



Block C, Plot 11, First Street, Manchester
Environmental Impact Assessment (EIA)
Screening and Scoping Report

November 2023

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1 Introduction

- 1.1 This Environmental Impact Assessment ('EIA') Screening and Scoping Report has been prepared in respect of proposals for the Site identified as Block C, Plot 11 ('the Site') in the First Street Development Framework ('FSDF').
- 1.2 Downing Living (Manchester South) Limited Partnership ('the Applicant') will be submitting an application for Planning Permission for purpose-built student accommodation ('PBSA') ('the Proposed Development'). The term 'Proposed Development' used within this Report refers to all stages of construction and the operation of the development.
- 1.3 The Site comprises a parcel of vacant land, located within the southern half of Plot 11 of the FSDF area. Planning Permission Ref. 125573/FO/2019 for the phased redevelopment of Plot 11 to deliver four co-living buildings (ranging from 10 to 45 storeys, and delivering 3,804 beds alongside associated amenity facilities) was approved by MCC on 9th March 2021. This planning permission has been lawfully implemented, and Downing is currently in the process of building out Phases A and B (comprising Blocks A/B and D) of the approved development. Works in relation to Phase C (comprising Block C) have not commenced, and Downing is now pursuing a "drop-in" Full Planning Application (supported by a standalone EIA) for an alternative PBSA scheme for Block C ('the Site').
- 1.4 The Site is bound to the south east by Parkway Gate and New Medlock House; to the south by Mancunian Way; to the west by Medlock Street; to the north by land that is currently being redeveloped to deliver a co-living scheme of up to 45 storeys (pursuant to Planning Permission Ref. 125573/FO/2019 (as amended), highlighted above). The Site is located within Manchester City Centre.
- 1.5 This Screening and Scoping Report is submitted to Manchester City Council ('MCC') as a request for a Scoping Opinion under Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 ('the 2017 EIA Regulations'), which came into force on 16 May 2017. In accordance with Regulation 15, paragraph 2, this report contains:
- A brief description of the nature and purpose of the Proposed Development and of its possible effects on the environment.
 - A plan sufficient to identify the land enclosed at Appendix 1.

EIA Requirements

- 1.6 The EIA process is the mechanism by which development proposals are appraised in relation to the environmental criteria as well as socio-economic, engineering and technical considerations. The EIA process defines the context of the Proposed Development and examines the issues considered pertinent.
- 1.7 The purpose of the EIA is to establish both the nature of the Proposed Development and the environment within which it is likely to take place, in order to identify likely significant effects on the environment that may arise. This is also undertaken by comparing the existing situation at the start of the work (baseline) with the situation once the Proposed Development is in place.
- 1.8 Regulation 18 and Schedule 4 of the EIA Regulations set out the prescribed information that needs to be included in an ES for EIA Development, including when a scoping opinion (as in the present case) has been requested. In relevant part, Regulation 18 states that an ES must include:

"(a) a description of the proposed development comprising information on the site, design, size and other relevant features of the development;

(b) a description of the likely significant effects of the proposed development on the environment;

(c) a description of any features of the proposed development, or measures envisaged in order to avoid, prevent or reduce and, if possible, offset likely significant adverse effects on the environment;

(d) a description of the reasonable alternatives studied by the developer, which are relevant to the proposed development and its specific characteristics, and an indication of the main reasons for the option chosen, taking into account the effects of the development on the environment;

(e) a non-technical summary of the information referred to in sub-paragraphs (a) to (d); and

(f) any additional information specified in Schedule 4 relevant to the specific characteristics of the particular development or type of development and to the environmental features likely to be significantly affected"

1.9 The 2017 EIA Regulations require that any Proposed Development falling within the description of a 'Schedule 2 development' within the meaning of the Regulations, will be subject to an EIA where such development is likely to have 'significant' effects on the environment by virtue of such factors as its nature, size or location (Regulation 4(2)).

1.10 The Proposed Development falls under the category of "Infrastructure Projects – Urban Development Projects" (Schedule 2, 10, (b)) as described in the Regulations. The applicable threshold above which EIA is likely to be required is (ii) the development includes more than 150 dwellings. The indicative thresholds and criteria state that:

"In addition to the physical scale of such developments, consideration should be given to the potential increase in traffic, emissions and noise. EIA is unlikely to be required for the redevelopment of land unless the new development is on a significantly greater scale than the previous use, or the types of impact are of a markedly different nature or there is a high level of contamination".

1.11 The Proposed Development will comprise up to 555 PBSA bedspaces. Therefore, the nature and scale of the Proposed Development is significantly larger than the existing scenario. For these reasons, an EIA is considered appropriate to test the likely significant effects of the Proposed Development on the surrounding environment. The Applicant therefore proposes to submit an Environmental Statement (in relation to certain topic areas where there is likely to be a significant effect of the environment) in support of the planning application.

Purpose of the Screening and Scoping Report

1.12 The process of identifying likely significant effects on the environment which should be addressed by the EIA is termed 'scoping' and the results are presented as a Screening and Scoping Report.

1.13 Regulation 15 of the 2017 EIA Regulations set out the requirements for obtaining a scoping opinion from the relevant planning authority.

1.14 This Screening and Scoping Report sets out the framework within which the ES will be produced and the topic areas and information that will be contained within the document. It is issued to MCC as the Local Planning Authority ('LPA') for circulation to Statutory Consultees and other organisations who are invited to express their views on the proposed scope of the EIA, or suggest additional issues which may be considered to be of significance. The views expressed by Statutory Consultees will then be used by the LPA to inform the formal Scoping Opinion.

1.15 The LPA is required to respond to a formal request for a Scoping Opinion within five weeks of registering receipt.

1.16 Should the proposed scope of the EIA be accepted by MCC, the EIA team (as set out in

1.17

1.18 Table .1) will be co-ordinated and led by Deloitte.

Table 1.1: EIA Project Team

Topic	Assessment Carried Out By
Air Quality	RPS
Construction Management Plan	Downing
Climate Change	Ramboll
Human Health	Enfusion
Noise and Vibration	Acoustic Engineering Consultants Ltd
Socio-Economic Issues	Ekosgen
Sunlight, Daylight and Overshadowing	GIA
Townscape and Visual Impact	Open
Wind Microclimate	Urban Microclimate

- 1.19 Sustainability and the impact of the Proposed Development on climate change is an integral part of the design process and will also be considered throughout the EIA. Further standalone reports explaining the approach to sustainability policy objectives will accompany the application for Full Planning Permission.
- 1.20 The remainder of this report is structured as follows:
- Section 2: Site and the Proposed Development
 - Section 3: Scope, Structure and Consultation
 - Section 4: EIA Methodology
 - Section 5: ES Chapters

2 Site Description and Proposed Development

Site Description

- 2.1 The Site measures approximately 0.23 ha in area, and is currently relatively flat open land, previously used for surface level car parking. The Site is vacant, save for the siting of construction compounds, which are being used in relation to the construction of Blocks A/B and D, to the north. The Site Location Plan is found at Appendix 1 of this Report.
- 2.2 To the south of the Site are a number of mature trees and vegetation.
- 2.3 The Site is located within Flood Zone 1 and within a Critical Drainage Area.
- 2.4 There are no records of protected species within the Site and it is not subject to any environmental designations.

Site Context

- 2.5 The Site is located within the Regional Centre and within MCC administrative area.
- 2.6 The Site forms part of the FSDF) area and has been one of MCC's key regeneration priorities for over twenty years. The regeneration initiative includes three distinct development areas of First Street: First Street North (FSN), First Street Central (FSC) and First Street South (FSS). The Site, alongside Blocks A/B and D (currently under construction pursuant to Planning Permission Ref. 125573/FO/2019 (as amended)), form Plot 11, FSS.
- 2.7 Immediately to the north of the Site is FSC, comprising Plots 9 and 10 of the First Street Masterplan. In 2022, Plot 9a received planning permission (Ref.18132600/FO/2021) for a nine storey 'net-zero' office building, which is now being brought forward by Ask. In June 2022, it was announced that the Government Property Agency (GPA) will occupy the Plot 9a building once complete. Plot 9b remains a vacant future development site. Plot 10 is split into two separate plots, Plot 10a and 10b. Plot 10a received planning permission (Ref. 136043/FO/2023) earlier this year for a highly sustainable office development (which is also being brought forward by Ask). Plot 10b subsequently received planning permission (Ref. 136170/FO/2023) for a 14 storey PBSA development comprising 576 bedspaces as well as a new 'food-hall' on the ground floor, helping to activate this part of the City Centre. Construction on Plot 10b started in September 2023, and the development is due to accommodate its first student intake in the 2026/27 academic year.
- 2.8 Further north of the Site is FSN, which is now complete. Centred around Tony Wilson Place, FSN is a cultural hub for the city including HOME (a contemporary art, film and theatre complex) alongside a wider mix of uses including PBSA, a multi-storey car park ('MSCP') and a range of carefully curated food and drink operators, as well as new public spaces.
- 2.9 Immediately to the east of the Site is Unite Student accommodation (New Medlock House and Parkway Gate). Further beyond to the east, there is a cluster of converted mills (Macintosh Mill, Chorlton Mill and Cambridge Mill), and a diverse mix of uses, including PBSA, retail, residential, and food and beverage units.
- 2.10 To the west of the site is Medlock Street, beyond which is a Premier Inn and Canvas Student Accommodation (a PBSA development comprising 807 beds, previously approved under Ref. 118683/FO/2017). Resolution to grant planning permission (Ref. 135419/FO/2022) was secured at Planning Committee on 1st June 2023 for a new PBSA and office scheme at One Medlock Street / Former Premier Inn Site. The scheme will deliver a 38 storey PBSA scheme (1,014 bedspaces) alongside an office building to replace the existing hotel on-site.

Site Planning History

The 2016 Permission

- 2.11 In June 2016, planning permission (Ref. 111170/FO/2016/C1) was granted for the redevelopment of Plot 11, First Street South ('the 2016 Planning Permission'). The description of development was as follows:

"Demolition of on-site building and structures. Erection of a residential building (part 8, part 10, part 23 and part 26 storeys with roof plant, to accommodate 624 apartments (43 x studio, 210 x 1 bed, 328 x 2 bed, 15 x 2 bed duplex and 28 x 3 bed) (Use Class C3). Associated residential amenity uses including podium garden, ground floor commercial units (Class A1, A2, A3, A4, B1, D1 (crèche/day nursery and/or doctor's surgery) and D2 (gym use)) with associated access, servicing, parking and public realm."

- 2.12 This application was accompanied by an Environmental Statement ('the 2016 ES').
- 2.13 The 2016 Planning Permission was amended in February 2017, through Non-Material Amendment Application Ref. 115206/NMC/2017 to reduce the proposed 26 storey Block 3 to 25 storeys, the proposed 23 storey Block 2 to 22 storeys and increase the 8 storey Block 4 to 9 storeys. The Planning Permission was implemented on site through enabling works but was not progressed further. This consent has now been partially replaced by the 2021 Permission, discussed below.

The 2021 Permission

- 2.14 In March 2021, Planning Permission Ref. 125573/FO/2019 was granted for the:

"Construction of four buildings of heights varying from 10 storeys to 45 storeys together comprising Co-living bedspaces (use class sui generis) and associated amenity facilities, with ground floor commercial units (Use classes A3 (Café / Restaurant and D2 (Gym)), private amenity space and public realm comprising hard and soft landscaping, car parking and cycle facilities and other associated works." ('the 2021 Planning Permission').

This application was accompanied by an Environmental Statement ('the 2021 ES').

- 2.15 Planning Permission Ref. 125573/FO/2019 (as amended) is for the phased delivery of a co-living scheme, comprising:

Building D (Phase A)

- 45 storeys
- 707 bedrooms
- Communal facilities, including: a bike store, plant, substation, car park, management suite and bin store, First Floor and "sky lounge" (Floor 44) amenity areas (lounge/kitchen/dining area) (3,146 sq. m.) and external first floor and external private terrace and garden areas (1,636 sq. m.).

Buildings A / B (Phase B)

- Block A - part-10, part-18 and part-22 storeys, Block B: part-18, part-22 and part-26 storeys
- 1,187 bedrooms (396 in Block A, and 791 in Block B)
- Communal facilities, including a café, health and wellbeing space, bike store, plant, bin store, substation, laundry, management suite, Ground and First Floor shared amenity areas (lounge/kitchen/dining area) (5,562 sq. m) and external private terrace and garden areas (2,470 sq. m.).

Building C (Phase C)

- Part-10, part-13 and part-17 storeys.
- 322 bedrooms

- Communal facilities, including amenity space, bike store, plant, substation, bin store and management suite; Ground and First Floor shared amenity areas (lounge/ kitchen/ dining area) (1,157 sq. m.)
- 2.16 The 2021 Planning Permission was amended through Non-Material Amendment Applications Ref. 132553/NMC/2021, 132804/NMC/2022, 135358/NMC/2022 and 135526/NMC/2022.
- 2.17 The 2021 Planning Permission (as amended) has been implemented, and works in relation to Phases A and B are underway.
- 2.18 This Screening and Scoping Report relates to Phase C (comprising Block C) only.
- 2.19 As detailed within Section 3 of this Report, the extant permission (Planning Permission Ref. 125573/FO/2019 (as amended)), insofar as it relates to Blocks A/B and D, should be considered by EIA assessments as completed developments within the existing baseline. This is on the basis that construction in relation to these blocks, is well-progressed. It is anticipated that Blocks A/B (and associated landscaping) will be completed and operational by August 2024, and Block D (and associated landscaping) will be completed and operational by March 2025.
- 2.20 A planning history search for the Site has been undertaken using MCC's Public Access system. This identified no other planning permissions for the Site which are of relevance to the current application other than those noted above.

The Development Proposals

- 2.21 The Applicant intends to submit a "drop-in" Full Planning Application for the redevelopment of Block C, Plot 11, First Street South, to deliver a purpose-built student accommodation (PBSA) development (Sui Generis) and associated amenity facilities, and extensive public realm.
- 2.22 The Application will be submitted alongside a standalone EIA. The extant permission (Planning Permission Ref. 125573/FO/2019 (as amended)), insofar as it relates to Blocks A/B and D, will be considered by EIA assessments as completed developments within the future baseline. Committed developments (i.e. those sites under construction) within the surrounding area will also be factored into the baseline.
- 2.23 Key Statistics for the Proposed Development are contained in Table 2.2, below. It should be noted that the proposed figures are not fixed and are part of an evolving design. Hence, these represent the worst-case scenario.

Table 2.2: Proposed Development Parameters

	Minimum	Maximum
PBSA Bedspaces	555	611
Total GIA	19,029 sq. m	20,931.9 sq. m
External Amenity Space	144 sq. m.	159 sq. m.
Height	28 storeys (+120.625m AOD)	31 storeys (+132.687m AOD)
Car-parking Spaces	0	5

- 2.24 Overall, the Proposed Development will comprise 19,029 sq. m (GIA).

Phasing and Delivery

- 2.25 The construction programme is indicative at this stage, and assumes commencement of the scheme in March 2025 (subject to planning permission being granted) with a three year build out period. At this stage it is intended that the Proposed Development will be delivered in one phase.

3 Scope, Structure and Consultation

Scope

- 3.1 A scoping exercise has been carried out in order to determine the likely significant effects on the environment that may arise as a result from the Proposed Development. This process has enabled the team to determine which technical disciplines are pertinent to the Proposed Development and the scope of assessment required in order for any likely significant effects on the environment to be addressed as part of the EIA process.
- 3.2 This process has taken account of the conclusions of the November 2021 EIA, relevant planning policy, the 2017 EIA Regulations, knowledge of the Site, and the professional opinion of the project team.
- 3.3 The information presented in the ES will be provided in accordance with Schedule 4 of the EIA Regulations and will include:
- A description of the Proposed Development;
 - An outline of the main alternatives studied;
 - A description of the aspects of the environment likely to be significantly affected by the proposals;
 - A description of the measures envisaged to prevent, reduce and where possible offset any significant adverse effects on the environment;
 - A non-technical summary; and
 - An indication of any difficulties encountered by the Applicant in compiling the required information.
- 3.4 The introductory chapters for the ES will provide the following information:
- An introduction to the ES in a legislative and the Site specific context;
 - Description of the Site and Proposed Development;
 - Alternatives considered and project design evolution;
 - EIA methodology;
 - Construction methodology and programme;
 - ES Structure; and
 - Details of the EIA project team.
- 3.5 The geographical coverage of the EIA will be determined by a number of factors including:
- The physical extent of work;
 - The nature of the baseline environment, including the location of sensitive receptors;
 - The distance over which effects will be significant; and,
 - The presence and type of "pathways" along which impacts may be spread.

Environmental Disciplines to be Scoped Out of the EIA

- 3.6 It is considered that the following disciplines will not give rise to likely significant effects on the environment and would therefore not require inclusion in the ES. Justifications in relation to each discipline, with input from technical specialists, are provided below.

Agricultural Circumstances

- 3.7 The Site is entirely on brownfield land so there would be no effects with respect to agriculture. This discipline can therefore be scoped out of the EIA.

Archaeology

- 3.8 As part of the implementation of the 2016 Planning Permission, Condition 25 (Written Scheme of Investigation (WSI)) was discharged (Ref. CDN/18/0326). Condition 25 is worded as follows, *"The applicant or their agents or their successors in title will secure the implementation of a programme of archaeological works. The works are to be undertaken in accordance with a Written Scheme of Investigation (WSI) submitted to and approved in writing by the local planning authority"*.
- 3.9 A WSI and an Assessment of Archaeological Excavation was undertaken by Pre-Construct Archaeology and submitted to discharge the condition, as found in Appendix 2 of this Scoping Report. On 16th August 2018, Manchester City Council confirmed that the condition had been fully discharged.
- 3.10 Furthermore, under the 2019 Permission, GMAAS confirmed that archaeological interest in the site had been removed by virtue of these previous archaeological investigations and that no further archaeological works are required at Plot 11. This is confirmed by the Committee Report for the application, which states *"Any archaeological interest has been removed by previous archaeological investigations, and further archaeological work is not necessary"*.
- 3.11 On this basis it is considered that there is no requirement for further archaeological works at the Site and an archaeology assessment can therefore be scoped out of the EIA.

Aviation

- 3.12 At a maximum of 31 storeys, the Proposed Development exceeds the 90m AOD aviation safeguarding threshold. Manchester Airport Group (MAG), Barton Aerodrome and NATS will need to be contacted for consultation advice. It is considered, from professional experience of similar scale developments within this area of MCC, and based on conclusions reached with regards to the 2021 Planning Permission (which comprised up to 45 storeys), that the Proposed Development will not give rise to aviation conflicts which cannot be resolved via appropriate mitigation to avoid any residual impacts arising.
- 3.13 Therefore, it is considered that the aviation discipline will not give rise to likely significant effects on the environment and would therefore not require inclusion in the Environmental Statement. This discipline can therefore be scoped out of the EIA.

Ecology and Nature Conservation

- 3.14 An extended Phase 1 Habitat Survey, following standard published methodologies, was completed in October 2019 (and submitted alongside the 2021 Planning Application). This survey identified designated sites and protected species records within a 2km radius of the Site.
- 3.15 The Site contains no statutory nature conservation sites and none are within 2km of the Site, and therefore none are likely to be directly affected by the development. There are three non-statutory Sites of Biological Importance (SBI) identified within 2km of the Site which are all situated upstream and 1.4km or more from the Site. Impacts of the development on these sites are, therefore, considered unlikely due to there being no direct links between them and the Site.
- 3.16 Overall, the Site is considered representative of isolated patches of self-seeded short perennial vegetation, scrub, trees and amenity grassland within a wider area of hard-standing. The habitats and plant species recorded within the Site are widespread and common throughout the UK and Greater Manchester.
- 3.17 The Site provides low quality foraging habitat and is unlikely to be used by significant numbers of foraging bats. The loss of the vegetation during construction and increased lighting of the Site post-construction is, therefore, predicted to have a negligible impact on the conservation status of bats within the local area and Greater Manchester. There is indication of foraging

behaviour at the River Medlock corridor to the north of the Site, however it is considered that it is unlikely bats would commute to or across the Site nor that the works on the Site would significantly affect their existing roosts given its distance away from the River Medlock. Some areas of dense scrub and trees provide suitable nesting habitat for a range of bird species, including some species of conservation concern, and disused magpie nests were noted in a number of trees. As such, all site clearance should be undertaken outside of the breeding season for birds (i.e. avoiding the March to September (inclusive) period). The Site is considered to provide a localised foraging resource for local populations of birds.

- 3.18 Based on existing surveys and assessments undertaken in 2019, it is considered that the potential significant impacts on ecology and nature conservation can be scoped out of the EIA. A standalone Phase 1 Habitat Survey (alongside a Biodiversity Net Gain Assessment) will be submitted as part of the planning application.

Ground Conditions

- 3.19 The 2016 Planning Permission was considered an EIA development and included an assessment of the likely significant effects of redevelopment of the Site in relation to ground conditions. The chapter was prepared by Cundall and accompanied by the following Appendix:
- Landmark Envirocheck Report (Ref: 24099085_1_1) including historical OS maps (Landmark Information Group Service, 2008).
- 3.20 The Chapter and associated appendix are included with this Report at Appendix 3.
- 3.21 Further to this, a detailed remediation and verification strategy was prepared by Cundall in respect of Condition 17 attached to the 2016 planning permission and is included with this Report at Appendix 4. Condition 17 is worded as follows, *"Before the development hereby approved commences, a report to identify and evaluate all potential sources and impacts of any ground contamination, groundwater contamination and/or ground gas relevant to the site shall be submitted to and approved in writing by the City Council as local planning authority"*. On 22 September 2016 the condition was partially discharged by MCC with full discharge being subject to the completion of a verification report once ground works have been completed.
- 3.22 Condition 8 attached to the 2021 Planning Permission confirmed that the development shall be carried out in accordance with the previously agreed Remediation Strategy and a Completion/Verification Report.
- 3.23 The Applicant is in ownership of these reports and will complete ground works in line with the detailed remediation strategy (1011906.RPT.GL.006 Rev A dated 09/08/2016 by Cundall, and the Factual Report of Geotechnical Investigation dated 12/07/16 by Geotechnical Engineering Ltd).
- 3.24 In consideration of the above, and given that the baseline position of the Site has not otherwise changed since 2016, it is considered that ground conditions can therefore be scoped out of the EIA.

Transport

- 3.25 The development proposals for Block C would replace the extant co-living permission on the Site and would provide a total of 555 student bedspaces, together with off street servicing and two mobility spaces. The scheme will be a predominantly car free development and will not provide operational car parking for students or staff, with sustainable travel options providing for daily access.
- 3.26 Access to the development from Newcastle Street is still required for servicing, access to the mobility spaces and to assist at the start and end of term for the purpose of students moving in and out of the accommodation. The proposed servicing arrangements are similar to those consented for the co-living extant use.
- 3.27 Car ownership amongst students is generally low, and the site's highly accessible location offers every opportunity to generate trips by walking, cycling and public transport. Therefore, the provision for parking within the site is not essential as it is unlikely that the majority of occupants will have regular use of a vehicle.

- 3.28 The proposed traffic generation on a daily basis will be limited by the quantum of car parking provided by the development (2 mobility spaces in total). On street parking restrictions in the vicinity of the Site will self-regulate the ability for the development to generate significant additional traffic. Servicing will generate traffic at the site however this will be similar to levels that could be expected from the extant co-living use on the Site. Traffic generation at the start and end of term for the purpose of students moving in and out of the accommodation will be transient and will not have a lasting impact. A Student Transport Management Plan (STMP) will be provided for the development as part of the planning application submission. The STMP will set out measures to manage the changeover of residents at the PBSA to ensure a smooth transition and to minimise the traffic impact during these periods.
- 3.29 Under the 2016 and 2021 Planning Permissions, proposals were assessed in transport terms and considered not to have significant effects on the environment. It should be noted that the Proposed Development, although including a different form of residential use, is not materially different to those previous consents (and particularly the 2023 Planning Permission, which included no car parking for the EIA Site).
- 3.30 The 2016 ES is particularly relevant in that it considered the traffic and transport effects from the 2016 Planning Permission, which included an assessment of the operational impact of the development comprising 83 car parking spaces. The 2016 ES Traffic and Transport Assessment did not identify any significant residual effects resulting from the construction phase and the operational phase of the development.
- 3.31 The 2019 EIA Screening and Scoping Report (submitted in relation to the 2021 Planning Permission) referenced the findings from the 2016 ES, and scoped out Transport for the ES associated with the 2021 Planning Permission. The current PBSA proposals on the Site are commensurate with the consented use, in transport terms. It is therefore concluded that this discipline can be scoped out of the EIA.
- 3.32 To confirm, the Proposed Development will be supported by a Transport Statement (TS), a Travel Plan (TP) and a Student Transport Management Plan (STMP). The TS will follow the format of the TS approved under the 2021 Permission (which included the Block C site) and is appropriate given that both the extant and proposed uses are predominantly car free. The previous TS was agreed with Manchester City Council Highways Development Control (MCCHDC), Highway Forecasting and Analytical Services (HFAS), Urban Traffic Control (UTC) and Transport for Greater Manchester (TfGM) and confirmed that no traffic modelling was required within the TS to support the development proposals. Therefore MCCHDC, HFAS, UTC and TfGM have all previously accepted that the development will not have a material adverse traffic impact on local traffic conditions and at key nodes and receptors.
- 3.33 The TS will report on the traffic and transportation implications of the development proposals and will include:
- An audit of the accessibility of the Site by all modes of travel;
 - A review of highway safety within the vicinity of the Site;
 - Consideration of the multi-modal traffic generation associated with the development proposals;
 - Consideration of the impact of the development, by all modes, on the highway network; and
 - A review the development access, parking and servicing provision.
- 3.34 The Travel Plan will set out the sustainable travel credentials of the development and will outline measures designed to minimise car trips from the development and to maximise sustainable travel alternatives.

TV Reception

- 3.35 Notwithstanding the fact that a tall building has already been approved on the EIA Site, the Proposed Development has the potential to affect TV transmissions in the surrounding area, particularly the area behind the Proposed Development with respect to the transmitter (the

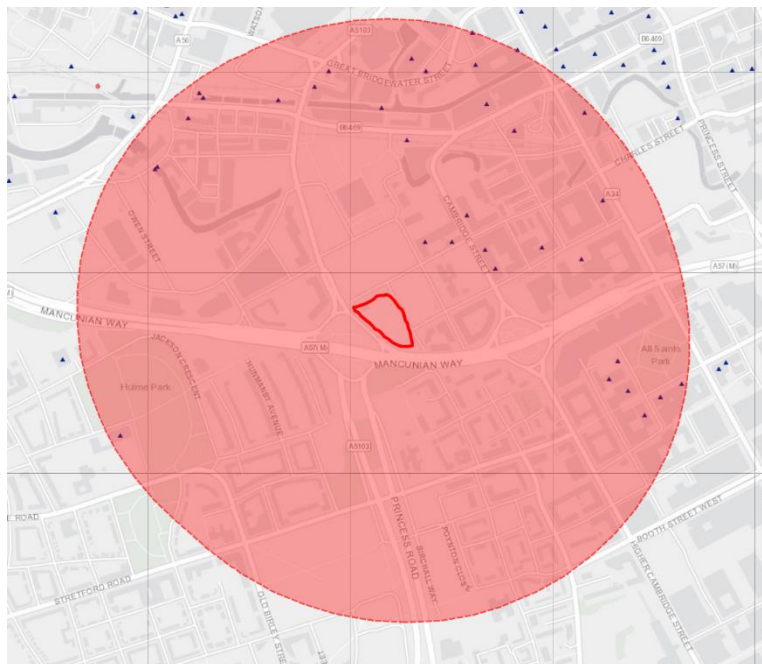
shadow zone). The television transmitter serving the area surrounding the Proposed Development is expected to be Winter Hill. This is a UK main transmitter, broadcasting local and national television channels.

- 3.36 A TV baseline reception survey will be completed within the shadow zone, using an advanced TV signal analyser, connected to an aerial located at 10 metres above ground level. This process will confirm the transmitter serving the surrounding area, as well as the baseline signal strength and quality. The results will allow for a 'before and after' comparison should interference be reported once construction on the Proposed Development has begun.
- 3.37 Any reported TV interference once construction of the Proposed Development has begun will be investigated. It is not standard practice to apply mitigation in advance because specific instances of interference cannot be easily predicted. It is also not standard practice to alter plans of a Proposed Development solely for TV interference. Any TV interference confirmed to be caused by the Proposed Development will be mitigated by the developer.
- 3.38 The TV baseline survey, which is to be undertaken, will serve as a basis for validating any interference reports once the Proposed Development has begun construction. At this stage, significant effects upon TV reception are not anticipated.
- 3.39 In terms of EIA, it is not standard practice to include the potential impact of this type of development on television reception. Therefore, and in consideration of the above, this discipline can be scoped out of the EIA.

Built Heritage

- 3.40 It should be noted that the 2021 Planning Permission establishes the principle of constructing a tall building, of a similar design intent and materiality, on the EIA Site. Under the 2021 Planning Permission, it was agreed that a 17no. storey building in this location would have a negligible impact upon surrounding listed buildings and Conservation Areas.
- 3.41 The potential impact on the historic environment has been considered in light of the Proposed Development, with this context / planning history in mind.
- 3.42 There are no listed buildings on the Site, nor does it sit within a Conservation Area. However, the Site is located within 500 m of 33 heritage assets, including the Whitworth Street Conservation Area and the Castlefield Conservation Area.

Figure 3.1: Heritage Assets within 500m of Site (Source: Historic England)



- 3.43 Given the significant distance, the very limited visual relationship, and the presence of existing modern architecture between the Site and majority of the heritage assets, it is not considered that the Site forms part of the immediate setting of the majority of these assets. Greater consideration will need to be given to the heritage assets in Mackintosh Village as the closest heritage assets to the Site, however from our initial assessment these views across vacant land are not considered significant and development of the Site would not impede views of the asset along the extant historical streets in this area.
- 3.44 Consequently, the impact of the proposals on the significance of the identified heritage assets is likely to be negligible to low and therefore this discipline can be scoped out of the EIA. However, a tightly scoped Heritage Assessment proportionate to the limited potential impact of the Proposed Development will be prepared, and included within the Planning Statement.

Water Resources

- 3.45 The Site comprises less than 1ha (with a site area 0.23 ha), and is located within Flood Zone 1. This means that the chance of flooding is less than 0.1% (or 1 in 1000).
- 3.46 The proposed surface water drainage design and compliance will meet existing legislative requirements and standard practices to manage environmental effects.
- 3.47 On the basis that the Site is located within a Critical Drainage Area, the Full Planning Application will be submitted alongside a Sustainable Drainage Strategy. The Drainage strategy will outline measures to reduce runoff discharge to satisfy best management practices and will be designed to account for a climate change.
- 3.48 In consideration of the above, and by virtue of there being no significant effects anticipated, this discipline can be scoped out of the EIA.

Summary

- 3.49 Table 3.1 provides a summary of the scoping exercise undertaken and the disciplines that will be considered within the ES. It also identifies what supplementary technical reports will be prepared and submitted as standalone documents in support of the application.

Table 3.1: Scoping Summary

	ES Chapter	Non-EIA Assessment	Consultant
Agricultural Circumstances			n/a
Air Quality	X		RPS
Archaeology			n/a
Aviation			n/a
Climate Change	X		Ramboll
Ecology		X	Penny Anderson
Ground Conditions		X	GRM
Built Heritage		X	Deloitte
Human Health	X		Enfusion
Noise and Vibration Impact Assessment	X		AEC

	ES Chapter	Non-EIA Assessment	Consultant
Socio-Economics	X		Ekosgen
Sunlight, Daylight and Overshadowing	X		Proximity
Transport		X	Sanderson Associates
Townscape and Visual Impact	X		OPEN
TV Reception		X	Pager Power
Water Resources		X	Alan Johnston Partnership
Wind Microclimate	X		Urban Microclimate

Scenarios to be Tested

- 3.50 Unless stated otherwise within each technical chapter, the following scenarios will be tested:
- **Scenario 1:** Existing baseline (i.e. site with committed developments (schemes under construction));
 - **Scenario 2:** Existing Site (baseline) with Proposed Development;
 - **Scenario 3:** Existing Site (baseline) with Proposed Development and mitigation;
 - **Scenario 4:** Existing Site (baseline) with Proposed Development, mitigation and cumulative development (i.e. those with planning permission, but not under construction).

