Phase I Geoenvironmental Site Assessment
Seymour Road, Cheetham Hill

Reference:17-014-R1-1
Date: November 2023

PHASE I GEOENVIRONMENTAL SITE ASSESSMENT

Seymour Road
Cheetham Hill
Manchester
M8 5BQ

Prepared for:

Minhaj Group

Report Ref: 17-014-R1-1
Date Issued: November 2023

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EXECUTIVE SUMMARY

Site Address	2 Seymour Road, Manchester, United Kingdom, M8 5BG
Grid Reference	383773, 402021
Site Area	0.13 Ha
Proposed Development	E3P understands Minhaj Group is involved in the proposed redevelopment of the site to comprise a three-storey community centre.
Current Site Use	The site is currently occupied by a vehicle repair garage with three brick-built structures including the main garage repair shop off Seymour Road with two smaller storage buildings in the south and southeast of the site. The majority of the site is covered with hardstanding utilised for vehicle storage and storage of waste materials, fuel cans and vehicle parts.
Site History	The earliest available mapping dated 1848 indicates the site predominantly comprises an area of landscaped gardens associated with Ryecroft House. Several buildings are present in the north of the site with tracks and access across the site. A glasshouse is recorded in the north of the site by 1893 which is subsequently demolished along with the other buildings associated with Ryecroft House by 1950. By this time, the site has been redeveloped and forms part of a Tractor Repair Engineering Works with a large building in the north of the site and two smaller buildings in the south and east. The site is later recorded as a Depot and remains largely in this configuration until the present day. The latest aerial imagery dated 2023 indicates the areas of hardstanding surrounding the main buildings are largely used for storage

ENVIRONMENTAL SETTING

Geology	**Drift Geology**	Glaciofluvial Sheet Deposits (Sand and Gravel)
	Bedrock Geology	Manchester Marls Mudstone Formation (Mudstone)
	Faults	The nearest geological fault is located circa 255m northeast of the Site.
Geomorphology	The site has been subject to some anthropogenic change which will likely have resulted in the presence of Made Ground to create a suitable level platform for the existing buildings on site.	
Hydrogeology	The site is underlain by a secondary B bedrock aquifer with superficial drift Secondary A aquifer. The site is not located within a Groundwater Source Protection Zone or a Drinking Water Safeguard Zone. There are no groundwater abstractions recorded within 1 km of the site	
Hydrology	There are no off-site surface water features present within 250m of the site.	
Utility Locations	A formal drainage survey has not been completed, however, manholes have been noted along the northern boundary of the Site on Seymour Road. Overhead cables have been noted that are connected to the northern most building on site.	
Landfill Sites and Ground Gases	No landfill sites (current or historic) are located within 250 m of the Site. The Site has undergone some historic development therefore Made Ground is anticipated across the site which may produce hazardous ground gases such as methane and carbon dioxide.	
Radon	The site is within an area where <1% of houses above the 'Action Level' – no special precautions required.	
Hazardous Installations	No hazardous installations that could potentially prejudice the proposed construction of a multi-storey community centre have been identified within influencing distance of the subject site.	

PRELIMINARY CONTAMINATED LAND ASSESSMENT

Human Health	Made Ground is anticipated across the site due to historical developments on site including the former engineering works and existing depot. Made Ground within the depot area may be contaminated from localised leakages and spills from the vehicles stored on site or from fuel/chemicals etc. utilised during the maintenance and repair of vehicles (heavy metals, TPHs and PAHs). Where hard standing is present the downward migration may be reduced however the hardstanding is noted to be of poor condition in some areas. This site has been developed historically including landscaped gardens, engineering works and a depot. Asbestos and ACMs may have been used during the construction of these which may be contained within Made Ground on site from the demolition of historical buildings. The existing buildings are recorded on site since the 1950s therefore ACM may have been used during construction. Intrusive investigation is required to confirm the findings from the initial Conceptual Site Model in order to determine the risks to the future end user and construction workers.
Controlled Waters	Made Ground present on site from historical developments such as former engineering works and the existing depot/vehicle servicing facility may contain elevated levels of mobile phase contaminants from leaks/spills on site and use of impacted materials. Spillages from vehicles and fuel storage containers cannot be ruled out, which may leach into the underlying drift deposits and the underlying bedrock aquifer. The risk is reduced due to the absence of any groundwater abstraction points within 1.0km of the site and the site is not recorded within a Groundwater Source Protection Zone. The risk is somewhat reduced due to the presence of hardstanding within the depot area, however this is noted to be in poor condition in some areas which may allow infiltration in localised areas. Ground conditions are anticipated to comprise sand and gravel therefore the presence of granular drift deposits will allow for downward and lateral migration of contaminants. The risk at this stage is deemed to be low.
Ground Gas	The presence of Made Ground on site may present a risk of low-level ground gas generation where putrescible materials and organics are within the soil matrix. Preferential pathways for the migration of gas sources across the site has been identified due to the presence of sand and gravel anticipated to underly the site.

PRELIMINARY GEOTECHNICAL ASSESSMENT

Initial Geotechnical Assessment	Given the predominantly developed nature of the site, it is likely there will be significant Made Ground fill deposits and obstructions. Existing buildings will require demolition, with all relict foundations grubbing out before the proposed development's construction. There is negligible or very low risk for geotechnical hazards for example, collapsible deposits. Therefore, it is anticipated that there is no potential for ground instability on the subject site. The site has little to no topographical variances. Substantial earthworks will not be required to create a level developable platform to construct the proposed development.
Civil and Structural	The existing buildings are likely to have deep foundations and vehicle inspection pits may be present which will require removal in their entirety. All obstructions will require removal to render the site suitable for the proposed development. Any resulting voids will require backfilling with a suitably engineered design. The site is underlain by Glaciofluvial Sheet Deposits which comprise sand and gravel which may be loose in composition. Where deep excavations are required, there is a potential for instability and collapse therefore they will likely require side wall support.
Abnormal Foundations	Ground conditions will need to be assessed to confirm the suitable founding depth depending on the loadings required for the proposed structure.

CONCLUSIONS AND RECOMMENDATIONS

A detailed Phase II intrusive investigation is required to confirm the findings of the initial conceptual site model and determine the characteristics of the underlying geology to support the structural design of the proposed development of a multi-storey community centre on site.

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Drawing List

17-014-001 – Site Location Plan
17-014-003 – Site Features Plan
17-014-004 – Historical Features Plan

1. INTRODUCTION

1.1. BACKGROUND

E3P has been commissioned by Minhaj Group (the client) to undertake a detailed Phase I Geoenvironmental Site Assessment of 2 Seymour Road, Manchester, United Kingdom; herein referred to as the site.

This report is required to determine potential contaminated land and geotechnical liabilities for the proposed site redevelopment.

1.2. PROPOSED DEVELOPMENT

E3P understands that the client is involved in the proposed redevelopment of the site to construct a three-storey community centre. A final proposed development layout has not been provided at the time of writing this report.

1.3. OBJECTIVES

The objectives of the geoenvironmental site assessment are as follows:

- Review historical plans, geology, hydrogeology, site sensitivity, floodplain issues, mining records and any local authority information available in order to complete a desk study in line with Environment Agency (EA) document *Land Contamination: Risk Management (LCRM) (July 2023)*.
- Assess the implications of any potential environmental risks, liabilities and development constraints associated with the site concerning the site's future use and in relation to off-site receptors.
- Assess the desk study information and, where possible, provide preliminary recommendations concerning foundations, pavement construction, general geotechnical issues, floor slabs and coal mining related issues.
- Provide recommendations regarding future works required.

1.4. SOURCES OF INFORMATION

- Groundsure Enviro+Geo Insight Search Reference GS-PHJ-HO1-EGT-T6V;
- Historical mapping dated 1850-2020. A selection of historical maps are reproduced in Appendix VI;
- Online planning records held by Manchester City Council;
- Magic Map Groundwater Vulnerability Map;
- Radon: Guidance on protective measures for new buildings (BRE Document BR 211, 2007);
- British Geological Survey Map and Borehole Records;
- UXO - https://zeticauxo.com/downloads-and-resources/risk-maps/; and,
- Flood Risk - https://flood-map-for-planning.service.gov.uk/

1.5. LIMITATIONS

The limitations of this report are presented in Appendix I.

1.6. RISK CLASSIFICATION

The description of risk classification and the likely action required as set out in CIRIA C552 are included in Appendix III.

1.7. CONFIDENTIALITY

E3P has prepared this report solely for the use of the client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from E3P; a charge may be levied against such consent.

2. SITE SETTING

2.1. SITE DETAILS

Site Address	2 Seymour Road, Manchester, United Kingdom, M8 5BG
Grid Reference	E 383773, N 402021
Site Area	0.13 Ha

The Glossary presented in Appendix II defines all acronyms used within this report.

A site location map is presented in Appendix IV as Drawing 17-014-001.

2.2. CURRENT SITE USE

TABLE 2.1 SITE DESCRIPTION

Occupancy/Use	The site is currently occupied by a vehicle repair garage with three brick-built structures including the main garage repair shop off Seymour Road with two smaller storage buildings in the south and southeast of the site. The majority of the site is covered with hardstanding utilised for vehicle storage and storage of waste materials, fuel cans and vehicle parts.	
Surface Cover (%)	**Buildings**	55
	Hardstand	45
	Soft Cover	0
Structures	Three buildings are present within the site boundary. There is one large building in the north of the site, and two smaller buildings in the east and south of site. The main access is gated with a 5m wide steel gate at the front of the property on Seymour Road with a concrete panel and post fence along the southwest of the site.	
Retaining Structures	No retaining structures are present within the site boundary.	
Access	Vehicular and pedestrian access is present from Seymour Road to the northwestern corner of the site.	
Slope	The site is topographically flat.	
Vegetation/Ecology	Limited vegetation is present on site due to the developed nature of the site and hardstanding cover. Semi mature trees are present along the northeastern site boundary associated with the adjacent landscaping area off Thomas Street. Some weeds and self-seeded shrubs are present on site adjacent to the buildings.	
Hazardous Material Storage	The site is currently occupied by a vehicle repair garage with several damaged vehicles, fuel cans and waste vehicle parts stored on site.	
Asbestos Containing Material (ACM)	The buildings present on-site were constructed prior to 1999 and therefore ACM may have been used within the construction of the buildings and are likely utilised within the building fabric. The site is noted to comprise several waste piles with unknown contents therefore asbestos may be present within any waste stored on site.	

	A pre-demolition asbestos survey will be required within all structures on site and all waste materials stored on site will need to be sorted, removed and sent to a suitable licenced waste facility.
Polychlorinated Biphenyls (PCBs)	No equipment has been identified on site which are anticipated to contain PCBs.
Waste Storage	The site is currently occupied by a vehicle repair garage with several damaged vehicles, fuel cans and waste vehicle parts stored on site. All waste materials stored on site will need to be sorted, removed and sent to a suitable licenced waste facility.
Drainage	A drainage survey has not been complete, however given the nature of the site it is likely that drainage is present within the site boundary connecting with the infrastructure present within the adjacent highway. Manholes are recorded on site which are anticipated to be associated with existing drainage on site.

2.3. SURROUNDING AREA

The surrounding area land uses are summarised in Table 2.2.

TABLE 2.2 SURROUNDING LAND USES

DIRECTION	LAND USE
North	King David School, Manchester.
East	Thomas Street, car park (Tesco superstore) and vehicle repair garage (Seymour's Motor's)
South	Sandybank Garage.
West	Bury Old Road high-street, local businesses including takeaways and barbershop.

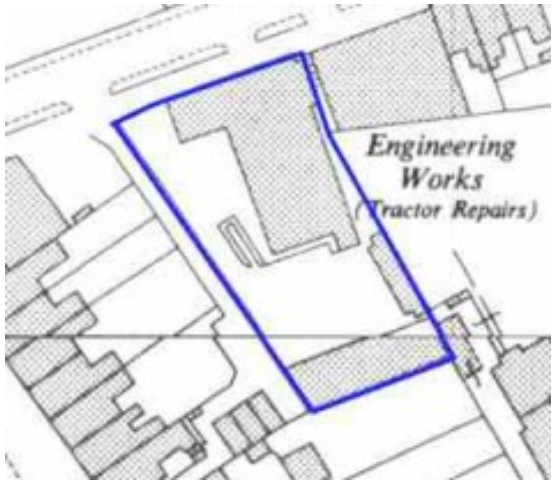
3. SITE HISTORY

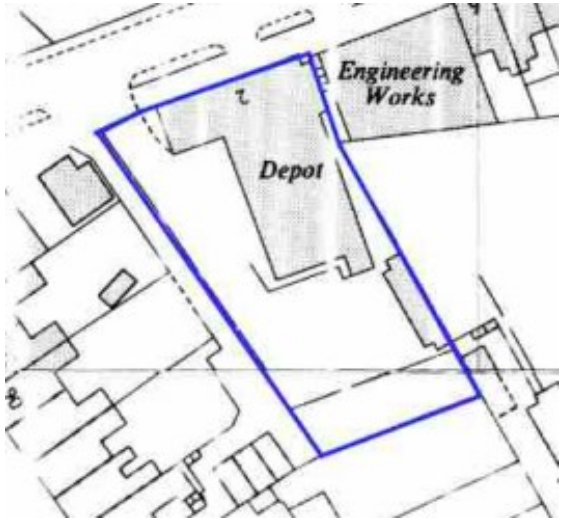
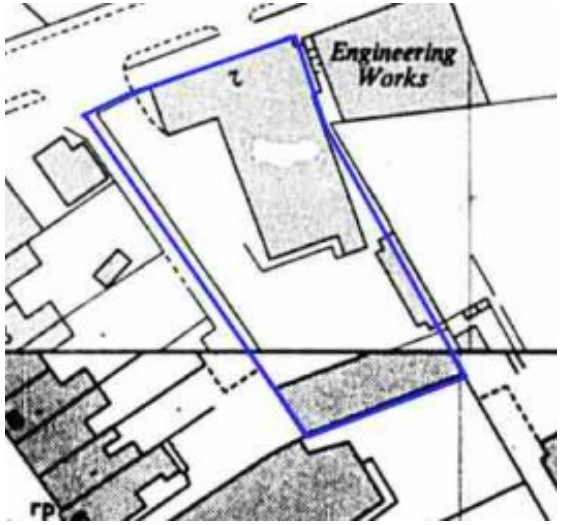
3.1. ON-SITE HISTORICAL DEVELOPMENT

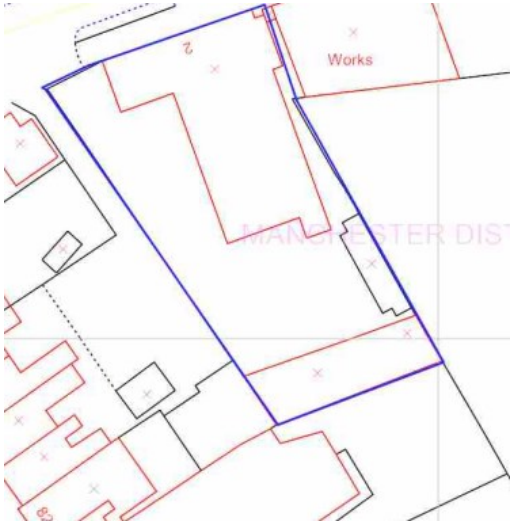
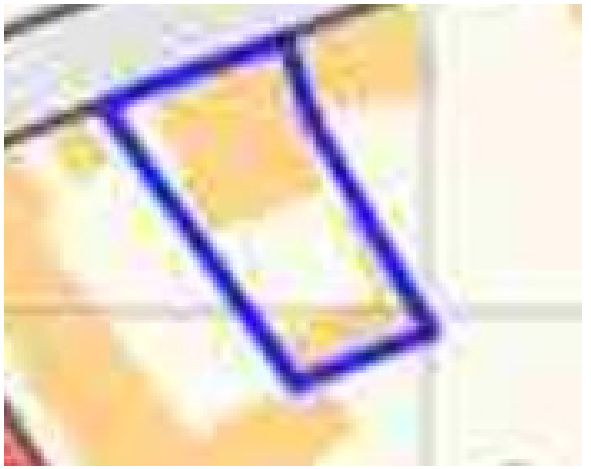
A review of historical mapping and historical aerial imagery pertinent to the site is summarised in Table 3.1. In addition, historical site features are presented on Drawing 17-014-004 in Appendix IV.

