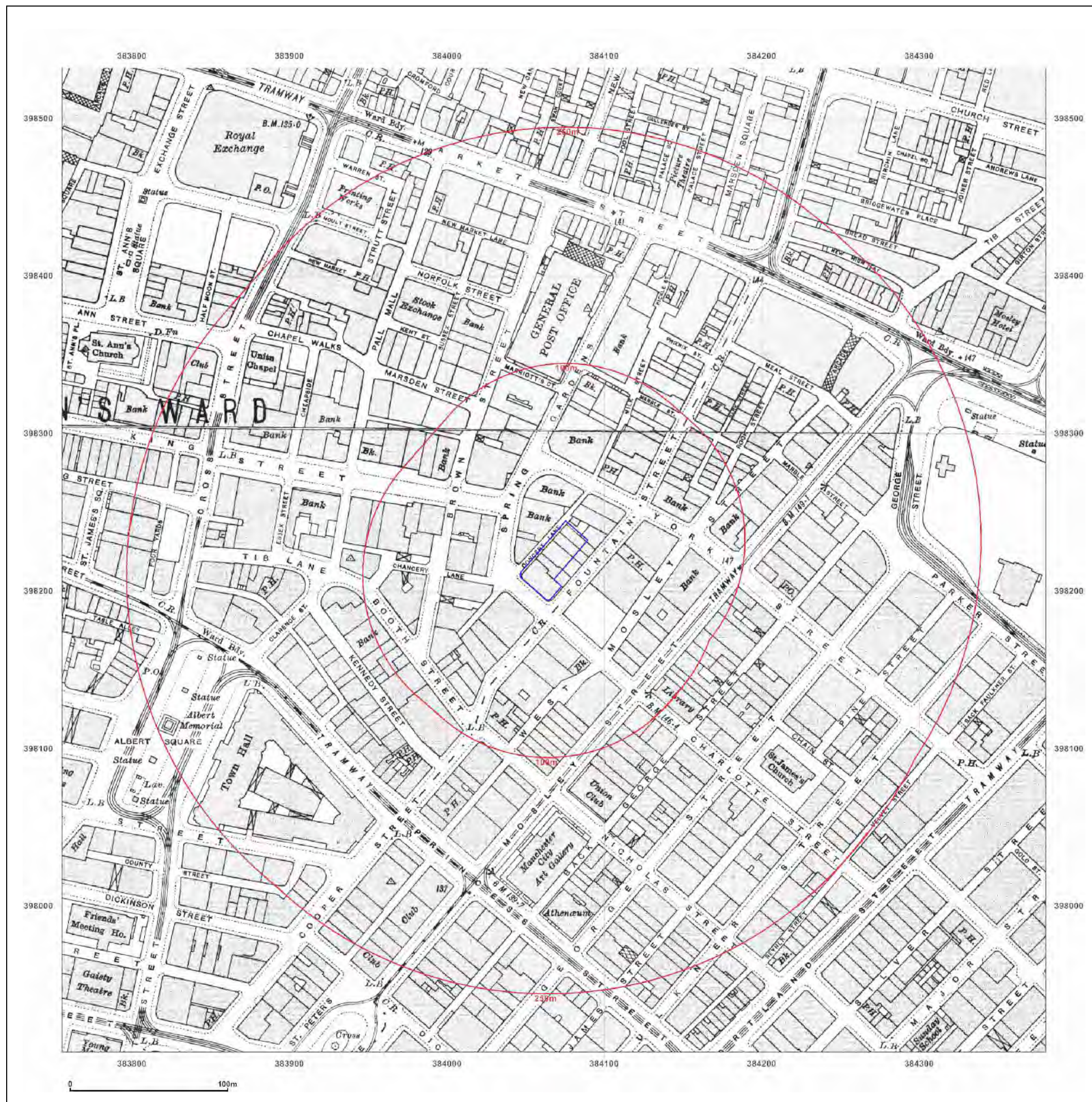


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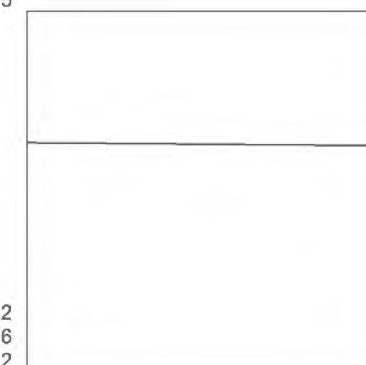
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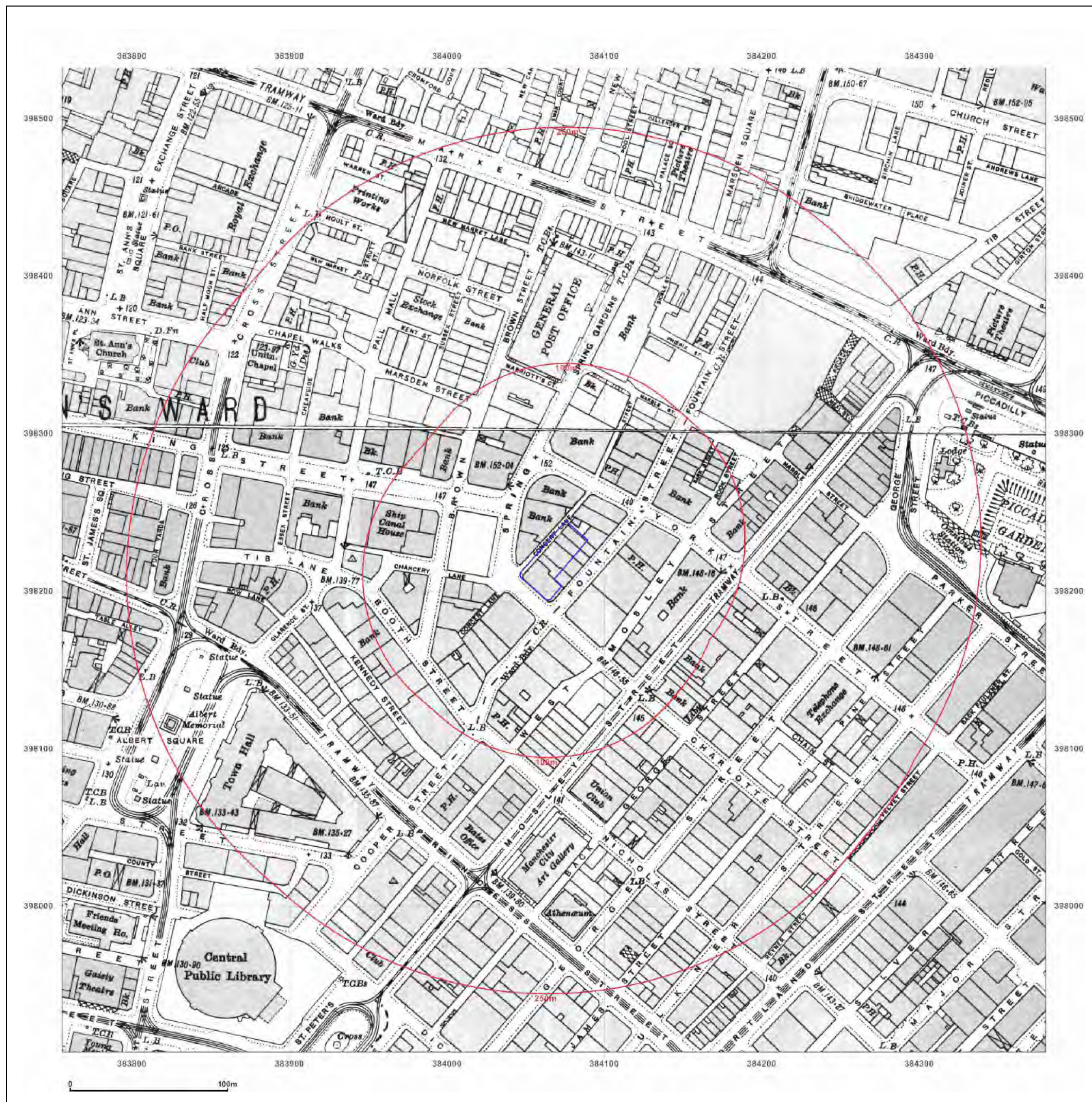


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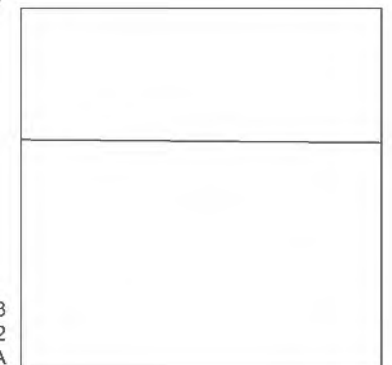
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Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1948

Scale: 1:1,250

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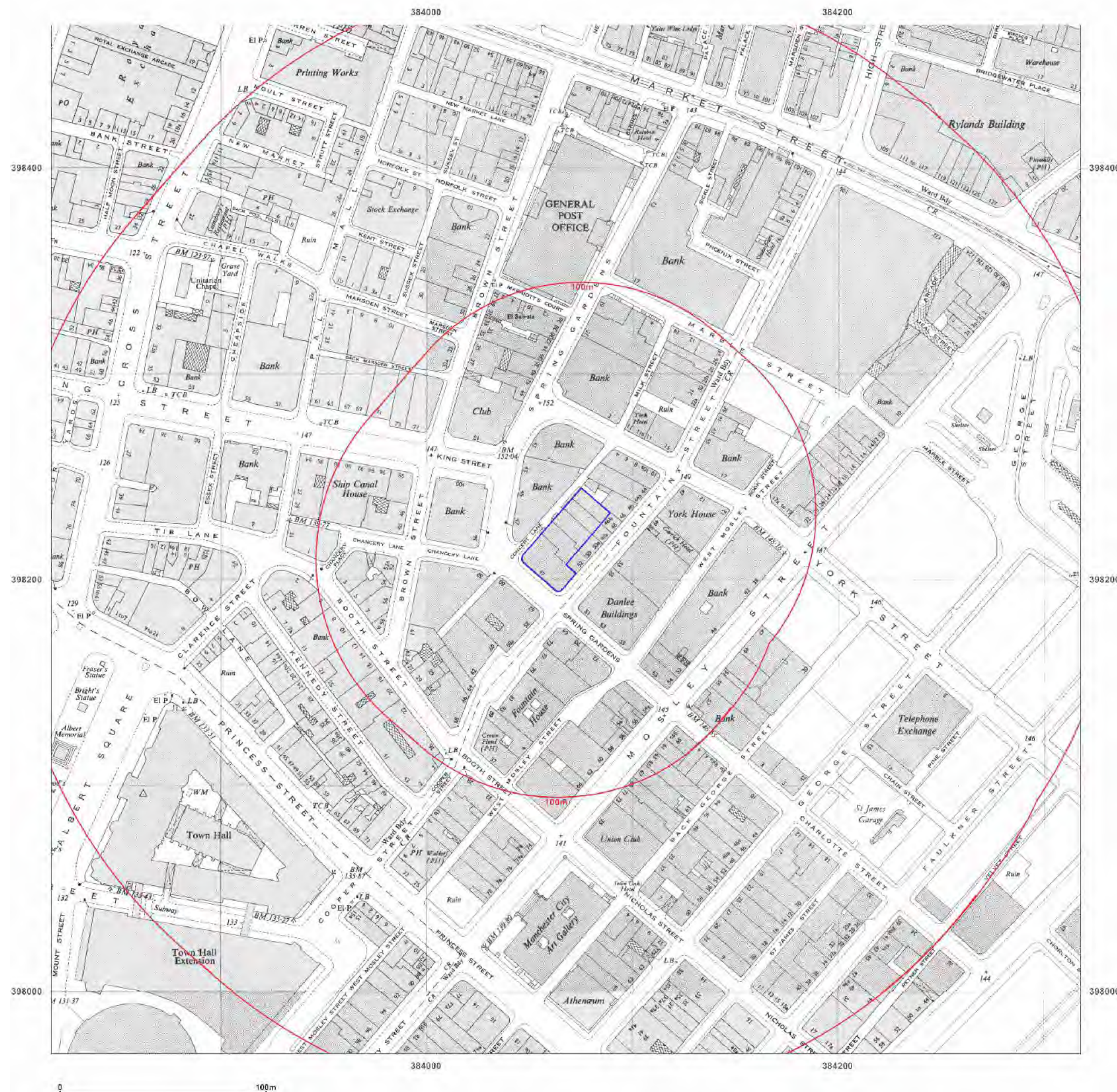


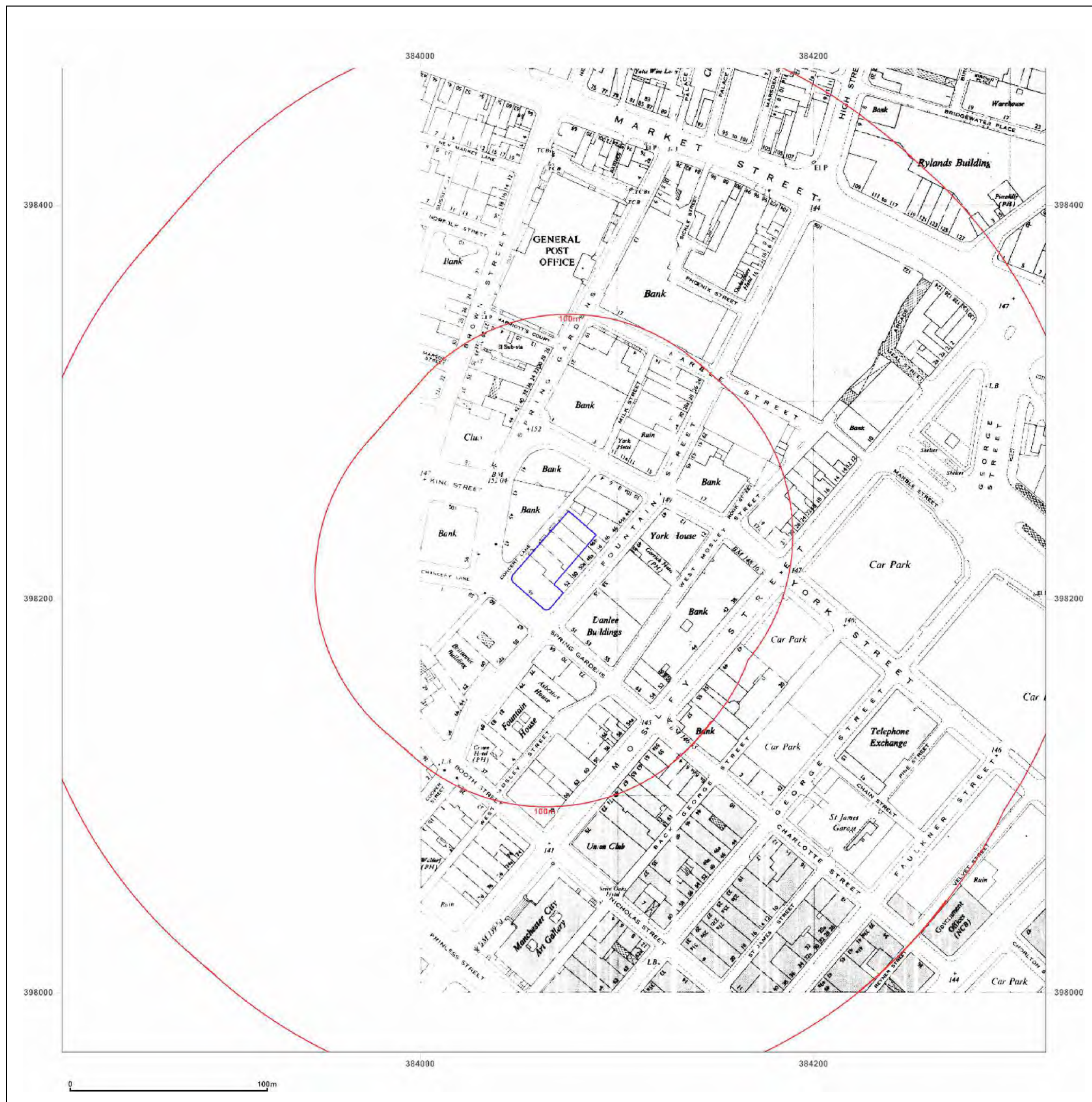
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Map Name: National Grid

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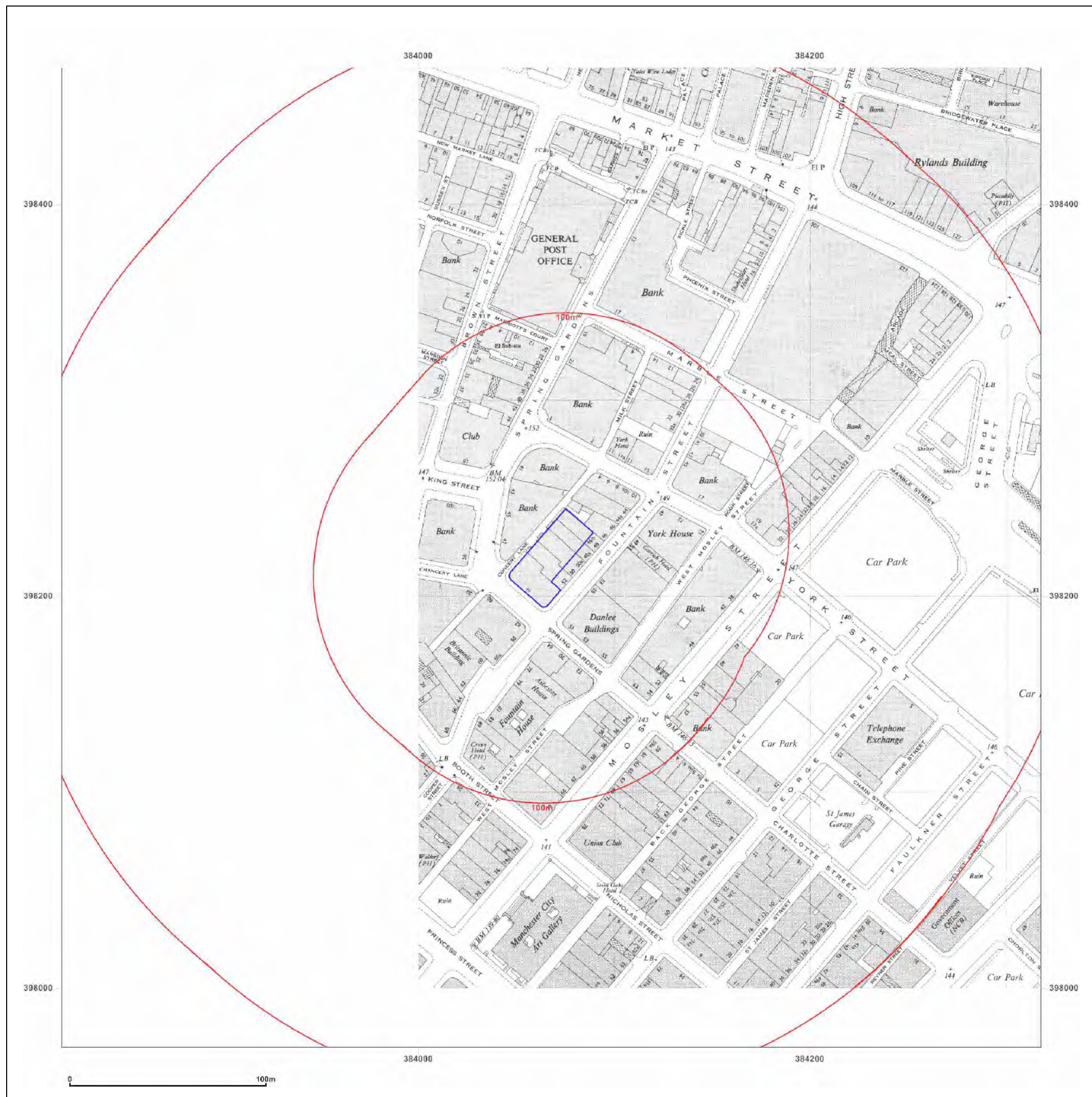


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Map Name: National Grid

Map date: 1953

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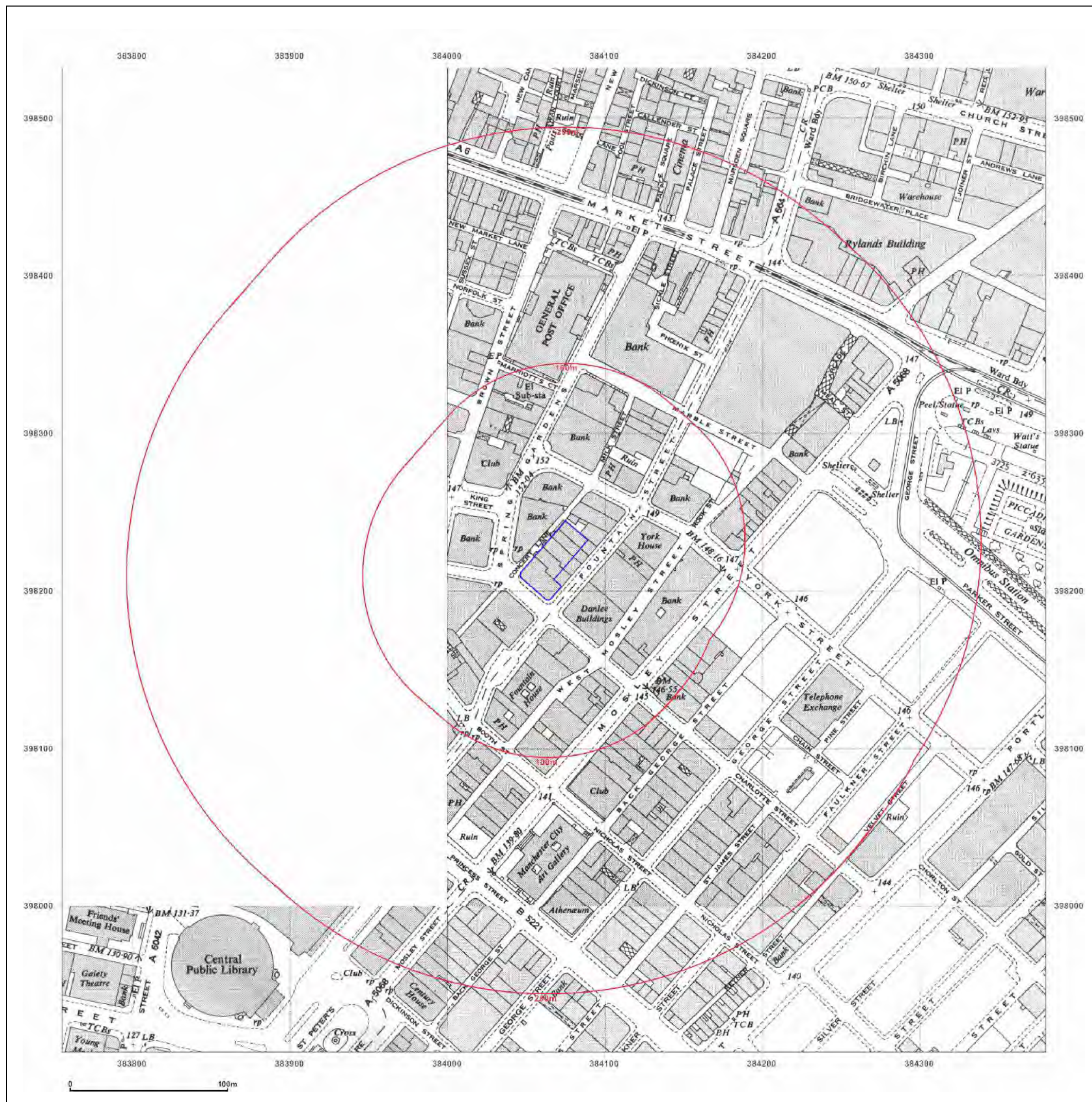


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Site Details:

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MANCHESTER, M2 2AS

Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1951-1955

Scale: 1:1,250

Printed at: 1:2,000



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

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

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

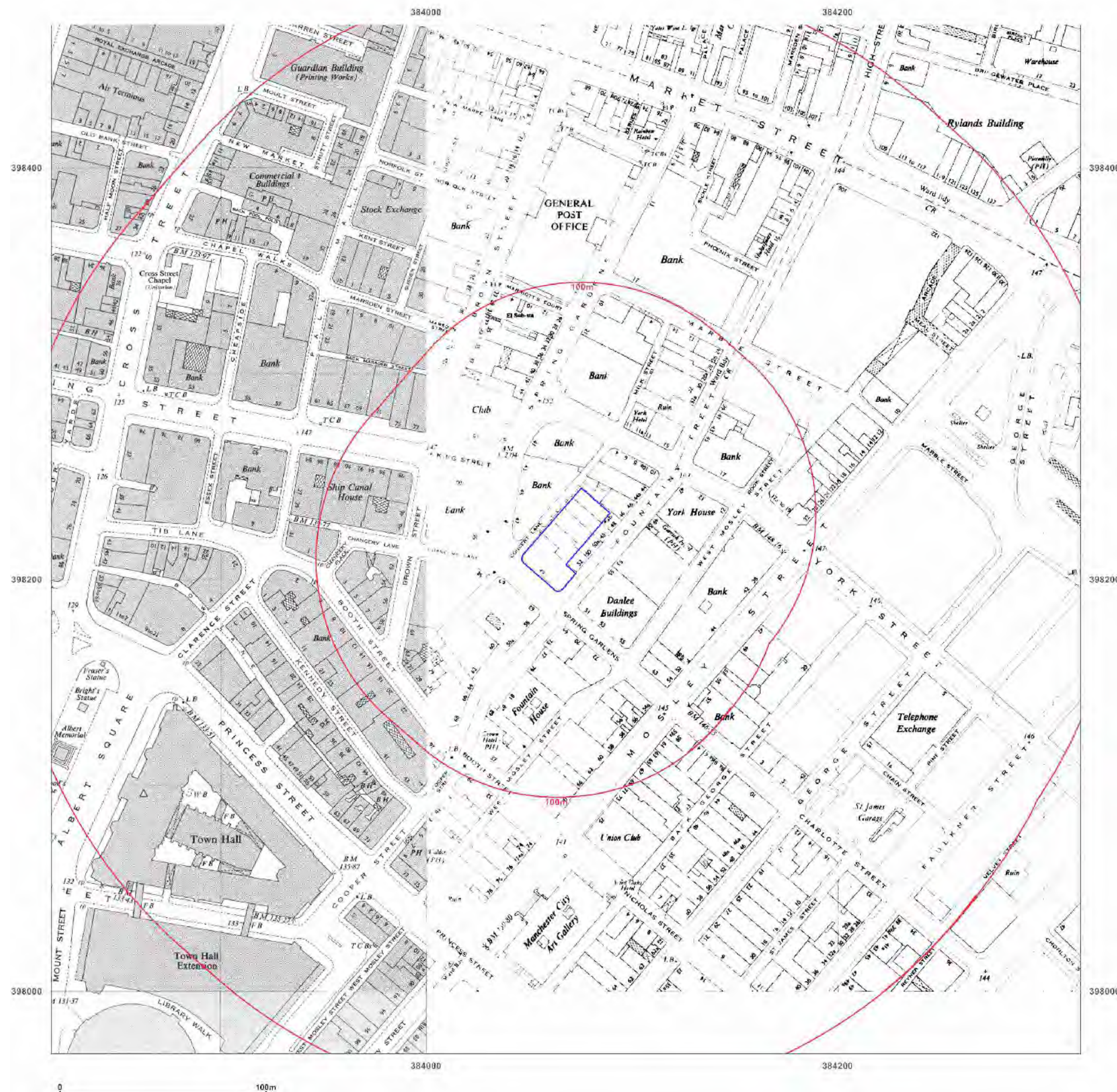


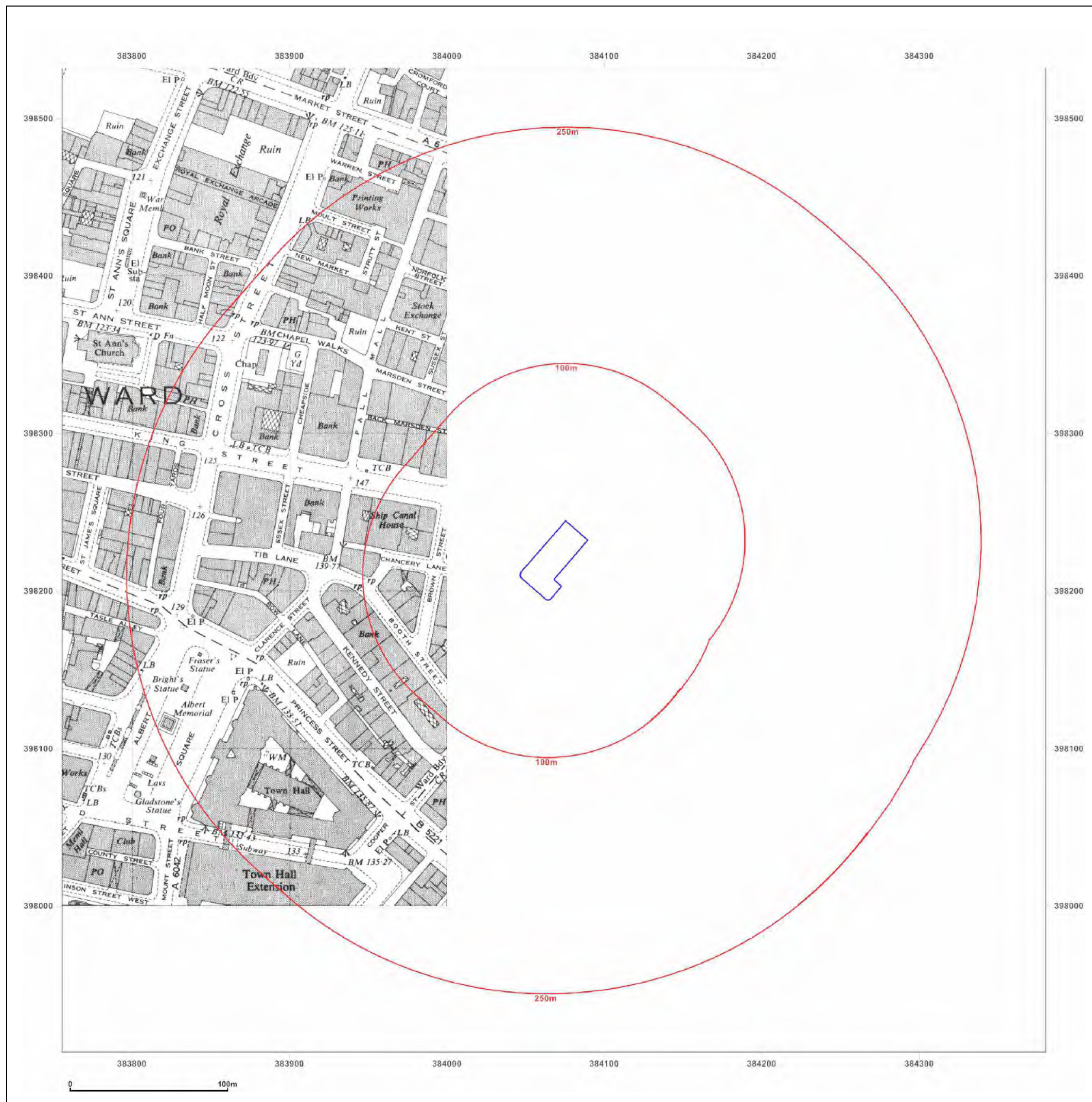
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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