Baseline

- 3.51 The extant permission (Planning Permission Ref. 125573/FO/2019 (as amended)), insofar as it relates to Blocks A/B and D, will be considered by EIA assessments as completed developments within the baseline. This is on the basis that construction in relation to these blocks, is well-progressed. It is anticipated that Blocks A/B (and associated landscaping) will be completed and operational by August 2024, and Block D (and associated landscaping) will be completed and operational by March 2025.
- 3.52 To confirm, the 2021 Planning Permission for Block C is not incorporated into the existing baseline. This is on the basis that the Proposed Development would completely replace the extant permission for the EIA Site. Not including extant proposals relating to Block C allows for worst-case scenarios to be assessed. Where relevant, technical consultants will draw comparisons to the extant scheme.

Committed and Cumulative Developments

- 3.53 Appendix 5 includes a list of committed developments within the surrounding area, which will form part of the existing baseline (these are schemes which are currently under construction).
- 3.54 Appendix 5 also includes a list of 'cumulative' developments which are those that have received planning permission but have not yet started on site. The standalone technical reports will also consider the cumulative effect of the Proposed Development, alongside the committed developments, as relevant.
- 3.55 There is no agreed / standard threshold for selecting committed or cumulative developments; therefore, a professional judgement has been taken regarding which schemes to highlight, taking into consideration the scale of the proposed development whilst also considering the high-density city centre location.

- 3.56 The Applicant seeks the agreement from the Local Authority to the scope of committed and cumulative developments and invites guidance on any additional schemes not listed which should also be considered.

Consultation

- 3.57 A process of stakeholder consultation has already commenced with regard to the Proposed Development. Members of the project team have met with senior officers from the LPA to discuss the Proposed Development.
- 3.58 In addition, the project team will consult the following stakeholders prior to submitting the planning application:
- Manchester City Council – Environmental Health, Highways;
 - Greater Manchester Police;
 - Transport for Greater Manchester (TfGM);
 - Historic England;
 - Manchester Airport Safeguarding Team;
 - Barton Aerodrome;
 - NATS;
 - United Utilities;
 - Local Ward Councillors; and
 - Local businesses and residents.
- 3.59 A Statement of Consultation will be submitted with the planning application and will provide further detail on consultation undertaken.

4 EIA Methodology

- 4.1 The EIA will assess both the construction and operational phases of the Proposed Development.
- 4.2 The ES is anticipated to comprise two volumes, the first of which will set out the findings with respect to each of the environmental disciplines that have been examined as part of the EIA. Volume 2 will include all the supporting documents and technical appendices relating to the chapters. A Non-Technical Summary ('NTS') will be produced and will form a standalone document.
- 4.3 Each ES chapter will follow the headings set out below to ensure the final document is transparent, consistent and accessible:
- Introduction
 - Legislative and Policy Context
 - Assessment Methodology and Significance Criteria
 - Baseline Conditions
 - Identification and Evaluation of Key Effects.
 - Mitigation Measures
 - Cumulative Effects
 - Residual Impacts
 - Summary
- 4.4 Each chapter sub-heading is explained in further detail below.

Introduction

- 4.5 This section will introduce the assessment discipline and the purpose for which it is being undertaken.

Legislative and Policy Context

- 4.6 This section will include a summary of national, regional and local policies of relevance to the environmental discipline and assessment. Relevant legislation will be summarised where applicable.

Assessment Methodology and Significance Criteria

- 4.7 This section will provide an explanation of methods used in undertaking the technical study with reference to published standards, guidelines and best practice. The application of significance criteria will also be discussed.
- 4.8 It will also outline any difficulties encountered in compiling the required information.

Baseline Conditions

- 4.9 This will include a description of the environment as it is currently and as it is expected to change given the project were not to proceed (i.e. 'do-nothing' scenario). The method used to obtain this information will be clearly identified. Baseline data will be collected in such a way that the importance of the particular subject area to be affected can be placed in its context and surroundings so that the effects of the proposed changes can be predicted.
- 4.10 Baseline conditions will include implemented planning permissions that are under construction.

Identification and Evaluation of Likely Significant Effects

- 4.11 This section will identify the likely significant effects on the environment resulting from the Proposed Development.

- 4.12 The significance of an environmental effect is determined by the interaction of magnitude and sensitivity, whereby the effects can be positive or negative. The criteria to be used in carrying out this process are detailed below.

Prediction of Impact Magnitude

- 4.13 The methodology for determining the scale or magnitude of change caused by the impact is (unless otherwise stated within each Chapter) is set out below.

Table 4.1: Methodology for Assessing Magnitude of Change

Magnitude of Change	Criteria for assessing magnitude of change caused by an impact
Major	Total loss or major/substantial alteration to key elements/features of the baseline conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation.
Negligible	Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Prediction of Receptor Sensitivity

- 4.14 The sensitivity of a receptor is based on the relative importance of the receptor using the scale set out below (unless otherwise stated within each Chapter).

Table 4.2: Methodology for Determining Sensitivity

Sensitivity	Examples of Receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Moderate	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or local importance.

Assessment of Effect Significance

- 4.15 Effect significance will be calculated using the matrix in Table 4.3, unless otherwise stated within each Chapter. This illustrates the interaction between impact magnitude and receptor sensitivity.

Table 4.3: Effect Significance Matrix

Magnitude	Sensitivity		
	High	Moderate	Low
Major	Major Adverse/Beneficial	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial
Moderate	Major - Moderate Adverse/Beneficial	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial
Minor	Moderate - Minor Adverse/Beneficial	Minor Adverse/Beneficial	Minor - Negligible
Negligible	Negligible	Negligible	Negligible

Mitigation Measures

- 4.16 Adverse effects will be considered for mitigation and specific mitigation measures put forward, where practicable. Mitigation measures considered may include modification of the project, compensation and the provision of alternative solutions as well as pollution control. The extent of the mitigation measures and how these will be effective will be discussed. Where the effectiveness is uncertain or depends upon assumptions about operating procedures, data will be introduced to justify the acceptance of these assumptions.
- 4.17 The approach to mitigation will follow best practice guidance, which suggests a hierarchical approach. The UNEP EIA Training Resource Manual (2002) advises that impacts should ideally be:
1. Avoided; if not
 2. Minimised; and/ or
 3. Compensated.
- 4.18 Three 'types' of mitigation are characterised in IEMA's Special Report – The State of Environmental Impact Assessment Practice in the UK (2011):
- EIA influence at design stage;
 - Standard construction practices for minimising effects; and
 - Follow-up actions for implementation post-consent.
- 4.19 Clear details of when and how the mitigation measures were carried out, or will be carried out, are to be given within the Environmental Statement. When certainty of impact magnitude and/or effectiveness of mitigation over time exists, monitoring programmes will be proposed to enable subsequent adjustment of mitigation measures, as necessary.
- 4.20 The opportunity for enhancement measures will also be considered where appropriate.

Cumulative Effects

- 4.21 Two types of cumulative effect will be assessed:
- Type 1 Cumulative effects: the interactions between effects of the demolition and redevelopment works on a single receptor.
 - Type 2 Cumulative effects: those effects that arise from incremental changes caused by other past, present or reasonably foreseeable actions together with the demolition and redevelopment works.

- 4.22 The cumulative effects of the proposals and the identified committed developments will be assessed.
- 4.23 A list of known committed developments is set out at Appendix 5. The Council is requested to review and comment on this list in their Scoping Opinion.

Residual Effects

- 4.24 The residual effects, i.e. the effects of the Proposed Development assuming implementation of proposed mitigation, will be determined. The residual effects represent the overall likely significant effect of the Proposed Development on the environment having taken account of practicable/available mitigation measures.

5 Environmental Statement Chapters

5.1 The list of proposed Environmental Statement Chapters is as follows:

1. Introduction
2. EIA Methodology and Significance Criteria
3. Alternatives and Design Evolution
4. Site and Development Description
5. Construction Programme and Methodology
6. Air Quality
7. Climate Change
8. Human Health
9. Noise and Vibration
10. Socio-Economic Assessment
11. Sunlight, Daylight and Overshadowing
12. Townscape and Visual Impact
13. Wind Microclimate
14. Summary of Residual Impacts
15. Type 1 Cumulative Effects

5.2 For each technical topic below, a summary of the content of the section is given. Where relevant, the assumptions of the assessment are described. Current relevant legislation or recognised guidance for individual assessments will be adhered to, where necessary.

Air Quality

Technical Competence

Table 5.1 Technical Competence (Air Quality)

Technical Competence in Air Quality and EIA		
	Lead Author	Reviewer
Name	Jinho Looi	Kathryn Barker
Company	RPS	RPS
Qualifications/Accreditations relevant to technical area	MSci, BA (Hons), AMIAQM, AMIEnvSc	MSc, BSc (Hons) MIAQM, MIEEnvSc
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	Yes	
Years technical experience (in technical area)	1	8
Number of EIA's delivered to date	0	40+

Consultation

- 5.3 No consultation with Manchester City Council was carried out as part of this scoping assessment as Manchester City Council were previously consulted in the 2019 assessment and agreed to the previous methodology. As the approach has not significantly changed in this revision it is assumed that MCC would be in agreement if they were consulted again.

Completed Background Studies / Available Baseline Information

- 5.4 Background air quality will be characterised by drawing on information from the following public sources: Defra maps, which show estimated pollutant concentrations across the UK in 1 km grid squares; and published results of local authority Review and Assessment (R&A) studies of air quality, including local monitoring and modelling studies.

Baseline Conditions

- 5.5 The site is located within the Greater Manchester Air Quality Management Area (AQMA), designated due to elevated concentrations of nitrogen dioxide (NO₂) attributable to road traffic emissions.

Scope of Assessment

Identification of Effect/s which are Not Significant

Table 5.2 Identification of Effect/s which are Not Significant (Air Quality)

Effect	Impact on human health from changes in air quality concentrations.	Applicable Development Phase (C= Construction / O= Operation)	O	Receptor	Existing receptors surrounding the site
Discussion of Effect					
Changes in the number, type and speed of vehicles using the local road network can change concentrations of traffic-related pollutants which can have an impact on human-health of existing receptors. The main pollutants from road traffic with potential for local air quality impacts are nitrogen oxides (NOx) and particulate matter (PM10 and PM2.5).					
Mitigation Committed to in order to Avoid or Reduce Effect					
The development is car free (save for 2 mobility spaces) so will not generate any additional traffic-related pollutants. Heating and power will be supplied by electric panel heaters and electric air source heat pumps and there will therefore be no additional building emissions.					
Concluding Statement					
As the development will not generate additional traffic movements or building emissions, a detailed assessment of the impacts on the surrounding area has been scoped out.					

Identification of Effect/s which are Likely to be Significant

Table 5.3 Identification of Effect/s which are Likely to be Significant (Air Quality)

Effect	Receptor	Applicable Development Phase (C / O)
The impact of dust soiling (nuisance) and suspended particulate matter on human health from the Construction and Demolition Phase	Existing receptors within 350m of the Site and up to 50 m from roads used by construction traffic.	C
Impact on human health from high concentrations of air quality pollutants (NO ₂ , PM10 and PM2.5)	Residents of the Development	O

Assessment Methodology for Likely Significant Effects

Construction

- 5.6 A risk assessment of dust and emissions during demolition / construction of the Proposed Development will be undertaken, having regard to the Institute of Air Quality Management (IAQM) 'Guidance on the assessment of dust from demolition and construction'.

- 5.7 Mitigation measures designed to control dust nuisance effects and emissions during construction, consistent with the level of risk will be recommended. These will be drawn from the IAQM 'Guidance on the assessment of dust from demolition and construction'.

Operational

- 5.8 The following will be undertaken to consider the suitability of air quality at the site for its proposed use:
- Current air quality in the area with specific regard to the findings of the Council's Review and Assessment process, the results of available local monitoring and data available in the Defra maps will be established.
 - Existing air pollution levels at locations around the site will be predicted using the detailed dispersion model, ADMS Roads, with a view to verifying and, if necessary, adjusting model input parameters and correcting the model output.
 - Future air pollution levels at proposed receptors will be predicted using the ADMS Roads model in the first fully operational year, to establish the environmental suitability of the site.
 - The significance of the illustrated effects will be described using professional judgement and criteria definitions from the Environmental Protection UK (EPUK)/IAQM (January 2017) 'Land-Use Planning & Development Control: Planning For Air Quality' document.
 - Mitigation measures will be recommended should initial results of the assessment indicate that air quality concentrations are predicted to exceed the relevant air quality limit values for future residents of the development.

Limitations and Assumptions

- 5.9 The assessment baseline naturally contains an element of uncertainty that is mitigated through the use of the most conservative data, from the comparison of measured and Defra mapped concentration estimates. The background concentration makes up a major proportion of the total predicted concentration, so a conservative baseline will ensure that the values predicted tend towards the top of the uncertainty range rather than a central estimate. Furthermore, no reductions will be assumed in the future baseline – in reality, the background concentrations are likely to reduce over time due to cleaner vehicle technologies forming an increasing proportion of the fleet. This will help ensure the baseline is towards the top of the uncertainty range.
- 5.10 Pollutant levels from modelled sources rely on the data provided by the project's traffic consultants. If high growth assumptions have been assumed, then the modelled fraction can be assumed to be between a central estimate and the top of the uncertainty range. The meteorological data used may differ from future years, but the uncertainty has been minimised by using data collated at a representative measuring site over a full year of meteorological conditions (8,760 hours).

Climate Change

Technical Competence

Table 5.4 Technical Competence (Climate Change)

Technical Competence in Climate and EIA		
	Lead Author	Reviewer
Name	Sarah Pattinson	Emilia Gabriel
Company	Ramboll	Ramboll
Qualifications/Accreditations relevant to technical area	MSci (Hons) Physical Geography, Durham University	BSc (Hons) Ecology (Environmental Science)
Does the practitioner hold any IEMA qualification?	PIEMA	IES
Company hold IEMA QMark?	Yes ¹	
Years technical experience (in technical area)	3	8
Number of EIA's delivered to date	Approx. 10	Approx. 20

Consultation

5.1 No consultation with Manchester City Council was carried out as part of this assessment.

Completed Background Studies / Available Baseline Information

5.2 Baseline conditions have been established for the purposes of this Scoping Report with reference to the following sources of information:

- Met Office Historic Climate Data²- Ringway Climate Station; and
- UK Climate Projections 2018 (UKCP18)³.

Baseline Conditions

Existing Baseline

Climate Change Effects and In-combination Climate Change Effects

5.3 The climate baseline (summarised in

5.4

¹ IEMA, 2023. EIA Quality Mark Registrants. Available at: <https://www.iema.net/corporate-programmes/eia-quality-mark/registrants> [accessed 04/10/2023].

² Met Office Historic Station Data. Available at: <https://www.metoffice.gov.uk/research/climate/maps-and-data/historic-station-data> [Accessed 04/10/2023].

³ Met Office, 2018. UK Climate Projections 2018 (UKCP18). Available at: <https://ukclimateprojections-ui.metoffice.gov.uk/products> [accessed 06/10/2023].

- 5.5 Table 5.7) is provided by Met Office Historic Climate Data, which presents average monthly climate data for Ringway climate station (nearest possible representative weather station) for the period 1991-2004.

Table 5.7: Average Monthly Climate Data for Ringway Climate Station

Month	Maximum temperature (°C)	Minimum temperature (°C)	Days of air frost (days)	Sunshine (hours)	Rainfall (mm) Month
January	6.57	1.19	10.39	45.78	68.39
February	7.06	1.20	9.84	66.05	53.44
March	9.42	2.69	5.71	102.76	57.72
April	12.08	4.40	2.07	140.25	54.01
May	15.74	7.37	0.16	186.81	60.26
June	18.48	10.14	0	181.09	65.25
July	19.97	12.08	0	170.25	63.38
August	19.86	11.96	0	162.65	76.85
September	17.30	10.02	0	125.42	73.28
October	13.72	7.22	1.02	96.88	82.62
November	9.44	3.77	4.62	55.68	80.07
December	7.25	1.89	8.56	42.03	79.99
Annual	13.09	6.17	3.52	114.82	67.89

- 5.6 Additionally, Table 5.7 presents the average monthly temperature for the Ringway climate station, north-west England and north Wales regions, and for the UK between 1991-2020. Furthermore, Table 5.8 shows that north-west and Wales England regions are slightly colder as compared to UK average, and the area around the Proposed Development is warmer as compared to both the north-west England and north Wales regions and rest of the UK.

Table 5.8: Maximum Average Temperatures

Season	Maximum Average Temperature (°C)		
	Ringway climate station	North-west England/ north Wales region	UK
Summer	19.43	18.53	18.87
Winter	6.96	6.94	6.95
Annual	13.09	12.66	12.79

Greenhouse Gas Emissions

- 5.7 The current Site comprises derelict land, and has done so for an extended period of time. Therefore, emissions have been assumed to be zero and have been referred as the "Do Minimum" scenario.

Future Baseline

Climate Change Effects and In-combination Climate Change Impacts

- 5.8 Climate change is projected to lead to warmer and wetter winters and hotter and drier summers. However, natural variations, including extreme events such as storms and heat waves, will continue to punctuate these trends. The impacts of climate change across the UK based on the UKCP18 Factsheet projections have been summarised in Table 5.9.

Table 5.9: UKCP18 Projections

Climate parameter	Description
Temperature	<p>Median warming will be at least 1 to 2°C throughout the year across the whole of the UK.</p> <p>Winter cool days will warm by 1 to 1.5°C across the country, whilst temperatures on warmer winter days increase by less than 1°C.</p> <p>In summer both hot and cool days warm by 1.5 to 2°C across England.</p>
Precipitation	Changes in precipitation are uncertain but suggest slightly wetter winters and drier summers.
Wind	Wind speed is not available for the UKCP18 probabilistic projections as it did not pass the UKCP credibility checks ⁴ . However global, regional, and derived projections are available. UKCP18 show a wide spread of future changes in mean surface wind speed. However, there is large uncertainty in projected changes in circulation over the UK and natural climate variability contributes much of this uncertainty. It is therefore difficult to represent regional wind extreme winds and gusts within regional climate models.
Humidity	Climate change will lead to an increase in humidity.

Greenhouse Gas Emissions

- 5.9 The current Site comprises derelict land, and has done so for an extended period of time. Therefore, future GHG emissions associated to the current Site have been assumed to be zero.

Scope of Assessment

Identification of Effect/s which are Not Significant

- 5.10 Due to a lack of certainty at this stage on the effects which are not significant, all effects have been scoped in for further assessment in the ES.

Identification of Effect/s which are Likely to be Significant

Table 5.10: Identification of Effect/s which are Likely to be Significant (Climate Change)

Effect	Receptor	Applicable Development Phase (C / O)
Climate Change Resilience Impacts		
Intense rainfall events could result in erosion of stockpiles and earthworks and resultant silting of drainage assets and obstructions to access roads. This could result in secondary impacts such	Buildings and infrastructure (including equipment, materials and building operations)	C

⁴ Met Office, 2018. UK Climate Projections 2018 (UKCP18). Factsheet: Wind. Available at: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-fact-sheet-wind_march21.pdf (accessed 06/10/2023).

Effect	Receptor	Applicable Development Phase (C / O)
as localised flooding or release of pollutants to watercourses. It could also result in safety risk of slips, trips and falls of site personnel.	Human health receptors (e. g. construction workers)	
Intense rainfall events and heatwaves could create unsuitable conditions for construction activities, such as pouring concrete and asphalt, leading to programme delays and increased costs.	Buildings and infrastructure (including equipment, materials and building operations)	C
Extreme rainfall events could spread contaminated soil during ground excavations to nearby environmental receptors, which could affect local soil and water quality. Secondary impacts could include harm to site personnel and future on-site occupants.	Environmental and human health	C
Wind gusts could damage construction materials such as earthworks and stockpiles.	Materials (e. g. earthworks)	C
Windstorms could cause wind gust conditions and create unsafe conditions for on-site personnel and pedestrians.	Human health (e. g. site personnel)	C
Windstorms could cause the wind gust conditions and damage or disrupt on-site crane operations.	Buildings and infrastructure	C
Windstorms could cause the wind gust conditions and result in damage to hoarding.	Buildings and infrastructure	C
Heatwaves and higher temperatures could impact the welfare of construction site personnel, such as risk of heat stress or unsafe working conditions.	Human health (e. g. site personnel)	C
Heatwaves, higher temperatures and drought conditions could increase dust generated during construction activities, which could impact site personnel and future on-site occupants.	Human health (e. g. site personnel)	C
Heatwaves and higher temperatures could affect the ability to undertake certain construction activities leading to programme delays.	Buildings and infrastructure	C
Intense rainfall events could result in the overwhelming of drainage assets leading to localised flooding or mobilisation of contaminants.	Buildings and infrastructure (including equipment, materials and building operations)	O
Extreme heat events could lead to the soft landscape design (e.g. trees) being compromised.	Environmental (e. g. integrity of landscape features and habitats)	O

Effect	Receptor	Applicable Development Phase (C / O)
Increased frequency and severity of extreme heat events (i.e., heat waves) could result in overheating of mechanical and electrical equipment.	Buildings and infrastructure (including equipment, materials and building operations)	O
High temperatures and heatwaves could result in overheating and unsuitable conditions for building occupants.	Human health (e. g. occupants and site users)	O
Prolonged periods of drought could affect potable water availability.	Human health (e. g. occupants and site users)	O
Windstorm events could cause damage to the proposed development. This could include damage to roof sheeting, wall cladding. This could also create unsafe conditions for users.	Buildings and infrastructure (including equipment, materials and building operations)	O
In-combination Climate Change Impacts		
Increased frequency of heavy rainfall events could lead to contamination of controlled waters within and adjacent to the Site, due to mobilisation of contaminants or silt-laden surface water run-off from site.	Environmental (e. g. habitats and species) and human health (e. g. occupants and site users)	C / O
Increased frequency and intensity of drought conditions could lead to exposure of sensitive receptors to dust from construction activities.	Environmental (e. g. habitats and species)	C
Increased temperatures and heatwaves could lead to exposure of sensitive receptors to increased noise levels due to open windows during the operational phase.	Human health (e. g. occupants and site users)	C / O
Increased temperatures and heatwaves could lead to exposure of sensitive receptors to high wind speeds during the operational phase.	Human health receptors (e. g. occupants and site users) and environmental receptors (e. g. habitats and species)	O
Greenhouse Gas Emissions		
Release of GHG emissions in the atmosphere as a result of construction, operation and end-of-life phases of the Proposed Development.	Global atmosphere	C / O

Climate Change Effects

- 5.11 The potential for climate change to affect the Proposed Development would include effects related to more extreme weather events, such as hotter summers, more intense storms, fluvial and surface water flooding, increased energy demand and damage to infrastructure.

In-combination Climate Change Impacts

- 5.12 Climate change can also result in additive effects for the other topics included within the Scoping Report. For example, drought conditions could increase the production of dust during

construction, worsening local air quality. Similarly, higher temperatures could lead to failure of mitigation planting and re-instatement of soft landscaping features.

Greenhouse Gas Emissions

- 5.13 The potential for the Proposed Development to contribute to GHG emissions levels would be determined by the construction works of the Proposed Development, and the way the building is intended to be used during operation.
- 5.14 For the construction phase, GHG emissions would be associated to the materials used, as well as to the construction activities.
- 5.15 For the operational phase, the GHG emissions would be associated to the operation activities, and services of the Proposed Development, upon completion. This would for example include the operational energy usage, such as heating and lighting.
- 5.16 For the end-of-life phase, the GHG emissions would be associated to the demolition and/or deconstruction activities.

Assessment Methodology for Likely Significant Effects

Technical Scope

- 5.17 Due to the nature of a climate assessment, it is necessary to define a separate study area, baseline, and methodology for each assessment to ensure proportionate identification of effects and the potential significance of these.

Study Area

- 5.18 The study area for the CCR assessment will not extend beyond the boundary of the Site. This is to capture the risks to the Proposed Development itself from climate change.
- 5.19 The study area for the ICCI assessment will match that of the relevant environmental discipline. This is to take account of the additive effect of climate change of each discipline cumulatively.
- 5.20 The study area for the GHG emissions assessment will include emissions arising from construction and operational activities within the boundary of the Site, emissions arising from the transport network utilised for transport and disposal of materials, and embodied carbon associated with the relevant construction materials.

Construction Assessment

- 5.21 The approach for the construction end-of-life phase assessment will be the same as that for the operational phase and therefore covered below under the Operational Assessment sub-heading to avoid repetition.

Operational Assessment

Climate Change Resilience

- 5.22 The CCR assessment will consider how current and future climate trends in the study area could affect the Proposed Development. The CCR assessment will comprise:
- Identification of sensitive receptors;
 - A review of current climate in the study area and future trends using data from the Met Office and UKCP18⁵ and assessment of projected changes on climate variables;

⁵ Met Office, 2018. UK Climate Projections 2018 (UKCP18). Available at: <https://ukclimateprojections-ui.metoffice.gov.uk/products> [Accessed 06/10/2023].

- A qualitative assessment, based on professional judgement and IEMA guidance⁶, of extreme weather and climate change impacts that could affect the Proposed Development during the construction and operational phases;
- A summary of design and mitigation measures to improve resilience to extreme weather and future climate trends; and
- Identification of any residual effects.

5.23 The CCR assessment will provide a judgement on whether any projected CCR impacts, and associated effects are likely to be significant.

In-Combination Climate Impacts

5.24 Climate change may have an additive effect in respect of the individual environmental effects reported for other technical assessments undertaken as part of the EIA. These effects may individually be insignificant, but when combined or added, could result in significant effects requiring additional design and/or mitigation measures.

5.25 The approach to the ICCI assessment will comprise the following steps:

- A review of current climate in the study area and future trends using data from the Met Office and UKCP18⁶ and assessment of projected changes on climate variables;
- Review of potential effects associated with the Proposed Development which could be exacerbated by the impacts of climate change;
- Review of design and mitigation measures that have been identified;
- Qualitative assessment, based on professional judgement, of the implications of extreme weather and potential future climate change on effects identified by the other technical assessments during the construction, and operational phases;
- Additional mitigation that may be required to address the effects of climate change; AND
- Identification of any residual effects taking account of climate change.

5.26 The ICCI assessment will provide a qualitative judgement on whether climate change is likely to alter the significance of any of the effects identified in the impact assessment. To ensure the assessment is proportionate, individual negligible effects will not be considered in this assessment.

Greenhouse Gas Emissions

5.27 The quantitative GHG emissions assessment will consider how the construction phase, the operational phase and the end-of-life phase of the Proposed Development will impact on climate change as a result of its global warming potential. The GHG assessment will comprise:

- A review of GHG emissions presented within the Proposed Development Whole Lifecycle Carbon Assessment (WLCA); and
- A summary of design and mitigation measures for the Proposed Development.

5.28 The GHG assessment will provide a professional judgement on whether GHG emissions associated with the Proposed Development are likely to be significant in the context of UK, Manchester City Council and relevant sector-based carbon budgets.

Cumulative Assessment

Climate Change Resilience

⁶ IEMA, 2020. Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation. Available at: <https://www.iema.net/resources/reading-room/2020/06/26/iema-eia-guide-to-climate-change-resilience-and-adaptation-2020> [Accessed 06/10/2023].

- 5.29 The CCR effects identified as a result of the construction and operational phases will be limited in their spatial extent to the Site boundary and the Proposed Development in isolation. Therefore, cumulative climate change resilience effects with other schemes will not be considered.

In-combination Climate Change Impacts

- 5.30 The climate change chapter of the ES will consider potential ICCI affecting environmental receptors identified by other topic chapters. It will include consideration of existing potential impacts on environmental receptors that could be intensified by climate change as well as environmental impacts that could potentially emerge in the future.

Greenhouse Gas Emissions

- 5.31 Climate change is itself a cumulative effect in that it is the effect of GHG emissions worldwide, over time, on a single receptor. The GHG emissions assessment will put the Proposed Development in a wider context by comparing against the UK, Manchester City Council and relevant sector-based carbon budgets.

Proposed Mitigation and Residual Effects

- 5.32 The ES chapter will provide details of the proposed mitigation as detailed in other ES Chapters for both the construction and operational phases, as well as any additional mitigation that may be required as a result of the CCR, ICCI and GHG assessments.

Climate Change Resilience

- 5.33 Good practice and potentially embedded measures that would be considered during the construction phase include the following:
- The contractor/s would conduct a high-level risk assessment of severe weather impacts, considering the UKCP18, on the construction phase to inform any required mitigation. Any receptors and/or construction related operations and activities potentially sensitive to severe weather events would be considered in the assessment.
 - The contractors would use a short to medium range weather forecasting service from the Met Office (or other approved meteorological data and weather forecast provider), to inform short to medium term programme management, environmental control and impact mitigation measures.
 - The main contractors' Environmental Management System (EMS) would consider all measures deemed necessary and appropriate to manage severe weather events and would, as a minimum, cover training of personnel and prevention and monitoring arrangements. As appropriate, construction method statements would also consider severe weather events where risks have been identified.
 - The contractors would, as far as is reasonably practicable, use construction materials with superior properties that offer increased tolerance to fluctuating temperatures, heavy precipitation and other extreme weather events such as storms.
- 5.34 Good practice and potentially embedded measures that would be considered during the operational phase include the following:
- The Drainage Strategy of the Proposed Development would accommodate for surface water flows, accounting for an increase in precipitation due to climate change.
 - Water efficiencies could be built into the Proposed Development through the Drainage Strategy.

- Assets would be maintained regularly to detect deterioration and damage caused by extreme weather events such as storms through maintenance and monitoring in contracts.

5.35 A summary of residual effects will also be presented within the ES, assuming the proposed mitigation is in place.

In-combination Climate Change Impacts

5.36 Good practice and potentially embedded measures that would be considered include minimising dust pollution and airborne contaminants as far as reasonably practicable. This could potentially be achieved through effective transportation and storage of materials; for example, dampening down of dusts particularly where material is stockpiled and adopting a monitoring regime.

Greenhouse Gas Emissions

5.37 Good practice and potentially embedded measures for GHG emissions that would be considered during the construction phase include the following:

- Energy efficient, low carbon design in buildings/new assets using low carbon materials to reduce GHG emissions from embodied carbon in materials would be specified.
- The Publicly Available Specification (PAS) 2080 carbon hierarchy (avoid, switch, improve) for working through and identifying potential opportunities and interventions from early phase would be implemented.
- Measures to reduce construction waste arisings through sustainable procurement, designing out waste, recycling onsite, reusing landfill materials, balancing the cut and fill and setting waste targets would be implemented to minimise GHG emission associated to the production, transportation and treatment of waste.
- Water use would be minimised during construction.

5.38 Good practice and potentially embedded measures for GHG emissions that would be considered during the operational phase include the following:

- Applying measures to reduce operational waste, such as providing adequate provision for internal and external waste storage and setting waste recycling targets to reduce GHG emissions associated to the production, transportation and treatment of waste.
- Identifying the use of renewable energy resources and incorporating efficient energy supply and low carbon technologies.

5.39 A summary of residual effects will also be presented within the ES, assuming the proposed mitigation is in place.

Limitations and Assumptions

Climate Change Resilience

5.40 The CCR assessment will rely on data provided by the Met Office and UK Climate Projections 18 (UKCP18). It will be assumed that these data sets have been reported correctly.

5.41 Climate projections can be used to determine likely future trends in climate conditions in the locality of the Proposed Development through its lifetime. The climate trends in the assessment will be based on a range of GHG emissions scenarios which are subject to a degree of uncertainty. How the climate would react to different levels of emissions is also uncertain. There are three key sources of uncertainty within climate projections:

- Natural climate variability: either from natural external influences on climate (e. g. change in atmospheric particulates due to volcanic activity), or changes in the energy received from the sun;

- Incomplete understanding of Earth system processes and their imperfect representation in climate models (modelling uncertainty); and
- Uncertainty in future man-made emissions of GHGs and other pollutants.

5.42 However, the assessment will use data for the high emissions scenario (RCP 8.5) which will likely provide a more conservative assessment of potential climatic changes.

In-combination Climate Change Impacts

5.43 The ICCI assessment will rely on the data and professional judgement of other chapters within the ES.

Greenhouse Gas Emissions

5.44 A summary of limitations and assumptions associated with construction and operation phases end-of-life GHG emissions will be presented within the ES. The GHG emissions assessment for the Proposed Development will be based on data from the Proposed Development Whole Lifecycle Carbon Assessment.

Human Health

Technical Competence

Table 5.11: Technical Competence (Human Health)

Technical Competence in Human Health and EIA		
	Lead Author	Reviewer
Name	Barbara Carroll	n/a
Company	Enfusion	n/a
Qualifications/Accreditations relevant to technical area	BSc MSc CEnv FIEMA	n/a
Does the practitioner hold any IEMA qualification?	FIEMA	n/a
Company hold IEMA QMark?	No	
Years technical experience (in technical area)	> 25 years Co-author of The EIA Handbook: a practical guide for planners, developers & communities (third edition, 2019) Environmental Impact Assessment Handbook - 3rd Edition - CIP Books (cip-books.com)	n/a
Number of EIA's delivered to date	>75 (various inputs – specialist, review, and coordination)	n/a

Consultation

5.45 No consultation with Manchester City Council was carried out as part of establishing the proposed scoping methodology.