Table 3.1 Historical Development

MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1850 **1:1,056**	The site is recorded as part of Ryecroft House. A large proportion of the site makes up the gardens on the property. With significant landscaping and softcover as well as hardstanding footpaths. The northwest of the site has three buildings, one part of the main Ryecroft House and two in the gardens of Ryecroft House. A series of trees line the garden boundary at the east of the site with Cheetham Hill Cemetery off site.	
1893 **1:2,500**	There is a glasshouse in the north of the site. Another, building which is unlabelled has appeared in the northwest of site next to the road. There are no other significant changes recorded.	

MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1922 1:2,500	The previously unlabelled building in the northwest of site next to the road is no longer present. However, there are some semi-mature/mature trees in the north of site next to the road with a footpath adjacent to them. The landscaping, tree cover or footpaths in the gardens are no longer detailed. There are no other significant changes recorded.	
1950-1951 1:2,500	Ryecroft House and the accompanying gardens are no longer recorded. Three buildings are now recorded on site. One large building in the north, and two smaller buildings in the south and southeast of the site. This has been labelled as an Engineering Works for tractor repairs. There are no other significant changes recorded.	

MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
1951-1952 **1:1,250**	The engineering works is now recorded as a depot with an engineering works noted adjacent to the northeast boundary. There are no other significant changes recorded.	
1979-1984 **1:1,250**	There are no significant changes recorded.	

MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
2003 **1:1,250**	There are no significant changes recorded.	
2010 **1:10,000**	There are no significant changes recorded.	

MAP EDITION	HISTORICAL LAND USE	HISTORICAL MAP EXCERPT
2023 **Aerial Imagery**	There are no significant changes recorded in respect of the buildings present on site however the aerial imagery provides additional information relating to the storage of vehicles and materials on site. The site is in its current configuration.	

3.1.1. SUMMARY OF ON-SITE HISTORICAL DEVELOPMENT

The following summary points have been highlighted after a detailed review of the historical mapping series.

POTENTIAL HISTORICAL CONTAMINATION ISSUES

- Vehicle repair and servicing facility – The existing vehicle repair facility has been present since 1950's as a tractor repair works and subsequently recorded as a depot. The site comprises several vehicles stored on site with damage noted along with storage of waste vehicle parts and materials. Potential for heavy metals (copper, zinc, lead and chromium), waste oils (PAHs), solvents (VOCs/SVOCs), paints and paint thinners, and inorganic compounds (asbestos, battery acids etc.) associated with the workshop and repair facility. Potential for fuel spills/leakages including diesel and petrol therefore hydrocarbons, MTBE and PAHs within underlying ground.

- Historical and existing buildings – Historical developments on site and existing buildings may have been constructed with ACM which may be present within Made Ground from demolition and/or existing building construction materials.

POTENTIAL HISTORICAL GEOTECHNICAL ISSUES

- The site has been developed since the 1950s therefore Made Ground and foundations associated with the existing buildings are likely present on site. Where below ground obstructions and unsuitable fill requires removal, the resulting voids will need to be backfilled with suitably engineered fill.

3.2. OFF-SITE HISTORICAL DEVELOPMENT

A review of potentially contaminative uses identified on historical Ordnance Survey maps within a 150 m radius of the site is summarised in Table 3.2.

TABLE 3.2 SURROUNDING HISTORICAL DEVELOPMENT

SURROUNDING FEATURE	DISTANCE	DATES	DIRECTION
Engineering Works (Tractor Repairs) *Then*: Works	0-10m	Pre 1950 – Pre 1986 Pre 1986 – Present	On-site/East
Garages *Then*: no longer recorded	20m	Pre 1950 – Pre 2000 Pre 2000 – Present	South
Garages *Then*: no longer recorded	130m	Pre 1951 – Pre 1967 Pre 1967 – Present	Southeast
Engineering Works *Then*: no longer recorded	135m	Pre 1951 – Pre 1967 Pre 1967 – Present	Southeast
Carriage and Tramway Depot *Then*: no longer recorded	175m	Pre 1893 – Pre 1922 Pre 1922 – Present	Southeast
Garages	235m	Pre 1952 – Present	Northwest
Electricity Substation	240m	Pre 1909 – Present	Northwest

3.3. PLANNING HISTORY

E3P has undertaken a review of Manchester City Council planning website but no environmentally pertinent information has been identified.

3.4. ANECDOTAL INFORMATION

A web-based search of the subject site was unable to recover any photographs from Britain from Above.

3.5. PREVIOUS REPORTS

There have been no previous site investigation reports provided for E3P to review.

4. ENVIRONMENTAL SETTING

4.1. GEOLOGY AND HYDROGEOLOGY

The British Geological Survey (BGS) map for the site and online records indicate the site is underlain by the geological sequence presented in Table 4.1.

TABLE 4.1 SUMMARY OF UNDERLYING GEOLOGY

GEOLOGICAL UNIT	CLASSIFICATION	DESCRIPTION	AQUIFER CLASSIFICATION
Drift	Glaciofluvial Sheet Deposits	Sand and Gravel	Secondary A Aquifer
Solid	Manchester Marls Mudstone Formation	Mudstone	Secondary B Aquifer

E3P has reviewed the BGS database, which identified a borehole within a 200m radius of site, from which to compare the published geology above.

The borehole log is summarised in Table 4.2 below.

TABLE 4.2 SUMMARY OF BGS BOREHOLE RECORDS

LOCATION	DEPTH	MADE GROUND	DRIFT	SOLID
199m SW (ref: SD80SW475)	15.24 m	0.00 - 0.80 m bgl	Silty SAND 0.80 – 12.20 m bgl Loose Sand (Running) 12.20-15.24 m bgl	Not encountered

The BGS mapping also identifies the location of faults, which has identified a geological fault circa 255m northeast of the site in a northwest-southeast trajectory.

4.2. HYDROGEOLOGY

The Envirocheck report indicates that the site is not located within a groundwater source protection zone. Furthermore, there are no groundwater abstractions within 1km of the site.

4.3. NATURAL LANDFORM AND GEOMORPHOLOGY

Based on the initial geological assessment, a review of available topographic data and pertinent mapping, E3P has undertaken a preliminary geomorphological evaluation of the landform and its possible mechanism for formation.

The site has been subject to significant anthropogenic change which will likely have resulted in a greater thickness of Made Ground. Upfilling and levelling works are likely to have occurred during construction to form a level plateau.

Consequently, with the historic level raising that has taken place on site with the Made Ground, it is considered the present-day geomorphology is not representative of natural conditions.

FIGURE 4.1 SURFACE LIDAR DATA



Source: https://houseprices.io/lab/lidar/map?ref=SP49887555

4.4. RADON RISK POTENTIAL

The Envirocheck report indicates that the site is situated in an area where <1% of homes are above the "Action Level" and that the BGS reports that full protective measures are not necessary for the construction of new dwellings or extensions.

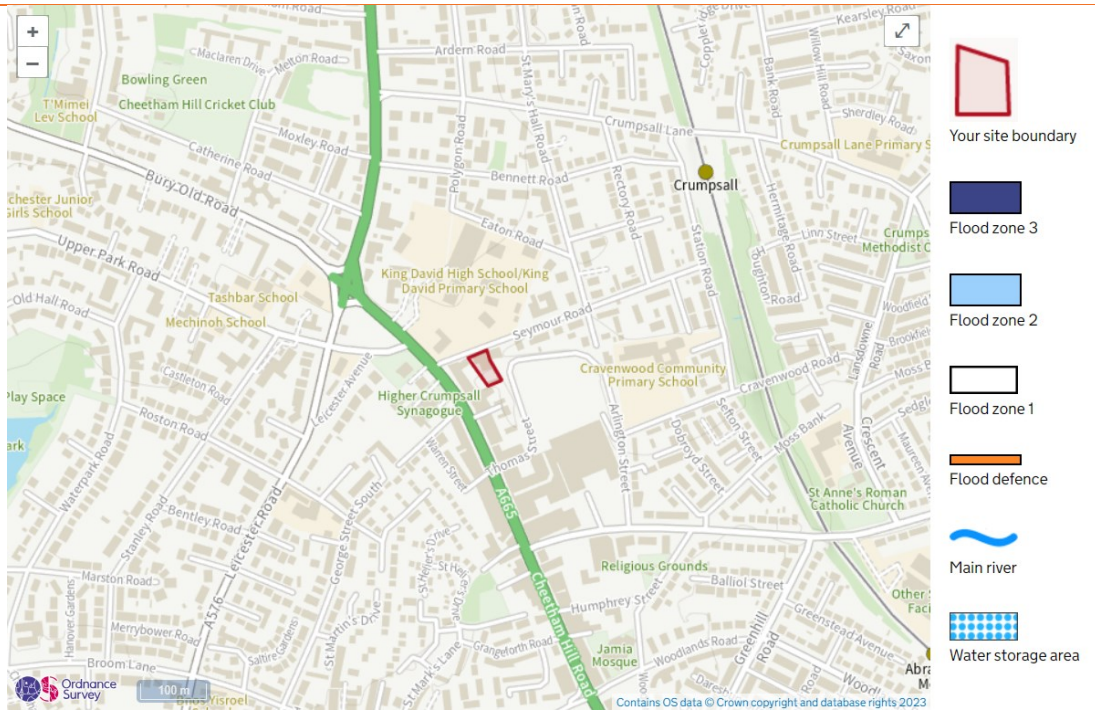
4.5. HYDROLOGY

There are no surface water features recorded within 250 m of the subject site.

The site is classified as Flood Zone 1. Therefore, this means that the site has a low probability of flooding from river, coastal, or surface water flooding. A record associated with surface water flooding may relate to drains not be able to cope with an extreme rainfall event. It is recommended that any drains at the site be subject to regular maintenance.

The Fluvial Flood Risk Map is presented in Figure 4.2.

FIGURE 4.2 FLUVIAL FLOOD RISK MAP



Source - *https://flood-map-for-planning.service.gov.uk/*

4.6. LANDFILL SITES AND WASTE TREATMENT SITES

There are no active/recent or historical landfills recorded within a 250m radius of the site. Supplementary to this, there are no active/recent or historical waste treatment sites within a 250m radius of the site.

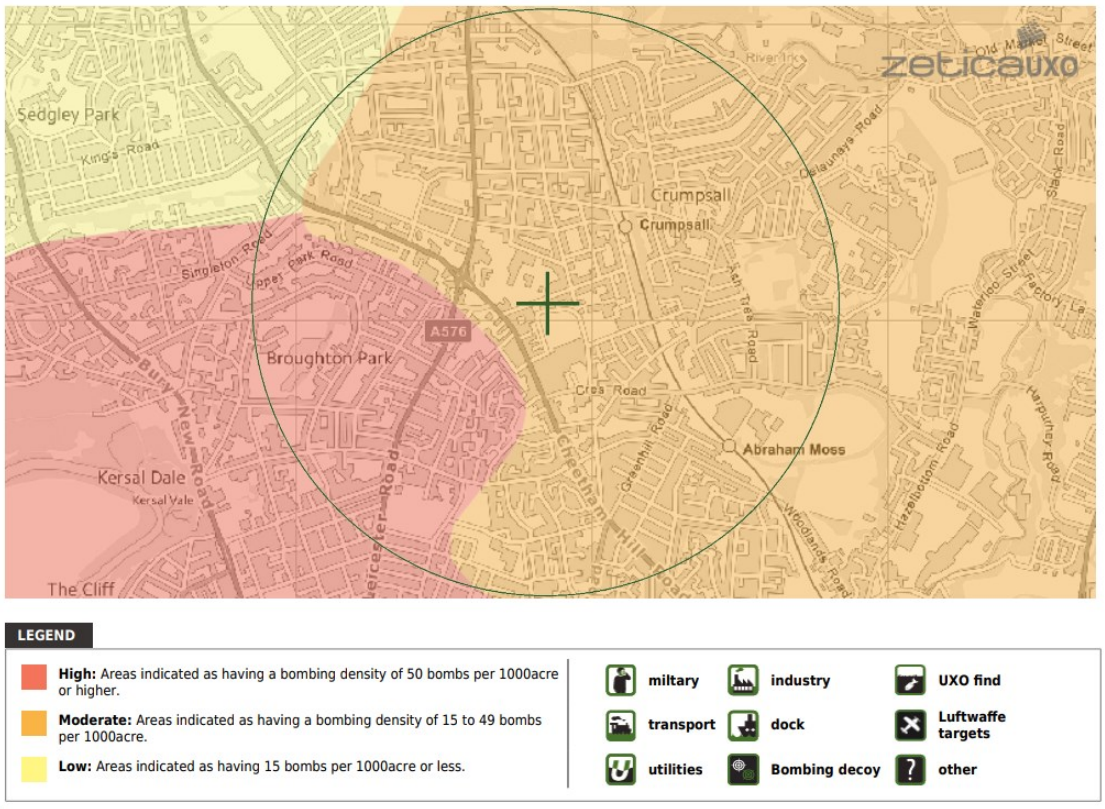
4.6.1. WASTE MANAGEMENT LICENSES & ENVIRONMENTAL PERMITS

No Waste Management Licenses or Environmental Permits have been identified in the environmental database for the site.