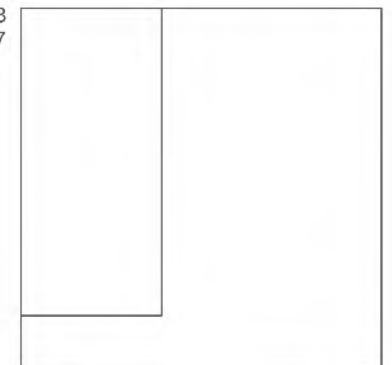
Map date: 1957

Scale: 1:2,500

Printed at: 1:2,500



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

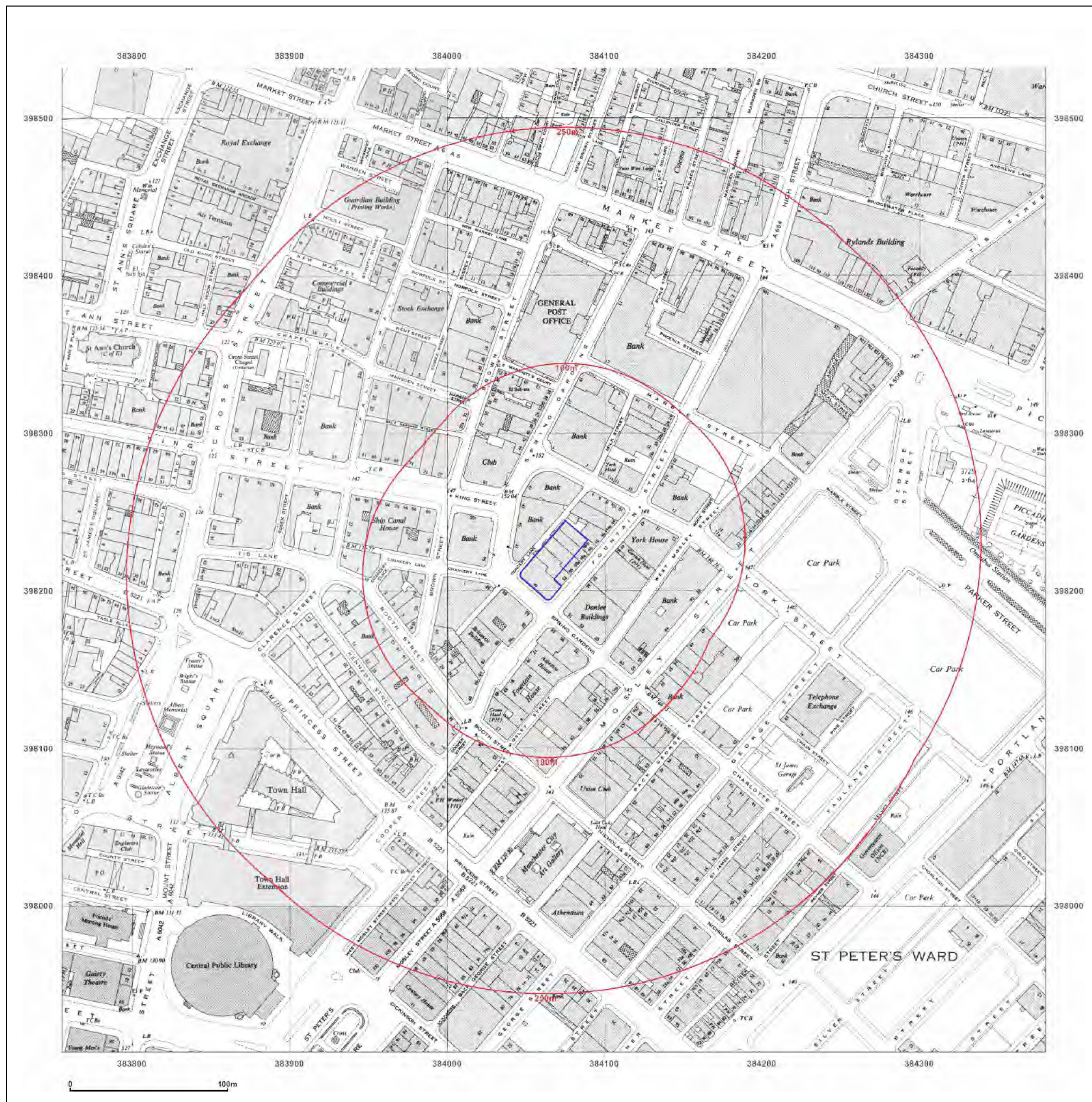


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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1953-1958

Scale: 1:2,500

Printed at: 1:2,500



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

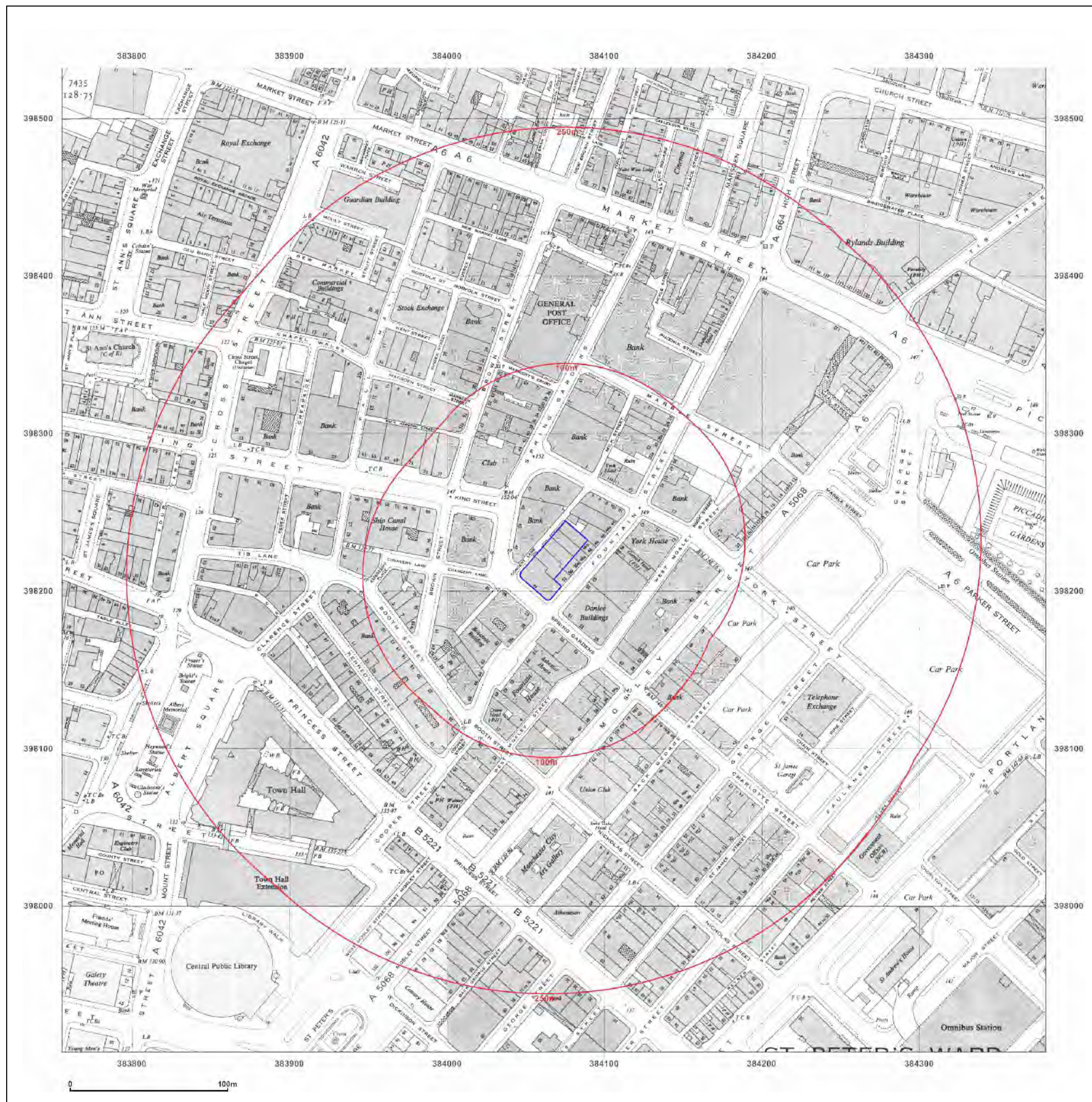


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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1963-1965

Scale: 1:2,500

Printed at: 1:2,500



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
Levelled 1959

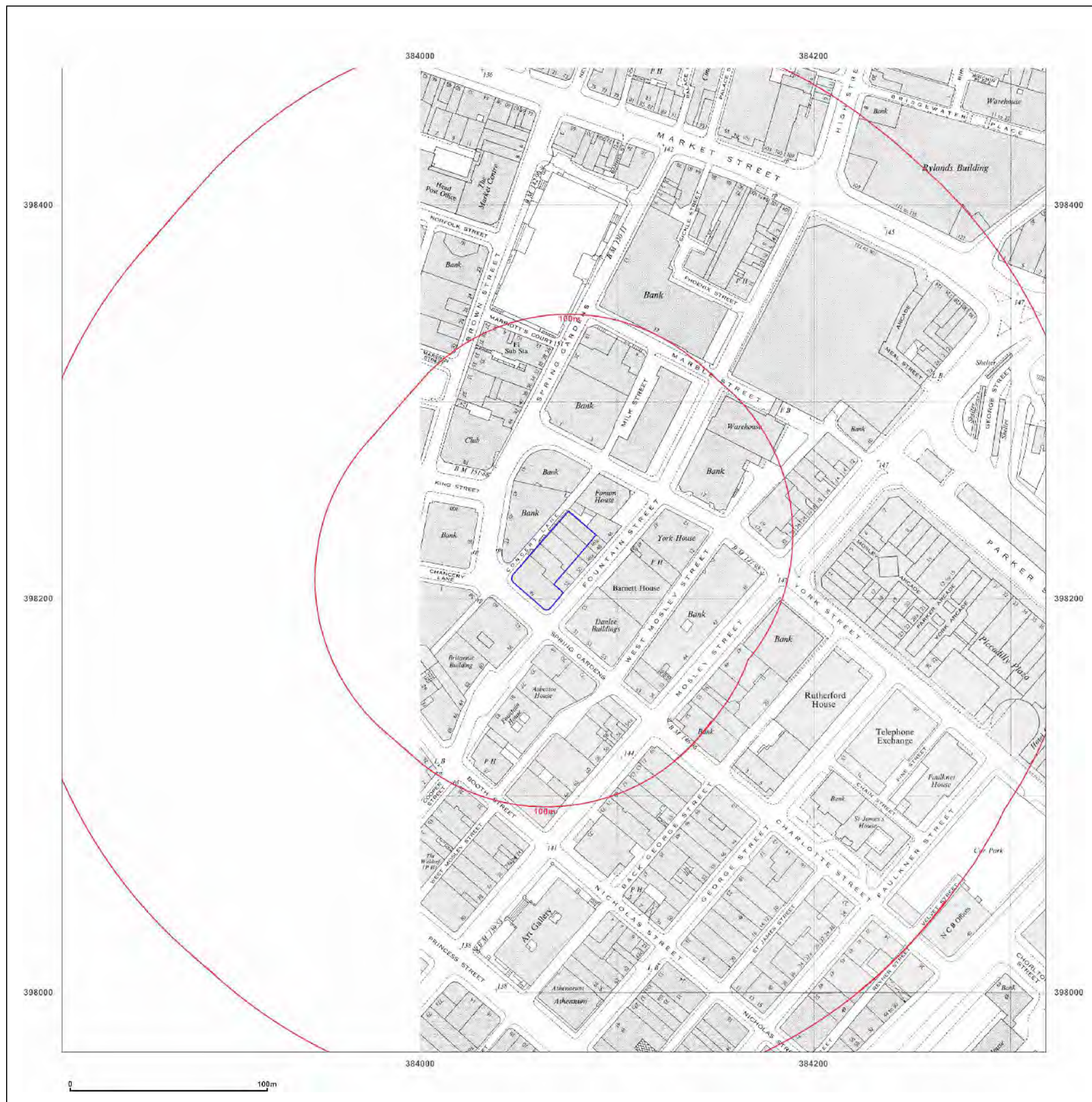


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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1964-1968

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1948
Revised 1967
Edition N/A
Copyright 1968
Levelled 1964

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

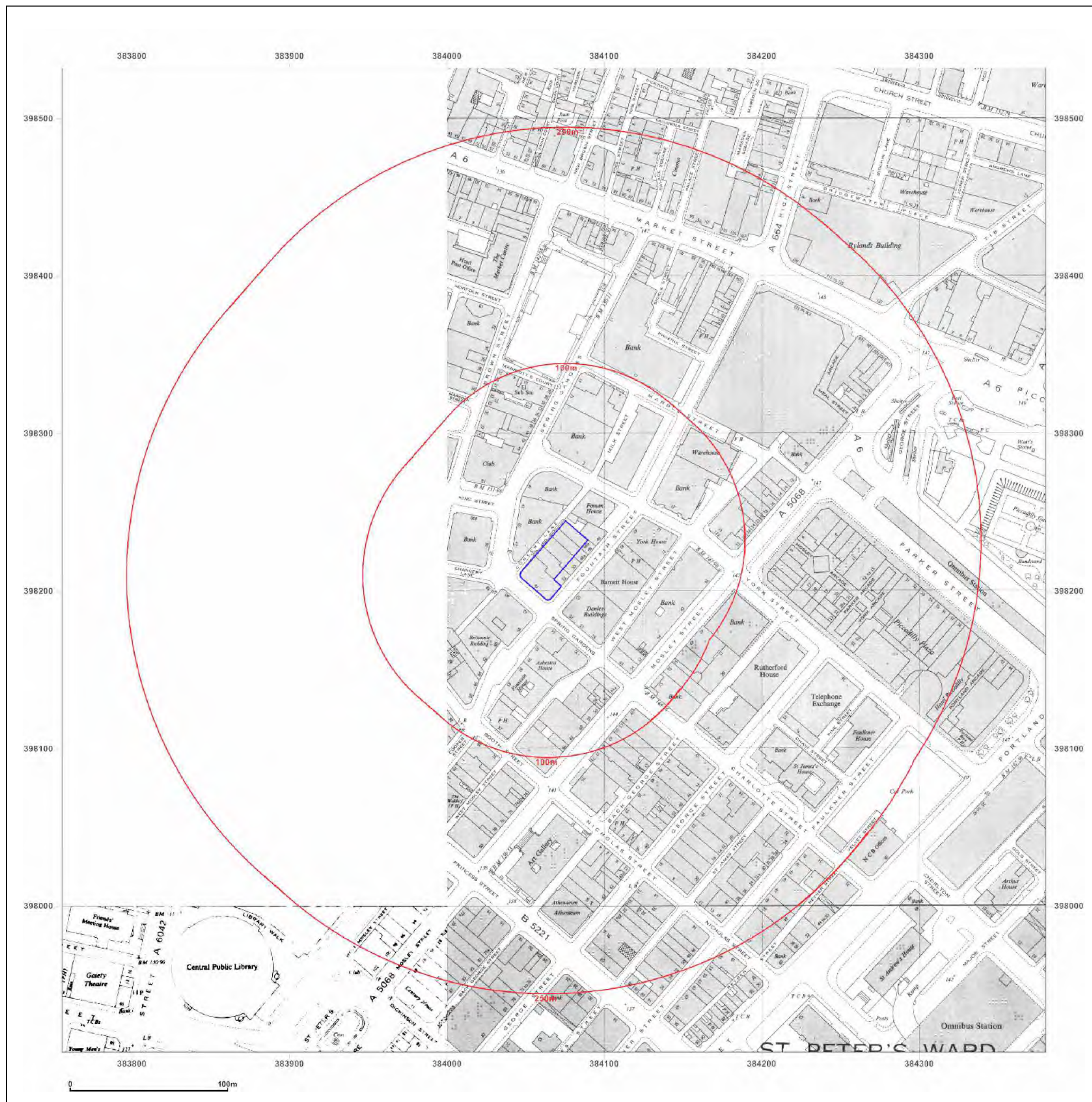


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MANCHESTER, M2 2AS

Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

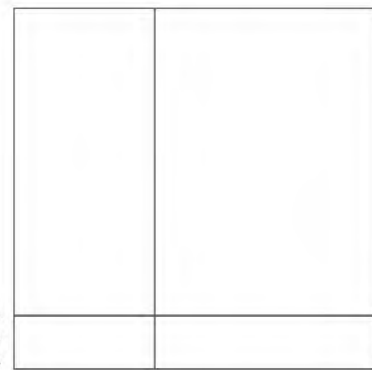
Map Name: National Grid

Map date: 1964-1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A		Surveyed 1967 Revised 1967 Edition N/A Copyright 1969 Levelled 1964
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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1969-1970

Scale: 1:2,500

Printed at: 1:2,500



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

Surveyed N/A
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

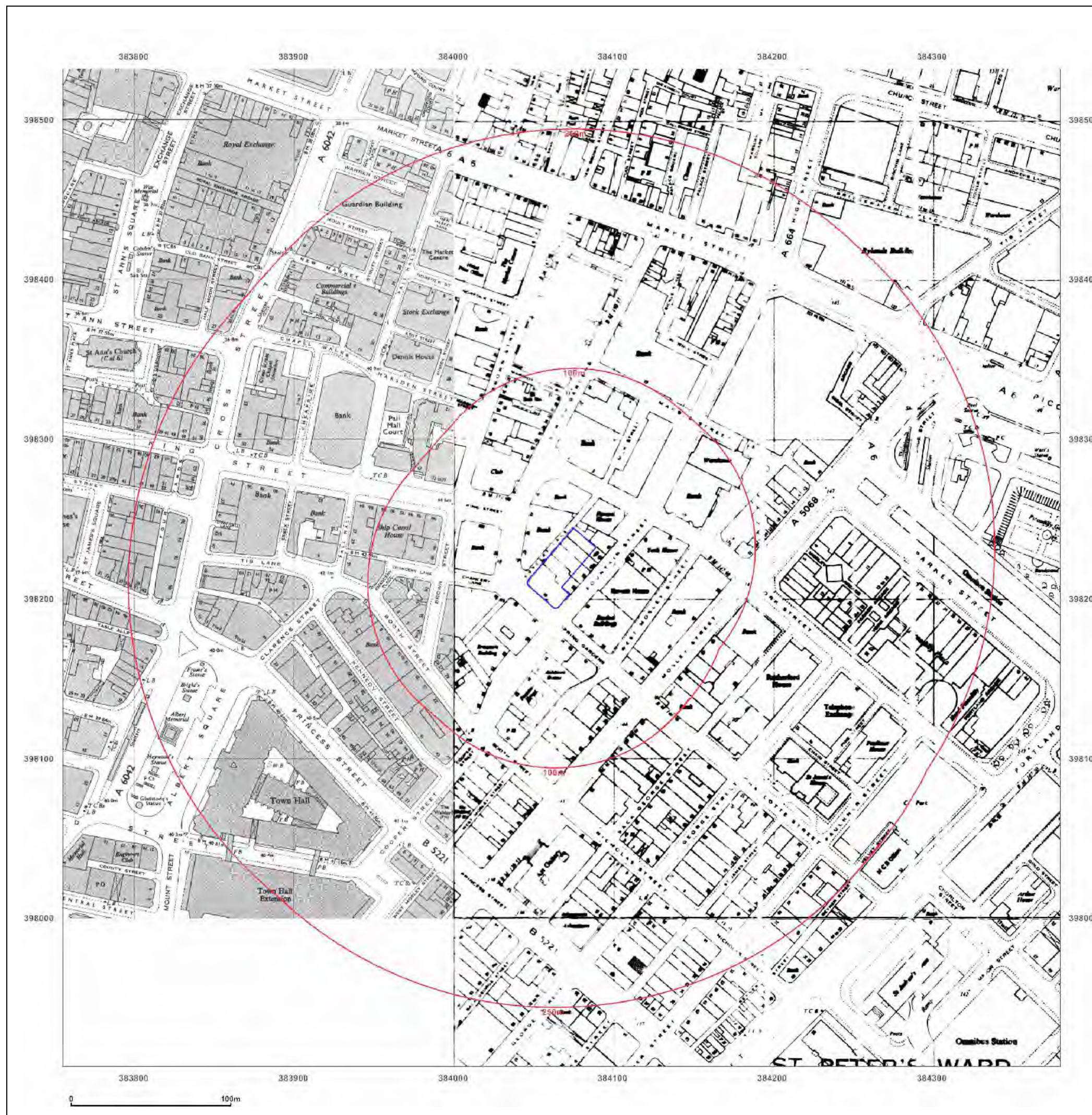


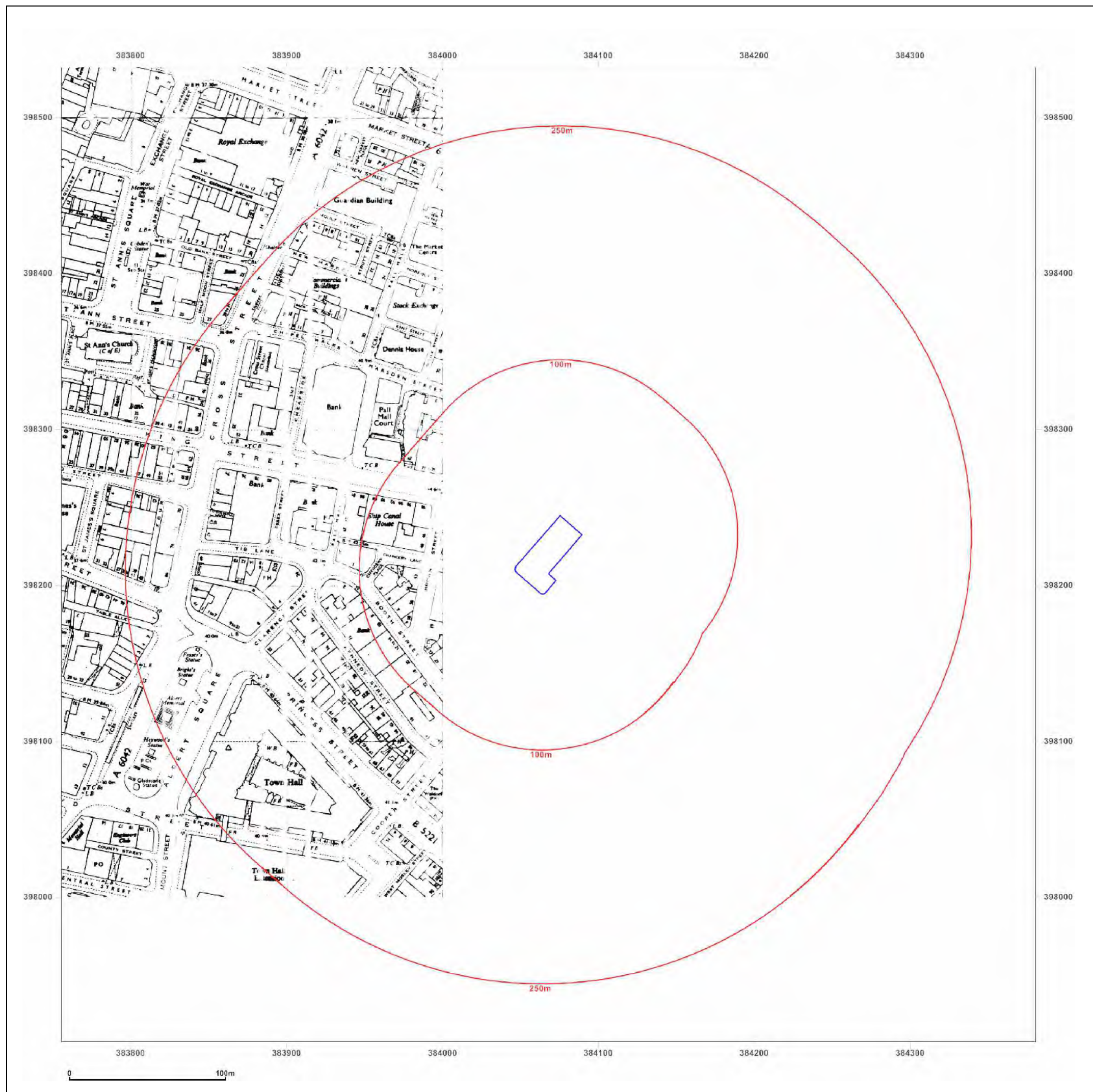
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MANCHESTER, M2 2AS

Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

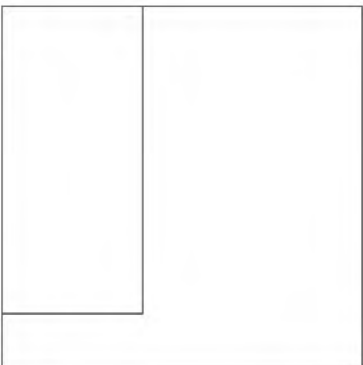
Map date: 1971

Scale: 1:2,500

Printed at: 1:2,500



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

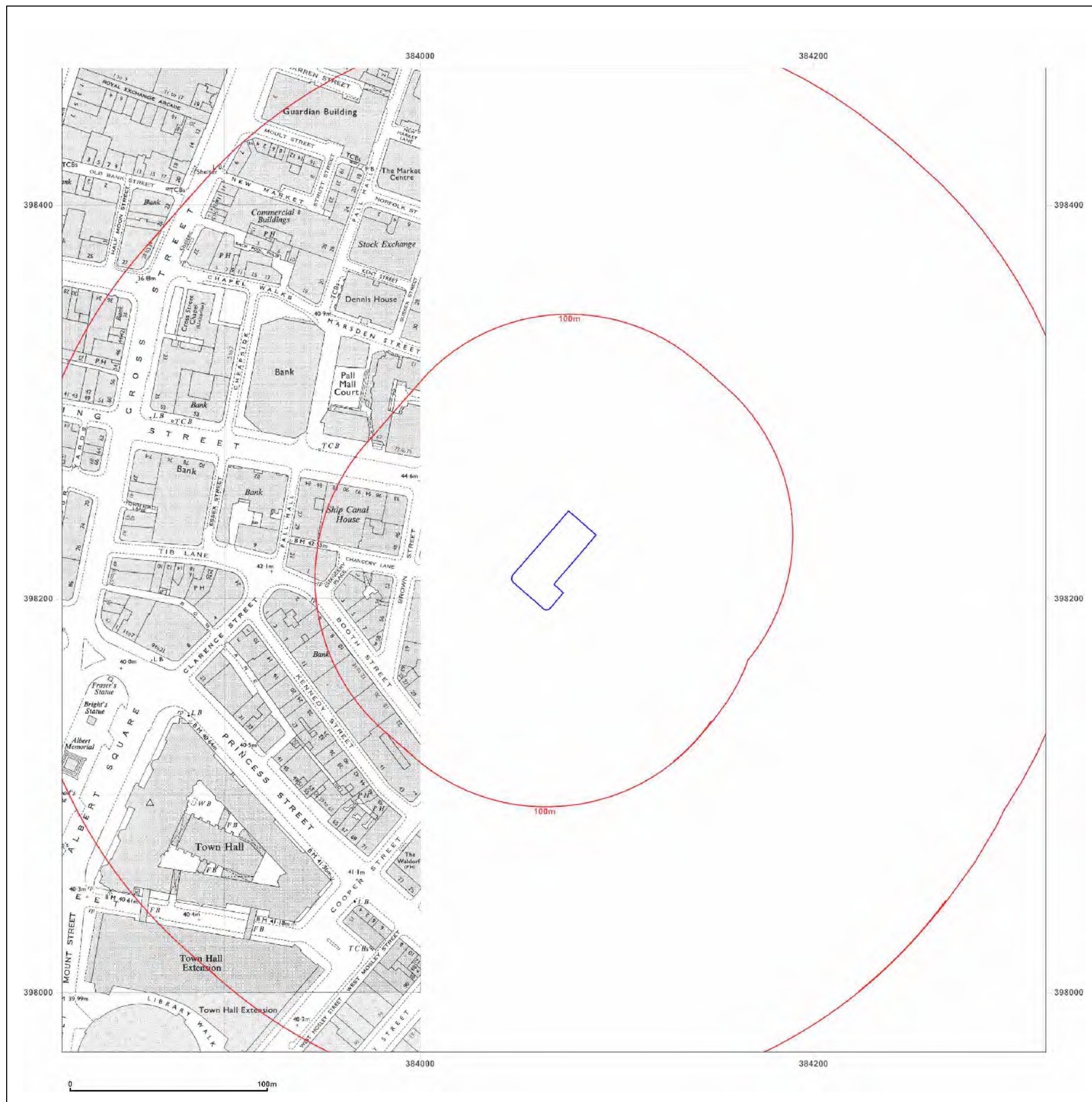


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MANCHESTER, M2 2AS

Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1970-1973

Scale: 1:1,250

Printed at: 1:2,000



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

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

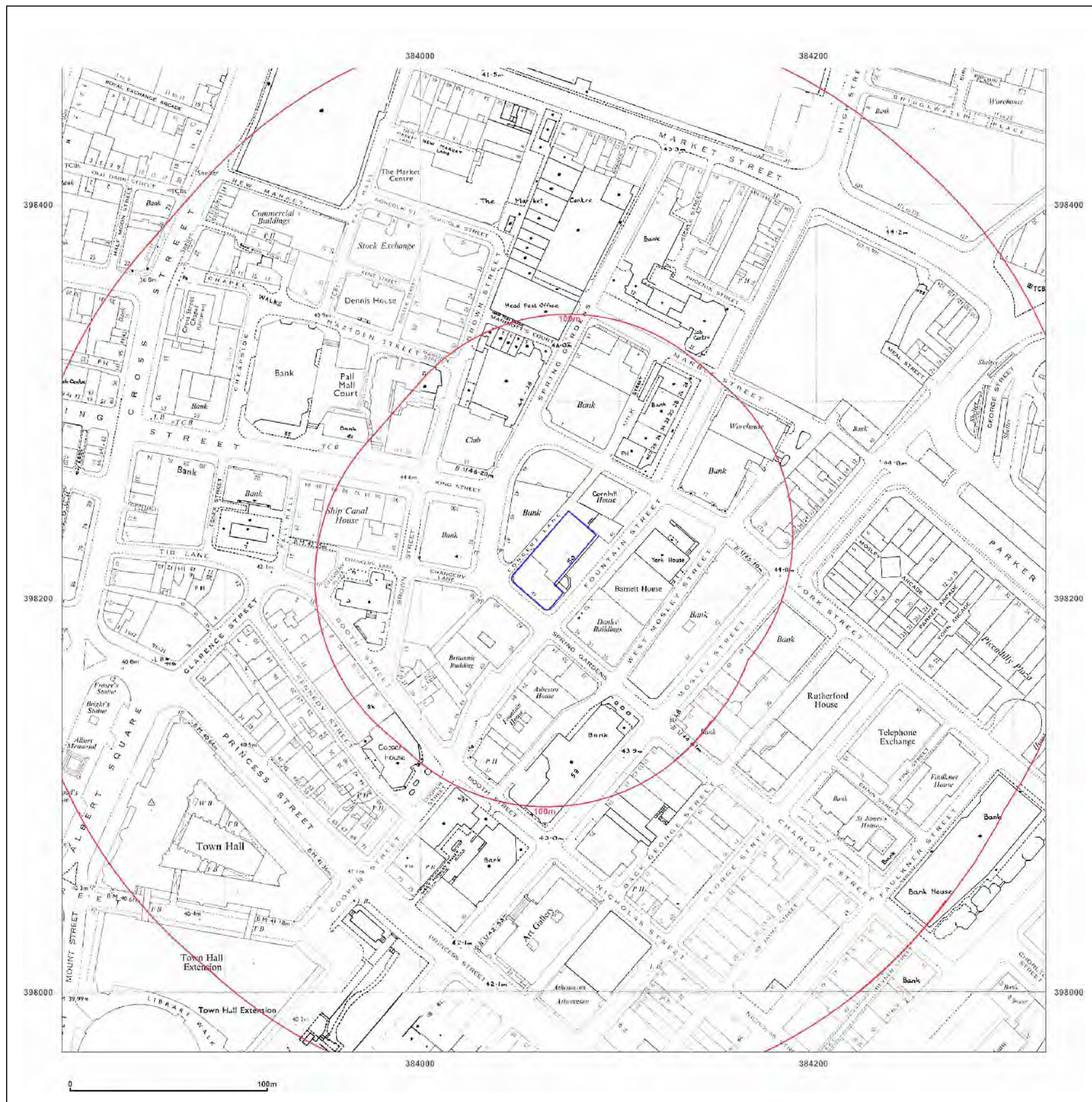


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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1980-1985

Scale: 1:1,250

Printed at: 1:2,000



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

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

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

Surveyed N/A
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Copyright 1985
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MANCHESTER, M2 2AS

Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1986-1990

Scale: 1:1,250

Printed at: 1:2,000



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

Surveyed 1948
Revised 1985
Edition N/A
Copyright 1986
Levelled 1964

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

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

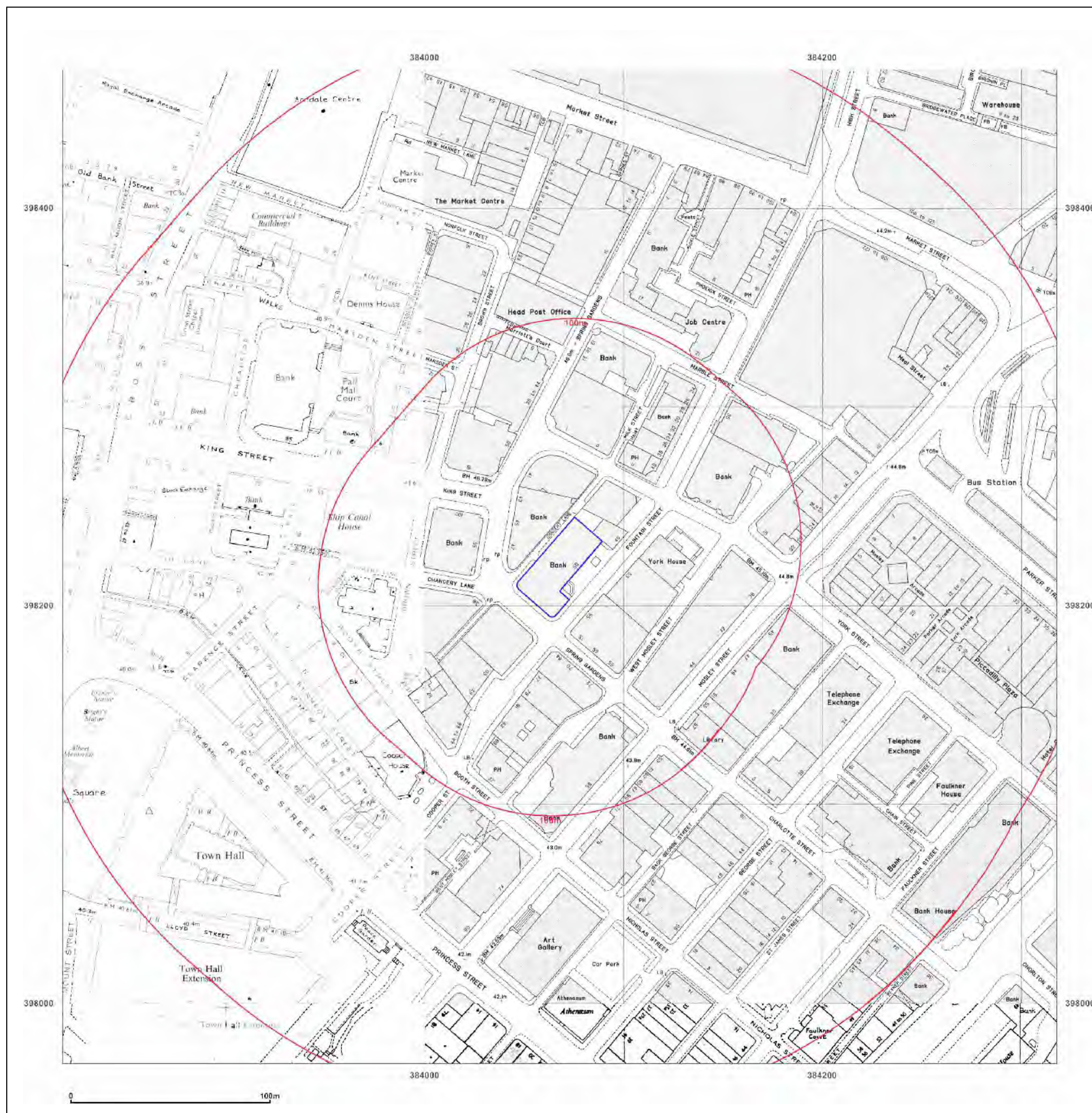


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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1988-1992

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1948
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Edition N/A
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Levelled N/A

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

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

Surveyed 1963
Revised 1990
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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1992-1995

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1992
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Edition N/A
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Surveyed N/A
Revised 1995
Edition N/A
Copyright 1995
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Surveyed 1992
Revised 1992
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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1994-1995

Scale: 1:1,250

Printed at: 1:2,000



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Edition N/A
Copyright 1995
Levelled N/A

Surveyed N/A
Revised 1995
Edition N/A
Copyright 1995
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Surveyed N/A
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

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Revised 1994
Edition N/A
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Levelled N/A

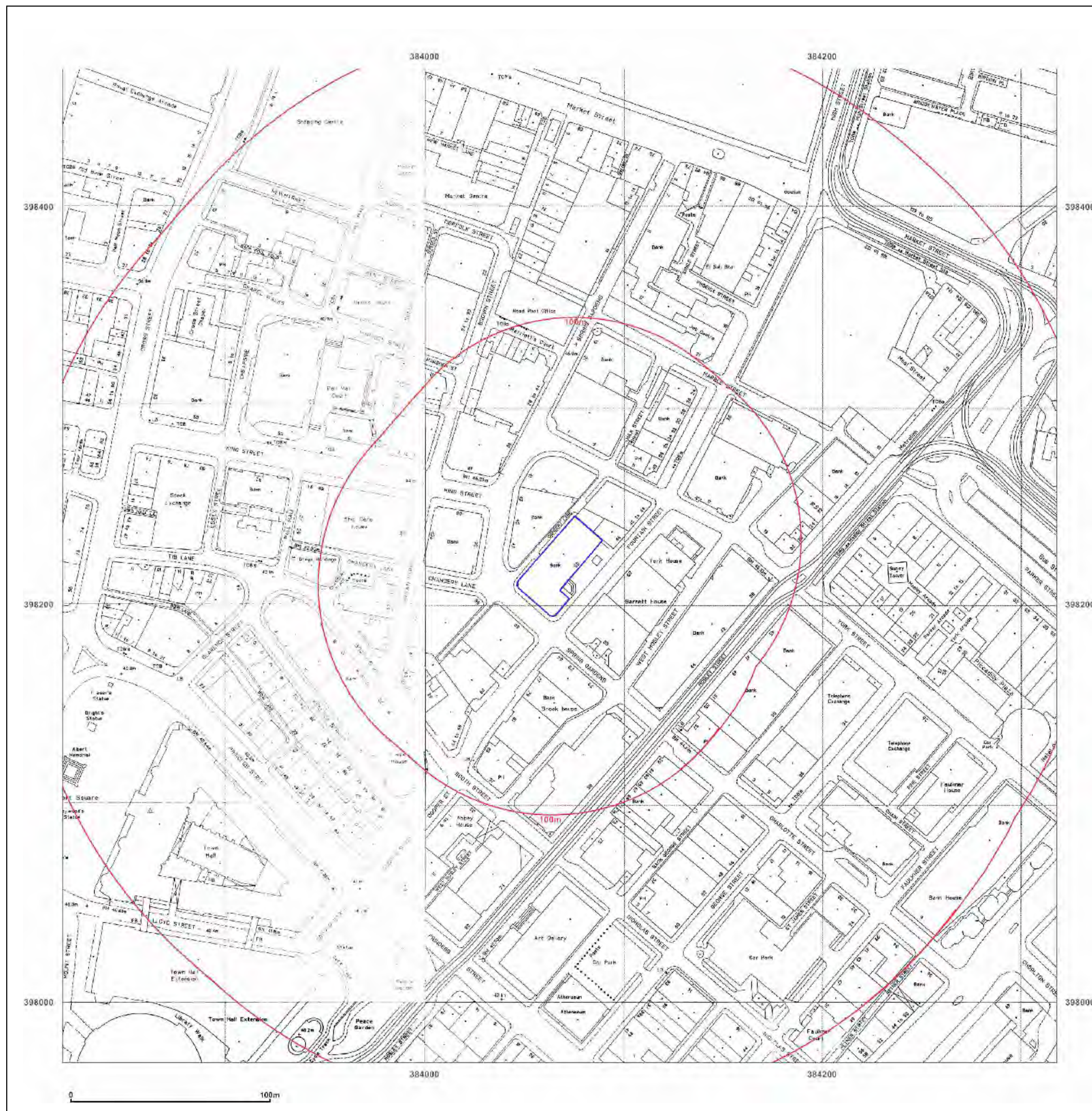


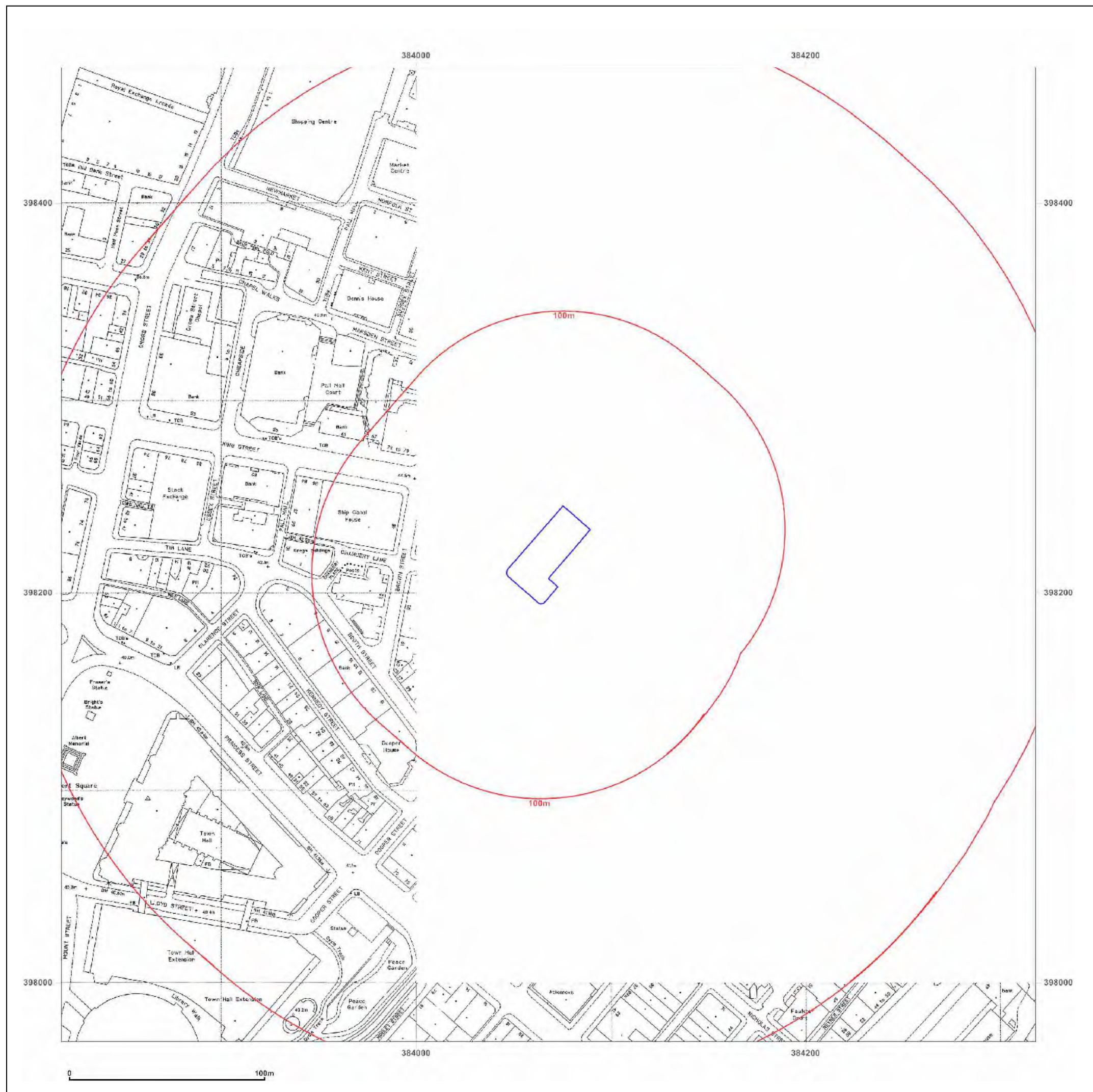
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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: National Grid

Map date: 1994-1995

Scale: 1:1,250

Printed at: 1:2,000



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

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

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

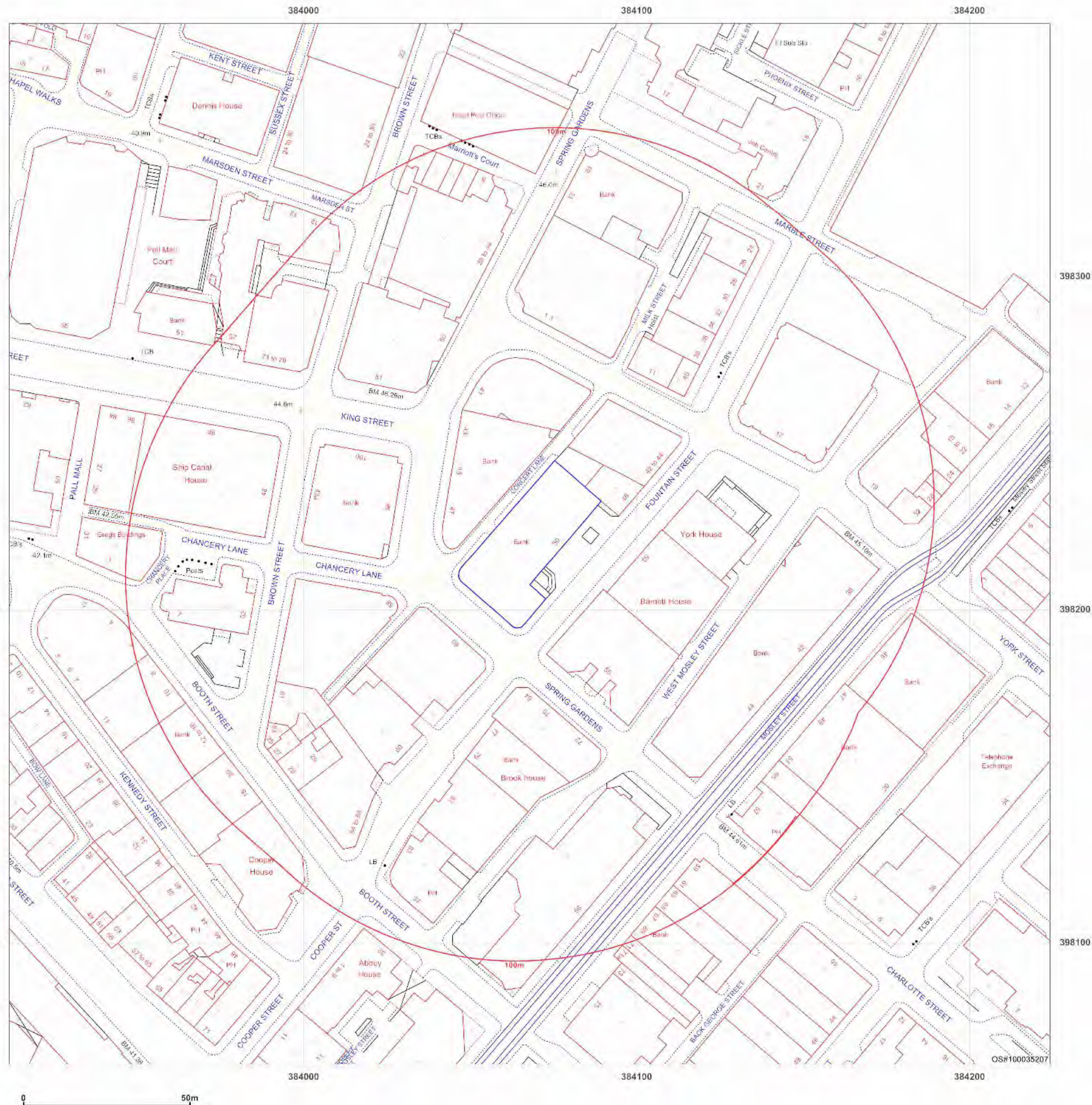


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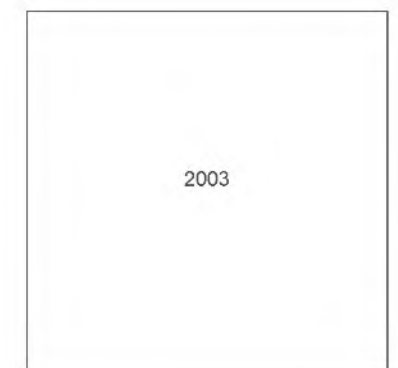
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Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250

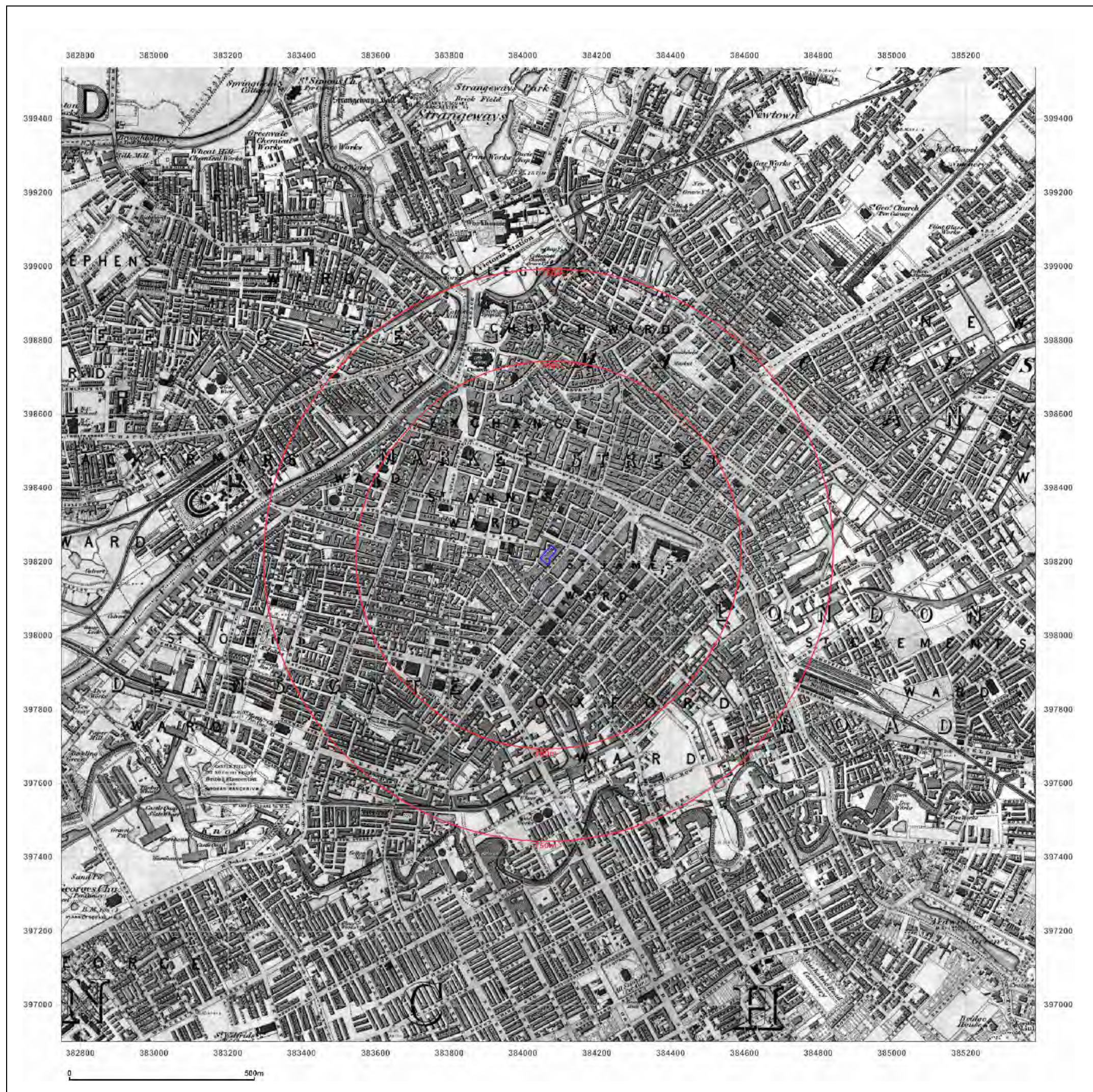


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Client Ref: C4683-1521-SD
Report Ref: BRO-7375989
Grid Ref: 384068, 398220

Map Name: County Series

Map date: 1848

Scale: 1:10,560

Printed at: 1:10,560



Surveyed 1845
Revised N/A
Edition 1848
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APPENDIX C
Geo-Environmental Data Report

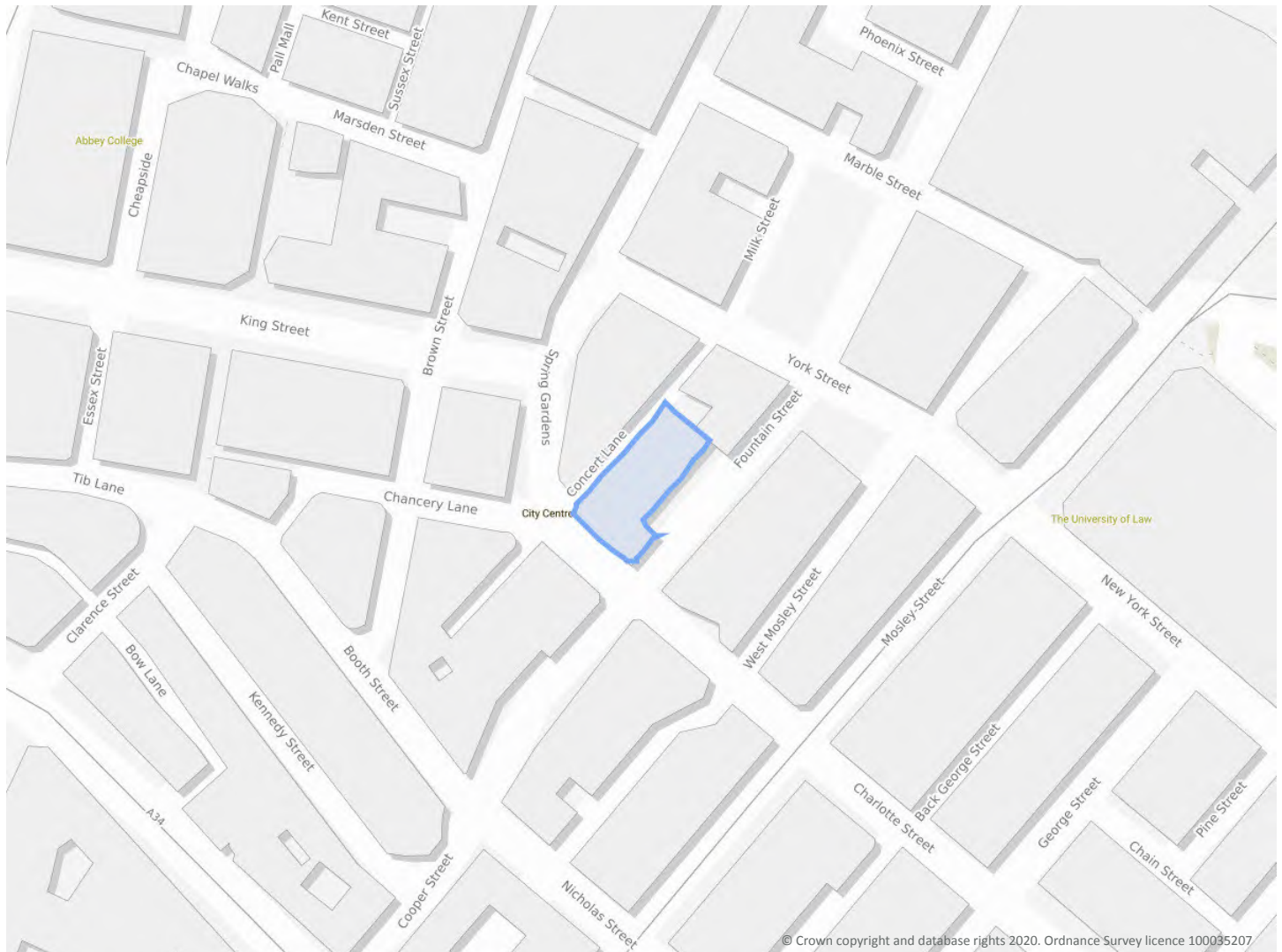
ACCESS TO MUSIC, 50, FOUNTAIN STREET, MANCHESTER, M2 2AS