Completed Background Studies / Available Baseline Information

Table 5.12: Completed Background Studies / Available Baseline Information (Human Health)

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Health Data from MCC Intelligence Hub ⁷	General health data & IMD by Ward	4 October 2023

⁷ https://www.manchester.gov.uk/info/200088/statistics_and_intelligence/7611/intelligence_hub

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Health data from Office for Health Improvement & Disparities (previously Public Health England) ⁸	Local population & health data by Ward compared with subregional (Manchester) & national - England	4 October 2023

Baseline Conditions

- 5.46 There is no prescribed EIA definition for human health but the identification, description, and assessment of effects on human health is well established in the UK for Strategic Environmental Assessment (SEA). Consideration of human health and wellbeing within EIA is separate from Health Impact Assessment (HIA), although each process can inform the other. It is considered that most of the factors addressed in development proposals can have impacts on health and quality of life/wellbeing – both positive and negative, and both physical and mental - through townscape and visual impacts; air quality; climate change resilience and local physical environment; flood risk and water resources; noise; provision of and accessibility to good quality housing and buildings, employment, health and community services, sustainable transport, and provision of and accessibility to open space and green infrastructure.
- 5.47 The overall approach to human health will be to consider the summary findings of each relevant technical topic and align these with their interconnectedness into the themes for healthy urban planning. The key baseline from the other technical topics will be studied where relevant, and including any specific sensitive receptors. It is not considered to be necessary to undertake primary research or surveys specific to the Human Health chapter. This is because the extent and nature of available information and the conclusions of other technical reports are sufficient to enable undertaking an appropriate and proportionate assessment of impacts on Human Health.
- 5.48 The Site is located within the Manchester city centre with established residential and co-living communities adjacent and nearby, and easy accessibility to a wide range of services and facilities. The Census 2021 took place during a period of rapid change with Covid-19, including how people perceived their health status and changes to patterns of working⁹. Deansgate has the highest proportion with good or very good health at 93% (12,765 people); it also has the highest proportion with no limitation for day-to-day activities at 90% (12,295 people) and the fewest households with disabled residents at 14% (890 households). While driving a car or van remains the most common travel to work method since the previous census in 2011, working from home has become the second most common with Deansgate, Chorlton, Piccadilly, and Didsbury West all having over 50% of their population working from home. Over half of households in Deansgate, Piccadilly and Ancoats & Beswick are private rented with Deansgate having the highest at 73%. There is a range of accommodation types with 32.8% as flats within the Ward. Deansgate has the smallest number of people living in residential households (10,148), and the third highest number of residents living in communal establishments (3,543).
- 5.49 Data for Local Health (2021)¹⁰ reports population by age group % 2020 by Ward and compared with Manchester and England. The Site is located within the Deansgate Ward which shows a low residency of young people aged 5 to 15 years at 1.8% compared to 13.7% for Manchester. Similarly, the population of older people aged 65 years and over is low at 1.9% compared to 9.3% for Manchester and 18.5% for England. The key demographic relates to the population aged 16 to 24 years with 43.8% for Deansgate Ward, compared to 17.5% for Manchester and 10.5% for England. The OHID data reports an IMD score (2019) for Deansgate at 21.8, compared to 40.0 for Manchester and 21.7 for England. Long-term health conditions and morbidity (% , 2011) for Deansgate at 4.0 is low, compared with 17.8 for Manchester and 17.6

⁸ <https://fingertips.phe.org.uk/profile/wider-determinants/supporting-information/built-and-natural-environment>

⁹ https://www.manchester.gov.uk/info/500388/census_2021/8622/census_2021_-_overview/5

¹⁰ https://localhealth.org.uk/#c=report&chapter=c01&report=r01&selgeo1=ward_2021.E05011361

for England. Overcrowded houses (% , 2011) are reported at 43.6 for Deansgate, compared to 16.4 for Manchester and 8.7 for England. Unemployment is low at 1.1% compared to 7.4% for Manchester and 5.0% for England.

- 5.50 The Index of Multiple deprivation (IMD) is an overall relative measure of deprivation constructed by combining seven domains of deprivation – Income; Employment; Education; Skills & Training; Health & Disability; Crime; Barriers to Housing Services and Living Environment. The Site is located within the Deansgate Ward where the IMD score (2019)¹¹ of 24.1 is the fourth lowest in the city, indicating low deprivation – and comparable to other adjacent city centre Wards of Hulme and Piccadilly. The number of households in fuel poverty is the lowest at 466 and again, similar to other adjacent city centre Wards.

Scope of Assessment

Identification of Effect/s which are Likely to be Significant

Table 5.13: Identification of Effect/s which are Likely to be Significant (Human Health)

Effect	Receptor	Applicable Development Phase (C / O)
Health & wellbeing – air quality, noise, safety, traffic	On-site workers Nearby residents, including any particularly sensitive receptors such as care homes, schools	C
Health & wellbeing – air quality, noise, traffic	New & nearby residents & visitors	O
Health & wellbeing – flood risk/water resources; daylight, sunlight & overshadowing; wind microclimate; climate change	New & nearby residents & visitors	O
Health & wellbeing – socioeconomic including housing; employment & economy; services & facilities, open/green space	Local & wider communities	C & O
Health & wellbeing – crime, safety	New & nearby residents & visitors	O

Assessment Methodology for Likely Significant Effects

- 5.51 There is no standard methodology for assessing health in EIA. The complexities of investigating health impacts are recognised, for example, by Public Health England (PHE, 2017) with their Wider Determinants of Health tool that details the multiple determinants for health and the need for cross-sectoral understanding. This guidance is primarily focused on spatial plan makers and public health practitioners, but the principles and checklist can be applied to major development proposals. The recent Health Impact Assessment in Spatial Planning (PHE, 2020) similarly focuses on spatial planning and Strategic Environmental Assessment (SEA) but does include an annex on integrating HIA in EIA and asserts the importance of a *"proportionate and justified approach"*.
- 5.52 The EIA professional body Institute of Environmental Assessment & Management (IEMA) has prepared outline guidance for practitioners – Health in EIA, a Primer for a Proportionate Approach (2017) - it is important that health in EIA is proportionate, balanced, and relevant. This guidance notes that there is an absence of specific significance criteria or defined thresholds

¹¹ https://www.manchester.gov.uk/info/200088/statistics_and_intelligence/7611/intelligence_hub

for determining significance for population and health in UK EIA practice. Given the multitude of factors that contribute to an individual's health outcomes, it is difficult to draw a quantified conclusion regarding the contribution of a particular development to an increase or decrease in the number of additional cases of a particular physical or mental health outcome. More recently (November 2022), IEMA has published guidance on effective scoping and assessment of human health in EIA. This includes five categories for the wider determinants of health – Health-Related Behaviours; Social Environment; Economic Environment; Biophysical Environment; and Institutional & Built Environment.

- 5.53 It is proposed that the assessment will consider the themes for health and wellbeing, as identified by the Healthy Urban Development Unit HIA Tool (2017, 2019), as follows – Healthy Housing/Buildings; Active Travel; Healthy Environment; and Vibrant Neighbourhoods. This HUDU checklist aims to promote healthy urban planning by ensuring that the health and wellbeing implications of major planning applications are consistently considered, through providing a set of themes and planning issues that can be used to assess development proposals. The HUDU tool recognises eleven topics or broad determinants of health and wellbeing focused on the built environment and issues influenced by planning decisions. The HUDU tool aligns with the wider determinants of health listed in the IEMA guidance and better correlates with Proposed Developments in a city centre context.
- 5.54 Housing/Building Design is fundamental for health and wellbeing, together with accessibility to health and social care infrastructure. Access to open space and nature; air quality, noise and neighbourhood amenity; accessibility and active travel; and crime reduction and community safety are relevant to health and wellbeing associated with the Proposed Development and will be considered within the Human Health impact assessment. Access to healthy food is beyond the scope of the Proposed Development, although a city centre location indicates the potential for a variety of food resources. Access to work and training is well known to affect health and wellbeing - employment and the local economy will be considered. Limited elements of social cohesion and inclusive design may be relevant to the Proposed Development. Minimising the use of resources and climate change are key factors in considering environmental sustainability, a healthy environment, and reducing risks to health and wellbeing from the predicted effects of climate change.
- 5.55 The overall approach to human health will be to consider the summary findings of each relevant technical topic – air quality; flood risk/water resources; noise and vibration; socioeconomic; townscape and visual impacts; traffic & transport; climate change; daylight/sunlight/overshadowing; and wind microclimate - and align these with their interconnectedness into the themes for healthy urban planning and taking into account the relevant broad determinants of health. Different study areas will be used for the assessment of individual human health impacts, according to each relevant technical topic.
- 5.56 Overall, the study area will be the site with local surrounds, and the wider study area of Manchester City for the themes for healthy urban living and based upon professional judgement.
- 5.57 The Human Health chapter will consider the Scenario = Existing site (baseline) with Proposed Development and committed developments.
- 5.58 Sensitive receptors will include:
- onsite workers during construction
 - existing residents, businesses, educational facilities, healthcare facilities, and communities around the Site, as well as any other sensitive receptors identified by the technical assessments
 - future users and visitors of the Site
- 5.59 Effects that are described as 'minor' or 'negligible' are determined to be 'Not Significant' and effects that are described as 'moderate' or 'major' are determined to be 'Significant'. This takes into account the sensitivities of receptors as high, moderate, low. The criteria and categories of significance applied in the health impact assessment are, as follows:

- Major Adverse/Beneficial – important considerations at local or district scale; if adverse, are potential concerns to the project and may become key factors in the decision-making process
- Moderate Adverse/Beneficial – modest important local effects that, if adverse, are not likely to be key issues for decision-making
- Minor Adverse/Beneficial – Slight, short, or highly localised effects that, if adverse, are unlikely to be important in the decision-making process
- Negligible – no appreciable effects on health factors

5.60 Each technical impact assessment is subject to its own standards, regulations, and methods of assessment. Standardised sectoral thresholds and significance criteria will be used for each of the relevant technical factors that contribute to health and wellbeing. The overall likely significant effects on health will then be determined in a qualitative way using professional judgment. The key impacts for health will be considered and inter-relationships will be integrated within the themes identified for healthy urban living, such that any significant impacts for human health are clearly presented in a separate chapter.

Limitations and Assumptions

5.61 The Human Health Chapter will consider the findings relevant to human health of each technical impact assessment scoped into the Environmental Statement and, as such, any key assumptions or limitations associated with each technical impact assessment are addressed within the individual chapters. The overall approach for collating, assessing, and reporting impacts on human health and wellbeing is considered to be appropriate and proportionate such that there are no limitations. The assessment will be desk-based and with professional judgment using published information.

Noise and Vibration

Technical Competence

Table 5.14: Technical Competence (Noise and Vibration)

Technical Competence in Noise and Vibration and EIA		
	Lead Author	Reviewer
Name	Paul Knowles	David Terry
Company	Acoustic and Engineering Consultants Ltd	Acoustic and Engineering Consultants Ltd
Qualifications/Accreditations relevant to technical area	BSc (Hons) Member of the IOA IOA Diploma	BSc (Hons) Member of the IOA
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	No	
Years technical experience (in technical area)	15	21
Number of EIA's delivered to date	5 to 10	10 to 20

Consultation

Table 5.15: Technical Competence (Noise and Vibration)

Consultee (Body/Organisation)	Role	Date and Form of Consultation	Summary and Outcome of Consultation
Manchester City Council (MCC)	N/A – review of available planning documentation relating to noise	14 September 2023	Review of MCC Planning and Noise Technical Guidance dated October 2022.

Completed Background Studies / Available Baseline Information

Table 5.16: Completed Background Studies / Available Baseline Information (Noise and Vibration)

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Noise Survey	Day and night noise measurements around the development site	Wednesday 10 to Monday 15 July 2019.

Noise Survey	Day and night noise measurements on the proposed location of Block C	Friday 26 to Tuesday 29 May 2023
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Baseline Conditions

- 5.62 Long and short-term noise monitoring was undertaken at various locations across the site. The short term attended monitoring was carried out at five locations across the site, with three, non-consecutive, 15-minute sample measurements taken at each position on Wednesday 10 July 2019. Prominent noise sources during each measurement were noted, together with the relevant meteorological conditions.
- 5.63 The longer-term unattended noise monitoring took place from Friday 26 to Tuesday 29 May 2023. Continuous 15-minute measurements were taken at a single location. Prominent noise sources were noted during the deployment and collection of the monitoring equipment.
- 5.64 The noise climate across the site is predominantly comprised of reasonably consistent levels of road traffic noise from the A57 Mancunian Way, to the south and, to a lesser extent, vehicles on Medlock Street, to the west and south.
- 5.65 Daytime ambient noise levels across the site typically around 65-77dBL_{Aeq,16h}. Night-time noise levels were typically around 60-72dBL_{Aeq,16h}.
- 5.66 Existing background noise levels, due to distant road traffic, were approximately around 52 dBL_{A90<T} during the daytime and 49dBL_{A90,T} at night.

Scope of Assessment

Identification of Effect/s which are Not Significant

Table 5.17: Identification of Effect/s which are Not Significant (Noise and Vibration)

Effect	Vibration	Applicable Development Phase (C / O)	O	Receptor	The development
Discussion of Effect					
Vehicles on the A57 Mancunian Way, located on a fly over passing the site, and road traffic on Medlock Street are highly unlikely to cause significant levels of vibration at the Proposed Development.					
Mitigation Committed to in order to Avoid or Reduce Effect					
N/A					
Concluding Statement					
Vibration levels from vehicle movements would not be high enough to cause any impact on the development.					
Effect	Vehicle Movements	Applicable Development Phase (C / O)	O	Receptor	Nearby residential developments

Discussion of Effect
As there is no car parking associated with the scheme, noise from this potential source does not need to be assessed.
Mitigation Committed to in order to Avoid or Reduce Effect
N/A
Concluding Statement
As there is no car parking associated with the scheme, noise from this potential source does not need to be assessed.

Identification of Effect/s which are Likely to be Significant

Table 5.16: Identification of Effect/s which are Not Significant (Noise and Vibration)

Effect	Receptor	Applicable Development Phase (C / O)
Noise from construction phase	Blocks A/B and D and Unite Students – new Medlock House	C
Vibration from construction phase	Blocks A/B and D and Unite Students – new Medlock House	C
Noise from external building services plant	Blocks A/B and D and Unite Students – new Medlock House	O
Site suitability	Block C	O

Assessment Methodology for Likely Significant Effects

- 5.67 Construction noise is temporary and cannot be assessed in the same way as more permanent operational impacts. Based upon likely construction plant, anticipated noise levels will be predicted at the NSSPs using methodology presented in British Standard (BS) 5228: 2009 'Code of practice for noise and vibration control on construction and open sites' (Part 1). Where the types of plant are not known, a representative sound power level will be applied from BS5228.
- 5.68 General construction activities are unlikely to generate perceptible levels of vibration at the NSSPs. The construction activity most likely to generate perceptible levels of vibration is piling, however, given the location of the development, it is anticipated that use of the low vibration piling methods will be used. It is therefore, proposed that the assessment of construction vibration is scoped out of the assessment.
- 5.69 Assessment of noise levels from existing sources and activities associated with the proposed development would be undertaken in accordance with Manchester City Council's document 'Planning and Noise – Technical Guidance' dated October 2022 (P&NTG) and the National Planning Policy Framework (NPPF).
- 5.70 Based on the findings of the assessment, outline mitigation measures will be presented to achieve the internal noise levels presented in P&NTG, BS 8233: 2014 'Sound insulation and

- noise reduction for buildings – Code of practice’ and the Association of Noise Consultants document ‘Professional Practice Guidance on Planning and Noise’ (ProPG) issued in May 2017.
- 5.71 Noise from mechanical services plant associated with the development will be assessed using guidance in P&NTG and BS 4142: 2014+A1:2019 ‘Methods for rating and assessing industrial and commercial sound’ (BS4142).
- 5.72 It is anticipated that the scheme (less than 20% increase/decrease in road traffic on surrounding routes), will generate negligible road traffic flows compared to the existing baseline situation.

Limitations and Assumptions

- 5.73 It is assumed that there will be no significant increase or decrease (+/-10%) in the traffic flow on the local network directly due to the Proposed Development.
- 5.74 It is also assumed that there is no noisy ground floor commercial uses e.g. commercial gym, bar, night-club etc.

Socio-Economic Issues

Technical Competence

Table 5.17: Technical Competence (Socio-economic)

Technical Competence in Socio-economics and EIA		
	Lead Author	Reviewer
Name	Zoe Crampton	Margaret Collins
Company	ekosgen	ekosgen
Qualifications/Accreditations relevant to technical area	BA (Hons) Geography	BA (Hons) Economics and Economic and Social History
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	No	
Years technical experience (in technical area)	18	20
Number of EIA's delivered to date	50+	50+

Consultation

5.75 No consultation with Manchester City Council was carried out as part of this assessment.

Completed Background Studies / Available Baseline Information

Table 5.18: Completed Background Studies / Available Baseline Information (Socio-economic)

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Socio-economic Analysis	Analysis of small area and local authority level socio-economic data sets including population and employment statistics from the Census 2021 and Business Register of Employment Survey (BRES)	Monday 2 nd October 2023

Baseline Conditions

5.76 The local area (the Deansgate ward) was estimated to have a population of 13,697 in the ONS 2021 Census population estimates¹², and is characterised by a high number of working age residents, with 96% of the population being between the ages of 16 and 64, which is

¹² Nomis, Census 2021 Age by Single Year

- significantly higher than the averages for Manchester (70%), Greater Manchester (64%), the North West (62%) and England (63%).
- 5.77 Manchester's total student population is the largest concentration outside of London, with a growing proportion of international students. Manchester has one of the largest student populations in Europe, with latest available data indicating that together Manchester's three 'city centre' universities (University of Manchester, Manchester Metropolitan University and Royal Northern College of Music) host 84,260 students¹³. 25% of the total student population at these universities is international and this market segment has grown substantially (23%) since the 2014/15 academic year¹⁴.
- 5.78 Total employment (jobs) in the local area stood at 92,885 in 2021, accounting for 22% of total employment across the Manchester local authority. In terms of the employment structure, 28% of employment within the local area is within the 'Professional, scientific and technical' sector and is significantly overrepresented compared to the English national average (9%). In combination with other sectors of the economy (such as 'Financial and insurance', 'Information and communication' and 'Administrative and support services') these account for 61% of employment across the local area. This compares to 35% across Manchester, 28% across Greater Manchester, 23% across the Northwest of England and 26% across England. This is reflective of the predominance of office-based, service economy activities within this part of the city centre. Other areas of significant employment include 'Accommodation and Food Services' (11%)¹⁵.
- 5.79 The Greater Manchester construction sector supports economic output (as measured in terms of Gross Value Added) of approximately £4.41 billion¹⁶. For every full time equivalent (FTE) construction job this equates to an average GVA contribution of £92,254 per annum. This represents a higher output average compared to the all-sector average for Greater Manchester (£74,136). Average annual economic output per FTE is also higher than the all-sector average for the following Greater Manchester sectors: 'Information and communications' (£94,167) and 'Financial and Insurance Activities' (£154,697). The 'Professional, Scientific and Technical' sector is lower than the all-sector average (£50,036).
- 5.80 The local area's claimant count (1%) is significantly lower than that of the benchmark areas of Manchester (6.2%), Greater Manchester (4.9%), the Northwest region (4.2%) and the English National Average (3.8%)¹⁷. The unemployment rate for the local impact area (2%) is also lower than that of the benchmark areas of Manchester (4%), Greater Manchester (3.2%), the region of the Northwest (2.8%) and England (2.9%)¹⁸. The local area has a high number of people in employment (73%) within professional, managerial and technical occupations (SOCs 1-3)¹⁹ and has a higher proportion of residents qualified to NVQ 4+ level (60%) compared to benchmarked areas. The proportion of residents with no formal qualifications in the local area (3%) is also low compared to benchmark areas²⁰.
- 5.81 The closure of Manchester Metropolitan University's (MMU) Crewe and South Manchester campuses has resulted in an even larger number of students being located at city centre campuses. Survey data (2021) indicates that Manchester performs well in comparison to other core cities for graduate retention (43%), behind only London (67%), Edinburgh (53%) and

¹³ HESA Student Record 2014/15-2021/22 Available at: [Where do HE students study? | HESA](#)

¹⁴ HESA Student Record 2014/15 – 2021/22 Available at: [Where do HE students come from? | HESA](#)

¹⁵ Nomis, 2021, Business Register and Employment Survey

¹⁶ Nomis, 2021, Regional GVA by industry and region

¹⁷ Nomis, August 2023, Claimant count data

¹⁸ Nomis, Census 2021 unemployment data

¹⁹ Nomis, Census 2021 Occupations data

²⁰ Nomis, Census 2021 qualifications data

- Birmingham (46%)²¹. Despite this graduate underemployment remains an issue both nationally and within Manchester²².
- 5.82 A committee report published by Manchester City Council in December 2020²³ highlighted issues relating to both the poor quality and high cost of PBSA in comparison to other cities. Survey data from 2021 also indicated that student satisfaction with private student accommodation was lowest in Manchester (82%) in comparison to all other core UK cities²⁴. It indicated that there were c.24,000 total PBSA bedspaces available to students in Manchester for the 2018/19 academic year. Whilst this figure is likely to have changed in the intervening period, this provides a broad indication of PBSA supply across the city.
- 5.83 In terms of local service provision, there are 5 GP practices located within 1 mile of the site²⁵. According to latest available data, these are currently operating at an average of 2,566 patients to every FTE GP which is above the Healthy Urban Development Unit benchmark of 1,800 patients per FTE GP. With the two closest GPs 'The Docs Practise' and 'The Arch Medical Centre' operating at an average of 1,913 and 1,791 patients to every FTE GP respectively²⁶. In terms of local dental provision, there are 11 dentists within a 1-mile radius, the nearest of which is 207 dental care, located 0.4 miles away²⁷.
- 5.84 The nearest leisure centre is Sudgen Sports Centre which is a 14-minute walk away. There are several other recreational sites within walking distance of the site such as Hulme Park and Castlefield's heritage park. Being a city centre site there are numerous leisure sites within proximity to the site such as HOME theatre Manchester, Junkyard crazy golf and Odeon cinema. As well as this, it is a close walk into the rest of the city centre, the Deansgate tram station is a 5-minute walk from the site and the Manchester Oxford Road railway station is within a 7-minute walk from the site, providing easy access to the wider city.

Scope of Assessment

Identification of Effect/s which are Not Significant

Table 5.19: Identification of Effect/s which are Not Significant (Socio-economic)

Effect	Reduction in Crime or fear of Crime	Applicable Development Phase (C / O)	O	Receptor	Resident Population
Discussion of Effect					
The proposed uses have the potential to lead to reduction in crime and fear of crime through 'Secured by Design' compliance which promotes and incorporates good design quality, layout and lighting. Whilst beneficial, these are unlikely to be significant in EIA terms and therefore recommended to be scoped out.					
Mitigation Committed to in order to Avoid or Reduce Effect					
N/A					

²¹ [knight-frank-ucas-student-accommodation-survey-report-2021-7707.pdf \(knightfrank.com\)](#)

²² [Student numbers and graduate retention in the city.pdf \(manchester.gov.uk\)](#)

²³ [Purpose Built Student Accommodation.pdf \(manchester.gov.uk\)](#)

²⁴ [knight-frank-ucas-student-accommodation-survey-report-2021-7707.pdf \(knightfrank.com\)](#)

²⁵ [GP surgeries near M3 4ED - NHS \(www.nhs.uk\)](#)

²⁶ NHS Digital Data, Accessed September 2023

²⁷ [Dentists near M3 4ED - NHS \(www.nhs.uk\)](#)

Concluding Statement					
Reduction in Crime or fear of Crime to be scoped out of Socioeconomics					
Effect	Additional demand for primary and secondary school places	Applicable Development Phase (C / O)	O	Receptor	Education facilities
Discussion of Effect					
The proposed uses will not generate new residents of school age and it is therefore not necessary to consider the effect on demand for primary and secondary school places					
Mitigation Committed to in order to Avoid or Reduce Effect					
N/A					
Concluding Statement:					
Additional demand for primary and secondary school places to be scoped out of Socio-economics Chapter.					

Identification of Effect/s which are Likely to be Significant

Table 5.20: Identification of Effect/s which are Likely to be Significant (Socio-economic)

Effect	Receptor	Applicable Development Phase (C / O)
Temporary employment uplift during the construction stage	Individuals seeking construction employment	C
Net change in direct operational employment	Individuals seeking employment	O
Uplift in Spend and GVA	Local economy	O
Additional demand for healthcare facilities (GP services and dentists) as a result of the uplift in population.	Primary healthcare facilities	O
Increase in the number of student bedspaces and contribution towards local strategic objectives in this respect	Students seeking accommodation	O
Additional demand for the use of the existing open space and amenity space and leisure facilities	Open Space and recreational facilities and their users	O

Assessment Methodology for Likely Significant Effects

The Study Area

- 5.85 In respect of socio-economics, the relevant study area can vary according to different receptors; however, broadly, socio-economic impacts can be assessed with reference to a spectrum of

spatial scales, ranging from the immediate local catchment through to the wider, sub-regional scale. The study area is also influenced by the availability of baseline data which may not always be available down to a local catchment area level.

- 5.86 In the case of the Proposed Development, the study area should reflect the Site's anticipated immediate local catchment. This can be defined using the ward the Site sits within ('Deansgate' ward). The wider study area reflects both the Manchester City Council area (district) and the Greater Manchester City Region (comprising of the 10 Greater Manchester districts).
- 5.87 For some receptors, a smaller study area may be required; for instance, with respect to the demand for health care or open space within close proximity to the Proposed Development (i.e. within a certain distance radius from the Site).
- 5.88 Wherever possible, the baseline characteristics of the study area will be benchmarked against borough level (i.e. Manchester City Council) comparators as well as comparators at the sub-regional (Greater Manchester), regional and national level.

Baseline Surveys and Impact Assessment

- 5.89 Baseline data will be derived from a range of publicly available secondary datasets, including (but not limited to) the 2021 Census of Population, Business Register and Employment Survey, UCAS and, and NHS General Practice workforce data. The most recent available data for the study area will be obtained, wherever possible.
- 5.90 All committed developments identified are relevant to this Chapter; however, due to data availability and time lags in reporting updates, it is unlikely that publicly available baseline data will reflect these committed developments.
- 5.91 The assessment of likely and residual socio-economic effects will be undertaken quantitatively wherever possible, utilising appropriate guidance such as the HCA's Additionality Guide.
- 5.92 An estimation of the jobs generated during the construction phase will be made using data on construction spend estimates and turnover per FTEs in the construction industry to derive estimates of the likely number of temporary construction workers per annum during the construction phase.
- 5.93 An estimation of the new student residential site population will be made based on the proposed mix of units. The impact on employment and the local economy will be based on an assessment of the number of new jobs supported on-site and off-site as well as GVA and spending from students and their visitors. The resulting GVA will be estimated based on GVA per FTE drawing on data from the ONS Business Register and Employment Survey, whilst spending will be estimated based on data from student spending surveys.
- 5.94 An assessment of the likely effects of the Proposed Development's additional population on the capacity of existing primary healthcare facilities, open space provision and leisure facilities will be made. Where relevant, established standards for provision set out within local and sub-regional policy will be referred to.
- 5.95 A cumulative assessment will be undertaken for those schemes within 1km of the Site and will be based on the same methodology of impact assessment as outlined above.

Significant Criteria Effects

- 5.96 Since there are no specific technical criteria to assess the significance of socio-economic effects, assessment will take place in accordance with the overarching EIA methodology and will apply professional judgement informed by experience of similar projects. The overarching approach towards the assessment of the magnitude, sensitivity and overall significance of impacts is set out in the Tables in Appendix 6 of this document.
- 5.97 The magnitude of socio-economic impacts will be assessed in line with the approach outlined in Table 4.1. In addition to the magnitude, the duration of impact will also be taken into account with the impacts ranging from those that are likely to be temporary or permanent.

- 5.98 The sensitivity of a receptor is based on the relative importance of the receptor using the framework outline in Table 4.5 and taking account of the baseline position.
- 5.99 The significance of the impact is determined by the interaction of magnitude and sensitivity, whereby the impacts can be positive or negative. The Impact Significance Matrix is set out in Table 4.6. All impacts assessed as 'moderate' or 'major' are considered to be 'significant' in EIA terms.

Limitations and Assumptions

- 5.100 There are no recognised criteria for the assessment of socio-economic impacts, and therefore ekosgen, drawing on their expertise, knowledge of overarching guidance and experience of working in the subject area, have taken a structured approach to quantifying and assessing the scale and nature of potential impacts relative to baseline conditions. In cases where impacts cannot be quantified, a qualitative judgement has been made, drawing on professional experience.
- 5.101 The most up to date data from official published sources has been used wherever possible; however, there are some limitations in the baseline data. Where this is the case, ekosgen have gathered data most closely aligning to the chosen Study Area and clearly stated what geography the data collected refers to.

Sunlight, Daylight, Overshadowing and Solar Glare

Technical Competence

Table 5.21: Technical Competence (Sunlight, Daylight and Overshadowing)

Technical Competence in Daylight, Sunlight & Solar Glare and EIA		
	Lead Author	Reviewer
Name	Krystle Stewart	Michael Beatty
Company	GIA	GIA
Qualifications/Accreditations relevant to technical area	MBSc	BSc (Hons) MRICS
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	No	
Years technical experience (in technical area)	15	9
Number of EIA's delivered to date	20	15

Consultation

5.102 No consultation with Manchester City Council was carried out as part of establishing this scoping methodology.

Completed Background Studies / Available Baseline Information

Table 5.22: Completed Background Studies / Available Baseline Information (Sunlight, Daylight and Overshadowing)

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Identification of residential and hotel sensitive receptors surrounding the Site	Site visit and review of council tax records	October 2023
Identification of external amenity space sensitive receptors surrounding the Site	Site visit and review of Proposed Development and aerial photography	October 2023
Location of floor plans for the sensitive receptors	Review of MCC planning portal, leases and online marketing details	In Progress

Baseline Conditions

Daylight and Sunlight

- 5.103 The BRE Guidelines²⁸ suggest that residential properties have the highest requirement for daylight and sunlight and states that:

"the guidelines are intended for use for rooms in adjoining dwellings where light is required, including living rooms, kitchens and bedrooms."

- 5.104 The scope of entirely residential properties, properties that contain an element of residential accommodation or hotels being of a transient residential nature (sensitive receptors) that will be assessed has been determined through professional judgement, considering their orientation and proximity to the Site.

- 5.105 Baseline studies are currently being undertaken by GIA. The baseline assessment will review the daylight and sunlight conditions within each of the sensitive receptors in the Site area's present form (i.e. the current baseline).

- 5.106 The following sensitive receptors will be considered for daylight due to their residential use and proximity to the Site:

- 44-72 Rockdove Ave
- 30-42 Rockdove Ave
- Parkway Gate, Wilmott Street;
- Loxford Court, Clarendon Street;
- Block A/B, Plot 11, First Street; and
- Block D, Plot 11, First Street.

- 5.107 The following sensitive receptors will be considered for sunlight due to their residential or hotel use and proximity to the Site to north, east or west:

- Block A/B, Plot 11, First Street; and
- Block D, Plot 11, First Street.

Overshadowing

- 5.108 The public and shared open space of Plot 11 ('Square Gardens') will be assessed for overshadowing.

Solar Glare

- 5.109 The solar glare assessment is undertaken on the worst-case scenario. Solar Glare is not a comparative assessment; the fact it may occur in the baseline does not necessarily justify its occurrence as a result of the Proposed Development. Therefore, the assessment considers the effect of the Proposed Development in absolute terms.

- 5.110 However, it should be noted that the Proposed Development will be located on a vacant site, thus there is limited opportunity for instances of solar glare from the Site to be experienced. Solar glare from surrounding buildings is not assessed.