4.7. UNEXPLODED ORDNANCE

The regional unexploded bomb risk map from Zetica (2014) indicates that the Site is in an area at moderate risk from possible unexploded ordnance (UXO) resulting from the Second World War. The Zetica UXO Risk Map is presented in Figure 4.4.

FIGURE 4.3 ZETICA UXO RISK MAP



Source - https://zeticauxo.com/downloads-and-resources/risk-maps/

4.8. INDUSTRIAL LAND USES

There are 11 active industrial land uses within 250 m of the site boundary. Those that are within 100 m of the site boundary are summarised in Table 4.5.

TABLE 4.4 INDUSTRIAL LAND USES

COMPANY	ACTIVITY	DISTANCE	DIRECTION
Seymour Motor Co	Vehicle Repair, Testing and Servicing	11m	Northeast
Works	Unspecified Works Or Factories	12m	Northeast
Sandybank Garage	Vehicle Repair, Testing and Servicing	28m	Southeast
Naz's	Vehicle Repair, Testing and Servicing	44m	Southeast
Eggfree Cake Box	Baking and Confectionery	84m	South

4.9. SITE SENSITIVITY ASSESSMENT

The site is assessed to be located within a "Moderate" sensitivity setting as discussed within Table 4.6 overleaf.

TABLE 4.5 SITE SENSITIVITY ASSESSMENT

SENSITIVITY PROFILE	DISCUSSION	RATING
Groundwater Source Protection Zone or Drinking Water Safeguard Zone	The site is not located within a Groundwater Source Protection Zone or a Drinking Water Safeguard Zone.	**Low**
Distance to the Closest Groundwater Abstraction Point	There are no groundwater abstraction points within 1.2km of the site.	**Low**
Aquifer Classification in Superficial Drift Deposits	Secondary A drift aquifer	**Moderate**
Aquifer Classification in Bedrock	Secondary B bedrock aquifer	**Moderate**
Is the Site Underlain by Low-Permeability Drift to Depths in Excess of 10 m?	BGS records indicate that the site is located within an area of Glaciofluvial Sheet Deposits (Sand and Gravel) with a BGS borehole located 200m from the site indicating the presence of Sand to a depth in excess of 10 m bgl. The underlying sand will likely be high permeability therefore allow downward migration into the drift and bedrock aquifers.	**High**
Is the Site Located Within 50 m of a Surface Watercourse?	No surface water features are located within 50m of the site boundary.	**Low**
Sensitive Land Uses Within Close Proximity (e.g., Residential, School, Nursery, Local Nature Reserves)	The closest residential properties are located approximately 105m southeast of the site. A school (King David School) is located to the north of Seymour Road. An area of conservation is also located 37m northeast of the site at Crumpsall Lane.	**Moderate**
OVERALL SITE ENVIRONMENTAL SENSITIVITY		**Moderate**

4.10. REGULATORY DATABASE

The information summarised in Table 4.7 has been obtained from a commercially available environmental database. The summary table only includes records from within 250 m of the subject site and not otherwise detailed in the report.

TABLE 4.6 SUMMARY OF ENVIRONMENTAL DATA

RECORD	ENTRIES WITHIN 250 m	DETAILS
Contaminated Land Register Entries and Notices	0	None Identified.
Authorised Industrial Processes (Part A1, A2 and B Processes)	4	Four historical Part B permits within 250m of the site relating to dry cleaning and unloading of petrol into storage at service stations.
Fuel Stations Entries	1	Historical fuel station entry located 209m northwest.
Licensed Radioactive Substances	0	None Identified.
Enforcements, Prohibitions or Prosecutions	0	None Identified.
Discharge Consents	0	None identified.
Pollution Incidents	4	One recorded pollution incident 197m south of the site dated 2001 associated with the release of construction and demolition wastes and tyres (Minor land impact).
Consents Issued Under the Planning (Hazardous Substances) Act 1990	0	None Identified.
Control of Major Accident Hazard (COMAH) Sites	0	None Identified.

5. PRELIMINARY GEOTECHNICAL ASSESSMENT

5.1. GEOTECHNICAL DATA

Geotechnical data presented within a commercially available environmental database is summarised in Table 5.1.

TABLE 5.1 SUMMARY OF GEOTECHNICAL DATA

HAZARD	DESIGNATION
Shrink-Swell Clay	Negligible
Landslides	Very low risk
Ground Dissolution	Negligible
Compressible Ground	Negligible
Collapsible Deposits	Very low risk
Running Sand	Very low risk

5.2. SUBSIDENCE

Information within the Groundsure Report states the site is within an area of negligible hazard from rock solubility. When undertaking an online search for subsidence incidents in the area, a news report identifies a sink hole approximately 1.2 miles from site in 2016 however this was attributed to failure of drainage infrastructure and not related to underlying geological characteristics.

5.3. PRELIMINARY GEOTECHNICAL ASSESSMENT

Based on the desk-study information, the following geotechnical assessment has been made:

- Given the predominantly developed nature of the site, it is likely there will be significant Made Ground fill deposits and obstructions. Existing buildings will require demolition, with all relict foundations grubbing out before the proposed development's construction. Inspection pits may be present which will require removal in their entirety.
- There is negligible or very low risk for geotechnical hazards for example, collapsible deposits. Therefore, it is anticipated that there is no potential for ground instability on the subject site.
- The site has little to no topographical variances. Substantial earthworks will not be required to create a level developable platform to construct the proposed development.

5.4. COAL MINING

The site is not located in a coal mining reporting area and is not located within an area at risk from ground instability arising from historic coal mining activities. No further assessment is required in relation to coal mining.

5.5. PRELIMINARY GEOTECHNICAL RISK REGISTER

POTENTIAL ABNORMAL CONSTRAINT	LOCATION ON SITE	ESTIMATED AREA OF SITE AT RISK (%)	ASSESSMENT AND MITIGATION
Remediation of contaminated soils	On Site	TBC	Made Ground is expected across the site given the historical land uses including existing vehicle repair garage. Removal of contaminated soils may be required to render the site suitable for the proposed residential end use. Intrusive investigation required to determine the extent.
Shallow Bedrock	N/A	N/A	Based on available BGS boreholes within 250m of the site, it is understood that bedrock geology is at depths in excess of 10.00 m bgl therefore will not impede excavations for drainage etc.
Obstructions	On Site	>99	The existing buildings are likely to have deep foundations and vehicle inspection pits may be present which will require removal in their entirety. All obstructions will require removal to render the site suitable for the proposed development. Any resulting voids will require backfilling with a suitably engineered design.
Artificially levelled and filled platforms	On Site	TBC	It is anticipated that Made Ground may have been used to create a level platform for the existing industrial use. This Made Ground may comprise unsuitable materials which will need to be removed prior to the construction of the proposed development.
Retaining walls	N/A	N/A	None Identified
Trench collapse	N/A	N/A	The site is underlain by Glaciofluvial Sheet Deposits which comprise sand and gravel which may be loose in composition. Where deep excavations are required, there is a potential for instability and collapse therefore they will likely require side wall support.
Mature trees	N/A	N/A	There are no trees present on site however there are some located along the northeastern boundary off-site. If volume change potential clay deposits are encountered, tree influence areas should be assessed.
Volume change potential clay	TBC	TBC	Ground conditions are likely to comprise sand and gravel therefore volume change potential clay is not anticipated, however an intrusive investigation required to determine this.
Peat	N/A	N/A	Not anticipated
Running sands	TBC	N/A	The risk associated with running sands is deemed to be very low. An intrusive investigation will be required to determine this to see if any constraints may apply to the proposed development.

POTENTIAL ABNORMAL CONSTRAINT	LOCATION ON SITE	ESTIMATED AREA OF SITE AT RISK (%)	ASSESSMENT AND MITIGATION
Ground dissolution	N/A	N/A	Negligible.
Concrete design	On Site	TBC	Intrusive investigation is required to determine the characteristics of the underlying Made Ground and drift deposits to determine the concrete classification for subsurface concrete.
Low-permeability ground	TBC	TBC	The site is anticipated to be underlain by predominantly sand and gravel while may provide a high level of permeability for soakaway drainage. An intrusive investigation is required to confirm the permeability of the drift deposits. Full BRE365 Soakaway testing is required to confirm suitability.
Services/sensitive structures	TBC	TBC	It is anticipated that services will be present on site based on the current/previous land use. This will need to be confirmed on review of statutory plans. Any sensitive infrastructure which is to be retained will need to be assessed and located ahead of any developments.
Abnormal foundation solutions	TBC	TBC	Ground conditions will need to be assessed to confirm the suitable founding depth depending on the loadings required for the proposed structure.
Surface water features	N/A	N/A	None identified within proximity to the site.
Sensitive on-site or off-site infrastructure	TBC	TBC	Overhead cables are present across the site to the existing building.

6. INITIAL CONCEPTUAL SITE MODEL

Under EA LCRM (July 2023) and BSI 10175 (Code of Practice for Investigation of Potentially Contaminated Land), and BS EN ISO 21365:2021 (Soil Quality – Conceptual models for potentially contaminated sites), E3P has developed a Tier 1 Risk Assessment comprising an initial conceptual site model (CSM) to identify potential contamination sources, migration pathways and receptors within the study area. An initial screening of the on and potential off-site sources of contamination has been undertaken in Table 6.1, with the more detailed initial CSM included overleaf as Table 6.2.

TABLE 6.1 INITIAL CONTAMINANT SOURCE SCREENING

SOURCE	SOIL	GROUNDWATER	GROUND GAS
ON-SITE			
Made Ground	Heavy Metals, TPHs, Asbestos, VOCs, Sulphates	Heavy Metals, TPHs, Sulphates	Carbon Dioxide, Methane
Buildings	Asbestos	N/A	N/A
Engineering Works/ Vehicle repair garage	Heavy Metals, SVOCs/VOCs, TPHs, Sulphates	Heavy Metals, TPHs	VOCs
OFF-SITE			
Engineering Works and garages	Heavy Metals, SVOCs/VOCs, TPHs, Sulphates	Low likelihood due to distance from site	N/A

6.1. INITIAL CONCEPTUAL SITE MODEL

Upon assessment of the information collated for the Phase 1 desk study, the initial conceptual site model shown in Table 6.2 has been prepared for the Site.

TABLE 6.2 INITIAL CONCEPTUAL MODEL

CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK RATING	COMMENTARY AND PROPOSED RESPONSE
SOURCES	**MIGRATION PATHWAYS**	**RECEPTORS**			
Made Ground Former Engineering Works and existing Vehicle Repair Garage/Depot (Heavy metals, PAHs, TPHs, Asbestos)	Accidental ingestion and/or dermal contact with contaminated soil and/or leachate. **PL1/PL2** Inhalation of contaminated dust. **PL3**	Human Health – site personnel and residential end users	Yes	Moderate	Made Ground is anticipated across the site due to historical developments on site including the existing depot and former engineering works. Made Ground within the depot area may be contaminated from localised leakages and spills from the vehicles stored on site or from fuel/chemicals etc. utilised during the maintenance and repair of vehicles. Where hard standing is present the downward migration may be reduced, however the hardstanding is noted to be of poor condition in some areas. Leaks and spills of diesel etc cannot be ruled out. **Recommendation:** Intrusive investigation required to determine the presence and nature of Made Ground and investigate the potential for elevated contaminants from leaks/spills on site. Construction works to be completed with appropriate PPE and welfare facilities.

CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK RATING	COMMENTARY AND PROPOSED RESPONSE
SOURCES	**MIGRATION PATHWAYS**	**RECEPTORS**			
ASTs/USTs Former Engineering Works and existing Vehicle Repair Facility/Depot Heavy metals, PAHs, TPHs, Asbestos)	Accidental ingestion and/or dermal contact with contaminated soil and/or leachate. **PL1/PL2** Vapour inhalation **PL4** Migration through permeable strata and preferential pathways **PL5**	Human Health – site personnel and residential end users	Yes	Moderate	Damaged vehicles and fuel storage containers were noted during the site walkover. Made Ground soils within these areas may be contaminated with TPHs and heavy metals from fuels etc. stored on site where leaks have occurred. **Recommendation:** Intrusive investigation required to determine the presence and nature of Made Ground and investigate the potential for elevated contaminants from leaks/spills on site. Construction works to be completed with appropriate PPE and welfare facilities.
Made Ground Asbestos (Asbestos containing materials (ACM) and loose fibers) **Building** Asbestos (ACM within building fabric)	Inhalation (of fibers). Construction works disturbing bound material and releasing fibres. **PL3**	Human Health - Site personnel, end land users, and third parties (off-site)	Yes	Moderate	This site has been developed historically including landscaped gardens, engineering works and a vehicle repair depot. Asbestos and ACMs may have been used during the construction of these which may be contained within Made Ground on site from demolition of historical features. The existing buildings are recorded on site since the 1950s therefore ACM may have been used during construction. **Recommendation:** Intrusive investigation will be required to determine the presence of ACMs and develop appropriate mitigation measures. Construction works are to be completed with appropriate PPE and welfare facilities. Pre demolition asbestos survey will be required within all existing structures on site.

CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK RATING	COMMENTARY AND PROPOSED RESPONSE
SOURCES	**MIGRATION PATHWAYS**	**RECEPTORS**			
Made Ground Sulphate from potential ash within the Made Ground.	Sulphate attack on concrete. **PL6**	Building concrete	Yes	Moderate	Due to the presence of Made Ground on-site, there is the potential for sulphates in in-fill and deposits where ash materials were utilised in the construction of the existing depot facility. **Recommendation:** Intrusive investigation will be required to assess the concrete classification.
Made Ground Organic contaminants such as hydrocarbons, solvents	Ingestion of tainted water supply. **PL7**	Human Health – End Users (Water pipeline)	Yes	Moderate	Made Ground within the depot area may be contaminated from localised leakages and spills from the vehicles stored on site or from fuel/chemicals etc. utilised during the maintenance and repair of vehicles. Where hard standing is present the downward migration may be reduced however the hardstanding is noted to be of poor condition in some areas. Leaks and spills of diesel etc cannot be ruled out. **Recommendation:** Intrusive investigation required to confirm the presence of contamination. A full UKWIR assessment may be required.
Made Ground Phytotoxic contaminants	Direct contact (plant uptake). **PL8**	Flora	Yes	Moderate	Likely probability, as contamination is considered possible, which may be taken up by flora in soft landscaping/gardens. **Recommendation:** Intrusive investigation required.

CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK RATING	COMMENTARY AND PROPOSED RESPONSE
SOURCES	**MIGRATION PATHWAYS**	**RECEPTORS**			
CONTROLLED WATERS					
Made Ground Mobile phase contamination from historical engineering works or within Made Ground (Heavy metals and PAHs).	Leaching of contaminants from Made Ground through infiltration and percolation of rainwater from the surface. **PL5**	Controlled waters (Secondary A Drift Aquifer and Secondary B Bedrock Aquifer Infrastructure and services	Yes	Moderate	Made Ground present on site from historical developments such as the engineering works and the existing depot/vehicle servicing facility, may contain elevated levels of mobile phase contaminants from leaks/spills on site and use of impacted materials. Spillages from fuel and vehicle storage on site cannot be ruled out which may leach into the underlying drift deposits and subsequently the underlying bedrock aquifer. The risk is somewhat reduced due to the presence of hardstanding within the depot area however this is noted to be in poor condition in some areas and gravel areas will not reduce infiltration. Ground conditions are anticipated to comprise sand and gravel therefore the presence of granular drift deposits will allow for downward and lateral migration of contaminants. **Recommendation:** Intrusive investigation is required to assess the presence of mobile phase contamination within the soils and its potential for leaching and downward migration to the underlying aquifers. Assessment of groundwater to ensure contaminated groundwater does not pose a risk to future infrastructure on-site including the potable water supply.

CONTAMINANT LINKAGE			PLAUSIBLE LINKAGE?	RISK RATING	COMMENTARY AND PROPOSED RESPONSE
SOURCES	**MIGRATION PATHWAYS**	**RECEPTORS**			
GROUND GAS					
Ground gases Methane and carbon dioxide (Made Ground)	Inhalation of ground gas. **PL4** Accumulation of ground gas in confined spaces (asphyxiation or explosion)	Human Health – site personnel and residential end users Infrastructure and Services	Yes	Moderate	The presence of Made Ground on site may present a risk of low-level ground gas generation where putrescible materials and organics are within the soil matrix. **Recommendation:** Intrusive investigation is required to determine the nature of Made Ground. Ground gas monitoring will be required to assess the potential risk from off-site sources. Construction works within confined spaces should be assessed to ensure there is no risk of accumulation of gases within these working areas.

Main exposure pathways:
PL1 = soil ingestion, PL2 = dermal contact and ingestion, PL3 = dust inhalation; PL4 = Vapour/Gas Inhalation; PL5 = Vertical / Lateral Migration; PL6 = Corrosion of concrete; PL7=Tainting of water supply; PL8 = Uptake by plants.

7. CONCLUSIONS

7.1. SITE SUMMARY

Current Site Use	The site is currently occupied by a vehicle repair garage with three brick-built structures including the main garage repair shop off Seymour Road with two smaller storage buildings in the south and southeast of the site. The majority of the site is covered with hardstanding utilised for vehicle storage and storage of waste materials, fuel cans and vehicle parts.
Historical Site Use	The earliest available mapping dated 1848 indicates the site predominantly comprises an area of landscaped gardens associated with Ryecroft House. Several buildings are present in the north of the site with tracks and access across the site. A glasshouse is recorded in the north of the site by 1893 which is subsequently demolished along with the other buildings associated with Ryecroft House by 1950. By this time, the site has been redeveloped and forms part of a Tractor Repair Engineering Works with a large building in the north of the site and two smaller buildings in the south and east. The site is later recorded as a Depot and remains largely in this configuration until the present day. The latest aerial imagery dated 2023 indicates the areas of hardstanding surrounding the main buildings are largely used for storage
Site Sensitivity	The closest residential properties are located approximately 105m southeast of the site. A school (King David School) is located to the north of Seymour Road. An area of conservation is also located 37m northeast of the site at Crumpsall Lane.

7.2. CONTAMINATED LAND ASSESSMENT

Human Health	Made Ground is anticipated across the site due to historical developments on site including the former engineering works and existing depot. Made Ground within the depot area may be contaminated from localised leakages and spills from the vehicles stored on site or from fuel/chemicals etc. utilised during the maintenance and repair of vehicles (heavy metals, TPHs and PAHs). Where hard standing is present the downward migration may be reduced however the hardstanding is noted to be of poor condition in some areas. This site has been developed historically including landscaped gardens, engineering works and a depot. Asbestos and ACMs may have been used during the construction of these which may be contained within Made Ground on site from the demolition of historical buildings. The existing buildings are recorded on site since the 1950s therefore ACM may have been used during construction. Intrusive investigation is required to confirm the findings from the initial Conceptual Site Model in order to determine the risks to the future end user and construction workers.

Controlled Waters	Made Ground present on site from historical developments such as former engineering works and the existing depot/vehicle servicing facility may contain elevated levels of mobile phase contaminants from leaks/spills on site and use of impacted materials. Spillages from vehicles and fuel storage containers cannot be ruled out, which may leach into the underlying drift deposits and the underlying bedrock aquifer. The risk is reduced due to the absence of any groundwater abstraction points within 1.0km of the site and the site is not recorded within a Groundwater Source Protection Zone. The risk is somewhat reduced due to the presence of hardstanding within the depot area, however this is noted to be in poor condition in some areas which may allow infiltration in localised areas. Ground conditions are anticipated to comprise sand and gravel therefore the presence of granular drift deposits will allow for downward and lateral migration of contaminants. The risk at this stage is deemed to be low.
Ground Gas	The presence of Made Ground on site may present a risk of low-level ground gas generation where putrescible materials and organics are within the soil matrix. Preferential pathways for the migration of gas sources across the site has been identified due to the presence of sand and gravel anticipated to underly the site.
Potable Water	Intrusive investigation is required to confirm the presence of contamination within pipeline depth. A UKWIR assessment will be required.

7.3. GEOTECHNICAL ASSESSMENT

Geological	Given the predominantly developed nature of the site, it is likely there will be significant Made Ground fill deposits and obstructions. Existing buildings will require demolition, with all relict foundations grubbing out before the proposed development's construction. There is negligible or very low risk for geotechnical hazards for example, collapsible deposits. Therefore, it is anticipated that there is no potential for ground instability on the subject site.
Civil and Structural	The existing buildings are likely to have deep foundations and vehicle inspection pits may be present which will require removal in their entirety. All obstructions will require removal to render the site suitable for the proposed development. Any resulting voids will require backfilling with a suitably engineered design. The site is underlain by Glaciofluvial Sheet Deposits which comprise sand and gravel which may be loose in composition. Where deep excavations are required, there is a potential for instability and collapse therefore they will likely require side wall support.
Abnormal Foundations	Ground conditions will need to be assessed to confirm the suitable founding depth depending on the loadings required for the proposed structure.

END OF REPORT

APPENDIX I
LIMITATIONS

1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between E3P and the client as indicated in Section 1.2.

2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information, it has been assumed it is correct. No attempt has been made to verify the information.

3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.

4. During the site walkover, reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover, no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.

5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.

6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.

7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials, this is for indicative purposes only and do not constitute or replace full and proper surveys.

8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.

9. E3P cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by E3P is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by E3P in this connection without their explicit written agreement there to by E3P.

10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.

APPENDIX II
GLOSSARY

TERMS

ACM	Asbestos-containing material	**MMP**	Materials management plan
ADS	Acoustic design statement	**ND**	Not detected
AST	Above-ground storage tank	**NDP**	Nuclear density probe
BGS	British Geological Survey	**NMP**	Noise management plan
BSI	British Standards Institute	**NPSE**	Noise policy statement for England
BTEX	Benzene, toluene, ethylbenzene, xylenes	**NR**	Not recorded
CA	Coal Authority	**PAH**	Polycyclic aromatic hydrocarbon
CBR	California bearing ratio	**PCB**	Polychlorinated biphenyl
CIEH	Chartered Institute of Environmental Health	**PI**	Plasticity index
CIRIA	Construction Industry Research Association	**PID**	Photo ionisation detector
CLEA	Contaminated land exposure assessment	**POS**	Public open space
CML	Council of Mortgage Lenders	**PPE**	Personnel protective equipment
CoC	Contaminants of concern	**ProPG**	Professional practice guidance
CSM	Conceptual site model	**QA**	Quality assurance
DNAPL	Dense non-aqueous phase liquid (chlorinated solvents, PCB)	**SGV**	Soil guideline value
DWS	Drinking water standard	**SPH**	Separate-phase hydrocarbon
EA	Environment Agency	**SPT**	Standard penetration test
EQS	Environmental quality standard	**SVOC**	Semi-volatile organic compound
FFL	Finished floor level	**TPH**	Total and speciated petroleum hydrocarbon
GAC	General assessment criteria	**TPH CWG**	Total Petroleum Hydrocarbon (Criteria Working Group)
GL	Ground level	**UKWIR**	United Kingdom Water Infrastructure Risk
GSV	Gas screening value	**UST**	Underground storage tank
HCV	Health criteria value	**VCC**	Vibro-concrete column
ICSM	Initial conceptual site model	**VOC**	Volatile organic compound
LEL	Lower explosive limit	**VRSC**	Vibro-replacement stone columns
LMRL	Lower method reporting limit	**VSC**	Vibro-stone columns
LNAPL	Light non-aqueous phase liquid (petrol, diesel, kerosene)	**WHO**	World Health Organisation
MCV	Moisture condition value	**WRAP**	Waste and Resources Action Programme

MIBK	Methyl isobutyl ketone	**WTE**	Water table elevation
m	Metres	**ppm**	Parts per million
km	Kilometres	**mg/m^3**	Milligram per metre cubed
% v/v	Percent volume in air	**m bgl**	Metres below ground level
mb	Millibars (atmospheric pressure)	**m bcl**	Metre below cover level
l/hr	Litres per hour	**mAOD**	Metres above ordnance datum (sea level)
µg/l	Micrograms per litre (parts per billion)	**kN/m^2**	Kilonewtons per metre squared
ppb	Parts per billion	**µm**	Micrometre
mg/kg	Milligrams per kilogram (parts per million)		

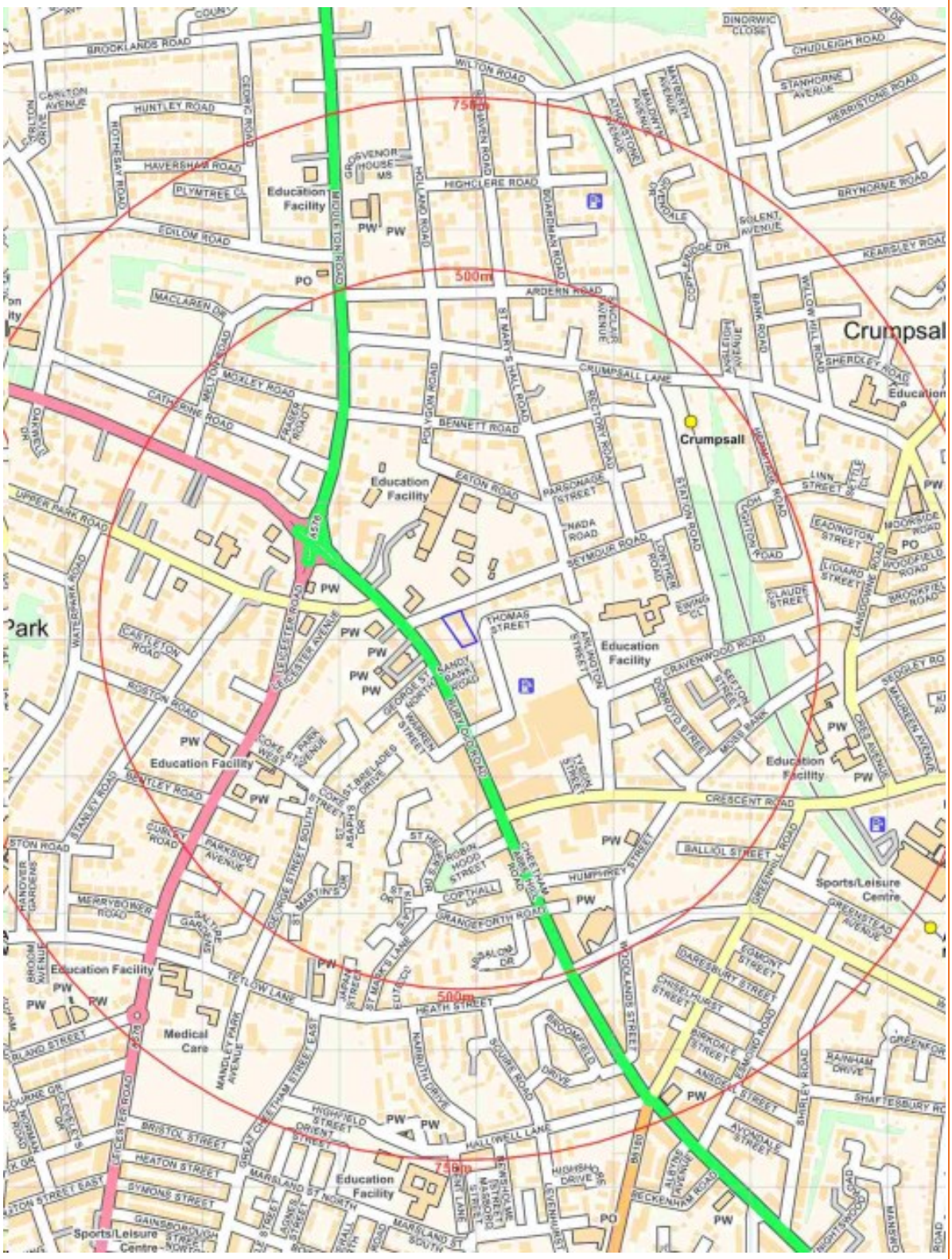
APPENDIX III
RISK CLASSIFICATION

RISK CLASSIFICATION

RISK	DEFINITION
Low	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property.
Low Moderate	There are unlikely to be significant contaminated land liabilities/geotechnical constraints associated with the property with regard to the proposed use. However, minor issues may require further consideration in the event of future redevelopment of the Site.
Moderate	Some potential contaminated land liabilities/geotechnical constraints are likely to affect the property as a result of historical and/or current activities. The risks identified are unlikely to pose an immediate significant issue, but the purchaser/developer may wish to make further enquiries of the vendor or undertake further environmental improvements. Redevelopment of the Site will likely require further site investigation.
Moderate High	Some potentially significant contaminated land liabilities/geotechnical constraints have been identified at the property that requires further assessment, including intrusive ground investigations.
High	Significant potential contaminated land liabilities/geotechnical constraints have been identified at the property. Further assessment including intrusive ground investigation will be required to determine the level of risk and associated liability.