Order Details

Date: 17/12/2020
Your ref: C4683-1521-SD
Our Ref: BRO-7375990
Client: Renaissance

Site Details

Location: 384065 398214
Area: 0.09 ha
Authority: [Manchester City Council](#)



Summary of findings

p. 2

Aerial image

p. 8

OS MasterMap site plan

p.12

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info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<u>13</u>	<u>1.1</u>	<u>Historical industrial land uses</u>	0	0	7	31	-
<u>15</u>	<u>1.2</u>	<u>Historical tanks</u>	0	0	1	5	-
<u>16</u>	<u>1.3</u>	<u>Historical energy features</u>	0	0	4	22	-
17	1.4	Historical petrol stations	0	0	0	0	-
<u>17</u>	<u>1.5</u>	<u>Historical garages</u>	0	0	2	5	-
18	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
<u>19</u>	<u>2.1</u>	<u>Historical industrial land uses</u>	0	0	9	49	-
<u>22</u>	<u>2.2</u>	<u>Historical tanks</u>	0	0	4	9	-
<u>22</u>	<u>2.3</u>	<u>Historical energy features</u>	0	0	8	41	-
24	2.4	Historical petrol stations	0	0	0	0	-
<u>25</u>	<u>2.5</u>	<u>Historical garages</u>	0	0	5	6	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
26	3.1	Active or recent landfill	0	0	0	0	-
26	3.2	Historical landfill (BGS records)	0	0	0	0	-
27	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
27	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
<u>27</u>	<u>3.5</u>	<u>Historical waste sites</u>	0	0	0	2	-
28	3.6	Licensed waste sites	0	0	0	0	-
<u>28</u>	<u>3.7</u>	<u>Waste exemptions</u>	0	2	0	10	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
<u>30</u>	<u>4.1</u>	<u>Recent industrial land uses</u>	0	4	40	-	-
33	4.2	Current or recent petrol stations	0	0	0	0	-
34	4.3	Electricity cables	0	0	0	0	-
34	4.4	Gas pipelines	0	0	0	0	-
34	4.5	Sites determined as Contaminated Land	0	0	0	0	-

34	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
34	4.7	Regulated explosive sites	0	0	0	0	-
35	4.8	Hazardous substance storage/usage	0	0	0	0	-
35	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
35	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
35	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	1	3	-
36	4.12	Radioactive Substance Authorisations	0	0	0	0	-
36	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
36	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
36	4.15	Pollutant release to public sewer	0	0	0	0	-
37	4.16	List 1 Dangerous Substances	0	0	0	0	-
37	4.17	List 2 Dangerous Substances	0	0	0	0	-
37	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	1	-
37	4.19	Pollution inventory substances	0	0	0	0	-
38	4.20	Pollution inventory waste transfers	0	0	0	0	-
38	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
39	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
41	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
43	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
44	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
44	5.5	Groundwater vulnerability- local information	None (within 0m)				
45	5.6	<u>Groundwater abstractions</u>	0	0	2	0	39
56	5.7	<u>Surface water abstractions</u>	0	0	0	0	2
57	5.8	<u>Potable abstractions</u>	0	0	0	0	10
59	5.9	Source Protection Zones	0	0	0	0	-
60	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
61	6.1	Water Network (OS MasterMap)	0	0	0	-	-



61	6.2	Surface water features	0	0	0	-	-
62	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
62	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
63	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
64	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
64	7.2	Historical Flood Events	0	0	0	-	-
64	7.3	Flood Defences	0	0	0	-	-
64	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
65	7.5	Flood Storage Areas	0	0	0	-	-
66	7.6	Flood Zone 2	None (within 50m)				
66	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
67	8.1	Surface water flooding	Negligible (within 50m)				
Page	Section	Groundwater flooding					
68	9.1	<u>Groundwater flooding</u>	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
69	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
69	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
69	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
69	10.4	Special Protection Areas (SPA)	0	0	0	0	0
70	10.5	National Nature Reserves (NNR)	0	0	0	0	0
70	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
70	10.7	Designated Ancient Woodland	0	0	0	0	0
70	10.8	Biosphere Reserves	0	0	0	0	0
71	10.9	Forest Parks	0	0	0	0	0
71	10.10	Marine Conservation Zones	0	0	0	0	0
71	10.11	Green Belt	0	0	0	0	0
71	10.12	Proposed Ramsar sites	0	0	0	0	0



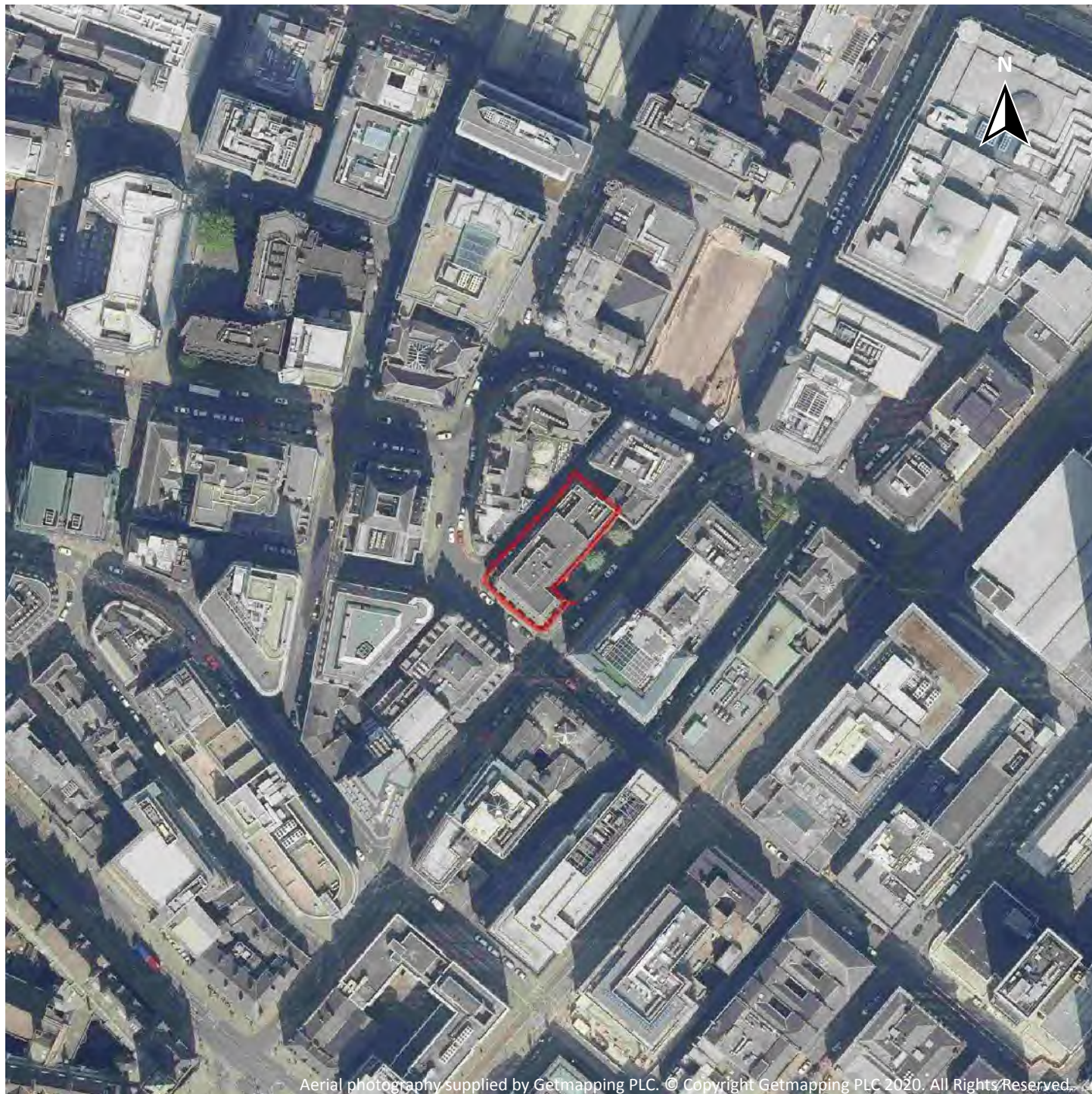
71	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
72	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
72	10.15	Nitrate Sensitive Areas	0	0	0	0	0
72	10.16	<u>Nitrate Vulnerable Zones</u>	0	0	0	2	2
73	10.17	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
74	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
75	11.1	World Heritage Sites	0	0	0	-	-
76	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
76	11.3	National Parks	0	0	0	-	-
76	11.4	<u>Listed Buildings</u>	1	7	68	-	-
79	11.5	<u>Conservation Areas</u>	1	0	4	-	-
80	11.6	Scheduled Ancient Monuments	0	0	0	-	-
80	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
81	12.1	<u>Agricultural Land Classification</u>	Urban (within 250m)				
82	12.2	Open Access Land	0	0	0	-	-
82	12.3	Tree Felling Licences	0	0	0	-	-
82	12.4	Environmental Stewardship Schemes	0	0	0	-	-
82	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
83	13.1	Priority Habitat Inventory	0	0	0	-	-
83	13.2	Habitat Networks	0	0	0	-	-
83	13.3	Open Mosaic Habitat	0	0	0	-	-
83	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
84	14.1	<u>10k Availability</u>	Identified (within 500m)				
85	14.2	<u>Artificial and made ground (10k)</u>	0	0	1	1	-
86	14.3	<u>Superficial geology (10k)</u>	1	0	0	1	-

87	14.4	Landslip (10k)	0	0	0	0	-
88	14.5	<u>Bedrock geology (10k)</u>	1	0	0	2	-
89	14.6	<u>Bedrock faults and other linear features (10k)</u>	0	0	1	4	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
90	15.1	<u>50k Availability</u>	Identified (within 500m)				
91	15.2	<u>Artificial and made ground (50k)</u>	0	0	0	1	-
92	15.3	Artificial ground permeability (50k)	0	0	-	-	-
93	15.4	<u>Superficial geology (50k)</u>	1	0	0	1	-
94	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
94	15.6	Landslip (50k)	0	0	0	0	-
94	15.7	Landslip permeability (50k)	None (within 50m)				
95	15.8	<u>Bedrock geology (50k)</u>	1	0	0	2	-
96	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
96	15.10	<u>Bedrock faults and other linear features (50k)</u>	0	0	1	4	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
97	16.1	<u>BGS Boreholes</u>	0	3	72	-	-
Page	Section	Natural ground subsidence					
101	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
102	17.2	<u>Running sands</u>	Very low (within 50m)				
103	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
104	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
105	17.5	<u>Landslides</u>	Very low (within 50m)				
106	17.6	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
108	18.1	Natural cavities	0	0	0	0	-
109	18.2	BritPits	0	0	0	0	-
109	18.3	<u>Surface ground workings</u>	0	0	7	-	-
109	18.4	Underground workings	0	0	0	0	0
110	18.5	Historical Mineral Planning Areas	0	0	0	0	-



110	18.6	Non-coal mining	0	0	0	0	0
110	18.7	Mining cavities	0	0	0	0	0
<u>110</u>	<u>18.8</u>	<u>JPB mining areas</u>	Identified (within 0m)				
<u>111</u>	<u>18.9</u>	<u>Coal mining</u>	Identified (within 0m)				
111	18.10	Brine areas	None (within 0m)				
111	18.11	Gypsum areas	None (within 0m)				
111	18.12	Tin mining	None (within 0m)				
111	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<u>112</u>	<u>19.1</u>	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
<u>113</u>	<u>20.1</u>	<u>BGS Estimated Background Soil Chemistry</u>	1	2	-	-	-
<u>113</u>	<u>20.2</u>	<u>BGS Estimated Urban Soil Chemistry</u>	2	4	-	-	-
114	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
115	21.1	Underground railways (London)	0	0	0	-	-
115	21.2	Underground railways (Non-London)	0	0	0	-	-
116	21.3	Railway tunnels	0	0	0	-	-
<u>116</u>	<u>21.4</u>	<u>Historical railway and tunnel features</u>	0	0	1	-	-
116	21.5	Royal Mail tunnels	0	0	0	-	-
116	21.6	Historical railways	0	0	0	-	-
<u>117</u>	<u>21.7</u>	<u>Railways</u>	0	0	42	-	-
118	21.8	Crossrail 1	0	0	0	0	-
119	21.9	Crossrail 2	0	0	0	0	-
119	21.10	HS2	0	0	0	0	-

Recent aerial photograph

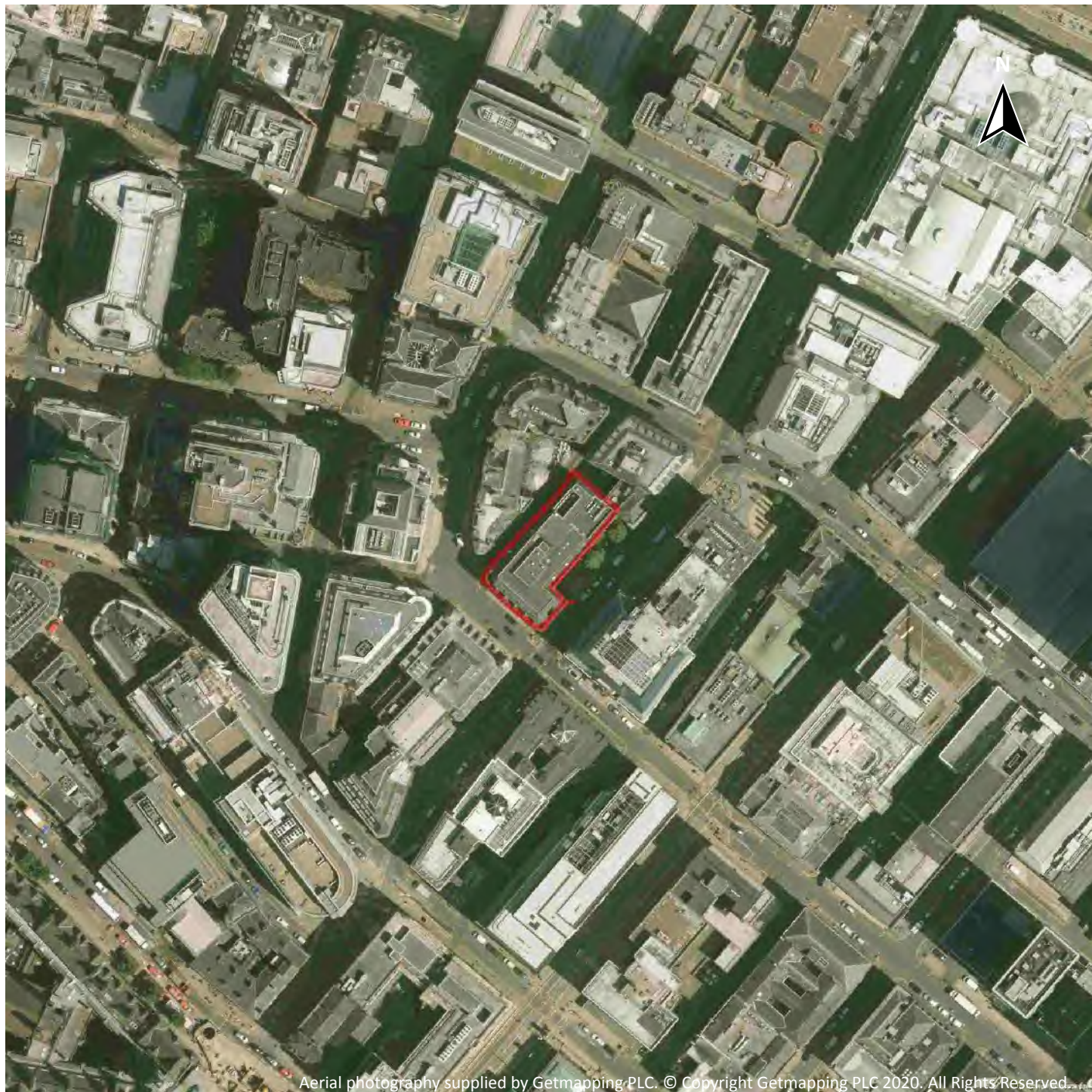


Capture Date: 22/04/2019

Site Area: 0.09ha



Recent site history - 2015 aerial photograph



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Capture Date: 11/06/2015

Site Area: 0.09ha



Recent site history - 2009 aerial photograph



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Capture Date: 02/06/2009

Site Area: 0.09ha



Recent site history - 2000 aerial photograph



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Capture Date: 27/06/2000

Site Area: 0.09ha



OS MasterMap site plan



Site Area: 0.09ha



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

38

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
B	102m NE	Unspecified Commercial/Industrial	1938	873846



ID	Location	Land use	Dates present	Group ID
B	104m NE	Unspecified Commercial/Industrial	1931	885632
B	104m NE	Unspecified Commercial/Industrial	1916	924604
2	193m NW	Bus Station	1985 - 1994	940823
D	215m NE	Unspecified Commercial/Industrial	1938	796725
3	216m E	Bus Station	1978	842917
D	218m NE	Unspecified Ground Workings	1931	800625
E	251m E	Unspecified Pit	1956	840494
G	322m NW	Unspecified Commercial/Industrial	1894 - 1906	981915
G	322m NW	Unspecified Commercial/Industrial	1931 - 1938	888220
G	326m NW	Unspecified Commercial/Industrial	1916	908333
H	357m SE	Bus Station	1978	884077
H	357m SE	Bus Station	1985 - 1994	952978
I	360m SW	Police Station	1978	880849
I	360m SW	Police Station	1956 - 1971	884199
I	360m SW	Police Station	1985 - 1994	940998
7	394m NW	Unspecified Commercial/Industrial	1931 - 1938	984324
8	410m S	Unspecified Commercial/Industrial	1923	796724
M	411m W	Unspecified Commercial/Industrial	1931 - 1938	890147
M	413m W	Unspecified Commercial/Industrial	1906 - 1916	878688
M	414m NW	Unspecified Commercial/Industrial	1894	943404
O	433m N	Unspecified Commercial/Industrial	1938	856039
9	433m E	Infirmary	1915 - 1923	975872
O	435m N	Unspecified Commercial/Industrial	1916	919326
O	435m N	Unspecified Commercial/Industrial	1931	988948
N	439m S	Electricity Station	1916 - 1923	992043
11	456m N	Unspecified Commercial/Industrial	1931 - 1938	925996
Q	471m SW	Railway Station	1956	888631
Q	479m SW	Railway Sidings	1905 - 1916	871753

ID	Location	Land use	Dates present	Group ID
Q	479m SW	Railway Sidings	1932 - 1938	982150
Q	485m SW	Railway Sidings	1896	975593
R	485m SW	Goods Station	1956	923306
Q	488m SW	Railway Station	1896	915817
R	492m SW	Goods Station	1923	943574
R	492m SW	Goods Station	1932 - 1938	883356
R	492m SW	Goods Station	1905 - 1916	938206
Q	495m SW	Disused Station	1978	925495
13	500m SE	Unspecified Wharf	1915 - 1923	848098

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

6

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

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

ID	Location	Land use	Dates present	Group ID
4	247m SW	Unspecified Tank	1994 - 1999	133983
J	362m W	Tanks	1995	106801
J	362m W	Unspecified Tank	1989	115966
M	454m NW	Unspecified Tank	1892 - 1933	141456
M	467m NW	Unspecified Tank	1891	115968
N	468m S	Unspecified Tank	1891	115965

This data is sourced from Ordnance Survey / Groundsure.



1.3 Historical energy features

Records within 500m

26

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

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

ID	Location	Land use	Dates present	Group ID
A	73m N	Electricity Substation	1953	74071
A	89m N	Electricity Substation	1953 - 1967	74509
A	89m N	Electricity Substation	1948 - 1968	80770
1	136m NE	Electricity Substation	1995	62186
5	267m W	Electricity Substation	1989 - 1995	71770
F	299m NW	Electricity Substation	1980	62185
F	315m NW	Electricity Substation	1948 - 1995	65939
F	316m NW	Electricity Substation	1986	67191
E	325m E	Electricity Substation	1986 - 1995	72406
6	364m W	Electricity Substation	1986	62184
J	370m W	Electricity Substation	1980 - 1995	80026
K	383m N	Electricity Substation	1953	68709
K	384m N	Electricity Substation	1953	73153
G	392m NW	Electricity Substation	1986 - 1989	83982
K	395m N	Electricity Substation	1948 - 1951	67763
G	400m NW	Electricity Substation	1995	62192
N	430m S	Electricity Station	1950 - 1955	66381
N	431m S	Electricity Station	1948	73425
N	436m S	Electricity Station	1908 - 1922	81883
P	467m W	Electricity Substation	1980 - 1986	65413
P	468m W	Electricity Substation	1995	81996



ID	Location	Land use	Dates present	Group ID
N	470m S	Electricity Station	1950	68267
N	472m S	Electricity Station	1955	77896
12	477m NE	Electricity Substation	1980 - 1992	84709
O	487m N	Electricity Substation	1953	75919
O	487m N	Electricity Substation	1948 - 1953	76409

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
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Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	7
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Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original ungrouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

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

ID	Location	Land use	Dates present	Group ID
C	161m SE	Garage	1953 - 1965	27406
C	161m SE	Garage	1948 - 1953	24294
L	392m E	Garage	1953	21528
L	392m E	Garage	1965	23515
L	392m E	Garage	1953	25567
10	442m W	Garage	1948	20292

ID	Location	Land use	Dates present	Group ID
P	467m W	Garage	1948	20285

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

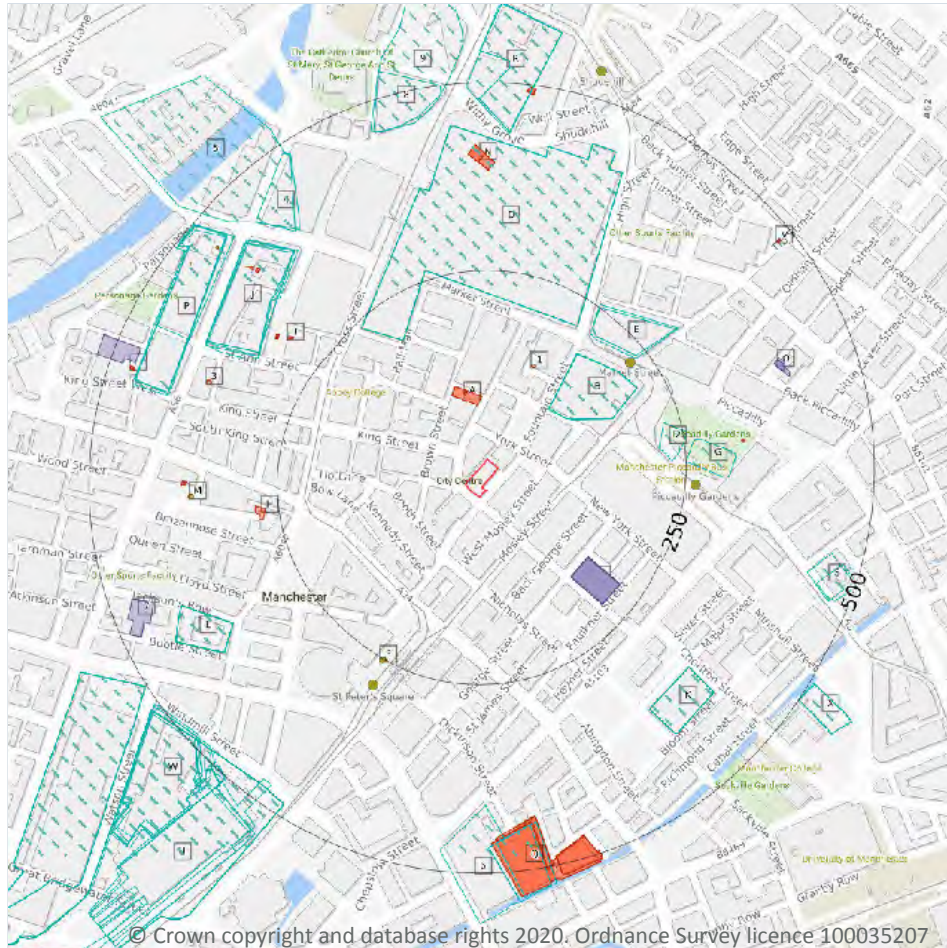
0

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

58

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 19**

ID	Location	Land Use	Date	Group ID
B	102m NE	Unspecified Commercial/Industrial	1938	873846
B	104m NE	Unspecified Commercial/Industrial	1931	885632
B	104m NE	Unspecified Commercial/Industrial	1916	924604



ID	Location	Land Use	Date	Group ID
D	193m NW	Bus Station	1988	940823
D	193m NW	Bus Station	1985	940823
D	193m NW	Bus Station	1994	940823
E	215m NE	Unspecified Commercial/Industrial	1938	796725
2	216m E	Bus Station	1978	842917
E	218m NE	Unspecified Ground Workings	1931	800625
G	251m E	Unspecified Pit	1956	840494
J	322m NW	Unspecified Commercial/Industrial	1894	981915
J	322m NW	Unspecified Commercial/Industrial	1938	888220
J	324m NW	Unspecified Commercial/Industrial	1906	981915
J	326m NW	Unspecified Commercial/Industrial	1931	888220
J	326m NW	Unspecified Commercial/Industrial	1916	908333
K	357m SE	Bus Station	1988	952978
K	357m SE	Bus Station	1978	884077
K	357m SE	Bus Station	1985	952978
K	357m SE	Bus Station	1994	952978
L	360m SW	Police Station	1971	884199
L	360m SW	Police Station	1956	884199
L	360m SW	Police Station	1988	940998
L	360m SW	Police Station	1978	880849
L	360m SW	Police Station	1985	940998
L	360m SW	Police Station	1994	940998
4	394m NW	Unspecified Commercial/Industrial	1931	984324
5	395m NW	Unspecified Commercial/Industrial	1938	984324
6	410m S	Unspecified Commercial/Industrial	1923	796724
P	411m W	Unspecified Commercial/Industrial	1938	890147
P	413m W	Unspecified Commercial/Industrial	1906	878688
P	413m W	Unspecified Commercial/Industrial	1931	890147



ID	Location	Land Use	Date	Group ID
P	413m W	Unspecified Commercial/Industrial	1916	878688
P	414m NW	Unspecified Commercial/Industrial	1894	943404
R	433m N	Unspecified Commercial/Industrial	1938	856039
S	433m E	Infirmery	1923	975872
R	435m N	Unspecified Commercial/Industrial	1931	988948
R	435m N	Unspecified Commercial/Industrial	1916	919326
Q	439m S	Electricity Station	1916	992043
Q	441m S	Electricity Station	1923	992043
S	450m E	Infirmery	1915	975872
8	456m N	Unspecified Commercial/Industrial	1931	925996
9	456m N	Unspecified Commercial/Industrial	1938	925996
U	471m SW	Railway Station	1956	888631
U	479m SW	Railway Sidings	1938	982150
U	479m SW	Railway Sidings	1932	982150
U	479m SW	Railway Sidings	1916	871753
U	479m SW	Railway Sidings	1905	871753
U	485m SW	Railway Sidings	1896	975593
W	485m SW	Goods Station	1956	923306
U	488m SW	Railway Station	1896	915817
W	492m SW	Goods Station	1923	943574
W	492m SW	Goods Station	1938	883356
W	492m SW	Goods Station	1932	883356
W	492m SW	Goods Station	1916	938206
W	492m SW	Goods Station	1905	938206
U	495m SW	Disused Station	1978	925495
X	500m SE	Unspecified Wharf	1923	848098
X	500m SE	Unspecified Wharf	1915	848098

This data is sourced from Ordnance Survey / Groundsure.