²⁸ Building Research Establishment (BRE) (2022) Site layout planning for daylight and sunlight: a guide to good practice (BR209) (2022)

Scope of Assessment

Identification of Effect/s which are Not Significant

Table 5.23: Identification of Effect/s which are Not Significant (Sunlight, Daylight and Overshadowing)

Effect	Reduced daylight and sunlight amenity within commercial properties or distant residential properties	Applicable Development Phase (C / O)	O	Receptor	All
Discussion of Effect					
The scope of works will focus on the nearest sensitive receptors which are the residential and student receptors and public amenity spaces in the immediate vicinity of the Site. These have been determined in line with the reasonable expectation of daylight and sunlight as per the BRE guidelines. The BRE guidelines consider that residential properties have the highest requirement for daylight and sunlight. As such, daylight and sunlight effects to commercial buildings surrounding the Site, or residential buildings which are not in sufficient proximity to the Site, are not considered to be significant and will not be considered further in the EIA or reported in the ES.					
Mitigation Committed to in order to Avoid or Reduce Effect					
None					
Concluding Statement					
Reduced daylight and sunlight amenity within commercial properties or distant residential properties will not be assessed.					
Effect	Reduced daylight and sunlight amenity within surrounding residential receptors during demolition and construction	Applicable Development Phase (C / O)	C	Receptor	All
Discussion of Effect					
Owing to the evolving and changing nature of construction activities, the assessment of potential effects during construction of the Proposed Scheme on daylight and sunlight to surrounding properties will not be modelled.					
Since the potential daylight and sunlight effects relating to construction works will vary throughout the construction programme and gradually increase to the potential effects identified for the completed Proposed Scheme, the interim construction effects will not be assessed quantitatively as it is considered that the completed Proposed Scheme represents the worst-case assessment in terms of likely daylight and sunlight.					

Therefore, reduced daylight and sunlight amenity within the surrounding residential receptors during the demolition and construction phases is not considered to be significant (or if it is, only on parity with the completed Proposed Scheme) and will not be considered further in the EIA or reported in the ES.					
Mitigation Committed to in order to Avoid or Reduce Effect					
None					
Concluding Statement					
Reduced daylight and sunlight amenity within surrounding residential and student receptors during demolition and construction phase will not be assessed.					
Effect	Solar Glare causing visual discomfort to occupiers of adjoining buildings	Applicable Development Phase (C / O)	O	Receptor	Solar Glare impacting occupants of adjoining buildings
Discussion of Effect					
<p>BRE states that reflected sunlight can affect occupants of adjoining buildings. There are two types of glare: disability glare, which is a safety issue; and discomfort glare, which includes solar reflections impacting adjacent buildings. Discomfort glare does not impair the ability to see. Whilst it can be important where work involves continuous viewing of the outdoor space from a fixed vantage point, it can generally be managed where glare is an issue by using blinds or curtains for the periods of time where such glare occurs. For these reasons, residential uses are classified as low-sensitivity receptors and do not require assessment as no significant adverse effects could occur.</p> <p>Where analysis is undertaken, it would consider the total duration of time for which the sun can be reflected to the affected location per year. Durations of less than 50 hours per year are classified as being unlikely to lead to significant impacts. Some reflections from glazed buildings into surrounding buildings will inevitably occur in an urban context; however, it is highly unlikely that the Proposed Development would generate reflections that could impact any individual occupant in neighbouring buildings for 50 hours or more per year. Any discomfort glare that would occur would be entirely transient and short-lived as the sunpath moves past the site and could be managed by residents using blinds or curtains for those short periods where necessary. This is considered to be typical of the Sites urban location and would potentially occur with any redevelopment proposal of the Site that includes areas of glazing.</p>					
Mitigation Committed to in order to Avoid or Reduce Effect					
None required					
Concluding Statement					
It is therefore considered that any impact on residential amenity is not expected to be significant and an assessment of discomfort glare is not considered necessary. Therefore, solar glare effects to occupants of neighbouring buildings is scoped out.					

Identification of Effect/s which are Likely to be Significant

Table 5.24: Identification of Effect/s which are Likely to be Significant (Sunlight, Daylight and Overshadowing)

Effect	Receptor	Applicable Development Phase (C / O)
Reduction in daylight amenity	See above list	O
Reduction in sunlight amenity	See above list	O
Increase in shadow to surrounding amenity spaces	TBC from transient overshadowing assessments	O
Solar Glare safety issues concerning transit through critical intersections and junctions	Solar Glare impacting visibility of road users at selected viewpoints within 500m of the Site where the Proposed Development is visible	O
Solar Glare safety issues concerning visibility of train/tram drivers along nearby railway tracks	Solar Glare impacting visibility of tram drivers at selected viewpoints within 500m of the Site where the Proposed Development is visible	O

Assessment Methodology for Likely Significant Effects

Daylight & Sunlight

Assessment Methodologies

- 5.111 The assessments will be carried out in accordance with the BRE Guidelines. The analysis will be calculated from a 3D computer model using specialist software based on detailed architectural models, Ordnance Survey (OS) mapping and photogrammetry.
- 5.112 In line with the BRE Guidelines, both the Vertical Sky Component (VSC) and No Sky Line (NSL) assessments will be undertaken in the Proposed Development scenario for the relevant sensitive receptors identified.
- 5.113 The sunlight amenity to the surrounding relevant receptors will be considered by reference to the BRE recommended Annual Probable Sunlight Hours (APSH) and Winter Probable Sunlight Hours (WPSH) methods of assessment. Due to the southerly location of the sun in the sky, this assessment will consider those windows which face the site and are located within 90 degrees of due south.

Scenarios Assessed

- 5.114 The results of the following assessment scenarios will be reviewed and reported:
- Scenario 1: Existing site (baseline) (this includes committed developments (Sites 1, 9 and 10 (massing only) and Site 2, as identified in Appendix 5));
 - Scenario 2: Existing Site (baseline) with Proposed Development; and
 - Scenario 3: Existing Site (baseline) with Proposed Development, and cumulative development (this includes Sites 13 and 18, as identified in Appendix 5).

Assessment Criteria

- 5.115 The following table provides a summary of the criteria set out within the BRE Guidelines for daylight and sunlight.

Table 5.25: Assessment Criteria (Sunlight, Daylight and Overshadowing)

Method	BRE Criteria
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VSC	A window may be adversely affected if its VSC measured at the centre of the window is less than 27% and less than 0.8 times its former value.
NSL	A room may be adversely affected if the daylight distribution (NSL) is reduced beyond 0.8 times its existing area.
APSH	A window may be adversely affected if a point at the centre of the window received for the whole year, less than 25% of the APSH including at least 5% of the APSH during the winter months (21 September to 21 March) and less than 0.8 times its former sunlight hours during either period, and for existing neighbouring buildings, if there is a reduction in total APSH which is greater than 4%.
SHOG	An amenity area may be adversely affected if less than 50% of its area receives less than 2 hours of direct sunlight on 21 March and less than 0.8 times its former value.

- 5.116 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible), the magnitude of change (on a scale of large, medium, small and negligible), and the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined from this evaluation and including professional judgment.
- 5.117 When assigning significance criteria for daylight and sunlight effects, professional judgement will be used in conjunction with the significance criteria in Table 5.26. Consideration will be given to the proportion of rooms/windows affected, as well as the percentage alterations, absolute changes, sensitivity of the receptor, and any other relevant factors. There may be mitigating factors such as location and nature of development, balconies, overhangs or design features which may also affect the determination of assigning the criteria.
- 5.118 When assigning significance criteria for sun hours on ground effects professional judgement will be used in conjunction with the significance criteria in Table 5.26. Consideration will be given to the nature of the adjoining amenity space, as well as the percentage alterations, absolute changes, sensitivity of the receptor, and any other relevant factors.
- 5.119 Effects classified as Moderate or Major in scale are considered to be 'significant'. Effects classified as Minor or Negligible in scale are considered to be 'not significant'.
- 5.120 The assessment of likely significant effects to sensitive receptors will consider the sensitivity of the receptor (on a scale of high, medium, low and negligible) and the magnitude of change (on a scale of large, medium, small and negligible) to determine the level of effect on a scale of major, moderate, minor and negligible. Significant effects will be determined following this through professional judgment.

Overshadowing

Assessment Methodologies

- 5.121 The assessments will be carried out in accordance with the BRE Guidelines. The analysis will be calculated from a 3D computer model using specialist software based on detailed architectural models, Ordnance Survey (OS) mapping and photogrammetry.
- 5.122 The overshadowing analysis on the surrounding areas of amenity space will be undertaken by reference to the Sun Hours on Ground (SHOG) method of assessment.
- 5.123 A SHOG assessment will be undertaken to confirm and quantify any effect on 21st March, as recommended by the BRE Guidelines. The SHOG assessment will consider the proportion of a designated amenity space which receives 2 or more hours of direct sunlight on 21st March.

Scenarios Assessed

- 5.124 The results of the following assessment scenarios will be reviewed and reported:

- Scenario 1: Existing site (baseline) (this includes committed developments (Sites 1, 2, 9 and 10, as identified in Appendix 5));
- Scenario 2: Existing Site (baseline) with Proposed Development; and
- Scenario 3: Existing Site (baseline) with Proposed Development, and cumulative development (this includes Sites 13 and 18, as identified in Appendix 5).

Solar Glare

Assessment Methodology

- 5.125 The assessment will consider potentially sensitive viewpoints for road and train/tram drivers surrounding the site. The viewpoints will generally be located at the minimum stopping distance for road users and at the driver's eye level with the focal point being a relevant traffic element, such as signals or incoming traffic. For train/tram drivers, viewpoints will be assessed where signals are visible or at representative intervals where the Proposed Development would be visible close to the direct line of sight for a substantial stretch of track.
- 5.126 Viewpoints within 500m of the Site, where the Proposed Development is visible within the driver's field of view will be assessed. At distances greater than 500m from the Proposed Development, instances of solar glare would be unlikely to occur. A review of the surrounding area has identified the following road junction and train/tram tracks as receptors sensitive to solar glare.
- 5.127 The assessment of solar glare identifies the time of the day and year that solar reflections will be visible from the assessed viewpoints, as well as their relationship to a driver's line of sight. The assessment does not however, measure the intensity of the reflection but merely the occurrence and duration.
- 5.128 Drivers at each of the relevant road junctions are considered the sensitive receptors, where there are multiple directions of travel potentially affected, each direction of travel at the junction is considered a separate receptor as their effect significance may differ. For train/tram tracks, the train/tram drivers on the stretch of track are considered to be the sensitive receptor. The effect significance will be determined using professional judgement taking into consideration the duration of solar reflections, location of these in relation to a driver's line of sight, type of junction control and the probability of reflections occurring. The effect significance is given on a per junction basis considering all viewpoints assessed for that junction as well as any viewpoints that would not be affected by the Proposed Development.
- 5.129 There are no quantitative criteria within the BRE Guidelines or elsewhere regarding acceptable levels of solar glare. When assessing the overall significance of effect, the following factors could influence the nature, scale and resultant significance of effect:
- Sunlight availability probability;
 - Area of façade off which reflections are visible;
 - Period of time when reflections are visible;
 - Angle at which reflections are visible from line of sight;
 - Views of the Proposed Development being obscured for example by trees; and/or
 - The time of day at which the solar reflection will occur for example during peak traffic times.
- 5.130 The factors in the table below will be used to ascertain the possible significance for each view and the factors listed above will then be taken into consideration to determine the overall significance for the designated viewpoint.

Table 5.26: Significance Methodology (Sunlight, Daylight and Overshadowing)

Scale of Effect	Possible factors
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Negligible	No reflections are visible or if visible all occur at angles greater than 30° from the driver's line of sight and so, as stated by the CIE, will be of "little significance".
Minor	Solar reflections are visible within 30° to 10° or between 10° to 5° of the driver's line of sight for a short period of time.
Moderate	Solar reflections are visible within 10° and 5° of the driver's line of sight occurring for a long period of time.
Major	Solar reflections are visible within 5° of a driver's line of sight.

5.131 Effects classified as Moderate or Major in scale are considered to be 'significant'. Effects classified as Minor or Negligible in scale are considered to be 'not significant'.

5.132 All viewpoints assessed for solar glare are considered to be of high sensitivity.

Figure 5.1: Road junctions and train/tram tracks sensitive to solar glare.



Scenarios Assessed

- 5.133 For solar glare, the worst-case scenario is portrayed by the complete and operational Proposed Development, where all reflective facade materials have been installed and any covers, films or hoarding used during the construction period have been removed.
- 5.134 The most appropriate scenario is considered to be Existing site (baseline) with Proposed Development.
- 5.135 Based on a common practice approach to portray the worst-case scenario, the cumulative effect will not be considered as neighbouring Committed Developments can block sunlight reaching the facades of the Proposed Development and/or obscure the Proposed Development from the viewpoints to be assessed. However, the following committed development are included within the surrounding context as their completed form due to their construction having commenced:
- Plot 9a, First Street (132600/FO/2021);
 - Plot 11, First Street South (Blocks A, B and D only) (125573/FO/2019);
 - Metropolitan University Science and Engineering Building (125799/FO/2019);
 - Barclay House (118033/P3OPA/2017);
 - Havelock (129081/FO/2021);
 - Viadux (115871/FO/2017);
 - Plot 10b, First Street (136170/FO/2023); and
 - Plot F, Great Jackson Street (132199/FO/2021).

Limitations and Assumptions

- 5.136 To ensure transparency within the EIA process, the following limitations and assumptions have been identified:
- Where floor plans are not available, assumptions will be made based on external inspection as to the use and internal configuration of the rooms behind the fenestration observed.
 - Unless building form dictates otherwise, a standard 4.2 m (14 ft) room depth will be assumed. This is common practice where access to buildings for surveying is unavailable.
 - Floor levels will be assumed for surrounding properties where access or detailed planning drawings cannot be obtained. Where floor levels are assumed, the working plane will be located 850 mm above the assumed Finished Floor Level (FFL).
 - Façade details are not yet known however the façade design of the Proposed Scheme is anticipated at this stage (worst case) to comprise large areas of glazing which have the potential for solar glare effects.
 - Although great care will be taken to identify typical viewpoints, this does not guarantee that there will be no additional sensitive locations where reflected solar glare could present a particular risk. For practical reasons, the area of the assessment has been limited to the area surrounding the Proposed Scheme. This area extends to a distance of approximately 500m around the site in all directions. At greater distances, the likelihood of solar reflections causing significant glare is reduced as the time that buildings will reflect is reduced and the area of façade visible constitutes a reduced angle and so reduces the possibility of the whole sun disk being reflected.
 - The assessment methodology for solar glare is not aimed at addressing the intensity of an instance of reflected solar glare, but rather its occurrence, duration throughout the year, and the location of this occurrence in respect of an individual's line of sight. It must also be noted that the hours presented reflect solar time and therefore do not take Daylight Saving Hours into account. This approach to solar glare assessment within EIA has been adopted using professional judgement and by reference to Commission Internationale L'Eclairage (CIE) guidance.

Townscape and Visual Impact

Technical Competence

Table 5.27: Technical Competence (Townscape and Visual Impact)

Technical Competence in TVIA and EIA		
	Lead Author	Reviewer
Name	Gemma Kitson	Simon Martin
Company	OPEN	OPEN
Qualifications/Accreditations relevant to technical area	Associate Member of Landscape Institute	Chartered Member of Landscape Institute
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	No	
Years technical experience (in technical area)	4	22
Number of TVIAs/LVIA delivered to date	7	>50

Consultation

Table 5.28: Consultation (Townscape and Visual Impact)

Consultee (Body/Organisation)	Role	Date and Form of Consultation	Summary and Outcome of Consultation
Manchester City Council	Planning officer	Pre-application consultation, 22/08/2023	Impacts on residents in Hulme. Further viewpoints proposed within Hulme to identify likely visual effects on residential receptors.

Completed Background Studies / Available Baseline Information

Table 5.29: Completed Background Studies / Available Baseline Information (Townscape and Visual Impact)

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Study area site visit	Survey carried out on foot around 1km study area to inform	26 th May 2023

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
	inclusion of receptors within scoping report, including representative viewpoints.	

Baseline Conditions

- 5.137 The baseline for the Proposed Development will consider both Townscape and Visual Amenity/Views. Due to the locality of the Proposed Development in an urbanised area the issues normally referred to in an EIA as 'landscape' are referred to herein as 'townscape'.
- 5.138 The baseline identifies those townscape and visual receptors in the study area that are likely to be assessed in detail in the TVIA. This is based on identifying sensitive receptors within the study area that are likely to experience significant effects as a result of the Proposed Development.

Townscape Character

- 5.139 A planning application (Ref. 125573/FO/2019) for development on the Site and immediate surroundings, referred to as First Street South, was approved in March 2021. This Planning Permission establishes the principle of a tall building on the EIS Site. Parts of these proposals are currently under construction, comprising three buildings, varying in height between 22 and 45 storeys, and associated public realm. Due to the commencement of construction on Blocks A, B and D, the TVIA will consider these buildings to be complete and present within the baseline. Therefore, the area immediately surrounding the Site comprises the operational Blocks A, B and D, while the Site itself comprises vacant land. Adjoining roads include the adjacent A57 (M) Mancunian Way to the south; Medlock Street to the west; Hulme Street to the north and Wilmott Street to the east.
- 5.140 Recent regeneration has altered the character of the area immediately surrounding the Site. The construction of First Street North and Blocks A, B and D of the First Street South development have created a baseline comprising high towers in the immediate context of the Site. Wider areas to the north, east/south-east and west of the Proposed Development are also going through significant regeneration, resulting in changes in the townscape character. The current trend for change in the baseline townscape arising from recently completed and committed developments is towards high residential towers, with heights generally of up to around 40 storeys, set within the backdrop and context of lower massing red-brick warehouses and residential warehouse conversions. The effect of the Proposed Development in the context of this changing skyline will be considered in the TVIA.
- 5.141 North of the Proposed Development is the city centre of Manchester, containing a rich historic legacy of conservation areas, listed buildings and street patterns. The area has a tight, dense urban grain which is still largely based around a street pattern shaped by canals, rivers and railways. It contains a wide and closely integrated range of uses including commercial, civic and residential activities set within iconic Victorian Architecture and large municipal buildings. To the east of the Proposed Development is a mix of commercial and renovated industrial buildings which follow established historic street grids along the A34 Oxford Rd, Cambridge Street and Princess Street. To the south-east of the Site are facilities and buildings associated with the University of Manchester as well as other major educational and medical institutions. South of the Site is dominated by the A57 (M) Mancunian Way which forms part of the Manchester – Salford inner ring road. Beyond the A57(M) are typically 1960's social housing estates of Hulme and zoned industrial areas which are often aligned along a north-west to south-east axis and connected to major roads such as A5067 Stretford Road. This is predominantly residential with some areas of open public green space. West of the Site are residential areas typically located around large areas of open space such as St Georges (or Barrack) Park.

- 5.142 An assessment of the townscape character of the study will be undertaken as part of the TVIA, based on a refined and updated assessment of townscape character areas (TCAs). These TCAs will be informed by analysis of the local townscape character within MCC's framework documents. The effect of the Proposed Development on TCAs within the study area will be assessed using Zone of Theoretical Visibility (ZTV) mapping, wireline model analysis and site survey. TCAs will be defined in the TVIA baseline and will be based around areas of common townscape character, likely to be centred around the south-west city centre redevelopment areas; Castlefield and St John; Manchester city urban core; the city centre transition; major educational areas; and residential areas of Hulme.
- 5.143 In order to assess the likely significant effects of the Proposed Development on the townscape character of these TCAs, the sensitivity to change of the townscape of each TCA will be assessed in conjunction with the magnitude of change arising from the Proposed Development.

Townscape Features and Designations

- 5.144 The impact of the Proposed Development on individual historic designated elements (such as listed buildings) will be assessed in detail within the Cultural Heritage and Archaeology chapter of the ES. Their contribution to the sensitivity of townscape character areas will be considered in the TVIA chapter of the ES. There are no Registered Parks and Gardens or World Heritage Sites within the study area.

Conservation Areas

- 5.145 The Site is not located within a Conservation Area (CA), but to the north and east there are seven conservation areas located within or partially within the study area, as follows:
- Castlefield CA
 - St John Street CA
 - Deansgate CA
 - Albert Square CA
 - St Peters Square CA
 - George St CA
 - Whitworth Street CA
- 5.146 In order to assess the likely significant effects of the Proposed Development on the townscape character of these CAs, the sensitivity to change of the townscape of each CA will be assessed in conjunction with the magnitude of change arising from the Proposed Development.

Key Sensitivities – Views and Visual Receptors

- 5.147 Visual effects will occur when the introduction of the Proposed Development changes or influences the visual amenity and views experienced by people in the area. The visual baseline will be defined by the production of a ZTV as part of the TVIA. The ZTV shows the main area in which the Proposed Development will theoretically be visible, highlighting the different groups of people who may experience views of the Proposed Development and assisting in the identification of representative viewpoints where they may be affected.
- 5.148 The principal visual receptors that are likely to be most susceptible to visual effects arising from the Proposed Development will be identified in the TVIA. The key visual receptors are the people within the area who will be affected by changes in views and visual amenity as a result of the Proposed Development. Within the study area these visual receptors include:
- Residents living in the area;
 - People working in the area;
 - People travelling through the area on roads or trains; and
 - People engaged in recreation including cyclists, walkers and people using public parks.

- 5.149 A series of representative viewpoints will be assessed in the TVIA, from where it may be possible to see the Proposed Development from publicly accessible viewpoints, such as roads, public rights of way and areas of public open space. Proposed viewpoint locations for the TVIA are set out in Table 5.30, and their location are shown in Figure 3.
- 5.150 Note, no viewpoints from the City Centre core have been selected. This is owing to the fact that the Proposed Development is located to the south of Plot 11 and thus is shielded from the City Centre by Block D (45 storeys) to the north, as well as other tall buildings within the City Centre..

Table 5.30: Viewpoint Locations for TVIA

No.	Viewpoint	Rationale	Photomontage (rendered) view or wireline only
1	Hulme Street	Prominent views of site from regenerated industrial area which has a strong industrial character and historical importance.	Wireline
2	Hulme Arch Bridge	Motorists driving towards the city centre along the Princess Road and pedestrians using footbridge over Stretford Road will see proposal in the distance within city centre skyline.	Wireline
3	Newcastle Street	Prominent views towards the Proposed Development directly to the site experienced by people using the Metropolitan University campus.	Photomontage
4	Oxford Road / Whitworth Street	Views experienced by people accessing Oxford Road train station and people on busy Oxford Road corridor, near junction with Whitworth Street.	Wireline
5	Mancunian Way Slip Road	Views experienced from Mancunian Way, major transport artery used by motorists to access the city centre.	Photomontage
6	Hulme Park	Views experienced by residents of Hulme and people engaged in recreation in Hulme Park.	Wireline
7	All Saints Park	Views experienced from the Manchester University area and people engaged in informal recreation at All Saints Park.	Wireline
8	Booth Street West	Views of Proposed Development from junction with Higher Cambridge Street.	Wireline
9	Clarendon Street / Princess Street	Views experienced by residents of Hulme.	Photomontage
10	Hulme Street / Jackson Crescent	Views experienced by residents of Hulme.	Photomontage
11	Higher Cambridge Street	Views experienced from the MMU area and by residents of Hulme.	Photomontage
12	Chester Street	Views experienced by people on Chester Street, near the busy Oxford Road corridor.	Wireline

13	Hulme Street / Rockdove Avenue	Views experienced by residents of Hulme.	Photomontage
14	Clarendon Street	Views experienced by residents of Hulme.	Wireline

Figure 2.2: Viewpoint Locations for TVIA



- 5.151 Viewpoint selection for the TVIA will be refined through the ZTV analysis, further site survey work and consultations. Feedback and agreement on these viewpoints for the TVIA (listed in Table 5.30) is requested from Manchester City Council and Statutory Consultees as part of the scoping exercise.
- 5.152 A detailed assessment will be undertaken in the TVIA for those viewpoints that are most susceptible to changes, which may experience significant visual effects as a result of the Proposed Development. The detailed assessment of visual effects from representative viewpoints will focus on those viewpoints where the combination of their sensitivity and potential magnitude of change resulting from the Proposed Development may give rise to significant effects.

Cumulative Effects

- 5.153 As well as assessing the effects of the Proposed Development against the baseline, the TVIA will assess the additional cumulative effects that the Proposed Development contributes to a cumulative effect scenario with committed developments.
- 5.154 A list of cumulative schemes to be considered in the TVIA is contained in Appendix 5 for feedback and agreement with Manchester City Council.

Scope of Assessment

Identification of Effect/s which are Not Significant

Table 5.30: Identification of Effect/s which are Not Significant (Townscape and Visual Impact)

Effect	Townscape effects on Registered Parks and Gardens and World Heritage Sites	Applicable Development Phase (C / O)	C / O	Receptor	Registered Parks and Gardens World Heritage Sites
Discussion of Effect					
No Registered Parks and Gardens or World Heritage Sites situated within TVIA study area. Townscape effects on the baseline of such designations due to physical alteration of the elements as a result of the Proposed Development, or changes to character arising through visibility of the Proposed Development, either during the construction or operational phase, are therefore not considered further.					
Mitigation Committed to in order to Avoid or Reduce Effect					
-					
Concluding Statement					
Townscape effects on Registered Parks and Gardens and World Heritage Sites not considered further.					
Effect	Effects on receptors outside 1km TVIA study area	Applicable Development Phase (C / O)	C / O	Receptor	Townscape and visual receptors
Discussion of Effect					
Townscape and visual receptors beyond 1km from the Proposed Development are considered not likely to experience significant effects arising from its construction and/or operation. This is due to a combination of reduced receptor sensitivity with increased distance, particularly within an urban context in which changes in the townscape and visual baseline are common; as well as reduced magnitude of change with increased distance, due to screening of proposals by the surrounding townscape context.					
Mitigation Committed to in order to Avoid or Reduce Effect					
-					
Concluding Statement					
Effects on townscape and visual receptors beyond the 1km TVIA study area during both the construction and operational phases are not considered further.					

Identification of Effect/s which are Likely to be Significant

- 5.155 The scope of the TVIA will focus on the effects of the Proposed Development on townscape character and visual amenity / views, within the TVIA study area; and will assess the effects of the Proposed Development in the context of the baseline and the additional cumulative effects of the Proposed Development with committed developments.
- 5.156 The following table identifies the anticipated significant effects on townscape and visual receptors.

Table 5.31: Identification of Effect/s which are Likely to be Significant (Townscape and Visual Impact)

Effect	Receptor	Applicable Development Phase (C / O)
<p>Potential effects on townscape character areas, either through construction of the Proposed Development, which may physically alter the pattern of elements that makes up baseline character, or through visibility of construction activities, which may alter the way in which the pattern of elements is perceived.</p> <p>Potential additional cumulative effects of the Proposed Development arising with other committed developments within the TVIA study area.</p>	<p>Townscape character areas within TVIA study area:</p> <p>Castlefield and St John</p> <p>Manchester City urban core</p> <p>City centre transition</p> <p>Major educational</p> <p>South-west City Centre redevelopment</p> <p>Residential</p>	C
<p>Potential effects on townscape character areas, either through the introduction of the completed Proposed Development, which may physically alter the pattern of elements that makes up baseline character, or through visibility of the Proposed Development, which may alter the way in which the pattern of elements is perceived.</p> <p>Potential additional cumulative effects of the Proposed Development arising with other committed developments within the TVIA study area.</p>	<p>Townscape character areas within TVIA study area:</p> <p>Castlefield and St John</p> <p>Manchester City urban core</p> <p>City centre transition</p> <p>Major educational</p> <p>South-west City Centre redevelopment</p> <p>Residential</p>	O
<p>Potential effects on townscape character of townscape designations, through visibility of construction activities, which may alter the way in which the pattern of elements is perceived.</p> <p>Potential additional cumulative effects of the Proposed Development arising with other committed developments within the TVIA study area.</p>	<p>Conservation Areas within TVIA study area:</p> <p>Castlefield CA</p> <p>St John Street CA</p> <p>Deansgate CA</p> <p>Albert Square CA</p> <p>St Peters Square CA</p> <p>George St CA</p>	C

Effect	Receptor	Applicable Development Phase (C / O)
	Whitworth Street CA	
<p>Potential effects on townscape designations, through visibility of the completed Proposed Development, which may alter the way in which the pattern of elements is perceived.</p> <p>Potential additional cumulative effects of the Proposed Development arising with other committed developments within the TVIA study area.</p>	<p>Conservation Areas within TVIA study area:</p> <p>Castlefield CA</p> <p>St John Street CA</p> <p>Deansgate CA</p> <p>Albert Square CA</p> <p>St Peters Square CA</p> <p>George St CA</p> <p>Whitworth Street CA</p>	O
<p>Potential effects on views and visual amenity experienced by people at specific viewpoints arising through visibility of the construction activities.</p> <p>Potential additional cumulative effects of the Proposed Development arising with other committed developments present in views.</p>	Visual receptors and people who experience views from representative viewpoints within the TVIA study area.	C
<p>Potential effects on views and visual amenity experienced by people at specific viewpoints arising through visibility of the completed Proposed Development.</p> <p>Potential additional cumulative effects of the Proposed Development arising with other committed developments present in views.</p>	Visual receptors and people who experience views from representative viewpoints within TVIA study area.	O

Assessment Methodology for Likely Significant Effects

- 5.157 Based on an analysis of the area through site visits and desk-based analysis, the proposed study area for the TVIA will cover a 1 km radius from the Proposed Development. This study area includes the Site itself and the full extent of the wider townscape around it, upon which the Proposed Development may have a significant influence. This is based on the extent of townscape and designated receptors likely to be affected and the extent of the area from which the Proposed Development may have significant townscape and visual effects. Significant townscape and visual effects as a result of the Proposed Development are proposed to be scoped out beyond 1 km. Feedback and agreement on the study area for the TVIA is requested from consultees.
- 5.158 The TVIA will assess the effect of the Proposed Development against:
- The 'baseline' assuming Blocks A, B and D will be constructed and fully operational in the immediate context of the Site.
- The additional cumulative effects that the Proposed Development contributes to a cumulative effect scenario with committed developments (listed in Appendix 5).

- 5.159 The TVIA will be undertaken in accordance with GLVIA3, however these guidelines are primarily written for countryside or rural sites and so the methodology will be tailored to a city-based assessment of townscape and visual amenity issues.
- 5.160 The TVIA will assess the effect of the Proposed Development against:
- The baseline i.e. assuming Blocks A, B and D will be constructed and fully operational in the immediate context of the Site.
 - The additional cumulative effects that the Proposed Development contributes to a cumulative effect scenario with committed developments (listed in Appendix 5).
- 5.161 The potential effects of the Proposed Development on the townscape and visual resource will be assessed in terms of three categories of effects: effects on townscape character; effects on views/visual amenity; and cumulative effects.
- 5.162 Effects on townscape character arise either through the introduction of new elements that physically alter the pattern of elements that makes up baseline character, or through visibility of the Proposed Development, which may alter the way in which the pattern of elements is perceived. This category of effects is made up of townscape character areas and areas designated townscape, such as conservation areas.
- 5.163 The assessment of effects on views is an assessment of how the introduction of the Proposed Development will affect views throughout the study area. The assessment of effects on views will be carried out in two parts:
- an assessment of the effects that the Proposed Development will have on views from principal visual receptors, which are the notable settlements, routes, features and attractions found throughout the study area; and
 - an assessment of the effects that the Proposed Development will have on representative viewpoints that have been selected to represent people's views from around the study area.
- 5.164 Cumulative effects arise where the Proposed Development may be experienced in addition to other developments at a proximity where they may have an incremental effect or where developments may combine to have a sequential effect, irrespective of any overlap in visibility. A cumulative effects assessment will be undertaken, to assess the additional cumulative effects that the Proposed Development contributes to a cumulative effect scenario with committed developments (as listed in Appendix 5).
- 5.165 Townscape and visual effects will be assessed through an assessment of the sensitivity to change of each receptor, in conjunction with the magnitude of change arising from the Proposed Development, combining to inform judgements on significance of effect.
- 5.166 Sensitivity to change is an expression of the ability of a landscape or visual receptor to accommodate the Proposed Development. Sensitivity will be determined through a combination of the value attached to the receptor and the susceptibility of the receptor to the changes arising from the Proposed Development. The criteria used to define sensitivity in the townscape, visual and cumulative assessments varies. Levels of sensitivity - high, medium and low - will be applied in order that the judgement used in the process of assessment is made clear.
- 5.167 Magnitude of change is an expression of the degree of change that will occur on the townscape and visual receptors as a result of the introduction of the Proposed Development. The magnitude of change will be assessed in terms of the size and scale of the effect and the geographical extent of the area influenced. Levels of magnitude of change - high, medium, low and negligible - will be applied in order that the judgement used in the process of assessment is made clear. The criteria used to determine magnitude of change differs for assessment of effects on townscape receptors and visual receptors.
- 5.168 The effects of the Proposed Development are of variable duration, and will be assessed as either short-term or long-term, and permanent or temporary/reversible. Effects resulting from construction will be apparent only during the short-term. The main built components of the

- Proposed Development will be apparent after final completion and the effects resulting will be assessed as permanent.
- 5.169 The reversibility of effects is variable. The effects that will occur during the construction from the use of tall cranes and heavy machinery, are likely to be temporary. Permanent effects include physical removal of landscape/townscape elements required for the development of the site and any residual effects that remain following construction of the built elements.
- 5.170 The objective of the assessment of the Proposed Development is to predict the likely significant effects on the townscape and visual resource. In accordance with The Town and Country Planning (Environmental Impact Assessment) Regulations 2017, effects will be assessed to be either significant or not significant.
- 5.171 The significance of effects is assessed through a combination of two considerations - the sensitivity of the landscape or visual receptor and the magnitude of change that will result from the Proposed Development. In accordance with the Landscape Institute's GLVIA3, the TVIA methodology requires the application of professional judgement.
- 5.172 Although it is not reliant on its use, the following matrix will be used to illustrate how combinations of the ratings for sensitivity and magnitude of change can give rise to significant effects, as well as to give an understanding of the threshold at which significant effects may arise.
- 5.173 The following criteria may differ from those used within other topic areas. The criteria proposed for the TVIA have been developed through professional experience and respond to best practice guidance for landscape / townscape and visual effects contained within GLVIA3. These criteria have been used for TVIAs for projects in a similar context, including residential development within Manchester.

