

Phase 1 Geoenvironmental Desk Study & Ground Stability Risk Assessment for Greenheys Business Centre, Pencroft Way, Manchester Science Park, M 6

Project No: NX534/Rev 2



Client

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EXECUTIVE SUMMARY

Site Location & Access	Greenheys Business Centre, Pencroft Way, Manchester, M15 6JJ.
Grid Reference	384283E, 396283N.
Current Site Use	Greenheys House is a turn of the century brick and glass clad warehouse building which was converted into offices with various additions, alterations and extensions over the last 20years. The most recent of which was completed in 2016. It generally, comprises, Ground floor, Mezzanine and Converted loft space and is approximately 30,000sq ft, in floor area. The building is heated via radiators from 6no heating boilers situated on the lower sub-ground floor. Access to the building was not available during the site walkover. However, according to MSP staff, no significant potential sources of contamination are stored within the office building and external areas. The building is located within the northwestern of the science park complex and bound to the north by a motor car repair workshop, a Mosque prayer hall and McDougall Sports Centre. Car parking is located to the east of the main entrance in the east of the building. The building is bound to the west by Greenheys Lane with residential properties beyond that, and is bound to the south by the recently constructed New Base Building. No unstable slopes, or significant induced surface settlements were observed during the site walkover.
Development Proposals	This report is required as part of a pre-acquisition assessment on behalf of the Client Bruntwood Scitech and the existing building is to be demolished and replaced with a new multi-storey commercial building. The development includes the construction of a 7-storey building comprising up to 17,249sq. m (GIA) commercial floorspace across 6 occupiable floors (Use Class E), plus plant level above; in addition to associated cycle parking, hard and soft landscaping, access and servicing and other associated works. The proposals comprise two phases, comprising: - Phase 1: Construction compound and removal of trees (no below ground works); - Phase 2: Greenheys Building and associated landscaping and access. As Phase 1 will be returned to a cleared site following construction, only Phase 2 is relevant for the purpose of this assessment.
Site History	On-Site Historical mapping indicates the property has been developed out since at least 1848. Identified potentially contaminative past usages include a garage, residential housing, a warehouse and a depot. Greenheys

	Business Centre is likely to have been built on the site between 1990 and 1994. Off-Site Numerous potentially contaminative land usage was identified in close proximity to the site including: yards, mills, works, garages, car-parks, electrical substations, warehouses, residential properties, schools, public houses, breweries, a science park, churches, and The Victorian University of Manchester. Historical mapping from 1948-1949 show areas of now unoccupied land are present within 250m to the north of site, possibly relating to WW2 bombing. General redevelopment of the site and surrounding area which may have been a source of imported, potentially contaminated Made Ground.
Utility Locations	Underground services impact the site and the engineer should familiarise themselves with their presence and implications on the development.
Landfill Sites & Ground Gases	No current or historic landfill sites/waste related industry or areas of recent infilling/upfilling have been identified in close proximity to the site. Given the history of the site and surrounding area, the risk from hazardous ground gas is considered to be Low. The property is not located in a Radon Affected Area, as less than 1% of properties are above the Action Level.
Geological Mapping	Glacial Till – Diamiction, is recorded to underlie the site and surrounding area, and Glaciofluvial Sheet Deposits – sand and gravel, are recorded within the surrounding area (266m N). The solid geology comprises the Chester Pebble Beds Formation (sandstone). The site and adjacent property are not affected by known faulting.
Mining Risk & Ground Stability	Although the site lies within a coal mining reporting area as defined by the Coal Authority, the property is not considered to be at significant risk from historical coal mining legacy issues (mine shafts, shallow workings, mine gases, fissures or breaklines). The property is not considered to be at significant risk from the historical mining of other minerals. Other ground subsidence categories are listed as having a very low to negligible risk.
Flood Risk	Corn Brook is culverted to the west of Greenhey's Lane. https://hidden-manchester.org.uk/#/waterways/corn-brook According to GroundSure data, a portion of the western side of the site is within an Environment Agency indicative Zone 2 & Zone 3 flood plain. Zone 2 floodplain estimates the annual probability of flooding as one in

	one thousand (0.1%) or greater from rivers and the sea but less than 1% from rivers or 0.5% from the sea. Alternatively, where information is available they may show the highest known flood level. Zone 3 estimates the annual probability of flooding as one in one hundred (1%) or greater from rivers and a one in two hundred (0.5%) or greater from the sea. Again, as with Flood Zone 2, where information is available they may show the highest known flood level. The site does not benefit from Environment Agency defined flood defences. A small section in the western portion of the site is at medium risk from river and coastal flooding. The remainder of the site is not reported to be at risk from river and coastal flooding. The site is at high risk from groundwater flooding.
Geotechnical Considerations	Obstructions in the form of relict foundations, infilled cellars/basements and roads/infrastructure should be anticipated across the site. These materials will require 'grubbing out' and treatment (screening/crushing/segregation and reused (where appropriate) on site to prevent formation of the piled foundations and services formation. Existing piles and possibly oversize foundation bases may be present upon site and during site preparation will need to be recorded /surveyed to enable foundations and infrastructure to the new development to be designed. A perched and discontinuous groundwater regime may be present locally within the Made Ground soils beneath the site, and perhaps also within the Glaciofluvial deposits. Although excavations are unlikely to remain fully dry, it should be possible to control any ingress that does occur using a screened sump pumping technique within the upper 2m to 3m. Surface treatment should be anticipated within all areas comprising excavation, crushing, screening with reuse and/or removal from site. Based on the published geology, there is considered to be a very low risk to the proposed development from shallow mine-workings.
Unexploded Ordnance	The regional unexploded bomb risk map from Zetica indicates that the site is in an area at moderate risk from possible Unexploded Ordnance (UXO) resulting from the Second World War. A detailed UXO risk assessment report compiled by 1st Line Defence in May 2019, for the adjacent New Base Building, shows an area of cleared ground; which may be indicative of WWII bombing. The indicative German UXO risk has been identified as moderate. It is recommended that a Stage 2 Detailed Unexploded Ordnance Desktop Threat Assessment of the site is carried out prior to any construction or intrusive works taking place in the future.

	Given the potential bombing areas identified upon historical mapping, mitigation measures are likely to be required for all development works; comprising the following: • Operational UXO Risk Management Plan – appropriate site management documentation should be held onsite to guide and plan for the actions which should be undertaken in the event of a suspected or real UXO discovery; • UXO Safety & Awareness Briefings – the briefings are essential when there is a possibility of explosive ordnance encounter and are a vital part of the general safety requirement. All personnel working onsite should receive a briefing on the identification of a UXO, what actions they should take to keep people and equipment away from such a hazard and to alert site management. • Information concerning the nature of the UXO threat should be held in the site office and displayed for general information on notice boards, both for reference and as a reminder for ground workers. • The safety and awareness briefing is an essential part of the Health & Safety Plan for the site and helps to evidence conformity with the principles laid down in the CDM regulations, 2015. • All window sampling and excavations should have an explosive Ordnance Disposal (EOD) Banksman Support – EOD Engineer to survey and / or supervise the window sampling and excavations for UXO and to identify any suspicious items as the work proceeds in the EOD Banksman role. • All boreholes and piling: should include intrusive Magnetometer Surveys – an intrusive survey (employing down-hole magnetometer or MagCone techniques) ahead of boreholes and piling is highly recommended. Such a survey should extend to the maximum bomb penetration depth or to the maximum depth of the works, whichever is encountered first.
Contaminated Land & Intrusive Site Investigation Works	The Site is not included on the list of sites designated as contaminated land. With respect to existing commercial development, the likelihood of action being taken under the Environmental Protection Act 1990 is considered to be low. Contaminants may have been brought onto site historically within imported fill material or may been introduced into the soils/groundwater beneath the site during previous potentially contaminative past usage and/or could migrated beneath this site from adjacent property. Standard contaminated land planning conditions (requiring investigation, risk assessment, remediation strategy, implementation and validation) are likely to be applied to any planning consent and will require staged regulatory approval. Based on the information collated as part of this desk study, NX Consulting considers that the risk to future end users of the site and controlled waters are considered to be Moderate/Low. This risk would

need to be re-assessed following the collation of further site investigation data, and also if the end use was changed to a more sensitive setting such as residential.

In order to address the potential pollutant linkages a site investigation would be required in accordance with relevant guidance documents (including BS101751 and BS59301).

The intrusive works should include geotechnical considerations with regards to proposed buildings and infrastructure on site.

This report should be sufficient for the Local Planning Authority to consider any future planning applications. Outline planning conditions relating to contamination may need to be addressed prior to occupation and/or pre-commencement of development works.

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1.0 INTRODUCTION

1.1 Instruction

NX Consulting Limited have been commissioned by Bruntwood SciTech (The Client) to conduct a Phase 1 Geoenvironmental Desk Study for the following property: Greenheys Business Centre, Pencroft Way, Manchester, M15 6JJ.

The development includes the construction of a 7-storey building comprising up to 17,249sq. m (GIA) commercial floorspace across 6 occupiable floors (Use Class E), plus plant level above; in addition to associated cycle parking, hard and soft landscaping, access and servicing and other associated works.

The proposals comprise two phases, comprising:

- Phase 1: Construction compound and removal of trees (no below ground works);
- Phase 2: Greenheys Building and associated landscaping and access.

As Phase 1 will be returned to a cleared site following construction, only Phase 2 is relevant for the purpose of this assessment.

1.2 Scope of Work

Guidance set out in LCRM¹, GPLC1-3² and the National Planning Policy Framework (NPPF)³ states that a Preliminary Risk Assessment with a site reconnaissance is required as a minimum to ascertain if there is a potential contamination risk.

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

- Present a discussion of the current site status and key environmental influences around the site.
- Undertake and present a historical site and area review, primarily referring to old Ordnance Survey Maps.
- Undertake preliminary data searches.
- Present a discussion of the ground and groundwater conditions within the topographical and area context.
- Present a preliminary ground contamination assessment discussing the results of the research above, not only concerning potential on-site conditions and contamination but also with an overview of the potential for migration on or off-site with respect to the surrounding neighbouring sites.

- The information gathered will be used to identify potential geotechnical constraints associated with the redevelopment of the site.
- Present a preliminary qualitative risk assessment and make recommendations for a characterisation stage of physical investigation and testing, if appropriate.

1 EA (2020). "Land contamination risk management (LCRM).

2 EA (2016). "Guiding Principles for Land Contamination." GPLC1-3.

3 DCL (2021). "National Planning Policy Framework." Department of Communities and Local Government.

1.3 Report Layout

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

1.4 Limitations

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

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

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

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

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2.0 PHASE 1 ASSESSMENT SUMMARY

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

2.1 Site Location & Setting

Site Location	Greenheys Business Centre, Pencroft Way, Manchester, M15 6JJ.	
Site Description	Greenheys House is a turn of the century brick and glass clad warehouse building which was converted into offices with various additions, alterations and extensions over the last 20years. The most recent of which was completed in 2016. It generally, comprises, Ground floor, Mezzanine and Converted loft space and is approximately 30,000sq ft, in floor area. The building is heated via radiators from 6no heating boilers situated on the lower sub-ground floor. Access to the building was not available during the site walkover. However, according to MSP staff, no significant potential sources of contamination are stored within the office building and external areas. The building is located within the northwestern of the science park complex and bound to the north by a motor car repair workshop, a Mosque prayer hall and McDougall Sports Centre. Car parking is located to the east of the main entrance in the east of the building. The building is bound to the west by Greenheys Lane with residential properties beyond that, and is bound to the south by New Base Building. No unstable slopes, or significant induced surface settlements were observed during the site walkover.	
Grid Reference	384283E, 396283N.	
Site Area	≈0.56 hectares	
Site Setting	Surrounding area:	N: A motor car repair workshop, a Mosque prayer hall and McDougall Centre. S: New Base Building. E: Car parking and Pencroft Way. W: Greenheys Lane with residential properties.

2.2 Geology, Hydrology and Hydrogeology

Table 2.2 – Summary of Geology Hydrology and Hydrogeology

Made Ground	On site: None indicated
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Table 2.2 – Summary of Geology Hydrology and Hydrogeology

	Immediate surrounding area: None indicated
Drift Geology	On site: Till, Devensian - Diamiction.
	Immediate surrounding area: Till, Devensian – Diamiction, and Glaciofluvial Sheet Deposits – sand and gravel (266m N).
Solid Geology	On Site: Chester Pebble Beds Formation, Sandstone. Triassic in age.
	Immediate surrounding area: Chester Pebble Beds Formation, Sandstone.
Faults	There are no bedrock faults or other linear features recorded within 500m of the site.
Hydrology	5m west - Corn Brook (Hidden River) in culvert https://hidden-manchester.org.uk/#/waterways/corn-brook
Hydrogeology	Superficial deposits - Secondary Undifferentiated Aquifer Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type).
	Bedrock deposits – Principal Aquifer (Geology of high inter-granular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale).
	According to the Environment Agency, the sandstone aquifer was given an overall water quality rating of 'Poor' in 2019; the aquifer was given 'Poor' Ecological and 'Fail' Chemical ratings.
Water Abstractions	12no. (6 active, 6 historical) groundwater abstraction licences within 1000m for non-potable use. The nearest of which is a historical abstraction for process water, situated 474m SW.
	There are 2no. active groundwater abstraction licences recorded within 500m of the site. Both are situated 490m SW off site.
	No historical or active surface water abstraction licences recorded within 1000m.
Source Protection Zones	The site lies within a Source Protection Zone 3 (Total Catchment).

Table 2.2 – Summary of Geology Hydrology and Hydrogeology

Flood Risk	According to GroundSure data, a portion of the western side of the site is within an Environment Agency indicative Zone 2 & Zone 3 flood plain. Zone 2 floodplain estimates the annual probability of flooding as one in one thousand (0.1%) or greater from rivers and the sea but less than 1% from rivers or 0.5% from the sea. Alternatively, where information is available they may show the highest known flood level. Zone 3 estimates the annual probability of flooding as one in one hundred (1%) or greater from rivers and a one in two hundred (0.5%) or greater from the sea. Again, as with Flood Zone 2, where information is available they may show the highest known flood level. The site does not benefit from Environment Agency defined flood defences. A small section in the western portion of the site is at medium risk from river and coastal flooding. The remainder of the site is not reported to be at risk from river and coastal flooding. The site is at high risk from groundwater flooding.
Shrink Swell Clays	Very low risk
Landslides	Very low risk
Ground Dissolution of soluble Rocks	Negligible risk
Compressible deposits	Negligible risk
Collapsible Deposits	Very low risk
Running Sands	Very low risk

2.3 Mining Extraction and Natural Cavities

Table 2.3 – Mining and Mineral Extraction

Coal Mining	The Coal Authority (CA) indicate that the site is located within a coal mining area. However, NX Consulting consider that the risks associated with historical coal mining related activities are very low. This is based
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	on an assessment of the local geology and from perusing the CA's online interactive map viewer.
Johnson Poole and Bloomer	Johnson, Poole and Bloomer records are listed as being obtainable within a 1000m boundary of this site.
Other mining	None identified.
Historic Surface Ground Workings	The Groundsure report has 2no. ponds are recorded within 250m of the site. The distances and dates are listed below: • 25m N - 1851 • 161m S - 1851

2.4 Ground Stability Risk Assessment

Published Geology

According to the British Geological Survey map, sheet No. 85 (Manchester) Bedrock and Drift editions, the site is shown to be underlain directly by Chester Pebble Beds (sandstone).

The superficial deposit (i.e. Made Ground + natural soil) thickness beneath the site is likely to be between 10-15m (source: BGS 1:50,000 scale maps explanatory notes document dated 2012).

Coal Authority

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

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

Heave/Shrinkage

Trees/shrubs have the potential to cause clay heave/shrinkage and any new developments may require heave/shrinkage protection measures in line with NHBC Chapter 4.2 Guidance. However, given the BGS geology of the site and immediate surrounding area, the risk from clay heave/shrinkage is considered to be negligible.

Slopes and Retaining Features

No significant difference in levels or retaining features have been identified across the site.

2.5 Site History

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

It should be noted that due to the extensive potentially contaminative historical land usages which have occurred in the area, only those usages within $\approx 100\text{m}$ of the site are listed within the 'Off-Site' column.

Table 2.4 – Site History

Map Date	On-Site Potentially Contaminative Past Uses	Off-Site Potentially Contaminative Past Uses
1851	The site is covered by terraced housing and associated roads and landscaped areas.	Typical late 19th Century City setting with a mixture of residential properties, schools, public houses, breweries and churches.
1891	Increased development in residential housing and a decrease in the volume of landscaped areas. Park Mews present on site.	A drill hall, a horse repository and a school are present within the adjacent parcel of land to the north. The immediate surrounding area still comprises residential properties and associated roads.
1908	No apparent change noticeable in historical mapping.	- A tramway runs along Burlington Street and Greenheys Lane (western boundary of site). The horse repository and a school are now labelled as unnamed buildings. - Victoria University Buildings present 250m NE of site.
1932	A portion of the site appears redeveloped to comprise on main building within the centre and the west of site, and some residential housing remaining on the eastern side. Park Mews no longer present.	No apparent change noticeable in historical mapping.
1948 & 1949	No apparent change noticeable in historical mapping.	Drill hall redeveloped to the McDougall Centre. A warehouse, a college cinema, hotel, a club, a church, and garages are present within 150m of site. 2no. clothing works are recorded 150m and 180m SW of site.

Table 2.4 – Site History

Map Date	On-Site Potentially Contaminative Past Uses	Off-Site Potentially Contaminative Past Uses
		Areas of now unoccupied land are present within 250m to the north of site, possibly relating to WW2 bombing.
1951	Main building on site labelled as a garage. No other changes present.	- A garage present 90m E. - An infirmary is situated 500m E of site.
1961	The garage present on site now labelled as a works. A warehouse is now present in the northeast of site.	- A works and a warehouse present 20m and 90m east, respectively. - A works and a post office are present 85m NE. - An electrical substation is recorded 217m N (1976).
1985 & 1989	The site is completely redeveloped from a garage and warehouse and now comprises a depot.	- A factory and a garage are now present in the adjacent land to the north. - The surrounding area is redeveloped to the south, southeast and to the east as former residential housing is no longer present. Residential housing remains to the west. - Hillel House and a club are now present to the south of site and Enterprise House occupies land to the east with Skelton House to the south of it off Pencroft Way. - An electrical substation is recorded 87m NW.
1990	No apparent change noticeable in historical mapping.	- A pond is recorded 20m south of site. - Synergy House is developed 100m south of site (1993).
1994	The site is redeveloped to host Greenheys Business Centre.	- Rutherford House is now present, between Hillel House and Enterprise House. - An electrical substation is recorded 217m N (1995).

Table 2.4 – Site History

Map Date	On-Site Potentially Contaminative Past Uses	Off-Site Potentially Contaminative Past Uses
2003	No apparent change noticeable in historical mapping.	- No apparent change noticeable in historical mapping. - Williams House and Kilburn House are constructed to the east of site by 2002.
2003 - Present	No apparent change noticeable in historical mapping.	- Hillel House to the south is redeveloped to New Base Building. - Other changes occurs within the surrounding area as Manchester Science Park is developed. 2017 the Bright Building is constructed and Ripon Street Depot is demolished and turned into a surface car park. 2022 the New Base Building is constructed to the south.

A historical tank was identified by Groundsure 165m SW of the site on 1985 mapping, and 212m NE of the site on 1977 mapping .

2.5 Environmental Information

Table 2.5 – Environmental Information

Environmental Permits, Incidents and Registers, Licensed Discharge Consents to Controlled Waters, Radioactive Substance Authorisations	A total of 24 contemporary trade directory entries (active & inactive) are located within 250m of the site. A number of which are located upon the site, comprising; engineering services, laboratory operations, electricity substations, transport storage and delivery. Cedric's Motors provides motor repairs and servicing and is located 49m northwest of site. There are no sites determined as contaminated land (Part 2a EPA 1990) within 250m. Medeval Limited have radioactive substances permits within Skelton House. The permits are for the use and keeping of radioactive substances on site. There are no Control of Major Accident Hazards Sites (COMAH), no Notification of Installations Handling Hazardous Substances (NIHHS), no Planning Hazardous Substance Consents and no Planning Hazardous Substance Enforcements within 250m of the site. 26no. radioactive substance authorisations are listed within 500m of the site. The nearest of which is 162m at Skelton House involving the keeping and use of radioactive materials.
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Landfill Sites and Other Waste Disposal Facilities	No active or historical landfill site are recorded within 250m of the site. There are no active Licensed Waste Management Facilities, Registered Waste Treatment or Disposal Sites within 250m of the site.
Potentially contaminative land uses	22no. potentially contaminative land uses have been identified by the Groundsure report within 250m of the site, the most potentially significant are summarised as follows: • Greenheys Business Centre – On Site • Former garages – On Site • Former works – On Site • Former Depot – On Site • Former warehouse – On Site • Factory - 13m N • Science Park – 114m SE • Astra Telematics – 121m NE • Brewery – 152m N • Hospital – 211m N • Electricity Substation – 32m E, 82m E, 87m E, 90m NW, 96m S, 106m N. • Former Pond – 20m SE. Note: many of the potentially contaminative land usages listed are associated with likely office use only or electrical substations (>100m away).
Ecological Setting	1no. SSSI Impact Risk Zone is recorded within the Groundsure report. The details are presented below: Location: On site and surrounding area. Air pollution - Livestock & poultry units with floorspace > 500m², slurry lagoons & digestate stores > 4000m². Combustion - General combustion processes >50mw energy input. incl: energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/ combustion.
Conservation Areas	No significant sites within 1000m.
Radon	The property is not situated within a Radon Affected Area, as less than 1% of properties are above the Action Level.
Diesel Storage	There are nearby locations within Manchester Science Park of diesel storage. The locations and details are present below: Williams House 1. Telecty have a 6000l tank to service their data centre back up generator Kilburn House 2. Telecty have a 7000l tank to service their data centre back up generator

Telecity

3. Size tbc tank to service their data centre back up generator

Skelton House

4. Qiagen have a 7000l tank to service their data centre back up generator

5. Icon have a 1000l tank to service their data centre back up generator

All tanks are above ground.

2.6 BGS Boreholes

On-Site Borehole - BGS Ref: - The University Of Manchester Monitoring Borehole (drilled at former McDougal Building) - SJ89NW3286

Borehole was sunk in the approximate centre of the carpark to the north of site to 237m depth in 1999. The findings are reproduced below:

- G.I. to ≈0.50m - MADE GROUND.
- ≈0.50 to ≈5.00m - Grey CLAY & CLAY and SAND.
- ≈6.00 to ≈8.00m - Grey/brown sandy CLAY with gravel and cobbles.
- ≈8.00 to ≈9.00m+ - Gravel of variable lithology
- ≈9.00 to ≈11.00m+ - fine to medium grained red SANDSTONE.
(rock head expected between 9.00 and 11.00m).

Groundwater was observed at 12.00mbgl rising to 7.70mbgl.

2.7 Unexploded Ordnance (UXO)

The regional unexploded bomb risk map from Zetica indicates that the site is in an area at moderate risk from possible Unexploded Ordnance (UXO) resulting from the Second World War. A detailed UXO risk assessment report compiled by 1st Line Defence in May 2019, for the adjacent New Base Building, shows an area of cleared ground; which may be indicative of WWII bombing.

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

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

- Operational UXO Risk Management Plan – appropriate site management documentation should be held onsite to guide and plan for the actions which should be undertaken in the event of a suspected or real UXO discovery;

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

2.8 Previous Work

NX Consulting carried out a series of geoenvironmental assessments at the site comprising of a pre-acquisition Phase 1 geoenvironmental survey of the MSP site, in February 2012. A Phase 1 and preliminary phase 2 geoenvironmental assessment of Ripon Street depot in May 2014 and a Phase 1 and Phase 2 geoenvironmental site investigation on land for the Bright Building (Formerly The Hub) in November 2014. This was followed by a remediation strategy in February 2015.

Deposits comprising interbedded occasionally organic Glaciofluvial slightly gravelly, sandy clay and or very silty sand were recorded to depths ranging from 1.90m to 3.30mbgl. Stiff to hard slightly gravelly sandy brown Glacial Clay was encountered between 1.90mbgl and 4.45mbgl+.

Bedrock was not encountered within the depth of drilling but thought to be present at depths circa 11.00m bgl.

Groundwater was deemed to be a localised and a perched regime were present.

The site did not appear to be grossly contaminated and no large areas of contamination were evident during site investigation works.

Buried obstructions are likely to be present in numerous locations associated with terraced housing and former site infrastructure.

New Base Building (Directly to South)

An intrusive investigation was carried by Taylor Drilling Services Ltd and monitored by an engineer from NX Consulting on the between the 16th and 19th of May 2019.

During the works, 5no windowless sample boreholes were undertaken across the site to a maximum depth of 5.45m bgl.

The exploratory holes retrieved continuous soil samples; these were then logged by an on-site engineer and representative samples were taken for geotechnical and chemical analysis.

Groundwater and ground gas monitoring installations were placed to 3.00m bgl in WS2, WS3, WS4A & WS5.

5no. Cable percussive boreholes (BH01 and BH05) were formed to a maximum depth of 9.80m bgl.

During the works ground conditions established a cover of Made Ground within all exploratory hole locations to maximum proven depths of 3.50m bgl (where deposits were able to be fully penetrate).

Surface materials comprised either black tarmacadam (BH02, BH04, RBH01, WS1, WS3, WS5) overlying dark grey brown/reddish brown gravelly sands and soft-firm dark brown slightly sandy gravelly clay with concrete, timber, metal and brick noted.

Impenetrable concrete obstructions were encountered in numerous boreholes meaning the boreholes were redrilled in a different location.

Ground conditions appear consistent with those identified within the wider site. Made Ground was identified within all exploratory hole locations to maximum proven depths of 3.50m bgl.

Where deposits were noted to predominantly comprise black macadam overlying dark grey brown/reddish brown gravelly sands and soft-firm dark brown slightly sandy gravelly clay with concrete, timber, metal and brick noted.

Underlying the Made Ground, Glaciofluvial and Glacial Clay deposits comprising firm sandy gravelly clay and/or medium dense clayey gravelly sand / sandy gravel were encountered where Made Ground was able to be penetrated to maximum depths of 9.80m bgl.

SPT 'N' values within the natural granular deposits indicate that they are loose to very dense with 'N' values ranging from 5 to 50, whilst SPT's carried out in the natural cohesive deposits recorded 'N' values ranging from 4 to 50 indicating that they are firm to stiff with locally soft bands present.

Suspected bedrock was encountered within all deeper exploratory hole locations and proven to a depth of 20.00m bgl within RBH01 comprising a reddish-brown SANDSTONE of varying strength.

Numerous Made Ground and cobble/boulder obstructions were encountered within the upper 2.0m within many exploratory hole locations. Extensive relict features comprising residential housing footings, cellar floors and former roads were deemed to be likely.

In areas of soft landscaping, to protect end users from isolated concentrations of lead contamination and possible asbestos fibres, a soil cover system (consisting of a minimum 450mm thick layer) was recommended over deposits of made ground.

3.0 PRELIMINARY CONCEPTUAL MODEL

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

The conceptual model is characterised by identification of the following:

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

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

3.1 Risk Assessment

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

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

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

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

harm, by a contaminant or controlled waters which are being, or could be, polluted by a contaminant'. A **pathway** may be considered as one or more routes by, or through, which a receptor is being, or could be, exposed to or affected by a contaminant. Typical pathways may include migration in groundwater, surface water run-off or infiltration, inhalation, dermal contact and ingestion.

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

PRINCIPLES OF RISK EVALUATION

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

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

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

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

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

Table C 1: Classification of Consequence

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

Table C 2: Classification of Probability

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

Table C3: Comparison of Consequence Against Probability

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

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

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

SOURCE -PATHWAY -RECEPTOR LINKAGE				QUALITATIVE RISK ASSESSMENT		
Potential Contaminant Source	Location	Receptors	Pathways to Receptors	Associated Hazard (Potential Severity)	Likelihood of Occurrence	Risk*
Potential contaminants may be present within Made Ground and natural strata beneath the site associated with historical past usage. - Ash, cinder and clinker used for levelling / drainage: heavy metals, sulphates and PAHs. - Hydrocarbons. - Asbestos Containing Material (ACM). - VOCs, SVOCs Asbestos Containing Materials may also present within existing structures.	Possibly within sub surface strata & Groundwater Possibly within existing structures	Ground water (Undifferentiated Aquifer & Principal Aquifer)	Vertical percolation to groundwater	Groundwater (Medium – pollution of sensitive water resource)	Low Likelihood Site will predominantly be covered with buildings/hardstanding which will reduce/prevent rainwater percolation/infiltration (which could generate contaminated leachate/re-mobilise hydrocarbons etc). Site history would indicate a high likelihood of potentially elevated mobile contaminants.	Moderate/Low
		Surface Water	Lateral migration through permeable strata within perched groundwater	Surface Water (Medium – pollution of Sensitive water resource)	Low likelihood given distance to nearest receptor	Moderate/Low
		End users of site.	Direct contact, Ingestion, Inhalation (Dust and Vapours)	Human Health (Medium)	Unlikely Site will predominantly be covered with buildings/hardstanding. End users will not be coming into direct contact with any soils/groundwater beneath the site. No obvious sources of hazardous gas identified within 250m.	Moderate/Low
		Construction workers (if applicable)/future maintenance workers	Direct contact, Ingestion, Inhalation (Dust and Vapours)	Human Health (Medium – providing suitable PPE equipment is worn)	Likely If conditions assessed and correct PPE, dust suppression, and other health and safety measures are applied then the likelihood can be reduced to low likelihood.	Moderate Low/moderate with adoption of PPE.

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

Table and Summary of Potential Risks, Sheet 2

SOURCE -PATHWAY -RECEPTOR LINKAGE				QUALITATIVE RISK ASSESSMENT		
Contaminant	Location	Receptors	Pathways to Receptors	Associated Hazard (Potential Severity)	Likelihood of Occurrence	Risk*
Mobile/volatile contaminants from off-site sources.	Possibly within sub surface strata & Groundwater.	End users of site	Direct contact, Ingestion, Inhalation (Dust and Vapours)	Human Health (Medium)	Unlikely Site will predominantly be covered with buildings/hardstanding. End users will not be coming into direct contact with any soils/groundwater beneath the site. Numerous potentially contaminative historical past land usages were identified within close proximity to the site.	Moderate/Low
		Construction workers (if applicable)/ future maintenance workers	Direct contact, Ingestion, Inhalation (Dust and Vapours)	Human Health (Medium)	Unlikely These receptors would potentially be coming into direct contact with the soils and any perched groundwater beneath the site. Numerous potentially contaminative historical past land usages were identified within close proximity to the site.	Moderate Low/moderate with adoption of PPE.
Hazardous Ground Gas associated with infilled ground.	Possibly within strata beneath the site/surrounding area	End users of site	Migration through strata and accumulation under buildings of explosive and asphyxiating gases. These gases could enter the buildings via cracks/service penetrations within floorslabs via cavity walls etc and build up in confined spaces.	Human Health (Medium)	Unlikely No recorded landfills within 250m of the site boundary. No significant areas of nearby recent infilling identified.	Low
		Buildings & Infrastructure	Migration through strata and accumulation under buildings of explosive and	Buildings & Infrastructure (Medium)	Unlikely As above.	Low

			asphyxiating gases. These gases could enter the buildings via cracks/service penetrations within floorslabs via cavity walls etc and build up in confined spaces.			
Radon Gas	Natural strata beneath the site	End users of site	Migration through strata and accumulation under buildings of explosive and asphyxiating gases. These gases could enter the buildings via cracks/service penetrations within floorslabs via cavity walls etc and build up in confined	Human Health (Medium)	Unlikely	Low
Coal Mining legacy (e.g. shafts/shallow workings)	On-site	Buildings & Infrastructure	Coal mining and shafts beneath the site causing surface ground instability causing building subsidence and collapse	Buildings & Infrastructure (Severe)	Unlikely Based on geology and local knowledge.	Low/Moderate

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

4.0 CONCLUSIONS & RECOMMENDATIONS

NX Consulting Limited has been commissioned by Bruntwood SciTech (The Client) to conduct a Phase 1 Geoenvironmental Desk Study for the following property: Greenheys Business Centre, Pencroft Way, Manchester, M15 6JJ.

The development includes the construction of a 7-storey building comprising up to 17,249sq. m (GIA) commercial floorspace across 6 occupiable floors (Use Class E), plus plant level above; in addition to associated cycle parking, hard and soft landscaping, access and servicing and other associated works.

The proposals comprise two phases, comprising:

- Phase 1: Construction compound and removal of trees (no below ground works);
- Phase 2: Greenheys Building and associated landscaping and access.

As Phase 1 will be returned to a cleared site following construction, only Phase 2 is relevant for the purpose of this assessment.

Contamination

The property contains a ground floor, mezzanine and converted loft space and is approximately 30,000sq ft, in floor area. 6no heating boilers situated on the lower sub-ground floor which heat the building. Carpark areas are present to the east, west and north of the property. Corn Brook is culverted just beyond the site's western boundary (5m).

The site is not included on the list of sites designated as contaminated land.

The property has been developed out since at least 1848. Identified potentially contaminative past usages include a garage, residential housing, a warehouse and a depot. Greenheys Business Centre is likely to have been built on the site between 1990 and 1994.

Numerous potentially contaminative land usage was identified in close proximity to the site including: yards, mills, works, garages, car-parks, electrical substations, warehouses, residential properties, schools, public houses, breweries, a science park, churches, and The Victorian University of Manchester.

Potential contaminants that could affect the site were identified as heavy metals, PAHs, asbestos, petroleum hydrocarbons, VOCs, SVOCs and ground gas (carbon dioxide, methane, carbon monoxide, hydrogen sulphide and depleted oxygen).

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

We consider that the risks posed to identified receptors are typically sufficiently low to not warrant extensive remedial activities of the site. However, further investigation, risk assessment and remediation will be necessary throughout any future development process, to discharge planning conditions relating to contamination.

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

A site investigation should be carried out prior to any redevelopment works taking place in the future. Any site investigation work should be carried out in accordance with relevant guidance documents (including BS101751 and BS5930).

Unexploded Ordnance

A detailed UXO risk assessment report compiled by 1st Line Defence in May 2019, for the adjacent New Base Building, shows an area of cleared ground; which may be indicative of WWII bombing. The indicative German UXO risk has been identified as moderate.

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

Mitigation measures may be required for development works at this site, which are summarised in Section 2.7 of this report.

Geotechnical Considerations

Obstructions in the form of relic foundations, infilled cellars/basements and roads/infrastructure should be anticipated across the site. These materials will require 'grubbing out' and treatment (screening/crushing/segregation and reused (where appropriate) on site to prevent formation of the piled foundations and services formation.

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

A perched and discontinuous groundwater regime may be present within the Made Ground beneath the site, and perhaps also within any granular horizons/pockets present within the underlying Glaciofluvial strata. Although excavations are unlikely to remain fully dry, it should be possible to control any ingress that does occur using a screened sump pumping technique.

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

Based on the published geology, there is considered to be a very low risk to the existing building (or any future proposed buildings) from shallow coal mine workings or shafts.

Future site investigation works carried out should be designed to further clarify the following:

1. Possible localised deep made ground and / or relic in-ground structures (from former buildings) which could affect groundworks (e.g. grubbing out of structures) and type of foundations required.
2. The strength and variability of superficial deposits.
3. The depth to and strength/variability of the sandstone bedrock for pile design.
4. The depth of groundwater and variability of the water table should be confirmed. Although groundwater is anticipated to be localised, discontinuous and perched on and within the superficial soils.
5. Plasticity of clay deposits should be confirmed to identify the shrinkability risk, particularly in the location of historical / current / proposed trees.
6. Indicative CBR values of the ground for pavement design should be calculated.
7. Sulphate content of the made ground and natural ground should be confirmed to assess the concrete requirements.
8. Chemical testing of soils should be carried out to establish potential risks to human health and controlled water receptors.

Flood Risk

According to GroundSure data, a portion of the western side of the site is within an Environment Agency indicative Zone 2 & Zone 3 flood plain. Zone 2 floodplain estimates the annual probability of flooding as one in one thousand (0.1%) or greater from rivers and the sea but less than 1% from rivers or 0.5% from the sea. Alternatively, where information is available they may show the highest known flood level.

Zone 3 estimates the annual probability of flooding as one in one hundred (1%) or greater from rivers and a one in two hundred (0.5%) or greater from the sea. Again, as with Flood Zone 2, where information is available they may show the highest known flood level.

The site does not benefit from Environment Agency defined flood defences.

A small section in the western portion of the site is at medium risk from river and coastal flooding. The remainder of the site is not reported to be at risk from river and coastal flooding.

The site is at high risk from groundwater flooding.