2.2 Historical tanks

Records within 500m

13

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 19**

ID	Location	Land Use	Date	Group ID
F	247m SW	Unspecified Tank	1996	133983
F	247m SW	Unspecified Tank	1995	133983
F	247m SW	Unspecified Tank	1994	133983
F	247m SW	Unspecified Tank	1999	133983
M	362m W	Tanks	1995	106801
M	362m W	Unspecified Tank	1989	115966
P	454m NW	Unspecified Tank	1892	141456
P	454m NW	Unspecified Tank	1908	141456
P	454m NW	Unspecified Tank	1922	141456
P	454m NW	Unspecified Tank	1933	141456
P	454m NW	Unspecified Tank	1892	141456
P	467m NW	Unspecified Tank	1891	115968
Q	468m S	Unspecified Tank	1891	115965

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

49

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 19**

ID	Location	Land Use	Date	Group ID
A	73m N	Electricity Substation	1953	74071



ID	Location	Land Use	Date	Group ID
A	73m N	Electricity Substation	1953	74071
A	89m N	Electricity Substation	1967	74509
A	89m N	Electricity Substation	1968	80770
A	89m N	Electricity Substation	1953	74509
A	89m N	Electricity Substation	1948	80770
A	89m N	Electricity Substation	1953	80770
1	136m NE	Electricity Substation	1995	62186
H	267m W	Electricity Substation	1995	71770
H	267m W	Electricity Substation	1989	71770
I	299m NW	Electricity Substation	1980	62185
I	315m NW	Electricity Substation	1995	65939
I	315m NW	Electricity Substation	1957	65939
I	315m NW	Electricity Substation	1948	65939
I	315m NW	Electricity Substation	1955	65939
I	315m NW	Electricity Substation	1970	65939
I	315m NW	Electricity Substation	1989	65939
I	316m NW	Electricity Substation	1986	67191
G	325m E	Electricity Substation	1995	72406
G	326m E	Electricity Substation	1986	72406
3	364m W	Electricity Substation	1986	62184
M	370m W	Electricity Substation	1980	80026
M	370m W	Electricity Substation	1986	80026
M	371m W	Electricity Substation	1995	80026
M	372m W	Electricity Substation	1989	80026
N	383m N	Electricity Substation	1953	68709
N	384m N	Electricity Substation	1953	73153
J	392m NW	Electricity Substation	1989	83982
J	393m NW	Electricity Substation	1986	83982



ID	Location	Land Use	Date	Group ID
N	395m N	Electricity Substation	1951	67763
N	395m N	Electricity Substation	1948	67763
J	400m NW	Electricity Substation	1995	62192
Q	430m S	Electricity Station	1950	66381
Q	431m S	Electricity Station	1955	66381
Q	431m S	Electricity Station	1948	73425
Q	436m S	Electricity Station	1908	81883
Q	438m S	Electricity Station	1922	81883
T	467m W	Electricity Substation	1980	65413
T	467m W	Electricity Substation	1986	65413
T	468m W	Electricity Substation	1995	81996
Q	470m S	Electricity Station	1950	68267
Q	472m S	Electricity Station	1955	77896
V	477m NE	Electricity Substation	1980	84709
V	477m NE	Electricity Substation	1986	84709
V	477m NE	Electricity Substation	1992	84709
R	487m N	Electricity Substation	1953	75919
R	487m N	Electricity Substation	1951	76409
R	487m N	Electricity Substation	1948	76409
R	487m N	Electricity Substation	1953	76409

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

11

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 19**

ID	Location	Land Use	Date	Group ID
C	161m SE	Garage	1953	27406
C	161m SE	Garage	1953	27406
C	161m SE	Garage	1965	27406
C	161m SE	Garage	1948	24294
C	161m SE	Garage	1953	24294
O	392m E	Garage	1953	25567
O	392m E	Garage	1953	25567
O	392m E	Garage	1965	23515
O	392m E	Garage	1953	21528
7	442m W	Garage	1948	20292
T	467m W	Garage	1948	20285

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



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

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m**0**

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m**0**

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

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

3.5 Historical waste sites

Records within 500m**2**

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

Features are displayed on the Waste and landfill map on **page 26**

ID	Location	Address	Further Details	Date
4	405m W	Site Address: St. Johns House, 2-10 Queen Street, MANCHESTER, Greater Manchester, M2 5JB	Type of Site: Recycling Storage Facility Planning application reference: 088327/FO/2008/C1 Description: Scheme comprises construction of recycling storage facility and bicycle storage facility including mesh fencing to Lloyd street elevation. Construction - fencing site works. An application (ref: 088327/FO/2008/C1) for detailed planning permission was withdrawn from Manchester C.C. Planning decision obtained Data source: Historic Planning Application Data Type: Point	-

ID	Location	Address	Further Details	Date
6	498m SW	Site Address: Manchester Central Convention, Windmill Street, Manchester, Greater Manchester, M2 3GX	Type of Site: Recycling Centre Planning application reference: 103313/FO/2013/C1 Description: Scheme comprises relocation of waste storage facility to allow creation of a business recycling centre and construction of screening. Data source: Historic Planning Application Data Type: Point	12/11/2013

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

3.6 Licensed waste sites

Records within 500m	0
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Active or recently closed waste sites under Environment Agency/Natural Resources Wales regulation.

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

3.7 Waste exemptions

Records within 500m	12
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Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 26**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	43m NE	11 York Street, York Street, Manchester, M2 2BE	WEX111733	Treating waste exemption	Not on a farm	Screening and blending of waste
A	43m NE	11 York Street, York Street, Manchester, M2 2BE	WEX111733	Using waste exemption	Not on a farm	Use of waste in construction
1	268m N	Arndale House Arndale Centre MANCHESTER M4 3AQ	EPR/VF0609LD /A001	Treating waste exemption	Non-Agricultural Waste Only	Crushing waste fluorescent tubes
B	290m N	Arndale House Arndale Centre MANCHESTER M4 3AQ	EPR/KF0334ZH /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in secure containers
B	290m N	Arndale House Arndale Centre MANCHESTER M4 3AQ	EPR/KF0334ZH /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place

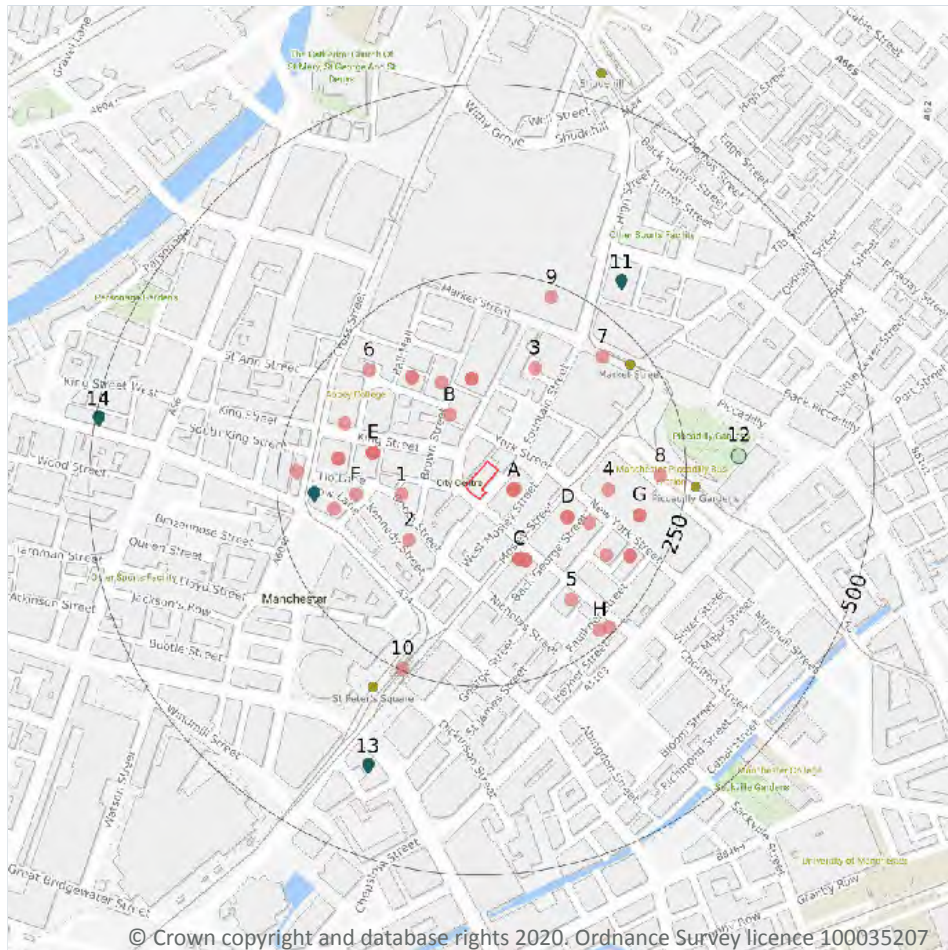


ID	Location	Site	Reference	Category	Sub-Category	Description
B	290m N	Arndale House Arndale Centre MANCHESTER M4 3AQ	EPR/KF0334ZH /A001	Treating waste exemption	Non-Agricultural Waste Only	Preparatory treatments (baling, sorting, shredding etc)
C	292m S	New Build Construction Works by Russells, 3 St Peter Square, Manchester, M2 3DF	WEX118443	Treating waste exemption	Not on a farm	Screening and blending of waste
C	292m S	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 N	1st Floor, Arndale House, Manchester , m4 3aq	WEX067421	Treating waste exemption	Not on a farm	Sorting mixed waste
2	372m SW	Brazennose House M2 5PB	EPR/ZE5544KA /A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
3	399m W	All roads in Greater Manchester	EPR/BF0503ZP /A001	Treating waste exemption	Non-Agricultural Waste Only	Screening and blending of waste
5	438m SW	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



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- Licensed pollutant release (Part A(2)/B)
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

44

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 30**

ID	Location	Company	Address	Activity	Category
A	33m SE	The Quantum Print	Barnett House, 53 Fountain Street, Manchester, Greater Manchester, M2 2AN	Published Goods	Industrial Products
A	33m SE	Atlantic Property Services	Barnett House, 53 Fountain Street, Manchester, Greater Manchester, M2 2AN	Construction Completion Services	Construction Services



ID	Location	Company	Address	Activity	Category
A	33m SE	Aquacleanse Ltd	Barnett House, 53 Fountain Street, Manchester, Greater Manchester, M2 2AN	Air and Water Filtration	Industrial Products
A	34m SE	National Safety Centre	Barnett House 53, Fountain Street, Manchester, Greater Manchester, M2 2AN	Special Purpose Machinery and Equipment	Industrial Products
B	79m NW	Electricity Sub Station	Greater Manchester, M2	Electrical Features	Infrastructure and Facilities
1	86m W	Kyocera	3-7, Booth Street, Manchester, Greater Manchester, M2 4DU	Printing Related Machinery	Industrial Products
C	95m SE	Total Towing	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Vehicle Repair, Testing and Servicing	Repair and Servicing
C	95m SE	Prime Power Solution	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Electrical Motors and Generators	Industrial Products
C	95m SE	C F E S	Woolwich House 61, Mosley Street, Manchester, Greater Manchester, M2 3HZ	Cooling and Refrigeration	Industrial Products
C	102m SE	Hazexperts	International House, 61 Mosley Street, Manchester, Greater Manchester, M2 3HZ	Recycling, Reclamation and Disposal	Recycling Services
C	102m SE	Imex Health UK	International House, 61 Mosley Street, Manchester, Greater Manchester, M2 3HZ	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
2	103m SW	Nisbets	12, Booth Street, Manchester, Greater Manchester, M2 4AW	Food and Beverage Industry Machinery	Industrial Products
B	111m N	Octapharma	The Zenith Building 26, Spring Gardens, Manchester, Greater Manchester, M2 1AB	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
B	111m N	Overbury	The Zenith Building 26, Spring Gardens, Manchester, Greater Manchester, M2 1AB	Office and Shop Equipment	Industrial Products
D	112m SE	Aecom Europe Ltd	1, New York Street, Manchester, Greater Manchester, M1 4HD	Civil Engineers	Engineering Services
D	112m SE	A D T	1, New York Street, Manchester, Greater Manchester, M1 4HD	Special Purpose Machinery and Equipment	Industrial Products
B	121m NW	Wastelift	St. James Court 30, Brown Street, Manchester, Greater Manchester, M2 1DH	Waste Storage, Processing and Disposal	Infrastructure and Facilities
E	131m W	DAWSON-WAM Ltd	82, King Street, Manchester, Greater Manchester, M2 4WQ	Civil Engineers	Engineering Services



ID	Location	Company	Address	Activity	Category
E	131m W	Friars Point Consulting	82, King Street, Manchester, Greater Manchester, M2 4WQ	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
E	131m W	Cognitive Publishing	Second Floor 82 King Street, Manchester, Greater Manchester, M2 4WQ	Published Goods	Industrial Products
3	138m NE	Electricity Sub Station	Greater Manchester, M2	Electrical Features	Infrastructure and Facilities
D	141m SE	Atkins Group	The Exchange 3, New York Street, Manchester, Greater Manchester, M1 4HN	Civil Engineers	Engineering Services
F	146m W	Mistral Group	Clarence House, 2 Clarence Street, Manchester, Greater Manchester, M2 4DW	New Vehicles	Motoring
4	149m E	City Tower	City Tower, Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT	Business Parks and Industrial Estates	Industrial Features
B	149m NW	Campbell Reith	1, Marsden Street, Manchester, Greater Manchester, M2 1HW	Civil Engineers	Engineering Services
B	150m NW	1 Marsden Street Business Centre	1, Marsden Street, Manchester, Greater Manchester, M2 1HW	Business Parks and Industrial Estates	Industrial Features
E	173m W	Alex Atkinson-fletcher Ltd	76, King Street, Manchester, Greater Manchester, M2 4NH	Published Goods	Industrial Products
E	173m W	Wardell Armstrong	76, King Street, Manchester, Greater Manchester, M2 4NH	Industrial Engineers	Engineering Services
F	176m W	Hydrock	Northern Assurance Buildings 9-21, Princess Street, Manchester, Greater Manchester, M2 4DN	Civil Engineers	Engineering Services
D	180m SE	British Engineering Services	5, New York Street, Manchester, Greater Manchester, M1 4JB	Civil Engineers	Engineering Services
5	181m SE	M 1 1st Call Locksmiths	Cobac House 14-16, Charlotte Street, Manchester, Greater Manchester, M1 4FL	Vehicle Repair, Testing and Servicing	Repair and Servicing
E	182m NW	The Offices	53, King Street, Manchester, Greater Manchester, M2 4LQ	Business Parks and Industrial Estates	Industrial Features
G	197m E	Nxgen Europe Ltd	City Tower, Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT	Office and Shop Equipment	Industrial Products
G	197m E	Weeshred Ltd	Fourteenth Floor City Tower, Piccadilly Plaza, Manchester, Greater Manchester, M1 4BT	Waste Collection, Processing and Disposal Equipment	Industrial Products



ID	Location	Company	Address	Activity	Category
6	198m NW	Moving Manchester	Tudor House 15-17, Chapel Walks, Manchester, Greater Manchester, M2 1HN	Published Goods	Industrial Products
7	205m NE	Market Street (Manchester Metrolink)	Greater Manchester, M1	Tram, Metro and Light Railway Stations and Stops	Public Transport, Stations and Infrastructure
D	209m SE	St John Ambulance	Faulkner House, Faulkner Street, Manchester, Greater Manchester, M1 4DY	Ambulance and Medical Transportation Services	Health Support Services
D	209m SE	St John Ambulance Supplies	Fifth Floor Faulkner House, Faulkner Street, Manchester, Greater Manchester, M1 4DY	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
8	216m E	Bus Station	Greater Manchester, M1	Bus and Coach Stations, Depots and Companies	Public Transport, Stations and Infrastructure
F	225m W	The Sportsman Communications Ltd	Floor 7 Steam Packet House, 70-76 Cross Street, Manchester, Greater Manchester, M2 4JG	Published Goods	Industrial Products
9	233m N	Just Colour	Unit Y1 Arndale Centre, Market Street, Manchester, Greater Manchester, M4 2HU	Published Goods	Industrial Products
H	236m SE	Hong Kong Printing Co Ltd	41, Faulkner Street, Manchester, Greater Manchester, M1 4EE	Published Goods	Industrial Products
H	242m SE	Vina Karaoke Bar	34, Charlotte Street, Manchester, Greater Manchester, M1 4FD	Electronic Equipment	Industrial Products
10	248m SW	St Peter's Square (Manchester Metrolink)	Greater Manchester, M2	Tram, Metro and Light Railway Stations and Stops	Public Transport, Stations and Infrastructure

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

4

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

Features are displayed on the Current industrial land use map on **page 30**

ID	Location	Address	Details	
F	201m W	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
11	296m NE	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



ID	Location	Address	Details	
13	385m S	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
14	496m W	Granada Dry Cleaners, 71-73 Bridge Street, Manchester, M30 9BA	Process: Dry Cleaning Status: Current Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m **0**

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m **0**

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

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

4.14 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

1

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 30**

ID	Location	Details	
12	320m E	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)

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.

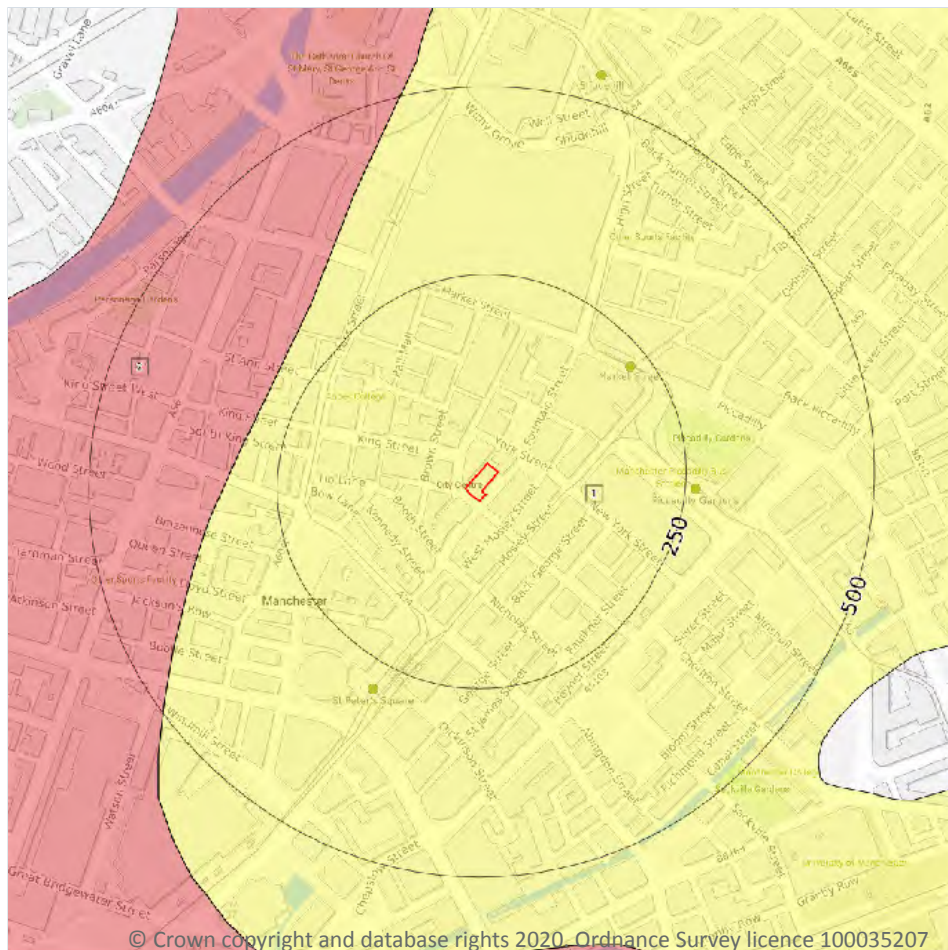
4.21 Pollution inventory radioactive waste

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 39**

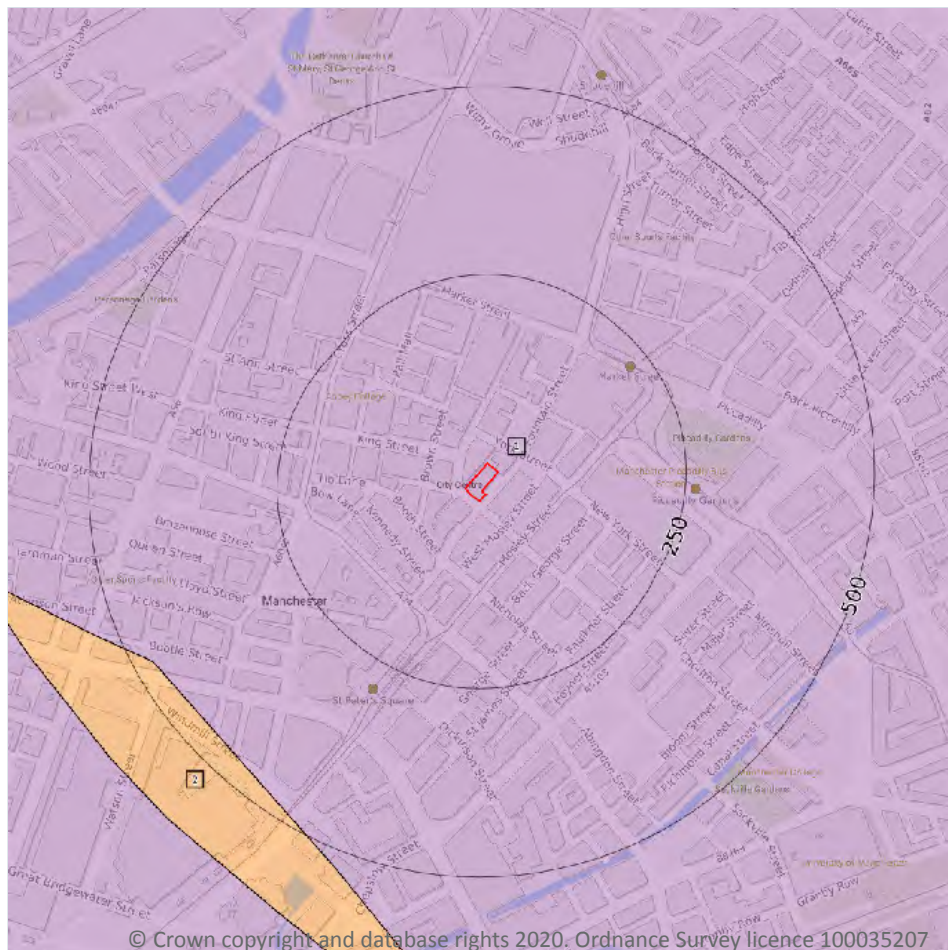
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	291m NW	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



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

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 41**

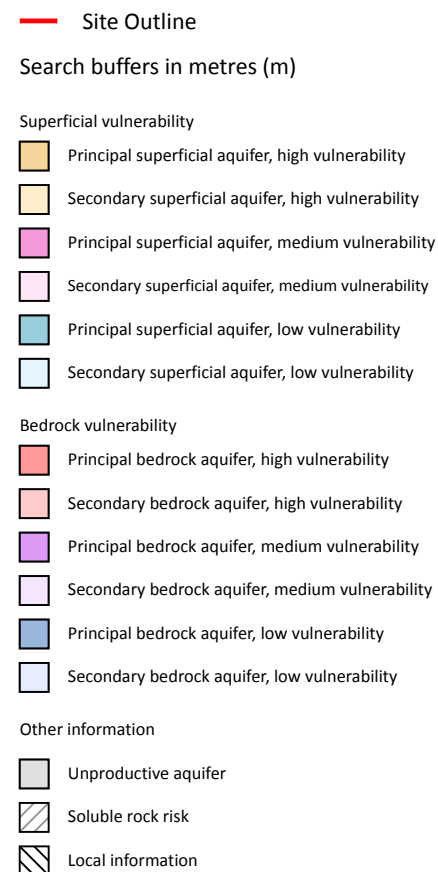
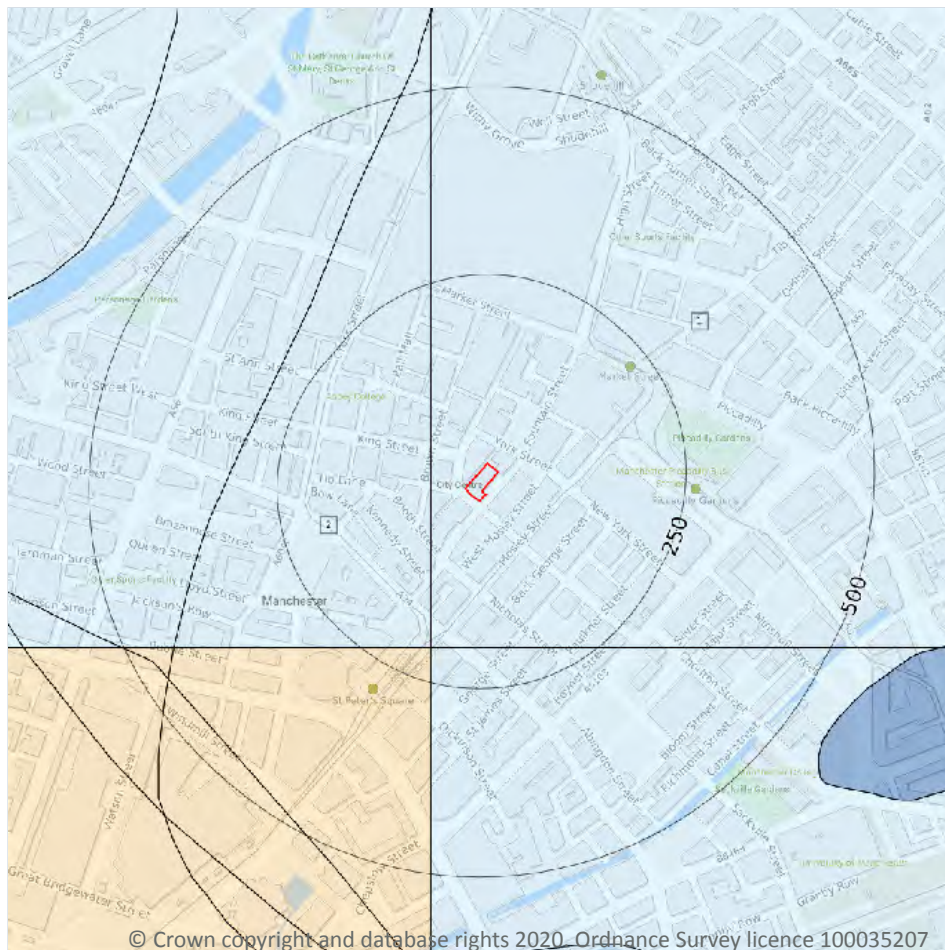
ID	Location	Designation	Description
1	On site	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers
2	463m SW	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers



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



Groundwater vulnerability



5.3 Groundwater vulnerability

Records within 50m

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 43**



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: >10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures
2	46m W	Summary Classification: Secondary superficial aquifer - Low Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: Low Infiltration value: <40% Dilution value: 300- 550mm/year	Vulnerability: Low Aquifer type: Secondary Thickness: 3-10m Patchiness value: >90% Recharge potential: Low	Vulnerability: Low Aquifer type: Principal Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	0
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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.