APPENDIX IV
DRAWINGS

DRAWING 17-014-003 – SITE LOCATION PLAN





Historical Features

- Former Buildings
- Former Ryecroft House
- Hardstanding
- Mature Trees
- Former Engineering works

Notes:

P1	REVB	05.10.2023	OW	JC
P1	REVA	03.10.2023	OW	JC
Phase	Issue	Date	Drawn	Checked

Client: ICENI

Job No: 17-014

Date: 05.10.2023

Drawing No: 003

Scale: 1:1000 @ A3

Job Title: Seymour Road, Cheetham Hill

Drawing Title: Historical Features Plan

Environmental Engineering Partnership Ltd
Taylor Road, Trafford Park
Urmston, Manchester, M41 7JQ
Tel: 0161 707 9612
E-mail: info@e3p.co.uk
Website: www.e3p.co.uk

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Site Features

- Buildings
- Mature Trees
- Hardstanding
- Scrap Storage Areas
- Vehicle Storage

Notes:

P1	REVB	10.11.2023	OW	ND
P1	REVA	03.10.2023	OW	JC
Phase	Issue	Date	Drawn	Checked

Client: ICENI

Job No: 17-014

Date: 10.11.2023

Drawing No: 004

Scale: 1:1000 @ A3

Job Title: Seymour Road, Cheetham Hill

Drawing Title: Site Features Plan

e3p
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APPENDIX V
PHOTOGRAPHS

PLATE 1 VIEW OF THE SITE FROM SEYMOUR ROAD



PLATE 2 VEHICLE STORAGE ON SITE



PLATE 3 BUILDING IN THE EAST OF THE SITE AND STORAGE AREA



PLATE 4 STORAGE OF WASTE VEHICLE PARTS AND FUEL CONTAINERS



PLATE 5 SELF SEEDED VEGETATION



PLATE 6 HARDSTANDING IN POOR CONDITION



PLATE 7 STORAGE OF WASTE MATERIALS



PLATE 8 STORAGE AREA AND SELF-SEEDED VEGETATION



APPENDIX VI
HISTORICAL MAPS



Groundsure INSIGHTS

Site Details:

11, SEYMOUR ROAD,
MANCHESTER, M8 5BQ

Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: 1056 Scale Town Plan

Map date: **1850**

Scale: 1:1,056

Printed at: 1:1,056

N
W E
S

Surveyed 1848
Revised N/A
Edition 1850
Copyright N/A
Levelled N/A

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Production date: 25 September 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details:

11, SEYMOUR ROAD,
MANCHESTER, M8 5BQ

Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: County Series Town Plan

Map date: **1890**

Scale: 1:500

Printed at: 1:1,000

N
W E
S

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

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Production date: 25 September 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details:

11, SEYMOUR ROAD,
MANCHESTER, M8 5BQ

Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

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

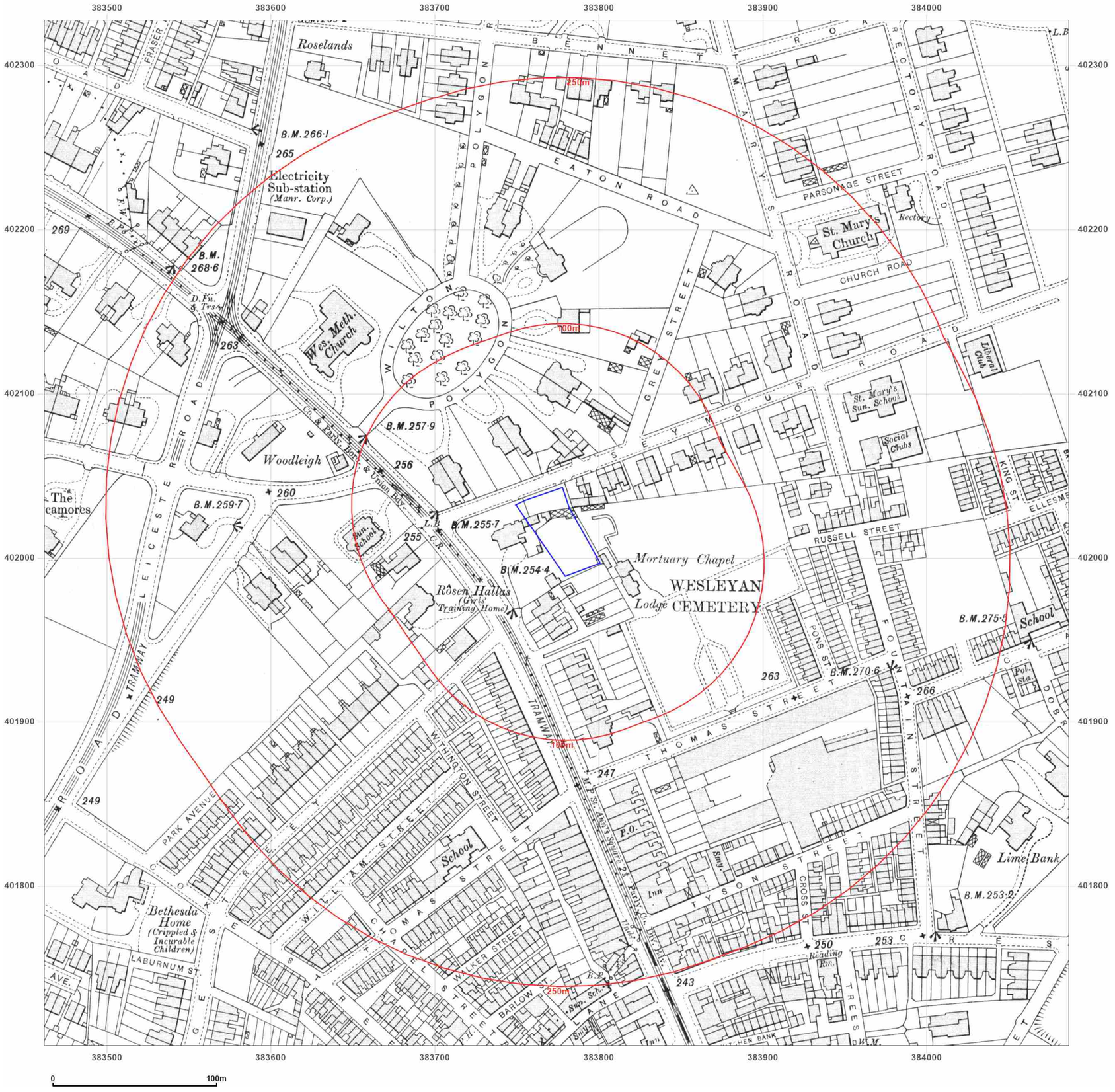
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Production date: 25 September 2023

Map legend available at:
www.groundsure.com/sites/default/files/groundsure_legend.pdf



Groundsure INSIGHTS

Site Details:

11, SEYMOUR ROAD,
MANCHESTER, M8 5BQ

Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: County Series

Map date: **1909**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1909
Revised 1909
Edition N/A
Copyright N/A
Levelled N/A

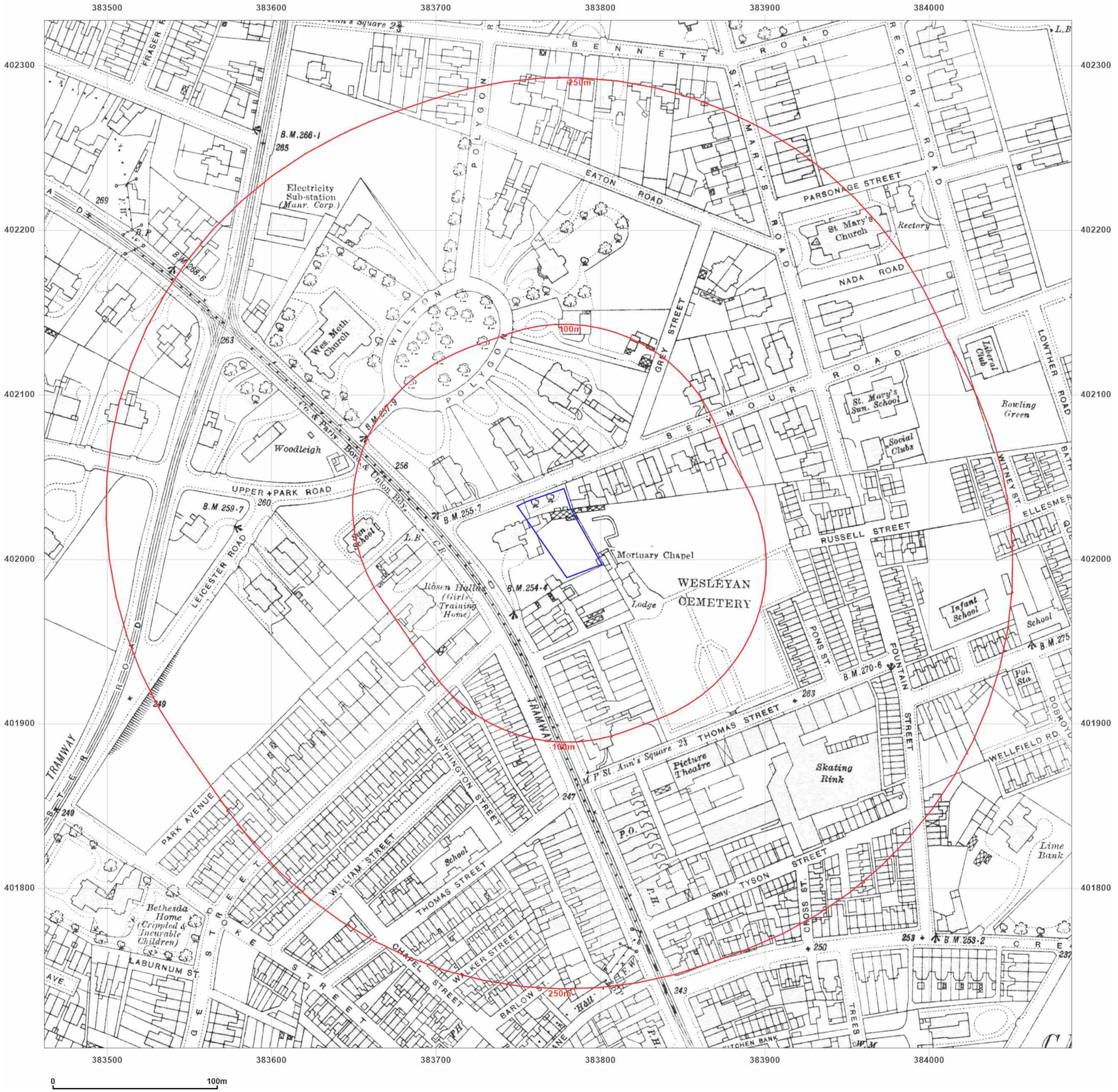
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Site Details:

11, SEYMOUR ROAD,
MANCHESTER, M8 5BQ

Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: County Series

Map date: **1922**

Scale: 1:2,500

Printed at: 1:2,500

N
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Surveyed 1922
Revised 1922
Edition N/A
Copyright N/A
Levelled N/A

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MANCHESTER, M8 5BQ

Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: County Series

Map date: **1932**

Scale: 1:2,500

Printed at: 1:2,500

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

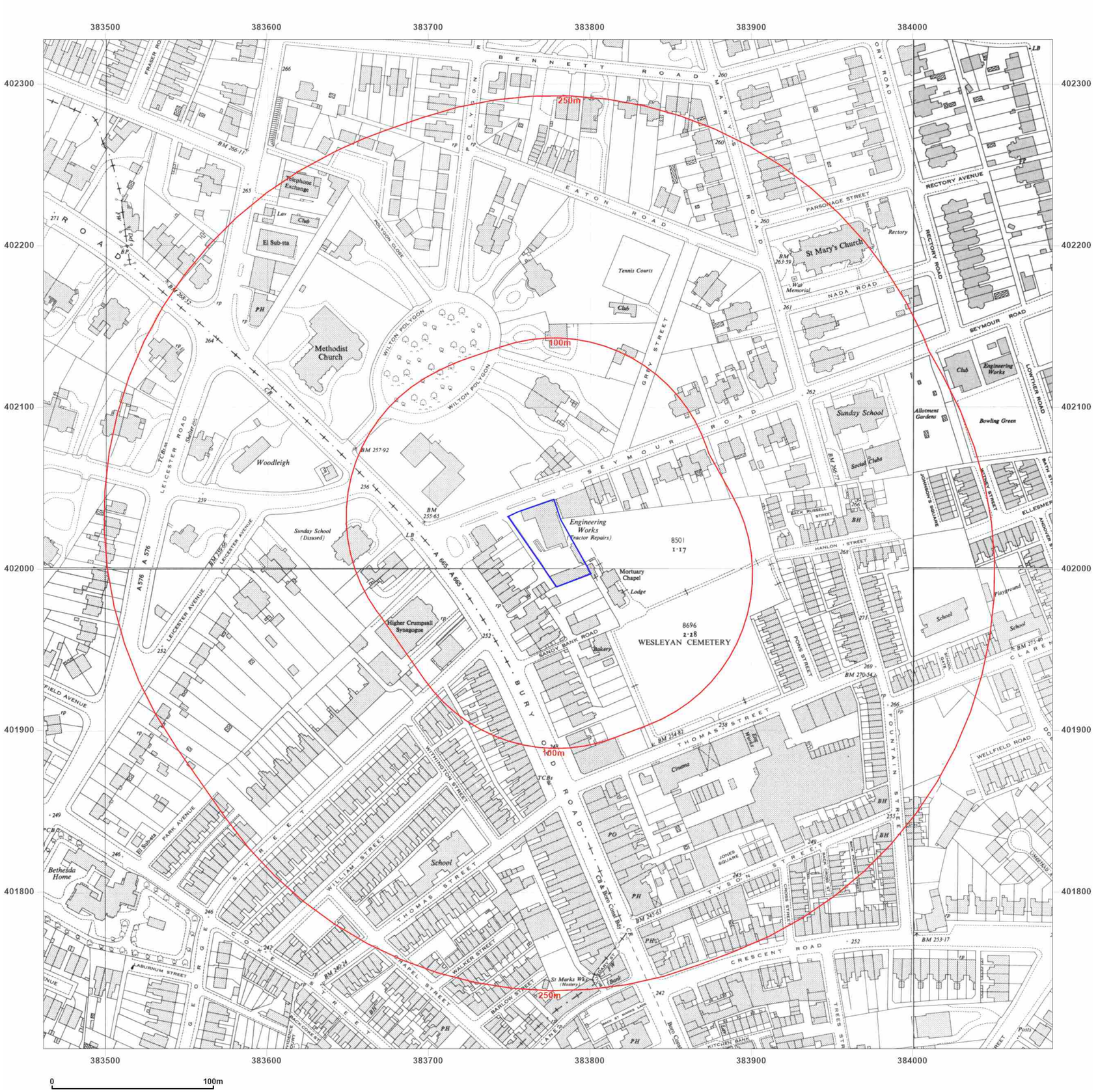
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Site Details:

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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1950-1951**

Scale: 1:2,500

Printed at: 1:2,500

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Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled 1948

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

Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled 1948

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

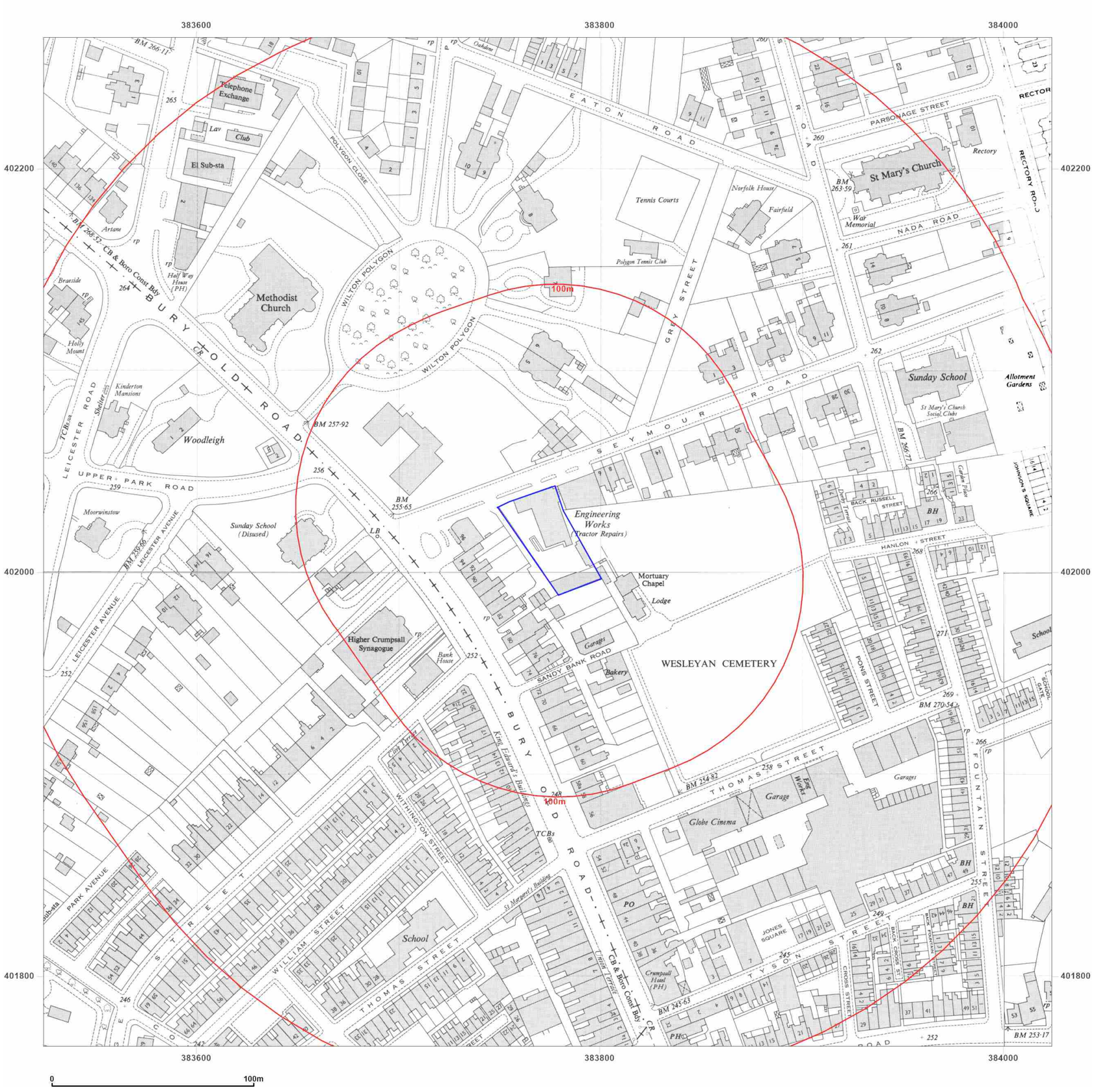
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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid
Map date: **1950-1952**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed 1951 Revised 1951 Edition N/A ~~Copyright N/A~~ Levelled 1948	Surveyed 1951 Revised N/A Edition N/A Copyright 1952 Levelled 1948
Surveyed 1951 Revised 1951 Edition N/A Copyright N/A Levelled 1948	Surveyed 1950 Revised 1950 Edition N/A Copyright N/A Levelled 1927

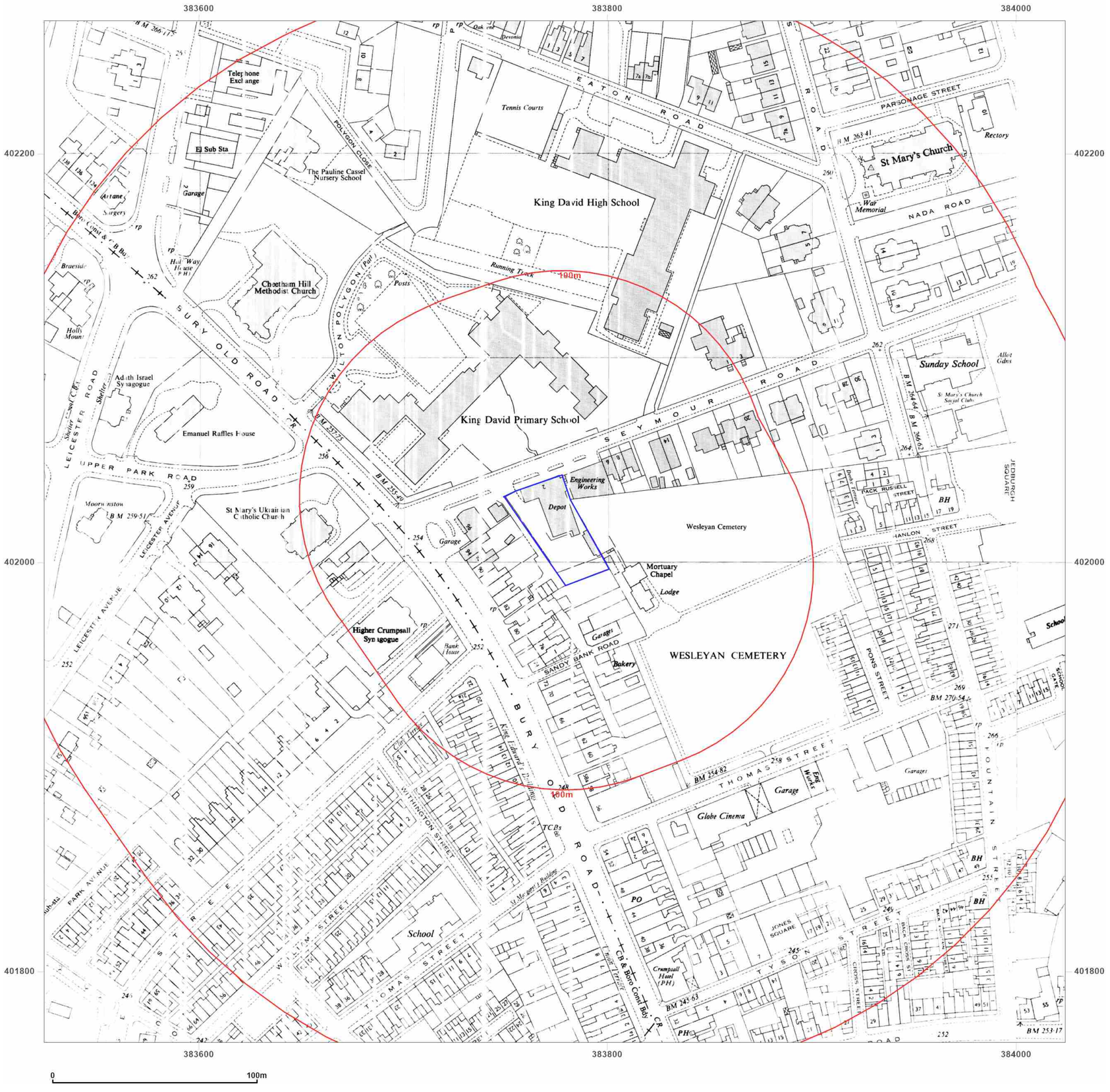
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Site Details:

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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1951-1952**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed 1951
Revised N/A
Edition N/A
Copyright 1952
Levelled 1948

Surveyed 1950
Revised N/A
Edition N/A
Copyright 1951
Levelled 1927

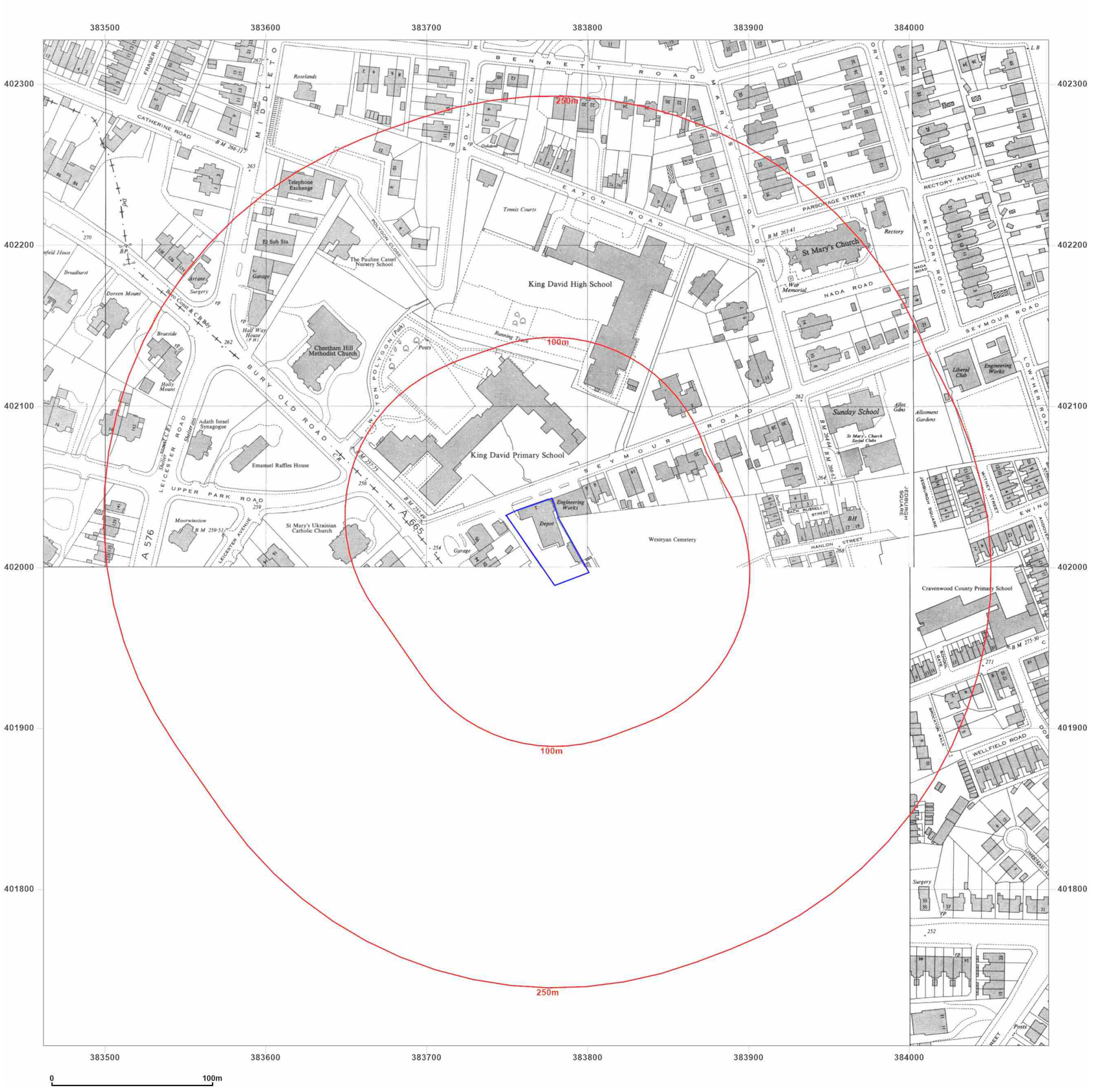
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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1967-1968**