Planning

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

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

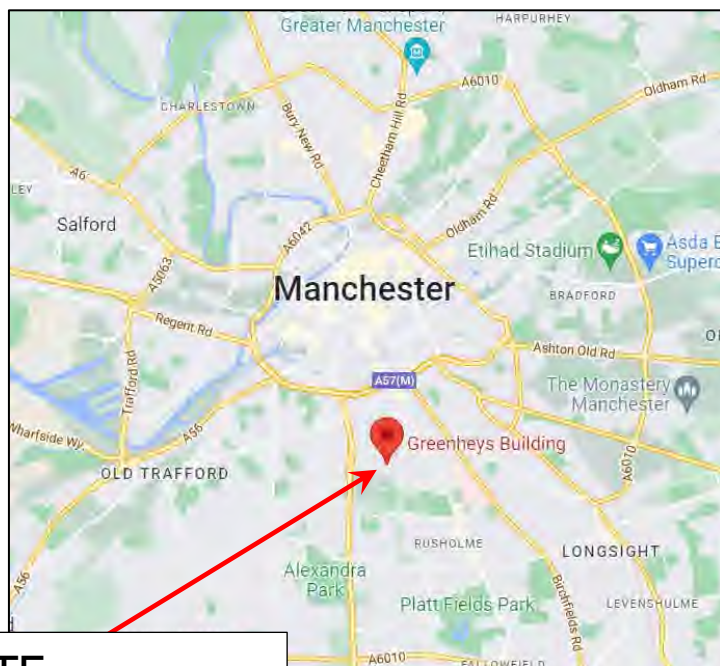
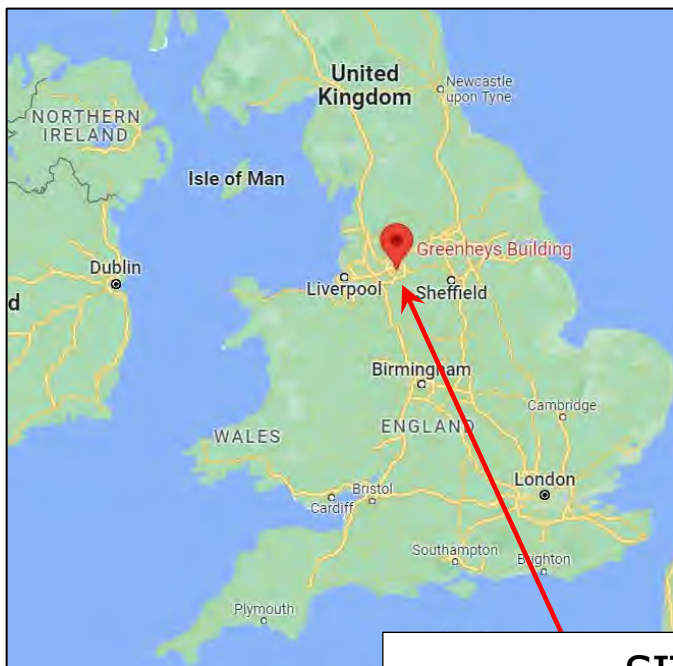
APPENDICES

Appendix A – Drawings & Photographs

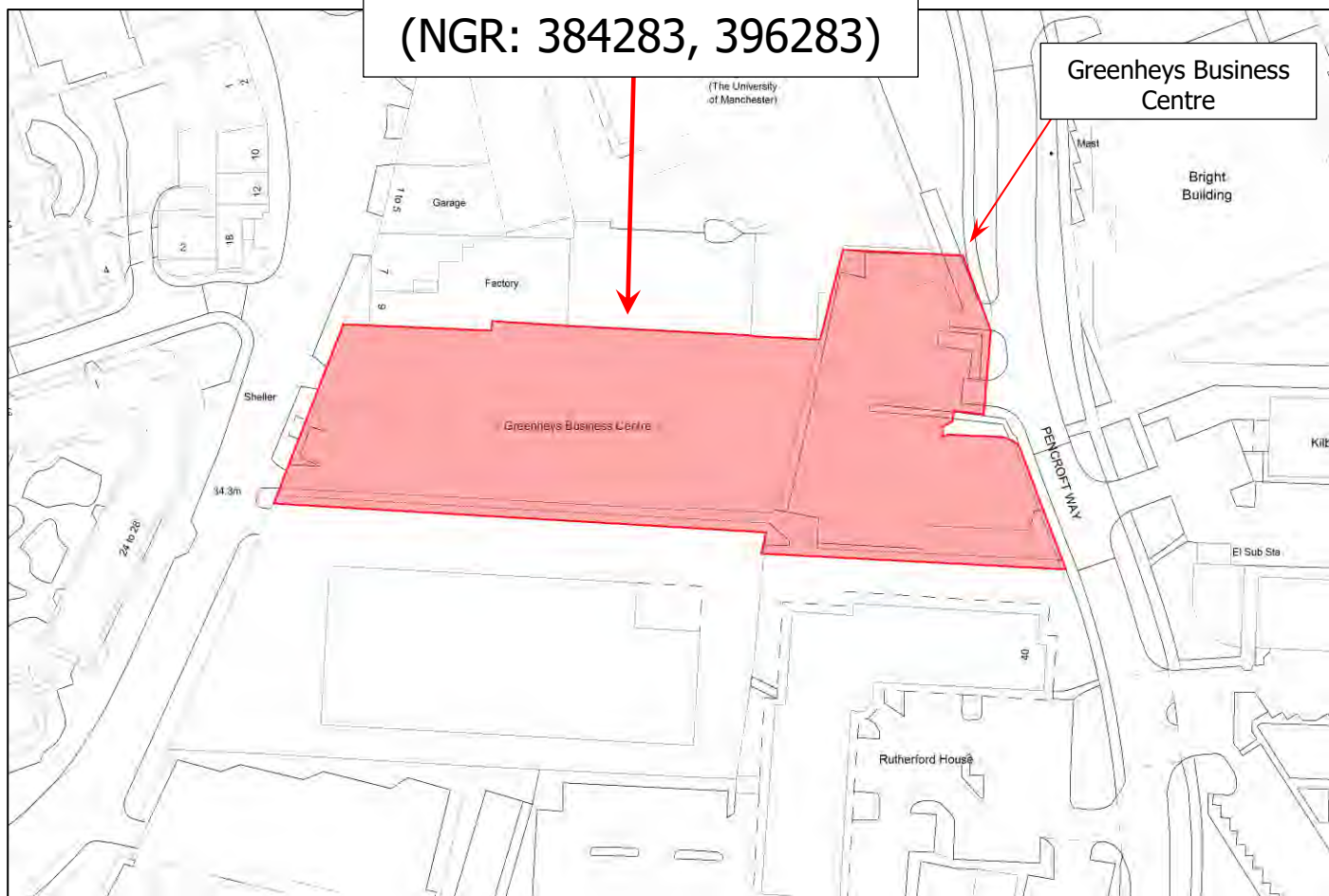
Appendix B – Groundsure Report

Appendix C – Historical Mapping

Appendix A – Drawings & Photographs



SITE
(NGR: 384283, 396283)



Next Generation Engineering Consultancy Services

Tel: 0161 904 0187
E-mail: admin@nxconsulting.org.uk
Web: www.nxconsulting.org.uk

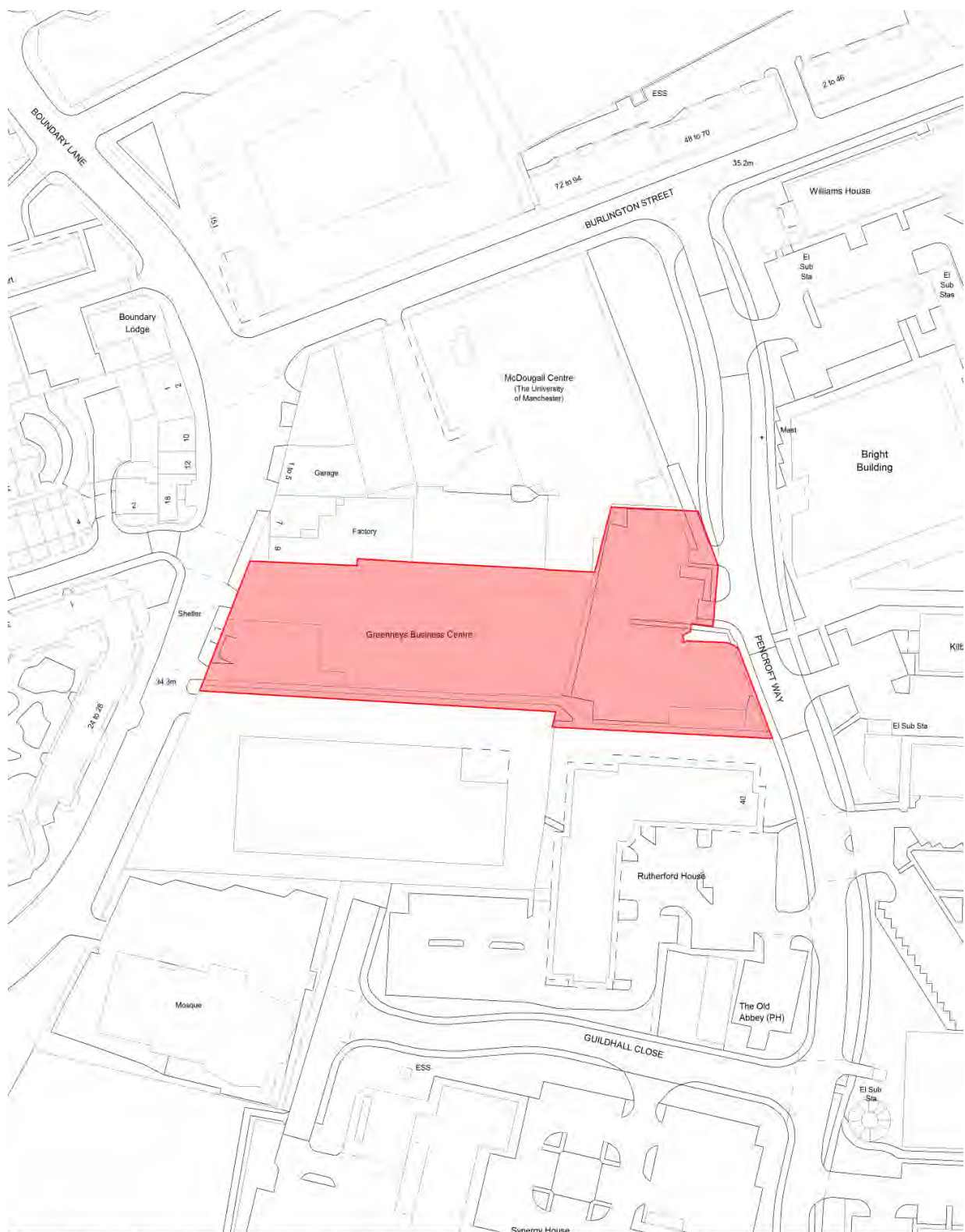
Ref: NX534 Figure 1

Project:

GREENHEYS BUSINESS CENTRE, PENCROFT WAY, MANCHESTER, M15 6JJ

Title:

Site Location Plan



Area edged red at, Greenheys Business Centre, Pencroft Way, Manchester



Main property Extent



Secondary property Extent

0 60m

Property coordinates: 384321, 396271



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Project:

GREENHEYS BUSINESS CENTRE, PENCROFT
WAY, MANCHESTER, M15 6JJ

Title:

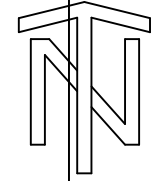
Site Boundary Plan

nxconsulting

Next Generation Engineering Consultancy Services

Tel: 0161 904 0187
E-mail: admin@nxconsulting.org.uk
Web: www.nxconsulting.org.uk

Ref: NX534 Figure 2



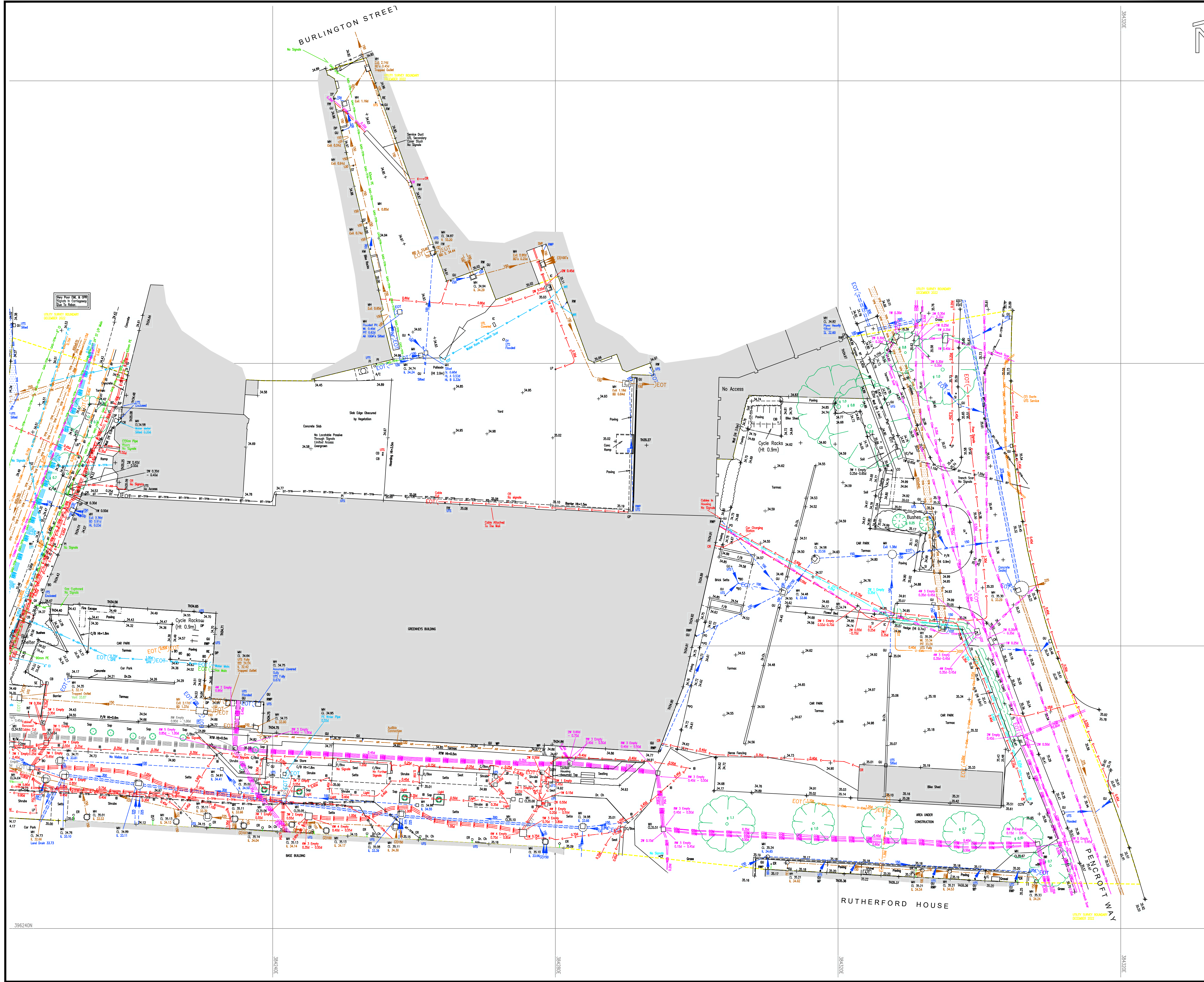
NOTES

KEY

Grid & Datum - Local Plane Grid related to OS National Grid & Datum
By GNSS RTK Observations

STANDARD ABBREVIATIONS

STREET FURNITURE	LC - LIGHTING COLUMN	UTL - UNABLE TO LIFT
AC - AIR CONDITIONING	LI - LIGHT	VDP - VEHICLE DETECTOR PAD
AE - AERIAL	LP - LAMP POST	VP - VENT PIPE
AL - ALUMINUM	MB - MOORING BOLLARD	WB - WHISTLE BLOW
AM - AMMUNITION	MA - MAST	WM - WASTE METER
AN - ANCHOR	MB - MOUNTING BRACKET	WP - WASTE PIPE
BA - BUOYANCY AID	MD - MONUMENT	
BB - BELLWIND BELL	MR - MOUNTING RING	
BD - BUILDING DIVIDE	MR - MOUNTING RING	
BE - BENCH	NR - NAILING ROD	
BF - BENCH MARK	NP - NAME PLATE	
BS - BUS STOP	OR - ORDNANCE SURVEY	
BU - BUSH	OSBM - ORDNANCE SURVEY BENCH MARK	
CB - CABLE	PA - PLAY APPARATUS	
CC - CLOSE CIRCUIT TV	PI - PUBLIC HOUSE	
CD - CABLE DUCT	PL - PLANT	
CE - CEMENT	PM - PARKING METER	
CF - CLOSE CIRCUIT TV POLE	PN - PAVEMENT	
CG - CABLE GUY	PP - POST & PANEL	
CH - CHIMNEY	PS - POST & SIGN	
CI - CLOSURE	PSB - POST & SIGN BAR	
CL - CLOSURE	PSB - POST & SIGN BAR	
CM - CLOSURE	PSB - POST & SIGN BAR	
CO - CLOSURE	PSB - POST & SIGN BAR	
CP - CLOSURE	PSB - POST & SIGN BAR	
CR - CLOSURE	PSB - POST & SIGN BAR	
CS - CLOSURE	PSB - POST & SIGN BAR	
CT - CLOSURE	PSB - POST & SIGN BAR	
CU - CLOSURE	PSB - POST & SIGN BAR	
CV - CLOSURE	PSB - POST & SIGN BAR	
CW - CLOSURE	PSB - POST & SIGN BAR	
CX - CLOSURE	PSB - POST & SIGN BAR	
CY - CLOSURE	PSB - POST & SIGN BAR	
CZ - CLOSURE	PSB - POST & SIGN BAR	
DA - DRAIN	RD - ROAD	
DB - DRAIN	RD - ROAD	
DC - DRAIN	RD - ROAD	
DD - DRAIN	RD - ROAD	
DE - DRAIN	RD - ROAD	
DF - DRAIN	RD - ROAD	
DG - DRAIN	RD - ROAD	
DH - DRAIN	RD - ROAD	
DI - DRAIN	RD - ROAD	
DJ - DRAIN	RD - ROAD	
DK - DRAIN	RD - ROAD	
DL - DRAIN	RD - ROAD	
DM - DRAIN	RD - ROAD	
DN - DRAIN	RD - ROAD	
DO - DRAIN	RD - ROAD	
DP - DRAIN	RD - ROAD	
DQ - DRAIN	RD - ROAD	
DR - DRAIN	RD - ROAD	
DS - DRAIN	RD - ROAD	
DT - DRAIN	RD - ROAD	
DU - DRAIN	RD - ROAD	
DV - DRAIN	RD - ROAD	
DW - DRAIN	RD - ROAD	
DX - DRAIN	RD - ROAD	
DY - DRAIN	RD - ROAD	
DZ - DRAIN	RD - ROAD	
EA - EARTH	RD - ROAD	
EB - EARTH	RD - ROAD	
EC - EARTH	RD - ROAD	
ED - EARTH	RD - ROAD	
EE - EARTH	RD - ROAD	
EF - EARTH	RD - ROAD	
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ET - EARTH	RD - ROAD	
EU - EARTH	RD - ROAD	
EV - EARTH	RD - ROAD	
EW - EARTH	RD - ROAD	
EX - EARTH	RD - ROAD	
EY - EARTH	RD - ROAD	
EZ - EARTH	RD - ROAD	
FA - FENCE	RD - ROAD	
FB - FENCE	RD - ROAD	
FC - FENCE	RD - ROAD	
FD - FENCE	RD - ROAD	
FE - FENCE	RD - ROAD	
FF - FENCE	RD - ROAD	
FG - FENCE	RD - ROAD	
FH - FENCE	RD - ROAD	
FI - FENCE	RD - ROAD	
FJ - FENCE	RD - ROAD	
FK - FENCE	RD - ROAD	
FL - FENCE	RD - ROAD	
FM - FENCE	RD - ROAD	
FN - FENCE	RD - ROAD	
FO - FENCE	RD - ROAD	
FP - FENCE	RD - ROAD	
FQ - FENCE	RD - ROAD	
FR - FENCE	RD - ROAD	
FS - FENCE	RD - ROAD	
FT - FENCE	RD - ROAD	
FU - FENCE	RD - ROAD	
FV - FENCE	RD - ROAD	
FW - FENCE	RD - ROAD	
FX - FENCE	RD - ROAD	
FY - FENCE	RD - ROAD	
FZ - FENCE	RD - ROAD	
GA - GAS	RD - ROAD	
GB - GAS	RD - ROAD	
GC - GAS	RD - ROAD	
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UI - URBAN		



NOTES		
KEY		
Grid & Datum - Local Plane Grid related to OS National Grid & Datum By GNSS RTK Observations		
STANDARD ABBREVIATIONS		
STREET FURNITURE		
AC - AIR CONDITIONING	LC - LIGHTING COLUMN	UTL - UNABLE TO LIFT
AE - AERIAL	LI - LIGHT	VDP - VEHICLE DETECTOR PAD
AL - ALUMINIUM	LP - LAMP POST	VP - VENT PIPE
AM - MANHOLE	MD - MOUNDING BOLLARD	WB - WHISTLE BLOW
AN - ANCHOR	ME - METER	WM - WASTE METTER
BA - BUOYANCY AD	MM - MANHOLE	WO - WASH OUT
BB - BELLEVUE BELL	MO - MONUMENT	WP - WASTE PIPE
BD - BUILDING DIVIDE	MR - MOUNDING RING	
BE - BENCH MARK	MS - MOUNTING WELL	
BF - BOUNDARY POST	MP - MOUNDING PIPE	
BS - BUS STOP	NP - NAME PLATE	
BU - BUS	OH - OVERHEAD	
CB - CONTROL BOX	OSBM - ORNAMENTAL SURVEY	
CC - CLOSE CIRCUIT TV	PA - PLAY APPARATUS	
CD - CABLE	PH - PUBLIC HOUSE	
CE - CABLE	PI - PIPE	
CF - CABLE	PL - PLANT	
CG - CABLE	PM - PARKING METER	
CH - CHIMNEY	PO - POST	
CI - CLOSE CIRCUIT TV POLE	PP - POST & PANEL	
CL - CLOTH	PS - POST & SIGN	
CM - CLOTH	PT - POST & SIGN	
CO - CLOTH	PU - POST & SIGN	
CP - CLOTH	RV - RETAINING WALL	
CR - CLOTH	RTW - RETAINING WALL	
CS - CLOTH	SA - STANCHION	
CT - CLOTH	SC - SPEED CAMERA	
CU - CLOTH	SD - SATELLITE DISH	
CV - CLOTH	SE - SAFETY FENCE	
CA - CABLE	SI - SIGN	
CB - CABLE	SP - SERVICE MARKER POST	
CC - CABLE	SS - SECURITY SENSOR	
CD - CABLE	ST - STOP TAP	
CE - CABLE	SU - STUMP	
CF - CABLE	SV - STOP VALVE	
CG - CABLE	SW - SWITCHGEAR	
CH - CABLE	TA - TAP	
CI - CABLE	TE - TELEPHONE	
CL - CABLE	TCB - TELEPHONE CALL BOX	
CM - CABLE	TE - TELEPHONE	
CO - CABLE	TM - TICKET MACHINE	
CP - CABLE	TS - TRAFFIC SIGNAL	
CR - CABLE	TP - TELEGRAPH POLE	

SYMBOLS		
HEDGE	GATE	BUILDING
TREE CANOPY	CONTROL STATION	TACTILE PAVING
TREE		
UNDERGROUND SERVICE KEY		
Front/Combined water drain	Vents	Unidentified EML
Front/Combined drain	Fuel	Unidentified EML
Surface water drain	Offcuts	Unidentified EML
Surface water drain	Vapour Recovery	Unidentified EML
End of trace	Gauge Lines	Unidentified EML
Electric cables	Unidentified GPR	Unidentified EML
HW cables	Unidentified EML	Unidentified EML
Gas	Unidentified EML	Unidentified EML
Water	Unidentified EML	Unidentified EML
Telephone	Unidentified EML	Unidentified EML
Cable	Unidentified EML	Unidentified EML
CCTV	Unidentified EML	Unidentified EML
Comms	Unidentified EML	Unidentified EML
Fibre Optics	Unidentified EML	Unidentified EML
Pipe	Unidentified EML	Unidentified EML

ABBREVIATION KEY		
AE assumed route	HL high level	UTL unable to lift
BO base level	IC inspection chamber	UTS unable to trace
CA cable pit	IR inspection chamber	VP vent pipe
CB cable pit	IR inspection chamber	WM waste meter
CD cable pit	IR inspection chamber	WO wash out valve
CE cable pit	IR inspection chamber	
CF cable pit	IR inspection chamber	
CG cable pit	IR inspection chamber	
CH cable pit	IR inspection chamber	
CI cable pit	IR inspection chamber	
CM cable pit	IR inspection chamber	
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CV cable pit	IR inspection chamber	
CA cable pit	IR inspection chamber	
CB cable pit	IR inspection chamber	
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CD cable pit	IR inspection chamber	
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CG cable pit	IR inspection chamber	
CH cable pit	IR inspection chamber	
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CM cable pit	IR inspection chamber	
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CP cable pit	IR inspection chamber	
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CS cable pit	IR inspection chamber	
CT cable pit	IR inspection chamber	
CU cable pit	IR inspection chamber	
CV cable pit	IR inspection chamber	

UTILITY SURVEY NOTES

ELECTROMAGNETIC AND/OR GROUND PENETRATING RADAR TECHNIQUES HAVE BEEN USED TO LOCATE AND MAP UNDERGROUND UTILITIES AND FEATURES ON THE SURFACE. NO CLAIM IS MADE FOR THE ACCURACY OF THE RESULTS OF THESE SURVEYS. THE RESULTS OF THESE SURVEYS ARE NOT GUARANTEED AND SHOULD BE USED AS A GUIDE ONLY. THE RESULTS OF THESE SURVEYS ARE NOT GUARANTEED AND SHOULD BE USED AS A GUIDE ONLY. THE RESULTS OF THESE SURVEYS ARE NOT GUARANTEED AND SHOULD BE USED AS A GUIDE ONLY.

Rev

Date

Drawn

Description

Chkd

Appd



CHARTERED GEOMATIC SURVEYORS

Jupiter House, 21 Roebuck Lane, Sale, Manchester, M33 7SY
T: 0161 973 3495 F: 0161 962 8819
E: mail@ndoliver.com www.ndoliver.com

Client		BDP		
Title		11 DUCIE STREET PICCADILLY BASIN MANCHESTER M1 2JB		
Title		GREENHEYS BUILDING MANCHESTER SCIENCE PARK M15 6JJ		
Title		TOPOGRAPHICAL SURVEY SHEET 2 OF 2		
Surveyed	PK	Drawn	PK	Drawn Date
Checked	AM	Approved	NDO	16/12/2022
Scale		Project	9872	Status
1:250 @ A1		CAD File	9872 / 005 / 2	
Drawing No		9872 / 005 / 2		
		0		



Plate 1 – Greenheys Business Centre, looking west from Pencroft Way.



Plate 2 – Looking south along Pencroft Way.



Plate 3 – Greenheys Business Centre main entrance.



Plate 4 – Looking south across carpark within the east of site.



Plate 5 – AC units present adjacent to site entrance.

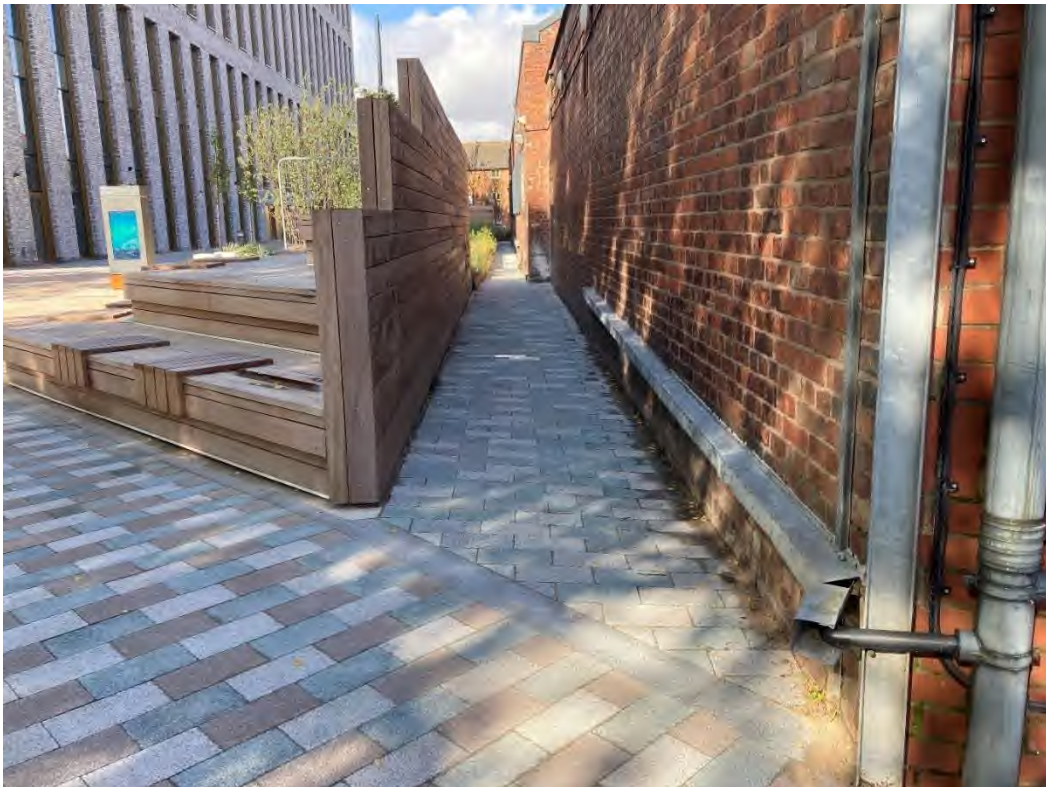


Plate 6 – The sites southern boundary, bordering the north of New Base Building, looking west.



Plate 7 – AC units present in southwest corner of Greenheys building, looking northeast.



Plate 8 – Bin storage area in the southwest corner of site.



Plate 9 – Looking east along Burlington Street.



Plate 10 – Former McDougall Centre, to the north of site off Burlington Street.



Plate 11 – Area to the south west of Greenheys building and location of RBH04



Plate 12 – Short road to the east of site off Pencroft Way.

Appendix B – Groundsure Report

GREENHEYS BUSINESS CENTRE, PENCROFT WAY, MANCHESTER, M15 6JJ

Order Details

Date: 01/09/2022

Your ref: nx534

Our Ref: GS-9022498

Site Details

Location: 384283 396283

Area: 0.56 ha

Authority: [Manchester City Council](#)



Summary of findings

p. 2 **Aerial image**

p. 8

OS MasterMap site plan

p.12 groundsure.com/insightuserguide

Contact us with any questions at:

info@groundsure.com

08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
<u>13</u>	<u>1.1</u>	<u>Historical industrial land uses</u>	0	0	7	17	-
<u>15</u>	<u>1.2</u>	<u>Historical tanks</u>	0	0	3	13	-
<u>16</u>	<u>1.3</u>	<u>Historical energy features</u>	0	0	7	19	-
17	1.4	Historical petrol stations	0	0	0	0	-
<u>17</u>	<u>1.5</u>	<u>Historical garages</u>	1	1	4	1	-
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	12	25	-
<u>21</u>	<u>2.2</u>	<u>Historical tanks</u>	0	0	5	23	-
<u>22</u>	<u>2.3</u>	<u>Historical energy features</u>	0	0	17	36	-
24	2.4	Historical petrol stations	0	0	0	0	-
<u>25</u>	<u>2.5</u>	<u>Historical garages</u>	2	5	8	1	-
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	-
<u>27</u>	<u>3.4</u>	<u>Historical landfill (EA/NRW records)</u>	0	0	0	1	-
27	3.5	Historical waste sites	0	0	0	0	-
27	3.6	Licensed waste sites	0	0	0	0	-
<u>28</u>	<u>3.7</u>	<u>Waste exemptions</u>	0	0	1	12	-
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>	4	6	17	-	-
<u>32</u>	<u>4.2</u>	<u>Current or recent petrol stations</u>	0	0	0	1	-
33	4.3	Electricity cables	0	0	0	0	-
33	4.4	Gas pipelines	0	0	0	0	-
33	4.5	Sites determined as Contaminated Land	0	0	0	0	-



33	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
33	4.7	Regulated explosive sites	0	0	0	0	-
34	4.8	Hazardous substance storage/usage	0	0	0	0	-
34	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
34	4.10	<u>Licensed industrial activities (Part A(1))</u>	0	0	0	28	-
38	4.11	Licensed pollutant release (Part A(2)/B)	0	0	0	0	-
38	4.12	<u>Radioactive Substance Authorisations</u>	0	0	6	20	-
42	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
42	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
43	4.15	Pollutant release to public sewer	0	0	0	0	-
43	4.16	List 1 Dangerous Substances	0	0	0	0	-
43	4.17	List 2 Dangerous Substances	0	0	0	0	-
43	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	0	0	1	-
44	4.19	<u>Pollution inventory substances</u>	0	0	0	5	-
45	4.20	<u>Pollution inventory waste transfers</u>	0	0	0	2	-
49	4.21	<u>Pollution inventory radioactive waste</u>	0	0	0	1	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
50	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
52	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
53	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
54	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
54	5.5	Groundwater vulnerability- local information	None (within 0m)				
55	5.6	<u>Groundwater abstractions</u>	0	0	0	8	26
64	5.7	Surface water abstractions	0	0	0	0	0
64	5.8	Potable abstractions	0	0	0	0	0
65	5.9	<u>Source Protection Zones</u>	1	0	0	2	-
65	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
66	6.1	<u>Water Network (OS MasterMap)</u>	0	1	0	-	-

67	6.2	Surface water features	0	0	0	-	-
67	6.3	<u>WFD Surface water body catchments</u>	1	-	-	-	-
67	6.4	<u>WFD Surface water bodies</u>	0	0	0	-	-
68	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
69	7.1	<u>Risk of flooding from rivers and the sea</u>	High (within 50m)				
70	7.2	Historical Flood Events	0	0	0	-	-
70	7.3	Flood Defences	0	0	0	-	-
70	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
70	7.5	Flood Storage Areas	0	0	0	-	-
71	7.6	<u>Flood Zone 2</u>	Identified (within 50m)				
72	7.7	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
73	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
75	9.1	<u>Groundwater flooding</u>	High (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
76	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
76	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
76	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
76	10.4	Special Protection Areas (SPA)	0	0	0	0	0
77	10.5	National Nature Reserves (NNR)	0	0	0	0	0
77	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
77	10.7	Designated Ancient Woodland	0	0	0	0	0
77	10.8	Biosphere Reserves	0	0	0	0	0
78	10.9	Forest Parks	0	0	0	0	0
78	10.10	Marine Conservation Zones	0	0	0	0	0
78	10.11	Green Belt	0	0	0	0	0
78	10.12	Proposed Ramsar sites	0	0	0	0	0



78	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
79	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
79	10.15	Nitrate Sensitive Areas	0	0	0	0	0
79	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
80	<u>10.17</u>	<u>SSSI Impact Risk Zones</u>	1	-	-	-	-
81	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
82	11.1	World Heritage Sites	0	0	0	-	-
83	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
83	11.3	National Parks	0	0	0	-	-
83	<u>11.4</u>	<u>Listed Buildings</u>	0	0	3	-	-
84	11.5	Conservation Areas	0	0	0	-	-
84	11.6	Scheduled Ancient Monuments	0	0	0	-	-
84	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
85	<u>12.1</u>	<u>Agricultural Land Classification</u>	Urban (within 250m)				
86	12.2	Open Access Land	0	0	0	-	-
86	12.3	Tree Felling Licences	0	0	0	-	-
86	12.4	Environmental Stewardship Schemes	0	0	0	-	-
86	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
87	13.1	Priority Habitat Inventory	0	0	0	-	-
87	13.2	Habitat Networks	0	0	0	-	-
87	13.3	Open Mosaic Habitat	0	0	0	-	-
87	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
88	<u>14.1</u>	<u>10k Availability</u>	Identified (within 500m)				
89	<u>14.2</u>	<u>Artificial and made ground (10k)</u>	0	1	0	4	-
91	<u>14.3</u>	<u>Superficial geology (10k)</u>	1	0	0	2	-

92	14.4	Landslip (10k)	0	0	0	0	-
93	14.5	<u>Bedrock geology (10k)</u>	1	0	0	0	-
94	14.6	Bedrock faults and other linear features (10k)	0	0	0	0	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
95	15.1	<u>50k Availability</u>	Identified (within 500m)				
96	15.2	Artificial and made ground (50k)	0	0	0	0	-
96	15.3	Artificial ground permeability (50k)	0	0	-	-	-
97	15.4	<u>Superficial geology (50k)</u>	1	0	0	2	-
98	15.5	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
98	15.6	Landslip (50k)	0	0	0	0	-
98	15.7	Landslip permeability (50k)	None (within 50m)				
99	15.8	<u>Bedrock geology (50k)</u>	1	0	0	0	-
100	15.9	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
100	15.10	Bedrock faults and other linear features (50k)	0	0	0	0	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
101	16.1	<u>BGS Boreholes</u>	0	1	15	-	-
Page	Section	Natural ground subsidence					
103	17.1	<u>Shrink swell clays</u>	Very low (within 50m)				
104	17.2	<u>Running sands</u>	Very low (within 50m)				
105	17.3	<u>Compressible deposits</u>	Negligible (within 50m)				
106	17.4	<u>Collapsible deposits</u>	Very low (within 50m)				
107	17.5	<u>Landslides</u>	Very low (within 50m)				
108	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
110	18.1	Natural cavities	0	0	0	0	-
111	18.2	BritPits	0	0	0	0	-
111	18.3	<u>Surface ground workings</u>	0	1	1	-	-
111	18.4	Underground workings	0	0	0	0	0
111	18.5	Historical Mineral Planning Areas	0	0	0	0	-



112	18.6	Non-coal mining	0	0	0	0	0
<u>112</u>	<u>18.7</u>	<u>Mining cavities</u>	0	0	0	0	1
<u>112</u>	<u>18.8</u>	<u>JPB mining areas</u>	Identified (within 0m)				
<u>113</u>	<u>18.9</u>	<u>Coal mining</u>	Identified (within 0m)				
113	18.10	Brine areas	None (within 0m)				
113	18.11	Gypsum areas	None (within 0m)				
114	18.12	Tin mining	None (within 0m)				
114	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
<u>115</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>116</u>	<u>20.1</u>	<u>BGS Estimated Background Soil Chemistry</u>	1	0	-	-	-
<u>116</u>	<u>20.2</u>	<u>BGS Estimated Urban Soil Chemistry</u>	5	1	-	-	-
<u>117</u>	<u>20.3</u>	<u>BGS Measured Urban Soil Chemistry</u>	0	1	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
118	21.1	Underground railways (London)	0	0	0	-	-
118	21.2	Underground railways (Non-London)	0	0	0	-	-
118	21.3	Railway tunnels	0	0	0	-	-
118	21.4	Historical railway and tunnel features	0	0	0	-	-
118	21.5	Royal Mail tunnels	0	0	0	-	-
119	21.6	Historical railways	0	0	0	-	-
119	21.7	Railways	0	0	0	-	-
119	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: 0.56ha



Recent site history - 2015 aerial photograph



Capture Date: 11/06/2015

Site Area: 0.56ha



Recent site history - 2009 aerial photograph



Capture Date: 02/06/2009

Site Area: 0.56ha



Recent site history - 2000 aerial photograph

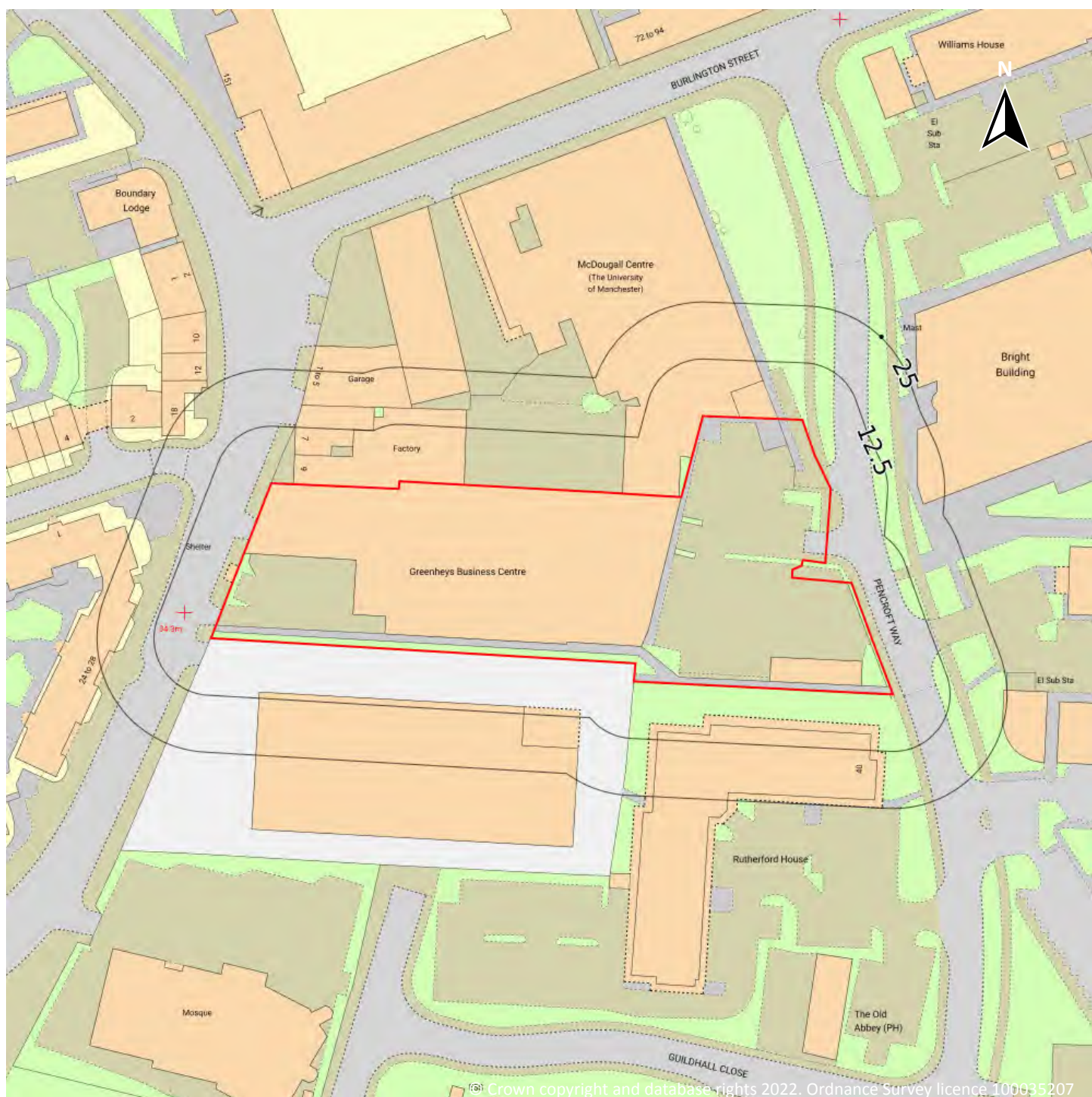


Capture Date: 27/06/2000

Site Area: 0.56ha



OS MasterMap site plan



Site Area: 0.56ha



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

24

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
C	152m NE	Brewery	1923	822704



ID	Location	Land use	Dates present	Group ID
D	205m SW	Police Station	1985 - 1994	898743
D	205m SW	Police Station	1978	907392
E	211m N	Hospital	1956 - 1971	888723
E	211m N	Hospital	1985 - 1994	889041
E	211m N	Hospital	1978	967869
8	223m SW	Brewery	1988 - 1994	946375
9	261m SE	Hospital	1956	834384
12	319m SE	Infirmery	1971	934544
J	327m E	Laundry	1934 - 1938	852808
J	327m E	Laundry	1915	903308
J	332m E	Laundry	1923	923957
L	340m N	Corporation Yard	1915	882266
L	340m N	Corporation Yard	1934 - 1938	891984
L	343m N	Corporation Yard	1923	894742
O	390m NE	Hospital	1915	978354
O	390m NE	Hospital	1934 - 1938	988396
M	392m SW	Electricity Station	1916 - 1923	890897
P	396m SE	Infirmery	1978	923267
P	396m SE	Infirmery	1985 - 1994	924246
Q	397m N	Unspecified Works	1916	830418
Q	425m N	Police Station	1971	832593
16	483m E	Unspecified Works	1915 - 1923	917847
M	494m SW	Police Station	1956 - 1971	908783

This data is sourced from Ordnance Survey / Groundsure.