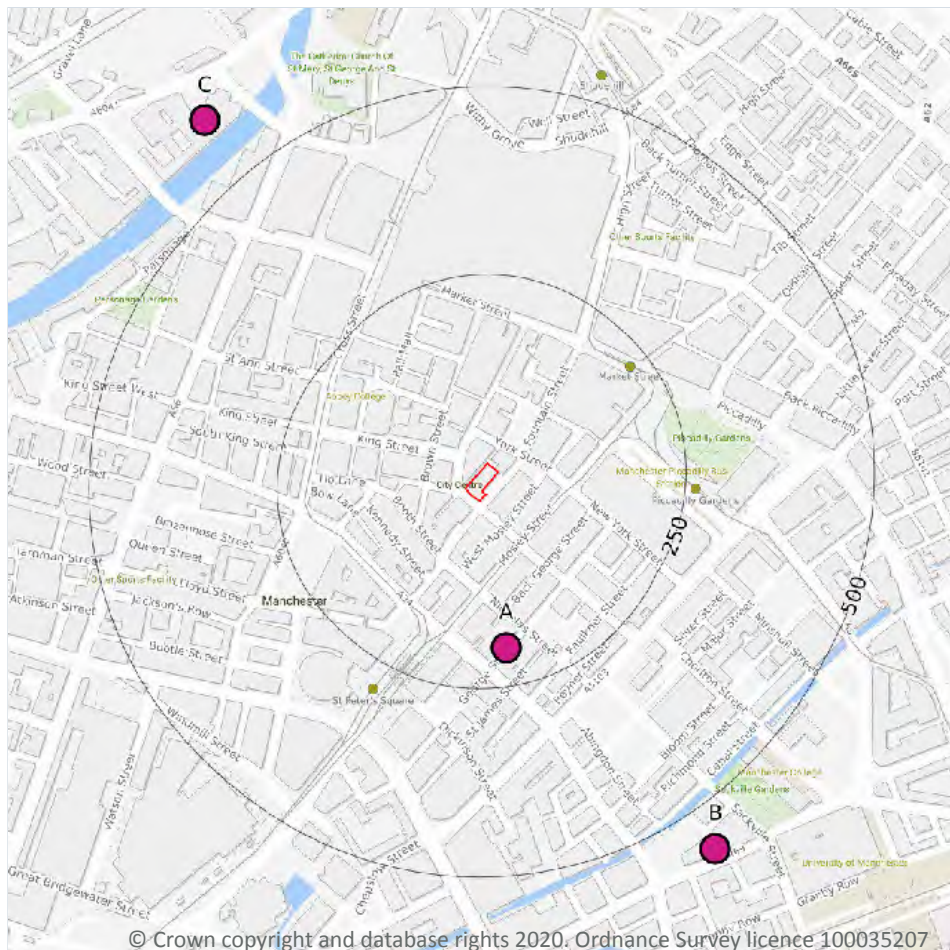
5.5 Groundwater vulnerability- local information

Records on site	0
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This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

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

Abstractions and Source Protection Zones



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

5.6 Groundwater abstractions

Records within 2000m

41

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 45**

ID	Location	Details	
A	197m S	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	197m S	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	557m 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	557m 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	
C	589m 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: -
C	589m 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: -
C	589m 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: - Original Start Date: 27/01/1971 Expiry Date: - Issue No: 101 Version Start Date: 01/04/2007 Version End Date: -
-	718m 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: -

ID	Location	Details	
-	902m W	Status: Active Licence No: NW/069/0004/019 Details: Transfer Between Sources (Post Water Act 2003) Direct Source: Ground Water - North West Region Point: ST JOHNS MANCHESTER Data Type: Poly4 Name: Manchester Quays Development (MGY) Ltd Easting: 383094 Northing: 398099	Annual Volume (m ³): 543,120 Max Daily Volume (m ³): 1,488 Original Application No: - Original Start Date: 13/09/2019 Expiry Date: 31/12/2020 Issue No: 1 Version Start Date: 13/09/2019 Version End Date: -
-	978m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	978m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	978m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	978m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	978m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	978m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1005m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -



ID	Location	Details	
-	1005m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1005m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1005m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1005m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1005m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1029m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1029m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1029m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -

ID	Location	Details	
-	1029m N	Status: Historical Licence No: 2569004023 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1029m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1029m N	Status: Historical Licence No: 2569004023 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1109m 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: - Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -

ID	Location	Details	
-	1109m 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: - Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -
-	1342m 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: -
-	1342m 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: -
-	1455m N	Status: Historical Licence No: 2569004011 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT DERBY BREWERY, CHEETHAM, MANCHESTER 3" Data Type: Point Name: JOSEPH HOLT LTD Easting: 384100 Northing: 399700	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -

ID	Location	Details	
-	1455m 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: -
-	1455m N	Status: Active Licence No: 2569004011 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT DERBY BREWERY, CHEETHAM, MANCHESTER 3 Data Type: Point Name: JOSEPH HOLT LTD Easting: 384100 Northing: 399700	Annual Volume (m ³): 45,460 Max Daily Volume (m ³): 181.84 Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -
-	1455m N	Status: Active Licence No: 2569004011 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT DERBY BREWERY, CHEETHAM, MANCHESTER 3 Data Type: Point Name: JOSEPH HOLT LTD Easting: 384100 Northing: 399700	Annual Volume (m ³): 45,460 Max Daily Volume (m ³): 181.84 Original Application No: - Original Start Date: 17/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 17/02/1966 Version End Date: -
-	1490m S	Status: Active Licence No: NW/069/0004/003 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m ³): 274,115 Max Daily Volume (m ³): 751 Original Application No: - Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -

ID	Location	Details	
-	1490m S	Status: Active Licence No: NW/069/0004/003 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m ³): 274,115 Max Daily Volume (m ³): 751 Original Application No: - Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -
-	1564m 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: -
-	1564m 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: -
-	1859m W	Status: Historical Licence No: 2569007085 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT HOPE STREET, SALFORD, MANCHESTER" Data Type: Point Name: READY MIXED CONCRETE (NORTH WEST) LIMITED Easting: 382190 Northing: 398330	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 01/11/2000 Expiry Date: - Issue No: 1 Version Start Date: 01/11/2000 Version End Date: -

ID	Location	Details	
-	1859m W	Status: Active Licence No: 2569007085 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT HOPE STREET, SALFORD, MANCHESTER Data Type: Point Name: CEMEX UK MATERIALS LTD Easting: 382190 Northing: 398330	Annual Volume (m ³): 23,000 Max Daily Volume (m ³): 115 Original Application No: - Original Start Date: 01/11/2000 Expiry Date: - Issue No: 4 Version Start Date: 21/12/2018 Version End Date: -

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 45**

ID	Location	Details	
-	1745m SW	Status: Historical Licence No: 2569007053 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: "Surface, Non-Tidal - North West Region" Point: "R IRWELL AT IRWELL WORKS, ORDSALL LANE, SALFORD" Data Type: Point Name: CDS COMPUTER DESIGN SYSTEMS LTD Easting: 382500 Northing: 397400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1987 Version End Date: -
-	1745m SW	Status: Historical Licence No: 2569007053 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Surface, Non-Tidal - North West Region Point: R IRWELL AT IRWELL WORKS, ORDSALL LANE, SALFORD Data Type: Point Name: CDS COMPUTER DESIGN SYSTEMS LTD Easting: 382500 Northing: 397400	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 22/01/1966 Expiry Date: - Issue No: 100 Version Start Date: 01/11/1987 Version End Date: -



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

5.8 Potable abstractions

Records within 2000m

10

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 45**

ID	Location	Details	
-	978m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	978m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 2) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	978m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 2 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383820 Northing: 399190	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -



ID	Location	Details	
-	1005m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -
-	1005m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 3) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1005m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 3 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383830 Northing: 399220	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1029m N	Status: Historical Licence No: 2569004023 Details: "Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services" Direct Source: Ground Water - North West Region Point: "BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER" Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 09/08/2000 Version End Date: -



ID	Location	Details	
-	1029m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE (NO 1) AT PREMISES, STRANGWAYS, MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1029m N	Status: Historical Licence No: 2569004023 Details: Drinking, Cooking, Sanitary, Washing, (Small Garden) - Commercial/Industrial/Public Services Direct Source: Ground Water - North West Region Point: BOREHOLE NUMBER 1 AT PREMISES STRANGWAYS MANCHESTER Data Type: Point Name: INTERBREW UK LTD Easting: 383850 Northing: 399250	Annual Volume (m ³): 500000 Max Daily Volume (m ³): 2500 Original Application No: - Original Start Date: 18/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 01/01/2004 Version End Date: -
-	1564m 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
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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

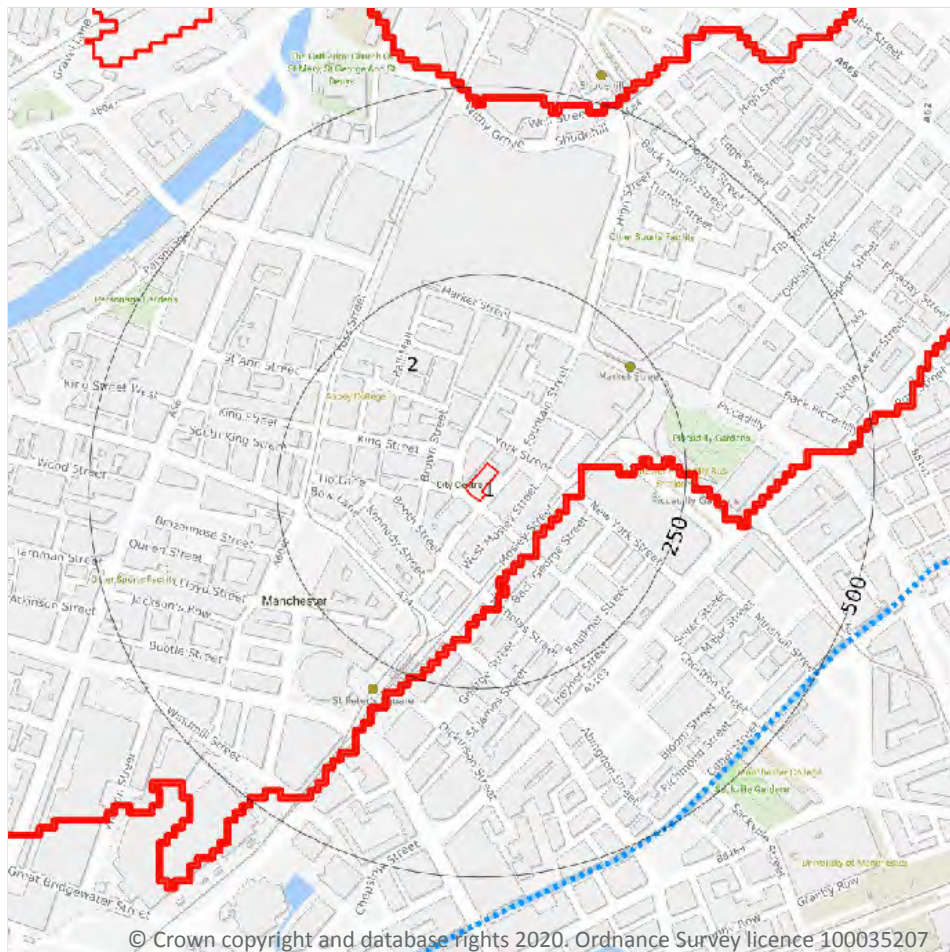
0

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

0

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

0

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



This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

1

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

Features are displayed on the Hydrology map on **page 61**

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

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

6.4 WFD Surface water bodies

Records identified

1

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

Features are displayed on the Hydrology map on **page 61**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	547m NW	River	Irwell / Manchester Ship Canal (Irk to confluence with Upper Mersey)	GB112069061452	Moderate	Good	Moderate	2016

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



6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 61**

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

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



7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

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

7.2 Historical Flood Events

Records within 250m

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

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



8 Surface water flooding

8.1 Surface water flooding

Highest risk on site

Negligible

Highest risk within 50m

Negligible

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

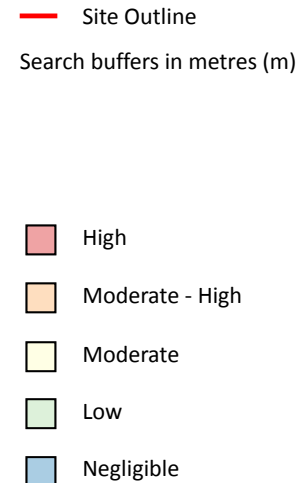
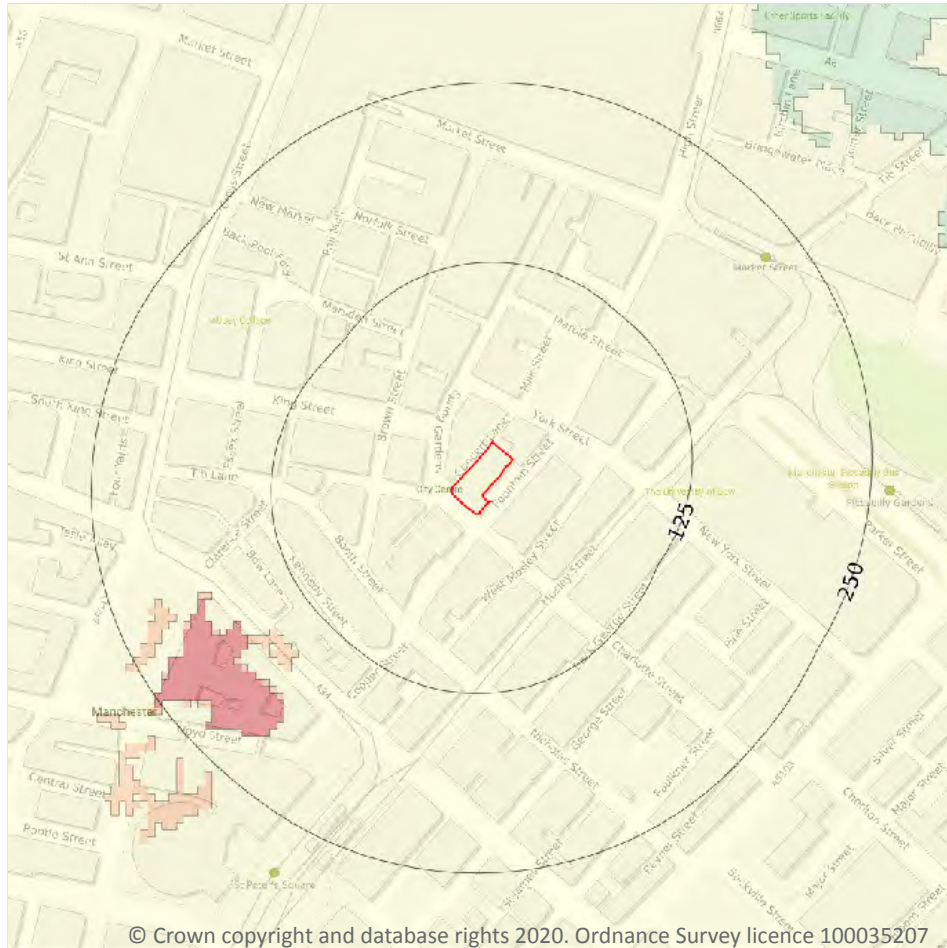
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site. The table below shows the maximum flood depths for a range of return periods for the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

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



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 68**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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



10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m**0**

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

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

10.7 Designated Ancient Woodland

Records within 2000m**0**

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

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

10.8 Biosphere Reserves

Records within 2000m**0**

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

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



10.9 Forest Parks

Records within 2000m**0**

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m**0**

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

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

10.11 Green Belt

Records within 2000m**0**

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

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

10.12 Proposed Ramsar sites

Records within 2000m**0**

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

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

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



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m**0**

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m**0**

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m**4**

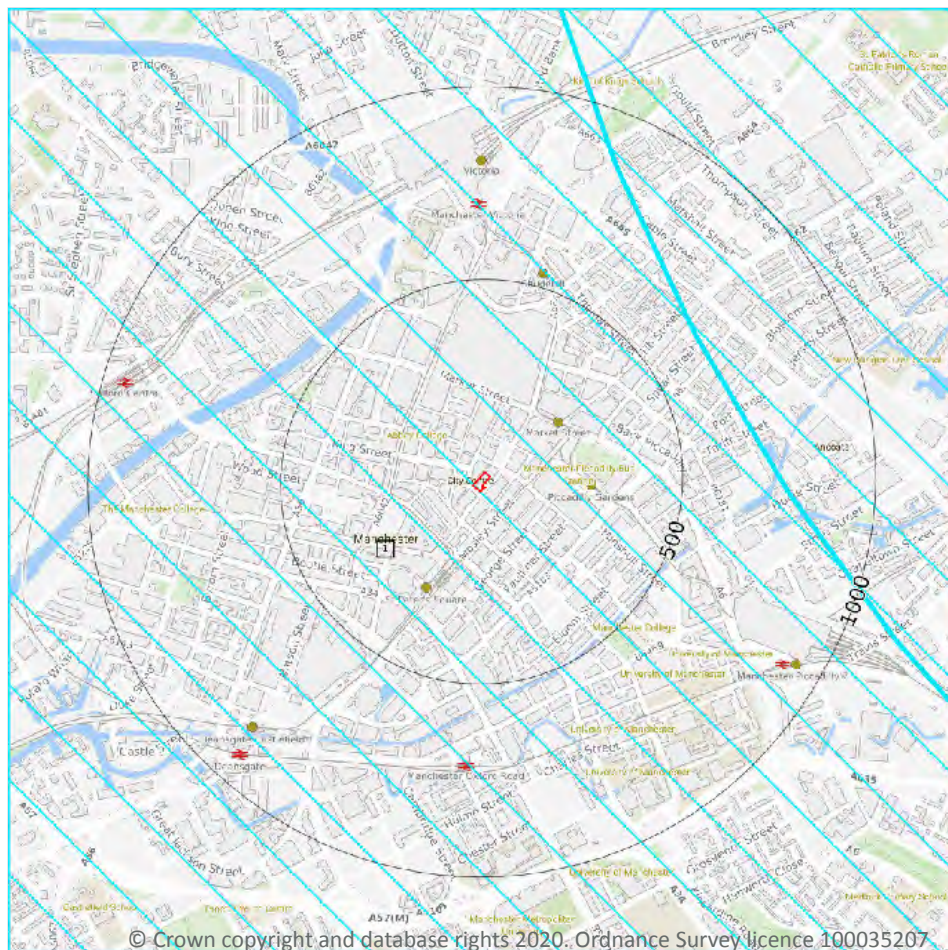
Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

Location	Name	Type	NVZ ID	Status
269m NE	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	S638	Existing
355m N	River Irk (Moston Brook to River Irwell) NVZ	Surface Water	S638	Existing
710m NW	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	S643	Existing
1355m N	Irwell / Man. Ship Canal (Kearsley to Irlam Locks) NVZ	Surface Water	S643	Existing

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



SSSI Impact Zones and Units



- 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 73**

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

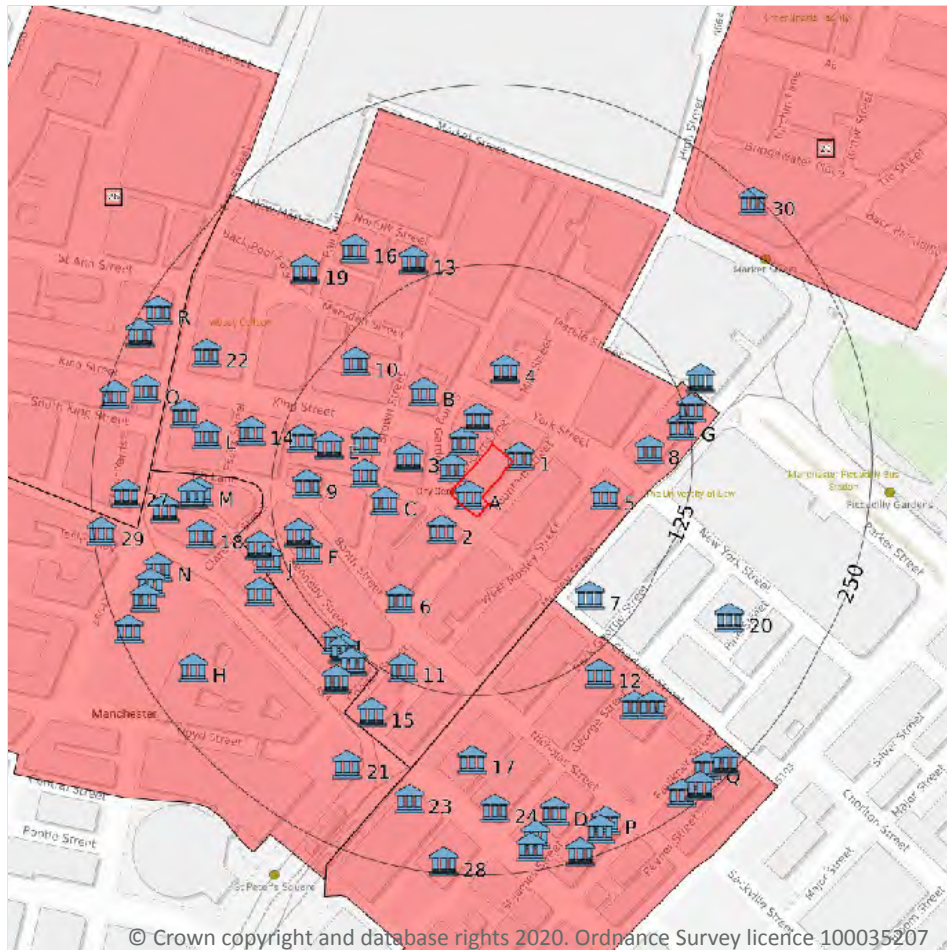
0

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

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



11 Visual and cultural designations



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

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

76

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 75**

ID	Location	Name	Grade	Reference Number	Listed date
A	On site	49, Spring Gardens, Manchester, M2	II	1270700	03/10/1974
1	6m NE	Estate Exchange, Manchester, M2	II*	1200835	03/10/1974
A	10m NW	47, Spring Gardens, Manchester, M2	II	1254676	03/10/1974
A	17m NW	43 And 45, Spring Gardens, Manchester, M2	II	1254639	03/10/1974
A	21m NW	41, Spring Gardens, Manchester, M2	II	1270679	03/10/1974

ID	Location	Name	Grade	Reference Number	Listed date
2	22m SW	60 And 62, Spring Gardens (See Details For Further Address Information), Manchester, M2	II	1270662	06/06/1994
3	38m NW	Former Midland Bank, Manchester, M2	II*	1219241	03/10/1974
C	46m W	Chancery Chambers, Manchester, M2	II	1197810	03/10/1974
4	53m N	Former National Westminster Bank On Corner At Junction With Spring Gardens, Manchester, M2	II*	1255042	04/01/1972
B	60m NW	Former Reform Club Manchester Club, Manchester, FORMER REFORM CLUB	II*	1282987	03/10/1974
C	62m W	Lombard Chambers, Manchester, M2	II	1208211	03/10/1974
5	68m E	Royal Bank Of Scotland, Manchester, M2	II*	1220165	25/02/1952
C	69m NW	Atlas Chambers, Manchester, M2	II	1197941	06/06/1994
6	77m SW	66 And 68, Fountain Street, Manchester, M2	II	1282966	28/06/1974
E	92m W	Ship Canal House, Manchester, M2	II	1219203	09/03/1982
7	95m SE	The Portico Library And The Bank Public House, Manchester, M2	II*	1197930	25/02/1952
8	95m E	Colwyn Chambers, Manchester, M2	II	1197929	25/04/1985
9	100m W	1, Booth Street (See Details For Further Address Information), Manchester, M2	II	1283076	03/10/1974
F	106m W	Former Manchester And Salford Trustee Savings Bank, Manchester, M2	II	1208106	03/10/1974
F	109m W	Massey Chambers, Manchester, M2	II	1208073	03/10/1974
10	110m NW	Pall Mall Court, Including Raised Piazza And Podium To The West Side, Manchester, M2	II	1246934	04/12/2000
E	111m W	84 And 86 King Street And 27 And 29 Pall Mall, Manchester, M2	II	1197940	03/10/1974
11	117m SW	Waldorf House, Manchester, M2	II	1283095	03/10/1974
G	121m E	Harvest House, Manchester, M2	II	1220153	03/10/1974
I	128m SW	Vine Inn, Manchester, M2	II	1197932	06/06/1994
G	130m E	12, Mosley Street, Manchester, M2	II	1197928	03/10/1974
I	130m SW	Vine Inn, Manchester, M2	II	1282982	03/10/1974
I	132m SW	City Arms Public House, Manchester, M2	II	1197933	03/10/1974
J	135m W	Manchester Law Library, Manchester, M2	II*	1219102	03/10/1974



ID	Location	Name	Grade	Reference Number	Listed date
12	138m SE	Charlotte House, Manchester, M1	II	1197782	03/10/1974
J	138m W	10, Kennedy Street, Manchester, M2	II	1200823	06/06/1994
13	140m NW	Barclays, Manchester, M2	II	1246270	03/10/1974
G	143m NE	No. 10 Mosley Street, Manchester, M2	II	1220063	03/10/1974
14	146m W	Bank Of England Trustee Savings Bank, Manchester,BANK OF ENGLAND	I	1291596	25/02/1952
I	149m SW	65-71, Princess Street, Manchester, M2	II	1247388	03/10/1974
J	149m SW	31, Princess Street, Manchester, M2	II	1247382	06/06/1994
15	154m SW	73 And 75, Princess Street, Manchester, M2	II	1270912	03/10/1974
16	167m NW	Northern Stock Exchange, Manchester, M2	II	1271383	03/10/1974
17	170m S	Manchester Art Gallery, Manchester, M2	I	1282980	25/02/1952
K	170m SE	No, 12, Charlotte Street And No. 17, George Street, Manchester, M1	II	1208392	03/10/1974
L	175m W	Prudential Assurance Office, Manchester, M2	II	1219164	03/10/1974
M	175m W	12, Tib Lane, Manchester, M2	II	1254690	06/06/1994
18	176m W	Northern Assurance Building, Manchester, M2	II	1270910	03/10/1974
19	178m NW	Princes Chambers, Manchester, M2	II	1283063	06/06/1994
K	178m SE	Austin House, Manchester, M1	II	1197783	03/10/1974
M	180m W	10, Tib Lane, Manchester, M2	II	1254715	06/06/1994
20	185m SE	Telephone Buildings, Manchester, M1	II	1255051	20/06/1988
L	193m W	No. 74, King Street, Manchester, M2	II	1197939	06/06/1994
21	195m SW	Manchester War Memorial, Manchester, M2	II*	1270697	03/09/1974
22	196m NW	Former Lloyds Bank, Manchester, M2	II	1291610	03/10/1974
M	199m W	Nos. 1-7 Princess Street, Nos. 59 And 61, Cross Street, Manchester, M2	II	1246960	03/10/1974
23	202m S	14 And 16, Princess Street (See Details For Further Address Information), Manchester, M2	II	1271097	03/10/1974
24	204m S	The Athenaeum, Manchester, M1	II*	1270889	03/10/1974
N	210m W	Frasers Statue, Manchester, M2	II	1197822	03/09/1974
D	212m S	35, 37 And 39A, George Street (See Details For Further Address Information), Manchester, M1	II	1200836	06/06/1994



ID	Location	Name	Grade	Reference Number	Listed date
H	216m SW	Town Hall, Manchester, M2	I	1207469	25/02/1952
N	218m W	Jubilee Fountain, Albert Square, Manchester, Manchester, M2	II	1200811	03/10/1974
O	224m W	Eagle House, Manchester, M2	II	1209494	03/10/1974
N	225m W	Brights Statue, Manchester, M2	II	1197821	03/09/1974
D	225m S	39 And 41, George Street, Manchester, M1	II	1218183	06/06/1994
27	226m W	Anglia House, Manchester, M2	II	1197768	03/10/1974
P	229m SE	16, Nicholas Street, Manchester, M1	II	1271453	06/06/1994
P	233m S	46, 48 And 50, Faulkner Street, Manchester, M1	II	1282962	06/06/1994
D	233m S	83, Princess Street, Manchester, M1	II	1270913	06/06/1994
Q	235m SE	Nos. 41 And 43, Faulkner Street, Manchester, M1	II	1200829	03/10/1974
Q	239m SE	No. 49, Faulkner Street, Manchester, M1	II	1200831	06/06/1994
R	240m NW	National House, Manchester, M2	II	1247611	03/10/1974
28	242m S	Princess Buildings, Manchester, M1	II	1247380	03/10/1974
Q	242m SE	Lindencourt House, Manchester, M1	II	1208396	03/10/1974
Q	242m SE	45 And 47, Faulkner Street, Manchester, M1	II	1200830	20/06/1988
N	243m SW	Albert Memorial, Manchester, M2	I	1197820	18/12/1963
R	243m NW	Number 54 And Chop House Public House Thomas's Chop House, Manchester, NUMBER 54 AND CHOP HOUSE PUBLIC HOUSE	II	1197767	03/10/1974
P	244m S	52 And 54, Faulkner Street, Manchester, M1	II	1282963	06/06/1994
O	244m W	62, King Street, Manchester, M2	II	1219154	03/10/1974
29	244m W	No. 1, Albert Square, Manchester, M2	II	1283043	03/10/1974
30	247m NE	Rylands Building (Debenhams), Manchester, M60	II	1219831	06/06/1994

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

11.5 Conservation Areas

Records within 250m

5

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings.