Methodology for Determining Impact Magnitude

Table 5.32: Methodology for Determining Impact Magnitude (Townscape and Visual Impact)

Magnitude of Impact	Criteria for assessing impact
Large	Total loss or major/substantial alteration to key elements/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed.
Medium	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be notably changed.
Small	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline conditions will be similar to the pre-development circumstance/situation and subject to a low level of alteration.
Negligible	A negligible alteration to the key elements/features of the baseline (pre-development) conditions, providing a barely discernible change/influence and/or introducing elements that are already substantially characteristic in the baseline.

Methodology for Determining Sensitivity

Table 5.33: Methodology for Determining Sensitivity (Townscape and Visual Impact)

Sensitivity	Examples of receptor
High	The receptor/resource has a high susceptibility to changes associated with the Proposed Development, has little ability to accommodate change without fundamentally altering its present character, and is of international or national value.
Medium	The receptor/resource has a medium susceptibility to changes associated with the Proposed Development, has moderate ability to accommodate change without significantly altering its present character, and is of moderate value.
Low	The receptor/resource has a low susceptibility to changes associated with the Proposed Development, is tolerant of change without detriment to its character, and is of low or local value.

Impact Significance Matrix

Table 5.34: Impact Significance Matrix (Townscape and Visual Impact)

	Sensitivity:		
Magnitude:	High	Medium	Low
Large	Major <i>Adverse/Beneficial</i>	Major – Moderate <i>Adverse/Beneficial</i>	Moderate - Minor <i>Adverse/Beneficial</i>
Medium	Major - Moderate <i>Adverse/Beneficial</i>	Moderate <i>Adverse/Beneficial</i>	Minor <i>Adverse/Beneficial</i>
Small	Moderate - Minor <i>Adverse/Beneficial</i>	Minor <i>Adverse/Beneficial</i>	Negligible <i>Adverse/Beneficial</i>
Negligible	Minor <i>Adverse/Beneficial</i>	Minor - Negligible <i>Adverse/Beneficial</i>	Negligible <i>Adverse/Beneficial</i>

- 5.174 Effects that are assessed as major or major-moderate will be assessed to be significant. Those effects that are assessed moderate may be significant, or not significant, depending on the specific factors and effect that is assessed in respect of a particular landscape or visual receptor. In accordance with GLVIA3, experienced professional judgement will be applied to the assessment of all effects and reasoned justification will be presented in respect of the findings of each case.
- 5.175 The TVIA will determine the nature of the effects, i.e., whether townscape and visual effects are beneficial, neutral, or adverse in accordance with defined criteria.

Visualisations

- 5.176 Visualisations to be included in the TVIA will be prepared and presented in accordance with The Landscape Institute with the Institute of Environmental Management and Assessment (2013) Guidelines for Landscape and Visual Impact Assessment, Third Edition (GLVIA3) and 'Visual Representation of Development Proposals, Technical Guidance Note 06/19' (LI TGN 06/19).
- 5.177 Visualisations will be prepared to 'Type 4 – Photomontage / Photowire (survey / scale verifiable)' level. Viewpoints indicated as wireline visualisations within Table 5.30 above will be prepared to Accurate Visual Representation (AVR) Level 1, while viewpoints indicated as photomontages will be prepared to AVR Level 3. The term wireline refers to an image illustrating the massing of the Proposed Development with use of a block model, taking into account visibility of the Proposed Development due to screening by features in the surrounding context. Photomontage

- refers to a high quality rendered image showing the architectural details of the Proposed Development, including the finish and materiality of the building.
- 5.178 For viewpoints presented as wireline visualisations, the First Street South Blocks A, B and D will be represented in their completed form with the use of a wireline on the same image. The same principle applies to those viewpoints presented as photomontages, with the completed Blocks A, B and D also being represented as photomontages.
- 5.179 The purpose of these visualisations is to inform the TVIA and consultees with an understanding of the relative scale, extent and visibility of the Proposed Development when compared with the surrounding context.

Limitations and Assumptions

- 5.180 The information contained within this text, particularly with reference to the identified townscape and visual receptors within the 1km TVIA study area, is subject to change as further studies and surveys are undertaken to inform the TVIA. Therefore, the receptors identified here may differ from those presented within the final TVIA.
- 5.181 It is important to note that the visualisations such as photomontages to be used in the TVIA are for illustrative purposes only and, whilst useful tools, the assessments in the TVIA will be carried out from observations in the field and reasoned professional judgement.

Wind Microclimate

Technical Competence

Table 5.35: Technical Competence (Wind Microclimate)

Technical Competence in Wind Microclimate and EIA		
	Lead Author	Reviewer
Name	Dr Robin Stanfield	Mr Alex Turpitt
Company	Architectural Aerodynamics Limited (ArcAero)	Architectural Aerodynamics Limited (ArcAero)
Qualifications/Accreditations relevant to technical area	BEng(Hons) Aeronautical Engineering, MSc Aerodynamics & CFD, Engineering Doctorate	MEng Aeronautical Engineering, CEng MIMechE
Does the practitioner hold any IEMA qualification?	No	No
Company hold IEMA QMark?	No	
Years technical experience (in technical area)	15 years	15 years
Number of EIA's delivered to date	50+	50+

Consultation

5.182 To-date no consultation has been undertaken with technical specialists of the planning authority.

Completed Background Studies / Available Baseline Information

Table 5.36: Completed Background Studies / Available Baseline Information (Wind Microclimate)

Study / Survey / Analysis / Evaluation	Overview	Date of Completion
Wind Climate Characterisation	Acquisition of historic weather data for the region from Manchester International Airport, review of significant terrain and topography within the region, development of a wind climate model for Manchester and surrounding areas.	October 2023

5.183 It should be noted that under the 2021 Planning Permission, wind impacts arising from a tall building on the EIA Site were tested. These previous studies have informed our view on likely impacts, and the likelihood of increased impacts, resulting from additional height.

Baseline Conditions

- 5.184 The baseline wind microclimate in the area is driven by a relatively wide sector of winds blowing from south round to the west. This is typical of Manchester wind climate. The site is relatively exposed for the majority of the prevailing sector, which, in combination with the presence of the medium-to-high-rise Blocks A, B and D, may drive increased wind speeds at ground level. Therefore, the baseline environment has the potential to be somewhat windy in places prior to the introduction of Block C. Once introduced, the Block C massing has the potential to shelter the existing blocks from some directions but may also introduce more complex flow patterns and potentially adverse conditions. It is expected that any adverse wind effects on site either before or after the introduction of Block C may be sufficiently ameliorated through the presence of a modest degree of robust soft landscaping.
- 5.185 Described in terms of the Lawson Comfort Criteria (LCC), wind conditions within the area are likely to be generally suitable for strolling on thoroughfares and for short-term standing / sitting at entrances for building within the existing surrounding area, though also with other some areas suitable for fast walking and for little other than brisk thoroughfare.

Scope of Assessment

Identification of Effect/s which are Not Significant

- 5.186 No wind microclimate effects will be scoped out of the EIA.

Identification of Effect/s which are Likely to be Significant

Table 5.37: Identification of Effect/s which are Likely to be Significant (Wind Microclimate)

Effect	Receptor	Applicable Development Phase (C / O)
Exceedance of the industry standard Lawson criteria for pedestrian safety.	Thoroughfares, entrances and waiting areas neighbouring the Site, within in the vicinity of the taller elements of the Proposed Scheme, where acceleration of wind has the potential to be most significant.	C
Exceedance of the industry standard Lawson criteria for pedestrian comfort.	Thoroughfares, entrances and waiting areas neighbouring the Site, where acceleration of wind has the potential for the greatest level of effect or where pedestrian activities are most sensitive to wind and require the most benign conditions.	C
Exceedance of the industry standard Lawson criteria for pedestrian safety.	Thoroughfares, entrances, waiting areas and recreational spaces within and around the Site, where acceleration of wind has the potential to be most significant for the greatest level of effect.	O
Exceedance of the industry standard Lawson criteria for pedestrian comfort.	Thoroughfares, entrances, waiting areas and recreational spaces within and around the Site, where acceleration of wind has the potential to be most significant for the greatest level of effect and or where pedestrian activities are most sensitive to wind and require the most benign conditions.	O

Assessment Methodology for Likely Significant Effects

- 5.187 The assessment will be informed by wind climate characterisation based upon at least 15 years of wind climate data from Manchester Airport and used to undertake a statistical analysis of the wind climate prevailing across the area.
- 5.188 The assessment will take into account the following factors:
- The effect of the geometry, height, massing, exposure and orientation of the Proposed Development; and
 - The pedestrian activity to be expected, e.g. thoroughfare, ingress / egress, waiting areas, recreational spaces, outdoor seating spaces (such as cafes), and the Lawson comfort category that corresponds to the activity – long term sitting, short-term sitting / standing, strolling or walking.
 - The season(s) in which the activity is anticipated to take place, e.g. thoroughfare, waiting (at bus stops, for example) and entrance use would all take place year-round and be assessed against a worst-case ('worst-seasonal' results) while prolonged outdoor seating (outdoor café spaces, for example) would be assessed during summer.
- 5.189 Digital models of the Site and surrounding area will be constructed, and simulations will be performed for a minimum of 16 wind directions, to represent all directions. The assessment of operational effects will be carried out via computational modelling (CFD).
- 5.190 The following testing scenarios will need to be considered:
- Scenario 1: Existing site (baseline)
 - Scenario 2: Existing site (baseline) with committed developments
 - Scenario 3: Scenario 1 plus Proposed Development
 - Scenario 4: Scenario 2 plus Proposed Development
- 5.191 Gust and mean wind speed ratios (e.g. pedestrian level wind speeds as a ratio of a reference wind speed at a known height above ground) will be measured at key locations within the Site where increased windiness is expected as a result of the buildings' geometry and in areas of wind-sensitive activities, such as public entrances or pedestrian pathways.
- 5.192 Wind speed ratios measured in the wind tunnel will be combined with statistics of the local wind climate in Manchester to determine the net windiness at the Site. The wind statistics for Manchester will be obtained from historical wind data from Manchester Airport and will be corrected for terrain roughness around the airport and over the Site.
- 5.193 The results of the wind tunnel modelling will be presented, showing the adherence of conditions at all points to the LDDC variant of the Lawson Criteria and will be presented within a comprehensive report submitted as a technical appendix to the ES. The ES Chapter will provide the assessment of the environmental effects/receptor locations where significant effects are identified.
- 5.194 The LDDC variant of the comfort criteria (shown below) provides wind speed thresholds that should not be exceeded for more than 5% of the time in a season to be acceptable for the stated pedestrian activity. The safety criteria identifies areas where someone could find walking difficult, or even stumble and fall. This criterion provides a wind speed threshold (15 m/s) that should not be exceeded more than once per year.

Table 5.38: Comfort Criteria (Wind Microclimate)

Comfort Category	5% Exceedance Threshold	Description
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Long-term sitting	4 m/s	Light breezes desired for outdoor restaurants and seating areas where one can read a paper or comfortably sit for long periods.
Short-term sitting / standing	6 m/s	Gentle breezes suitable for main building entrances, pick-up/drop-off points and bus stops.
Strolling	8 m/s	Moderate breezes that would be appropriate for strolling along a city/town centre street, plaza or park.
Fast walking	10 m/s	Higher speeds that can be tolerated if one's objective is to walk, run or cycle without lingering.
Uncomfortable	>10 m/s	Winds considered a nuisance for most activities.

- 5.195 An increase in windiness relative to the baseline will be considered not significant if the wind speed is not expected to exceed the limit for the pedestrian activity being undertaken in that area. In the case of windiness levels in excess of the tolerable limits for intended pedestrian use, mitigation measures will be developed in the wind tunnel.
- 5.196 Receptors are defined to be pedestrians and cyclists on the thoroughfares within the Development and surrounding areas. All receptors are equally sensitive to the presence or absence of an acceptable wind microclimate. An unacceptable microclimate exists at a receptor when either an exceedance of the safety criteria exists, or when the comfort criteria is not met for the existing / planned pedestrian use at a receptor. All receptors are considered to be highly sensitive to the local wind microclimate conditions and are given an equal weighting.
- 5.197 The assessment of likely significant effects on sensitive receptors will consider the sensitivity of the receptor, the adherence (or not) to the LDDC criteria and the magnitude of change, if any, between 'target' and predicted comfort levels to determine significance, on a scale of major, moderate, minor and negligible. Significant effects will be determined through professional judgment.
- 5.198 Effect magnitude is defined by the severity of the deviation from the standards set out by the Lawson criteria. Exceedances of the safety criteria are deemed to be the most critical, given their potential effect on pedestrians' wellbeing, i.e. they may be unduly exposed to the potential for harm. Such effects are thus deemed to have a major impact magnitude. Where the comfort criteria are not met, i.e. where the conditions are too windy for a particular receptor to be sufficiently comfortable for existing or planned pedestrian uses and thus inconvenient but not unsafe, such effects are deemed to be of moderate impact magnitude. Where the comfort criteria are marginally exceeded, to the extent that the exceedance is expected to be perceptible, but tolerable, such effects are deemed to be of minor impact magnitude.
- 5.199 Major and moderate effects are considered to be significant in EIA terms. Minor effects, as noted above being tolerable, are not considered to be significant.
- 5.200 The following are the significance criteria used to assess likely wind conditions as a result of the introduction of the Development:
- Major Beneficial: Any effect on wind conditions which is expected to improve pedestrian safety, namely an improvement in conditions from being considered unsafe to being considered safe. This is considered to be significant.
 - Moderate Beneficial: Any effect on wind conditions which is expected to improve pedestrian comfort from unsuitable to suitable for planned activities. This is considered to be significant.
 - Minor Beneficial: Any effect on wind conditions which is expected to improve pedestrian comfort from unsuitable to marginal/tolerable for planned activities, or from

marginal/tolerable to suitable for planned activities. This is not considered to be significant.

- Negligible: Any effect that does not alter the suitability of existing wind conditions with respect to planned activities. This is not considered to be significant.
- Minor Adverse: Any effect on wind conditions which worsens pedestrian comfort from suitable to marginal/tolerable for planned activities, or from marginal/tolerable to unsuitable for planned activities. This is not considered to be significant.
- Moderate Adverse: Any effect on wind conditions that worsens pedestrian comfort from suitable to unsuitable for planned activities. This is considered to be significant.
- Major Adverse: Any effect on wind conditions adversely affecting pedestrian safety, namely a deterioration in conditions from being considered safe to being considered unsafe. This is considered to be significant.

Limitations and Assumptions

- 5.201 Where CFD is employed, turbulence inherent in the wind will not be explicitly modelled. Instead, numerical methods will be used to estimate the gust wind speeds. This represents standard industry practice.

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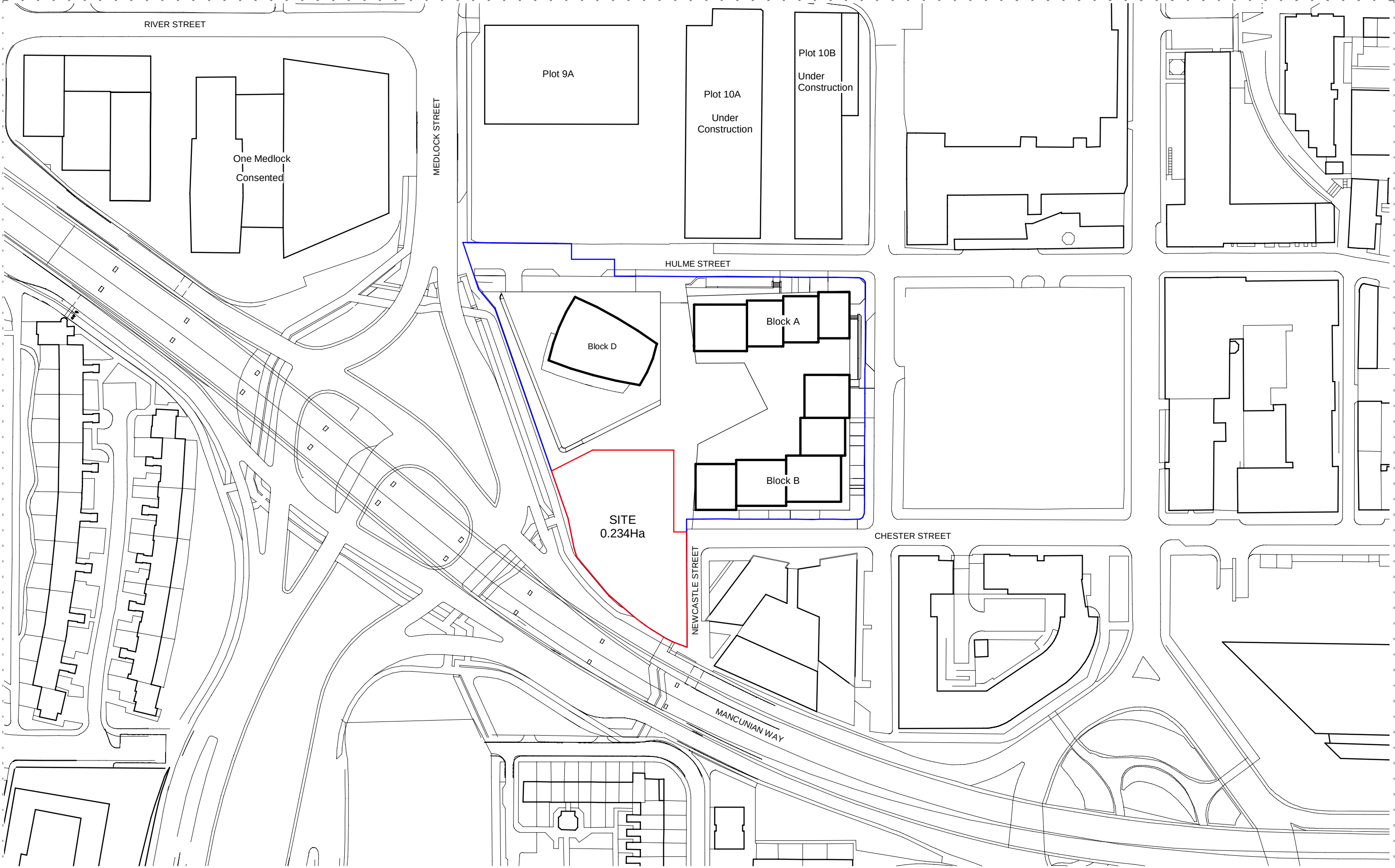
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All dimensions to be checked on
site by contractor.
Contractor to report any
dimensional discrepancies,
errors or omissions prior to
commencing on site.

— Planning boundary — Ownership boundary



First Street South, Block C, Manchester

PLANNING

Existing Site Location Plan

10474-SHP-Z0-A-B5D8-G100-XP-XX-001

November 2023 P01

10474 1 : 1250@ A3

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**FIRST STREET PLOT 11 (8),
MANCHESTER M15 4FN**

**WRITTEN SCHEME OF
INVESTIGATION FOR AN
ARCHAEOLOGICAL EVALUATION**

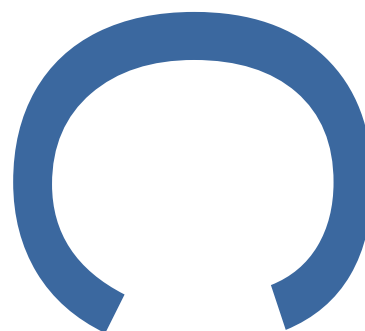
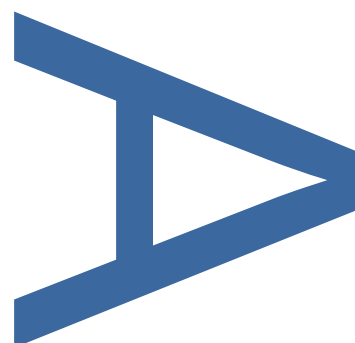
**LOCAL PLANNING AUTHORITY:
CITY OF MANCHESTER**

**PLANNING APPLICATION NUMBER:
111170/FO/2016/C1**

ARCHAEOLOGICAL SITE CODE: FSS16

DOCUMENT REF: PCA-K4609-FSS16-WSI-01

13 JULY 2016



PRE-CONSTRUCT ARCHAEOLOGY

FIRST STREET PLOT 11 (8), MANCHESTER M15 4FN

**WRITTEN SCHEME OF INVESTIGATION FOR AN ARCHAEOLOGICAL
EVALUATION**

PLANNING APPLICATION NUMBER: 111170/FO/2016/C1

LOCAL PLANNING AUTHORITY: City of Manchester

CENTRAL NGR: 383794,397218

ARCHAEOLOGICAL SITE CODE: FSS16

COMMISSIONING CLIENT: Arcadis

On behalf of: Southside Regeneration Ltd

DOCUMENT REF: PCA-K4609-FSS16-WSI-01

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13 July 2016**

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July 2016**

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1 Introduction

1.1 General

- 1.1.1 Pre-Construct Archaeology Limited (PCA) has been commissioned by Arcadis on behalf of Southside Regeneration Ltd to undertake an archaeological evaluation at a site referred to as First Street Plot 11 (8) in Manchester, M15 4FN (Figure 1).
- 1.1.2 Planning permission for the development of the site has been granted by the City of Manchester under application number 111170/FO/2016/C1. The planning submission was supported by an Environmental Statement which included an archaeological chapter (PCA 2016).
- 1.1.3 The consent includes an archaeological condition which in the first instance will be dealt with by a trial-trench evaluation exercise coupled with (at the reporting stage) historical research into the remains which may be revealed during the works. The evaluation fieldwork and research will be used to inform upon the need for further mitigation fieldwork should significant remains be found at the Site, which will be impacted by the proposed scheme.
- 1.1.4 Heritage advice to the local planning authority is provided by Mr Norman Redhead, Heritage Management Director (Archaeology) at the Greater Manchester Archaeological Advisory Service (GMAAS). PCA has liaised with Mr Redhead to agree an appropriate trenching arrangement (Figure 3) for the Site which will be implemented.
- 1.1.5 Depending upon the results of the evaluation, further archaeological mitigation work may be necessary. Site meetings and inspections with GMAAS will be held during the fieldwork to ascertain the likely necessity for further work. Full post-excavation reporting of the evaluation work will also be required.
- 1.1.6 This Written Scheme of Investigation forms the document stipulated within the archaeological planning condition, and details the methodology by which the evaluation and historical research (Item A to D and /or E below) will be undertaken.
- 1.1.7 Should further work be required following the initial work items, then an Updated Project Design will be issued for approval by GMAAS, and will detail the proposed required works (any of Items F to K below).
- 1.1.8 The below-ground works to deal with the archaeological elements of the condition will therefore be met in the following manner across the site:

Necessary archaeological work at the initial stage.

- a) An evaluation of below-ground archaeological remains and historical research to expand on our understanding of them.

Is further archaeological work necessary?

IF NO:

Following Item A

- b) Archive and reporting work of all of the above.
- c) An agreed scheme for disseminating the results to the local and wider community.
- d) Deposition of archive with nominated repository.

IF YES:

Following Item A

- e) The preparation of an Updated Project Design detailing the required works for approval by GMAAS.
- f) Where merited by the evaluation, targeted archaeological excavation

Following Item F

- g) Analysis of the site investigation records and finds.
- h) Production of a final report on the significance of the archaeological and historical interest represented.
- i) Deposition of the final report with the Greater Manchester Historic Environment Record.
- j) An agreed scheme for disseminating the results to the local and wider community.
- k) Provision for archive deposition of the report and records of the site investigation.

1.2 Archaeological Evaluation: Proposed Strategy

- 1.2.1 PCA has agreed a trenching scheme with GMAAS which will see the excavation of five linear trenches covering a total area of approximately 100m². These are targeted upon remains shown to have been upon the site in the late 18th to the 20th centuries (Figures 4-7), and are designed to ascertain the quality of preservation of archaeological remains or assess the degree of impact which they may have suffered by subsequent development, and allow the design of an appropriate mitigation strategy if required.
- 1.2.2 Each of the five trenches will measure 20m long by 2m wide (see Figure 3).
- 1.2.3 The trenches will be excavated by machine operating under constant archaeological supervision to either the top of the first significant archaeological horizon which may encountered within the maximum trench depth permissible. Once archaeology is reached then further investigation and recording will be by hand, designed to ascertain the type, nature, date and extent of the archaeological remains. If the trench contains no archaeology (due to truncation) then appropriate records will be made from ground level.
- 1.2.4 Once the evaluation trenches have been opened and archaeological investigation by PCA is in progress, Norman Redhead of GMAAS will be invited to inspect them.
- 1.2.5 The day to day direction of the fieldwork will be undertaken by a member of staff selected from current PCA staff who has considerable experience of working in the urban environment and with an understanding of the landscape issues associated with this site.

2 Background

2.1 The Site

- 2.1.1 The Site is located approximately 1.2km to the southeast of Manchester city centre, and approximately 1.0km from the centre of Hulme. It measures approximately 1.6ha in area and is currently relatively flat open land, previously partly used for surface car parking (but now vacant). A small 2-storey office block is present in the north-western corner of the site and there are a number of semi-mature trees present across the site. Other than the 2-storey office building and a vacant parking kiosk associated with the surface car park, there are presently no other buildings of note on the site.
- 2.1.2 The site is bounded by Hulme Street to the north. This northern boundary will in future comprise office development associated with later phases of the development of First Street Central (the main office component).
- 2.1.3 Medlock Street (A5103) bounds the west of the site. Further west, across Medlock Street uses include surface car parking, hotel use and offices, beyond which are residential apartments. The eastern boundary is formed by the Wilmott Street. Further east is the former Salvation Army site and Cambridge Street, beyond which is Macintosh Mills. Immediately south of the site is Parkway Gate student residential accommodation. Parkway Gate comprises of three separate blocks of student accommodation that rise in height from between 15 to 19 storeys. Further south is Mancunian Way and beyond this, the residential areas of Hulme.
- 2.1.4 The Site is centred at NGR 383794,397218.

2.2 Geology and Topography

- 2.2.1 The Geological Survey of Great Britain records the study area as being underlain by drift deposits of Glacial Till in the east and Glaciofluvial Sheet Deposits in the west.
- 2.2.2 A geotechnical ground investigation was conducted upon the site in 2011 and 2016. These revealed a sequence of tarmac, topsoil, and made ground across the site and sealing the natural deposits.
- 2.2.3 No deposits of alluvially deposited material (clays, peats etc) were recorded in any geotechnical interventions.
- 2.2.4 The site is largely flat, with spot heights ranging from approximately 34.70m OD in the south to 33.70m OD in the north.

2.3 Archaeological and Historical Background, Potential and Significance

- 2.3.1 The Site has been the subject of an Environmental Statement including an archaeological chapter. This contained the following summary statements:
- 2.3.2 No deposits of alluvially deposited material such as may contain palaeo-environmental evidence have been recorded in any of the geotechnical interventions undertaken on the Site. As such there is no potential for evidence of this type.

- 2.3.3 No prehistoric evidence from any period has been recovered from within the study area. This suggests that there is a low potential for any remains of this period on the Site, but should any be found they would be of low to medium sensitivity.
- 2.3.4 Whilst a reasonable amount of Roman evidence is known from within the study area this significantly, and not surprisingly, is concentrated around the site of the fort and vicus which lay to the northwest of the Site. The only deviance from this pattern is the find spot of three coins from a river channel, and the theorised line of a road. As such there is a low to moderate potential of finding Roman remains upon the Site, which if present would be of low to medium sensitivity, dependent upon the type of evidence.
- 2.3.5 As the HER contains only a single isolated findspot entry relating to the Saxon period there is a low potential that any evidence from this period will be encountered upon the Site. However, due to the lack of such evidence, should any be encountered it will be of low sensitivity.
- 2.3.6 The position of the Site as removed from medieval settlement activity is reflected in the lack of evidence in the HER for this period, which suggests a low potential for remains from this period, and likely agricultural evidence at best which would only be of low sensitivity.
- 2.3.7 Whilst the Site is located in an area with a strong and varied industrial history, the Site itself was utilised for housing for the workers from the middle of the post-medieval period. There is a very high potential that remains of these properties may survive on Site, and such evidence would be of medium sensitivity, with the history of such domestic areas having become an area of particular research interest in recent years.
- 2.3.8 If present, post-medieval remains will survive highest in the stratigraphic sequence and will therefore be most vulnerable to development groundworks.
- 2.3.9 Based upon the previous land-uses at the Site as demonstrated by the map regression exercise, it is expected that the construction of the numerous workers dwellings in the 19th century will have had a significantly negative effect on any pre-19th century archaeological remains which may have been present.
- 2.3.10 The clearance of these residences and some limited associated buildings, such as pubs and schools, followed gradually through the first half of the 20th century before almost total clearance by the 1960s, likely as a result of the war. It can be expected that this clearance will have been to ground level only, and it is therefore likely that below-ground footings, cellars, cess pits, drainage services and cut features such as pits and wells could still survive below modern ground level.

2.4 Archaeological investigations in the vicinity of the Site

- 2.4.1 In April 2016 a geotechnical Site Investigation was executed which comprised 14 test pits spread around the site, this work was archaeologically monitored by Pre-Construct Archaeology Limited (PCA) as a watching brief.

2.4.2 The results of the watching brief will be incorporated into the report of findings which will follow from the evaluation. In summary, however, the work revealed the following:

- No archaeological remains were observed in Test Pits 101, 105-108, 110-112.
- Brick walls or floor surfaces likely to be 19th century in date were observed at depths below ground level of up to 0.66m in Test Pits 102-104, 109 and 113.
- Test Pit 114 contained the remains of a possible cellar at approximately 1.5m below ground level.
- All Test Pits were excavated to at least 2.6m below ground level.

2.4.3 The watching brief has therefore shown that there is archaeological survival at the site. Whether the test pits which contained no archaeological remains were the result of an original absence of archaeology or due to truncation could not be discerned.

2.5 Planning Constraints, the Proposed Development and Planning Permission

2.5.1 There are no Scheduled Monuments within the Site, or within the 500m radius of it. There are no Listed Buildings within the Site, nor does it lie within an Archaeological Priority Area nor a Conservation Area as defined by local planning policies.

2.5.2 Planning permission for the development of the site has been granted by the City of Manchester under application number 111170/FO/2016/C1. The consented scheme will see the:

Demolition of on-site building and structures. Erection of a residential building (part 8, part 10, part 23 and part 26 storeys with roof plant, to accommodate 624 apartments (43 x studio, 210 x 1 bed, 328 x 2 bed, 15 x 2 bed duplex and 28 x 3 bed) (Use Class C3). Associated residential amenity uses including podium garden, ground floor commercial units (Class A1, A2, A3, A4, B1, D1 (creche/day nursery and/or doctor's surgery) and D2 (gym use)) with associated access, servicing, parking and public realm.

2.5.3 The consent includes the following condition:

- 25) The applicant or their agents or their successors in title will secure the implementation of a programme of archaeological works. The works are to be undertaken in accordance with a Written Scheme of Investigation (WSI) submitted to and approved in writing by the local planning authority. The WSI covers the following:
 1. A phased programme and methodology of investigation and recording to include:
 - An evaluation using trial trenching
 - Detailed historical analysis
 - Informed by the above, more detailed, targeted archaeological excavation and recording
 2. A programme for post investigation assessment, to include:
 - detailed analysis of finds.
 - production of a final report on the significance of the below ground archaeological interest.
 3. Deposition of the final report with the Greater Manchester Historic Environment Record.
 4. Dissemination of the results commensurate with their significance.
 5. Provision for archive deposition of the report, finds and records of the site investigation.

6. Nomination of a competent person or persons/organisation to undertake the work set out within the approved WSI.

Reason: In accordance with NPPF Section 12, Paragraph 141 - To record and advance understanding of heritage assets to be lost and to make information about the archaeological heritage interest publicly accessible

2.6 PCA Background

2.6.1 Pre-Construct Archaeology Limited is a Registered Archaeological Organisation (number 23) with the Institute for Archaeologists and will operate within the Institute's 'Code of Practice'. The company has been in operation since 1993.