1.2 Historical tanks

Records within 500m

16

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
6	165m SW	Unspecified Tank	1985 - 1993	142618
C	212m NE	Unspecified Tank	1963 - 1977	145447
E	250m N	Unspecified Tank	1891	115789
G	260m NE	Unspecified Tank	1949	115791
10	268m NW	Unspecified Tank	1891	115790
G	272m NE	Unspecified Tank	1948 - 1951	145356
H	280m S	Unspecified Tank	1950 - 1951	137128
I	280m S	Unspecified Tank	1951	128535
I	280m S	Unspecified Tank	1963	142907
I	281m S	Unspecified Tank	1961	142416
H	286m S	Unspecified Tank	1951	115793
13	356m NW	Unspecified Tank	1891	115792
R	435m SW	Tanks	1989 - 1995	140966
M	456m SW	Tanks	1989 - 1995	127356
R	467m SW	Unspecified Tank	1989 - 1995	131681
M	481m SW	Unspecified Tank	1977 - 1985	123613

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	87m NW	Electricity Substation	1985 - 1998	82837
A	88m NW	Electricity Substation	1985	70233
4	90m S	Electricity Substation	1985 - 1998	67357
E	217m N	Electricity Substation	1997	71999
E	217m N	Electricity Substation	1995	81166
E	218m N	Electricity Substation	1976	65876
7	218m NW	Electricity Substation	1977 - 1993	82490
F	251m W	Electricity Substation	1978 - 1996	78759
F	252m W	Electricity Substation	1988 - 1990	72713
11	282m N	Electricity Substation	1976 - 1997	80266
K	329m NW	Electricity Substation	1976	77058
K	337m NW	Electricity Substation	1997	76100
K	337m NW	Electricity Substation	1995	81497
M	385m SW	Electricity Substation	1922 - 1949	80679
N	388m SW	Electricity Substation	1989 - 1992	65881
N	407m SW	Electricity Substation	1976	80116
N	407m SW	Electricity Substation	1984 - 1989	80039
N	407m SW	Electricity Substation	1992	64418
15	414m SE	Electricity Substation	1989 - 1994	73602
Q	417m N	Electricity Substation	1948 - 1951	84116
S	444m E	Electricity Substation	1987	67118



ID	Location	Land use	Dates present	Group ID
S	446m E	Electricity Substation	1980 - 1998	65163
M	460m SW	Electricity Substation	1908	62142
T	477m NE	Electricity Substation	1987 - 1992	73834
T	478m NE	Electricity Substation	1989	73030
17	490m E	Electricity Substation	1993 - 1998	69691

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m

7

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
1	On site	Garage	1951 - 1961	26752
2	16m N	Garage	1985 - 1998	27461
3	69m E	Garage	1951 - 1961	27462
B	124m E	Garage	1961 - 1963	26831
5	152m NE	Garage	1949 - 1951	26098
B	153m E	Garage	1961	22803



ID	Location	Land use	Dates present	Group ID
14	388m NW	Garage	1955	20301

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

37

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
H	152m NE	Brewery	1923	822704
J	205m SW	Police Station	1988	898743
J	205m SW	Police Station	1978	907392



ID	Location	Land Use	Date	Group ID
J	205m SW	Police Station	1985	898743
J	205m SW	Police Station	1994	898743
K	211m N	Hospital	1971	888723
K	211m N	Hospital	1956	888723
K	211m N	Hospital	1988	889041
K	211m N	Hospital	1978	967869
K	211m N	Hospital	1985	889041
K	211m N	Hospital	1994	889041
1	223m SW	Brewery	1994	946375
2	261m SE	Hospital	1956	834384
R	300m SW	Brewery	1988	946375
4	319m SE	Infirmary	1971	934544
S	327m E	Laundry	1938	852808
S	327m E	Laundry	1934	852808
S	327m E	Laundry	1915	903308
S	332m E	Laundry	1923	923957
U	340m N	Corporation Yard	1938	891984
U	340m N	Corporation Yard	1934	891984
U	340m N	Corporation Yard	1915	882266
U	343m N	Corporation Yard	1923	894742
W	390m NE	Hospital	1938	988396
W	390m NE	Hospital	1934	988396
W	390m NE	Hospital	1915	978354
R	392m SW	Electricity Station	1916	890897
R	396m SW	Electricity Station	1923	890897
X	396m SE	Infirmary	1988	924246
X	396m SE	Infirmary	1978	923267
X	396m SE	Infirmary	1985	924246



ID	Location	Land Use	Date	Group ID
X	396m SE	Infirmery	1994	924246
Y	397m N	Unspecified Works	1916	830418
Y	425m N	Police Station	1971	832593
7	483m E	Unspecified Works	1923	917847
R	494m SW	Police Station	1971	908783
R	494m SW	Police Station	1956	908783

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m

28

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
I	165m SW	Unspecified Tank	1985	142618
I	165m SW	Unspecified Tank	1993	142618
H	212m NE	Unspecified Tank	1977	145447
H	213m NE	Unspecified Tank	1963	145447
K	250m N	Unspecified Tank	1891	115789
N	260m NE	Unspecified Tank	1949	115791
3	268m NW	Unspecified Tank	1891	115790
N	272m NE	Unspecified Tank	1948	145356
N	272m NE	Unspecified Tank	1951	145356
O	280m S	Unspecified Tank	1950	137128
O	280m S	Unspecified Tank	1950	137128
O	280m S	Unspecified Tank	1951	137128
P	280m S	Unspecified Tank	1963	142907
P	280m S	Unspecified Tank	1951	128535



ID	Location	Land Use	Date	Group ID
P	281m S	Unspecified Tank	1961	142416
O	286m S	Unspecified Tank	1951	115793
5	356m NW	Unspecified Tank	1891	115792
AA	435m SW	Tanks	1995	140966
AA	436m SW	Tanks	1989	140966
AA	436m SW	Tanks	1989	140966
R	456m SW	Tanks	1989	127356
R	456m SW	Tanks	1989	127356
R	456m SW	Tanks	1995	127356
AA	467m SW	Unspecified Tank	1995	131681
AA	467m SW	Unspecified Tank	1989	131681
AA	467m SW	Unspecified Tank	1989	131681
R	481m SW	Unspecified Tank	1977	123613
R	482m SW	Unspecified Tank	1985	123613

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m

53

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
D	87m NW	Electricity Substation	1998	82837
D	87m NW	Electricity Substation	1995	82837
D	87m NW	Electricity Substation	1993	82837
D	87m NW	Electricity Substation	1985	82837
D	88m NW	Electricity Substation	1985	70233
E	90m S	Electricity Substation	1985	67357



ID	Location	Land Use	Date	Group ID
E	90m S	Electricity Substation	1998	67357
E	90m S	Electricity Substation	1995	67357
E	90m S	Electricity Substation	1993	67357
E	91m S	Electricity Substation	1985	67357
K	217m N	Electricity Substation	1995	81166
K	217m N	Electricity Substation	1997	71999
K	218m N	Electricity Substation	1976	65876
L	218m NW	Electricity Substation	1993	82490
L	219m NW	Electricity Substation	1977	82490
L	219m NW	Electricity Substation	1985	82490
L	219m NW	Electricity Substation	1985	82490
M	251m W	Electricity Substation	1995	78759
M	251m W	Electricity Substation	1996	78759
M	251m W	Electricity Substation	1978	78759
M	252m W	Electricity Substation	1988	72713
M	252m W	Electricity Substation	1990	72713
Q	282m N	Electricity Substation	1976	80266
Q	283m N	Electricity Substation	1995	80266
Q	283m N	Electricity Substation	1997	80266
T	329m NW	Electricity Substation	1976	77058
T	337m NW	Electricity Substation	1995	81497
T	337m NW	Electricity Substation	1997	76100
R	385m SW	Electricity Substation	1949	80679
V	388m SW	Electricity Substation	1989	65881
V	389m SW	Electricity Substation	1992	65881
R	395m SW	Electricity Substation	1922	80679
V	407m SW	Electricity Substation	1976	80116
V	407m SW	Electricity Substation	1984	80039

ID	Location	Land Use	Date	Group ID
V	407m SW	Electricity Substation	1989	80039
V	407m SW	Electricity Substation	1992	64418
Z	414m SE	Electricity Substation	1989	73602
Z	414m SE	Electricity Substation	1994	73602
Y	417m N	Electricity Substation	1949	84116
Y	417m N	Electricity Substation	1948	84116
Y	417m N	Electricity Substation	1951	84116
AB	444m E	Electricity Substation	1987	67118
AB	446m E	Electricity Substation	1994	65163
AB	446m E	Electricity Substation	1993	65163
AB	446m E	Electricity Substation	1980	65163
AB	446m E	Electricity Substation	1998	65163
R	460m SW	Electricity Substation	1908	62142
AC	477m NE	Electricity Substation	1987	73834
AC	478m NE	Electricity Substation	1989	73030
AC	478m NE	Electricity Substation	1992	73834
AD	490m E	Electricity Substation	1994	69691
AD	490m E	Electricity Substation	1993	69691
AD	490m E	Electricity Substation	1998	69691

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

16

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
A	On site	Garage	1961	26752
A	On site	Garage	1951	26752
B	16m N	Garage	1985	27461
B	17m N	Garage	1998	27461
B	17m N	Garage	1995	27461
B	17m N	Garage	1993	27461
B	17m N	Garage	1985	27461
C	69m E	Garage	1961	27462
C	73m E	Garage	1951	27462
F	124m E	Garage	1961	26831
F	125m E	Garage	1963	26831
G	152m NE	Garage	1949	26098
G	153m NE	Garage	1949	26098
G	153m NE	Garage	1951	26098
F	153m E	Garage	1961	22803
6	388m NW	Garage	1955	20301

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

1

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

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

ID	Location	Details		
5	495m SW	Site Address: Moss Side Shopping Centre, Hulme, Manchester Licence Holder Address: -	Waste Licence: Yes Site Reference: F061,0103, RD/LIC/1036/93 Waste Type: Inert, Industrial Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 11/04/1994 Licence Surrender: -	Operator: - Licence Holder: Demolition Service Limited First Recorded 31/05/1994 Last Recorded: 05/06/1995

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

3.5 Historical waste sites

Records within 500m

0

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

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

3.6 Licensed waste sites

Records within 500m

0

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

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



3.7 Waste exemptions

Records within 500m	13
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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
1	139m E	ESU Depot off Upper Lloyd Street Manchester M15 6HS	EPR/DH0971N U/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
2	368m E	University of Manchester Student Union, Oxford Road, Manchester, M13 9PR	WEX077879	Using waste exemption	Not on a farm	Use of waste in construction
3	407m NE	323, OXFORD ROAD, MANCHESTER, M13 9PS	WEX281710	Using waste exemption	Not on a farm	Use of waste in construction
4	452m S	-	WEX264732	Treating waste exemption	Not on a farm	Sorting and de-naturing of controlled drugs for disposal
A	468m E	Whitworth Park, 316 Oxford Road, Manchester, M13 9WJ	WEX301811	Storing waste exemption	Not on a Farm	Storage of waste in a secure place
A	468m E	Whitworth Park, 316 Oxford Road, Manchester, M13 9WJ	WEX167912	Storing waste exemption	Not on a farm	Storage of waste in a secure place
A	468m E	Whitworth Park, 316 Oxford Road, Manchester, M13 9WJ	WEX006102	Storing waste exemption	Not on a farm	Storage of waste in a secure place
B	474m NE	OXFORD ROAD, MANCHESTER, M13 9PL	WEX301809	Treating waste exemption	Not on a Farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising
B	474m NE	OXFORD ROAD, MANCHESTER, M13 9PL	WEX301817	Storing waste exemption	Not on a Farm	Storage of waste in a secure place
B	474m NE	OXFORD ROAD, MANCHESTER, M13 9PL	WEX301824	Treating waste exemption	Not on a Farm	Preparatory treatments (baling, sorting, shredding etc)
B	474m NE	OXFORD ROAD, MANCHESTER, M13 9PL	WEX167792	Treating waste exemption	Not on a farm	Treatment of waste wood and waste plant matter by chipping, shredding, cutting or pulverising

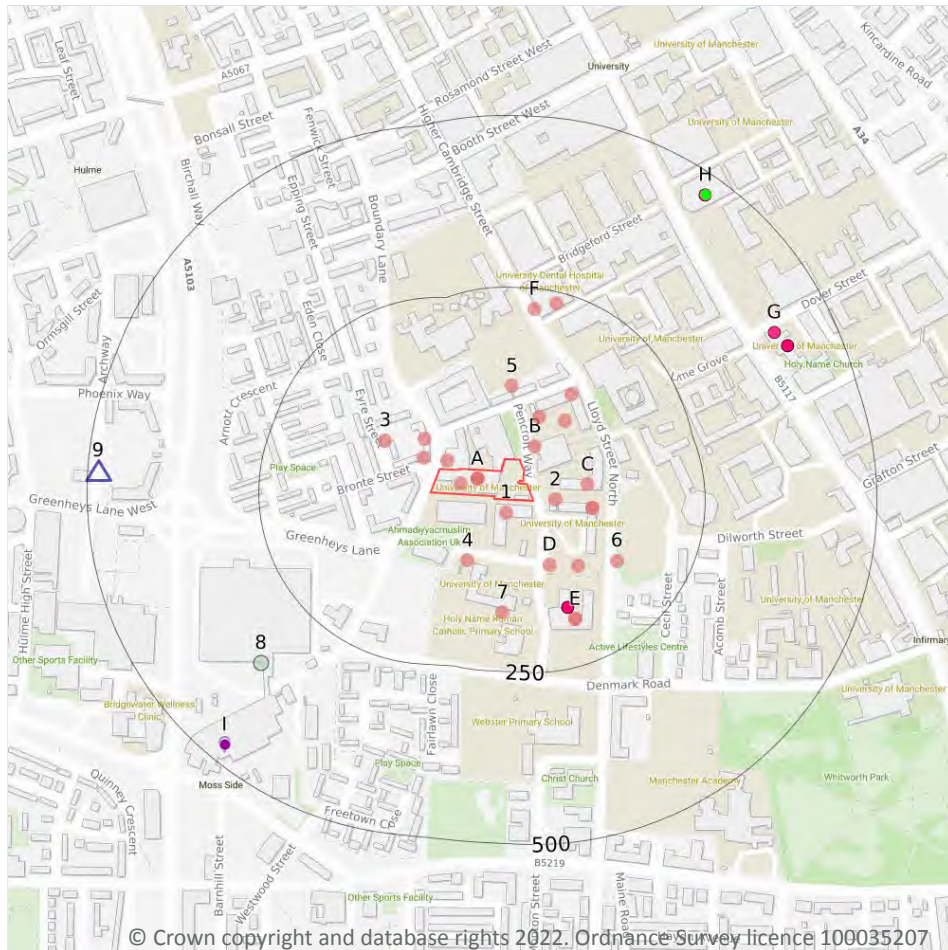


ID	Location	Site	Reference	Category	Sub-Category	Description
B	474m NE	OXFORD ROAD, MANCHESTER, M13 9PL	WEX167831	Treating waste exemption	Not on a farm	Preparatory treatments (baling, sorting, shredding etc)
B	474m NE	OXFORD ROAD, MANCHESTER, M13 9PL	WEX167918	Storing waste exemption	Not on a farm	Storage of waste in a secure place

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
- △ Current or recent petrol stations
- ⬮ Part A(1) industrial activities
- Radioactive Substance Authorisations
- Pollution Incidents (EA/NRW)
- Pollution inventory substances
- Pollution inventory waste transfers
- Pollution inventory radioactive waste

4.1 Recent industrial land uses

Records within 250m

27

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	On site	Idvac	Unit 15 Greenheys Business Centre, Pencroft Way, Manchester, Greater Manchester, M15 6JJ	Industrial Coatings and Finishings	Industrial Products
A	On site	Greendisti Ltd	Unit 15, Greenheys Business Centre, 10, Pencroft Way, Manchester, Greater Manchester, M15 6JJ	Distribution and Haulage	Transport, Storage and Delivery



ID	Location	Company	Address	Activity	Category
A	On site	Posture Care Ltd	Unit 21 Greenheys Business Centre 10, Pencroft Way, Manchester, Greater Manchester, M15 6JJ	Industrial Repairs and Servicing	Repair and Servicing
A	On site	Greenheys Business Centre	Greater Manchester, M15	Business Parks and Industrial Estates	Industrial Features
A	13m N	Factory	Greater Manchester, M15	Unspecified Works Or Factories	Industrial Features
1	19m S	Premaita Health	Unit 1 Rutherford House, Pencroft Way, Manchester, Greater Manchester, M15 6SZ	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
A	29m NW	Machete Records & Productions	18b, Greenheys Lane, Manchester, Greater Manchester, M15 6NQ	Recording Studios and Record Companies	IT, Advertising, Marketing and Media Services
B	29m NE	Mast	Greater Manchester, M15	Telecommunications Features	Infrastructure and Facilities
2	32m E	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
A	49m NW	Cedric's Motors	1, Greenheys Lane, Manchester, Greater Manchester, M15 6NQ	Vehicle Repair, Testing and Servicing	Repair and Servicing
B	68m NE	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
C	82m E	Ellab Validation & Monitoring Solutions	Unit 9 Kilburn House, Lloyd Street North, Manchester, Greater Manchester, M15 6SE	Electronic Equipment	Industrial Products
C	86m E	James Fisher Mimic Marine Services	Unit 1 Enterprise House, Lloyd Street North, Manchester, Greater Manchester, M15 6SE	Marine Engineers and Services	Engineering Services
C	86m E	Your Gene Health Plc	Enterprise House, Lloyd Street North, Manchester Science Park, Manchester, Greater Manchester, M15 6SE	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
B	87m NE	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
3	90m NW	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
D	96m S	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
4	96m S	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
5	106m N	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
D	114m SE	Science Park	Greater Manchester, M15	Business Parks and Industrial Estates	Industrial Features
B	121m NE	Astra Telematics	Unit 7, Williams House, Lloyd Street North, Manchester, Greater Manchester, M15 6SE	Vehicle Components	Industrial Products
6	149m SE	Mast (Telecommunication)	Greater Manchester, M15	Telecommunications Features	Infrastructure and Facilities
7	165m S	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
E	182m S	Qiagen	Skelton House, Lloyd Street North, Manchester, Greater Manchester, M15 6SH	Medical Equipment, Supplies and Pharmaceuticals	Industrial Products
E	182m S	Qiagen	Skelton House, Lloyd Street North, Manchester, Greater Manchester, M15 6SH	Industrial Repairs and Servicing	Repair and Servicing
F	220m N	Electricity Sub Station	Greater Manchester, M15	Electrical Features	Infrastructure and Facilities
F	233m N	University Dental Hospital of Manchester	Dental Hospital, Higher Cambridge Street, Manchester, Greater Manchester, M15 6FH	Hospitals	Health Practitioners and Establishments

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m

1

Open, closed, under development and obsolete petrol stations.

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

ID	Location	Company	Address	LPG	Status
9	485m W	ASDA	Greenhays Lane West, Archway, Hulme, Manchester, Greater Manchester, M15 5AQ	No	Open

This data is sourced from Experian.



4.3 Electricity cables

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

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	0
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High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	0
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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
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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
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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

28

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

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

ID	Location	Details	
I	474m SW	Operator: HEINEKEN UK LIMITED Installation Name: ROYAL BREWERY, MANCHESTER - EPR/BV7796IW Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: QP3104PJ Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 29/10/2019 Effective Date: 29/10/2019 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: HEINEKEN UK LTD Installation Name: ROYAL BREWERY MANCHESTER Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: LP3732VH Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 28/08/2014 Effective Date: 28/08/2014 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: ONDEO INDUSTRIAL SOLUTIONS LIMITED Installation Name: ROYAL BREWERY EPR/CP3531GM Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: CP3531GM Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 01/04/2009 Effective Date: 01/04/2009 Last date noted as effective: 13/06/2022 Status: SUPERCEDED

ID	Location	Details	
I	474m SW	Operator: ONDEO INDUSTRIAL SOLUTIONS LIMITED Installation Name: ROYAL BREWERY EPR/CP3531GM Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: HP3836KU Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 15/03/2010 Effective Date: 15/03/2010 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: ONDEO INDUSTRIAL SOLUTIONS LIMITED Installation Name: ROYAL BREWERY EPR/CP3531GM Process: ASSOCIATED PROCESS Permit Number: ZP3037VD Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 23/06/2014 Effective Date: 23/06/2014 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: HEINEKEN UK LIMITED Installation Name: ROYAL BREWERY, MANCHESTER - EPR/BV7796IW Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: FP3905BE Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 21/08/2020 Effective Date: 21/08/2020 Last date noted as effective: 13/06/2022 Status: EFFECTIVE
I	474m SW	Operator: HEINEKEN UK LIMITED Installation Name: ROYAL BREWERY, MANCHESTER - EPR/BV7796IW/V010 Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: HP3330JX Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 26/02/2018 Effective Date: 26/02/2018 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: HEINEKEN UK LTD Installation Name: ROYAL BREWERY MANCHESTER Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: DP3530YY Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 18/04/2017 Effective Date: 18/04/2017 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: HEINEKEN UK LTD Installation Name: ROYAL BREWERY MANCHESTER Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: KP3830WK Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 05/12/2014 Effective Date: 05/12/2014 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: HEINEKEN UK LTD Installation Name: ROYAL BREWERY Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: BV7796IW Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 22/12/2005 Effective Date: 22/12/2005 Last date noted as effective: 13/06/2022 Status: SUPERCEDED



ID	Location	Details	
I	474m SW	Operator: HEINEKEN UK LTD Installation Name: ROYAL BREWERY Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: SP3736UP Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 02/07/2008 Effective Date: 01/08/2008 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: HEINEKEN UK LTD Installation Name: ROYAL BREWERY Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: UP3131UM Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 06/02/2008 Effective Date: 22/02/2008 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: ONDEO INDUSTRIAL SOLUTIONS LIMITED Installation Name: ROYAL BREWERY EPR/CP3531GM Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: KP3630WM Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 05/12/2014 Effective Date: 05/12/2014 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: ONDEO INDUSTRIAL SOLUTIONS LIMITED Installation Name: ROYAL BREWERY EPR/CP3531GM Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: ZP3037VD Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 23/06/2014 Effective Date: 23/06/2014 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: ONDEO INDUSTRIAL SOLUTIONS LIMITED Installation Name: ROYAL BREWERY EPR/CP3531GM Process: ASSOCIATED PROCESS Permit Number: CP3531GM Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 01/04/2009 Effective Date: 01/04/2009 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: ONDEO INDUSTRIAL SOLUTIONS LIMITED Installation Name: ROYAL BREWERY EPR/CP3531GM Process: ASSOCIATED PROCESS Permit Number: HP3836KU Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 15/03/2010 Effective Date: 15/03/2010 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: ONDEO INDUSTRIAL SOLUTIONS LIMITED Installation Name: ROYAL BREWERY EPR/CP3531GM Process: ASSOCIATED PROCESS Permit Number: KP3630WM Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 05/12/2014 Effective Date: 05/12/2014 Last date noted as effective: 13/06/2022 Status: SUPERCEDED



ID	Location	Details	
I	474m SW	Operator: HEINEKEN UK LTD Installation Name: ROYAL BREWERY Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: DP3431LK Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 27/11/2006 Effective Date: 27/11/2006 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: HEINEKEN UK LTD Installation Name: ROYAL BREWERY Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: JP3631CT Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 06/11/2012 Effective Date: 06/11/2012 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: HEINEKEN UK LTD Installation Name: ROYAL BREWERY MANCHESTER Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: QP3438EM Original Permit Number: BV7796IW	EPR Reference: - Issue Date: 26/03/2014 Effective Date: 26/03/2014 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: SUEZ INDUSTRIAL WATER LTD Installation Name: ROYAL BREWERY EPR/CP3531GM Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: FP3105BQ Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 21/08/2020 Effective Date: 21/08/2020 Last date noted as effective: 13/06/2022 Status: EFFECTIVE
I	474m SW	Operator: SUEZ INDUSTRIAL WATER LTD Installation Name: ROYAL BREWERY EPR/CP3531GM Process: ASSOCIATED PROCESS Permit Number: RP3335DD Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 30/06/2016 Effective Date: 30/06/2016 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: VWS (UK) LTD Installation Name: ROYAL BREWERY EFFLUENT TREATMENT PLANT Process: ANIMAL VEGETABLE AND FOOD; TREATING ETC VEGETABLE RAW MATERIALS FOR FOOD >300T/D Permit Number: EP3637PU Original Permit Number: EP3637PU	EPR Reference: - Issue Date: 13/01/2006 Effective Date: 13/01/2006 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: VWS (UK) LTD Installation Name: ROYAL BREWERY EFFLUENT TREATMENT PLANT Process: ASSOCIATED PROCESS Permit Number: EP3637PU Original Permit Number: EP3637PU	EPR Reference: - Issue Date: 13/01/2006 Effective Date: 13/01/2006 Last date noted as effective: 13/06/2022 Status: SUPERCEDED



ID	Location	Details	
I	474m SW	Operator: SUEZ INDUSTRIAL WATER LTD Installation Name: ROYAL BREWERY EPR/CP3531GM Process: ASSOCIATED PROCESS Permit Number: FP3105BQ Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 21/08/2020 Effective Date: 21/08/2020 Last date noted as effective: 13/06/2022 Status: EFFECTIVE
I	474m SW	Operator: SUEZ INDUSTRIAL WATER LTD Installation Name: ROYAL BREWERY EPR/CP3531GM Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: RP3335DD Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 30/06/2016 Effective Date: 30/06/2016 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: SUEZ INDUSTRIAL WATER LTD Installation Name: ROYAL BREWERY EPR/CP3531GM Process: ASSOCIATED PROCESS Permit Number: UP3232YC Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 08/05/2017 Effective Date: 08/05/2017 Last date noted as effective: 13/06/2022 Status: SUPERCEDED
I	474m SW	Operator: SUEZ INDUSTRIAL WATER LTD Installation Name: ROYAL BREWERY EPR/CP3531GM Process: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Permit Number: UP3232YC Original Permit Number: CP3531GM	EPR Reference: - Issue Date: 08/05/2017 Effective Date: 08/05/2017 Last date noted as effective: 13/06/2022 Status: SUPERCEDED

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

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

Records within 500m

0

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.

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

26

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

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



ID	Location	Address	Details	
E	162m S	Medeval Ltd, Skelton House,manchester Science Park,lloyd Street North, Manchester, Greater Manchester, M15 6SH	Operator: Medeval Ltd Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AC8533 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Superseded By Variation
E	162m S	Medeval Ltd, Skelton House,manchester Science Park,lloyd Street North, Manchester, Greater Manchester, M15 6SH	Operator: Medeval Ltd Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AC8533 Date of approval: 12/05/2006	Effective from: 12/05/2006 Last date of update: 01/01/2015 Status: Revoked/cancelled
E	162m S	Medeval Ltd, Skelton House, Manchester Science Park, Lloyd Street North, Manchester, Greater Manchester, M15 6SH	Operator: Medeval Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AC8525 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Superseded By Variation
E	162m S	Medeval Ltd, Skelton House, Manchester Science Park, Lloyd Street North, Manchester, Greater Manchester, M15 6SH	Operator: Medeval Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AC8525 Date of approval: 01/12/2003	Effective from: 01/01/2004 Last date of update: 01/01/2015 Status: Superseded By Variation
E	162m S	Cyprotex Discovery Ltd, Skelton House, Manchester Science Park, Lloyd Street North, Manchester, Greater Manchester, M15 6SH	Operator: Cyprotex Discovery Ltd Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BL8023 Date of approval: 04/10/2001	Effective from: 01/11/2001 Last date of update: 01/01/2015 Status: Superseded By Variation
E	162m S	Skelton House, Manchester Science Park, Lloyd Street North, Manchester, M15 6SH	Operator: Icon Development Solutions Limited Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BY5455 Date of approval: 12/05/2006	Effective from: - Last date of update: 01/01/2020 Status: Surrendered
G	413m NE	University Of Manchester, 327 Oxford Road, Manchester, Greater Manchester, M13 9PG	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AD0180 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled
G	423m NE	University Of Manchester, North Campus,sackville Street, Manchester, M60 1QD	Operator: University Of Manchester Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: BX8653 Date of approval: 01/10/2004	Effective from: 01/10/2004 Last date of update: 01/04/2005 Status: Effective



ID	Location	Address	Details	
G	423m NE	University Of Manchester, Health And Safety Services, Radiological Protection, 327 Oxford Road, Manchester, Greater Manchester, M13 9PG	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG3983 Date of approval: 20/10/1994	Effective from: 20/11/1994 Last date of update: 01/01/2015 Status: Superseded By Variation
G	423m NE	University Of Manchester, Health And Safety Services, Radiological Protection, 327 Oxford Road, Manchester, Greater Manchester, M13 9PG	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG3983 Date of approval: 16/02/1996	Effective from: 16/02/1996 Last date of update: 01/01/2015 Status: Superseded By Variation
G	423m NE	University Of Manchester, Health And Safety Services, Radiological Protection, 327 Oxford Road, Manchester, Greater Manchester, M13 9PG	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG3983 Date of approval: 10/07/1997	Effective from: 01/11/1997 Last date of update: 01/01/2015 Status: Superseded By Variation
G	423m NE	University Of Manchester, Health And Safety Services, Radiological Protection, 327 Oxford Road, Manchester, Greater Manchester, M13 9PG	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG3983 Date of approval: 11/09/2001	Effective from: 09/10/2001 Last date of update: 01/01/2015 Status: Superseded By Variation
G	423m NE	University Of Manchester, Health And Safety Services, Radiological Protection, 327 Oxford Road, Manchester, Greater Manchester, M13 9PG	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG3983 Date of approval: 28/02/2002	Effective from: 01/04/2002 Last date of update: 01/01/2015 Status: Superseded By Variation
G	423m NE	University Of Manchester, Health And Safety Services, Radiological Protection, 327 Oxford Road, Manchester, Greater Manchester, M13 9PG	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AG3983 Date of approval: 01/12/2003	Effective from: 01/01/2004 Last date of update: 01/01/2015 Status: Revoked/cancelled
H	470m NE	University Of Manchester, South Campus, Oxford Road, Manchester, M13 9PL	Operator: University Of Manchester Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: BX8556 Date of approval: 27/01/2006	Effective from: 27/01/2006 Last date of update: 06/04/2006 Status: Effective
H	470m NE	University Of Manchester, South Campus, Oxford Road, Manchester, M13 9PL	Operator: University Of Manchester Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: BX8556 Date of approval: 22/08/2006	Effective from: 22/08/2006 Last date of update: 01/10/2006 Status: Effective



ID	Location	Address	Details	
H	470m NE	University Of Manchester, Oxford Road, Manchester, Greater Manchester, M13 9PL	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: AD0155 Date of approval: 31/03/1991	Effective from: 31/03/1991 Last date of update: 01/01/2015 Status: Revoked/cancelled
H	470m NE	Victoria University Of Manchester, Oxford Road, Manchester, Greater Manchester, M13 9PL	Operator: Victoria University Of Manchester Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AP8713 Date of approval: 16/08/1999	Effective from: 16/08/1999 Last date of update: 01/01/2015 Status: Superseded By Variation
H	470m NE	Central Manchester University Hospitals Nhs Foundation Trust, Radiological Protection Service, 327 Oxford Road, Manchester, M13 9PL	Operator: Central Manchester University Hospitals Nhs Foundation Trust Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AP9353 Date of approval: 06/03/1998	Effective from: 06/03/1998 Last date of update: 01/01/2015 Status: Superseded By Variation
H	470m NE	Central Manchester University Hospitals Nhs Foundation Trust, Radiological Protection Service, 327 Oxford Road, Manchester, M13 9PL	Operator: Central Manchester University Hospitals Nhs Foundation Trust Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AP9353 Date of approval: 19/11/2001	Effective from: 19/11/2001 Last date of update: 01/01/2015 Status: Superseded By Variation
H	470m NE	Central Manchester University Hospitals Nhs Foundation Trust, Radiological Protection Service, 327 Oxford Road, Manchester, M13 9PL	Operator: Central Manchester University Hospitals Nhs Foundation Trust Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AP9353 Date of approval: 19/09/2005	Effective from: 19/09/2005 Last date of update: 01/01/2015 Status: Superseded By Variation
H	470m NE	Central Manchester University Hospitals Nhs Foundation Trust, Radiological Protection Service, 327 Oxford Road, Manchester, M13 9PL	Operator: Central Manchester University Hospitals Nhs Foundation Trust Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: AP9353 Date of approval: 26/10/2006	Effective from: 26/10/2006 Last date of update: 01/01/2015 Status: Superseded By Variation



ID	Location	Address	Details	
H	470m NE	University Of Manchester, South Campus, Oxford Road, Manchester, M13 9PL	Operator: University Of Manchester Type: Keeping And Use Of Radioactive Materials (was Rsa60 Section 1). Permission number: BX8548 Date of approval: 01/10/2004	Effective from: 01/10/2004 Last date of update: 01/01/2015 Status: Effective
H	470m NE	University Of Manchester, South Campus, Oxford Road, Manchester, M13 9PL	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BX8564 Date of approval: 02/09/2004	Effective from: 01/10/2004 Last date of update: 01/01/2015 Status: Superseded By Variation
H	470m NE	University Of Manchester, South Campus, Oxford Road, Manchester, M13 9PL	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BX8564 Date of approval: 28/06/2005	Effective from: 22/07/2005 Last date of update: 01/01/2015 Status: Superseded By Variation
H	470m NE	University Of Manchester, South Campus, Oxford Road, Manchester, M13 9PL	Operator: University Of Manchester Type: Disposal Of Radioactive Waste (was Rsa60 Section 6). Permission number: BX8564 Date of approval: 08/12/2006	Effective from: 03/12/2007 Last date of update: 01/01/2015 Status: Effective

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	
8	350m SW	Incident Date: 13/05/2003 Incident Identification: 158099 Pollutant: Inorganic Chemicals/Products Pollutant Description: Acids	Water Impact: Category 3 (Minor) Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m

5

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.

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

ID: I, Location: 474m SW, Permit: CP3531GM
 Operator: Suez Industrial Water Ltd
 Activity: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT
 Address: Royal Brewery Denmark Road Moss Side Greater Manchester M15 6LD
 Sector: Food & Drink, Sub-sector: Food & Drink
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Wastewater	Nitrogen - as total N	50000kg	Below Reporting Threshold
Air	Carbon dioxide	10000000kg	Below Reporting Threshold
Wastewater	Cadmium	1kg	Below Reporting Threshold
Wastewater	Mercury	0.1kg	Below Reporting Threshold

ID: I, Location: 474m SW, Permit: BV7796IW
 Operator: HEINEKEN UK LIMITED
 Activity: Animal vegetable and food treating etc vegetable
 Address: ROYAL BREWERY DENMARK ROAD Greater Manchester M15 6LD
 Sector: Food & Drink, Sub-sector: Food & Drink
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Wastewater	Total organic carbon (TOC)	50000kg	182522.8kg

ID: I, Location: 474m SW, Permit: BV7796IW
 Operator: HEINEKEN UK LIMITED
 Activity: Animal vegetable and food treating etc vegetable
 Address: ROYAL BREWERY DENMARK ROAD Greater Manchester M15 6LD
 Sector: Food & Drink, Sub-sector: Food & Drink
 Releases:



Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Carbon dioxide	10000000kg	27534330kg

ID: I, Location: 474m SW, Permit: CP3531GM
 Operator: Suez Industrial Water Ltd
 Activity: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT
 Address: Royal Brewery Denmark Road Moss Side Greater Manchester M15 6LD
 Sector: Food & Drink, Sub-sector: Food & Drink
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Wastewater	Total organic carbon (TOC)	50000kg	182522kg

ID: I, Location: 474m SW, Permit: BV7796IW
 Operator: HEINEKEN UK LIMITED
 Activity: Animal vegetable and food treating etc vegetable
 Address: ROYAL BREWERY DENMARK ROAD Greater Manchester M15 6LD
 Sector: Food & Drink, Sub-sector: Food & Drink
 Releases:

Route	Substance	Reporting threshold (kg)	Quantity (kg)
Air	Sulphur oxides (SO2 and SO3) as SO2	100000kg	Below Reporting Threshold
Wastewater	Nitrogen - as total N	50000kg	Below Reporting Threshold
Wastewater	Phosphorus - as total P	5000kg	Below Reporting Threshold
Air	Carbon monoxide	100000kg	Below Reporting Threshold
Air	Nitrogen oxides (NO and NO2) as NO2	100000kg	Below Reporting Threshold
Air	Particulate matter - total	10000kg	Below Reporting Threshold

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

4.20 Pollution inventory waste transfers

Records within 500m

2

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.



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

ID: I, Location: 474m SW, Permit: CP3531GM
 Operator: Suez Industrial Water Ltd
 Activity: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT
 Address: Royal Brewery Denmark Road Moss Side Greater Manchester M15 6LD
 Sector: Food & Drink, Sub-sector: Food & Drink
 Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R11	Use of wastes obtained from any of the operations numbered R1 to R10	0.1	Absolute Value	16 05 06	laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals	1
R10	Land treatment resulting in benefit to agriculture or ecological improvement	1131.66	Absolute Value	02 07 05	sludges from on-site effluent treatment	0

ID: I, Location: 474m SW, Permit: BV7796IW
 Operator: HEINEKEN UK LIMITED
 Activity: Animal vegetable and food treating etc vegetable
 Address: ROYAL BREWERY DENMARK ROAD Greater Manchester M15 6LD
 Sector: Food & Drink, Sub-sector: Food & Drink
 Releases:

Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	40.558	Absolute Value	17 01 07	mixtures of concrete, bricks, tiles and ceramics other than those mentioned in 17 01 06	0
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.2	Absolute Value	13 03 07	mineral-based non-chlorinated insulating and heat transmission oils	1
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.468	Absolute Value	15 01 10	packaging containing residues of or contaminated by dangerous substances	1



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
D15	Storage pending any of the operations numbered D1 to D14 (excluding temporary storage pending collection, on the site where it is produced)	0.2	Absolute Value	16 10 02	aqueous liquid wastes other than those mentioned in 16 10 01	0
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.25	Absolute Value	16 01 21	hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14	1
R4	Recycling/reclamation of metals and metal compounds	0.375	Absolute Value	20 01 21	fluorescent tubes and other mercury-containing waste	1
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	6.055	Absolute Value	20 01 35	discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components (6)	1
R4	Recycling/reclamation of metals and metal compounds	69	Absolute Value	20 01 40	metals	0
R1	Use principally as a fuel or other means to generate energy	161.833	Absolute Value	20 03 01	mixed municipal waste	0
R10	Land treatment resulting in benefit to agriculture or ecological improvement	580.293	Absolute Value	02 07 01	wastes from washing, cleaning and mechanical reduction of raw materials	0
R10	Land treatment resulting in benefit to agriculture or ecological improvement	631.346	Absolute Value	02 07 04	materials unsuitable for consumption or processing	0
R5	Recycling/reclamation of other inorganic materials	231.76	Absolute Value	15 01 01	paper and cardboard packaging	0
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.115	Absolute Value	08 03 12	waste ink containing dangerous substances	1
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.1	Absolute Value	16 02 13	discarded equipment containing hazardous components (2) other than those mentioned in 16 02 09 to 16 02 12	1



Route	Route description	Quantity (tonnes)	Release level	EWC code	EWC description	Hazardous waste
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	1	Absolute Value	16 03 05	organic wastes containing dangerous substances	1
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.1	Absolute Value	16 05 04	gases in pressure containers (including halons) containing dangerous substances	1
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.1	Absolute Value	16 06 01	lead batteries	1
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	35.487	Absolute Value	15 01 02	plastic packaging	0
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	1.6	Absolute Value	14 06 03	other solvents and solvent mixtures	1
R13	Storage of wastes pending any of the operations numbered R1 to R12 (excluding temporary storage, pending collection, on the site where it is produced)	0.687	Absolute Value	15 02 02	absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances	1
R5	Recycling/reclamation of other inorganic materials	7.08	Absolute Value	15 01 03	wooden packaging	0
R4	Recycling/reclamation of metals and metal compounds	110.04	Absolute Value	15 01 04	metallic packaging	0

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



4.21 Pollution inventory radioactive waste

Records within 500m

1

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.

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

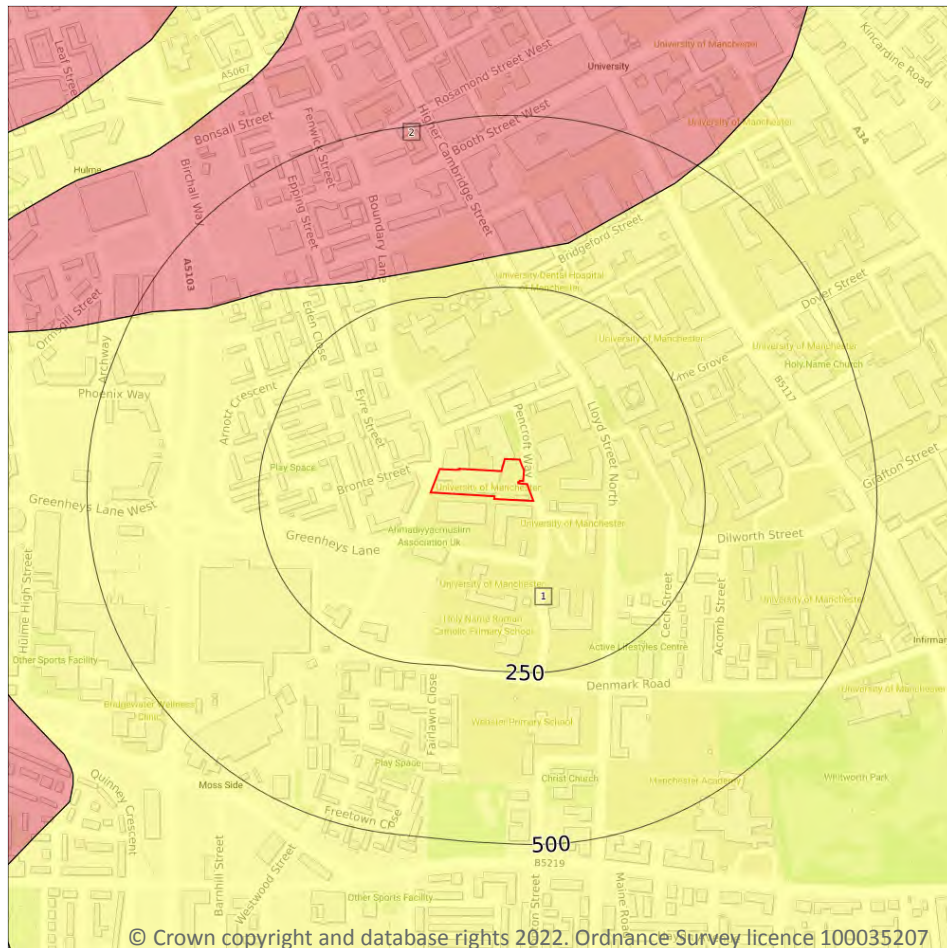
ID: H, Location: 470m NE, Permit: BX8564
Operator: UNIVERSITY OF MANCHESTER
Address: SOUTH CAMPUS OXFORD ROAD MANCHESTER M13 9PL
Releases:

Route	Substance	Quantity released
Wastewater	Phosphorus 32	7.4MBq -
Wastewater	Phosphorus 33	- -
Wastewater	Other Beta/Gamma	2.03MBq -
Wastewater	Sulphur 35	1272.88MBq -
Wastewater	Other Alpha Particulate	- -
Wastewater	Uranium Alpha	- -

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 50**

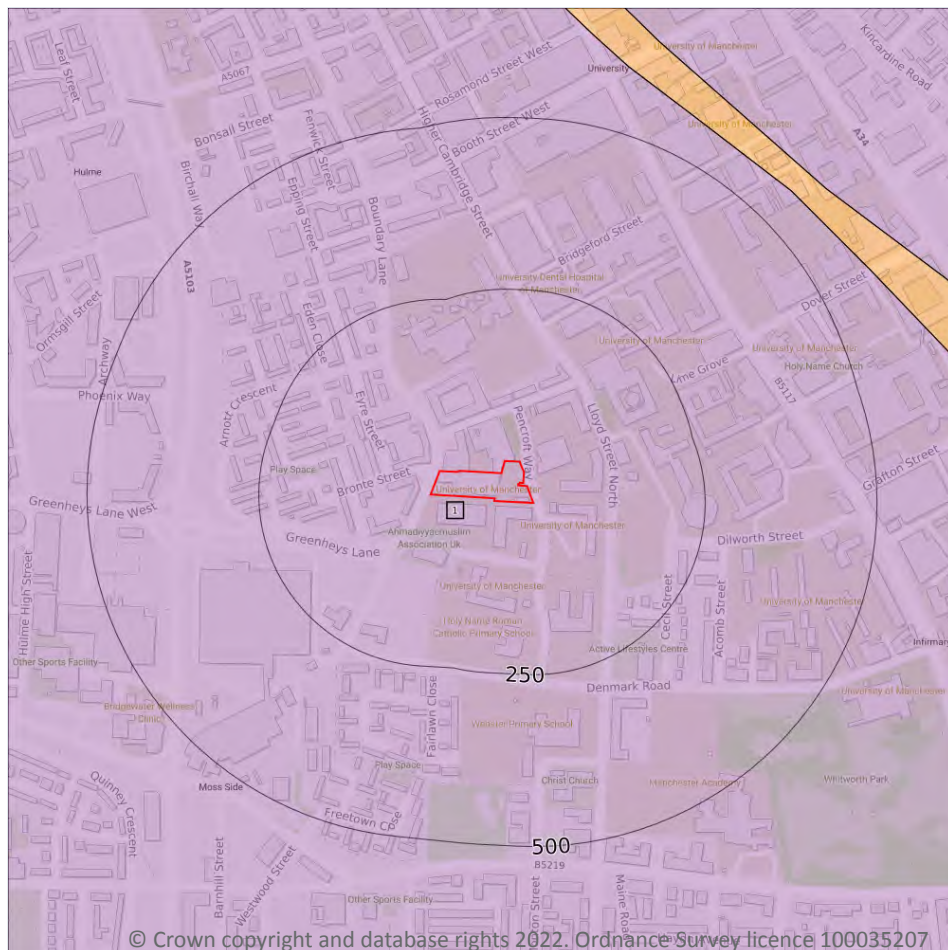
ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	289m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers



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

1

Aquifer status of groundwater held within bedrock geology.