All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

Features are displayed on the Visual and cultural designations map on **page 75**

ID	Location	Name	District	Date of designation
B	On site	Upper King Street	Manchester	04/11/1970
D	78m SE	George Street	Manchester	01/06/1985
H	124m SW	Albert Square	Manchester	01/04/1972
25	205m NE	Smithfield	Manchester	01/02/1987
26	208m W	St Ann's Square	Manchester	29/07/1970

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

11.6 Scheduled Ancient Monuments

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

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

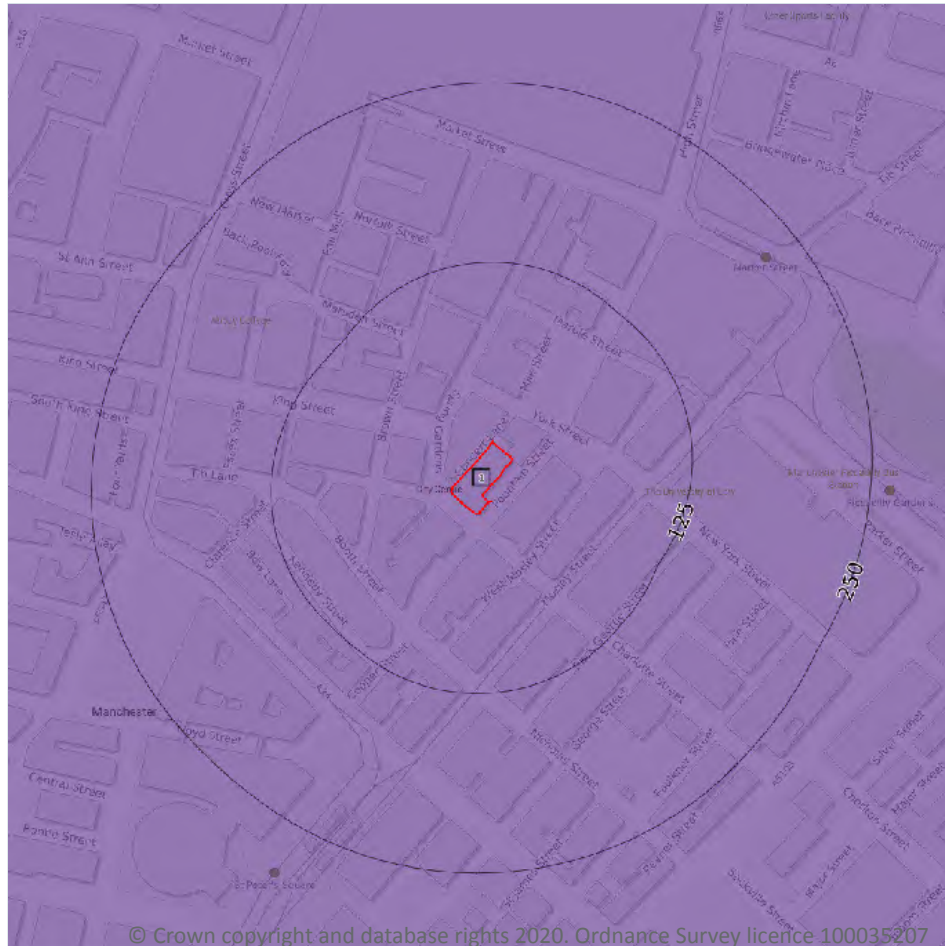
11.7 Registered Parks and Gardens

Records within 250m	0
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Parks and gardens assessed to be of particular interest and of special historic interest. The emphasis being on 'designed' landscapes, rather than on planting or botanical importance. Registration is a 'material consideration' in the planning process, meaning that planning authorities must consider the impact of any proposed development on the special character of the landscape.

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

12 Agricultural designations



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

12.1 Agricultural Land Classification

Records within 250m

1

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

Features are displayed on the Agricultural designations map on **page 81**

ID	Location	Classification	Description
1	On site	Urban	-

This data is sourced from Natural England.



12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m

0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

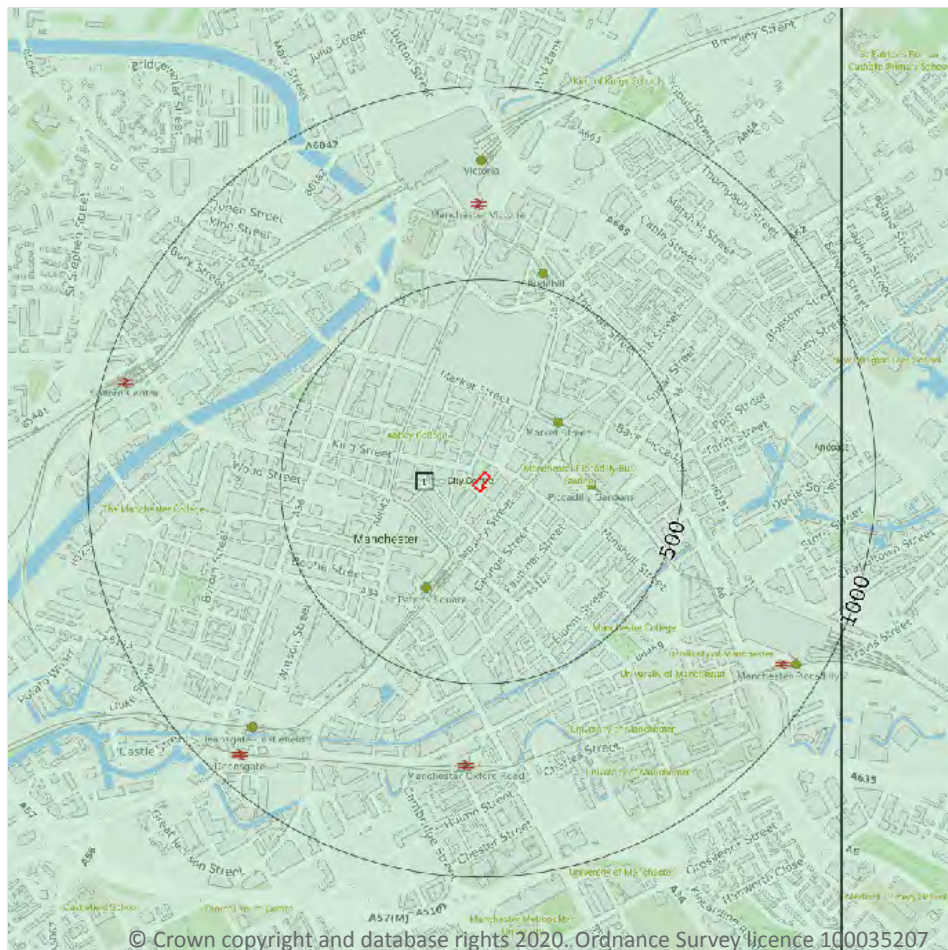
0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— 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.

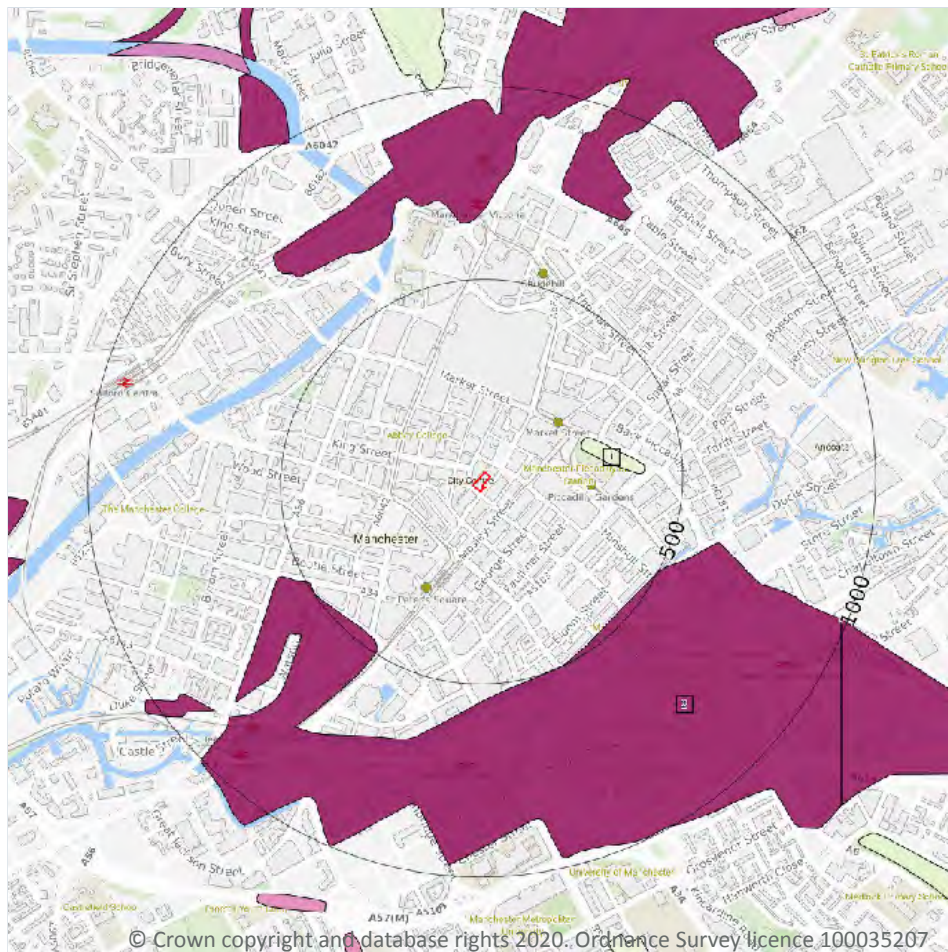
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 84**

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.

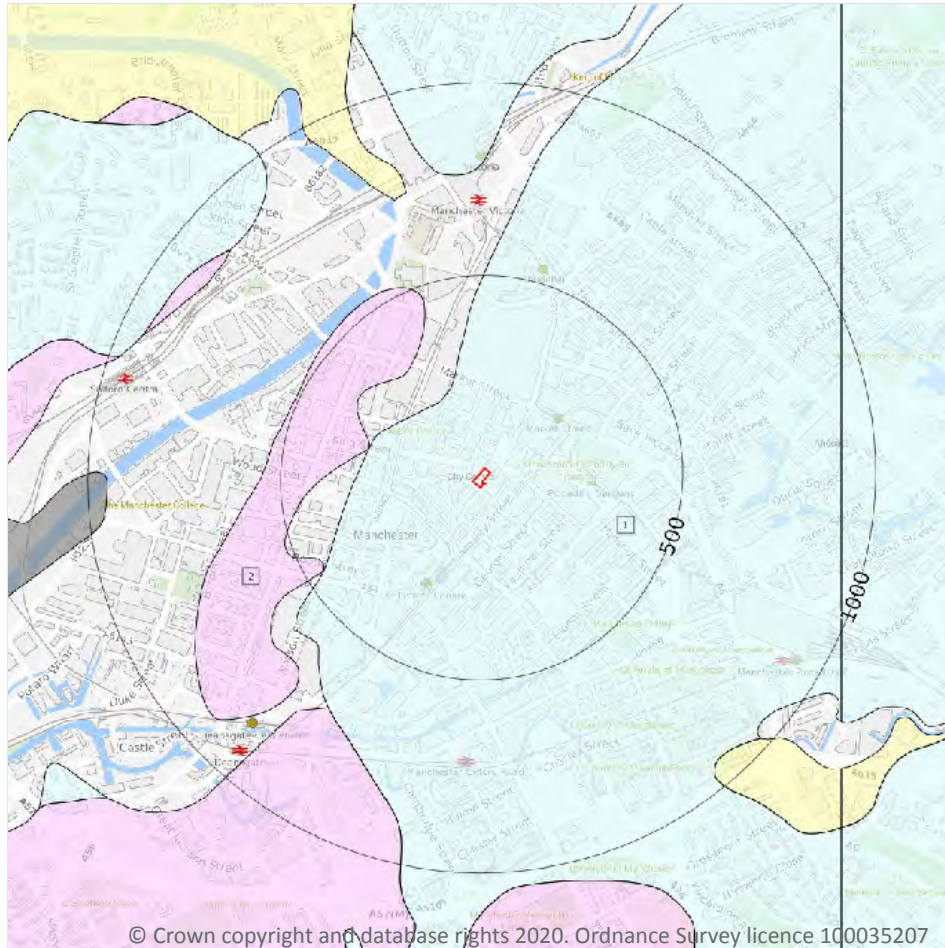
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 85**

ID	Location	LEX Code	Description	Rock description
1	249m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
2	468m SW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

2

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 86**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	284m W	GFSDD-XSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel

This data is sourced from the British Geological Survey.



14.4 Landslip (10k)

Records within 500m

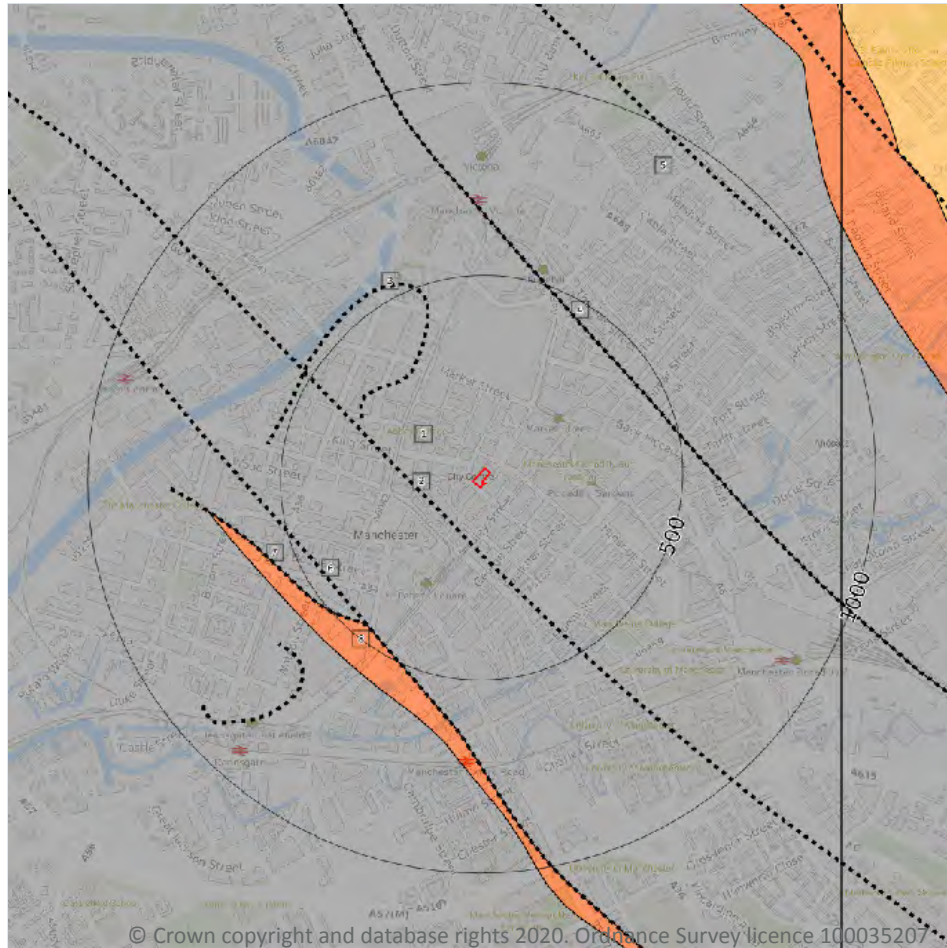
0

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 88**

ID	Location	LEX Code	Description	Rock age
1	On site	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
5	434m NE	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
8	461m 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

5

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

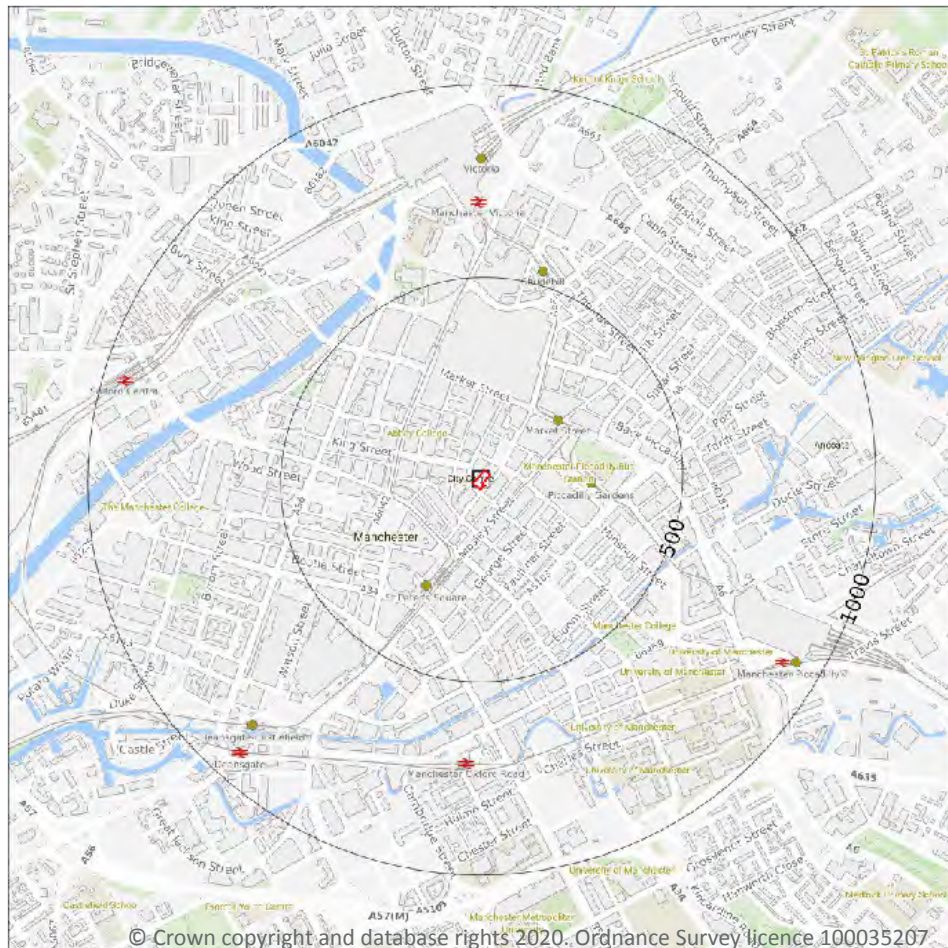
Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 88**

ID	Location	Category	Description
2	116m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
3	311m NW	LANDFORM	Buried channel or valley margin
4	434m NE	FAULT	Normal fault, inferred; crossmarks on downthrow side
6	451m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side
7	461m SW	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.

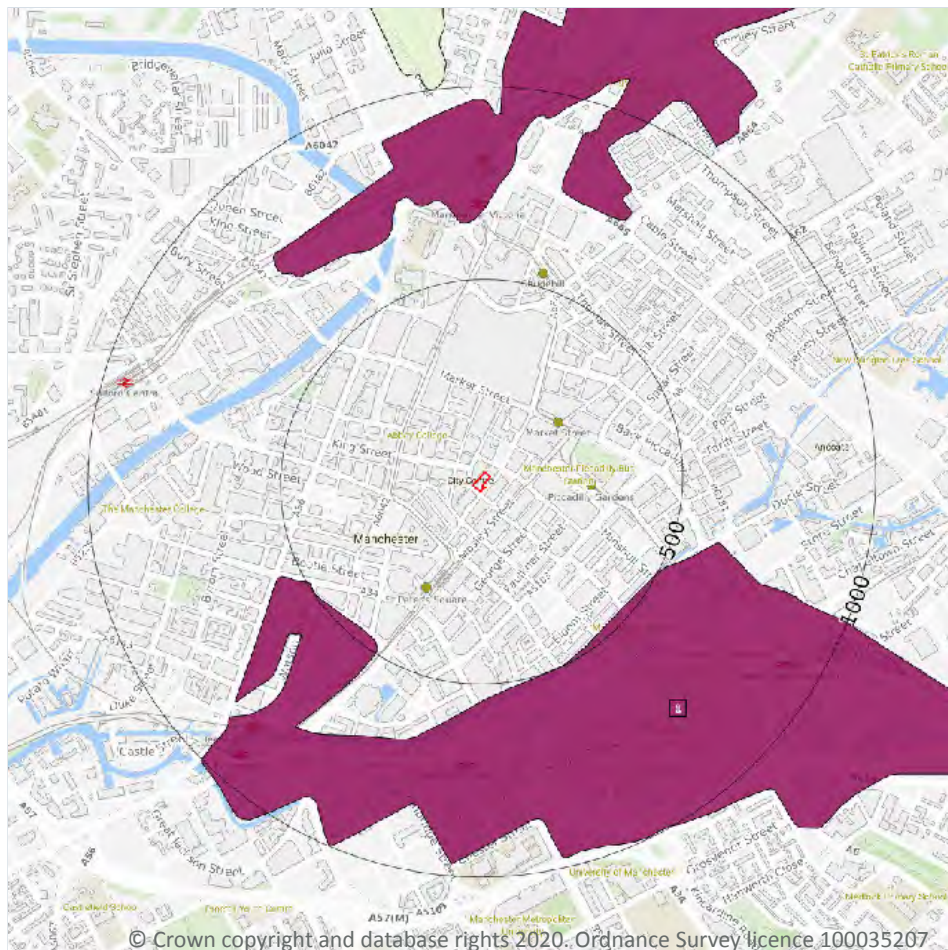
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 90**

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 91**

ID	Location	LEX Code	Description	Rock description
1	469m SW	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

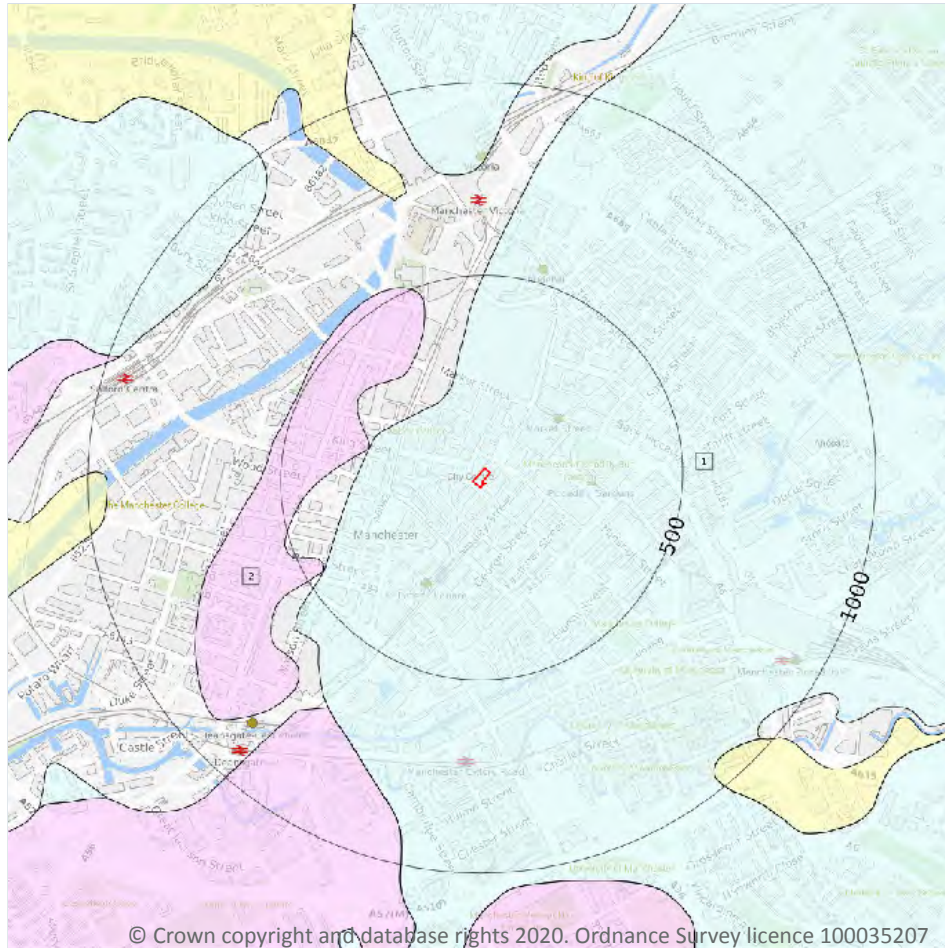
0

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

2

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 93**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVANSIAN	DIAMICTON
2	283m W	GFSDD-XSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVANSIAN	SAND AND GRAVEL

This data is sourced from the British Geological Survey.



15.5 Superficial permeability (50k)

Records within 50m

1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	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)

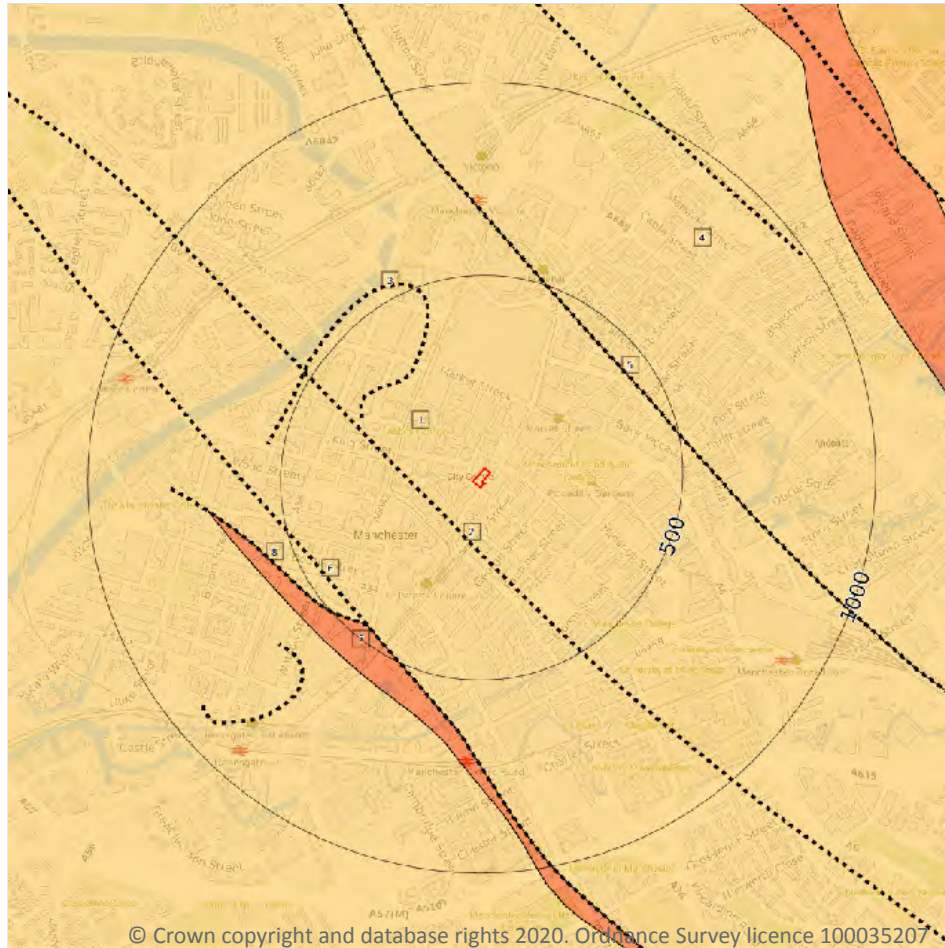
Records within 50m

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 95**

ID	Location	LEX Code	Description	Rock age
1	On site	CHES-SDST	CHESTER FORMATION - SANDSTONE	OLENEKIAN
4	434m NE	CHES-SDST	CHESTER FORMATION - SANDSTONE	OLENEKIAN
7	461m 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

5

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

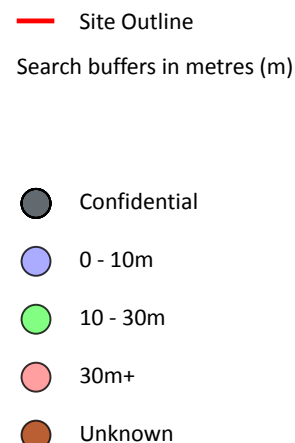
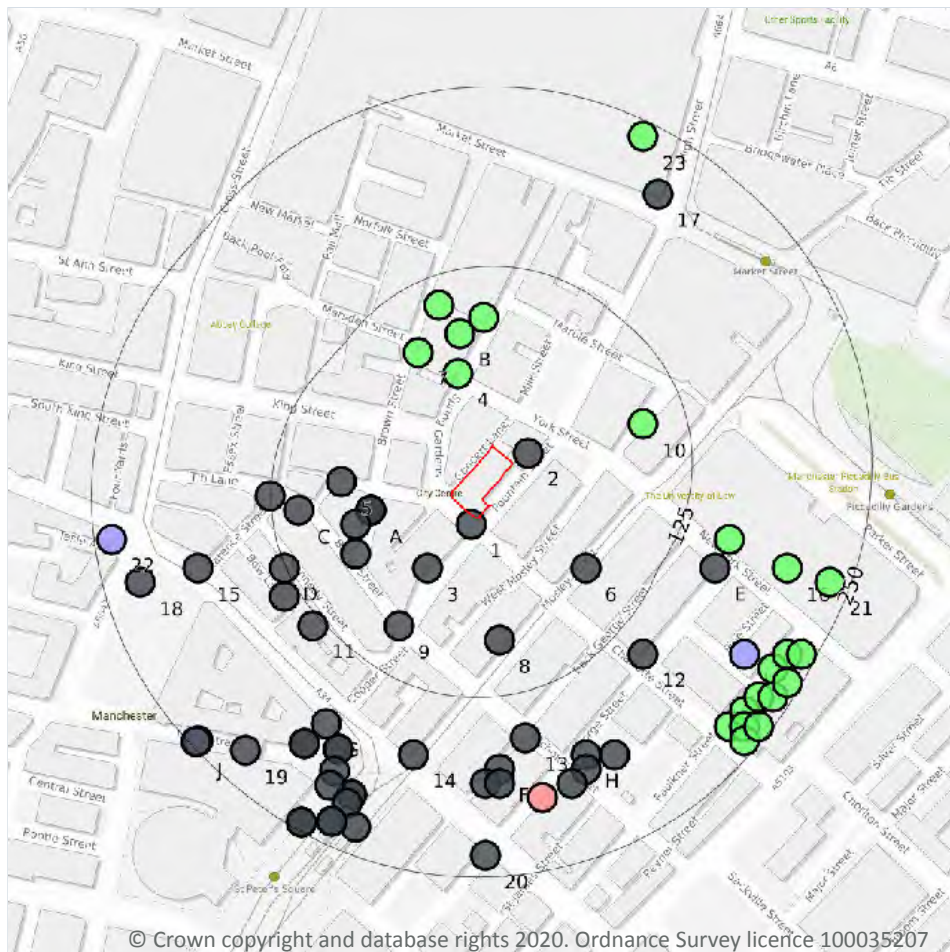
Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 95**

ID	Location	Category	Description
2	115m SW	FAULT	Fault, inferred
3	311m NW	LANDFORM	Approximate margin of buried (superficial deposit-filled) channel or valley
5	434m NE	FAULT	Fault, inferred
6	451m SW	FAULT	Fault, inferred
8	461m SW	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.