2.6.2 PCA has the following accreditations:

- ISO9001 registration
- ConstructionLine registration
- Achilles registration
- CHAS registration

2.6.3 Pre-Construct Archaeology Limited carries the following insurance policies:

Policy	Limit of Indemnity	Policy Number
Public Liability	£10,000,000 any one event	24765101CHC/000133 & 25035008
Employers Liability	£10,000,000 any one occurrence	24765101CHC/000133
Hired in Plant & Equipment	£100,000 any one item £250,000 any one claim	24765101CHC/000133
Professional Indemnity	£5,000,000 in respect of each and every claim	HU PI 91299989/1026

2.7 Relevant Guidance

2.7.1 All works will be undertaken in accordance with the following documents:

- This Written Scheme of Investigation (pending approval from GMAAS)
- Greater London Archaeology Advisory Service: *Standards for Archaeological Work* (EH 2015 on-line)
- Chartered Institute for Archaeologists Codes, Standards and Guidelines Papers (CIfA, various dates)
- MoRPHE (English Heritage, 2006).

3 Research Design

3.1 This archaeological evaluation is designed to determine the presence or absence of surviving archaeological remains/deposits at the site and inform the design of an appropriate mitigation strategy.

The fieldwork will aim to address the following objectives:

- To determine the natural topography of the site, and the height at which it survives.
- To determine the presence or absence of prehistoric deposits / activity.
- To determine the presence or absence of Roman deposits / activity.
- To establish the presence or absence of medieval deposits / activity.
- To establish the presence or absence of post-medieval deposits / activity.
- To ascertain the state of preservation of 18th, 19th and early 20th century domestic dwellings and associated structures which are known to have stood at the Site
- To establish the extent of past post depositional impacts on the archaeological resource

4 Methodology

4.1 Archaeological Evaluation

- 4.1.1 Trench positions will be ascertained on the ground by PCA. The machining will be undertaken using a JCB 3CX backhoe excavator. The mechanical excavator will break out the current ground surface and then remove it using an appropriate bucket. Once the hard-standing is removed, a toothless ditching bucket (around 2.0m wide) will be used to remove modern overburden under the constant supervision of an archaeologist. Spoil will either be mounded at least 2m from the edges of the trench.
- 4.1.2 Machine excavation will continue in spits of 100mm at a time until either significant archaeological strata are found or natural ground exposed.
- 4.1.3 The proposed trenches are designed to reach a maximum depth of approximately 1.2mBGL depending on the stability of the trench edges.
- 4.1.4 This intended excavation system will be reviewed regularly and will be entirely dependent upon ground conditions. If trench edges are unstable then the deeper potential may be explored by shoring the trench, or by machine-excavating sondages under archaeological supervision to achieve the desired purpose.
- 4.1.5 Following machine excavation, relevant faces of the trench that require examination or recording will be cleaned using appropriate hand tools. The majority of the investigation of archaeological levels will be by hand, with cleaning, examination and recording both in plan and in section.
- 4.1.6 Archaeological evaluation may require work by 'pick and shovel' or occasionally by further use of the machine. Such techniques will be used only for the removal of homogeneous and 'low grade' layers where it can reasonably be argued that more detailed attention would not produce information of value. They will not be employed on complex stratigraphy, and the deposits to be removed must have been

properly recorded first.

- 4.1.7 All archaeological features (stratigraphical layers, cuts, fills, structures) will be evaluated by hand tools and recorded in plan at 1:20 or in section at 1:10 using standard single context recording methods. Photographs will also be taken as appropriate.
- 4.1.8 The strategy for sampling archaeological and environmental deposits and structures will be developed by PCA as necessary. If appropriate, GMAAS and the Historic England Regional Archaeological Science Advisor will be consulted.
- 4.1.9 Following completion of the trench investigation and recording, and with the approval of GMAAS, the trenches will be backfilled using the same excavated material.

4.2 Further Works if Required

- 4.2.1 Should the evaluation trench(es) reveal archaeological remains which warrant further investigation, then agreement will be sought between GMAAS and the client as to the nature and extent of the further works. This may take the form of an archaeological excavation and / or Strip and Map exercise.
- 4.2.2 Once the extent of an archaeological excavation area and budgetary terms have been agreed, PCA will supervise the removal of homogenous overburden to expose the archaeological strata, whereupon hand-excavation by a dedicated archaeological team can commence.
- 4.2.3 If necessary, archaeological excavation will follow an overall sampling strategy which is proportionate to the apparent interest of the archaeological features revealed. Spot-dating of artefacts and assessment of ecofacts should wherever possible be integrated into this process and fed back to the excavation team to ensure that appropriate sampling is undertaken for those features and deposits with real potential.
- 4.2.4 All relationships between features or deposits will be investigated and recorded.
- 4.2.5 All discrete features will be half sectioned, where safe to do so but should in any case not be less than 50% of the whole. Where they are shown to form part of recognisable structures, contain deposits of particular value or significant artefact or environmental assemblages they will be fully excavated.
- 4.2.6 For linear features associated with settlement, industrial structures or area specific activity an initial 25% will be excavated away from intersections with other features or deposits to obtain unmixed samples of material. Excavation slots must be at least 1m in width.
- 4.2.7 Where significant patterns of deposition occur up to a further 25% will be excavated to investigate those patterns. While the professional judgement of the site supervisor in determining a suitable sample is recognised, structural remains such as gullies, beam slots and post-holes demonstrated to be part of a buildings construction require total excavation.
- 4.2.8 All industrial features including "domestic" ovens and hearths should be 100% excavated and sampled

for analysis.

- 4.2.9 The excavation of linear features not directly associated with settlement must be sufficiently sampled to allow an informed interpretation of their date and function. Excavation slots must be at least 1m in width.
- 4.2.10 A 5% sample of linear features that are boundaries will be excavated away from intersections with other features or deposits to obtain unmixed samples of material.
- 4.2.11 Deep features such as wells and pits will be excavated to their full depth. This may require the adoption of appropriate trench support measures.
- 4.2.12 The detail of further archaeological work (scope, type, objectives, methodologies etc) will be outlined by PCA in a WSI statement which will be approved by the client and then issued as an addendum to this document for approval by GMAAS. Works will not proceed until the agreement of GMAAS is secured.

4.3 General

- 4.3.1 The removal of human remains can only take place following the issuing of appropriate licenses from the Ministry of Justice. Should the removal of human remains not pose a risk to the completion of the evaluation, and should further archaeological mitigation be necessary at the site, then any remains will be left in situ, with the agreement of GMAAS.
- 4.3.2 All gold and silver will be removed to a safe place and reported to the local coroner according to the procedures relating to the Treasure Act 1996. Where removal cannot be effected on the same working day as the discovery suitable security measures will be taken to protect the finds from theft.

5 Access, Health And Safety

- 5.1 All relevant health and safety legislation, CDM, COSHH regulations and codes of practice will be respected. This requirement constitutes one of the non-archaeological requirements of the project design.
- 5.2 Prior to the commencement of fieldwork PCA will prepare a H&S Method Statement including a site specific Risk Assessment for the works. PCA's Health and Safety Policy will be followed at all times.
- 5.3 There is a duty of care for the applicant to provide all information reasonably obtainable on contamination and the location of live services before site works commence. At the time of writing PCA has been supplied with a contamination report (Cundall 2016); this has been reviewed by PCA and its findings incorporated into a site specific RAMS
- 5.4 PCA has not received the results of any searches of known services; these are requested if available.
- 5.5 Reasonable access to the site will be granted to the Client, representatives of the Local Planning Authority, GMAAS and the Client's agents who wish to be satisfied, through site inspections, that the archaeological works are being conducted to proper professional standards and in accordance with the agreements made.
- 5.6 All relevant health and safety legislation, regulations and codes of practice will be respected. This requirement constitutes one of the non-archaeological requirements on the trial investigation layout.
- 5.7 No unsupported trench edges will exceed 1.2m depth; if excavation continues below this depth then trench edges will be stepped.
- 5.8 The following attendances necessary to implement the evaluation works will be provided by PCA:
- plant, backfilling, UXO attendance to the excavations (provided by EOD Contracts Ltd¹)
- 5.9 The following attendances necessary to implement the evaluation works will be provided by Carillion Construction Services:
- site welfare, security, trench fencing
- 5.9.1 The trench locations will be surveyed by a suitably qualified person using a Cable Avoidance Tool prior to excavation. Should services be encountered during excavation, it will be the assumption of PCA that they are live and will be avoided at all costs. This may require the abandonment or repositioning of the trench in order to accommodate them safely.
- 5.9.2 PCA have not been informed that there are any listed buildings or areas of ecological importance public rights of way, or trees protected by TPOs in the area of the proposed trenches.

¹ <http://eodcontractsltd.com/>

6 Recording Systems

6.1 Site Code

- 6.1.1 A unique-number site code has been devised by Pre-Construct Archaeology Limited and is hereby advised to GMAAS: **FSS16**. This code will be used to identify and label all elements of the site archive.

6.2 Site Records

- 6.2.1 The recording systems adopted during the investigations will be those developed out of the Department of Urban Archaeology Site Manual, and presented in PCA's Operations Manual 1 (Taylor and Brown 2009). No alternative recording system will be adopted without the prior agreement of GMAAS. This system works on the concept of single-context recording.
- 6.2.2 The site archive will be so organised as to be compatible with the other archaeological archives produced in the Local Authority area. Individual descriptions of all archaeological strata and features excavated and exposed will be entered onto prepared pro-forma recording sheets which include the same fields of entry as are found on the recording sheets of the Museum of London. Sample recording sheets, sample registers, finds recording sheets, accession catalogues, and the photography record cards will follow the Museum of London equivalents. This requirement for archival compatibility extends to the use of computerised databases.
- 6.2.3 A 'site location plan' indicating the site north and based on the current Ordnance Survey 1:1250 map (reproduced with the permission of the Controller of HMSO) will be prepared. This will be supplemented by a trench plan at 1:200 (or 1:100), which will show the location of the areas investigated in relation to the investigation area and National Grid Reference. All sections should be located on plan with OS co-ordinates. The location of the OS bench marks used and the site TBM will also be indicated.
- 6.2.4 A record of the full extent in plan of all archaeological deposits as revealed in the investigation will be made; these plans will be on polyester based drawing film, will be related to the site grid and at a scale of 1:10 or 1:20. 'Single context planning' will be used on site, and the information will be digitised for eventual CAD application.
- 6.2.5 At least one long section will be drawn or a representative part including a profile of the top of the natural deposits (extrapolated from cut features etc., if the trench has not been fully excavated). Other sections, including the half-sections of individual layers or features may be drawn as appropriate to 1:10 or 1:20.
- 6.2.6 The OD height of all principal strata and features will be calculated and indicated on the appropriate plans and sections.

6.3 Stratigraphic Matrix

- 6.3.1 A 'Harris Matrix' stratification diagram will be used to record stratigraphic relationships. This record will be compiled and fully checked during the course of the excavations. Spot dating should be incorporated where applicable during the course of the excavation.

6.4 Photographic Record

- 6.4.1 A full photographic record of the investigations will be prepared. This will include black and white prints and colour transparencies (on 35mm film), illustrating in both detail and general context the principal features and finds discovered. The photographic record will also include 'working shots' to illustrate more generally the nature of the archaeological investigation. The transparencies will be mounted in suitable frames for long-term curation in preparation for deposition with the archive.
- 6.4.2 Extensive use of digital photography will be made to supplement the above archive. Shots will be taken as high- and medium-quality jpegs and tiffs, and will be downloaded at regular intervals to PCA's computer database.

6.5 Site Survey

- 6.5.1 Trench positions and OS datums will be established on site by PCA using a GPS-system.

7 Treatment Of Finds And Samples

7.1 General

- 7.1.1 All processing will take place at either PCA's Northern or Southern office premises, or, if appropriate, those of our environmental consultants.

7.2 Environmental

- 7.2.1 Different sampling strategies may be employed according to the perceived importance of the deposit or feature under investigation. Close attention will be given to sampling for date, structure and environment. Sample size should be take into account the frequency with which material is likely to occur. Bulk sieving should be employed both for recovery of environmental evidence to ensure that complete samples of artefactual evidence are collected for significant deposits.
- 7.2.2 The strategy for sampling archaeological and environmental deposits and structures (which can include soils, timbers, pollen, diatoms, animal bone and human burials) will be developed in consultation with GMAAS and, if necessary, the English Heritage Regional Archaeological Science Advisor. Subsequent on site work and analysis of the processed samples and remains will be undertaken by our own consultants and specialist sub-contractors.
- 7.2.3 A high priority will be given to sampling river and other anaerobic deposits, such as peat, where organic materials may be preserved. Organic samples will be subject to appropriate specialist analysis.

7.3 Artefactual

- 7.3.1 All finds and artefacts will be retained according to the selection retention and retrieval policy appropriate to the material type and date. No finds will be discarded without the prior approval of GMAAS.
- 7.3.2 All finds will be treated in a proper manner and to standards agreed in advance with the recipient museum. They will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in the United Kingdom Institute for Conservation's 'Conservation Guidelines No.2'. All metal objects will be x-rayed and then selected for conservation (except in those cases where GMAAS agrees that this will not be necessary).
- 7.3.3 Relevant ceramic (pottery, clay tobacco, building material fabric and brick form) reference collections will be referred to for descriptive and analytical purposes in order to ensure that terminology is consistent.

8 Archives And Reports

8.1 Archive, Deposition and Dissemination

- 8.1.1 The integrity of the site archive will be maintained. The finds and records will be available for public consultation. Appropriate guidance is set out in the Museum and Galleries Commission's Standards in the Museum Care of Archaeological Collections (1992) and Towards an Accessible Archaeological Archive. The Transfer of Archaeological Archives to Museums: Guidelines for Use in England, Northern Ireland Scotland and Wales (SMA 1995).
- 8.1.2 The client agrees, by approval of this document, to donate all finds and archives to the appropriate repository, most likely to be the Museum of Science & Industry (MoSI). This will be agreed once further mitigation work is designed and the subsequent post-excavation assessment stage is underway, i.e. when the full size of the site is known and quantified.
- 8.1.3 For deposition with MoSI the Guidelines for the Transfer of Archaeological Archives to The Manchester Museum and the Museum of Science & Industry (Manchester Museum et al, undated) will be followed.
- 8.1.4 If finds are not to be transferred to the above museum, arrangements will be made for a comprehensive record of all relevant materials (including detailed drawings, photographs and descriptions of individual finds), which can instead constitute the archaeological archive.
- 8.1.5 Upon completion of the fieldwork project, when the Archaeology Advisor to the LPA confirms that no further work is required and when all post-excavation reports have been approved by all relevant parties, the archive will then be transferred to the museum by PCA.
- 8.1.6 The minimum acceptable standard for the site archive is defined in the Management of Archaeological Projects 5.4 and Appendix 3. It will include most materials recovered, (or the comprehensive records of such materials as referred to above) and all written, drawn, and photographic records, including a copy of all reports relating to the investigations undertaken. It will be quantified, ordered, indexed, and internally consistent before transfer. It will also contain a site matrix, a site summary and brief written observations on the artefactual and environmental data.
- 8.1.7 Examples of material which may not be retained as part of the site archive are detailed within the aforementioned Guidelines (Manchester Museum et al, undated).
- 8.1.8 The United Kingdom Institute for Conservation guidelines for the preparation of excavation archives for long term storage (1990) will be followed.
- 8.1.9 A short summary of the results of the work, even if negative, will be bound into the client report for submission to the LPA and the Greater Manchester Historic Environment Record (GMHER) as soon as possible after the completion of archaeological works.
- 8.1.10 Minimum requirements for public dissemination is for OASIS report forms to be submitted to the OASIS Project as soon as possible of within 6 months of completion of fieldwork. Such publications will meet

the minimum requirements set out in Appendix 7, Management of Archaeological Projects (1991), and derive from a 'phase 2 review' as defined in the same document. There is a need to format reports so that the details of the proposed development impact can be separated from the information and enable all archaeological information to be made available to the GMHER within 6 months of the completion of fieldwork. A copy of the client report will be sent to the Local Studies Library.

- 8.1.11 Where the mentioned 'phase 2' review indicates the need for further assessment and analysis the recommendations set out in the Management of Archaeological Projects 1991 will be followed.

8.2 Evaluation Reporting

- 8.2.1 At the end of the fieldwork PCA will prepare an evaluation report which details the methodology and results of the trenches. This is designed to allow GMAAS to review the completed work and make any recommendations about the findings, and thereby to allow the design of a suitable mitigation strategy for the site, should it be required.

- 8.2.2 An evaluation report should include the following items:

- a) Non-technical summary;
- b) Introduction;
- c) Planning Background;
- d) Previous archaeological work relevant to the project;
- e) Topography of the site;
- f) Research objectives;
- g) Methodology;
- h) The results of the documentary and fieldwork evaluation, and their significance;
- i) An assessment of the results against original expectations and a review of the effectiveness of the fieldwork strategy;
- j) Statement of potential of the heritage assets at the site;
- k) Conclusions;
- l) Bibliography;
- m) Acknowledgements;
- n) OASIS form.

- 8.2.3 The will be fully illustrated with a site location plan, trench location plan, plans of all trenches and photographs.

8.3 Assessment Report (if required)

- 8.3.1 If following the initial fieldwork further work is required, such as an excavation, then a more detailed post-excavation assessment report may be necessary.

- 8.3.2 The Assessment Report will include:

- Non-technical summary;

- Introduction;
- A factual summary characterising the quantity and perceived quality of the data for each component of the site (e.g. stratigraphic/structural, artefactual, environmental);
- A statement of the archaeological potential of the site;
- A review of the data in the context of the questions posed in the WSI;
- New research questions arising from the data collection;
- The value of the data to local, regional and national research priorities;
- Details of the archive and its proposed location; and
- Publication Synopsis.

8.3.3 The final assessment report will include recommendations for the appropriate analysis and publication of the archaeology.

8.4 Analysis and Publication

8.4.1 The analysis of the site archive will be undertaken following the approval by GMAAS of the assessment report, to allow its publication in an appropriate outlet or journal.

9 Public Outreach

- 9.1 Whether or not any further work beyond the initial site investigation as described above is required, the results of the documentary research, historic building recording and evaluation can be condensed to allow its presentation to the public via media such as public information panels or a webpage linked to the client's website.
- 9.2 Using information from the documentary research, building recording, archaeological evaluation and any further stages of archaeological investigation, a well-illustrated popular booklet could be commissioned to be presented as part of the series Greater Manchester's Past Revealed.
- 9.3 If feasible within the requirements of Health and Safety, public open-day event(s) may be held to allow the public to view the work first-hand. Attendant archaeological staff and literature will provide background and interpretive information.

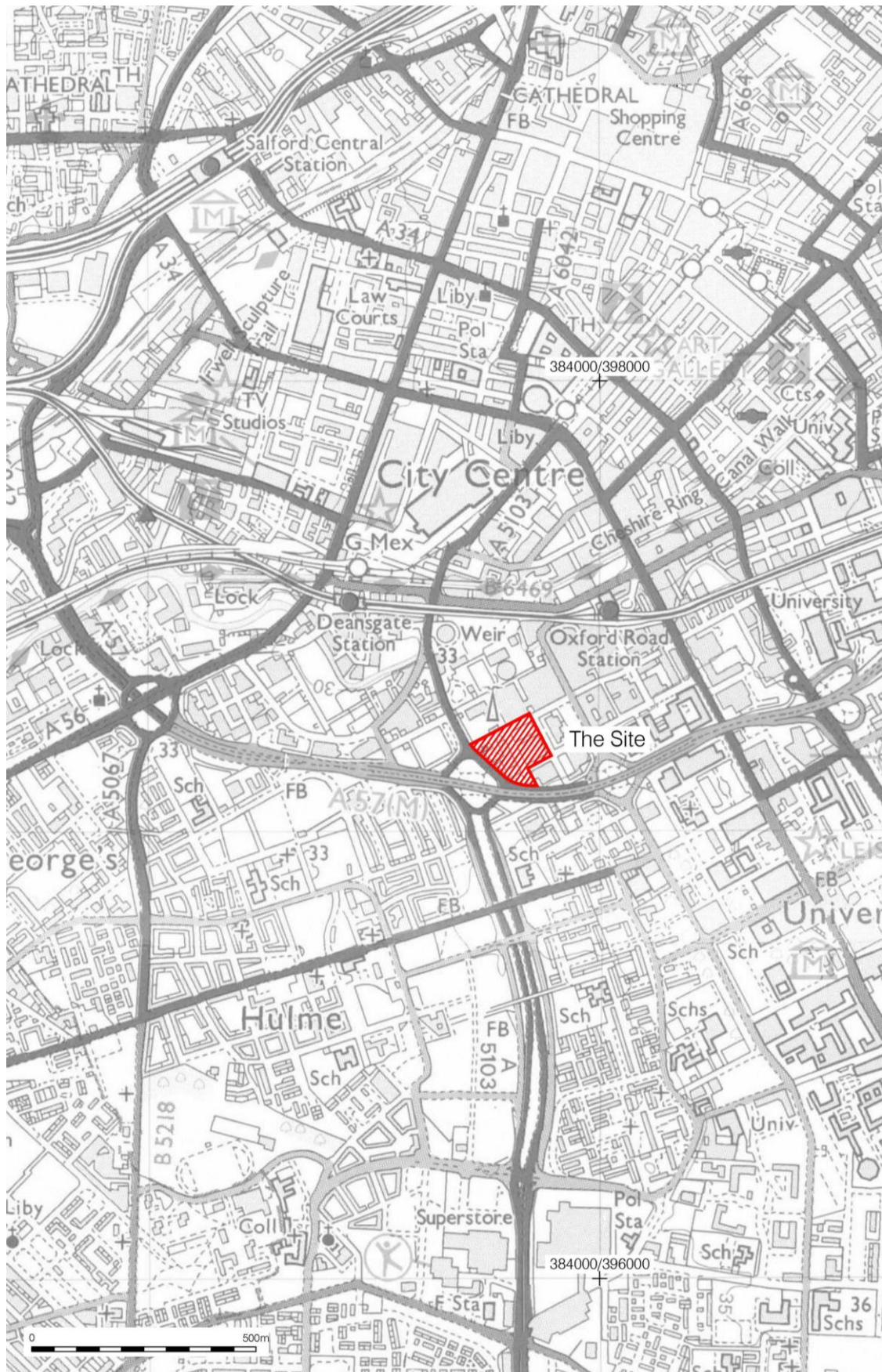
10 Programming

- 10.1 PCA will confirm exact start dates for the fieldwork with GMAAS at least 1 week in advance.
- 10.2 It is intended to commence the evaluation in July 2016. The fieldwork is expected to take approximately 1 week to complete.
- 10.3 The evaluation report should be available to the client as a draft for comment within 1-2 weeks of the completion of the fieldwork. It will be submitted to GMAAS upon receipt of client approval.
- 10.4 Further mitigation work if required will follow from the demolition phase and the clearance of the site to ground level only. Mitigation work will be undertaken prior to any grubbing out or obstruction removal.

11 Bibliography

- Cundall 2016. 'Plot 8 First Street, Manchester: Geotechnical and Geoenvironmental Assessment', unpublished report
- PCA 2016. 'Archaeology' within 'First Street South, Plot 8: Environmental Statement', Deloitte Real Estate 2016

Figure 1: Site Location Plan



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10/12/15 MR

Figure 2: Location of Recent SI Works

Provided by Cundall, with acknowledgement

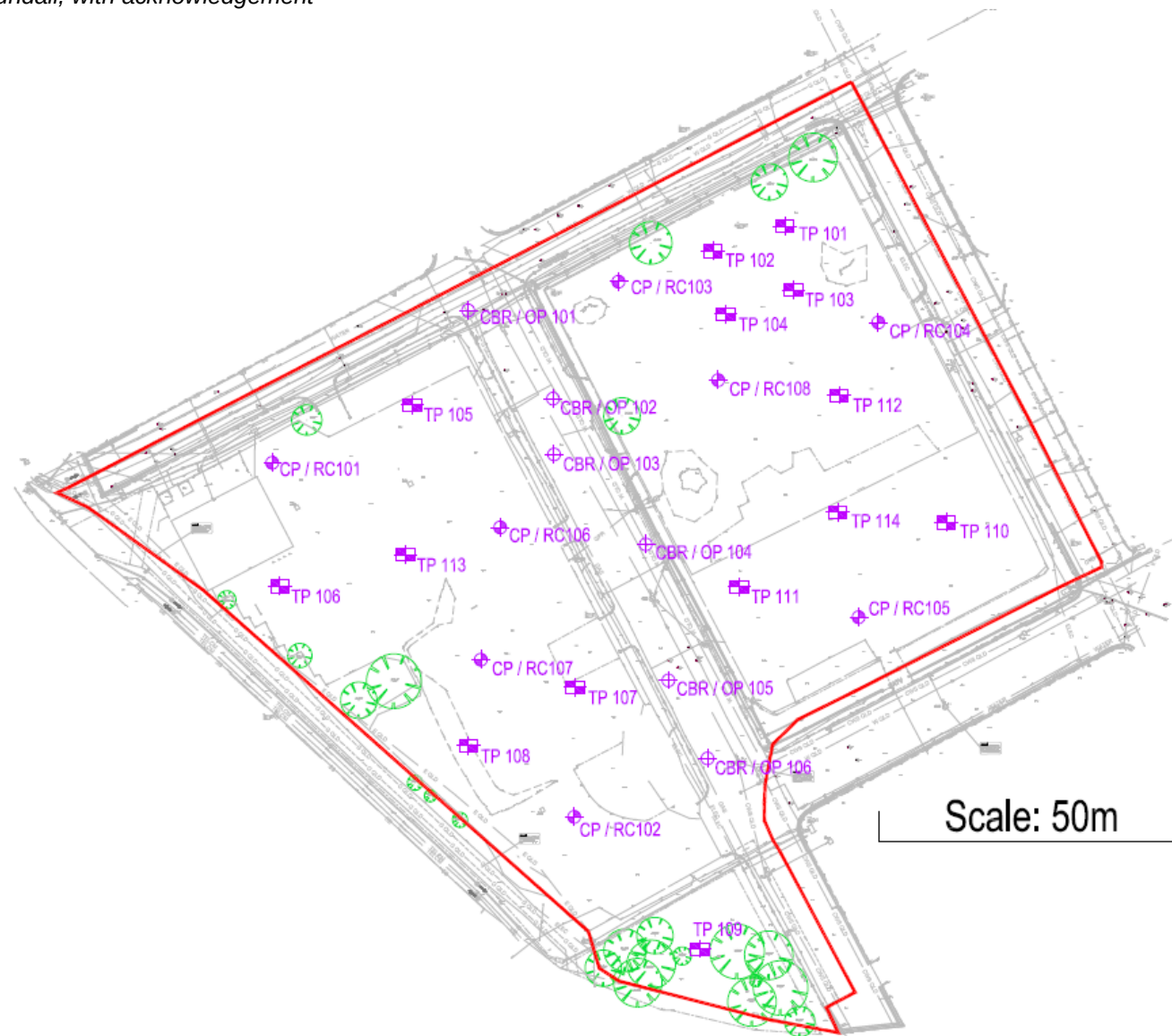
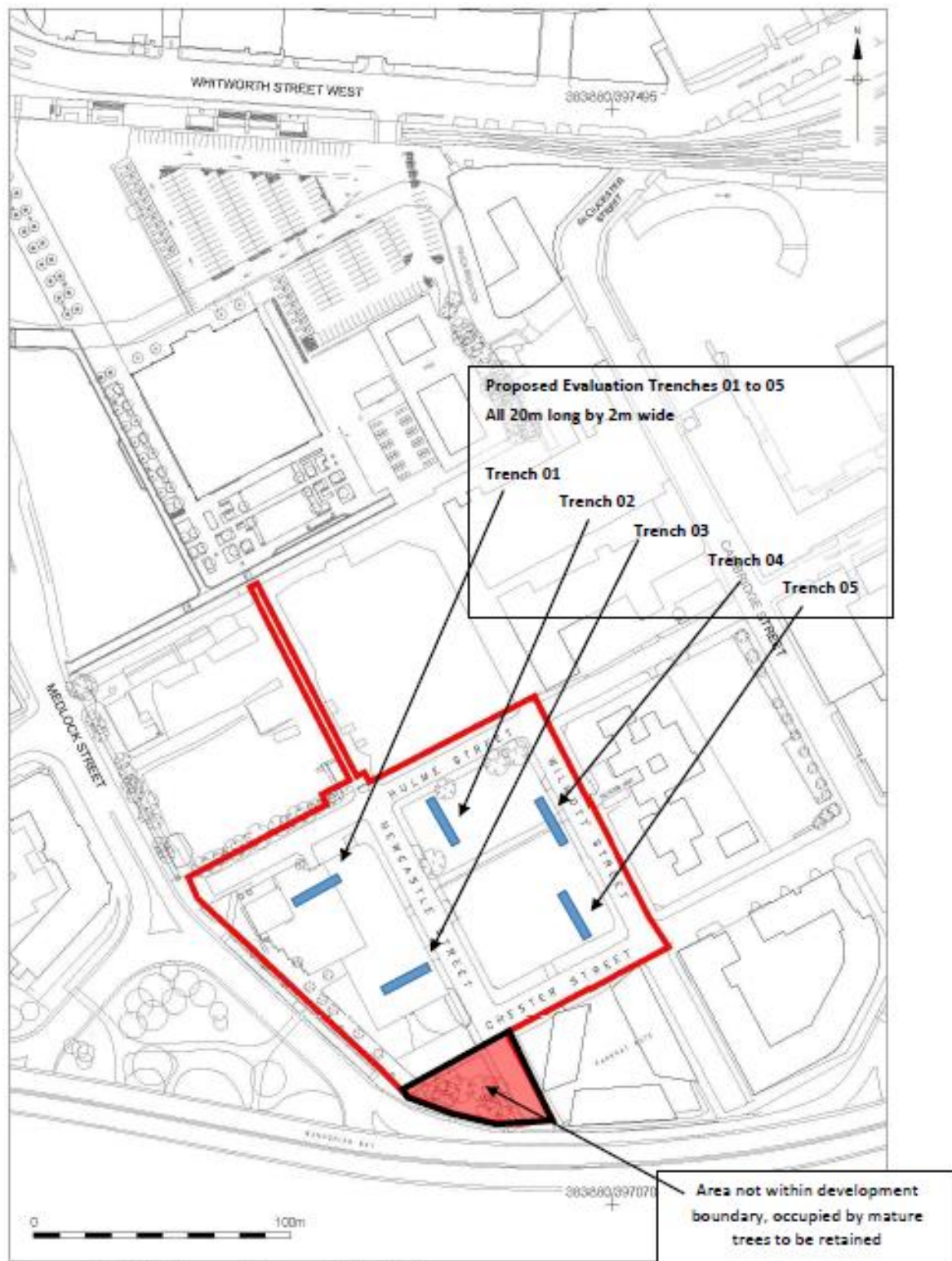


Figure 3: Proposed Evaluation Trench Location Plan



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Figure 18.2
 Detailed Site Location
 1:2,000 at A4