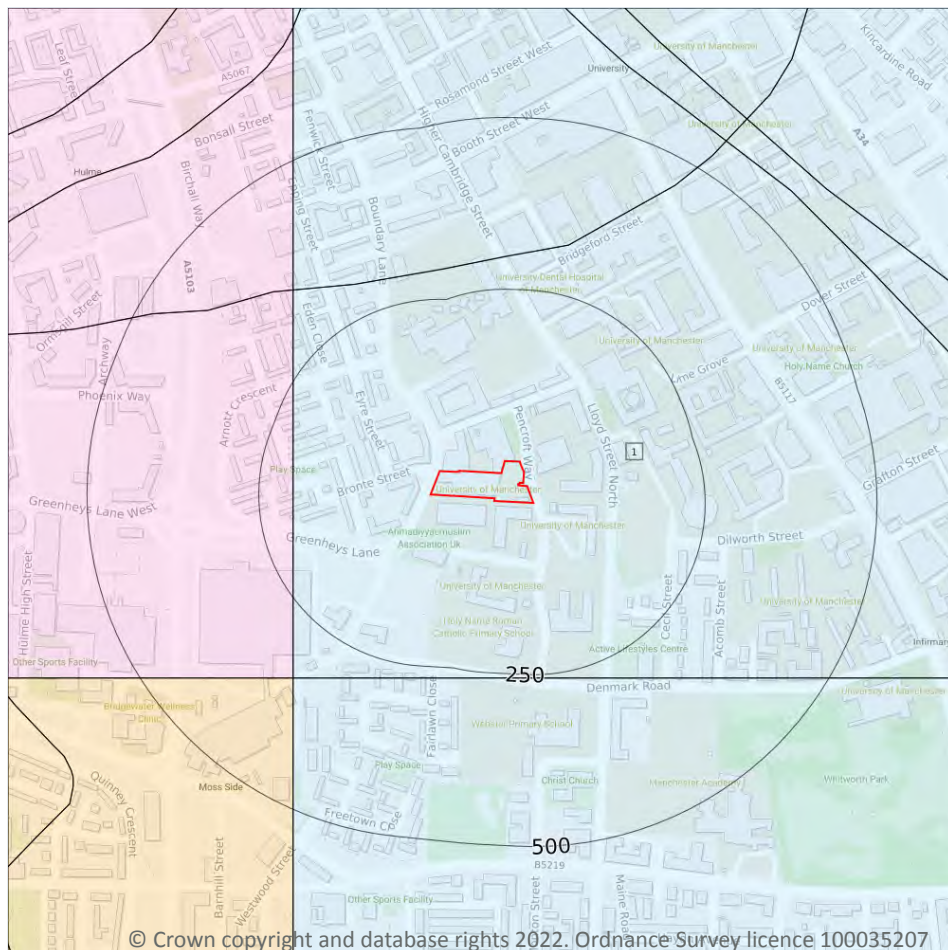
Features are displayed on the Bedrock aquifer map on [page 52](#)

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

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



Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

1

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 53**

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

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

5.4 Groundwater vulnerability- soluble rock risk

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

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

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

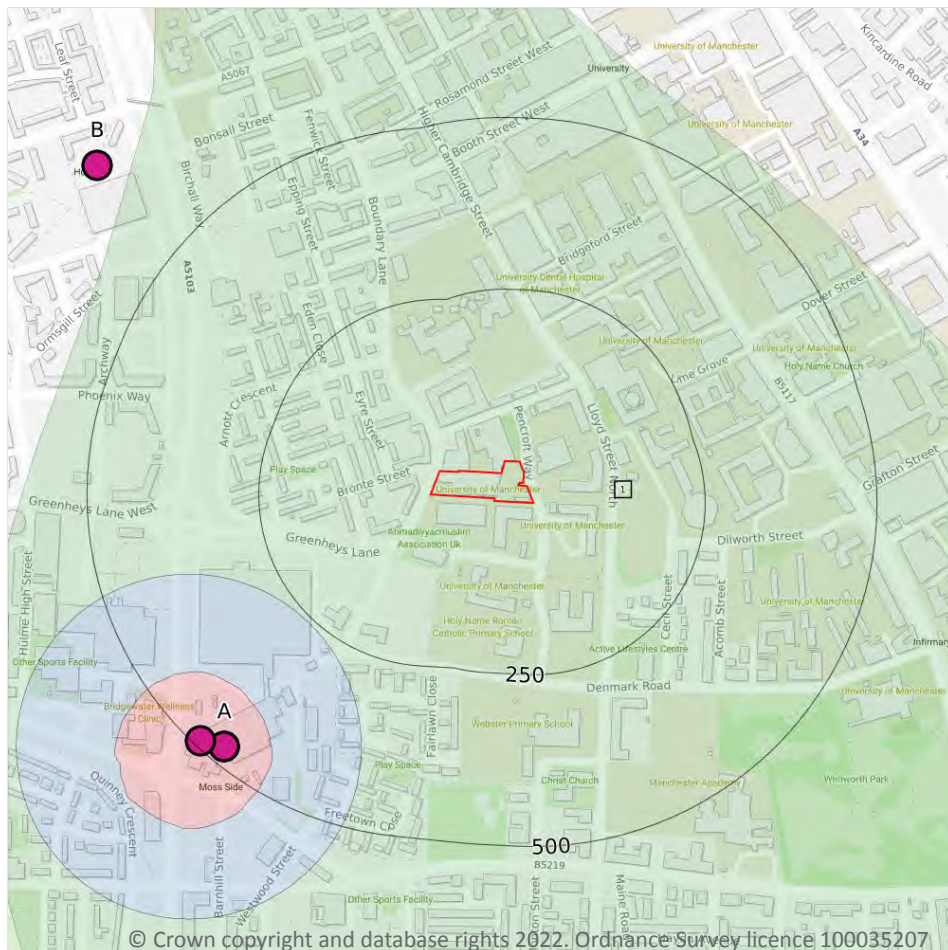
5.5 Groundwater vulnerability- local information

Records on site	0
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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
Point features
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

34

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 55**

ID	Location	Details	
A	474m SW	Status: Historical Licence No: 2569007007 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER" Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/08/1995 Version End Date: -
A	474m SW	Status: Historical Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER" Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 16/08/1995 Version End Date: -
A	474m SW	Status: Historical Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 31/12/2003 Version End Date: -
A	474m SW	Status: Historical Licence No: 2569007007 Details: Process water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS SIDE, MANCHESTER Data Type: Point Name: SCOTTISH COURAGE BREWING LTD Easting: 383900 Northing: 395900	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 31/12/2003 Version End Date: -



ID	Location	Details	
A	474m SW	Status: Historical Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383900 Northing: 395900	Annual Volume (m ³): 227000 Max Daily Volume (m ³): 900 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 23/11/2009 Version End Date: -
A	474m SW	Status: Historical Licence No: 2569007007 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383900 Northing: 395900	Annual Volume (m ³): 227000 Max Daily Volume (m ³): 900 Original Application No: - Original Start Date: 15/02/1966 Expiry Date: - Issue No: 102 Version Start Date: 23/11/2009 Version End Date: -
A	490m SW	Status: Active Licence No: 2569007007 Details: General Cooling (Existing Licences Only) (High Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383865 Northing: 395909	Annual Volume (m ³): 227,000 Max Daily Volume (m ³): 900 Original Application No: NPS/WR/015793 Original Start Date: 15/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 08/05/2014 Version End Date: -
A	490m SW	Status: Active Licence No: 2569007007 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES MOSS SIDE MANCHESTER Data Type: Point Name: Heineken UK Ltd Easting: 383865 Northing: 395909	Annual Volume (m ³): 227,000 Max Daily Volume (m ³): 900 Original Application No: NPS/WR/015793 Original Start Date: 15/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 08/05/2014 Version End Date: -

ID	Location	Details	
B	668m NW	Status: Active Licence No: NW/069/0004/003 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m ³): 274,115 Max Daily Volume (m ³): 751 Original Application No: NPS/WR/008077 Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -
B	668m NW	Status: Active Licence No: NW/069/0004/003 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BOREHOLE AT MANCHESTER METROPOLITAN UNIVERSITY Data Type: Point Name: Manchester Metropolitan University Easting: 383715 Northing: 396746	Annual Volume (m ³): 274,115 Max Daily Volume (m ³): 751 Original Application No: NPS/WR/008077 Original Start Date: 20/09/2013 Expiry Date: 31/03/2027 Issue No: 1 Version Start Date: 01/01/2015 Version End Date: -
-	785m N	Status: Active Licence No: NW/069/0006/003 Details: Heat Pump Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LOWER CHATHAM STREET Data Type: Point Name: Manchester Metropolitan University Easting: 384180 Northing: 397091	Annual Volume (m ³): 283,240 Max Daily Volume (m ³): 1,532 Original Application No: NPS/WR/015264 Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -
-	785m N	Status: Active Licence No: NW/069/0006/003 Details: General Use Relating To Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE 1 AT LOWER CHATHAM STREET Data Type: Point Name: Manchester Metropolitan University Easting: 384180 Northing: 397091	Annual Volume (m ³): 283,240 Max Daily Volume (m ³): 1,532 Original Application No: NPS/WR/015264 Original Start Date: 04/04/2014 Expiry Date: 31/03/2027 Issue No: 2 Version Start Date: 04/04/2014 Version End Date: -



ID	Location	Details	
-	1065m SW	Status: Historical Licence No: 2569007009 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER" Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/10/2000 Version End Date: -
-	1065m SW	Status: Historical Licence No: 2569007009 Details: Process water Direct Source: Ground Water - North West Region Point: "BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER" Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m ³): - Max Daily Volume (m ³): - Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/10/2000 Version End Date: -
-	1065m SW	Status: Historical Licence No: 2569007009 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m ³): 66826.2 Max Daily Volume (m ³): 372.772 Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 101 Version Start Date: 07/10/2000 Version End Date: -
-	1065m SW	Status: Historical Licence No: 2569007009 Details: Process Water Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, MOSS LANE WEST MANCHESTER Data Type: Point Name: HYDES BREWERY LTD Easting: 383220 Northing: 395850	Annual Volume (m ³): 66826.2 Max Daily Volume (m ³): 372.772 Original Application No: - Original Start Date: 21/02/1966 Expiry Date: - Issue No: 103 Version Start Date: 19/07/2018 Version End Date: -

ID	Location	Details	
-	1353m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW8 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383224 Northing: 397225	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	1368m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW7 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383184 Northing: 397203	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	1373m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW9 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383223 Northing: 397253	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	1379m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW5 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383193 Northing: 397230	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -



ID	Location	Details	
-	1392m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW4 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383159 Northing: 397210	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	1398m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW10 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383211 Northing: 397276	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	1411m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW3 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383140 Northing: 397217	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	1418m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW11 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383204 Northing: 397298	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -



ID	Location	Details	
-	1418m N	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: -
-	1418m N	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: -
-	1426m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW6 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383171 Northing: 397275	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	1440m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW2 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383113 Northing: 397230	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -



ID	Location	Details	
-	1448m E	Status: Historical Licence No: NW/069/0004/005 Details: Heat Pump Direct Source: Ground Water - North West Region Point: AREA OF ABSTRACTION - LOWER CARBONIFEROUS LIMESTONE Data Type: Poly4 Name: G T Energy UK Limited Easting: 385729 Northing: 396778	Annual Volume (m ³): 2,049,840 Max Daily Volume (m ³): 8640 Original Application No: - Original Start Date: 17/01/2013 Expiry Date: 16/01/2037 Issue No: 2 Version Start Date: 11/06/2013 Version End Date: -
-	1473m NW	Status: Active Licence No: NW/069/0006/010 Details: Dewatering Direct Source: Ground Water - North West Region Point: BOREHOLE PW1 CHESTER FORMATION AT CROWN STREET Data Type: Point Name: Renaker Build Ltd Easting: 383085 Northing: 397249	Annual Volume (m ³): 260,172 Max Daily Volume (m ³): 712.80 Original Application No: NPS/WR/034474 Original Start Date: 24/09/2021 Expiry Date: 31/03/2023 Issue No: 1 Version Start Date: 24/09/2021 Version End Date: -
-	1526m NE	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: -
-	1526m NE	Status: Historical Licence No: 2569006001 Details: General Cooling (Existing Licences Only) (Low Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT PREMISES, BROADIE ST, ARDWICK, MANCHESTER Data Type: Point Name: MOSELEY RUBBER CO LTD Easting: 385240 Northing: 397540	Annual Volume (m ³): 331858 Max Daily Volume (m ³): 909.2 Original Application No: - Original Start Date: 08/02/1966 Expiry Date: - Issue No: 100 Version Start Date: 08/02/1966 Version End Date: -

ID	Location	Details	
-	1697m N	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: -
-	1697m N	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: -

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

5.7 Surface water abstractions

Records within 2000m	0
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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.

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

5.8 Potable abstractions

Records within 2000m	0
-----------------------------	----------

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.

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



5.9 Source Protection Zones

Records within 500m**3**

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination. Features are displayed on the Abstractions and Source Protection Zones map on **page 55**

ID	Location	Type	Description
1	On site	3	Total catchment
A	257m SW	2	Outer catchment
A	397m SW	1	Inner catchment

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

5.10 Source Protection Zones (confined aquifer)

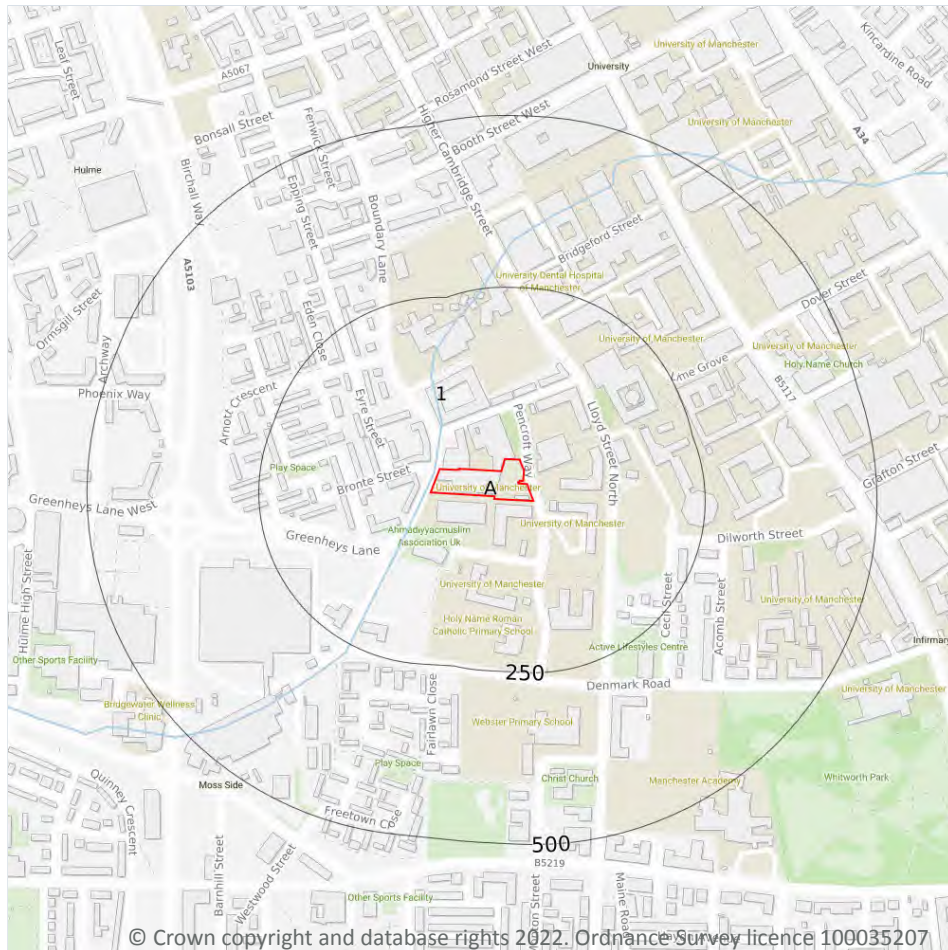
Records within 500m**0**

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

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



6 Hydrology



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

6.1 Water Network (OS MasterMap)

Records within 250m

1

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

Features are displayed on the Hydrology map on **page 66**

ID	Location	Type of water feature	Ground level	Permanence	Name
1	5m W	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	Corn Brook

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 66**

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

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

6.4 WFD Surface water bodies

Records identified

1

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

Features are displayed on the Hydrology map on **page 66**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	2017m NW	River	Irwell / Manchester Ship Canal (Irk to confluence with Upper Mers	GB112069061452	Moderate	Fail	Moderate	2019



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

6.5 WFD Groundwater bodies

Records on site

1

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

Features are displayed on the Hydrology map on **page 66**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	On site	Manchester and East Cheshire Permo-Triassic Sandstone Aquifers	<u>GB41201G101100</u>	Poor	Poor	Poor	2019

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



7 River and coastal flooding



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

7.1 Risk of flooding from rivers and the sea

Records within 50m

14

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

Features are displayed on the River and coastal flooding map on **page 69**

Distance	Flood risk category
On site	Medium
0 - 50m	High

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



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

7.6 Flood Zone 2

Records within 50m

1

Areas of land at risk of flooding, when the presence of flood defences are ignored. Covering land between Flood Zone 3 (see next section) and the extent of the flooding from rivers or the sea with a 1 in 1000 (0.1%) chance of flooding each year.

Features are displayed on the River and coastal flooding map on **page 69**

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

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

7.7 Flood Zone 3

Records within 50m

1

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

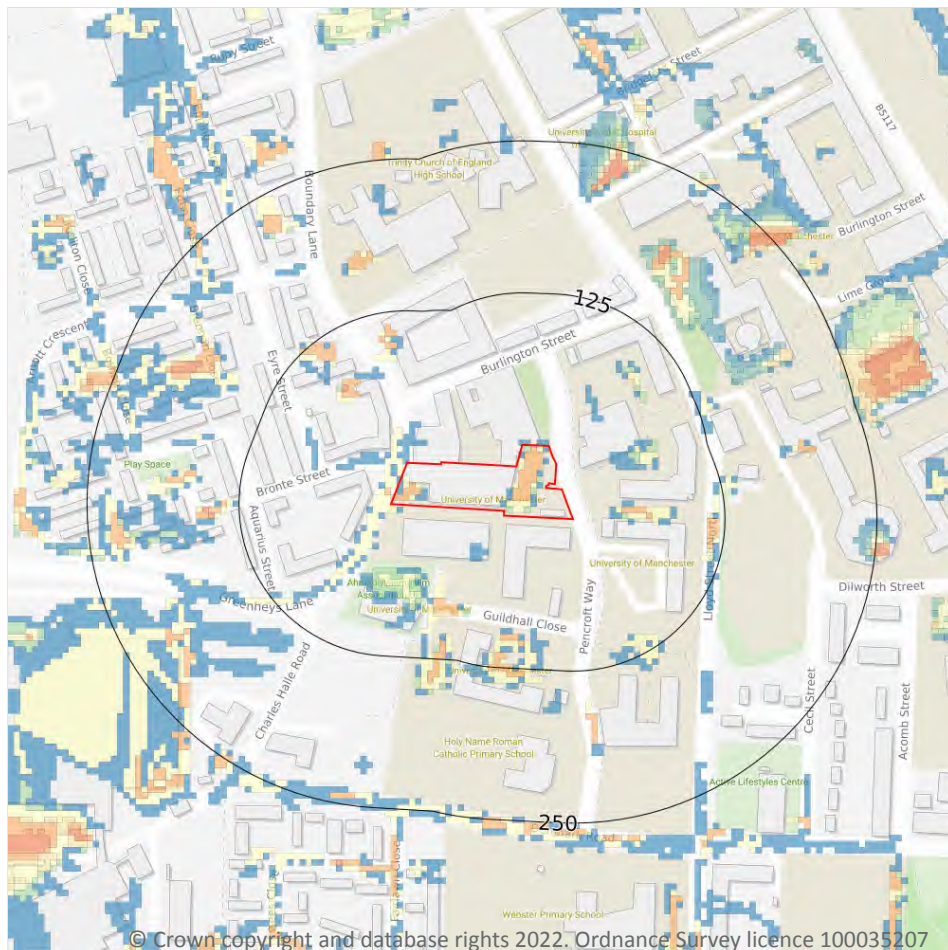
Features are displayed on the River and coastal flooding map on **page 69**

Location	Type
On site	Zone 3 - (Fluvial Models)

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



8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.1m - 0.3m

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

Features are displayed on the Surface water flooding map on **page 73**

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

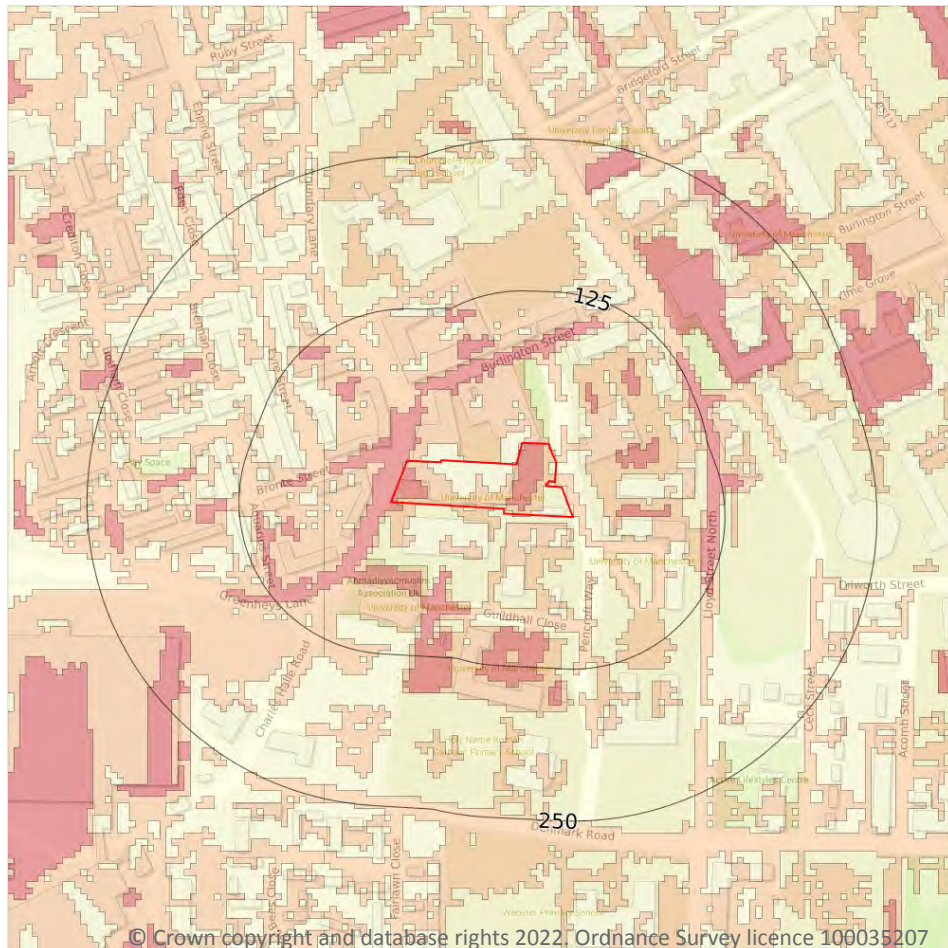
The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiantal Risk Analytics.



9 Groundwater flooding



— Site Outline
Search buffers in metres (m)

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

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9.1 Groundwater flooding

Highest risk on site

High

Highest risk within 50m

High

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

Features are displayed on the Groundwater flooding map on **page 75**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m

0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m

0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m

0

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

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



10.5 National Nature Reserves (NNR)

Records within 2000m

0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

0

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

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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

10.9 Forest Parks

Records within 2000m

0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m

0

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

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

10.11 Green Belt

Records within 2000m

0

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

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

10.12 Proposed Ramsar sites

Records within 2000m

0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m

0

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

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



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

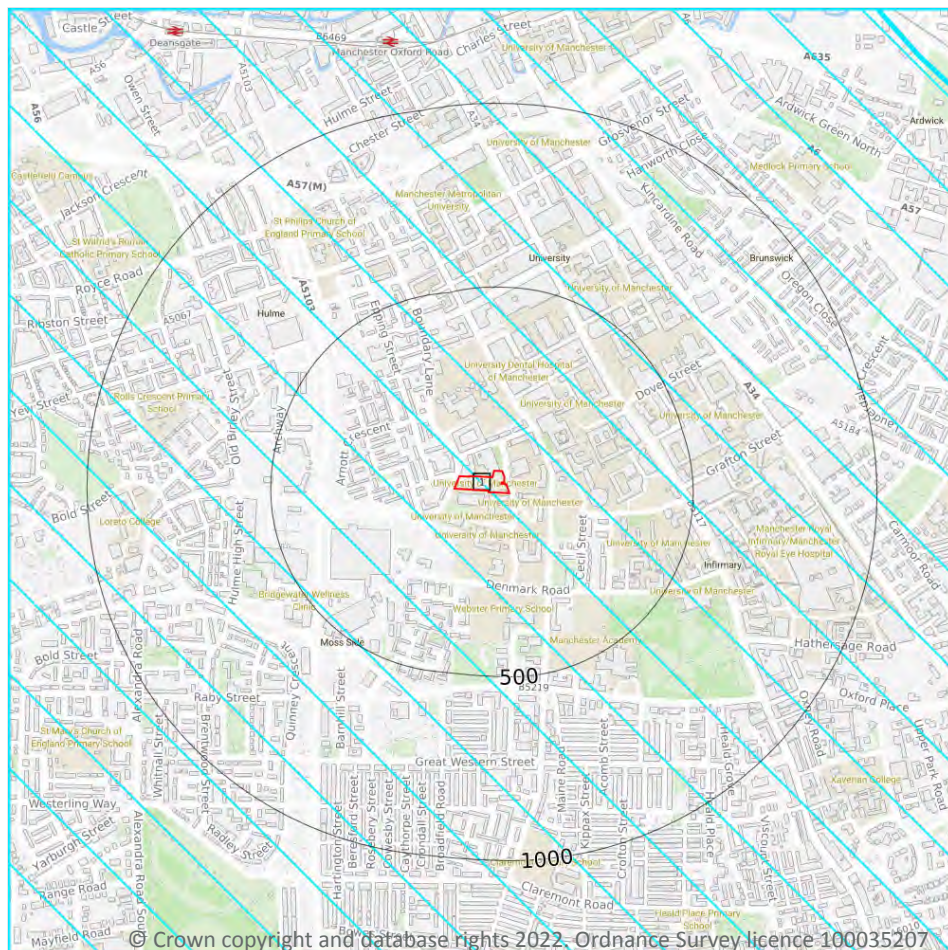
Records within 2000m

0

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.

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 80**

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



This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m

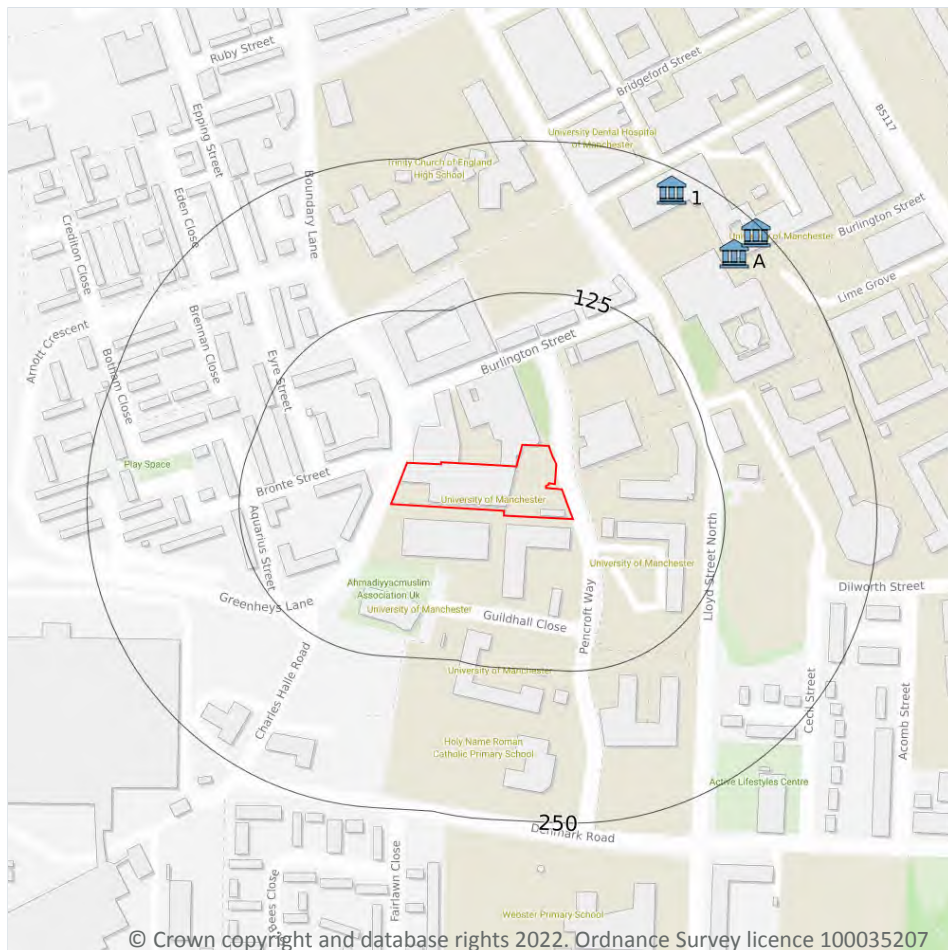
0

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

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



11 Visual and cultural designations



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

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

3

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 82**

ID	Location	Name	Grade	Reference Number	Listed date
A	220m NE	Burlington Rooms (Schunk Laboratories, Manchester University) and Attached Railings, Hulme, Manchester, M13	II	1197811	03/10/1974
1	233m NE	Pharmacy Department, Department of Adult Education, University of Manchester, Hulme, Manchester, M15	II	1209002	03/10/1974
A	244m NE	Manchester University Laboratories, Hulme, Manchester, M13	II	1402638	19/10/2011

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



11.5 Conservation Areas

Records within 250m

0

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.

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

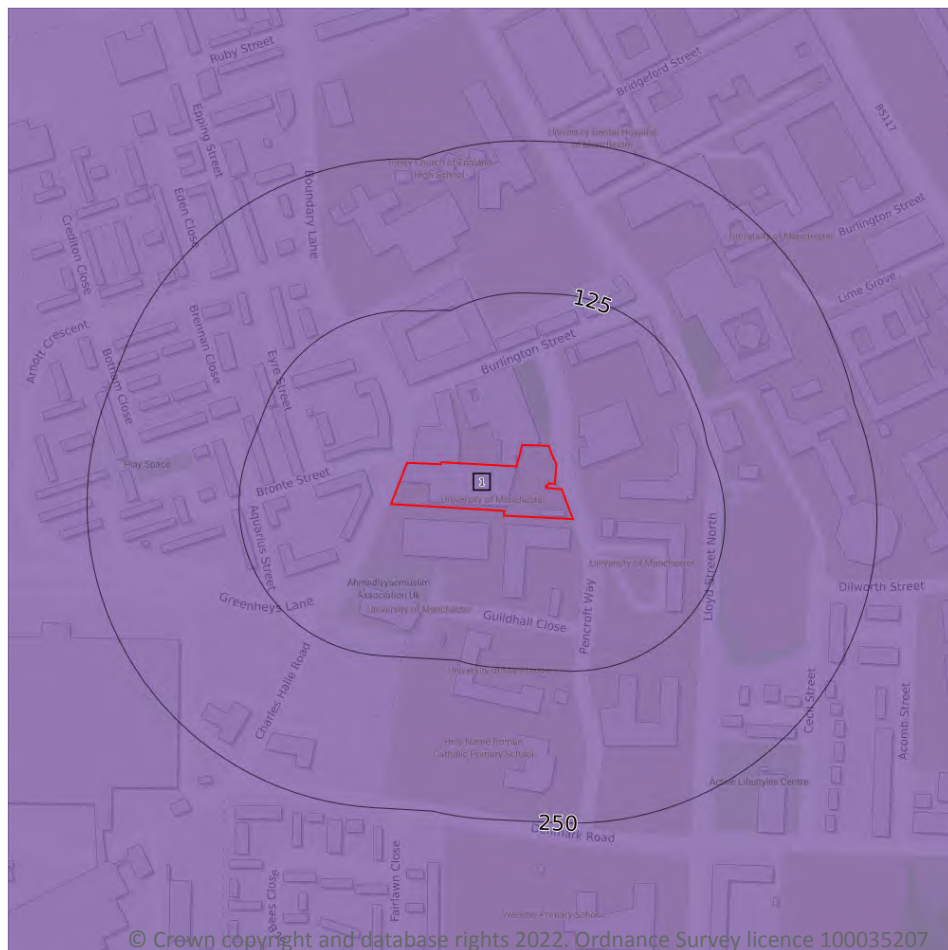
0

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

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



12 Agricultural designations



- 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 85**

ID	Location	Classification	Description
1	On site	Urban	-

This data is sourced from Natural England.



12.2 Open Access Land

Records within 250m**0**

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

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

12.3 Tree Felling Licences

Records within 250m**0**

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m**0**

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment. The schemes identified may be historical schemes that have now expired, or may still be active.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m**0**

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

This data is sourced from Natural England.

13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m

0

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m

0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m

0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m

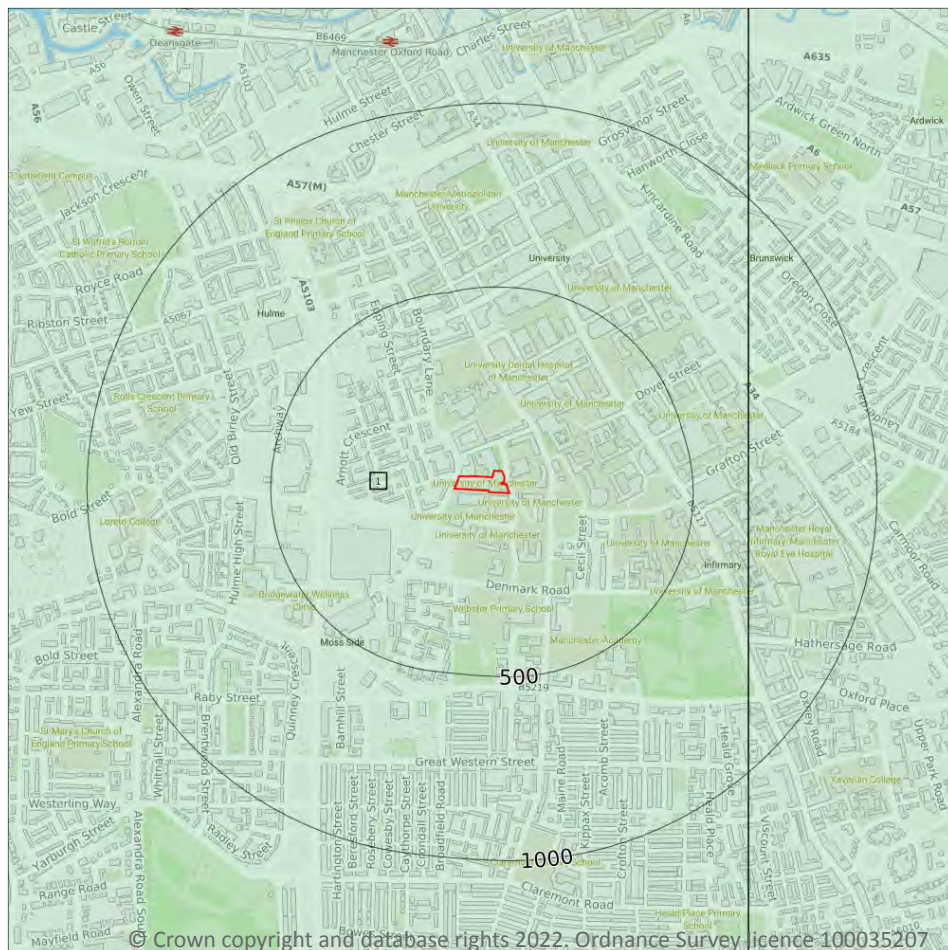
0

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

This data is sourced from Natural England.