16 Boreholes



16.1 BGS Boreholes

Records within 250m

75

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 97**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	6m SW	384060 398190	FOUNTAIN STREET MAIN DRAINAGE 2	-	Y	N/A
2	13m NE	384100 398240	FOUNTAIN STREET MAIN DRAINAGE 3	-	Y	N/A
3	48m SW	384030 398160	FOUNTAIN STREET MAIN DRAINAGE 1	-	Y	N/A



ID	Location	Grid reference	Name	Length	Confidential	Web link
4	56m NW	384051 398295	SPRING GARDENS, MANCHESTER 4	19.2	N	15634881
A	57m W	383990 398200	BOOTH STREET MANCHESTER 1	-	Y	N/A
A	57m W	383990 398200	BOOTH STREET MANCHESTER 2	-	Y	N/A
A	57m W	383990 398200	BOOTH STREET MANCHESTER 4	-	Y	N/A
A	57m W	383990 398200	BOOTH STREET MANCHESTER 3	-	Y	N/A
A	69m W	383980 398190	52-58 BROWN STREET MANCHESTER 1	-	Y	N/A
5	77m W	383970 398220	52-58 BROWN STREET MANCHESTER 2	-	Y	N/A
A	77m SW	383980 398170	CLARENCE STREET / BOOTH STREET / BOW LANE 5	-	Y	N/A
6	80m SE	384140 398160	MOSLEY STREET SEWER RECONSTRUCTION 1	-	Y	N/A
B	81m N	384052 398323	SPRING GARDENS, MANCHESTER 3	13.1	N	15634880
7	83m NW	384023 398310	SPRING GARDENS, MANCHESTER 5	15.24	N	15634883
8	86m S	384080 398110	MOSLEY STREET SEWER RECONSTRUCTION 2	-	Y	N/A
B	89m N	384069 398334	SPRING GARDENS, MANCHESTER 2	21.33	N	15634879
9	92m SW	384010 398120	CLARENCE STREET / BOOTH STREET / BOW LANE 4	-	Y	N/A
10	95m E	384180 398260	BARCLAY'S BANK, YORK STREET. 3 BH'S	15.85	N	1042520
B	105m N	384038 398343	SPRING GARDENS, MANCHESTER 1	17.98	N	15634876
C	107m W	383940 398200	CLARENCE STREET / BOOTH STREET / BOW LANE 3	-	Y	N/A
C	126m W	383920 398210	CLARENCE STREET / BOOTH STREET / BOW LANE 2	-	Y	N/A
D	126m SW	383930 398160	CLARENCE STREET / BOOTH STREET / BOW LANE 6	-	Y	N/A
11	132m SW	383950 398120	KENNEDY STREET MANCHESTER 2	-	Y	N/A
D	136m SW	383930 398140	KENNEDY STREET MANCHESTER 1	-	Y	N/A
12	148m SE	384180 398100	GEORGE STREET SEWER REPLACEMENT SCHEME 2	-	Y	N/A
13	156m S	384098 398042	G.P.O. MANCHESTER	-	Y	N/A
E	159m SE	384230 398160	GEORGE STREET SEWER REPLACEMENT SCHEME 1	-	Y	N/A
E	160m E	384240 398180	PICCADILLY HOTEL. TOWER BLOCK NO.10	23.93	N	1042503



ID	Location	Grid reference	Name	Length	Confidential	Web link
14	171m S	384020 398030	MOSLEY STREET SEWER RECONSTRUCTION 3	-	Y	N/A
F	176m S	384080 398020	ATHENAEUM LINK BH3	-	Y	N/A
G	177m SW	383959 398052	St Peter's Square, Manchester PC229	-	Y	N/A
H	181m SE	384140 398030	CHINESE CAR PARK MANCHESTER 2	-	Y	N/A
15	183m W	383870 398160	CLARENCE STREET / BOOTH STREET / BOW LANE 1	-	Y	N/A
F	185m S	384070 398010	ATHENAEUM LINK BH1	-	Y	N/A
F	186m S	384080 398010	ATHENAEUM LINK BH2	-	Y	N/A
G	187m SW	383968 398034	St Peter's Square, Manchester TP141	-	Y	N/A
G	187m SW	383968 398034	St Peter's Square, Manchester TP141(A)	-	Y	N/A
H	190m SE	384160 398030	CHINESE CAR PARK MANCHESTER 3	-	Y	N/A
H	190m SE	384140 398020	CHINESE CAR PARK MANCHESTER 1A	-	Y	N/A
H	196m S	384130 398010	GEORGE STREET SEWER REPLACEMENT SCHEME 3	-	Y	N/A
G	197m SW	383944 398038	St Peter's Square, Manchester TP248(A)	-	Y	N/A
G	197m SW	383944 398038	St Peter's Square, Manchester TP248	-	Y	N/A
H	200m S	384110 398000	POST OFFICE GEORGE ST. MANCHESTER	196.6	N	1045475
G	201m SW	383965 398019	St Peter's Square, Manchester BH101	-	Y	N/A
16	205m E	384280 398160	PICCADILLY HOTEL. TOWER BLOCK NO.7	23.77	N	1042502
I	205m SE	384250 398100	NO DETAILS	-2.0	N	1042454
17	209m NE	384190 398420	OBELISK, MARKET ST. 1	-	Y	N/A
G	211m SW	383977 398002	St Peter's Square, Manchester TP142	-	Y	N/A
G	211m SW	383977 398002	St Peter's Square, Manchester PC142	-	Y	N/A
G	212m SW	383962 398009	St Peter's Square, Manchester PC121	-	Y	N/A
G	218m SW	383974 397996	St Peter's Square, Manchester BH102	-	Y	N/A
18	224m W	383830 398150	ALBERT SQUARE A	-	Y	N/A
I	227m SE	384240 398050	PORTLAND STREET MANCHESTER 1	18.25	N	1043771
19	227m SW	383903 398033	St Peter's Square, Manchester PC228	-	Y	N/A
I	227m SE	384270 398090	PORTLAND STREET MANCHESTER 4	13.62	N	1043774

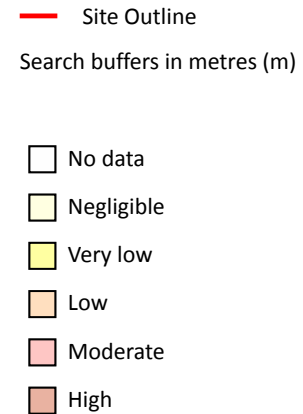
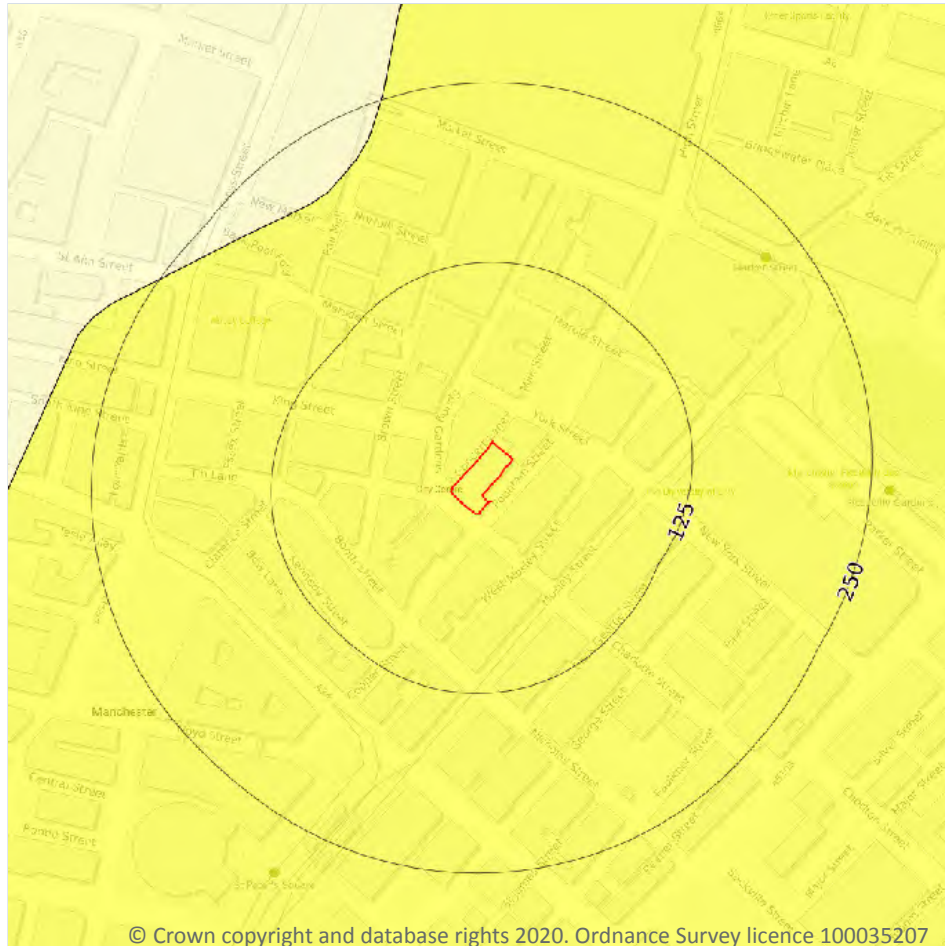


ID	Location	Grid reference	Name	Length	Confidential	Web link
I	228m SE	384250 398060	PORTLAND STREET MANCHESTER 2	12.37	N	1043772
I	230m SE	384260 398070	PORTLAND STREET MANCHESTER 3	13.71	N	1043773
G	231m S	383980 397980	MOSLEY STREET SEWER RECONSTRUCTION 4	-	Y	N/A
I	231m SE	384280 398100	PORTLAND STREET MANCHESTER 5	17.37	N	1043775
G	234m SW	383963 397984	St Peter's Square, Manchester TP144	-	Y	N/A
G	234m SW	383963 397984	St Peter's Square, Manchester PC144	-	Y	N/A
I	234m SE	384250 398050	PORTLAND STREET MANCHESTER 6	12.19	N	1043776
20	235m S	384070 397960	GEORGE STREET SEWER REPLACEMENT SCHEME 4	-	Y	N/A
21	236m E	384310 398150	PICCADILLY HOTEL. NO.4 BH	20.42	N	1042501
I	238m SE	384270 398070	PORTLAND STREET MANCHESTER 7	19.38	N	1043777
22	238m W	383810 398180	BRAZENNOSE STREET/JOHN DALTON STREET 5	9.69	N	1045714
23	239m NE	384180 398460	HIGH STREET MANCHESTER 2	15.0	N	1042521
I	240m SE	384290 398100	PORTLAND STREET MANCHESTER 9	13.71	N	1043779
I	241m SE	384250 398040	PORTLAND STREET MANCHESTER 10	18.89	N	1043780
I	241m SE	384280 398080	PORTLAND STREET MANCHESTER 8	13.59	N	1043778
I	242m SE	384260 398050	PORTLAND STREET MANCHESTER 11	12.64	N	1043781
G	244m SW	383942 397983	St Peter's Square, Manchester BH103A	-	Y	N/A
G	244m SW	383942 397983	St Peter's Square, Manchester BH103	-	Y	N/A
J	245m SW	383870 398040	TOWN HALL MANCHESTER OB	-2.0	N	1045453
J	246m SW	383869 398039	St Peter's Square, Manchester BH203	-	Y	N/A

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



17.1 Shrink swell clays

Records within 50m

1

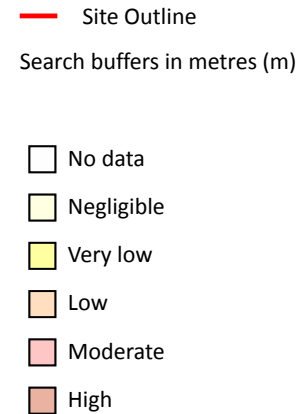
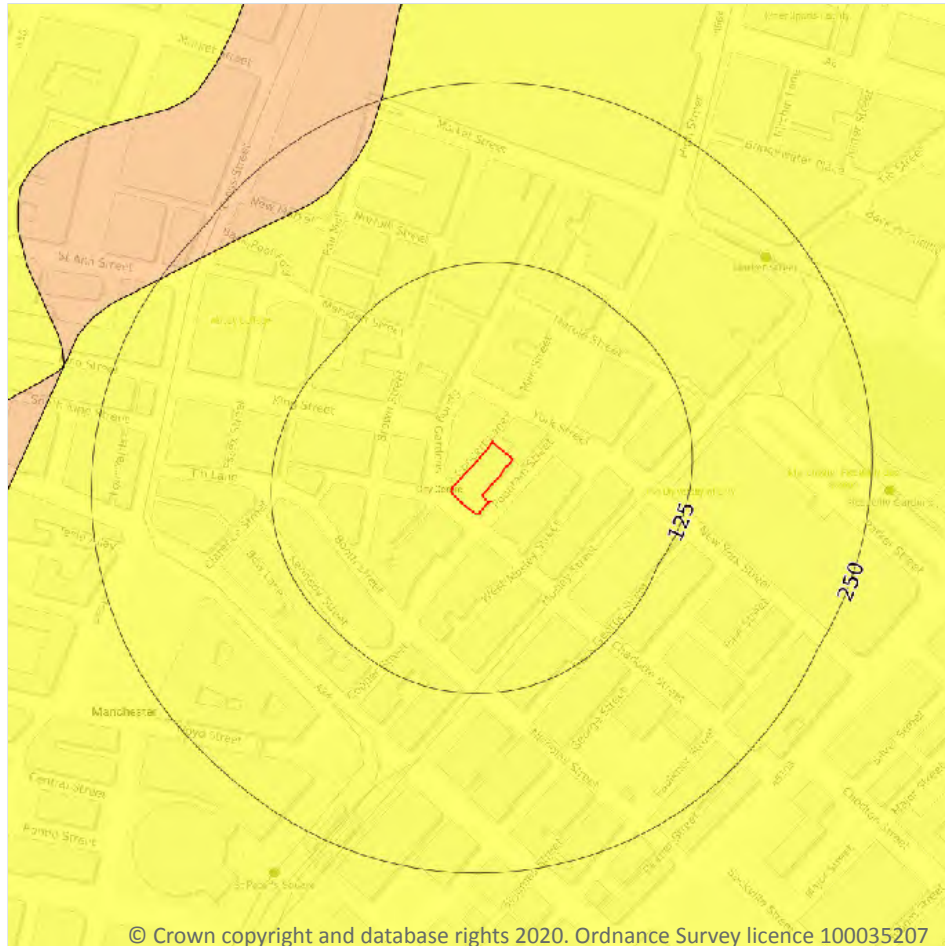
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 101**

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.

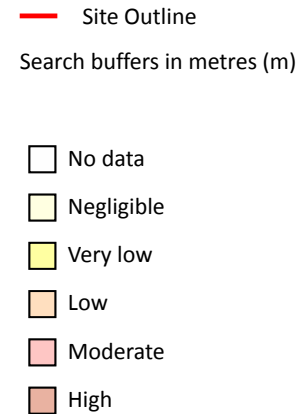
Features are displayed on the Natural ground subsidence - Running sands map on **page 102**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

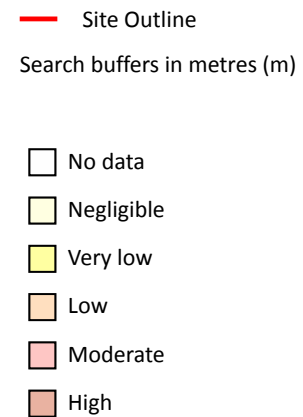
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 103**

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

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



17.4 Collapsible deposits

Records within 50m

1

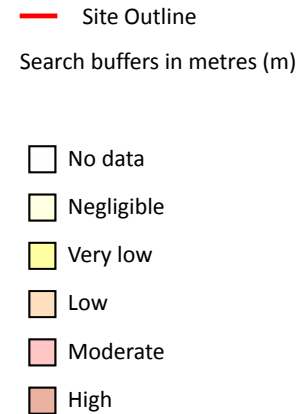
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 104**

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.

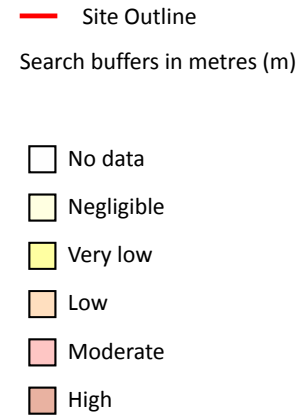
Features are displayed on the Natural ground subsidence - Landslides map on **page 105**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 106**

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 Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

7

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 108**

ID	Location	Land Use	Year of mapping	Mapping scale
1	218m NE	Unspecified Ground Workings	1931	1:10560
2	241m E	Pond	1851	1:10560
A	243m E	Pond	1971	1:10000
A	243m E	Pond	1988	1:10000
A	243m E	Pond	1978	1:10000
A	243m E	Pond	1985	1:10000
A	243m E	Pond	1994	1:10000

This 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 data is sourced from Ordnance Survey/Groundsure.



18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m

0

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

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

18.8 JPB mining areas

Records on site

1

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

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

This data is sourced from Johnson Poole and Bloomer.



18.9 Coal mining

Records on site	1
-----------------	---

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

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

This data is sourced from the Coal Authority.

18.10 Brine areas

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

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

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

18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

18.13 Clay mining

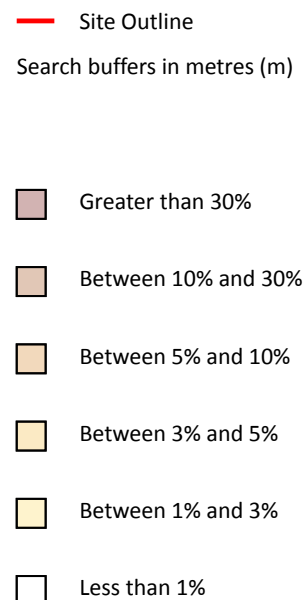
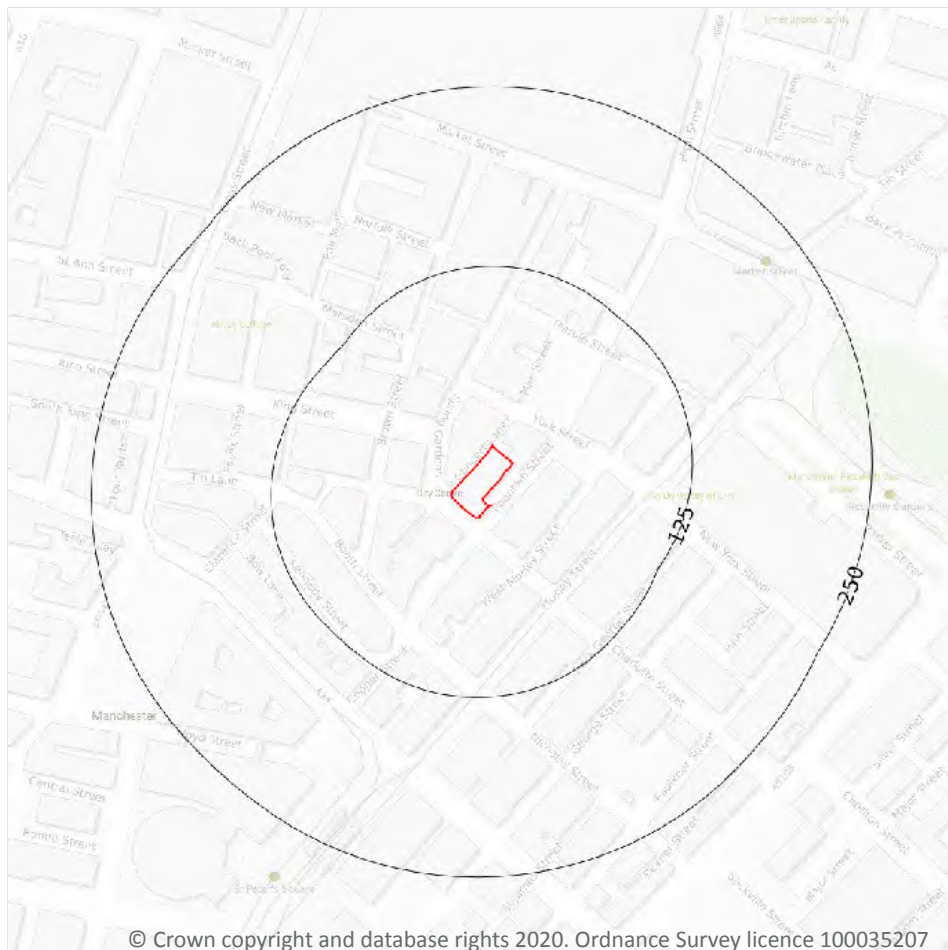
Records on site	0
-----------------	---

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

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



19 Radon



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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 112**

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

3

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

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

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

6

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

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	8	1.4	39	27	0.3	46	24	12	4
On site	9	1.6	40	27	0.3	48	24	13	5
11m E	5	0.9	50	34	0.3	39	19	9	6
27m SE	6	1	47	32	0.3	42	19	10	5



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)
46m W	10	1.8	66	45	0.3	49	34	14	7
47m SW	11	1.9	68	47	0.3	53	34	16	7

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 km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects



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

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

1

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

Features are displayed on the Railway infrastructure and projects map on **page 115**

Location	Land Use	Year of mapping	Mapping scale
225m W	Tramway Sidings	1891	500

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m

0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

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

42

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 115**

Location	Name	Type
77m SE	Not given	Multi Track
78m SE	-	tram
81m SE	-	tram
84m SE	Not given	Multi Track
90m E	Not given	Multi Track
96m E	Metrolink	tram
112m E	Not given	Multi Track
146m E	Not given	Multi Track
154m E	Not given	Multi Track
156m E	-	tram
156m E	-	tram
160m SW	-	tram
160m E	-	tram
160m E	-	tram
162m SW	Not given	Multi Track
164m SW	-	tram
165m SW	Not given	Single Track
170m E	Not given	Multi Track
176m S	Not given	Single Track
176m S	Not given	Single Track
182m S	-	tram
192m E	-	tram
193m SW	Metrolink	tram
193m E	Not given	Single Track



Location	Name	Type
193m E	Not given	Single Track
193m E	Not given	Multi Track
198m E	-	tram
198m E	Not given	Multi Track
203m NE	-	tram
203m S	Not given	Single Track
209m S	Metrolink	tram
212m E	Not given	Single Track
212m E	Not given	Single Track
212m NE	-	tram
213m NE	Not given	Multi Track
215m E	-	tram
223m NE	-	tram
223m NE	-	tram
228m E	Not given	Multi Track
230m NE	Not given	Single Track
241m NE	Not given	Single Track
246m NE	Not given	Single Track

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.



21.9 Crossrail 2

Records within 500m

0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m

0

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.



APPENDIX D

Coal Authority Search

ACCESS TO MUSIC, 50, FOUNTAIN STREET, MANCHESTER, M2 2AS

Professional opinion

Inc. Mine Entry Interpretive Report (MEIR)



Site plan



Search results

	1. Past underground coal mining Not identified		9. Coal mining subsidence claims Not identified
	2. Present underground coal mining Not identified		10. Mine gas emissions Not identified
	3. Future underground coal mining Not identified		11. Emergency Call Out incidents Not identified
	4. Shafts and adits (mine entries) Not identified		12. Withdrawal of support Not identified
	5. Coal mining geology Not identified		13. Working facilities orders Not identified
	6. Past opencast coal mining Not identified		14. Payments to copyhold owners Not identified
	7. Present opencast coal mining Not identified		Cheshire Brine Not identified
	8. Future opencast coal mining Not identified		

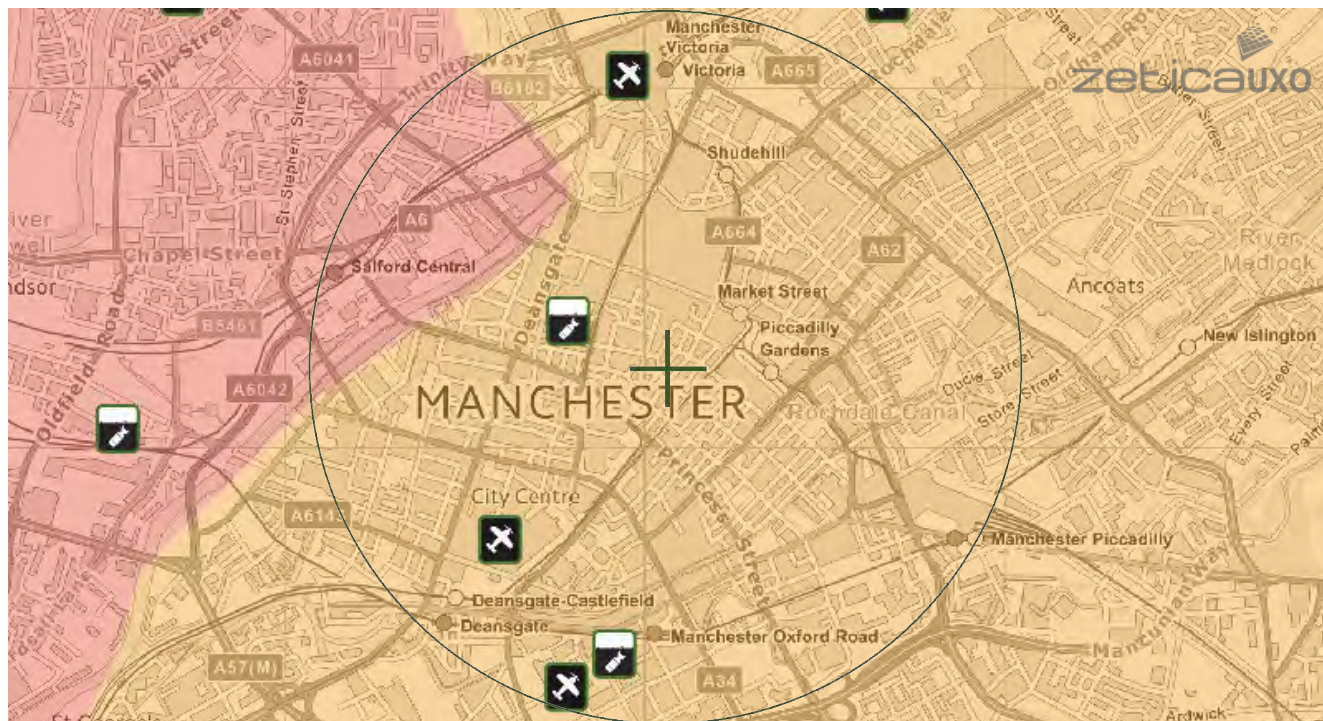
APPENDIX E
UXO Screening Map

UNEXPLODED BOMB RISK MAP



SITE LOCATION

Location: M2 2AS,
Map Centre: 384069,398225



LEGEND

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

- military
- industry
- UXO find
- transport
- dock
- Luftwaffe targets
- utilities
- Bombing decoy
- other

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

The map indicates the potential for Unexploded Bombs (UXB) to be present as a result of World War Two (WWII) bombing.

You can incorporate the map into your preliminary risk assessment* for potential Unexploded Ordnance (UXO) for a site. Using this map, you can make an informed decision as to whether more in-depth detailed risk assessment* is necessary.

What do I do if my site is in a moderate or high risk area?

Generally, we recommend that a detailed UXO desk study and risk assessment is undertaken for sites in a moderate or high UXB risk area.

Similarly, if your site is near to a designated Luftwaffe target or bombing decoy then additional detailed research is recommended.

More often than not, this further detailed research will conclude that the potential for a significant UXO hazard to be present on your site is actually low.

Never plan site work or undertake a risk assessment using these maps alone. More detail is required, particularly where there may be a source of UXO from other military operations which are not reflected on these maps.

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

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

A low risk really means that there is no greater probability of encountering UXO than anywhere else in the UK.

If you are unsure whether other sources of UXO may be present, you can ask for one of our **pre-desk study assessments (PDSA)**

If I have any questions, who do I contact?

tel: **+44 (0) 1993 886682**

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

The information in this UXB risk map is derived from a number of sources and should be used in conjunction with the accompanying notes on our website: (<https://zeticauxo.com/downloads-and-resources/risk-maps/>)

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It is important to note that this map is not a UXO risk assessment and should not be reported as such when reproduced.

*Preliminary and detailed UXO risk assessments are advocated as good practice by industry guidance such as CIRIA C681 'Unexploded Ordnance (UXO), a guide for the construction industry'.