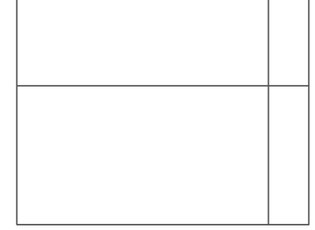
Scale: 1:2,500

Printed at: 1:2,500

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

Surveyed 1968
Revised 1968
Edition N/A
Copyright 1970
Levelled 1964



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

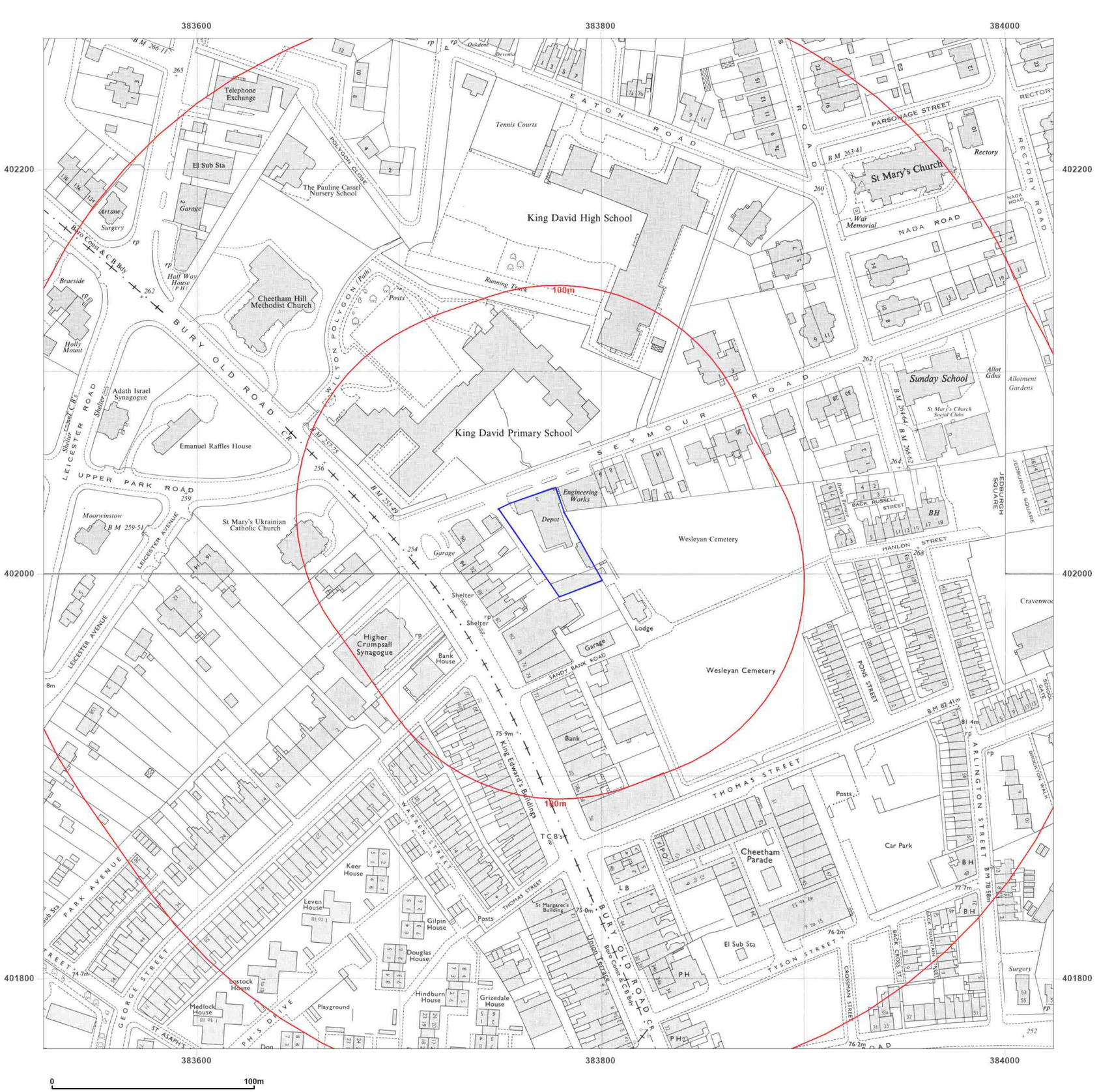
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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid
Map date: **1967-1971**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed 1951 Revised 1967 Edition N/A ~~Copyright 1967~~ Levelled 1964	Surveyed 1957 Revised 1968 Edition N/A Copyright 1969 Levelled 1964
Surveyed 1951 Revised 1970 Edition N/A Copyright 1971 Levelled 1964	Surveyed 1950 Revised 1967 Edition N/A Copyright 1968 Levelled 1964

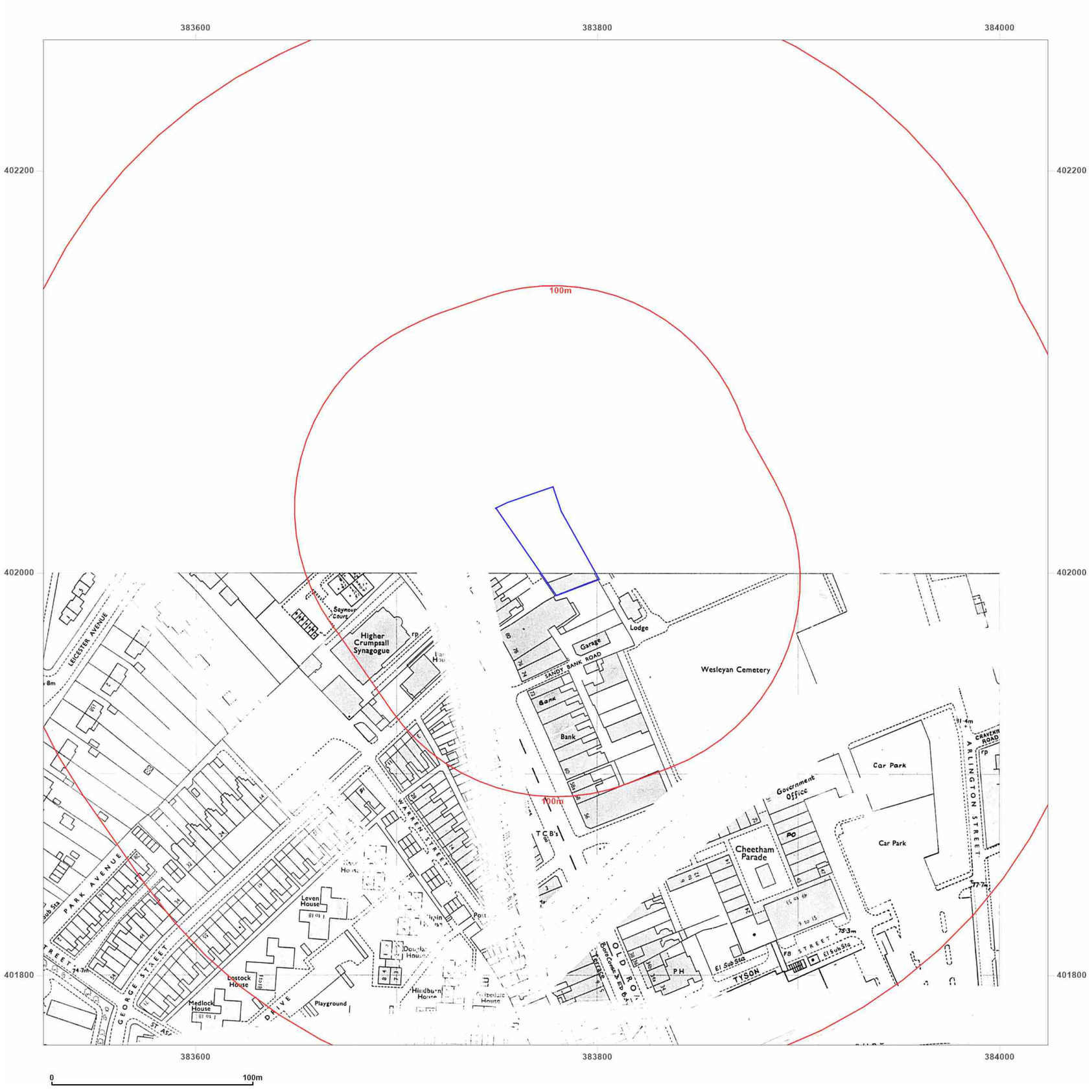
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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid
Map date: **1981**
Scale: 1:1,250
Printed at: 1:2,000

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Surveyed N/A
Revised N/A
Edition N/A
Copyright 1981
Levelled 1964

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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1979-1984**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1964 Revised 1979 Edition N/A ~~Copyright 1979~~ Levelled 1964	Surveyed 1964 Revised 1984 Edition N/A Copyright 1984 Levelled 1964
Surveyed N/A Revised N/A Edition N/A Copyright 1981 Levelled 1964	Surveyed N/A Revised N/A Edition N/A Copyright 1984 Levelled 1964

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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1986-1987**

Scale: 1:1,250

Printed at: 1:2,000

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Revised 1987
Edition N/A
Copyright 1987
Levelled 1964

Surveyed N/A
Revised N/A
Edition N/A
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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

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

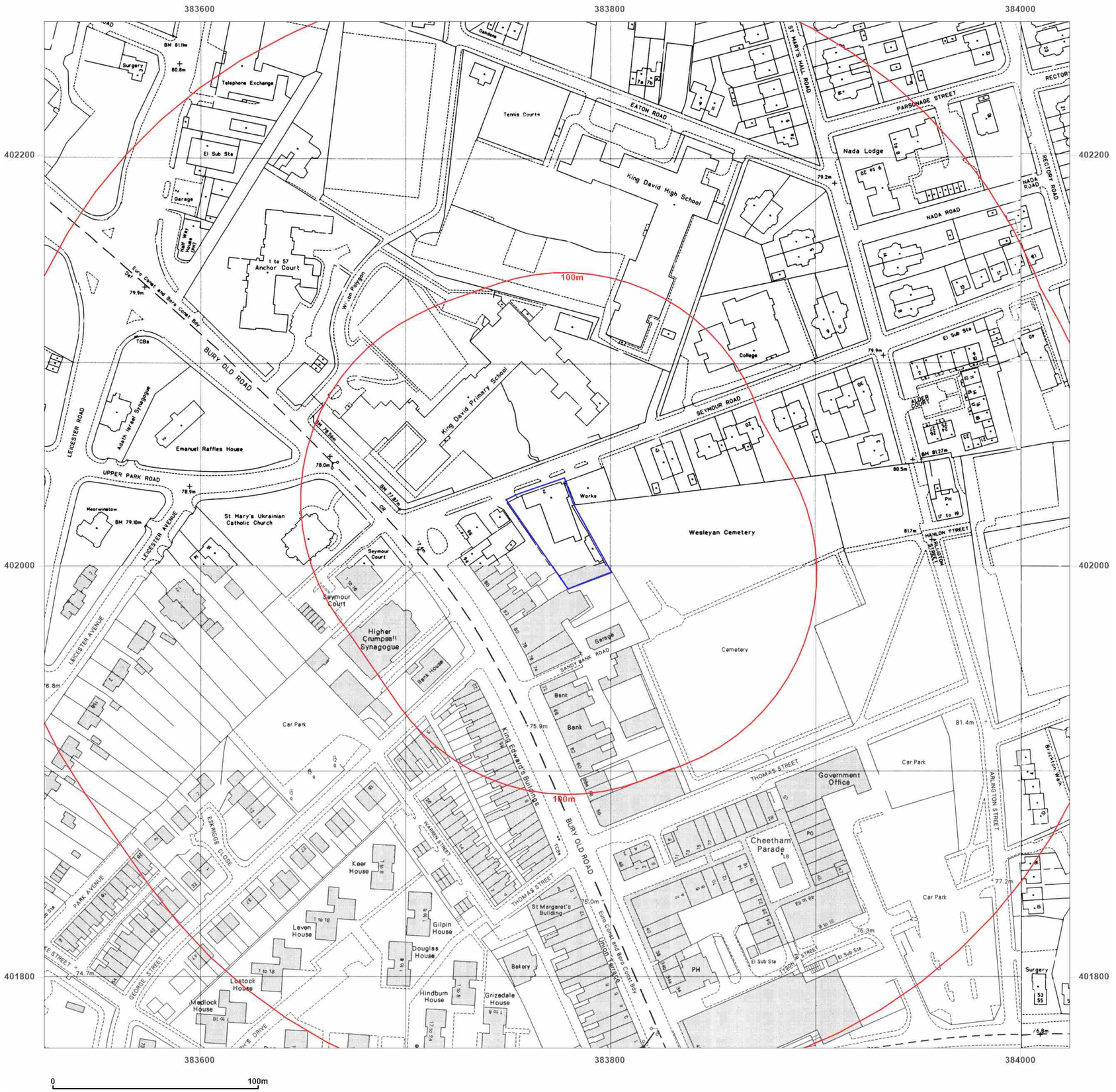
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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1989-1992**

Scale: 1:1,250

Printed at: 1:2,000

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Surveyed 1992 Revised N/A Edition N/A Copyright 1992 Levelled N/A	Surveyed 1992 Revised N/A Edition N/A Copyright 1992 Levelled N/A
Surveyed 1951 Revised 1988 Edition N/A Copyright 1989 Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright 1992 Levelled N/A

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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid
Map date: **1989-1993**
Scale: 1:1,250
Printed at: 1:2,000

N
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Surveyed 1993
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1951
Revised 1988
Edition N/A
Copyright 1989
Levelled N/A

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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1993
Levelled N/A

Surveyed 1992
Revised N/A
Edition N/A
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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1992-1995**