Figure 4: Plan of Proposed Evaluation Trenches overlaid to 1793 map



Figure 5: Plan of Proposed Evaluation Trenches overlaid to 1844-49 map



Figure 1.8.8
 Ordnance Survey map, 1844-49
 Approx. 1:2,000 at A4

Figure 6: Plan of Proposed Evaluation Trenches overlaid to 1932 map

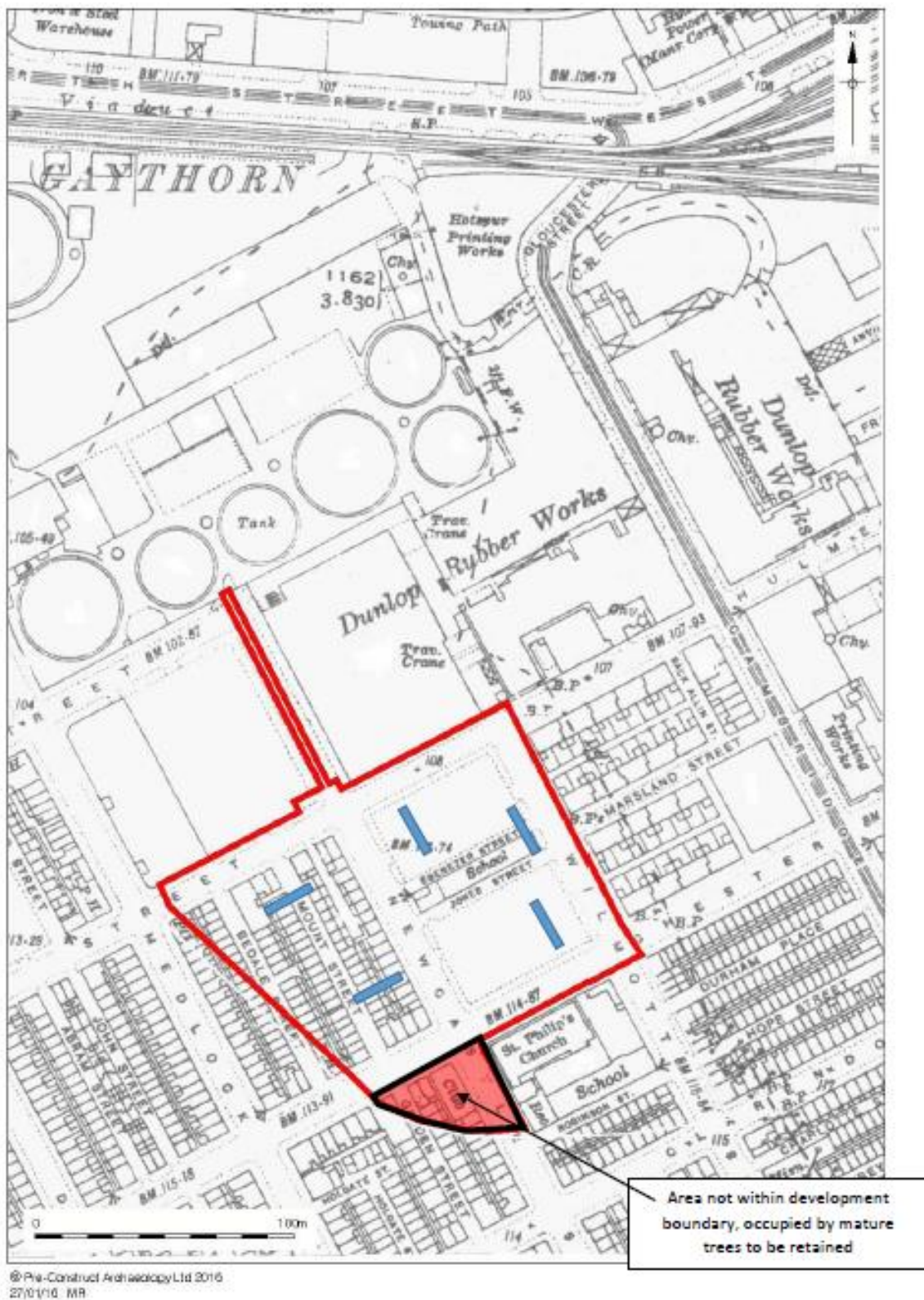


Figure 18.12
 Ordnance Survey map, 1932
 1:2,000 at A4

Figure 7: Plan of Proposed Evaluation Trenches overlaid to 1965 map

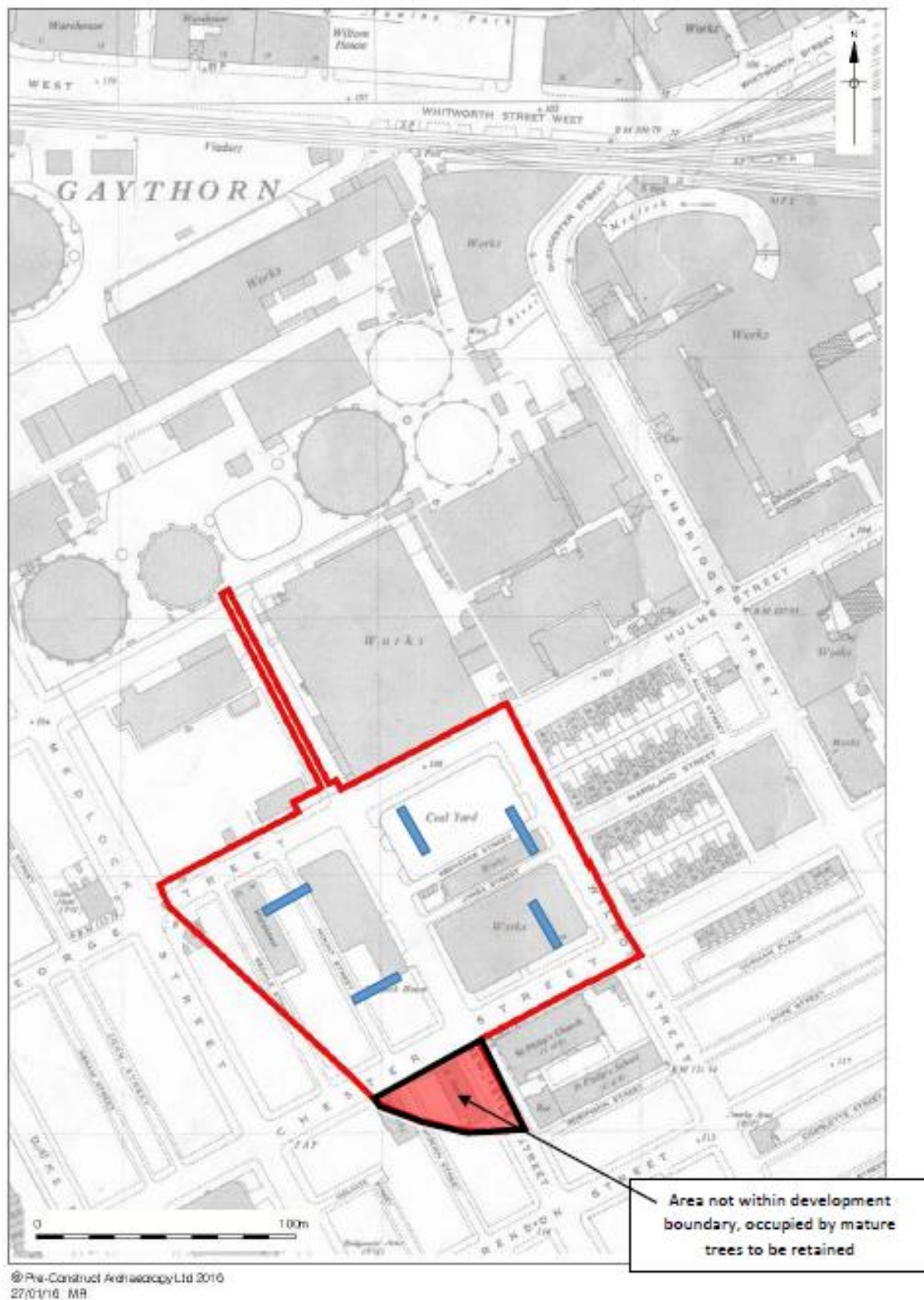


Figure 18.13
 Ordnance Survey map, 1965
 1:2,000 at A4

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12 Ground Conditions

Introduction

- 12.1 This Chapter of the ES assesses the likely significant effects of the Proposed Development with respect to Ground Conditions. This Chapter also describes the methods used to assess the effects; the baseline conditions currently existing at the Site and surrounding area; the mitigation measures required to prevent, reduce or offset any significant negative effects; and the likely residual effects after these measures have been adopted.
- 12.2 The baseline situation is considered, before the likely environmental effects of the proposed development upon matters associated with the potential for land contamination are identified during the construction, operational and decommissioning phases of the development. From the baseline information, potential relevant sources, receptors and pathways have been identified. The Conceptual Site Model (CSM) has been developed to enable the identification of receptors for the Environmental Impact Assessment (EIA) which are established for the future use based on the current baseline condition of the Site and the proposed development. Mitigation measures to reduce any negative environmental effects are identified as appropriate, before the residual environmental effects are assessed.

Legislative and Policy Context

Legislation

- 12.3 The main legislation with regards to the clean-up of historic contamination is set out in Part 2A of the Environmental Protection Act (EPA) 1990 (HMSO, 1990). Section 78A(2), EPA 1990, provides the definition of contaminated land for the purposes of Part 2A, which is: 'any land which appears to the Local Authority in whose area it is situated to be in such a condition by reason of substances in, on or under the land, that significant harm is being caused or there is a significant possibility of such harm being caused; or pollution of controlled water is being, or likely to be caused'. Harm is defined as meaning 'harm to the health of living organisms or other interference with the ecological systems of which they form part and in the case of man includes harm to his property'.
- 12.4 With respect to controlled waters, the Water Act 2003 (Chapter 37, Section 86) has amended the second part of the above definition so that it applies only where significant pollution of controlled waters is being caused, or there is significant possibility of such pollution being caused.
- 12.5 The statutory government guidance to Part 2A, Circular 01/2006 (DEFRA, 2006), introduces the concept of the 'pollutant linkage' in Chapter A of Annex 3. A pollutant linkage is formed when there is a linkage between a contaminant source and a receptor by means of a pathway. If any one aspect is missing no linkage is formed. The Circular also mentions that remediation required should result in land being made "suitable for use".
- 12.6 In addition to Part 2A, Sections 161 to 161D of the Water Resources Act 1991 give the Environment Agency powers to take action to prevent or remedy the pollution of controlled waters. The normal enforcement mechanism is a "works notice" served under section 161A, which specifies what actions have to be taken and in what time periods. This is served on any person who has "caused or knowingly permitted" the potential pollutant to be in the place from which it is likely to enter controlled waters, or to have caused or knowingly permitted a pollutant to enter controlled waters.

National Planning Policy

12.7 Relevant national planning policy relating to contaminated land comprises:

- National Planning Policy Framework (2012).
- National Planning Practice Guidance (NPPG)

12.8 The **National Planning Policy Framework (2012)**, paragraph 109 makes clear that the planning system should contribute to and enhance the natural and local environment by remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

12.9 To prevent unacceptable risks from pollution and land instability, paragraph 120 makes clear that planning policies and decisions should ensure that new development is appropriate for its location. The effects (including cumulative effects) of pollution on health, the natural environment or general amenity, and the potential sensitivity of the area or proposed development to adverse effects from pollution, should be taken into account. Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner.

12.10 Paragraph 121 states that planning policies and decisions should also ensure that sites are suitable for their new use taking account of ground conditions and land instability, including from natural hazards or former activities such as mining, pollution arising from previous uses and any proposals for mitigation including land remediation or impacts on the natural environment arising from that remediation. After remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990; and adequate site investigation information, prepared by a competent person, is presented.

12.11 More detailed advice is set out in the **Planning Practice Guidance (PPG) on Land Affected by Contamination (2014)**. Paragraph 3 of the Guidance identifies the contaminated land regime under Part 2A of the Environmental Protection Act 1990 as providing a risk based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment. It makes clear that the regime does not take into account future uses which could need a specific grant of planning permission. To ensure a site is suitable for its new use and to prevent unacceptable risk from pollution, the implications of contamination for a new development would be considered by the local planning authority to the extent that it is not addressed by other regimes.

12.12 Paragraph 7 of the Guidance advises that if there is a reason to believe contamination could be an issue, developers should provide proportionate but sufficient site investigation information (a risk assessment) to determine the existence or otherwise of contamination, its nature and extent, the risks it may pose and to whom/what (the 'receptors') so that these risks can be assessed and satisfactorily reduced to an acceptable level. The Guidance refers to use of 'Category 4 Screening Levels' in providing a simple test for deciding when land is suitable for use and definitely not contaminated land and that a risk assessment of land affected by contamination should inform an Environmental Impact Assessment if one is required.

12.13 The risk assessment should also identify the potential sources, pathways and receptors ('pollutant linkages') and evaluate the risks. This information will enable the local planning authority to determine whether further more detailed investigation is required, or whether any proposed remediation is satisfactory.

12.14 The Guidance also makes clear that an applicant may be required to provide at least the report of a desk study and site walk-over. This may be sufficient to develop a conceptual model of the source of contamination, the pathways by which it might reach vulnerable receptors and options to show how the identified pollutant linkages can be broken.

12.15 Unless this initial assessment clearly demonstrates that the risk from contamination can be satisfactorily reduced to an acceptable level, further site investigations and risk assessment will be needed before the application can be determined.

Local Planning Policy

12.16 Manchester City Council's Contaminated Land Strategy identifies that former industrial land 'provides great opportunities for the City' and goes on to state that 'Such land is a major resource for:

- Regenerating and developing existing communities.
- Meeting the demand for new housing using 'brownfield' land, thus preserving the nation's treasured countryside.
- Developing new sustainable urban communities'.

12.17 The Contaminated Land Strategy further states how the City Council is to tackle the legacy of contamination on former industrial land, and, encourage the best use of this large urban land resource.

12.18 Manchester City Council have also issued 'Planning Guidance in Relation to Ground Contamination' (Version 5, October 2013), which sets out how legislation and National Planning Policy shall be adopted and regulated through the planning system within the City.

Assessment Methodology and Significance Criteria

Assessment Guidelines, Guidance and Methods

12.19 This is undertaken in general accordance with Part IIA of the Environmental Protection Act 1990 (as amended), and CLR11 Model Procedures for the Management of Land Contamination, DEFRA & Environment Agency (EA).

12.20 Approach to Assessment

12.21 The baseline conditions have been produced by a review of information typically used in the production of a Preliminary Site Investigation (Phase I Desktop Study).

12.22 From the baseline information, potential relevant sources, receptors and pathways have been identified. These were undertaken in general accordance with the legislation given above and CLR11 Model Procedures for the Management of Land Contamination, DEFRA & Environment Agency (EA). The CSM enables the identification of receptors for the EIA which are established for the future use based on the current baseline condition of the Site and the proposed development plan.

12.23 Following a source-pathway-receptor risk assessment, the potential effects during the construction, operational and decommissioning phases are assessed using the sensitivity, magnitude and approach to assessment of effects. Mitigation measures to reduce any negative environmental effects are identified as appropriate, before the residual environmental effects are assessed.

Sources of Information

12.24 Consultation was undertaken by Cundall with the Contaminated Land Officer (CLO) from Manchester City Council on the 24th September 2015 with respect to the potential environmental risks at the site so that their opinions and comments could be incorporated into the Preliminary Geotechnical and Geoenvironmental Assessment, and, for the design of future intrusive ground investigation works.

12.25 Cundall issued a Preliminary Geotechnical and Geoenvironmental Assessment on the 27th October 2015, and this represents the primary data source. This report was written on the basis of numerous sources of data which include the following:

- Arup – First Street Preliminary Geotechnical and Geoenvironmental Report, report reference REP/114935/GEO02, dated April 2006.
- CELTIC – First Street Remediation Validation Report, report reference R1227/09/3701 dated September 2009.

- Environment Agency – Final Validation Report, First Street Manchester, letter reference Lt116-C1227-CM-EA-200709.
- Manchester City Council – Central Spine, First Street, Manchester, letter reference MCC/EnvH/srogers/FirstStreet/051009.
- Capita-Symonds – Phase 2 Ground Investigation (First Street South), report reference 17617-SI02, dated 12th June 2012.
- BGS – Geology of Britain Viewer (Borehole Scans), reviewed September 2015.
- University of Manchester - Map Collection (LUNA), reviewed September 2015.
- Landmark Information Group – Envirocheck Report, report reference 72883240_1_1, dated 24th September 2015.
- British Geological Survey (BGS) - 1:10,000 scale Sheet SJ89NE (relevant extract included in Envirocheck Report).
- BGS – Geology of Britain Viewer (Borehole Scans), reviewed September 2015.
- 6 Alpha Associates – Preliminary Unexploded Ordnance (UXO) Risk Assessment, Plot 8, First Street, Manchester, dated 25th September 2015.

Criteria for Assessing the Effects of Contaminated Land

12.26 The evaluation methodology employs a combination of good practice, relevant guidance and professional experience to allow an informed judgement as to whether a potentially significant effect is either 'Substantial', 'Substantial / Moderate', 'Moderate', 'Moderate / Slight', 'Slight', 'Slight / No Effect' or 'No Effect'. It is noted that there is a lack of EIA definitions that specifically relate to contaminated land in national guidance and that they do not align with CIRIA guidance C552 adopted within the Preliminary Geotechnical and Geoenvironmental Assessment. Accordingly, a general assessment for significance has been used.

Limitations and Assumptions

12.27 This assessment has been written on the basis of the available information reviewed in paragraphs 13.23 and 13.24. It is based upon relevant published guidance and good practice, however, as EIA definitions do not align closely with the contaminated land assessment used within the sources of information, a degree of professional judgement is employed when undertaking the assessments of significant.

Baseline Conditions

Site History (on-site)

12.28 The Site has undergone three key phases of recorded development:

- Dense residential development up until 1941.
- A coal yard, engineering works, garage and clothing facility up until 1985. An underground shelter was also indicated during this period.
- Predominantly disused land post 2015.

Site History (off-site)

12.29 The surrounding land uses are dominated as follows:

- A gas works to the north of the site up until 1989.
- A rubber works to the north of the site between 1928 and 2006.
- Dense residential housing up until 1950.

- Numerous further industrial facilities including printing works, saw mill and engineering works.

Geology

- 12.30 The BGS geological map of the area indicates that the Site is underlain by superficial deposits comprising Glaciofluvial Sheet Deposits (sand and gravel) beneath the majority of the site, and Till (clay, sand, gravel, cobbles and boulders) beneath the far south eastern extents. The solid geology is indicated to comprise the Chester Pebble Beds Formation (sandstone).
- 12.31 Historic boreholes reviewed for the site and the immediate surrounding area indicated that ground conditions are generally consistent with the published mapping, however, a layer of Made Ground is present at the site's surface.

Hydrology

- 12.32 The nearest surface water feature to the site is the River Medlock, located 162 m north of the Site. The river is wholly culverted within the vicinity of the Site; as an open culvert to the north west and north east, and as an enclosed culvert to the north.
- 12.33 No surface water abstractions are recorded within 500 m of the Site.
- 12.34 Numerous discharge consents are recorded within 500 m of the Site, predominantly associated within the discharge of sewage and storm overflow to the River Medlock.

Hydrogeology

- 12.35 The superficial deposits on Site are classified as being Secondary A Aquifer, and the underlying solid geology as a Principal Aquifer. It is considered that the Secondary A Aquifer within the superficial deposits is associated with the Glaciofluvial Deposits. The presence of Till beneath the Glaciofluvial Deposits, although not classified, would typically be classified as Unproductive Strata.
- 12.36 No active groundwater abstractions are recorded within 250 m of the Site. The closest being recorded 312 m east, for 'general use' by Manchester Metropolitan University.
- 12.37 A single discharge consent into groundwater is recorded 224 m east of the Site being recorded for 'cooling water' by Manchester Metropolitan University.

Landfill and Waste

- 12.38 There are no historic landfills or waste management facilities recorded within 500 m of the Site.

Radon

- 12.39 The Site is not located within an area recorded to be affected by radon gas.

Contamination Status of the Site.

- 12.40 There are numerous Contemporary Trade Directory Entries recorded within 250 m of the Site. The closest active record is recorded 130 m north east of the Site associated with food production. No Contemporary Trade Directory Entries are recorded within 250 m of the Site that are considered to represent a significant source of contamination.
- 12.41 There are no active fuel station entries on or within 250 m of the Site. A single obsolete entry exists, recorded 240 m north east, associated with a former garage / workshop.
- 12.42 There are no COMAH sites within 500 m of the site.

12.43 A single pollution incident to controlled waters is recorded 222 m north west of the Site, recorded as a Category 3 - minor incident, associated with a road traffic accident discharging Irgasol into the Manchester Ship Canal.

12.44 There are no Sensitive Land Uses recorded within 1 km of the Site.

Identification and Evaluation of Significant Effects

12.45 This has been undertaken in accordance with the 'source-pathway-receptor' principal discussed earlier in this chapter.

Potential Receptors (Construction Phase)

12.46 This section identifies the potential receptors that have been identified based on factors discussed in this chapter in the context of the Proposed Development. The receptors listed in Tables 1 are considered capable of being impacted and will therefore be considered in this assessment.

12.47 Construction may lead to contaminants in fugitive dust, potentially exposing construction workers to elevated concentrations of contaminants together with exposure via ingestion and dermal contact through handling of contaminated soils.

12.48 Construction may lead to the exposure of contaminated soils from historical industrial development or other unrecorded sources. Surface runoff could result in contaminant transportation to controlled waters if contaminated soils are exposed and the construction works may generate new preferential pathways for contaminants to enter the environment (e.g. via piles, excavations for infrastructure etc).

12.49 The use of equipment and machinery during construction will require maintenance and refuelling. Potential contaminative substances such as hydrocarbons and oils will be required for the operation of machinery. Accidental spillage of these substances, during storage and use, may lead to localised contamination of soils, groundwater and surface water.

12.50 The surplus made and natural ground materials excavated from the Site will need to be transported to a suitably licensed landfill site under the Landfill Directive Waste Acceptance Criteria in accordance with the published guidance.

Table 12.1 Potential Receptors (construction phase)

Receptor(s)	Distance from Site Boundary	Justification
Human Health (construction workers)	On site	Representative of construction workers during site development and maintenance.
Human Health (adjacent site users).	Adjacent to the site boundary	Representative of users of adjacent sites during construction.
Controlled Waters (Groundwater).	Both beneath and close to the site.	Identified possible pathway to both the underlying Secondary (A) and Principal Aquifers.
Controlled Waters (Surface Water).	Within 250 m of the site boundary.	Identified possible pathway to the River Medlock

Potential Receptors (Operational Phase)

12.51 This section identifies the potential receptors that have been identified based on factors discussed in this chapter in the context of the Proposed Development. The receptors listed in Tables 2 are considered capable of being impacted and will therefore be considered in this assessment.

12.52 Any maintenance workers may be exposed to contaminated soils from historical industrial development or other unrecorded sources if they are required to undertake sub-surface works.

12.53 Piles and new infrastructure may generate new preferential pathways for contaminants to enter the environment.

12.54 The built environment may be impacted by contaminated soils from historical industrial development or other unrecorded

sources through the accumulation of ground gasses, the presence of compounds aggressive to concrete, or, through the permeation of new water supply pipes by volatile compounds.

- 12.55 The site's end users may be impacted by any contaminated soils from historical industrial development or other unrecorded sources of contamination being left in-situ post development.

Table 12.2 – Potential Receptors (operational phase)

Receptor(s)	Distance from Site Boundary	Justification
Human Health (site end users and maintenance workers)	On site	Representative of the site's end users and maintenance workers.
Human Health (adjacent site users).	Adjacent to the site boundary	Representative of users of adjacent sites post construction.
Controlled Waters (Groundwater).	Both beneath and close to the site.	Identified possible pathway to both the underlying Secondary (A) and Principal Aquifers.
Controlled Waters (Surface Water).	Within 250 m of the site boundary.	Identified possible pathway to the River Medlock
Built Environment (sub-surface concrete, new service supply pipes and enclosed spaces).	On-site.	Any new structures may be susceptible to the accumulation of hazardous gas, compounds aggressive to concrete and compounds that may permeate water supply pipes.

Assessment of Effects (Construction Phase)

- 12.56 This section assesses the effects during the construction phase of redevelopment in the context of the Proposed Development and is summarised in Table 3.
- 12.57 Construction may lead to contaminants in fugitive dust, potentially exposing construction workers to elevated concentrations of contaminants together with exposure via ingestion and dermal contact through handling of contaminated soils.
- 12.58 Construction may lead to the exposure of contaminated soils from made ground or other unrecorded sources. Surface runoff could result in contaminant transportation to controlled waters if contaminated soils are exposed and the construction works may generate new preferential pathways for contaminants to enter the environment (e.g. via piles, excavations for infrastructure etc.).
- 12.59 The use of equipment and machinery during construction will require maintenance and refuelling. Potential contaminative substances such as hydrocarbons and oils will be required for the operation of machinery. Accidental spillage of these substances, during storage and use, may lead to localised contamination of soils, groundwater and surface water.
- 12.60 The surplus made and natural ground materials excavated from the Site will need to be transported to a suitably licensed landfill site under the Landfill Directive Waste Acceptance Criteria in accordance with the published guidance.

Table 12.3 – Assessment of Potential Effects during the Construction Phase

Receptor (Sensitivity)	Nature of Impact	Magnitude	Significance
Human Health – construction workers (High)	Exposure via ground contamination and windblown (fugitive dust) contaminated soils. Any contact will be in the short term. Contaminants within made ground could be exposed via piling and excavations. It is assumed construction workers will adopt basic PPE during site work.	Medium	Moderate
Human Health – adjacent site users (High).	Exposure to contaminated soils via windblown (fugitive dust) soils.	Medium	Moderate
Controlled Waters – Groundwater (Medium).	Potential accidents/incidents/spills during construction or surface runoff resulting in transport of exposed contamination during construction, such as contaminants within made ground soils may be afforded a preferential pathway during construction.	Medium	Moderate
Controlled Waters – Surface Waters (Low).	Potential accidents/incidents/spills during construction or surface runoff resulting in transport of exposed contamination during construction, such as contaminants within made ground soils may be afforded a preferential pathway during construction.	Medium	Moderate / Slight

Assessment of Effects (Operational Phase)

12.61 This section assesses the effects during the operational phase in the context of the Proposed Development and is summarised in Table 12.4.

12.62 Operational phase risks are considered to be limited due to the Proposed Development dominated by hard surfacing and new construction which will contribute to significant pathway disruption to human health and controlled waters.

12.63 Residual risks remain in the context of the Proposed Development. Mitigation measures are set out below.

Table 12.4 – Assessment of Potential Effects during the Operational Phase

Receptor (Sensitivity)	Nature of Impact	Magnitude	Significance
Human Health - site end users and maintenance workers (High)	Exposure via ground contamination. Any contact will be in the very short term. Contaminants within made ground could be exposed via maintenance excavations or any limited areas of soft landscaping. It is assumed maintenance workers will adopt basic PPE during site work.	Medium	Moderate
Human Health - adjacent site users (High)	Exposure via contaminated soils	Low	Moderate / Slight
Controlled Waters – Groundwater (Medium).	Migration of leachable contaminants from made ground to controlled waters through new preferential pathways. These are likely to be highly limited due to the new buildings / hard surfacing minimising leachate migration.	Low	Moderate / Slight
Controlled Waters – Surface Waters (Low).	Migration of leachable contaminants from made ground to controlled waters through new preferential pathways. These are likely to be highly limited due to the new buildings / hard surfacing minimising leachate migration.	Low	Slight
Built Environment - sub-surface concrete, new service supply pipes and enclosed spaces (Medium)	Any new structures may be susceptible to the accumulation of hazardous gas, compounds aggressive to concrete and compounds that may permeate water supply pipes.	High	Moderate

Mitigation Measures

12.64 In order to mitigate the negative impacts identified as part of the assessment of potential effects, remedial measures are considered necessary to protect site workers, adjacent site users, groundwater, surface water and on Site soils.

Design Phase

12.65 From existing baseline conditions, sources of contamination that require consideration are limited to contaminants within the made ground soil on the Site.

12.66 Pile design will take into account the potential for contamination migration and methods to mitigate contamination occurring will be undertaken in design.

12.67 Concrete shall be specified to take into account potentially aggressive compounds to buried concrete.

12.68 Water supply pipes shall be specified in accordance with UKWIR guidance, taking into account the possibility of permeation of potable water supply pipes, and design will be developed to mitigate this risk.

Construction Phase

12.69 During the construction phase site workers will be made aware of the possibility of encountering contamination associated with made ground, good standards of personal hygiene will be employed, (including welfare facilities on-site during construction and demolition) and the use of appropriate levels of personal protective equipment (PPE), will be enforced at all times.

12.70 Site workers will adhere to health, safety and environmental precautions in order to reduce the potential for any

accidents and incidents.

- 12.71 Spill kits will be present on site during construction activities to deal with the immediate clean-up of any minor spills that may occur.
- 12.72 Methods will be used to prevent run-off from site storage compounds, and any temporary fuel or cement storage will be within bunds to prevent leaking.
- 12.73 Methods will be used to reduce the amount of dust, e.g. washing down of vehicle's wheels and the covering of any exposed soils, as required.
- 12.74 A Construction Environmental Management Plan (CEMP) will be developed and followed in order to manage and mitigate the likelihood of negative impacts of the environment during the construction, operational, and demolition phases.

Operational Phase

- 12.75 Maintenance workers may be exposed to contaminants in fugitive dust, potentially exposing maintenance workers to elevated concentrations of contaminants via ingestion and dermal contact through handling of contamination.
- 12.76 Site maintenance staff workers will adhere to health, safety and environmental precautions in order to reduce the potential for any accidents and incidents.
- 12.77 Where soft landscaping is present, a capping layer will be used comprising uncontaminated soils.

Cumulative Effects

- 12.78 When considering the potential impacts of the development, other effects must be taken into consideration. If any previously unidentified sources of contamination is exposed during the construction phase there is an increased possibility for the creation of preferential pathways to transport the contaminants to receptors such as surface waters.
- 12.79 In addition the assessment of potential cumulative effects focuses upon the residual operational effects of the Proposed Development in addition to the likely operational effects of other developments for which planning permission has been granted, and development proposals which have been identified in the local development plan.
- 12.80 However, the potential cumulative effects are largely associated with subsequent additions to the wider area, and, in a ground conditions context, the cumulative effects cannot be reasonably foreseen at the time of this assessment given the absence of detailed design proposals and an absence of substantive information on the near to surface ground conditions.

Residual Effects

- 12.81 Tables 12.5 and 12.6 identify for each receptor, its sensitivity, magnitude and significance of impacts following the implementation of the above mitigation measures.

Table 12.5 – Assessment of Residual Effects during the Construction Phase

Receptor (Sensitivity)	Magnitude	Significance
Human Health – construction workers (High)	Very Low	Slight
Human Health – adjacent site users (High).	Very Low	Slight
Controlled Waters – Groundwater (Medium).	Very Low	Slight
Controlled Waters – Surface Waters (Low).	Very Low	Slight / No Effect

Table 12.6 – Assessment of Residual Effects during the Operational Phase

Receptor (Sensitivity)	Magnitude	Significance
Human Health - site end users and maintenance workers (High)	Low	Moderate / Slight
Human Health - adjacent site users (High)	Very Low	Slight
Controlled Waters – Groundwater (Medium).	Very Low	Slight
Controlled Waters – Surface Waters (Low).	Very Low	Slight / No Effect
Built Environment - sub-surface concrete, new service supply pipes and enclosed spaces (Medium)	Very Low	Slight



Southside Regeneration Limited

Plot 8, First Street

Preliminary Geotechnical and Geoenvironmental Assessment

Job No: 1011906

Doc No: 1011906.RPT.GL.001

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Executive Summary

Context & Purpose	Cundall was commissioned by Southside Regeneration Ltd to undertake a Preliminary Geotechnical and Geoenvironmental Assessment for the site in the context of the proposed development in order to support an anticipated planning application, inform them of the potential geotechnical and geoenvironmental risks, and, provide outline recommendations for further work as considered necessary.
Current Land Use & Features	The site is predominantly disused aside from a small commercial premises and associated car park located in the far north-west of the site.
Historic Land Use	The site has undergone three key phases of recorded development: <ul style="list-style-type: none"> • Dense residential development up until 1941. • A coal yard, engineering works, garage and clothing facility up until 1985. An underground shelter was also indicated during this period. • Predominantly disused land post 2015.
Geology & Ground Conditions	The ground conditions generally are indicated to comprise a sequence including Made Ground, Glaciofluvial Deposits (sand and gravel), Till (clay, sand, gravel, cobbles and boulders) rested on the Chester Pebble Beds (sandstone)
Summary of Potential Contaminative Sources Affecting the Site	No potential sources of contamination were identified (either olfactory or visual) during the site inspection. The previous investigation at the site did not identify significant or widespread contaminants of concern. Elevated concentrations of heavy metals within the made ground were highly localised and limited in magnitude.
Preliminary Geotechnical Assessment	Recommendations are given for a rotary bored pile foundation solution embedded into the Cheshire Pebble Beds Formation (sandstone) for the proposed buildings. A ground bearing floor slab may be feasible subject to excavation, screening and re-engineering of the Made Ground beneath the site. Soakaway drainage / permeable paving is unlikely to be feasible as a site-wide drainage solution.
Preliminary Geoenvironmental Assessment and Recommendations for Further Work	Prior to any intrusive investigation being undertaken, a Detailed UXO Threat and Risk Assessment should be undertaken and the archaeological department of Manchester City Council should be contacted to determine if they have specific requirements. Recommendations are given for an intrusive site investigation primarily for geotechnical purposes and to substantiate the land quality findings of the previous investigation, including assessing those areas of the site not previously investigated.
This Executive Summary is intended as a summary of the Assessment of the Site based on information received by Cundall at the time of production and should be read in conjunction with the main Report text.	