14 Geology 1:10,000 scale - Availability



— Site Outline
Search buffers in metres (m)

- Full coverage
- Partial coverage
- No coverage

14.1 10k Availability

Records within 500m

1

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

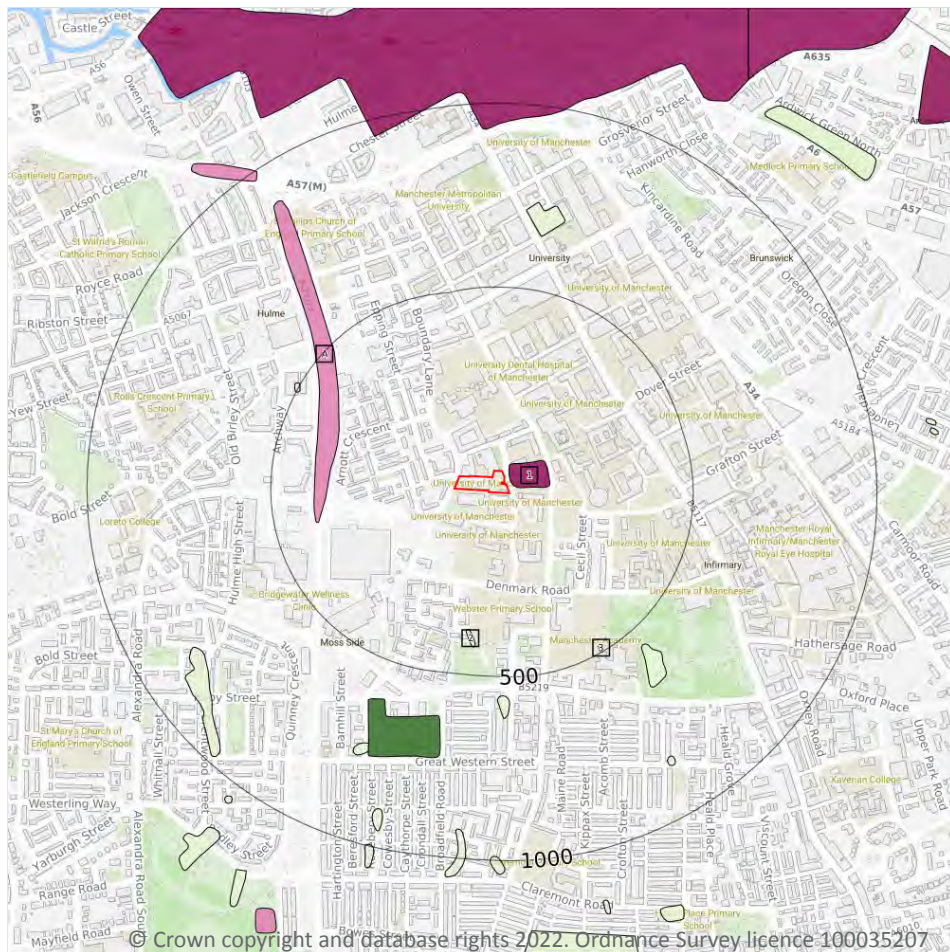
Features are displayed on the Geology 1:10,000 scale - Availability map on **page 88**

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

5

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 89**

ID	Location	LEX Code	Description	Rock description
1	14m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
A	338m W	WGR-VOID	Worked Ground (Undivided)	Void
2	377m S	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	477m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit

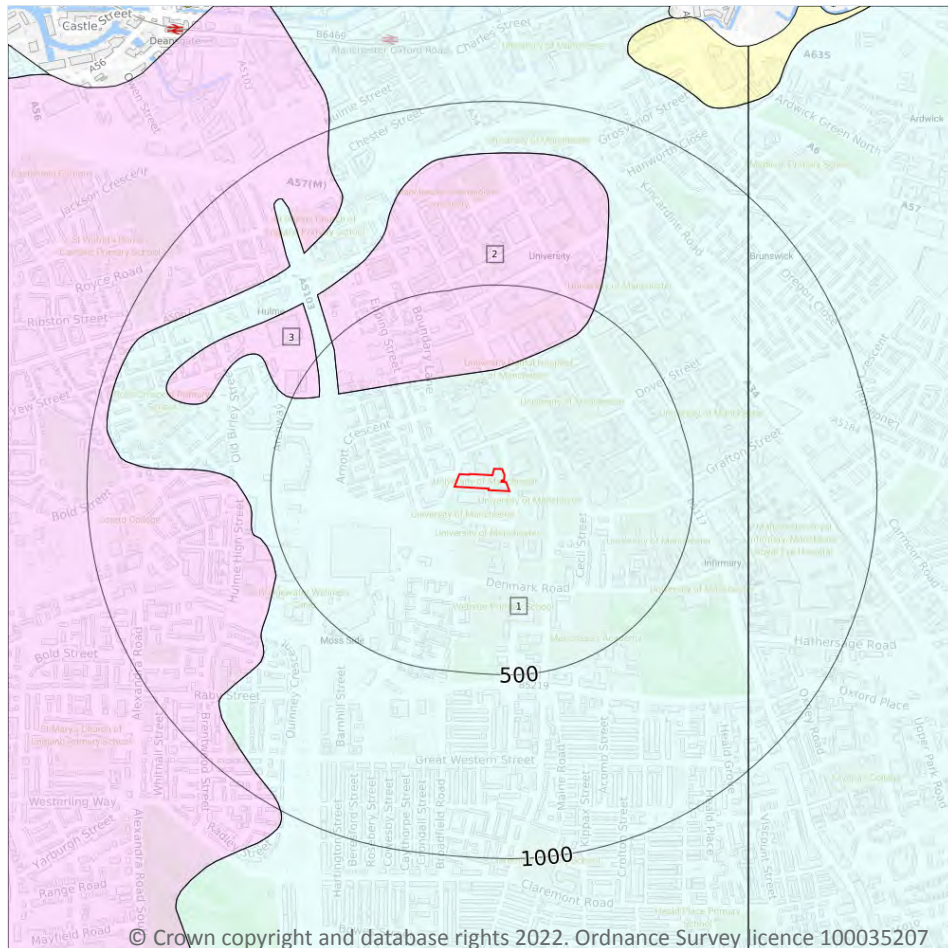


ID	Location	LEX Code	Description	Rock description
A	493m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

3

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 91**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton
2	266m N	GFSD-DSV	Glaciofluvial Sheet Deposits, Devensian - Sand And Gravel	Sand And Gravel
3	436m NW	GFSD-DSV	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

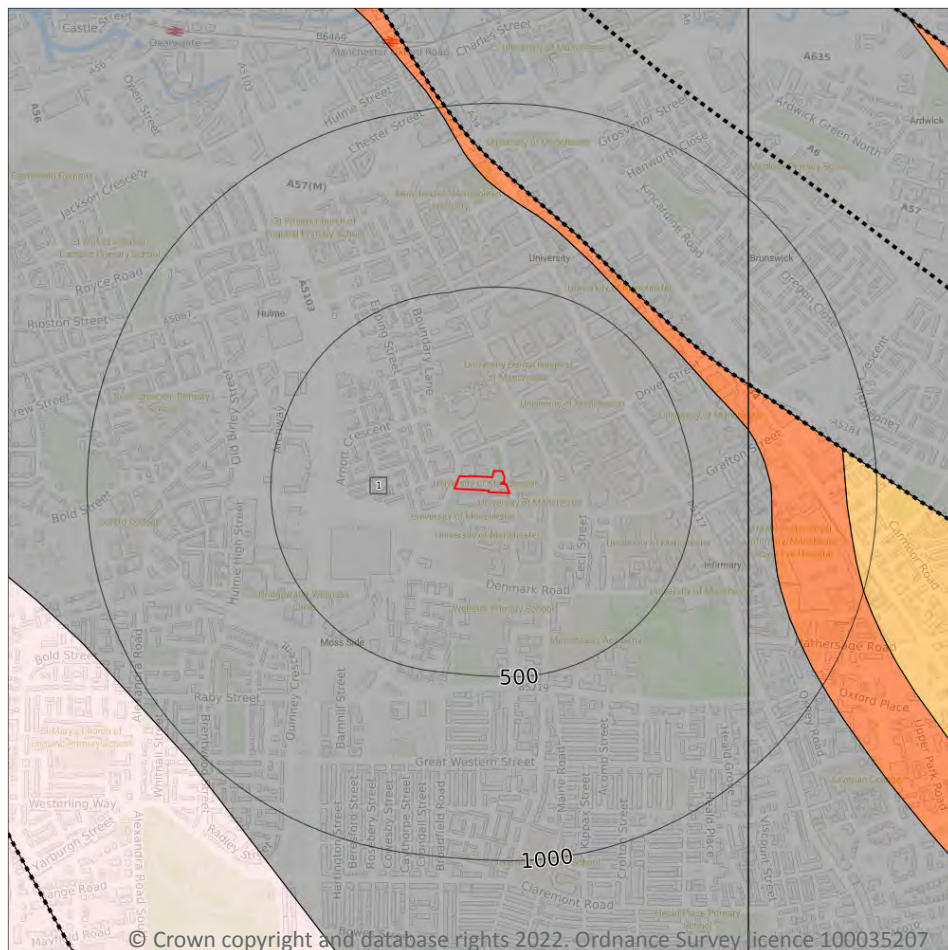
0

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

1

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 93**

ID	Location	LEX Code	Description	Rock age
1	On site	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m

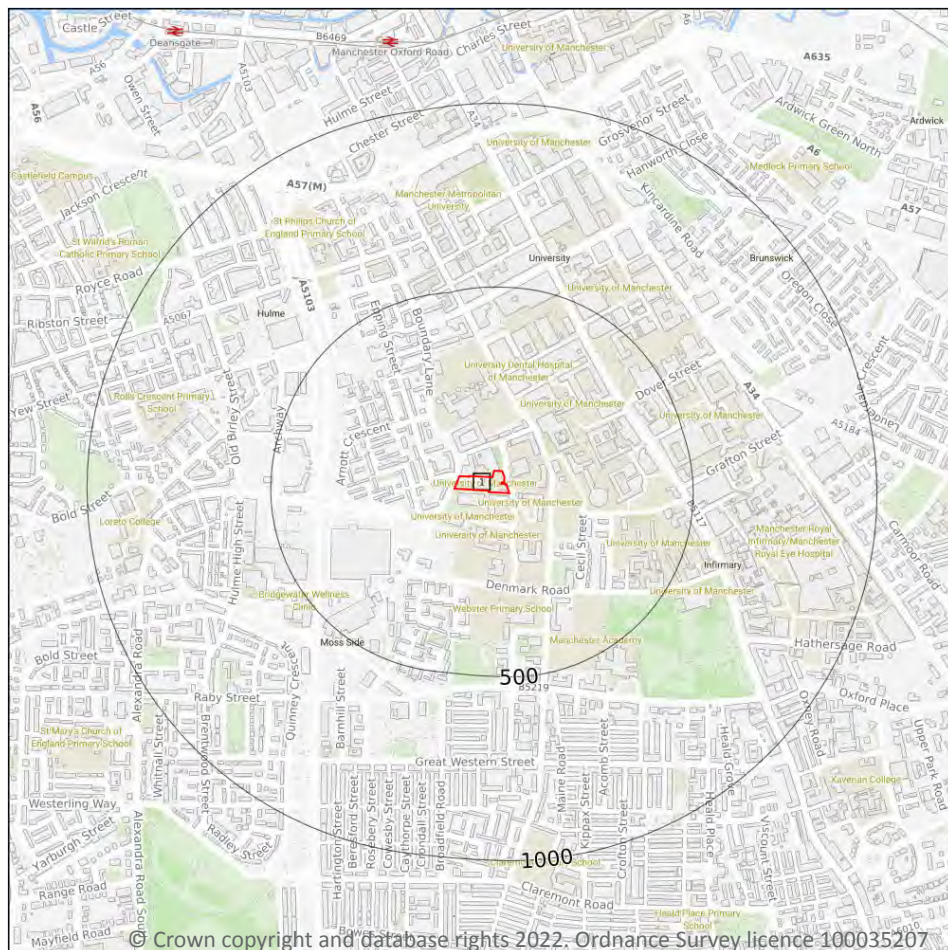
0

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.

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 95**

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

15.2 Artificial and made ground (50k)

Records within 500m

0

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.

This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

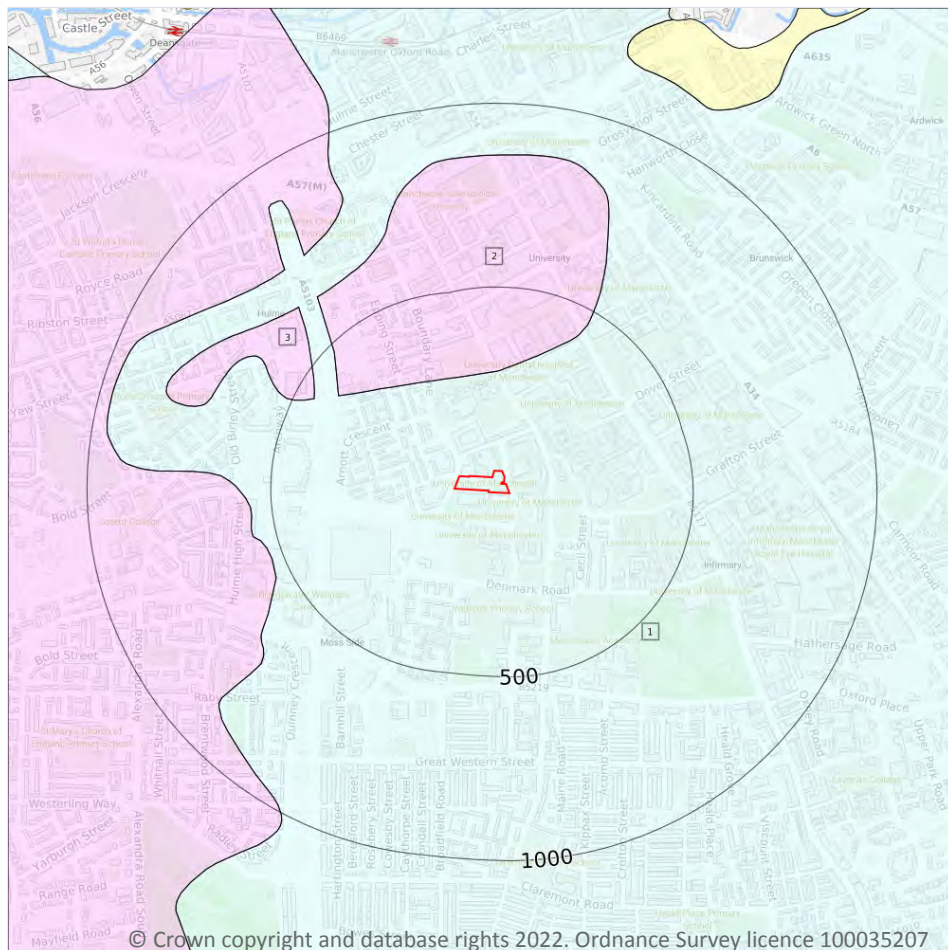
0

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

3

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 97**

ID	Location	LEX Code	Description	Rock description
1	On site	TILLD-DMTN	TILL, DEVENSIAN	DIAMICTON
2	266m N	GFSD-DSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	SAND AND GRAVEL
3	448m NW	GFSD-DSV	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	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

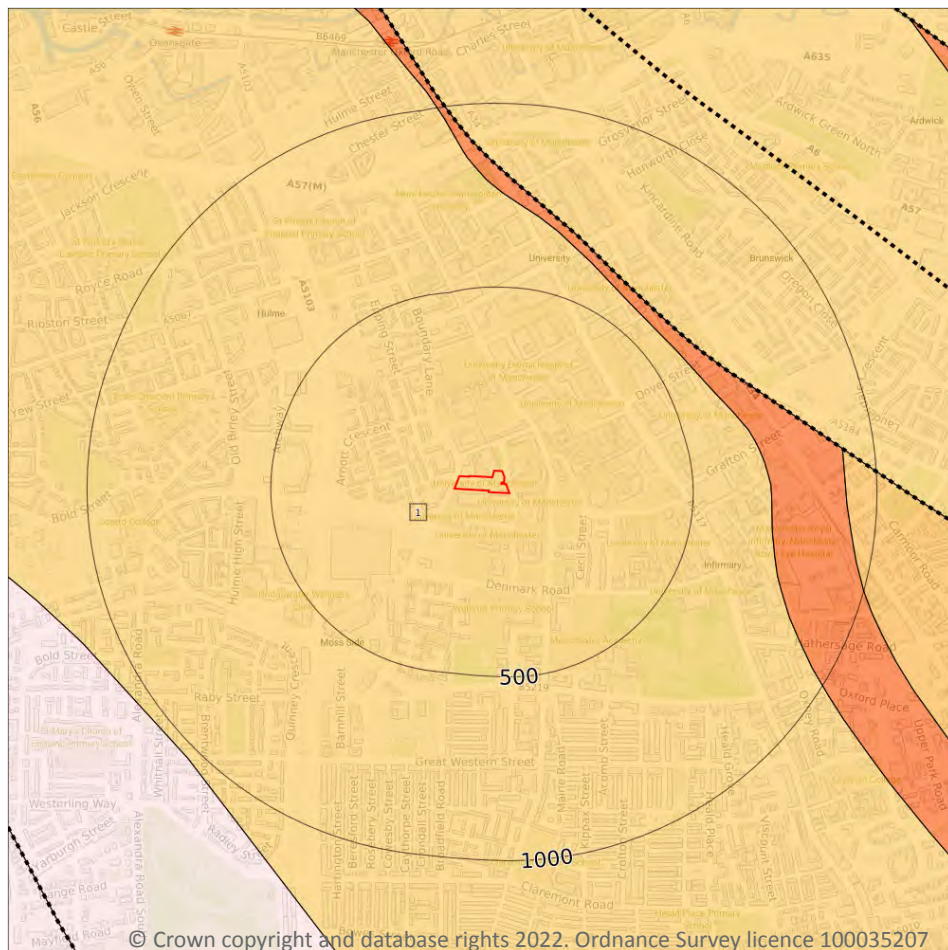
0

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

1

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 99**

ID	Location	LEX Code	Description	Rock age
1	On site	CHES-SDST	CHESTER FORMATION - SANDSTONE	OLENEKIAN

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)

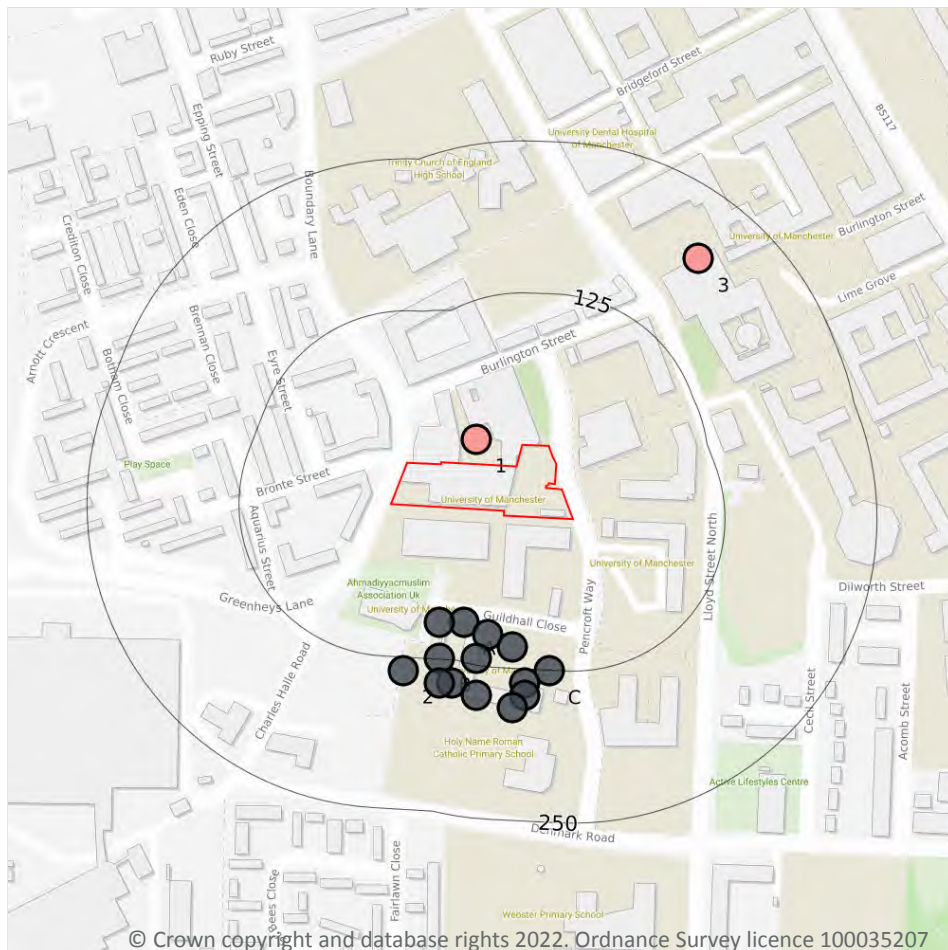
Records within 500m**0**

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.

This data is sourced from the British Geological Survey.



16 Boreholes



16.1 BGS Boreholes

Records within 250m

16

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 101**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	20m N	384270 396320	UNIVERSITY OF MANCHESTER MONITORING	237.0	N	1045480
A	93m S	384260 396170	MANCHESTER SCIENCE PARK PHASE 3 1	-	Y	N/A
A	95m S	384240 396170	MANCHESTER SCIENCE PARK PHASE 3 TPG	-	Y	N/A

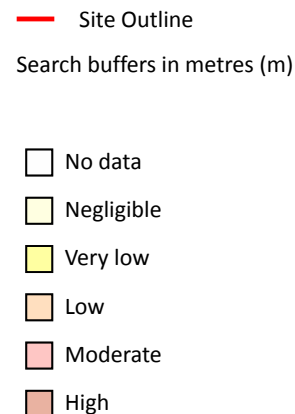
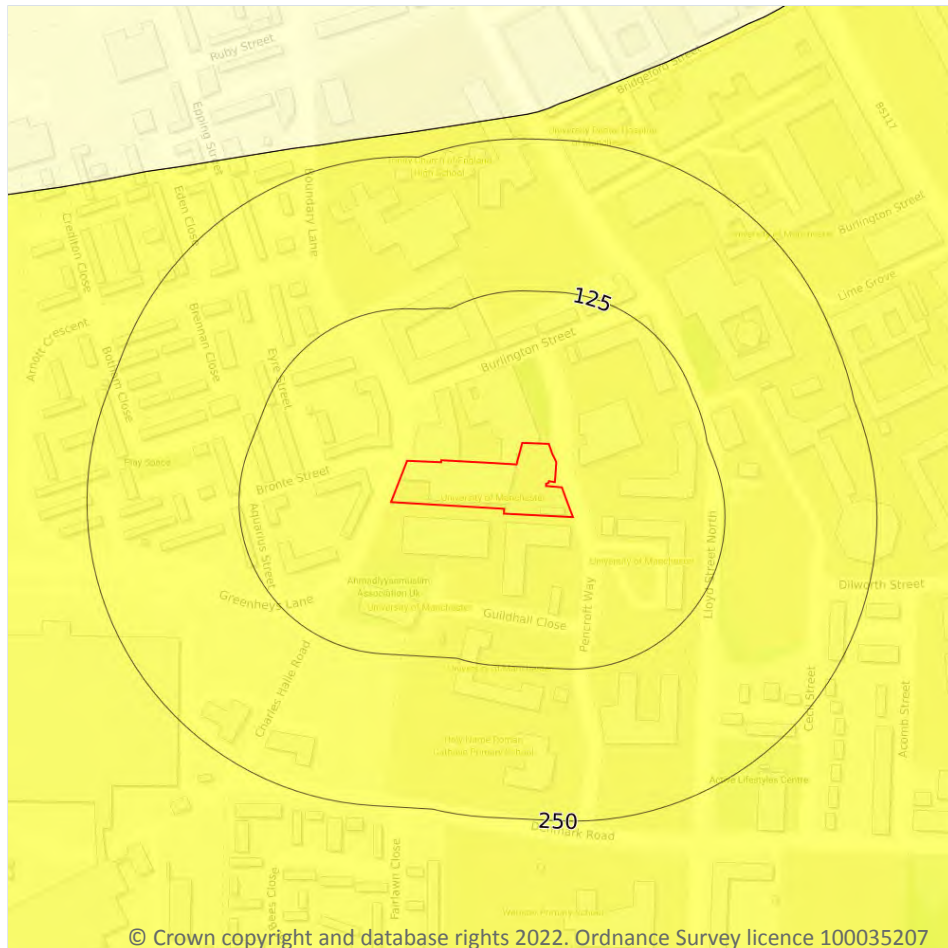


ID	Location	Grid reference	Name	Length	Confidential	Web link
A	99m S	384280 396160	MACHESTER SCIENCE PARK PHASE 3 TPA	-	Y	N/A
A	107m S	384300 396150	MACHESTER SCIENCE PARK PHASE 3 TPH	-	Y	N/A
A	120m S	384270 396140	MACHESTER SCIENCE PARK PHASE 3 TPB	-	Y	N/A
B	125m S	384240 396140	MACHESTER SCIENCE PARK PHASE 3 TPF	-	Y	N/A
C	126m S	384330 396130	MACHESTER SCIENCE PARK PHASE 3 TPK	-	Y	N/A
2	136m S	384210 396130	MACHESTER SCIENCE PARK PHASE 3 TPE	-	Y	N/A
C	137m S	384310 396120	MACHESTER SCIENCE PARK PHASE 3 TPI	-	Y	N/A
B	144m S	384250 396120	MACHESTER SCIENCE PARK PHASE 3 TPD	-	Y	N/A
B	145m S	384240 396120	MACHESTER SCIENCE PARK PHASE 3 2	-	Y	N/A
C	147m S	384310 396110	MACHESTER SCIENCE PARK PHASE 3 3	-	Y	N/A
B	149m S	384270 396110	MACHESTER SCIENCE PARK PHASE 3 TPC	-	Y	N/A
C	157m S	384300 396100	MACHESTER SCIENCE PARK PHASE 3 TPJ	-	Y	N/A
3	197m NE	384453 396469	UNIVERSITY OF MANCHESTER, N. OF BURLINGTON STREET	91.44	N	1042405

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

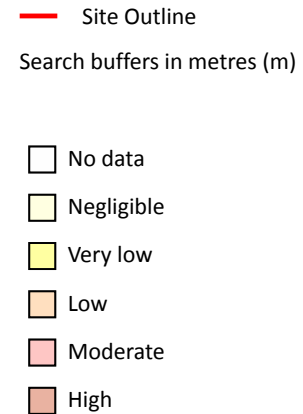
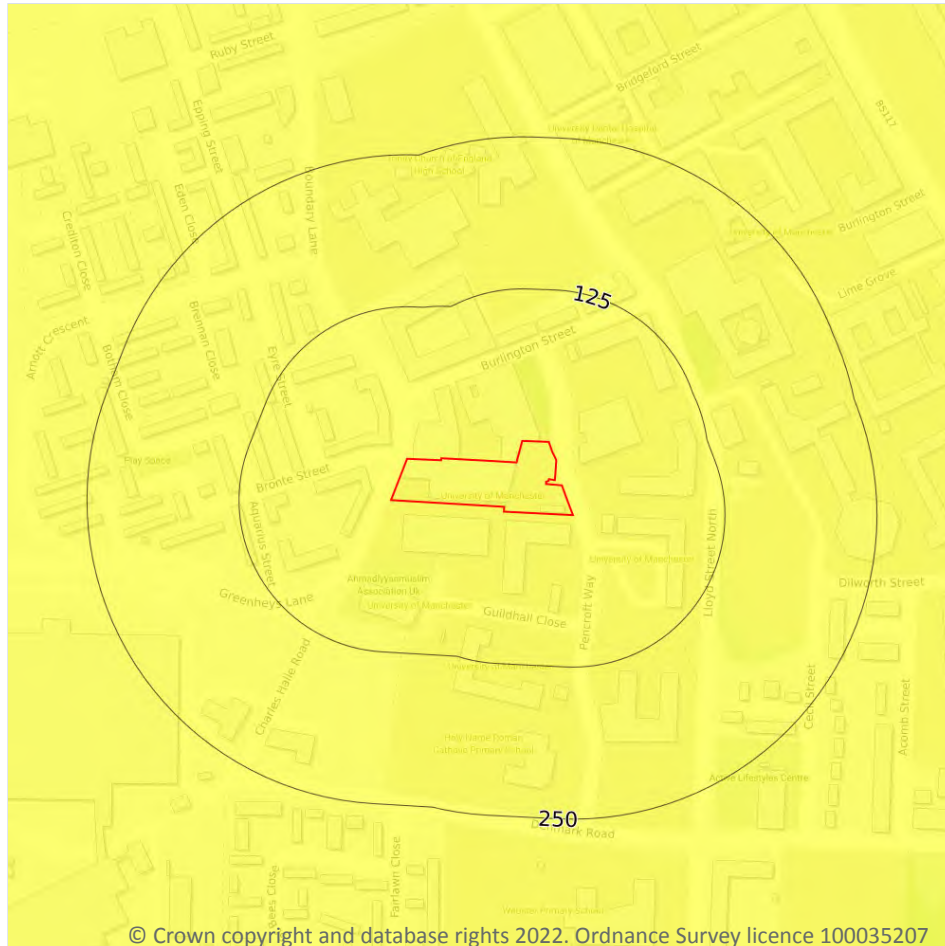
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 103**

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.

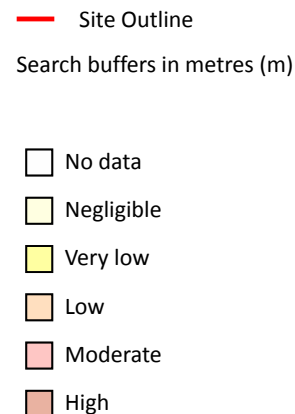
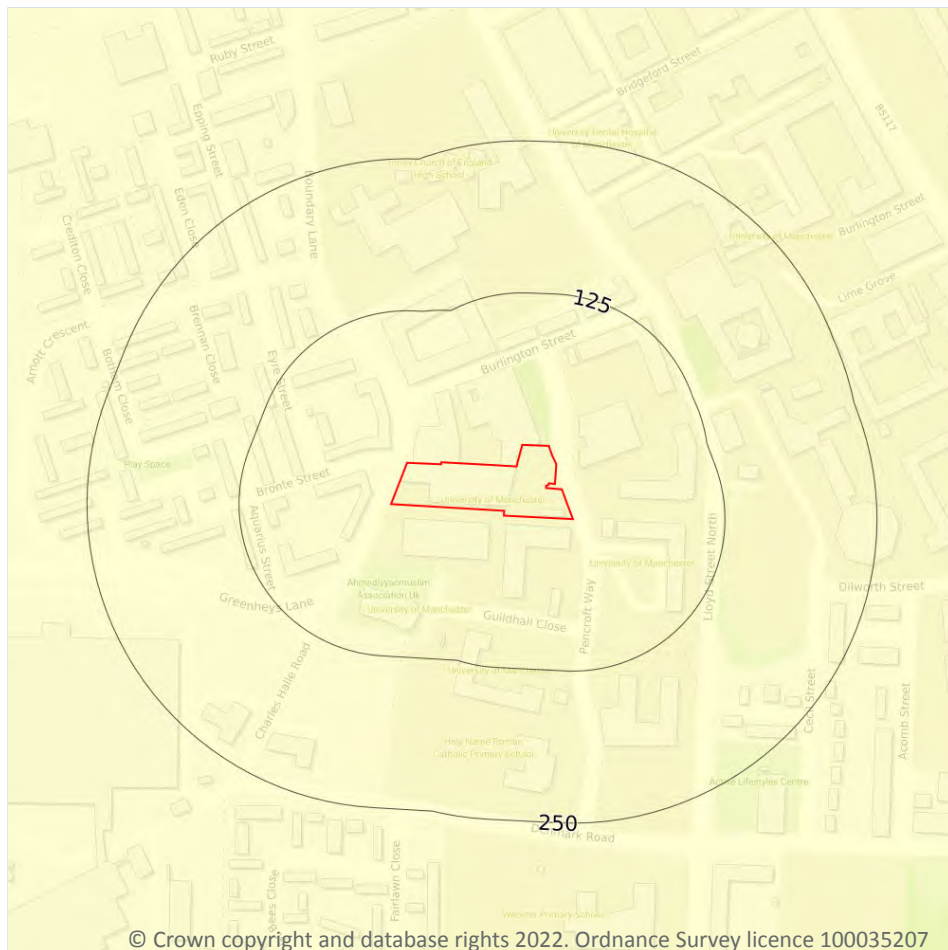
Features are displayed on the Natural ground subsidence - Running sands map on **page 104**

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.

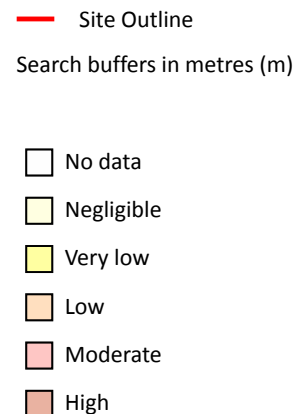
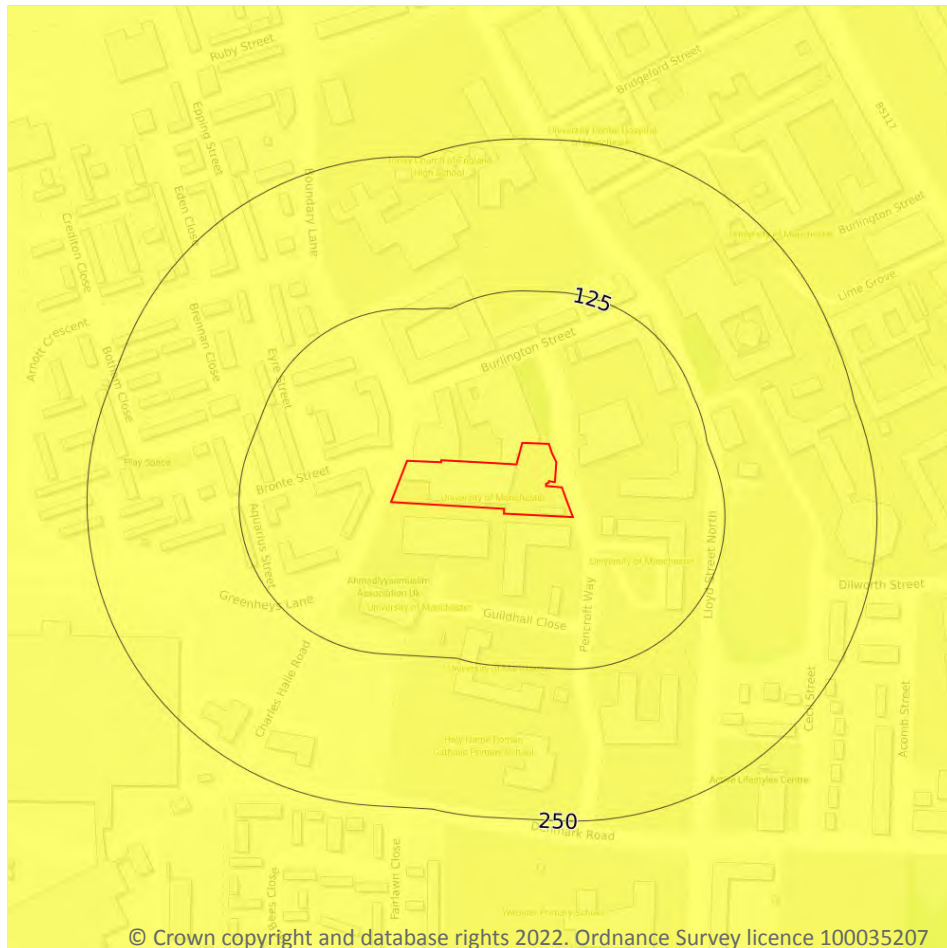
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 105**

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

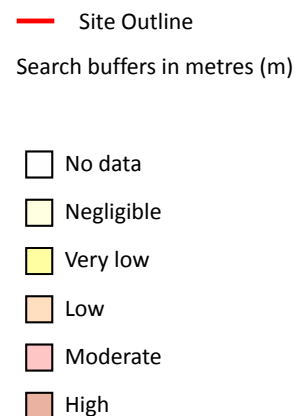
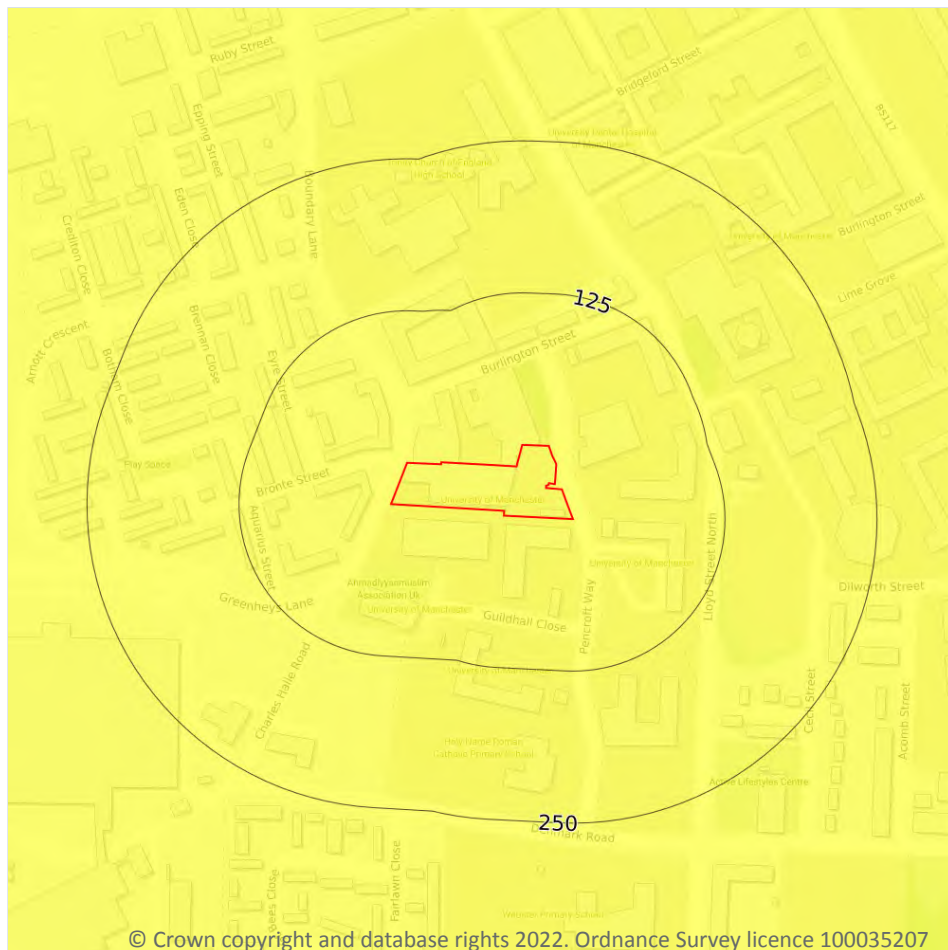
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 106**

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.

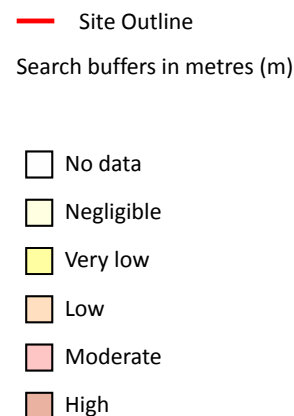
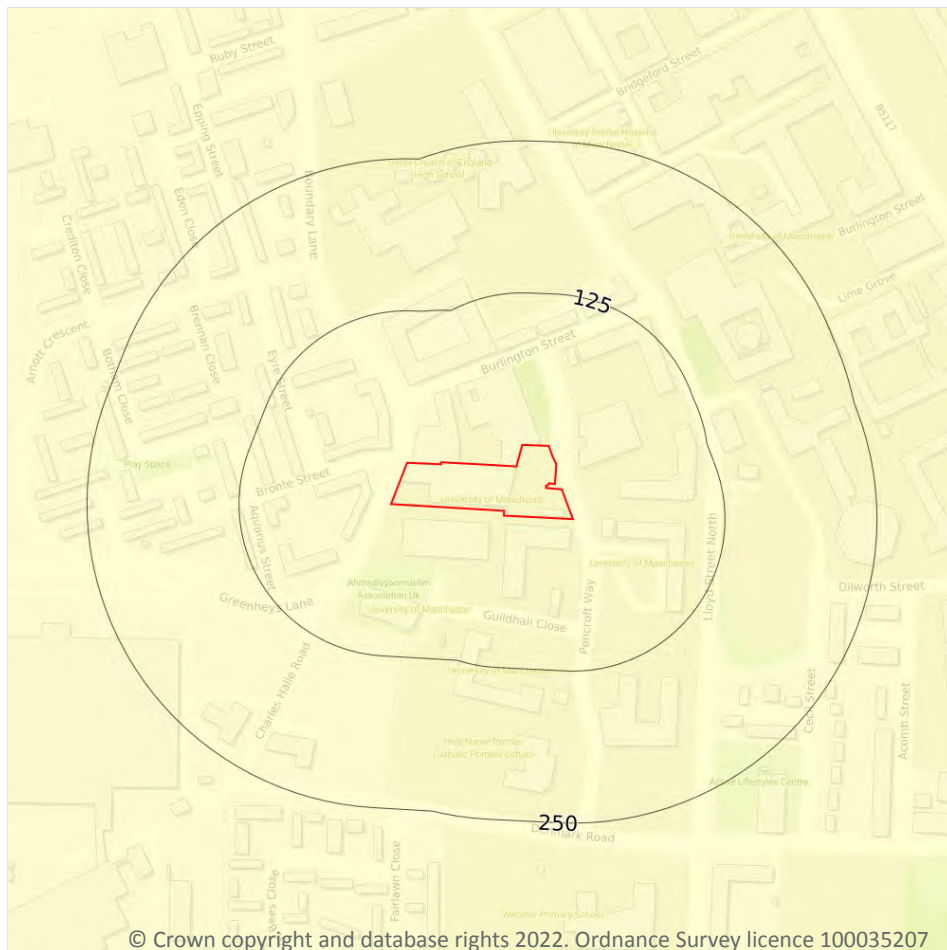
Features are displayed on the Natural ground subsidence - Landslides map on **page 107**

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.

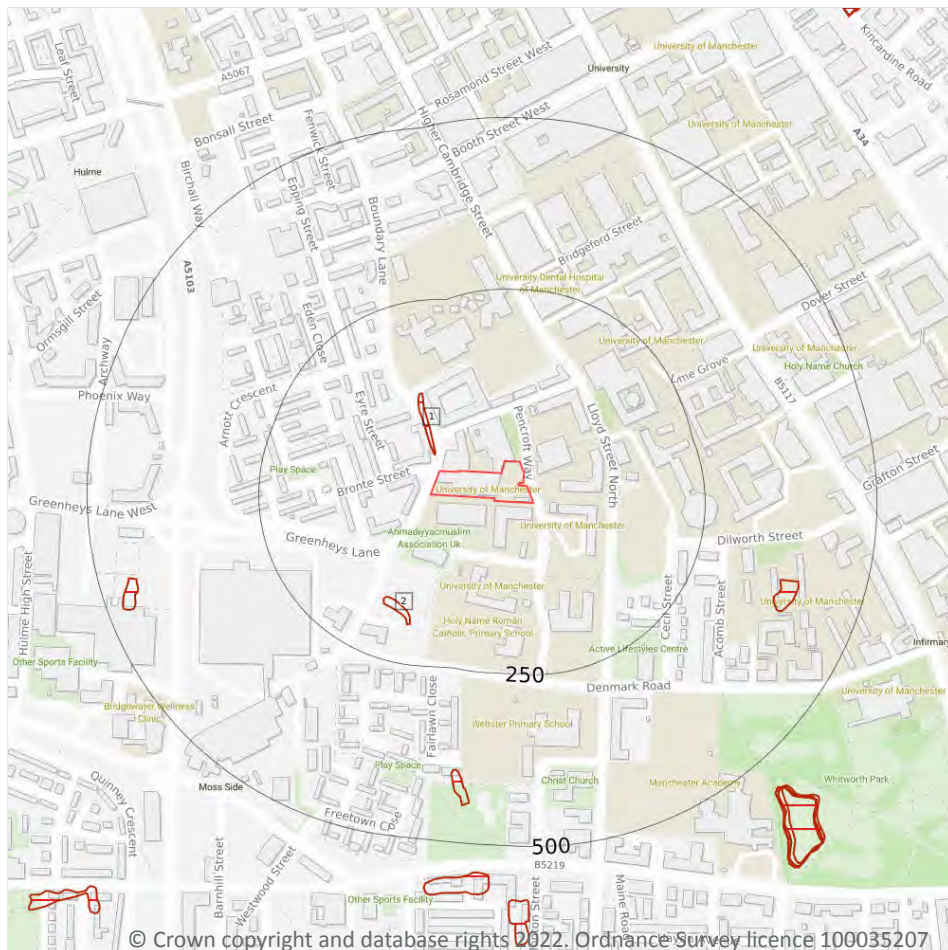
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 108**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
 - Sporadic underground mining of restricted extent possible
 - Localised small scale underground mining possible
 - Small scale mining possible
 - Underground mining known or likely within or in close proximity
 - Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

2

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 110**

ID	Location	Land Use	Year of mapping	Mapping scale
1	25m N	Pond	1851	1:10560
2	161m S	Pond	1851	1:10560

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

1

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.