Scale: 1:1,250

Printed at: 1:2,000

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

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

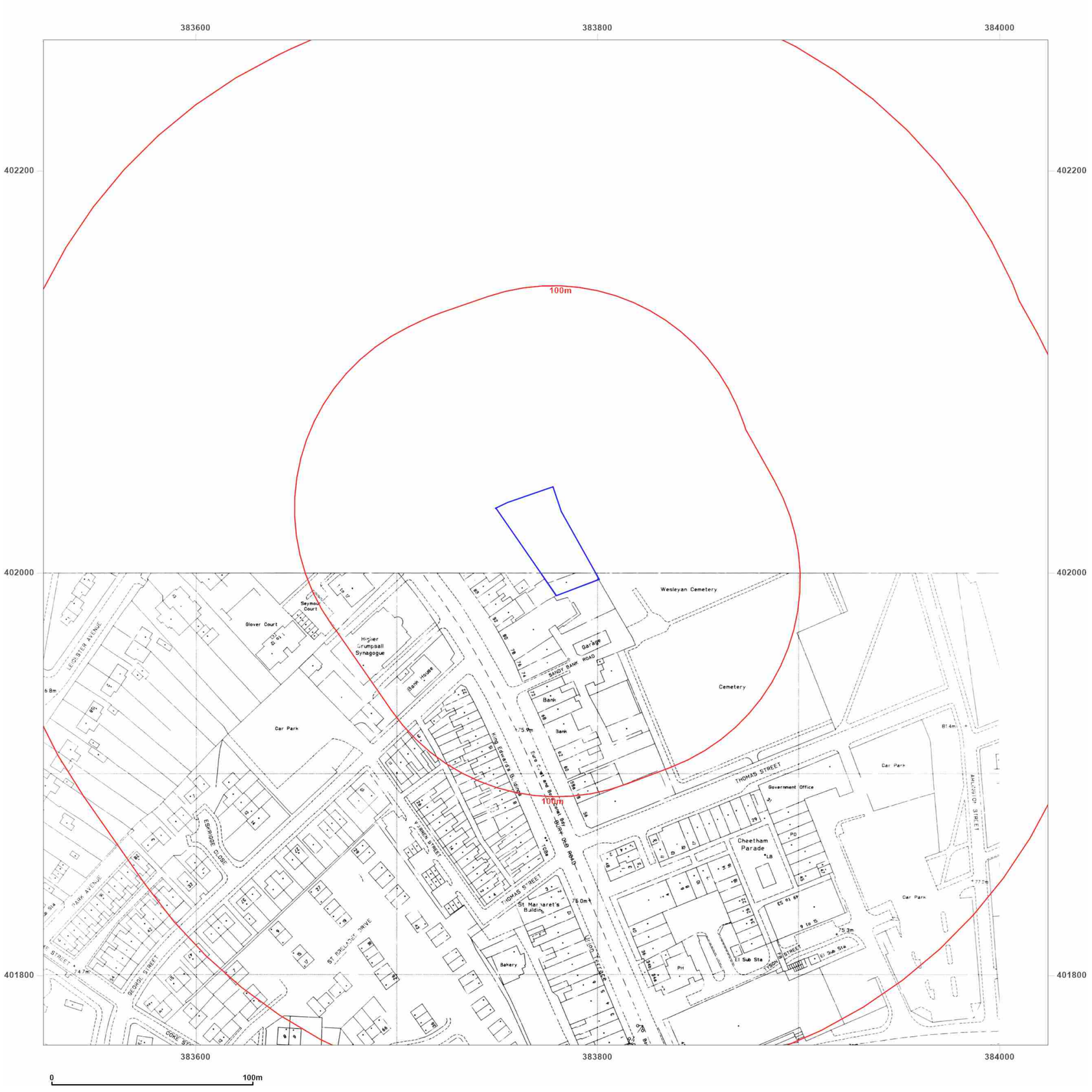
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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid
Map date: **1995**
Scale: 1:1,250
Printed at: 1:2,000

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

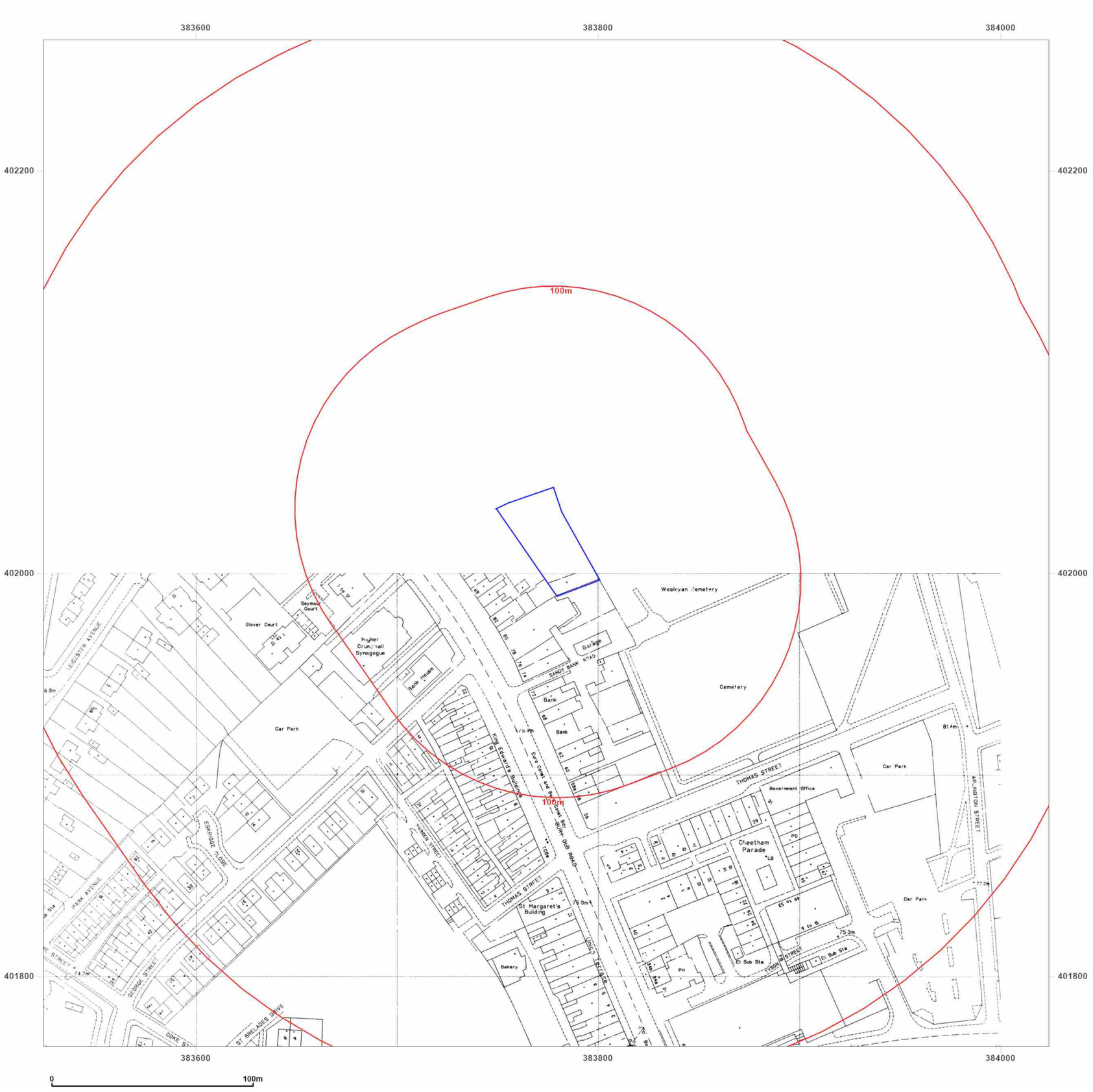
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Site Details:

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MANCHESTER, M8 5BQ

Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid
Map date: **1995**
Scale: 1:1,250
Printed at: 1:2,000

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

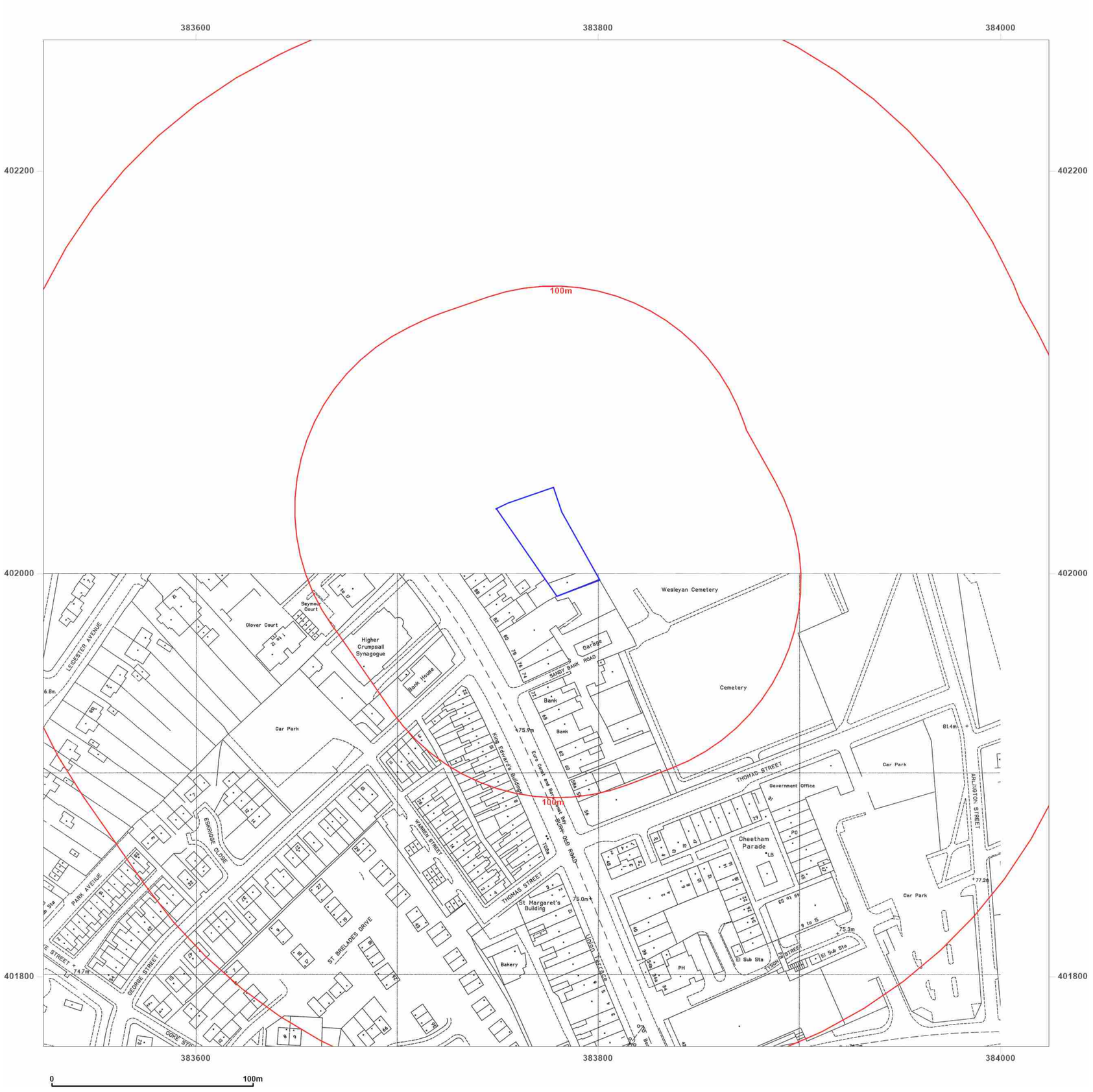
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Site Details:

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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

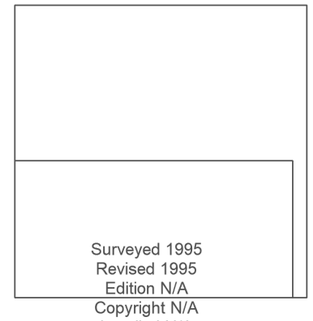
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Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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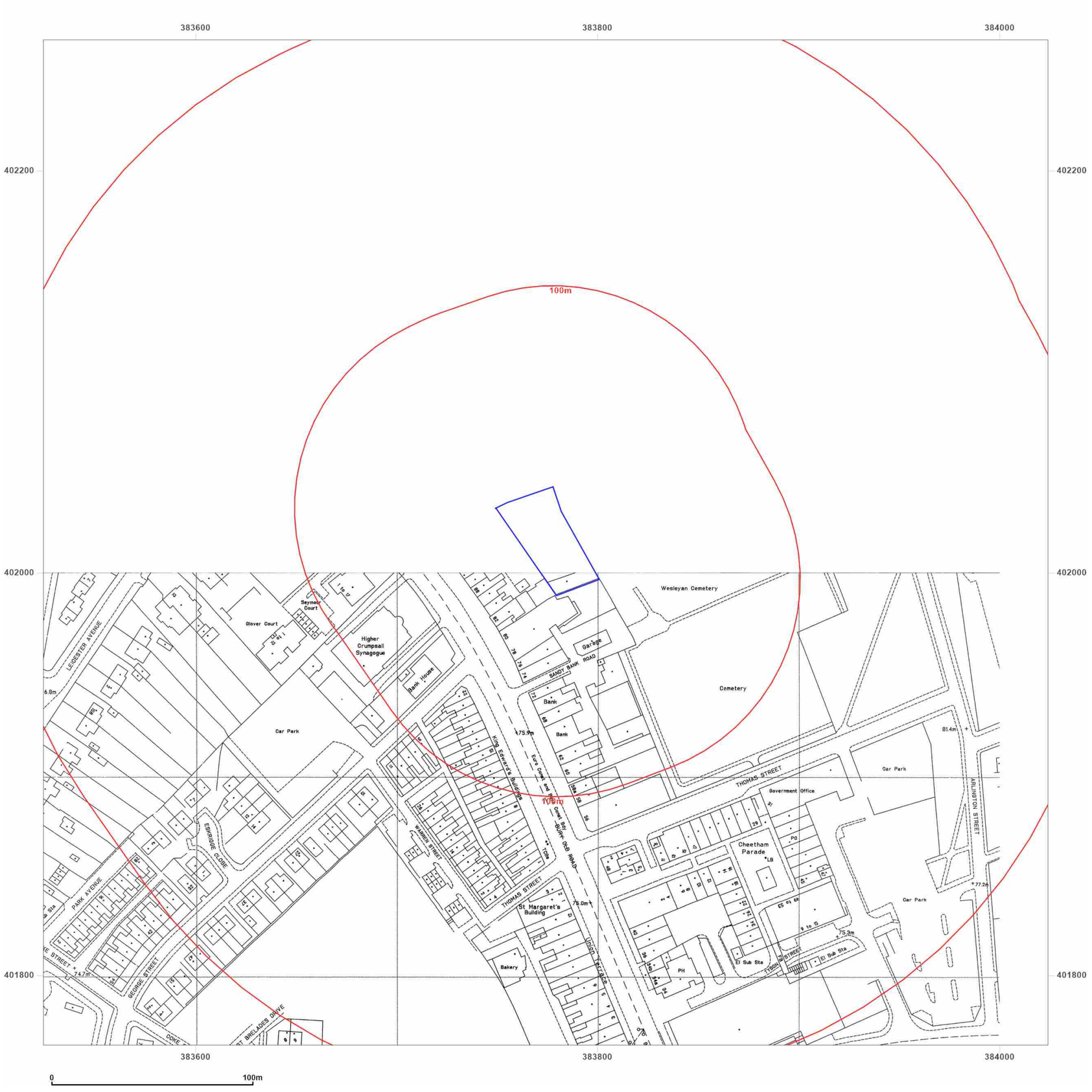
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MANCHESTER, M8 5BQ

Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

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Edition N/A
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Client Ref: 006277
Report Ref: GS-MNG-BIC-67R-5C8
Grid Ref: 383774, 402015

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

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2003

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