Features are displayed on the Mining, ground workings and natural cavities map on **page 110**

ID	Location	Mine Address	Mineral	Data source	Publisher
-	970m NE	Manchester, Greater Manchester	Firestone, Freestone, Hearthstone , Honestone, Ragstone, Sandstone, Scythestone , Silver Sand, Whetstone	'Underground Manchester - Secrets of the city revealed'	Willow Publishing

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

1

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



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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

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

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

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

This data is sourced from the Coal Authority.

18.10 Brine areas

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

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

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

18.11 Gypsum areas

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

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

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

Generalised areas that may be affected by historical tin mining.

This data is sourced from Groundsure.

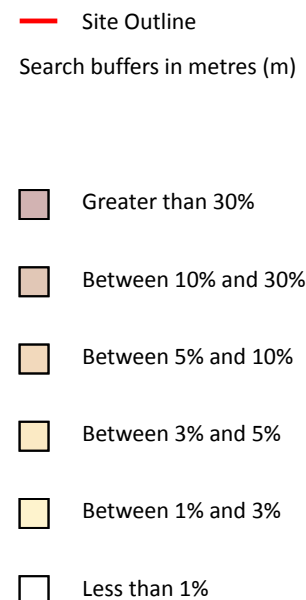
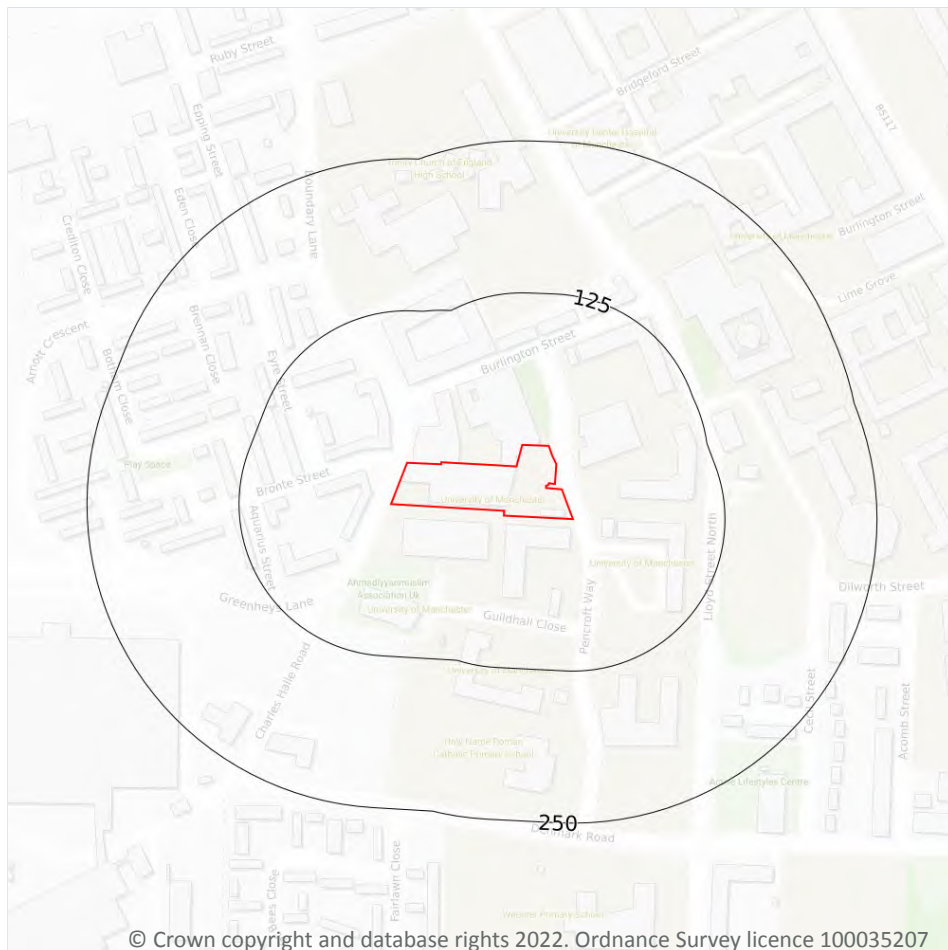
18.13 Clay mining

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

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

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

19 Radon



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 115**

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

1

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

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	14	2.5	103	71	0.5	52	38	19	11
On site	15	2.6	369	254	0.9	53	81	20	22
On site	16	2.8	115	79	0.6	55	42	21	12
On site	18	3.2	100	69	0.5	59	40	22	11
On site	22	3.8	126	87	0.6	66	47	26	11
12m NW	17	3	303	208	0.8	54	73	20	20

This data is sourced from the British Geological Survey.



20.3 BGS Measured Urban Soil Chemistry

Records within 50m

1

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.

Location	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Lead (mg/kg)	Tin (mg/kg)	Sample Type
35m SW	14.1	0.7	51.9	44.2	19.2	174.6	11.2	Topsoil

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects

21.1 Underground railways (London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m**0**

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m**0**

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m**0**

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

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m**0**

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



This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

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

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

This data is sourced from OpenStreetMap.

21.7 Railways

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

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0
---------------------	---

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0
---------------------	---

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0
---------------------	---

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

This data is sourced from HS2 Ltd.



Data providers

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

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Appendix C – Historical Mapping

Site Details:

GREENHEYS BUSINESS
CENTRE, PENCROFT WAY,
MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: 1056 Scale Town Plan

Map date: 1851

Scale: 1:1,056

Printed at: 1:1,056



Surveyed 1850
Revised N/A
Edition 1851
Copyright N/A
Levelled N/A



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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: 1056 Scale Town Plan

Map date: 1851

Scale: 1:1,056

Printed at: 1:1,056



Surveyed 1848
Revised N/A
Edition 1851
Copyright N/A
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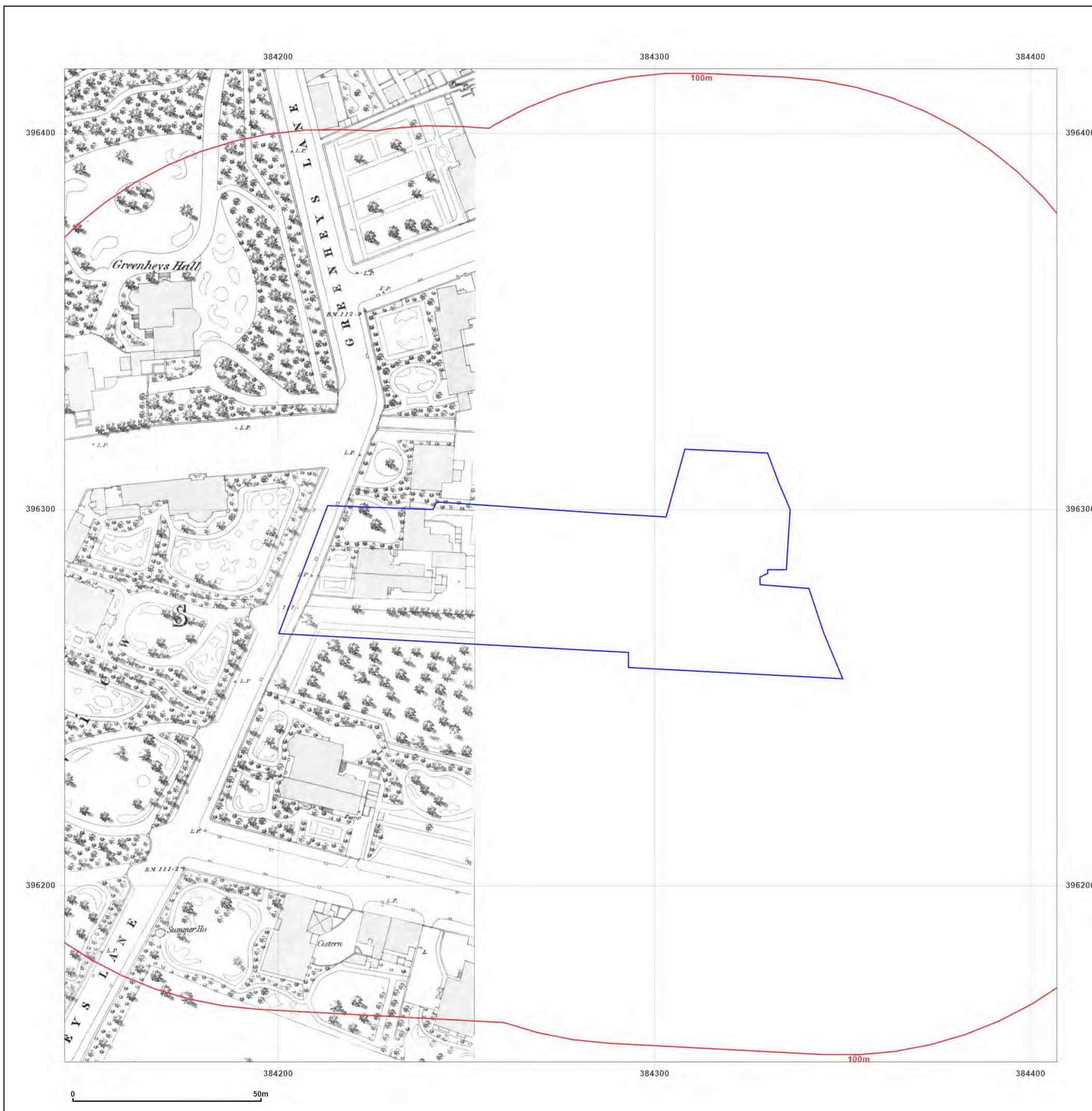


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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1881

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1881
Revised N/A
Edition 1881
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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series Town Plan

Map date: 1891

Scale: 1:500

Printed at: 1:1,000



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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1889-1893

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1889
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Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1908

Scale: 1:2,500

Printed at: 1:2,500



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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1922

Scale: 1:2,500

Printed at: 1:2,500



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Revised 1916
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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1932-1933

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1873
Revised 1932
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Surveyed 1873
Revised 1933
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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1948-1949

Scale: 1:1,250

Printed at: 1:2,000

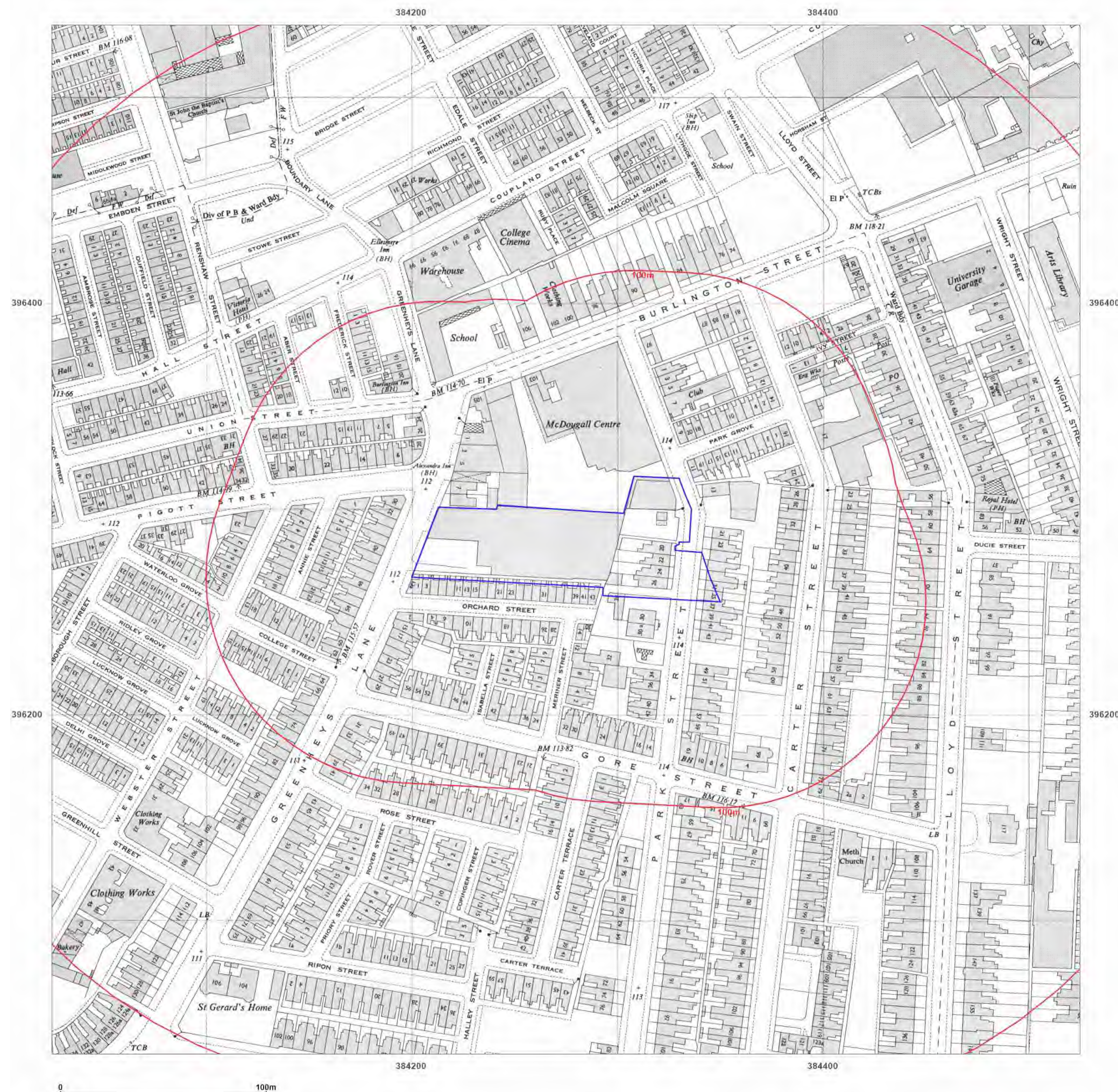


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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1951

Scale: 1:1,250

Printed at: 1:2,000

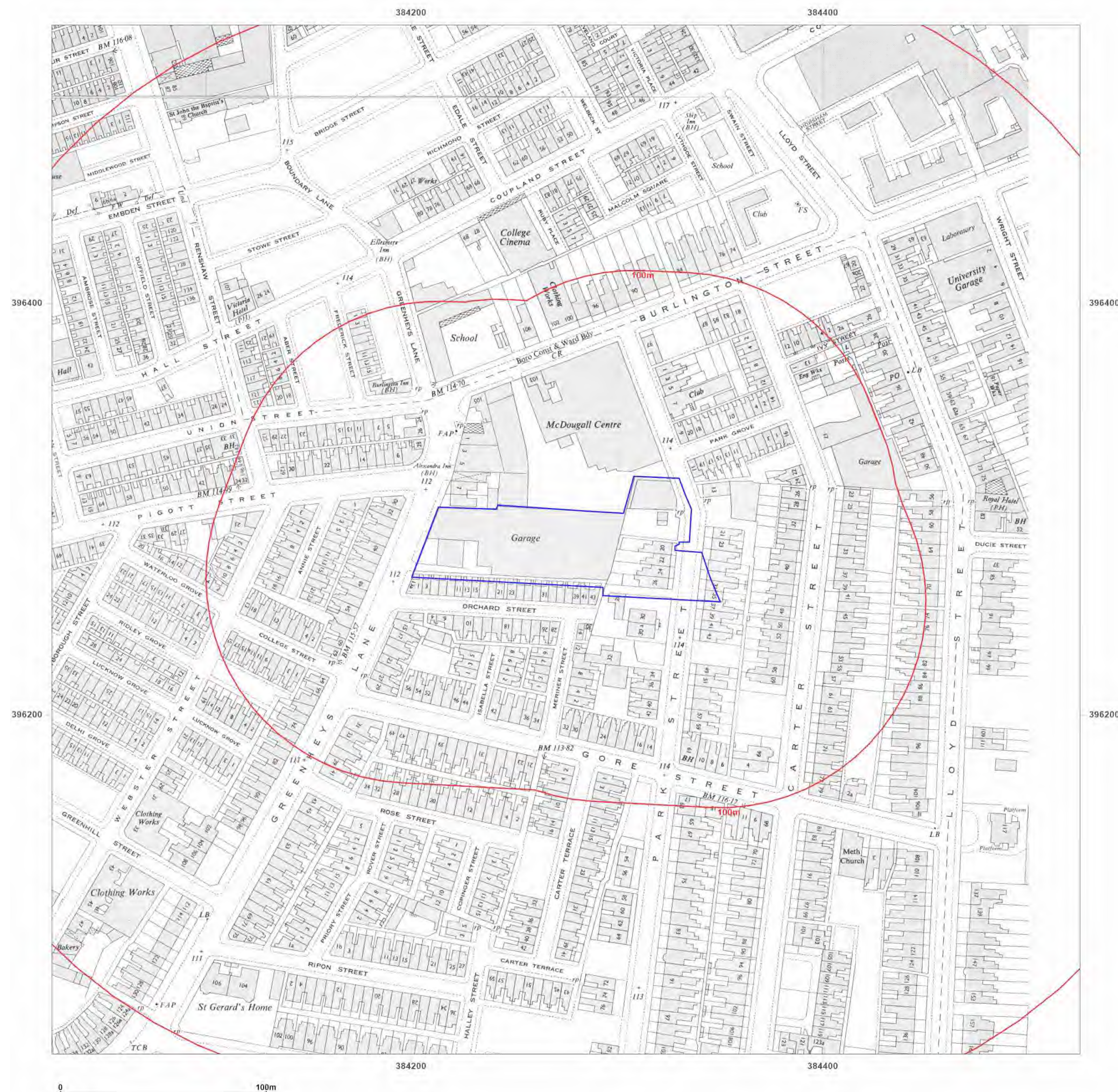


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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1950-1951

Scale: 1:2,500

Printed at: 1:2,500

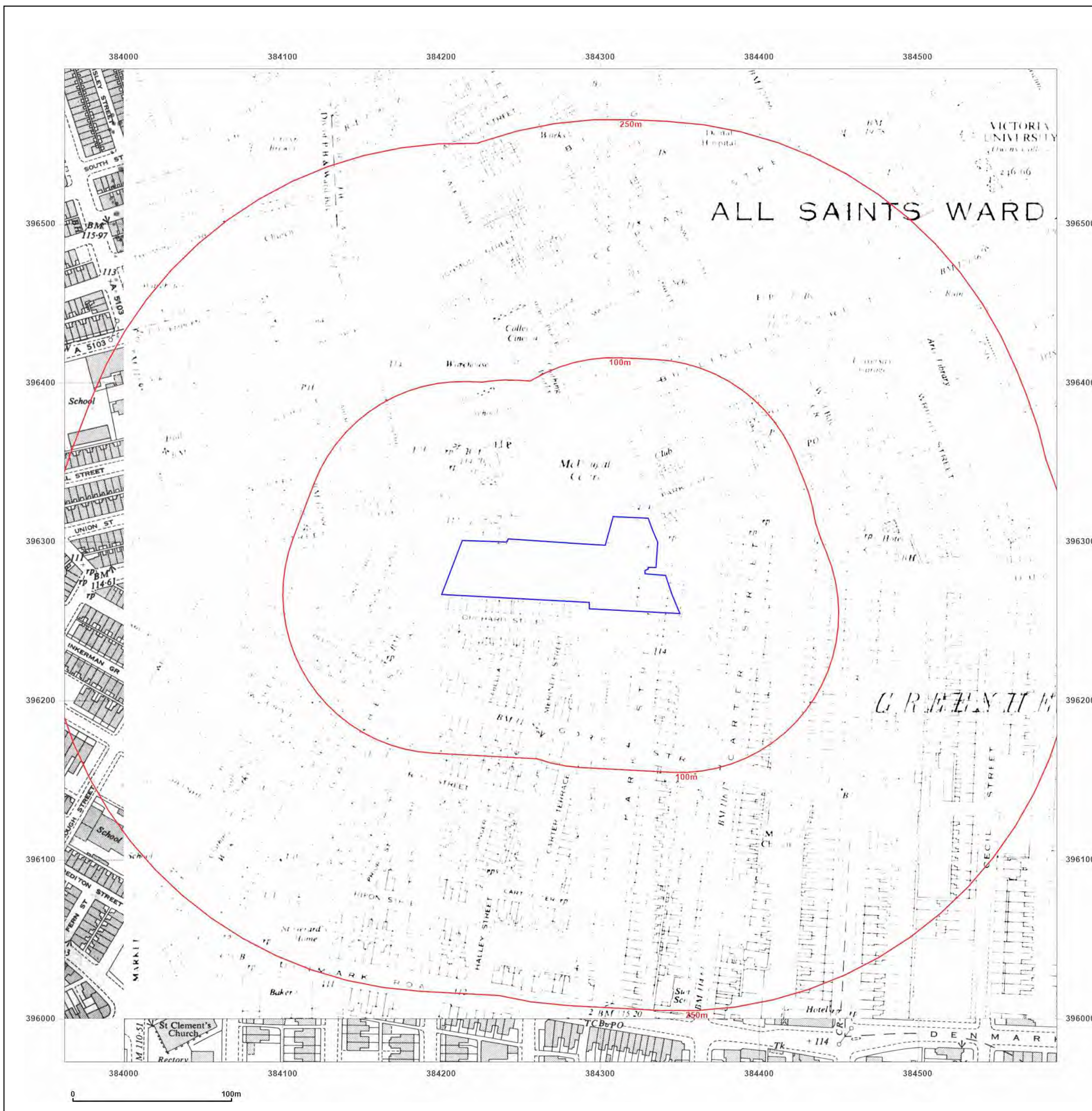


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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1952

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

GREENHEYS BUSINESS
CENTRE, PENCROFT WAY,
MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1952

Scale: 1:1,250

Printed at: 1:2,000



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Site Details:

GREENHEYS BUSINESS
CENTRE, PENCROFT WAY,
MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1950-1955

Scale: 1:2,500

Printed at: 1:2,500



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Site Details:

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MANCHESTER, M15 6JJ

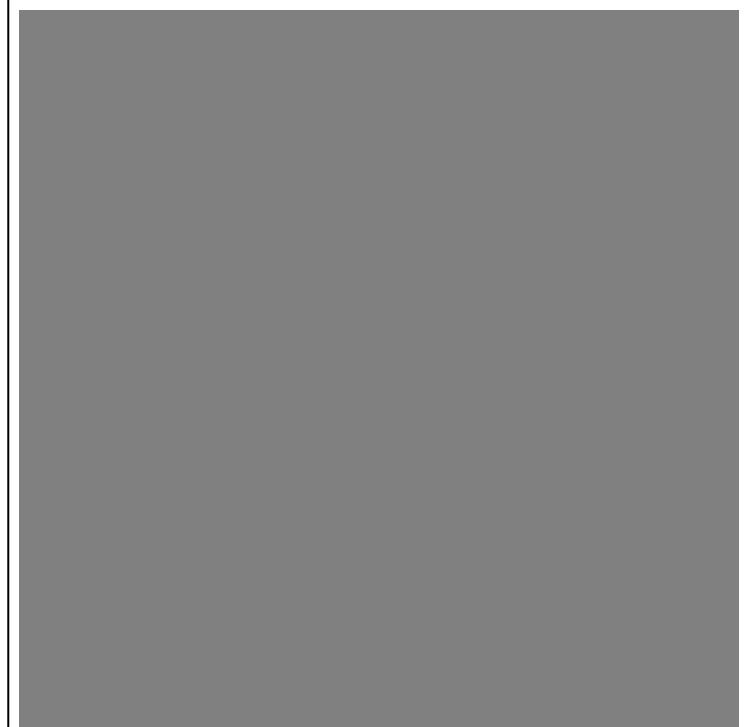
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Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1961-1963

Scale: 1:1,250

Printed at: 1:2,000

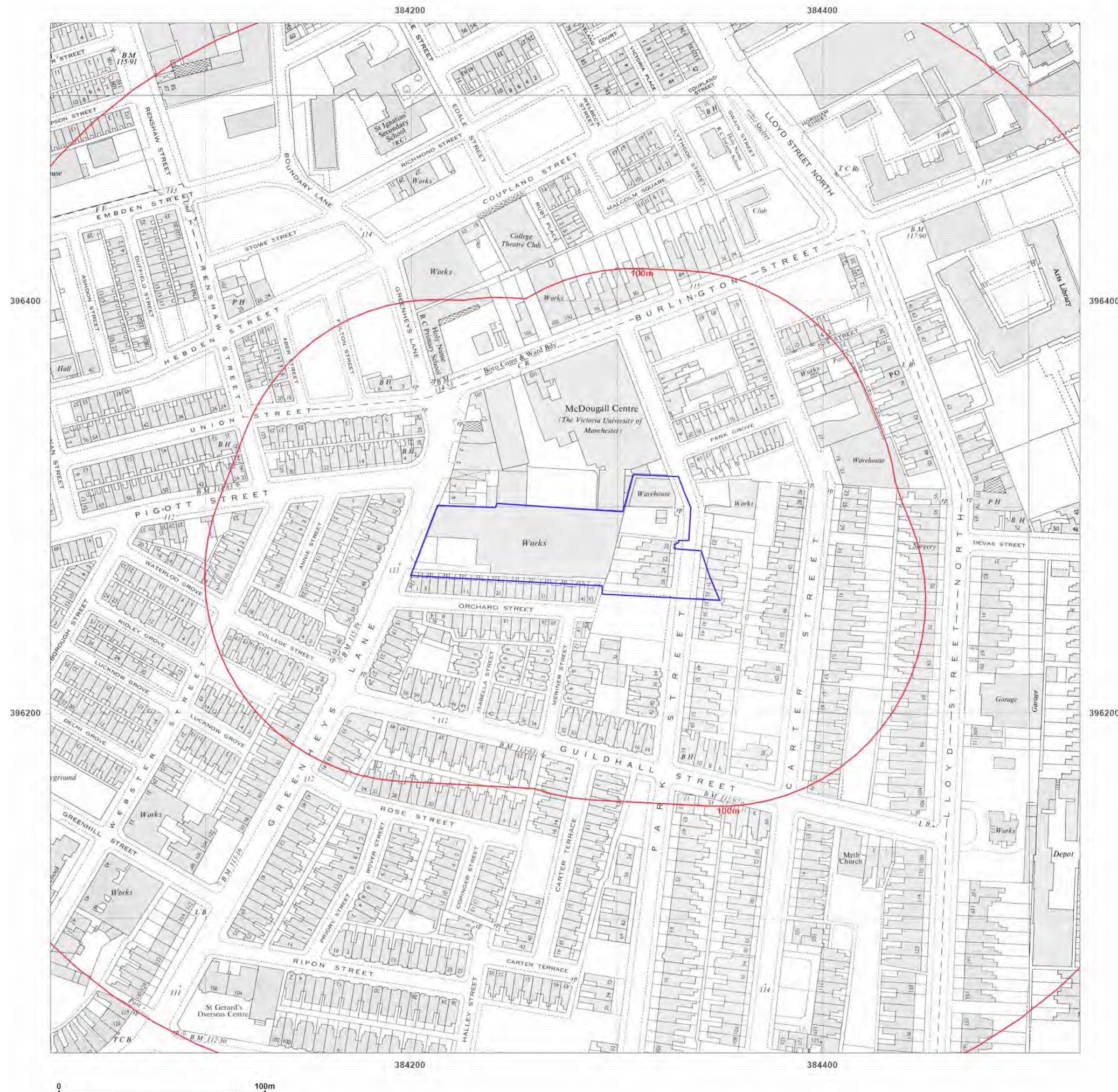


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Site Details:

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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1964-1969

Scale: 1:1,250

Printed at: 1:2,000

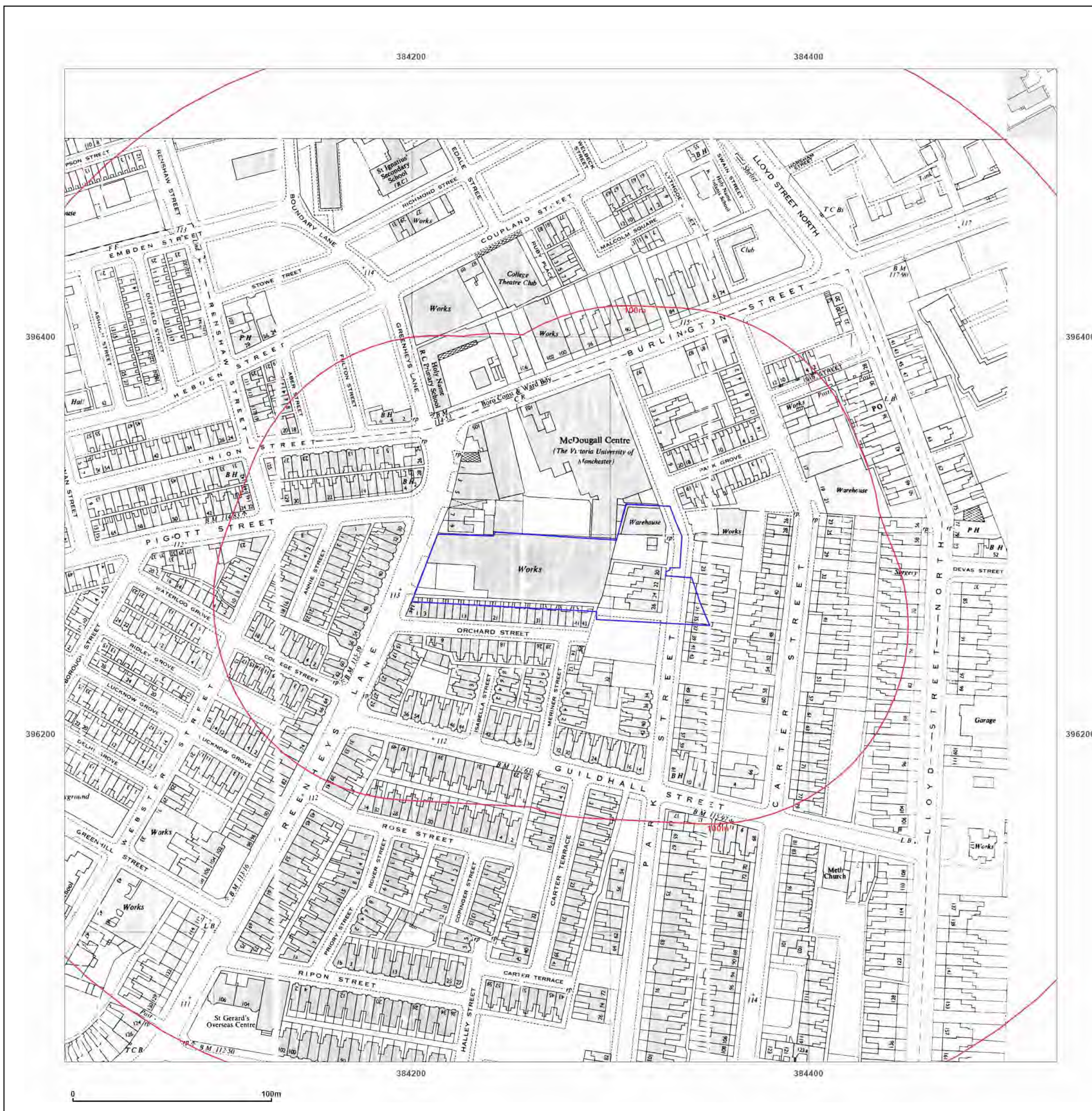


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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1974-1977

Scale: 1:1,250

Printed at: 1:2,000

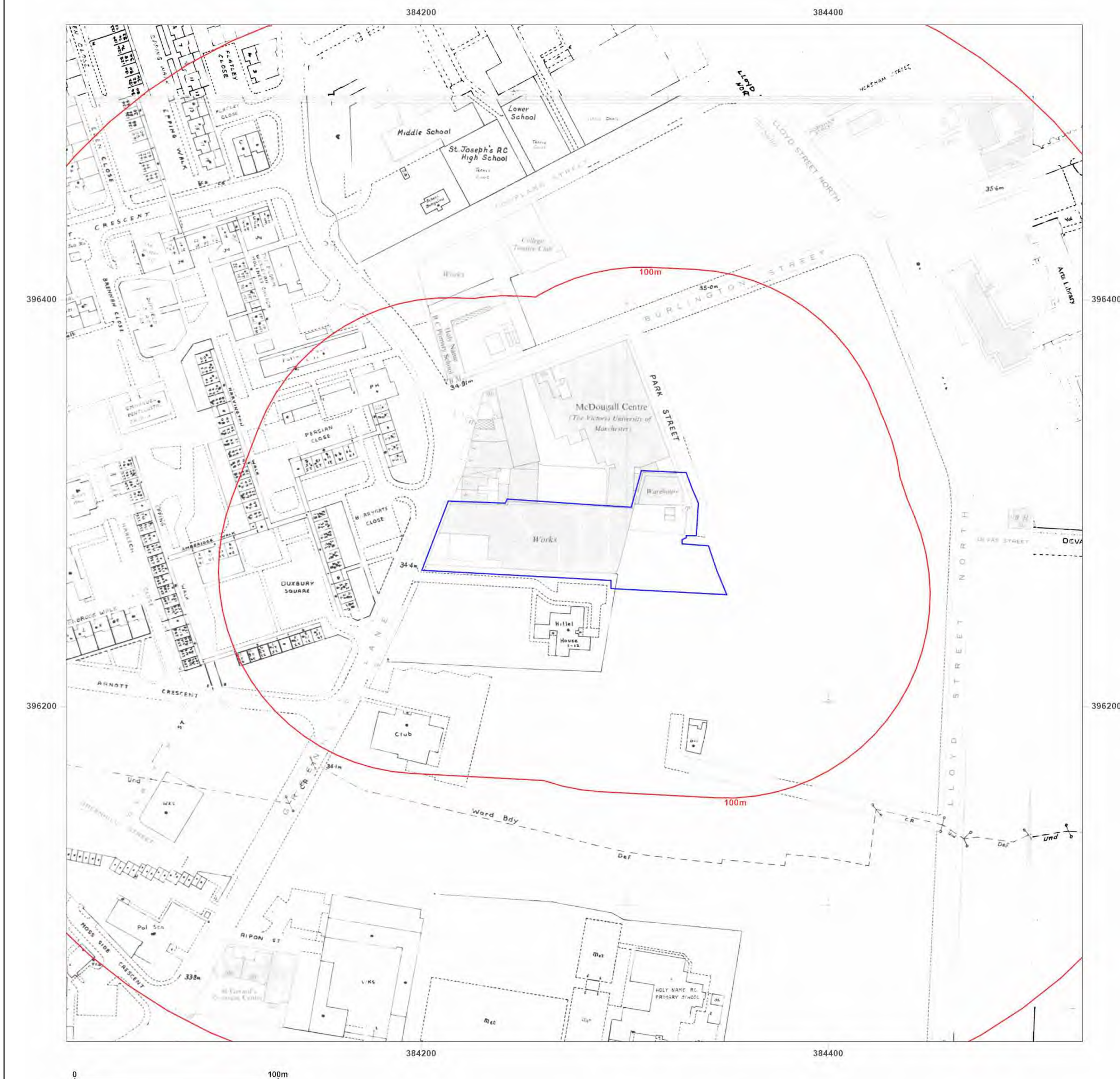


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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1985-1989

Scale: 1:1,250

Printed at: 1:2,000

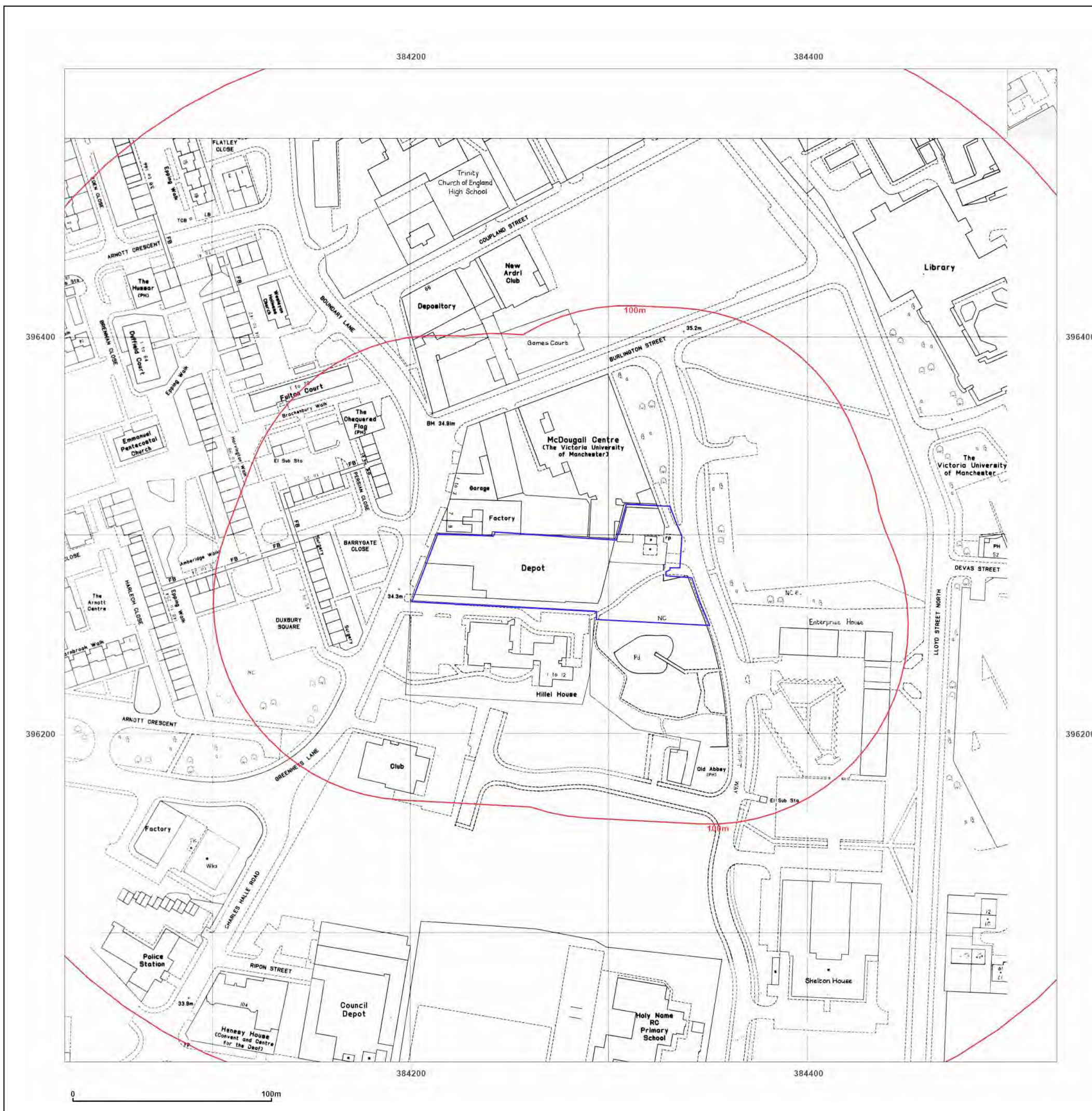


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CENTRE, PENCROFT WAY,
MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1990-1992

Scale: 1:1,250

Printed at: 1:2,000

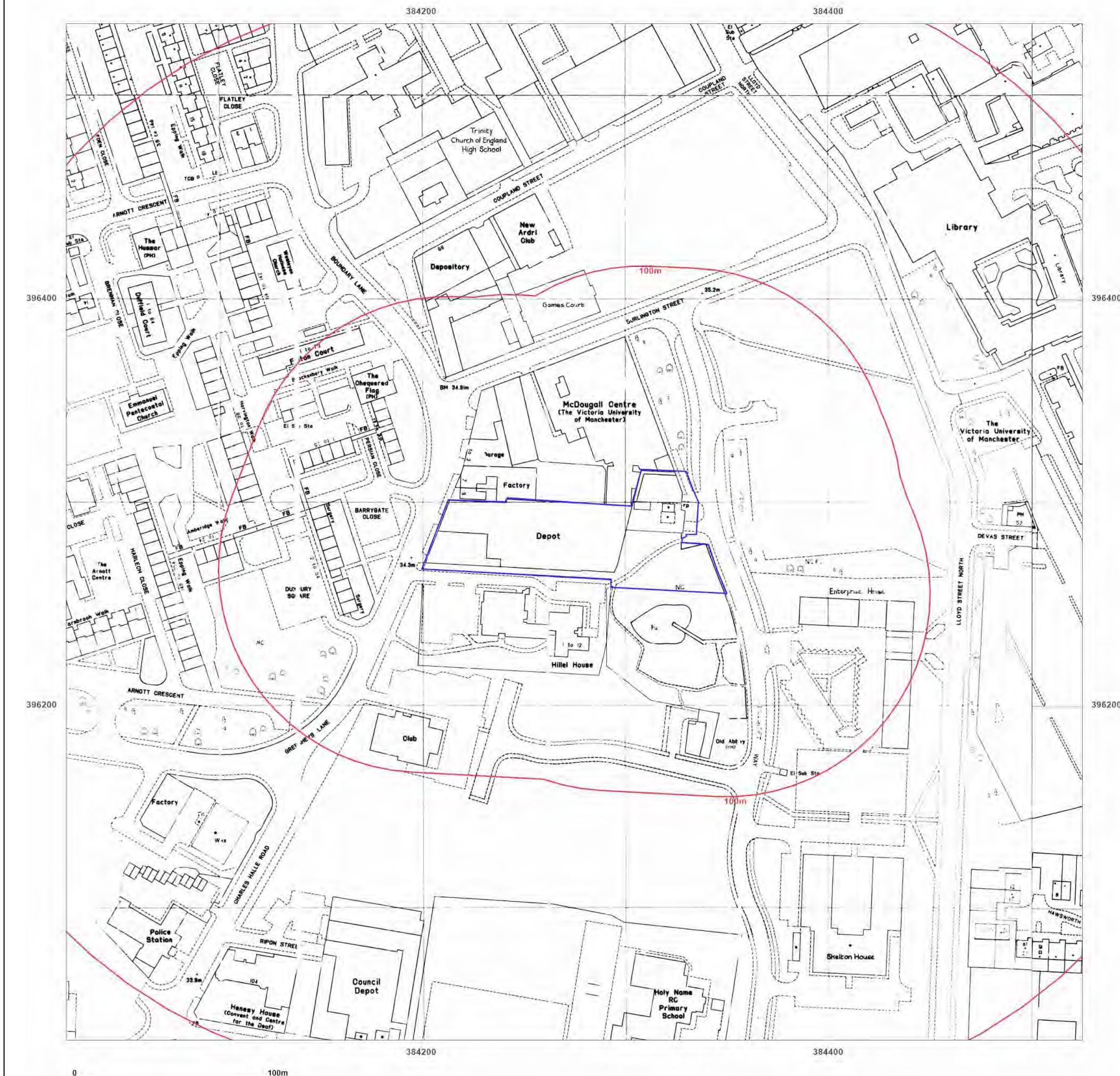


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Site Details:

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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1993-1994

Scale: 1:1,250

Printed at: 1:2,000

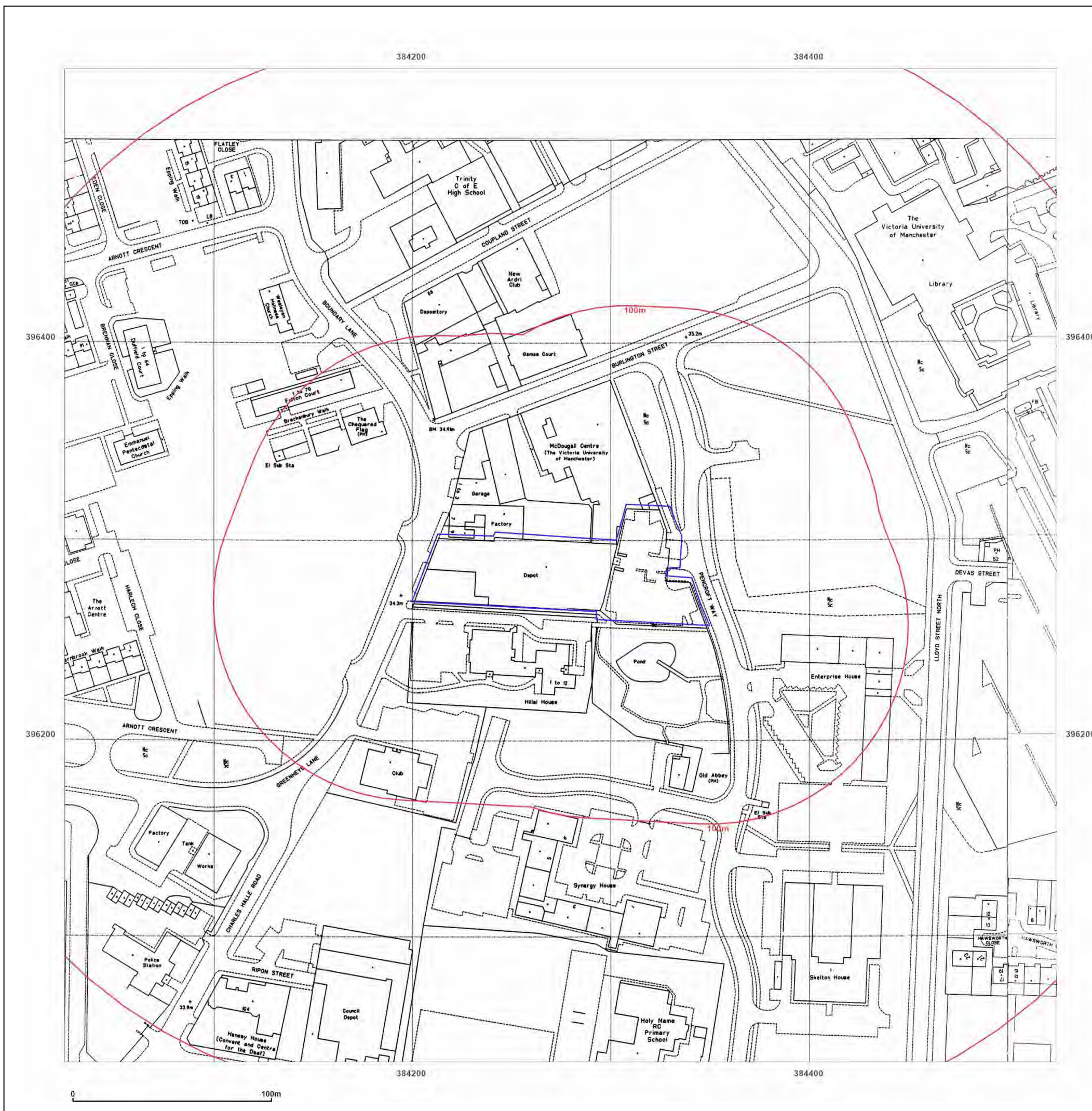


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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1992-1995

Scale: 1:1,250

Printed at: 1:2,000

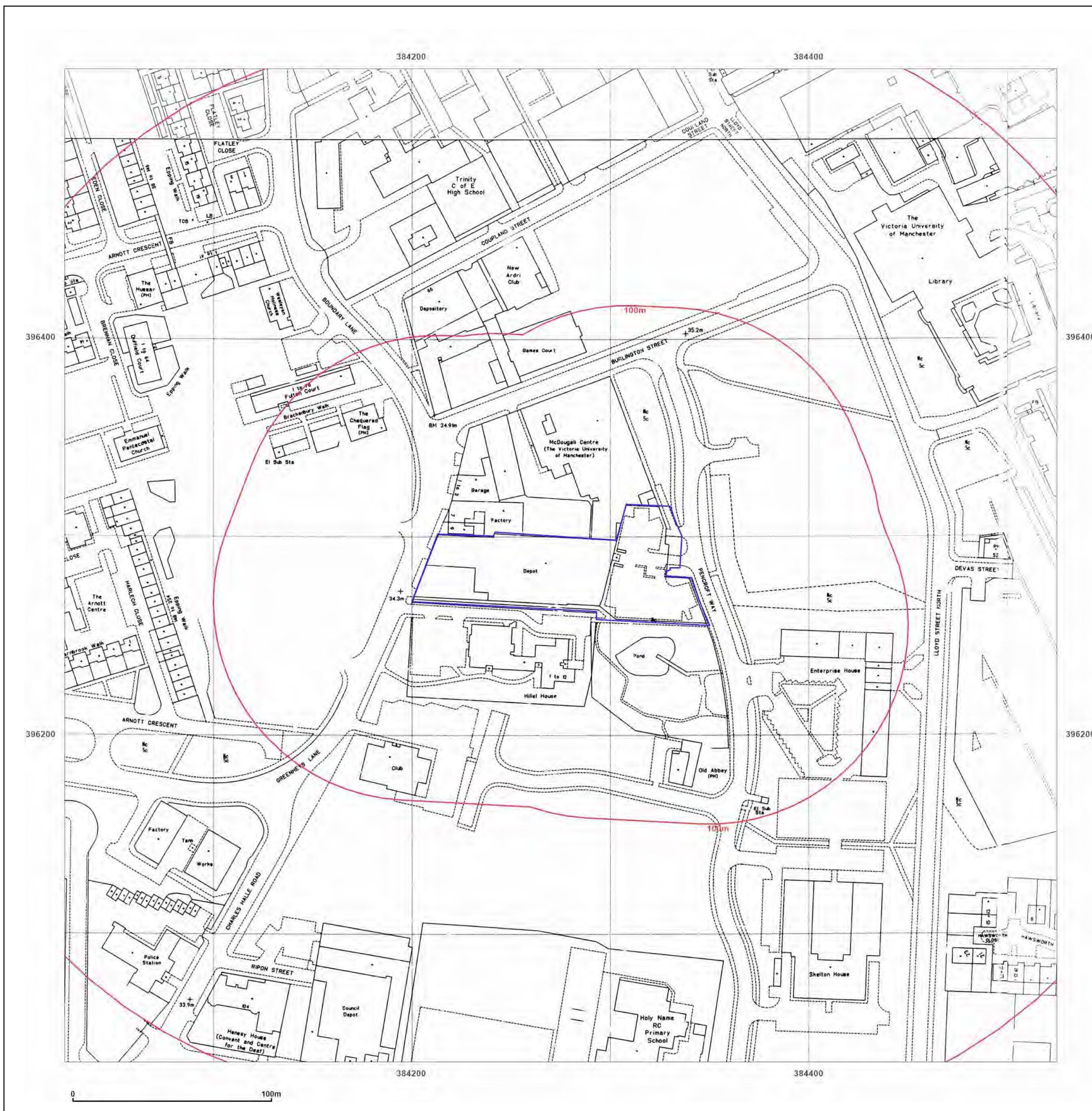


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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1993-1995

Scale: 1:1,250

Printed at: 1:2,000

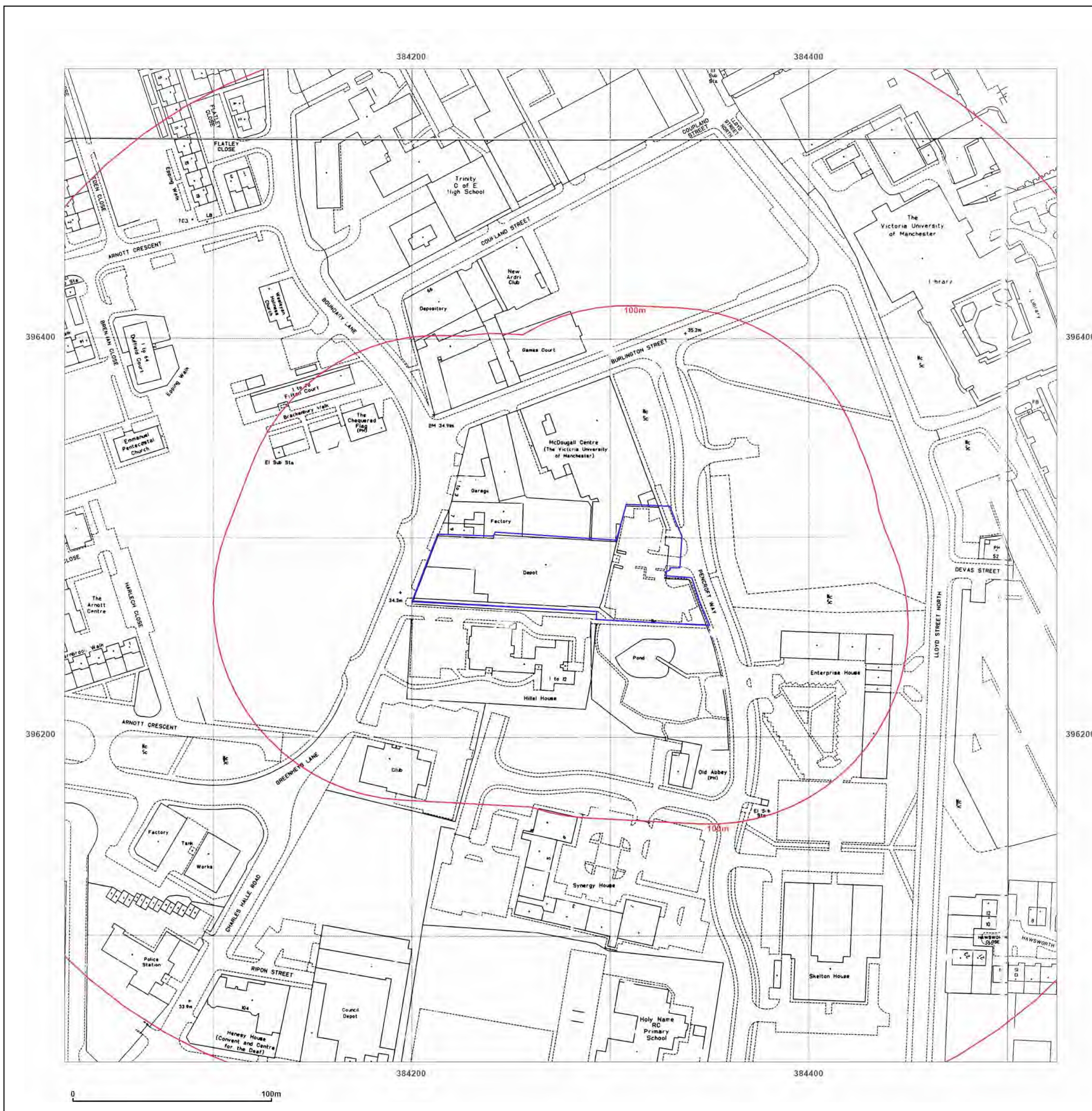


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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1994-1995

Scale: 1:1,250

Printed at: 1:2,000

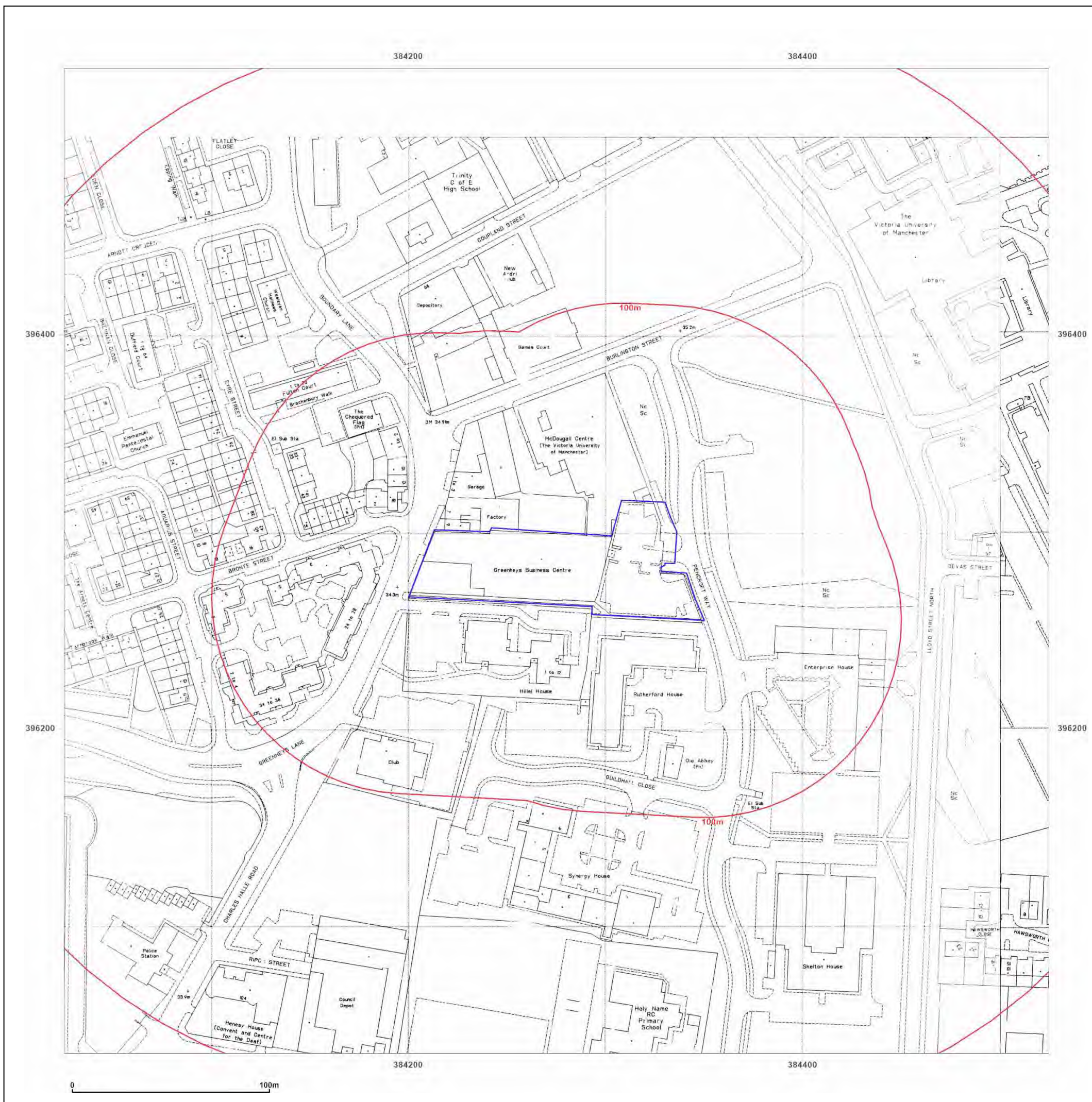


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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1995

Scale: 1:1,250

Printed at: 1:2,000

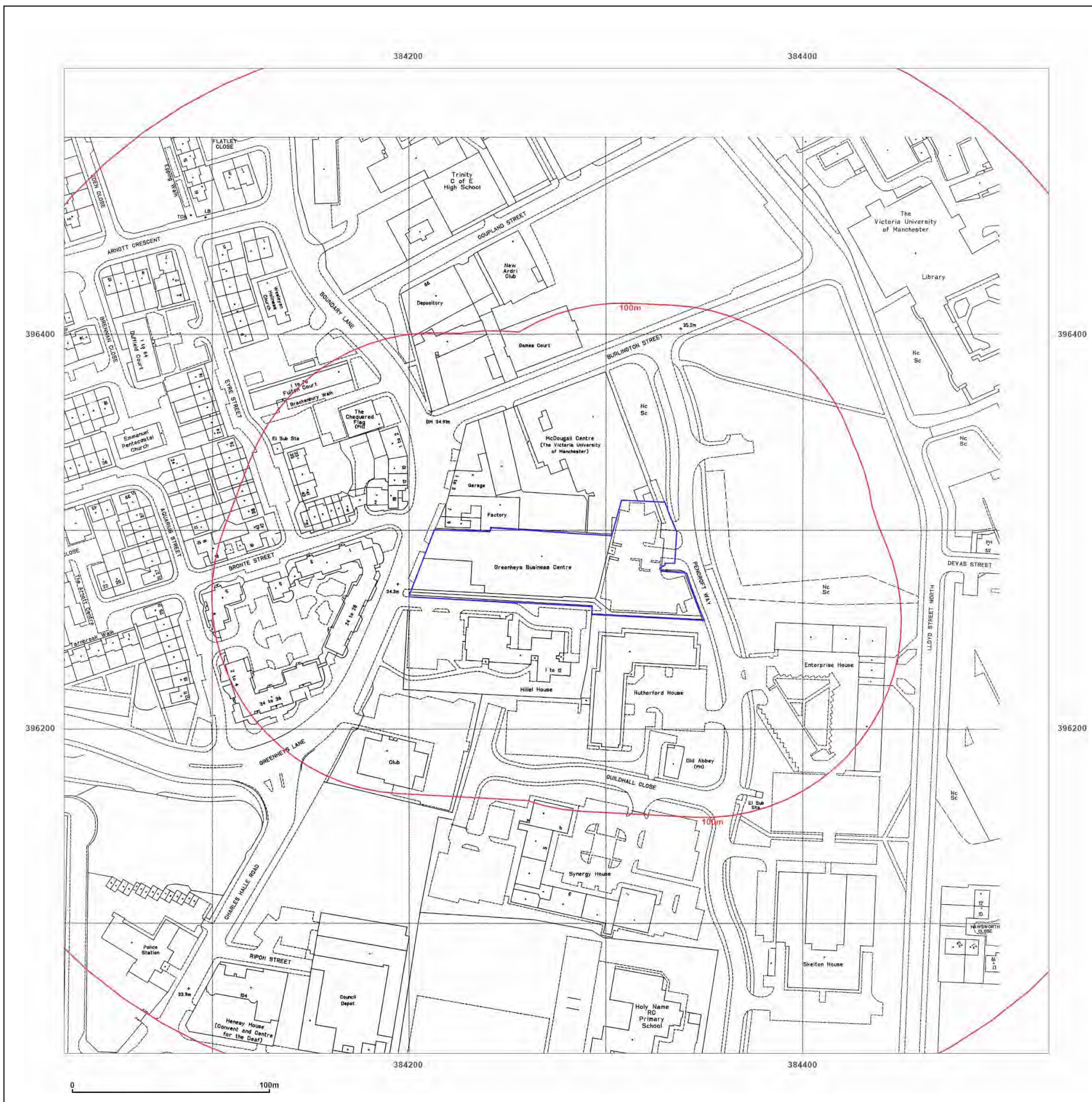


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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



2003

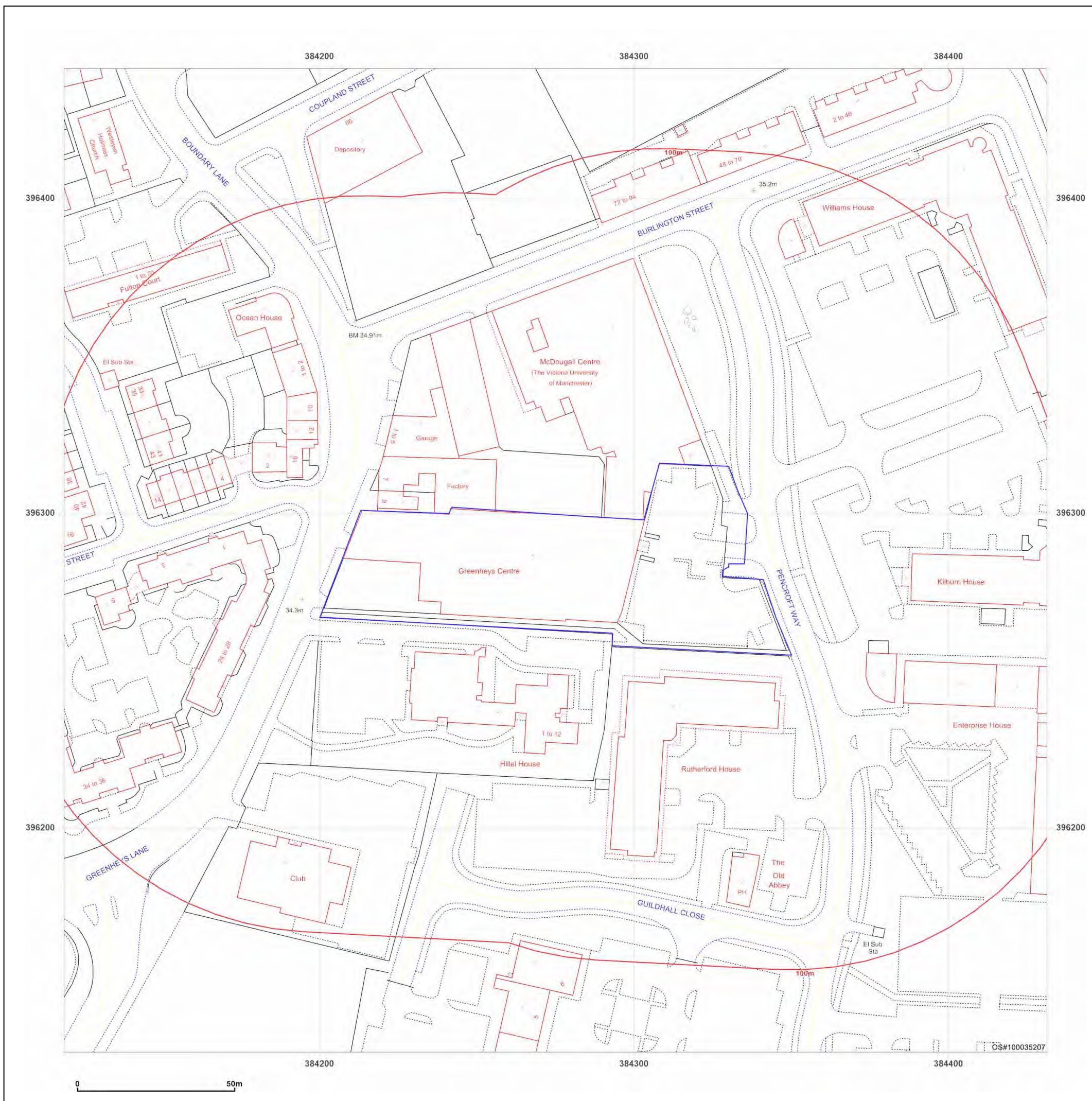


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Site Details:

GREENHEYS BUSINESS
CENTRE, PENCROFT WAY,
MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1848-1849

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1845
Revised 1849
Edition 1849
Copyright N/A
Levelled N/A

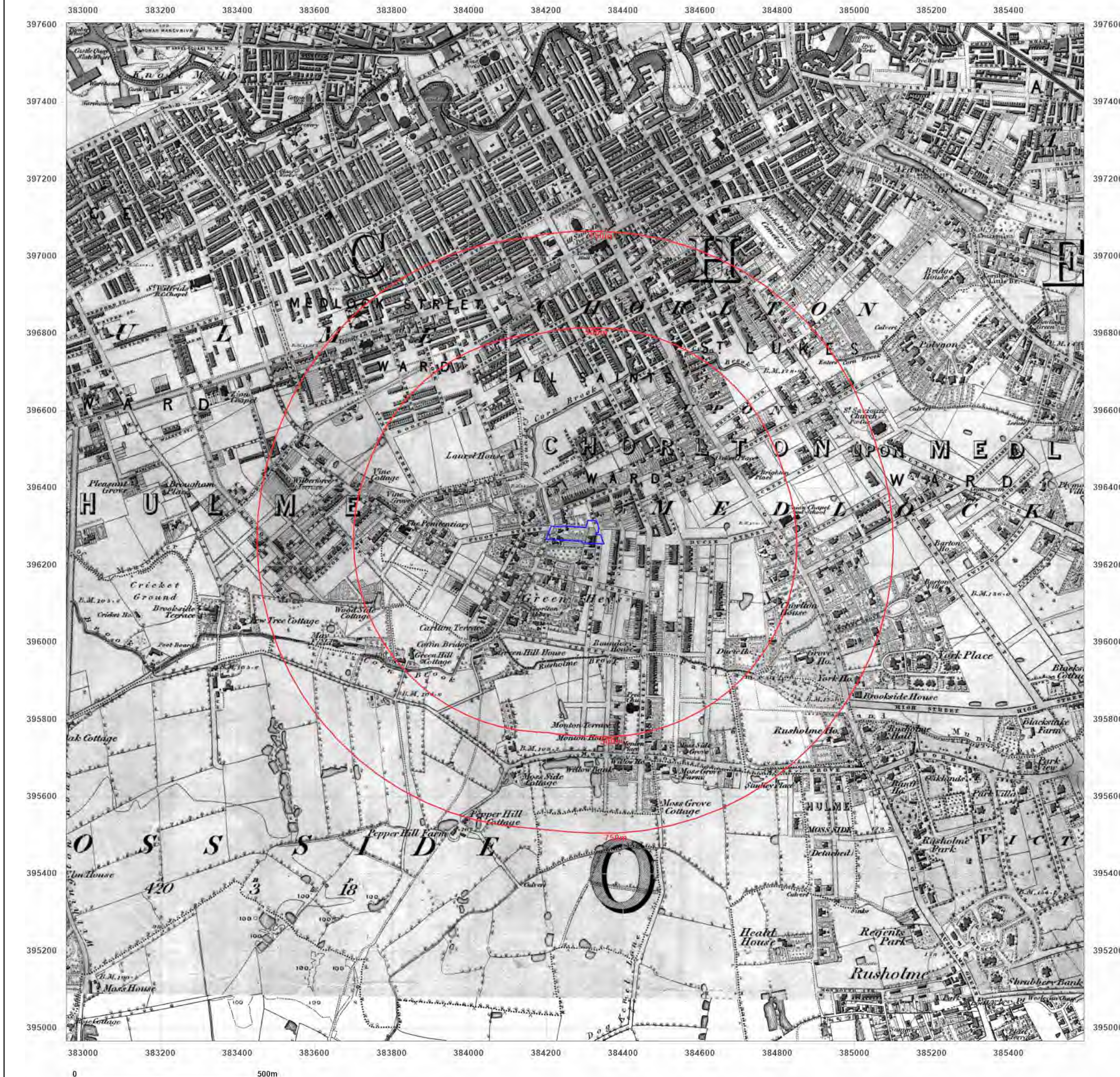


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Site Details:

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MANCHESTER, M15 6JJ

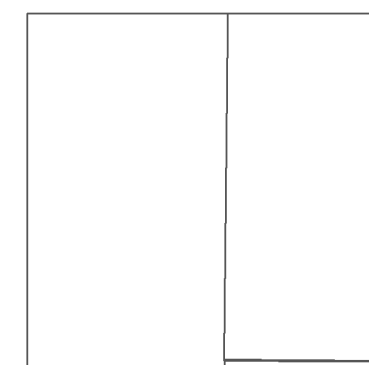
Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1890-1892

Scale: 1:10,560

Printed at: 1:10,560



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

Surveyed 1892
Revised 1892
Edition 1892
Copyright N/A
Levelled N/A

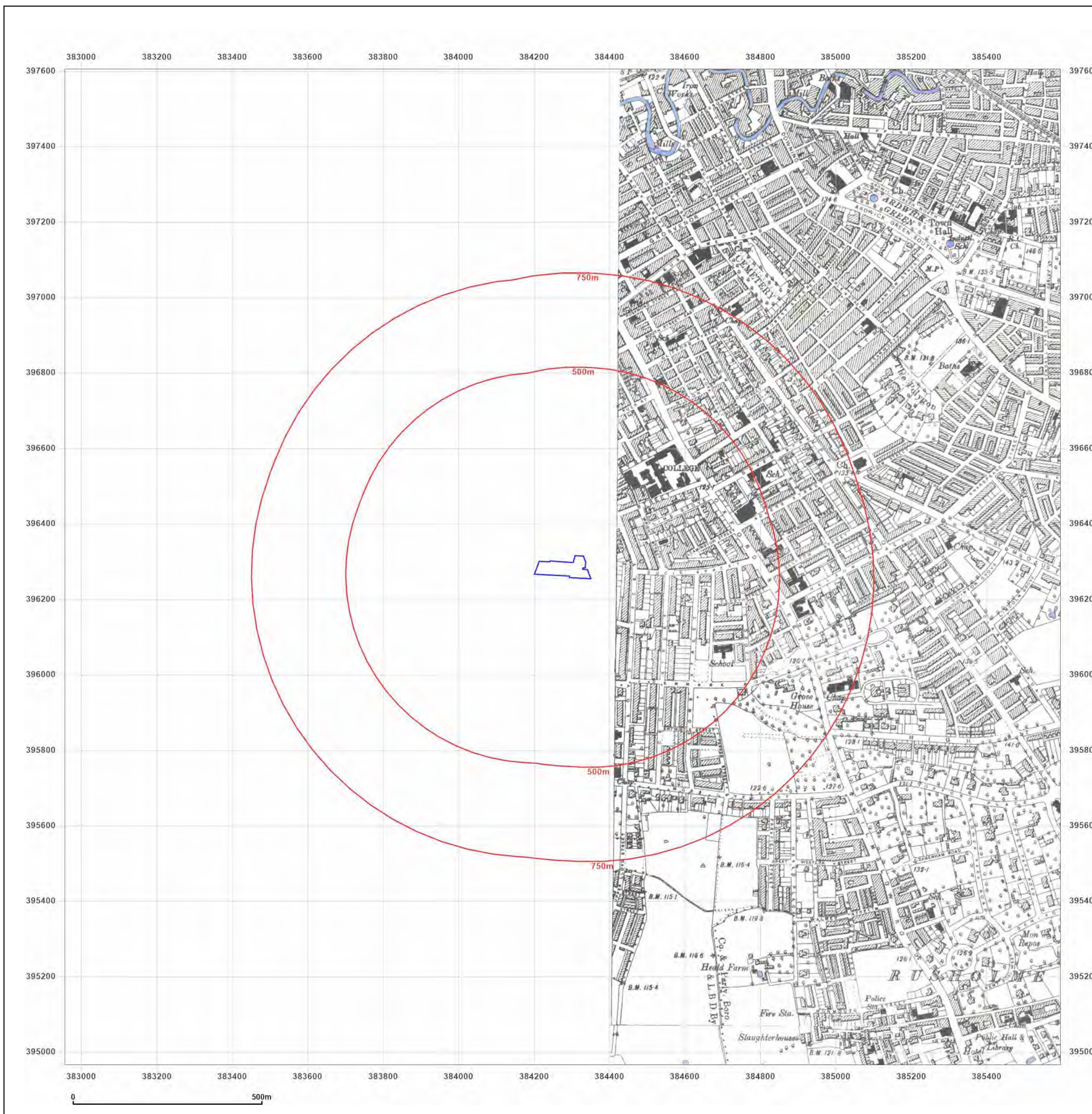


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Site Details:

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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1896

Scale: 1:10,560

Printed at: 1:10,560



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

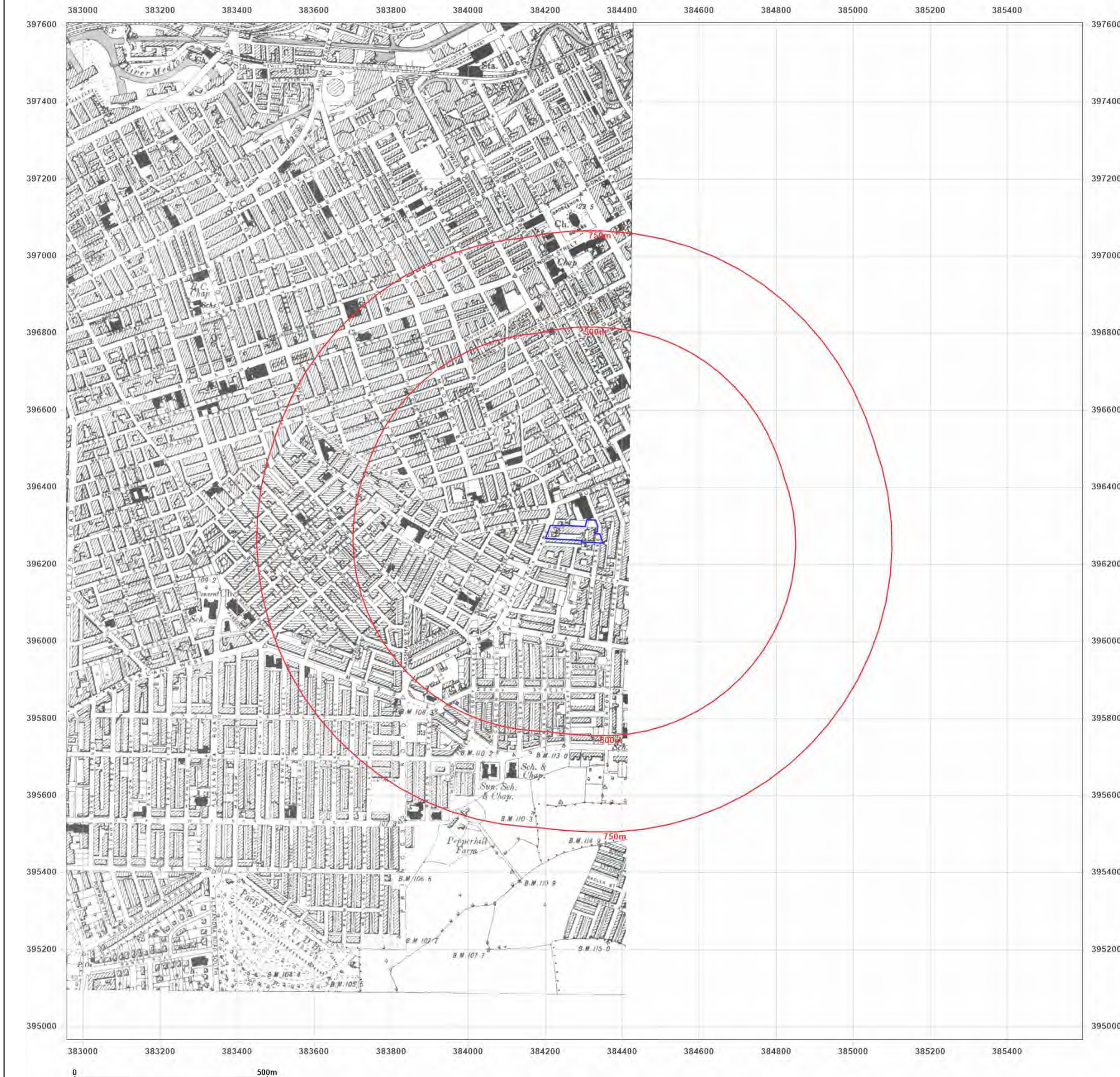


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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1905

Scale: 1:10,560

Printed at: 1:10,560



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

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

Surveyed 1892
Revised 1905
Edition 1905
Copyright N/A
Levelled N/A

Surveyed 1892
Revised 1905
Edition 1905
Copyright N/A
Levelled N/A

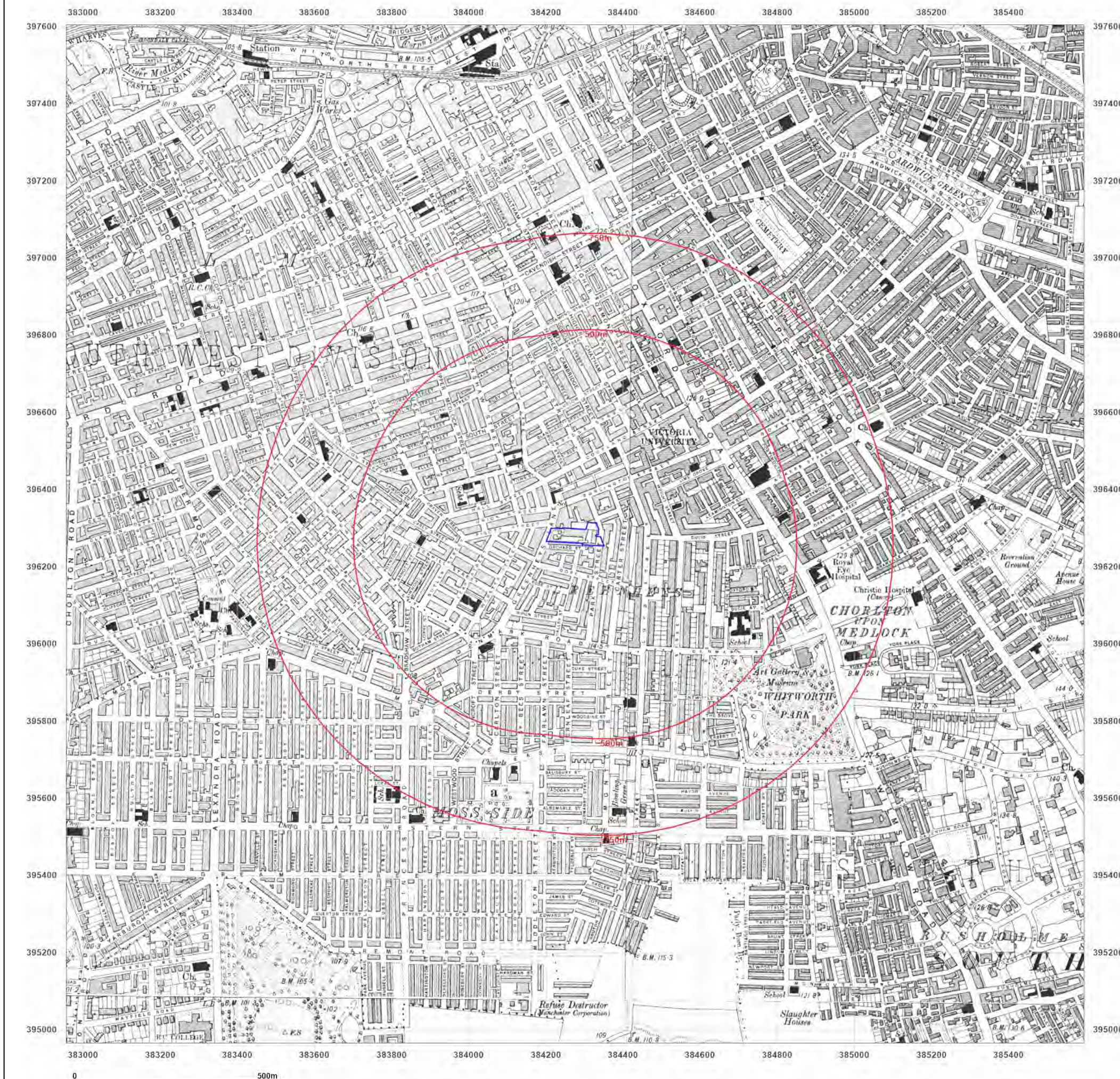


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Site Details:

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CENTRE, PENCROFT WAY,
MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



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

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

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

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

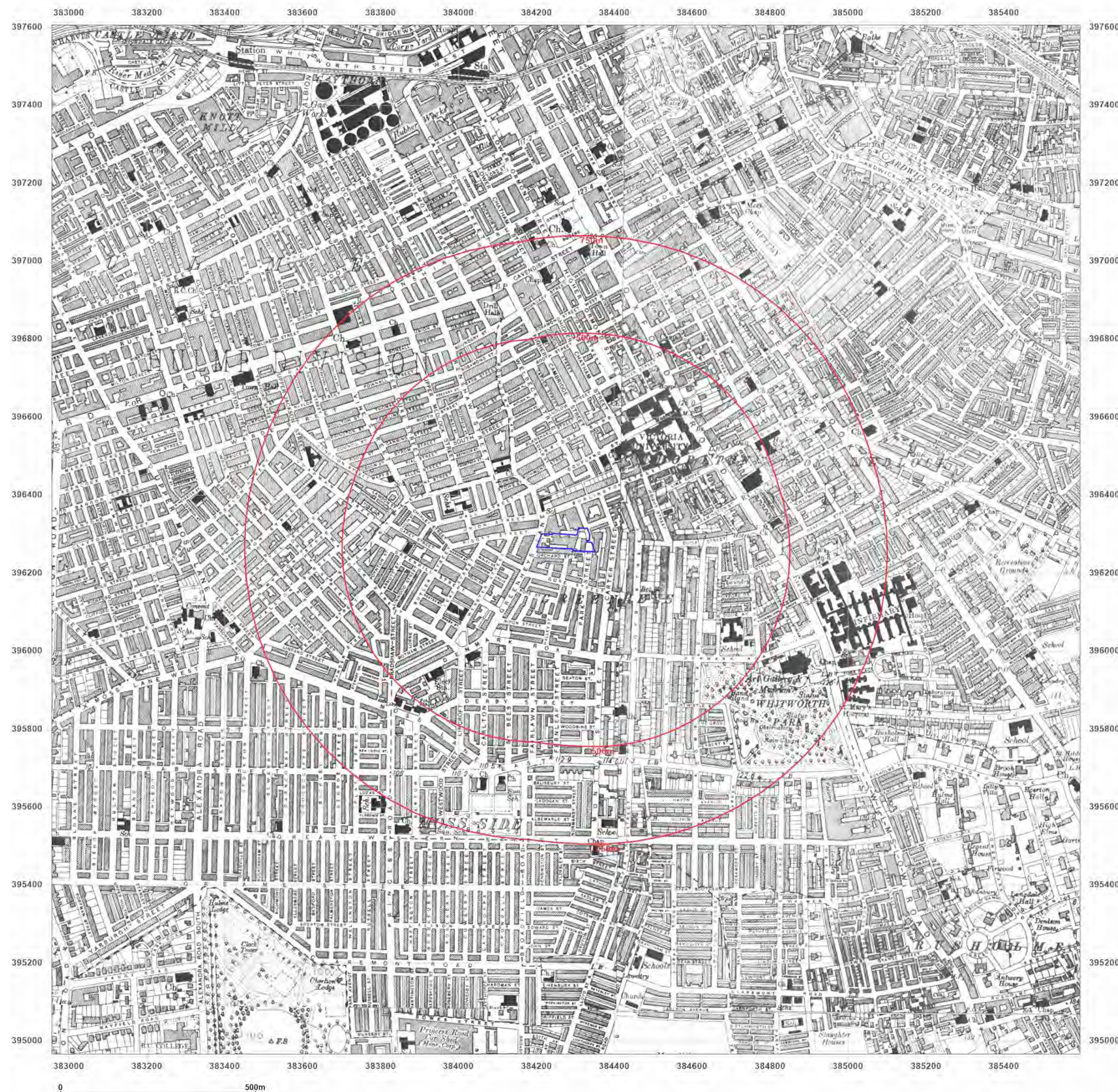


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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1923

Scale: 1:10,560

Printed at: 1:10,560



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

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

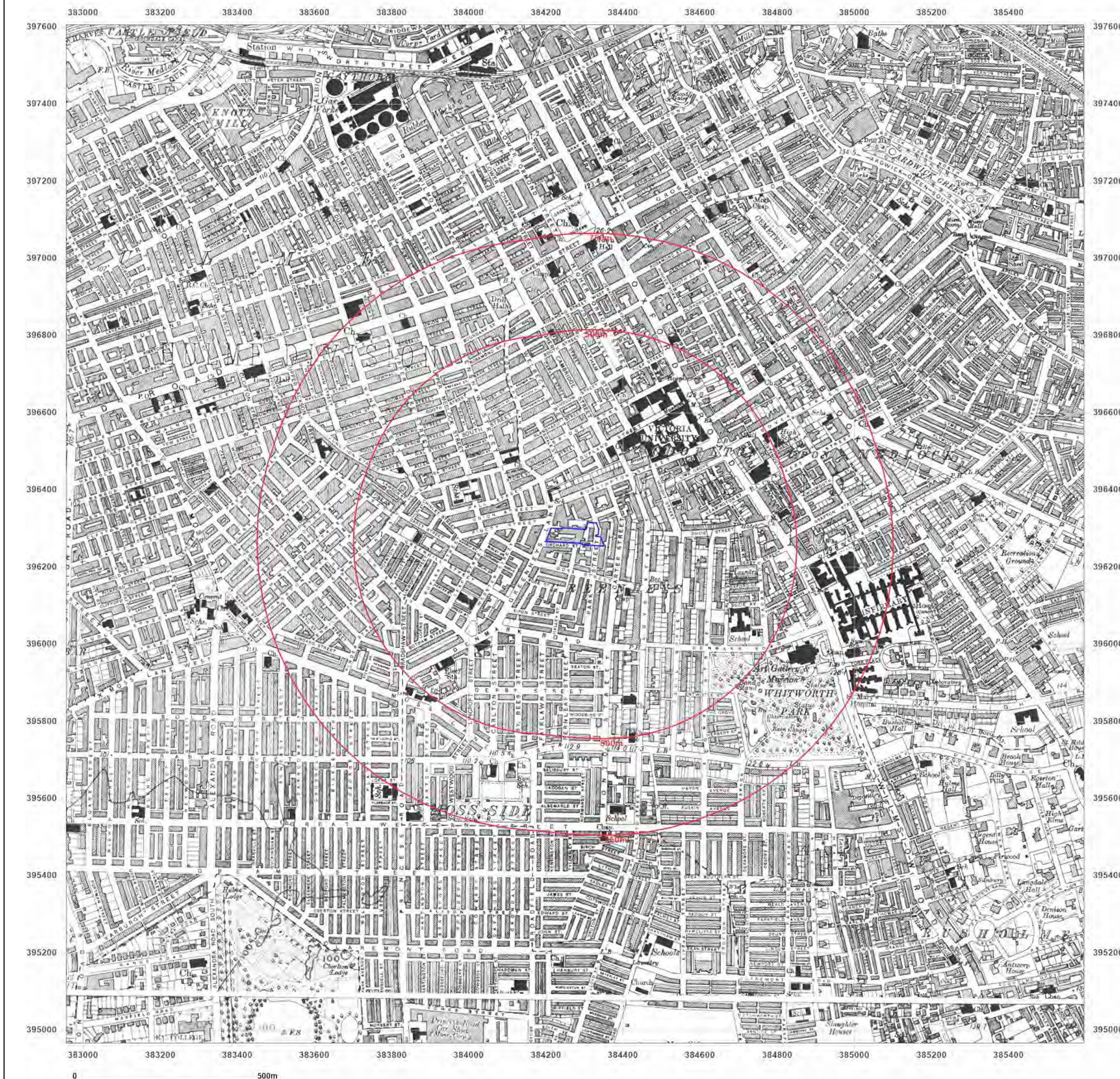


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Site Details:

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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1932-1934

Scale: 1:10,560

Printed at: 1:10,560



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

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

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

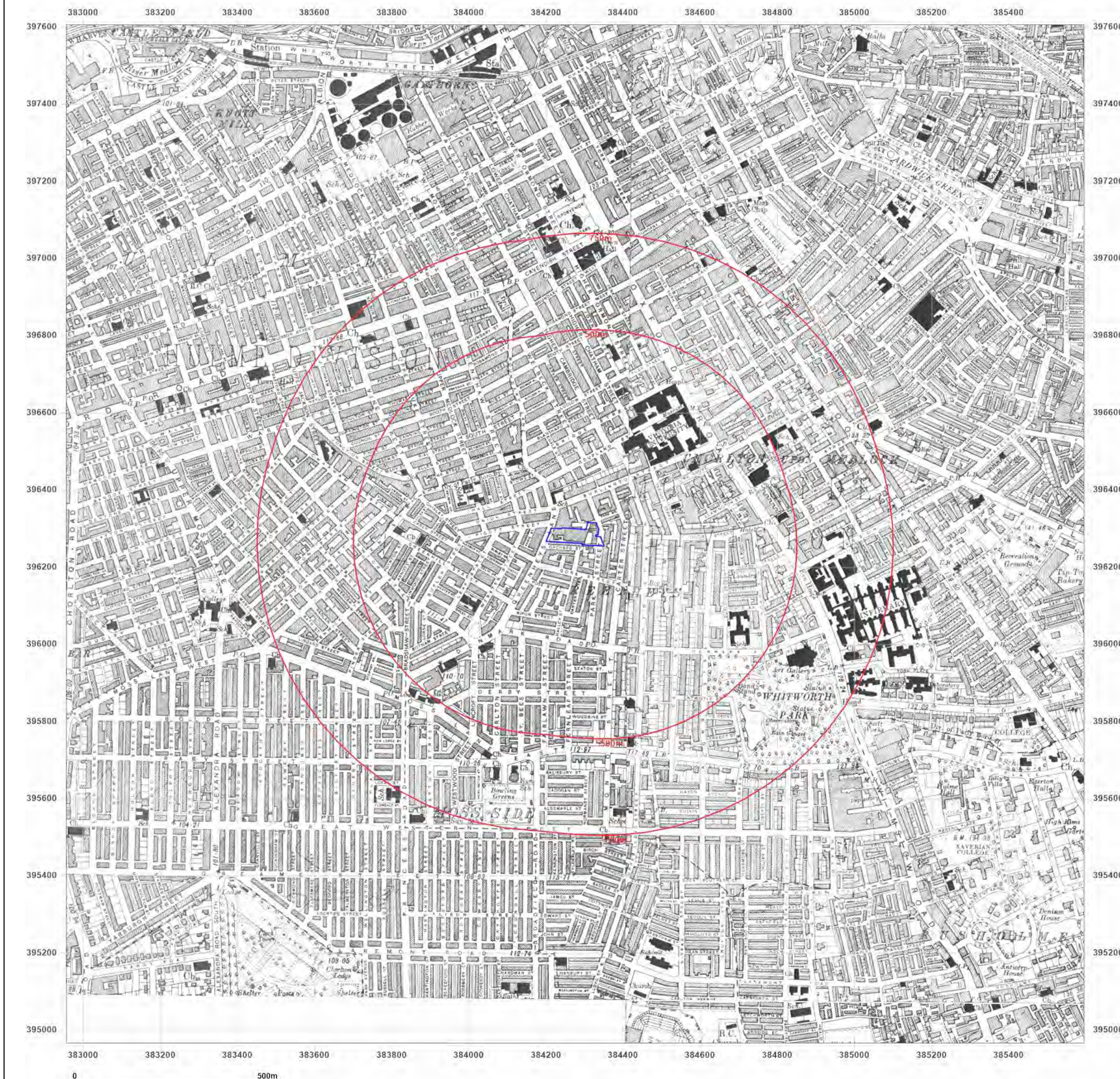


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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: County Series

Map date: 1934-1938

Scale: 1:10,560

Printed at: 1:10,560



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

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

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

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

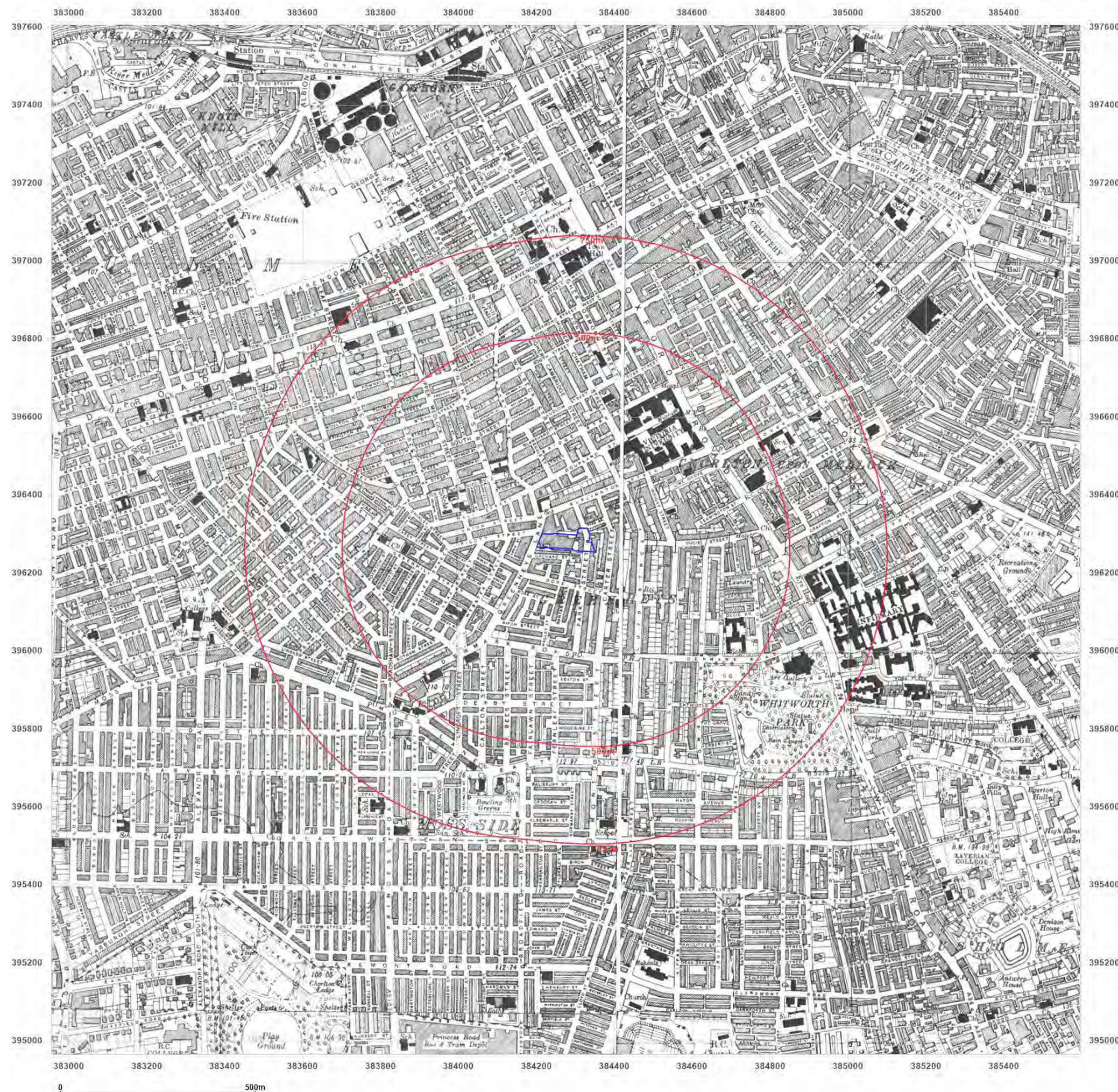


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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: Provisional

Map date: 1955-1956

Scale: 1:10,560

Printed at: 1:10,560

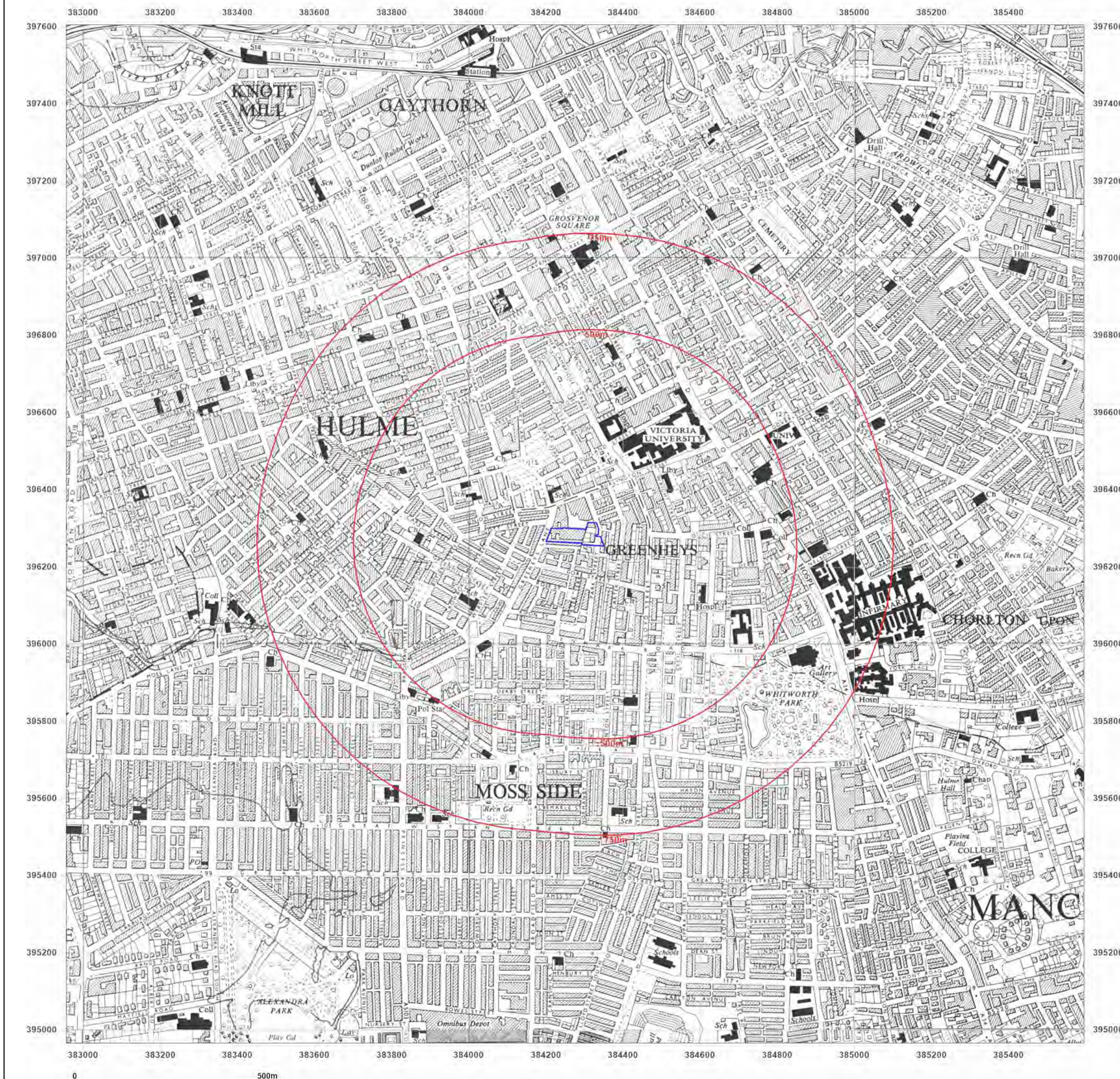


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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

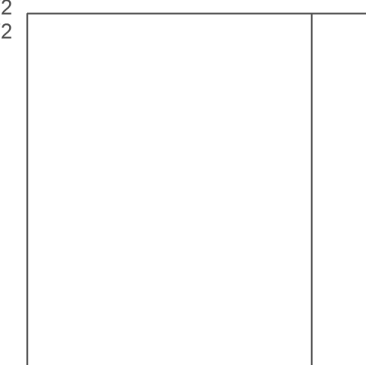
Map date: 1972

Scale: 1:10,000

Printed at: 1:10,000



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

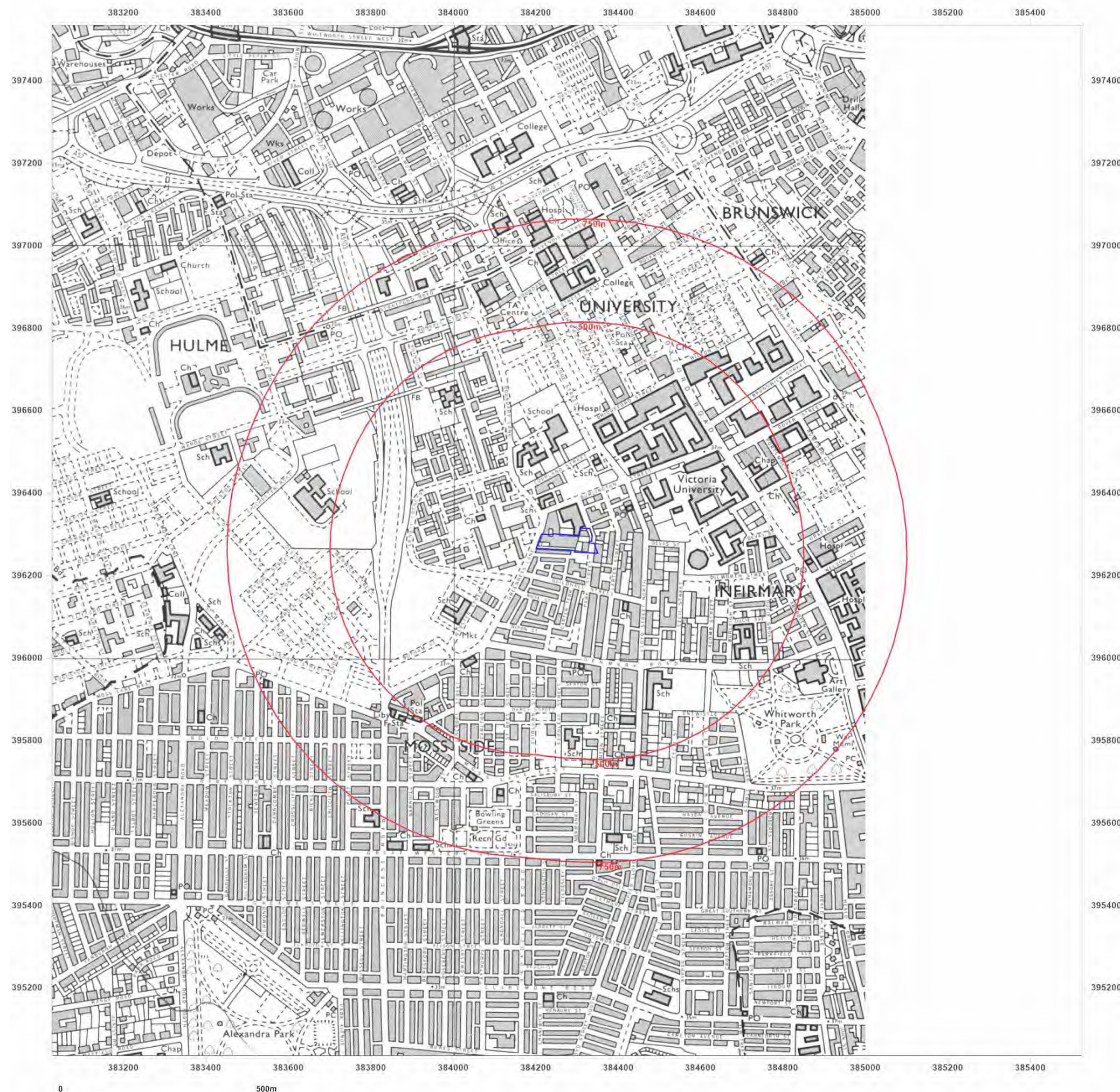


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Site Details:

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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1980-1981

Scale: 1:10,000

Printed at: 1:10,000



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

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

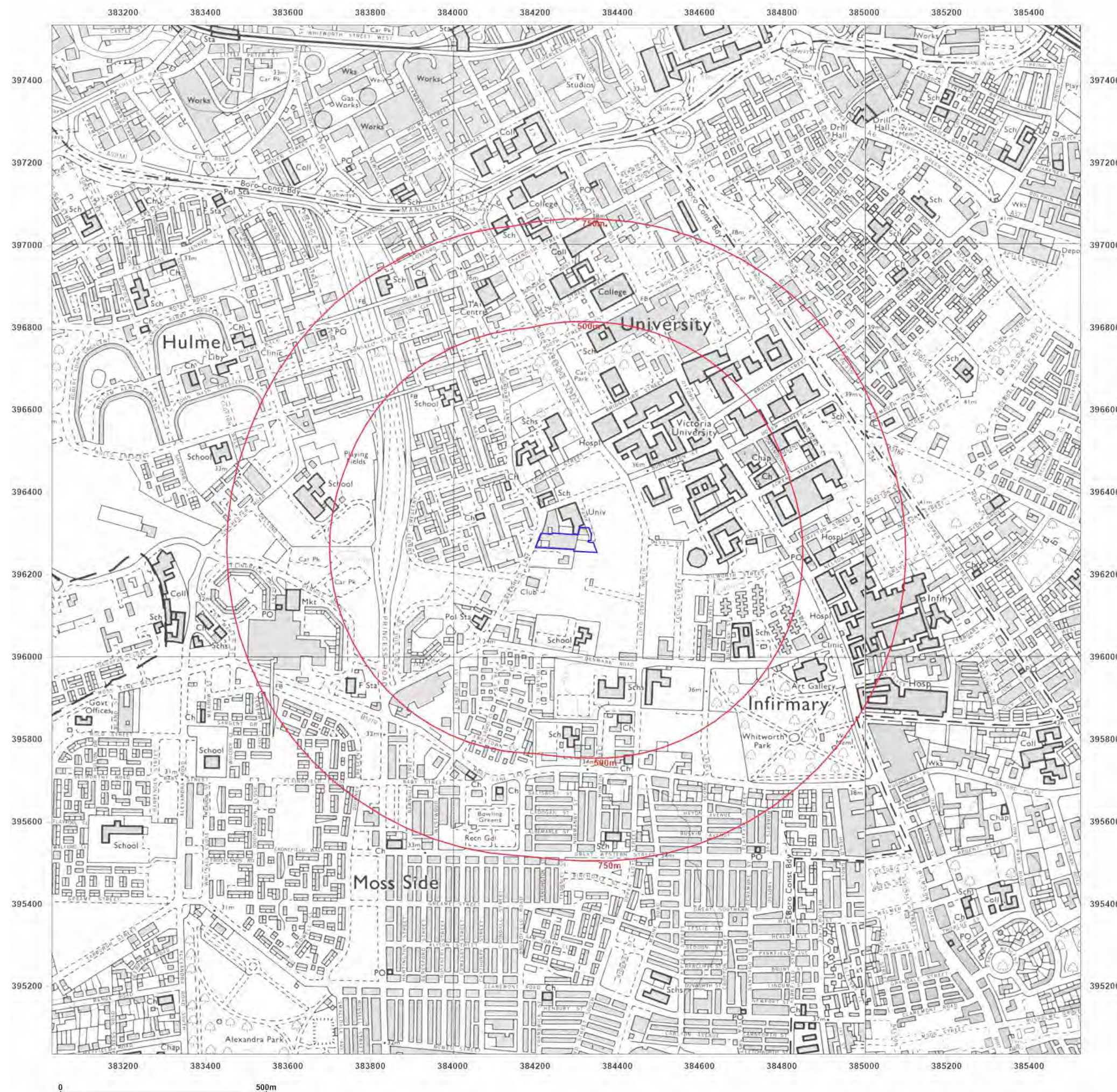


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Site Details:

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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1985

Scale: 1:10,000

Printed at: 1:10,000



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

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

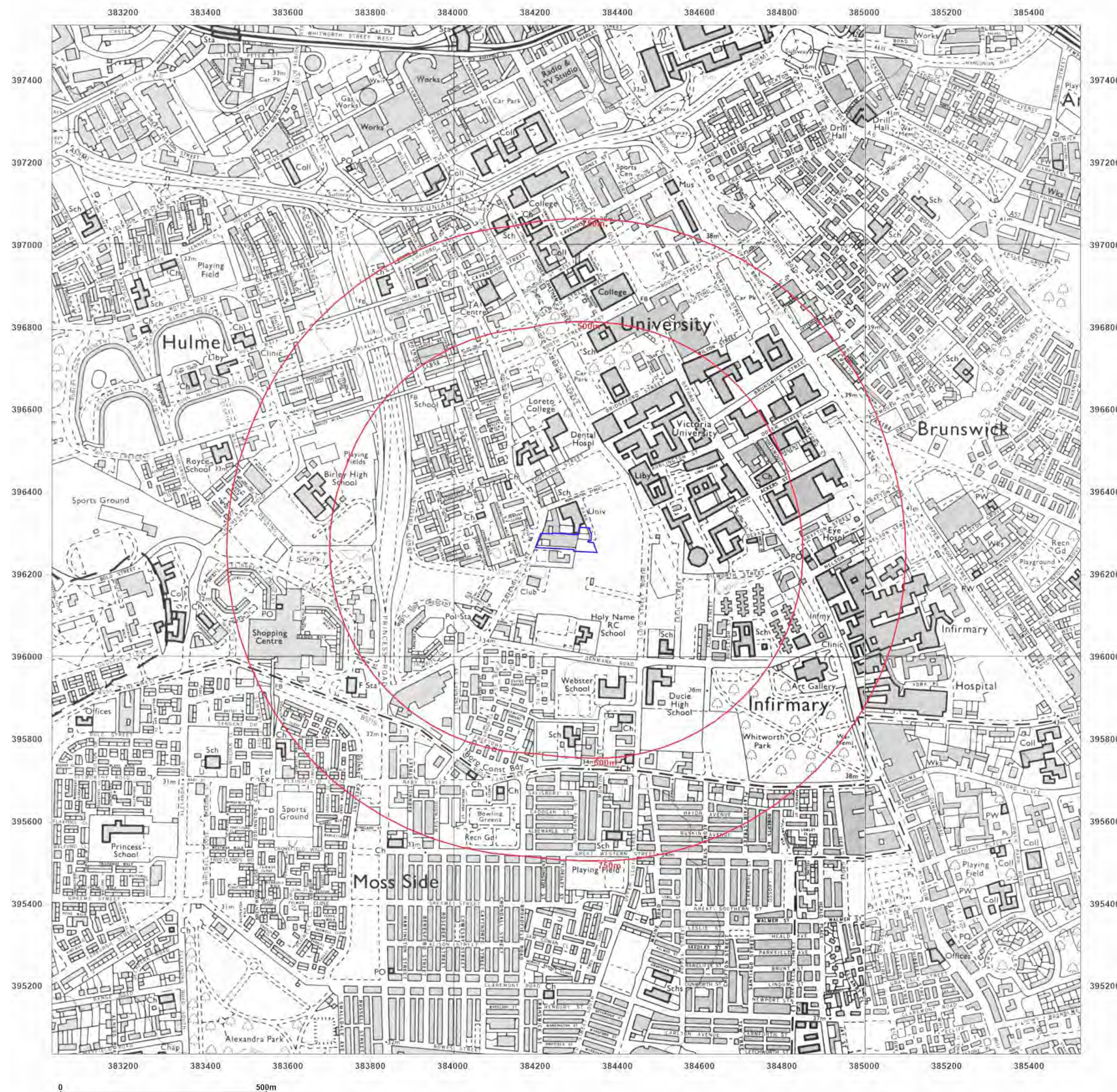


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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 1988-1991

Scale: 1:10,000

Printed at: 1:10,000



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

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

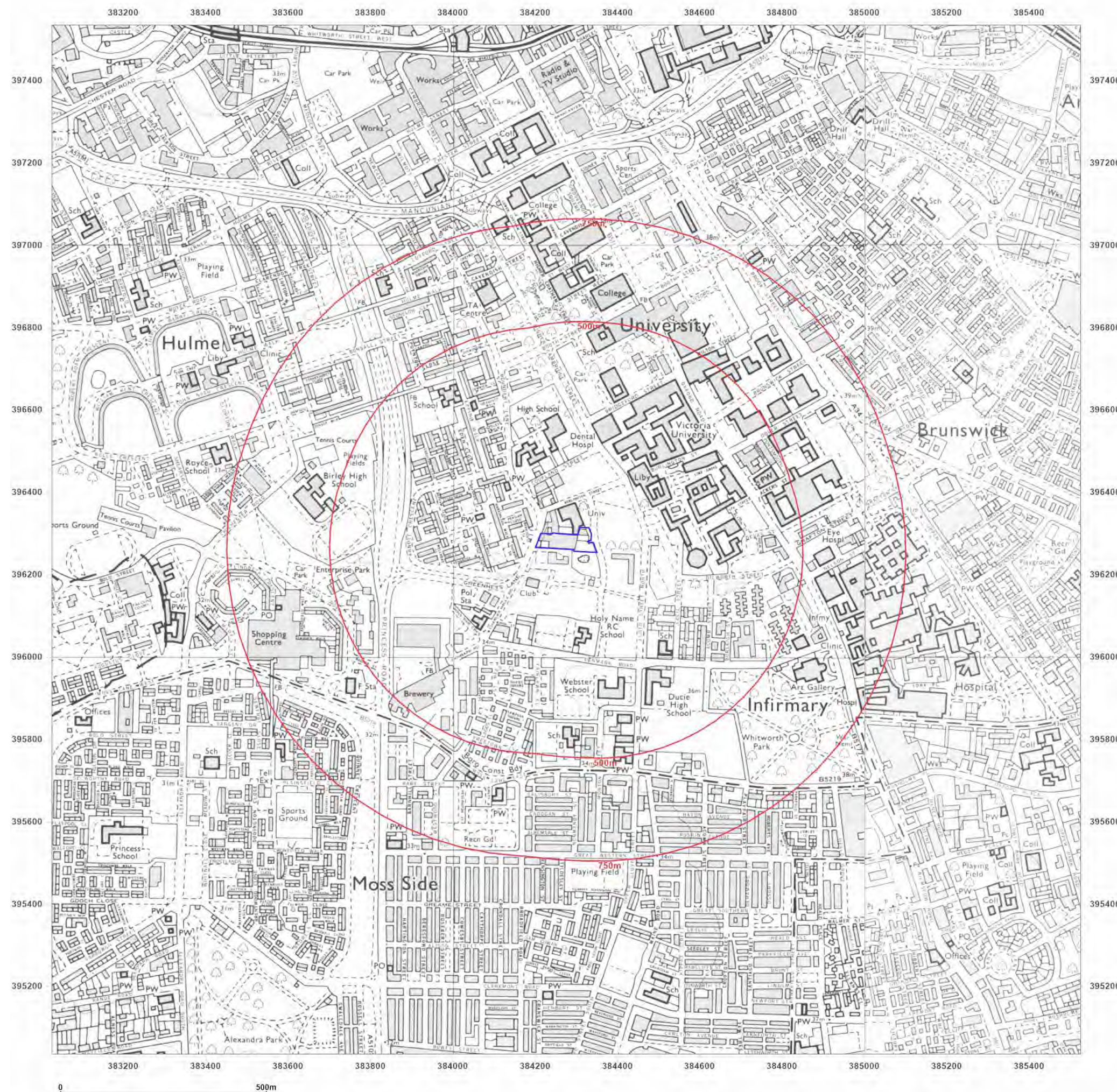


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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

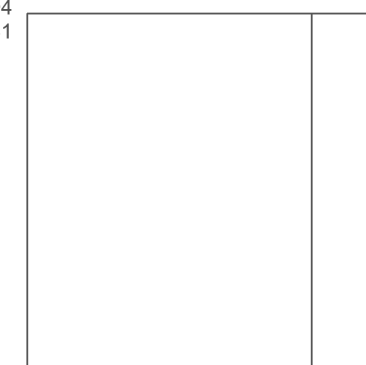
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Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1986
Revised 1994
Edition N/A
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Levelled 1981

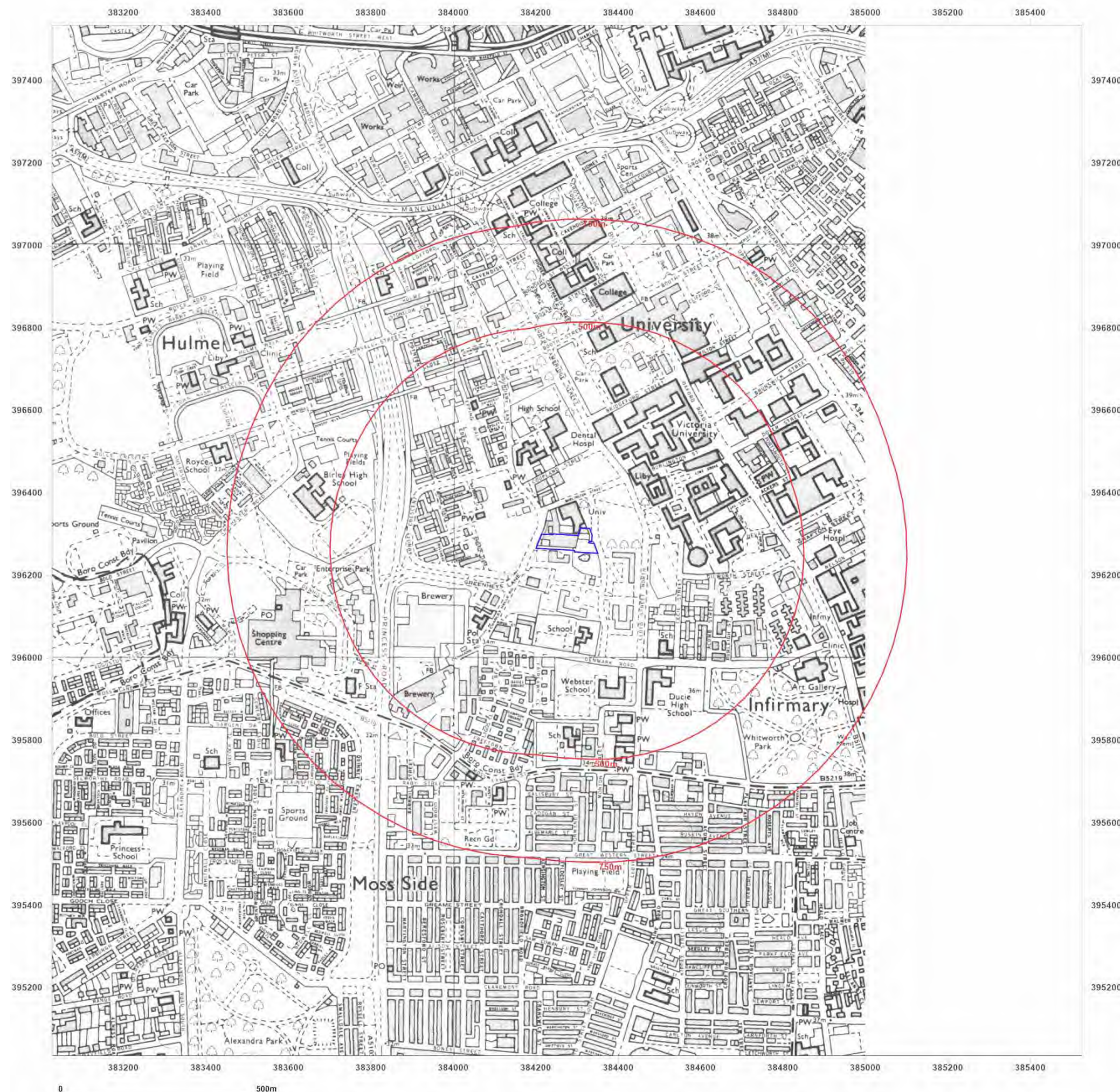


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Site Details:

GREENHEYS BUSINESS
CENTRE, PENCROFT WAY,
MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



2001



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GREENHEYS BUSINESS
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Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010

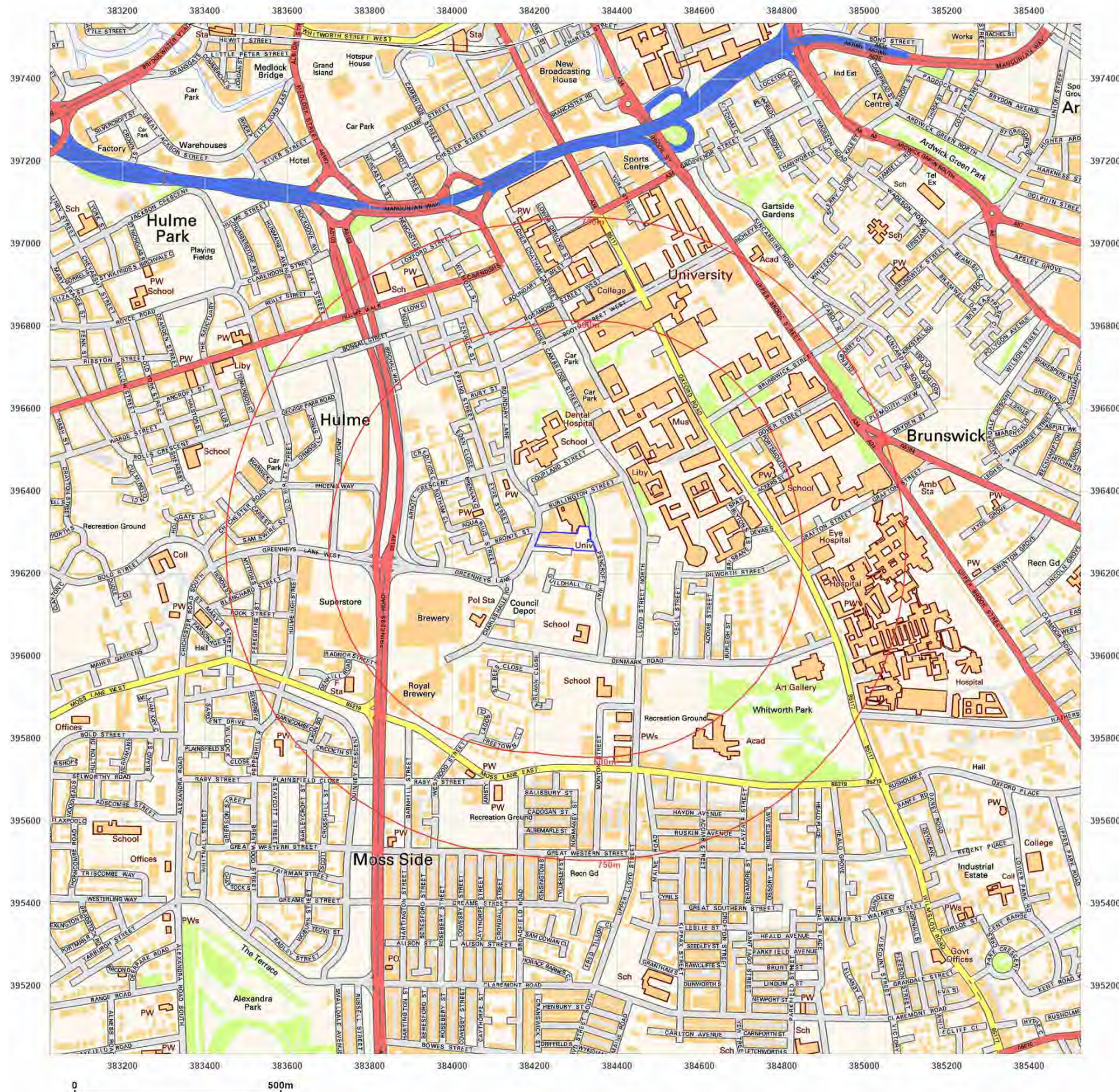


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Site Details:

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MANCHESTER, M15 6JJ

Client Ref: nx534
Report Ref: GS-9022497
Grid Ref: 384275, 396285

Map Name: National Grid

Map date: 2022

Scale: 1:10,000

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2022



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