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1011906.DWG.GL.003	Preliminary Conceptual Site Model

APPENDICES

Appendix A	Historical Maps and Plans
Appendix B	Envirocheck Report
Appendix C	Preliminary Unexploded Ordnance (UXO) Assessment

1. Introduction

1.1 Context

Southside Regeneration Ltd (the Client) are proposing to redevelop a disused parcel of land located immediately north-east of the Mancunian Way / A5103 junction, within the southern extents of Manchester city centre (the Site). The site's location and approximate boundary is shown in Figure 1.

Figure 1: Site Location Plan



1.2 Development Proposals

Development proposals for the site are at this stage not fully quantified, however, in principal they are proposed to comprise:

- Site preparatory works including Newcastle Street becoming a 'pedestrian only' highway.

- The construction of a residential apartment complex extending to 23 stories in height.
- The inclusion of some retail / commercial at ground level within the residential complex.
- Landscaping within the development is proposed to include limited green spaces (soft landscaping) within the centre of the complex constructed on a raised podium slab, as well as paved access routes and hard-surfaced public realm.

1.3 Objectives & Scope of Assessment

Cundall was commissioned by the Client to undertake a Preliminary Geotechnical and Geoenvironmental Assessment for the site in the context of the proposed development in order to support an anticipated planning application, inform the potential geotechnical and geoenvironmental risks and development constraints, and, provide outline recommendations for further work as considered necessary.

This Phase I Geoenvironmental Desk Study has been undertaken based upon a review of the geological, environmental, hydrological and hydrogeological information pertaining to the site. In undertaking the work, Cundall reviewed a series of third party geotechnical and geoenvironmental reports for the site detailed subsequently in this Report. At this stage Cundall do not have legal reliance on the previous reports, therefore, the review has been limited to the factual data and undertaken for information purposes only.

A preliminary conceptual site model (CSM) has been developed for the site based on available information. An initial risk assessment has been undertaken, based on the preliminary CSM, to identify any potentially active pollutant linkages that may be present at the site.

Preliminary geotechnical considerations were limited to a preliminary foundation options appraisal, and preliminary pavement, drainage and structural floor slab considerations only.

1.4 References

This desk study assessment has been based on a review of readily available published information, background research and previous geotechnical and geoenvironmental reports both on, and close to, the site. These include, but are not limited to, the sources described below. Where additional sources of background information have been used, these are stated in the text. It must be noted that Cundall benefit from full legal reliance on references 8 to 11 inclusive only, with references 1 to 7 inclusive having being used for information purposes only.

1. Arup – First Street Preliminary Geotechnical and Geoenvironmental Report, report reference REP/114935/GEO02, dated April 2006.
2. CELTIC – First Street Remediation Validation Report, report reference R1227/09/3701 dated September 2009.
3. Environment Agency – Final Validation Report, First Street Manchester, letter reference Lt116-C1227-CM-EA-200709.

4. Manchester City Council – Central Spine, First Street, Manchester, letter reference MCC/EnvH/srogers/FirstStreet/051009.
5. Capita-Symonds – Phase 2 Ground Investigation (First Street South), report reference 17617-SI02, dated 12th June 2012.
6. BGS – Geology of Britain Viewer (Borehole Scans), reviewed September 2015.
7. University of Manchester - Map Collection (LUNA), reviewed September 2015.
8. Landmark Information Group – Envirocheck Report, report reference 72883240_1_1, dated 24th September 2015.
9. British Geological Survey (BGS) - 1:10,000 scale Sheet SJ89NE (relevant extract included in Envirocheck Report).
10. BGS – Geology of Britain Viewer (Borehole Scans), reviewed September 2015.
11. 6 Alpha Associates – Preliminary Unexploded Ordnance (UXO) Risk Assessment, Plot 8, First Street, Manchester, dated 25th September 2015.

1.5 Limitations

This Report has been based upon appropriate and relevant published guidance and best practice available at the time of writing. Cundall reserves the right to review / re-assess the findings and conclusions contained within this document in the event of any guidance or best practice being superseded from the date of issue of this Report.

The findings and opinions conveyed in this report are based on information obtained from a variety of readily available sources as detailed within the report and which Cundall believes are reliable and on a site inspection visit. The information contained in this report is to the best of our knowledge accurate at the date of issue. If new information comes to light pertaining to the site, Cundall reserves the right to review the information and revise the recommendations made in the report.

2. Site Description

2.1 Site Details

A summary of the key site details is given in Table 1.

Table 1: Site Details

Site Area & Shape	The site comprises an irregular shaped parcel of land extending to an area of approximately 1.7 Ha.
Site Boundaries & Adjacent Land Use	<p>The site is bounded by adopted public highway to all aspects, namely, Hulme Street to the north, Wilmott Street to the east, Chester Street to the south-east & Mancunian Way to the south-west, and, Medlock Street to the west.</p> <p>The site is generally surrounded by dense commercial / residential properties, some in the process of redevelopment / regeneration.</p>
Existing Land Uses & Features	<p>The site is predominantly disused with Newcastle street Bisecting the centre of the site in an northwest by southeast orientation. The site can generally be divided into four areas:</p> <ul style="list-style-type: none"> • The western portion of the site comprising former car parking. • The southwest corner, currently occupied by grassed land and mature trees. • The southeast corner, comprising former car parking. • The northeastern corner, encapsulated by high fences (hoarding). • The northern extent comprising the former adopted highway of Newcastle Street,
Site Topography	The site falls slightly (approximately 1.00 m) from south to north with further minor undulations identified.
Surface Cover	<p>The site surfacing is dominated by concrete hard cover, with tarmac surfacing noted where existing adopted highways (Newcastle Street) are present and where the existing car park is present in the far north-west of the site.</p> <p>Trees are sporadically present to the western and southern site boundaries, with grass surfacing also present in the far south-west of the site and an area of rough ground (with no hardstanding cover) is present in the northeast of the site.</p>

2.2 Site Inspection

A site inspection was undertaken by a Geoenvironmental Engineer from Cundall on the 30th September 2015. This detailed inspection extended to all safely accessible areas. The key features identified as part of the walkover are as described below, with the relevant photographs also presented within Key Features Plan, Drawing 1011906.DWG.GL.001.

- Several areas of ground around the perimeter of the site were noted to be overgrown with vegetation exploiting cracks within the poor condition hardstanding surface cover (Image 1).
- The northeast part of the site is currently vacant, and entirely fenced with access via a locked gate (Image 2). Ground cover within this area appears to comprise rough ground (Image 3).
- The eastern-most portion of the area comprising the northeast of the site is raised relative to the adjacent road (Wilmot Street), with the site being retained via a brick wall noted to be largely in a state of disrepair (Image 4).

- In the southeast corner of the site, evidence for voids to exist immediately below the concrete hardstanding were present, and an open manhole had been in-filled to ground level by granular made ground (Image 5), this area of the site is accessible via the removal of a temporary fence panel (Image 6).
- Newcastle Street was noted to comprise of a cobbled pavement overlaid with tarmac at surface. Several utilities were noted along the length of Newcastle Street and within the pavements running parallel to it (Image 7).
- Several mature trees were noted in the southwest corner of the site (Image 8).
- The western portion of the site is accessed via a raise-able barrier (Image 9) and is surfaced with concrete and tarmac (relic car park surfacing).
- Fly tipped waste was observed to have accumulated in several parts of the site, particularly in the north-eastern area of the site (Image 10).

3. Historical Development

3.1 Historical Review

Two key sources of mapping have been reviewed, namely, the historical mapping included as part of the Envirocheck report (included in Appendix A), and, the Manchester University online mapping archive – LUNA (it should be noted that these are not reproduced in this report for copyright reasons). Composite historical maps that present potentially misleading information have been excluded from this summary. The key historical features are given in Table 2, with a summary presented subsequently. Features considered to represent a significant development constraint or potential source of contamination are highlighted in **bold** text. All measurements are approximate and are drawn from the site boundaries of the main body of the site for simplicity (i.e. excluding the northern ‘finger’ of Newcastle Street).

Table 2: Summary of Historical Land Use of Site

Date	Scale (Source)	Site Features	Surrounding Land Use (Note: Distances are approximate)
1848	1:10,560 (Lancashire & Furness)	The site is recorded to be wholly developed with dense residential housing.	The quality and scale of the mapping make discerning detail difficult, however, it appears that the surrounding area is wholly developed with both residential and industrial premises.
1851	1:1,056 (Lancashire & Furness)	No significant changes recorded.	<p>The surrounding land is dominated by dense residential housing to all aspects.</p> <p>A series of six gasometers are recorded between 75 and 100 m to the north / north-east of the site.</p> <p>A cotton mill is recorded 100 m to the north of the site.</p> <p>The Medlock Street Dye Works is recorded 100 m to the north / north-west of the site.</p> <p>The Medlock Street Glass Works is recorded 150 m to the north-west of the site.</p> <p>The River Medlock is recorded 150 m to the north of the site at its closest point.</p>
1891	1:500 (Lancashire & Furness)	No significant changes recorded.	<p>The gasometers are now recorded as being larger and repositioned, and labelled as Gaythorn Gas Works. The gas works is recorded as having expanded with the River Medlock culverted beneath it.</p> <p>The cotton mill, Medlock Street Dye Works and Medlock Street Glass Works are no longer recorded.</p> <p>A saw mill, printing works and the Victoria Works are recorded 150 m north west of the site.</p> <p>The Cambridge Street India Rubber Works is recorded 100 m to the north east of the site.</p> <p>Chatham Mills are recorded 200 m east of the site.</p>

Date	Scale (Source)	Site Features	Surrounding Land Use (Note: Distances are approximate)
1894	1:10,560 (Lancashire & Furness)	No significant changes recorded.	No significant changes recorded.
1909	1:10,560 (Lancashire & Furness)	No significant changes recorded.	No significant changes recorded.
1922	1:2,500 (Lancashire & Furness)	No significant changes recorded.	St Philip's Church and a school are recorded to the immediate south of the site. A printing works is recorded 150 m east of the site.
1923	1:10,560 (Lancashire & Furness)	No significant changes recorded.	No significant changes recorded.
1928	Town Plans	No significant changes recorded.	The rubber works is now recorded as having expanded and encroached the northern boundary of the site.
1931	1:10,560 (Lancashire & Furness)	No significant changes recorded.	No significant changes recorded.
1938	1:10,560 (Lancashire & Furness)	No significant changes recorded.	A significant quantum of the residential development to the immediate west of the site is no longer recorded.
1941	1:2,500 (Manchester City Council)	No significant changes recorded in the western half of the site. The eastern half of the site is now recorded as being occupied partially with a school, with the remainder being disused.	Extensive demolition due to bomb damage is recorded to the immediate south of the site. The rubber works is now recorded as Dunlop Rubber Works . The rubber works is recorded as having been struck and damaged by fire bombs. Numerous further high explosive and fire bomb strikes are recorded within 150 m of the site's southern and eastern boundaries.
1948	1:1,250 (OS)	The site is now recorded as wholly redeveloped, although the road layout remains broadly consistent. A coal yard is recorded in the north-east corner, the Church Works (printing) in the south-east corner, Medlock House (clothing) is recorded in the centre-west of the site. Two engineering works are recorded, one in the west and one in the centre-east of the site.	New residential development is now recorded to the immediate west of the site.
1950	1:1,250 (OS)	No significant changes recorded.	Much of the high density residential housing in the vicinity of the site is no longer recorded.

Date	Scale (Source)	Site Features	Surrounding Land Use (Note: Distances are approximate)
1951 - 1956	1:1,250 (OS)	No significant changes recorded.	No significant changes recorded.
1956	1:10,000 (OS)	No significant changes recorded.	No significant changes recorded.
1960	1:1,250 (OS)	The engineering works in the west of the site is no longer recorded.	The Mancunian Way (motorway) is now recorded to the south of the site, with new road junctions associated with the motorway present to the immediate south west and 150 m to the south east of the site. <i>Note: although these features are recorded, further research indicates that construction did not take place on the motorway until 1963, opening in 1965.</i>
1962	Town Plans	A garage is recorded in the south-western corner of the site. The north eastern corner of the site is recorded as storage for the rubber works .	No significant changes recorded.
1968	Town Plans	An underground shelter is recorded beneath the coal yard. The rubber works storage is no longer recorded.	No significant changes recorded.
1972	1:10,000 (OS)	No significant changes recorded.	No significant changes recorded.
1980 - 1981	1:1,250 (OS)	The coal yard and engineering works in the east of the site is no longer recorded.	Manchester Polytechnic buildings are now recorded within 50 m of the site's eastern and eastern boundaries. The church and school to the immediate south of the site are recorded to have been replaced by a warehouse.
1980 - 1981	1:10,000 (OS)	No significant changes recorded.	No significant changes recorded.
1985	1:1,250 (OS)	No significant changes recorded.	Gaythorn Gas Works is now recorded as 'disused'. The saw mills, printing works and Chatham Mills are no longer recorded.
1989	1:10,000 (OS)	No significant changes recorded.	The site of the Gaythorn Gas Works is now recorded as a car park.
1994	1:10,000 (OS)	No significant changes recorded.	No significant changes recorded.
2006	1:10,000 (OS)	No significant changes recorded.	The Dunlop Rubber Works is no longer recorded.
2015	1:10,000 (OS)	The site is no longer recorded as being occupied by any structures, aside from a single unlabelled small building in the north west corner.	The land immediately to the north and east of the site is now recorded as being disused with no buildings recorded.

3.2 Historical Development Summary

3.2.1 On-site

The site has undergone three key phases of recorded development:

- Dense residential development up until 1941.
- A coal yard, engineering works, garage and clothing facility up until 2015. An underground shelter was also indicated during this period.
- Predominantly disused land post 2015.

3.2.2 Surrounding Land Use

The surrounding land uses are dominated as follows:

- A gas works to the north of the site up until 1989.
- A rubber works to the north of the site between 1928 and 2006.
- Dense residential housing up until 1950.
- Numerous further industrial facilities including printing works, saw mill and engineering works.

4. Geological, Mining & Environmental Setting

4.1 General

The geological and geoenvironmental setting of the site has been determined primarily from the information contained within the references listed in Section 1.4 of this report. Where reference is made to other information sources with respect to the geoenvironmental setting of the site, the source used is stated in the text. A Preliminary Conceptual Geological Model is presented as Drawing 1011906.DWG.GL.002. The Envirocheck Report, obtained for the site, is included in Appendix B. For simplicity, only the main body of the site is included in detail, with the northern 'finger' of Newcastle Street only considered in general terms.

4.2 Geology

4.2.1 Data Sources

The anticipated geological sequence underlying the site has been derived from previous intrusive investigations at the site, and, the published BGS geological map of the area, 1:10,000 scale Sheet SJ89NE (the geology extract is included in the Envirocheck Report Appendix B).

4.2.2 Published Mapping

The BGS geological map of the area indicates that the site is underlain by superficial deposits comprising Glaciofluvial Sheet Deposits (sand and gravel) beneath the majority of the site, and Till (clay, sand, gravel, cobbles and boulders) beneath the far south eastern extents. The solid geology is indicated to comprise the Chester Pebble Beds Formation (sandstone). No made ground is recorded on the published mapping, however, due to the extensive development history recorded at the site, some made ground is anticipated.

4.2.3 Review of Previous On-site Intrusive Data

Fourteen exploratory holes (comprising trial pits, dynamic sampler boreholes and cable percussion boreholes) were advanced by Geotest Ltd on behalf of Capita Symonds in January 2011. A summary of the ground conditions recorded as part of that investigation is given in Table 3.

Table 3: General Summary of Ground Conditions

Stratum	From (m AOD)	To (m AOD)	Thickness (m)	General Description
Hard surfacing	GL	0.10 - 0.15	0.10 – 0.15	Tarmac / concrete.
Topsoil	GL	0.20 - 0.40	0.20 - 0.40	Dark brown sandy gravelly clay.
Made Ground	GL	0.60 – 2.60	0.60 – 2.60	Sandy clayey gravel with concrete, ash, limestone, wood and brick / orange brown gravelly fine sand with brick and concrete.

Stratum	From (m AOD)	To (m AOD)	Thickness (m)	General Description
Glaciofluvial Deposits	0.60 – 2.60	4.20 - 5.10	2.10 - >4.40*	Brown clayey gravelly silty SAND.
Till	4.20 - 5.10	9.20 – 12.40	4.70 – 7.80	Brown slightly silty slightly gravelly CLAY.
Chester Pebble Beds	9.20 – 12.40	>20.5*	>11.30*	Weak reddish brown SANDSTONE

* = Not Fully Quantified

4.2.4 Geological Review Summary

Ground conditions recorded within the historical borehole recorded appear to be generally consistent with the published geological mapping for the, however, rather than the Till being restricted to the south eastern corner of the site, it appears that it underlies the whole site, and is overlain by the Glaciofluvial Deposits.

The Made Ground soils appear to typical of a previously developed site in their composition, however, there does appear to be significant lateral variation in the thickness of this stratum over relatively short distances.

Additionally, although not identified as part of the previous investigations, the presence of an 'underground shelter' recorded in the north eastern corner of the site in the historical mapping, may be indicative of locally deep made ground that has not yet been identified or delineated.

4.3 Former Gaythorn Gas Works

It is understood that the Gaythorn Gas Works (located approximately 100 m north of the site) was remediated in 2009 to the satisfaction of both the Environment Agency (for controlled waters risks) and Manchester City Council (for human health risks), and the appropriate planning conditions were discharged.

4.4 Mineral Extraction

4.4.1 Mining Legacy

The Coal Authority interactive mapping indicates that the site is not within a High Risk area.

It is understood that historic sandstone workings exist beneath some of the University of Manchester structures (within 500 m to 1 km of the site) which have been subsequently treated. Additionally, voids in the sandstone were recorded between 10.00 and 15.00 m bgl beneath the former Gaythorn Gas Works during remediation works, although the origin of these is currently unclear. However, at this stage, there is no information indicating similar features beneath the site, and, previous intrusive investigations at the site have not recorded any evidence of historic mining (voids, loss of flush, soft ground etc) at shallow depth.

4.4.2 BGS Mineral Sites (from Envirocheck data)

There are no BGS mineral sites recorded on or within 1 km of the site.

4.5 Ground Stability (Non-Mineral Extraction)

The site is within an area that has been designated as having No Hazard Potential for Compressible Ground, Ground Dissolution, and Shrinking or Swelling Clay. Additionally, the site is an area designated as having a Very Low Hazard Potential for Collapsible Ground, Landslide, Running Sand Running Sand.

4.6 Hydrology

The nearest surface water feature to the site is the River Medlock, located 162 m north of the site. The river is wholly culverted within the vicinity of the site; as an open culvert to the north west and north east, and as an enclosed culvert to the north.

No surface water abstractions are recorded within 500 m of the site.

Numerous discharge consents are recorded within 500 m of the site, predominantly associated within the discharge of sewage and storm overflow to the River Medlock.

4.7 Hydrogeology

The superficial deposits on site are classified as being Secondary A Aquifer, and the underlying solid geology as a Principal Aquifer.

It is considered that the Secondary A Aquifer within the superficial deposits is associated with the Glaciofluvial Deposits. The presence of Till beneath the Glaciofluvial Deposits, although not classified, would typically be classified as Unproductive Strata.

No active groundwater abstractions are recorded within 250 m of the site. The closest being recorded 312 m east, for 'general use' by Manchester Metropolitan University.

A single discharge consent into groundwater is recorded 224 m east of the site being recorded for 'cooling water' by Manchester Metropolitan University.

The previous investigation at the site indicated the potential presence of two bodies of water; a shallow depth body of water within the Glaciofluvial Deposits (Secondary A Aquifer) perched above the cohesive Till recorded at depths varying between 2.60 and 5.00 m bgl and, a deeper sub-artesian body of water within the Chester Pebble Beds (Principal Aquifer) which although not identified during drilling, was recorded in subsequent monitoring at depths of between 8.64 and 9.19 m bgl.

4.8 Landfill & Waste

There are no historic landfills or waste management facilities recorded within 500 m of the site.

4.9 Radon

The site is not located within an area recorded to be affected by radon gas.

4.10 Statutory Registers & Environmental Issues

4.10.1 Industrial Land Use

There are numerous Contemporary Trade Directory Entries recorded within 250 m of the site. The closest active record is recorded 130 m north east of the site associated with food production. No Contemporary Trade Directory Entries are recorded within 250 m of the site that are considered to represent a significant source of contamination.

4.10.2 Fuel Station Entries

There are no active fuel station entries on or within 250 m of the site. A single obsolete entry exists, recorded 240 m north east, associated with a former garage / workshop.

4.10.3 COMAH

There are no COMAH sites within 500 m of the site.

4.10.4 Pollution Incidents to Controlled Waters

A single pollution incident to controlled waters is recorded 222 m north west of the site, recorded as a Category 3 - minor incident, associated with a road traffic accident discharging Irgasol into the Manchester Ship Canal.

4.10.5 Sensitive Land use

There are no Sensitive Land Uses recorded within 1 km of the site.

4.11 Review of Previous Geoenvironmental Assessment

Fourteen exploratory holes (comprising trial pits, dynamic sampler boreholes and cable percussion boreholes) were advanced by Geotest Ltd on behalf of Capita Symonds in January 2011 with five soil samples submitted for chemical analysis (with three samples subsequently submitted for soil leachate analysis), three water samples submitted for chemical analysis and ground gas monitoring undertaken. A review of the data was undertaken as part of this assessment (with reference made to published ATRISK^{SOIL} and CIEH S4ULs screening criteria for total soils analysis and EQS / DWS for soil leachate analysis) indicated the following:

- The data set is limited with some areas of the site not fully investigated and some materials (specifically the Made Ground soils) not wholly characterised.
- Localised elevated concentrations of heavy metals within the Made Ground soils (specifically Lead) were recorded.
- No significantly elevated concentrations of leachable heavy metals or hydrocarbons were recorded.

- The site does not appear on this initial review to be significantly affected by any off site sources of contamination.
- No assessment with respect to potable water supply pipes has been undertaken.
- Water soluble sulphate concentrations are all below 500 mg/l.
- Significant ground gas concentrations and flows were not recorded.

4.12 Preliminary Local Authority Liaison

Preliminary liaison by telephone with the Contaminated Land Officer (CLO) from Manchester City Council was undertaken on the 29th September 2015. The CLO indicated that the environmental setting of the site and its immediate vicinity aligned closely with that already identified within this Section.

4.13 Preliminary Unexploded Ordnance (UXO) Assessment

A preliminary UXO assessment was obtained by Cundall and is presented in Appendix C. The assessment concludes that there is a 'medium probability of UXO encounter' and that a Detailed UXO Threat and Risk Assessment should be undertaken.

4.14 Summary of Potential Contaminative Sources Affecting the Site

No potential sources of contamination were identified (either olfactory or visual) during the site inspection. However, further potential sources identified as part of the desk based research are as follows:

- On-site Made Ground associated with the previous phases of development at the site considered to represent localised elevated concentrations of heavy metals.
- On-site Made Ground associated with the previous phases of development at the site located in areas not previously investigated.
- Fly-tipped materials.

5. Preliminary Conceptual Site Model

5.1 Background Methodology

For 'contaminated land' to exist a valid contaminant linkage must be present. That is, there should be a source of contamination, a receptor where 'significant harm' or 'significant possibility of harm' may be caused; or pollution of controlled waters is being, or likely to be caused, and a pathway which connects the two. Should any element of this contaminant linkage not be present (or severed) then the land may not be regarded as contaminated land, as defined in Part IIA of the Environmental Protection Act 1990 (amended). Where contaminated land is suspected, the risk assessment should take into account site specific hazards (i.e. chemical composition of the soil and/or groundwater) and conceptual model for the Site. Within the UK, DEFRA have produced a human toxicological risk assessment known as the Contaminant Land Exposure Assessment (CLEA) Model (Contaminated Land Research report series (CLR Report No's 7, 9 and 10). It should be noted that with effect from August 2008, CLR Report No's 9 and 10 were replaced by Environment Agency's Science Reports SC050021/SR2 and SC050021/SR3, respectively. In addition, CLR 7 has been withdrawn and no replacement has been published to date. Table 4 presents the definitions of the risk terms used during the conceptual risk assessment for the site based upon this desk study.

Table 4: Contamination Risk Ranking Terminology

Potential Consequence of Hazard – Receptor Linkage (in accordance with CIRIA C552)	
Severe	Short-term (acute) risk to human health likely to result in significant harm. Short-term risk 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.
Medium	Long-term (chronic) damage to human health. Pollution of sensitive water resources. A significant in change in a particular ecosystem, or organism forming part of such ecosystem. Damage to sensitive buildings and structures.
Mild	Slight short term health effects to humans. Slight pollution of non-sensitive water resources. Some change to population densities but with no negative effects on the function of the ecosystem. Slight damage to sensitive buildings, structures and services.
Minor (Negligible)	Non-permanent effects to human health (easily prevented by means such as personal protective clothing etc.). Easily repairable effects of damage to buildings, structures and services (e.g. discolouration of concrete).
Potential Significance: Risk Classification (in accordance with CIRIA C552)	
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.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard at the site. 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 either 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 undertaken already) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the long 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.
Negligible Risk (Very Low)	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

5.2 Preliminary Conceptual Site Model

A preliminary risk assessment has been undertaken based on the reviewed information in this report. This is based upon the “*source – pathway – receptor*” conceptual risk model in accordance with the relevant UK legislation.

The preliminary Conceptual Site Model (CSM) outlined in the following section is based on the site’s proposed end use, in this case, residential with some retail / commercial at ground level together with associate public realm, soft landscaping works and pedestrianised public highways as described in Section 1 of this report.

A graphical representation of the Preliminary CSM is subsequently presented as Drawing 1011906.DWG.GL.003.

Table 5: Potential Sources, Pathways & Receptors

Potential Sources of Contamination
Made Ground associated with the site’s development history. Groundwater impacted by both on-site and off-site mobile contaminants.
Potential Contamination Migration Pathways
Migration of asphyxiant / explosive ground gasses through granular soils. Ingestion of soils during and following construction. Direct contact during and following construction. Inhalation of fugitive dust during construction. Lateral / vertical migration of contaminated ground water. Lateral / vertical migration of mobile contaminants.
Potential Contamination Receptors
Groundwater (underlying Secondary A and Principal Aquifers). Surface waters (River Medlock). Construction workers during construction works. General public (passers-by) during construction works. Site end users. Built environment

5.3 Preliminary Risk Assessment

A preliminary risk assessment has been undertaken based on the reviewed information in this report. This is based upon the “*source – pathway – receptor*” conceptual model.

The preliminary risks identified for the site assuming no remedial action is undertaken are summarised in Table 6.

Table 6: Preliminary Risk Assessment

Source	Pathway	Receptor	Consequence of Pollutant Linkage	Likelihood of Pollutant Linkage	Overall Risk
On-site Made Ground	1. Migration of ground gas.	Construction workers	H	N	N
		Site end users	H	L	L
		Built environment	H	L	L
	2. Ingestion	Construction workers	H	L	L
		Site end users	H	N	N
	3. Direct contact	Construction workers	H	L	L
		Site end users	H	N	N
		Site end users (via water supply pipes)	H	L	L
		Built environment (buried concrete)	M	L	L
	4. Inhalation of dust	Construction workers	H	L	L
		Passers-by (during construction)	H	L	L
	5. Lateral / vertical migration (mobile contaminants)	River Medlock	M	N	N
		Secondary A and Principal Aquifer	M	L	L
Fly-tipped Materials	6. Ingestion	Construction workers	H	L	L
	7. Direct contact	Construction workers	H	L	L
Groundwater impacted by mobile contaminants	8. Lateral / vertical migration	River Medlock	M	N	N
		Secondary A and Principal Aquifer	M	N	N

Notes: H (High), M (Moderate/Medium) L (Low), N (Negligible)

5.4 Preliminary Risk Assessment Summary

5.4.1 Risk to Human Health

Based on the available information pertaining to the site that has been reviewed as part of this report, it is considered that the preliminary overall risk to human health from the proposed development is generally considered **low**. This preliminary risk assessment is based on the following risk considerations:

- No evidence of significantly elevated concentrations of both heavy metals and hydrocarbons has been identified as part of the previous ground investigation at the site.
- Hazardous ground gasses (asphyxiant / explosive) have not been recorded at the site at concentrations considered to pose a significant risk or that require further remedial action.
- Although a full assessment in accordance with UKWIR has not been undertaken, significant quantum of volatile hydrocarbons and heavy metals that typically represent a risk to potable water supply pipes have not been recorded.
- Although a gas works was formerly present approximately 100 m north of the site, the weight of evidence reviewed to date indicates that this has been appropriately remediated and that it is therefore unlikely that this now represents a significant potential source of contamination to the site.
- It is assumed that human health issues associated with the construction phase will be largely minimised by the adoption of personal protective equipment (PPE) and appropriate hygiene procedures during the construction works, with appropriate dust suppression measures employed.

5.4.2 Risk to Controlled Waters

The overall risk to controlled waters is considered **negligible to low** and this is based on the following considerations:

- No significantly elevated concentrations of leachable heavy metals or hydrocarbons were recorded within the made ground at the site as part of the previous investigation.
- The River Medlock is wholly culverted therefore any mobile contaminants / groundwater impacted by mobile contaminants is unlikely to be able to impact the river due to pathway disruption (physical barrier) created by the culvert construction.
- The Principal Aquifer is overlain by a thickness of Till, generally comprising low permeability clay, extending to thicknesses up to, and greater than 5.00 m, which, is considered to represent a physical barrier to vertical migration. This is substantiated by the previous intrusive investigation at the site, where the monitoring identifies two bodies of groundwater beneath the site that are separated by the Till deposits.

5.4.3 Risk to Built Environment

The overall risk to the built environment is considered **low** and this is based on the following considerations:

- No significant concentrations of hazardous ground gas have been recorded at the site.
- Chemical compounds which may represent a significant risk to buried concrete have not been recorded at the site in significant concentrations.

6. Preliminary Geotechnical Considerations

6.1 Ground Conditions

The ground conditions generally are indicated to comprise a sequence including Made Ground, Glaciofluvial Deposits, and Till rested on the Chester Pebble Beds (sandstone) as discussed in Section 4 of this report.

6.2 Foundations

6.2.1 Preliminary Foundation Design Considerations

The scheme is currently proposed to extend to up to 23 stories in height with column loads anticipated to be up to 13,000 kN (this is, however, likely to be subject to significant lateral variation due to the varying building heights and layouts proposed).

Given the structural loads proposed shallow foundations (pads/strips) are considered unsuitable for the proposed development as they would typically result in uneconomic pad sizes and excessive total / differential settlements.

Driven precast concrete or driven steel tube piles are considered unsuitable due to the uncertainty of the degree of weathering and level / localised dip of the underlying sandstone rockhead, as an uneven rockhead may result in undesirable degrees of deflection or excessive settlement of individual piles.

Based upon site-specific data reviewed as part of the previous investigation the anticipated strength of the bedrock may preclude the use of CFA piles where significant penetration is required (although this should be further quantified by way of further intrusive investigation specific to the scheme). Therefore, at this stage, the adoption of a rotary bored pile foundation solution is considered likely to be the most suitable option.

Column loads will likely have to be transferred to the underlying Chester Pebble Beds Sandstone using bored piles designed with consideration given to negative skin friction (NSF) being generated via loading of unconsolidated made ground deposits by the proposed floor slab (although the generation of negative skin friction could be avoided if the full thickness of made ground materials were excavated and re-compacted prior to development).

Groundwater protection measures and / or a piling risk assessment in accordance with current EA guidance may also be required due to the presence of an underlying Principal Aquifer (Chester Pebble Beds) along with the recorded presence of groundwater potentially impacted by mobile contaminants.

6.2.2 Preliminary Piling Assessment

A preliminary piling assessment has been carried out based on 600mm, 750mm and 900mm diameter (bored) piles, using a traditional global factor of safety approach.

The following criteria and assumptions have been made in undertaking the analysis:

- Vertical loads arise from the columns only (no bending moments or lateral loads are considered).
- Allowable working load = (ultimate shaft resistance / [FoS = 2.5]) – negative skin friction.
- The base of the pile cap will be located at 1.00 m below existing ground levels.
- Negative skin friction is allowed for within made ground = Sum (0.3 x effective stress x surface area of pile within made ground).
- Shaft resistance is being generated from natural soil and bedrock only.
- Design groundwater level is located at 4.00 m bgl.
- A pile cap with between 3 to 6 piles per cap is considered a likely scenario, as the proposed loads per column are considered too high to be supported by a single pile.
- Minimum pile to pile spacing = 3.0 x pile diameter.

The geotechnical model adopted for the piling assessment is presented in Table 7. It should be noted that model is based upon both the findings of previous ground investigations carried out at the site and geotechnical parameters that are typical of the strata anticipated adopted from BS8002:1994 where applicable. These assumptions should be used for guidance purposes only at this stage and must be confirmed by way of an intrusive investigation.

Table 7: Geotechnical Model for Piling Assessment

Stratum	Depth (m bgl)	Undrained Shear Strength Cu (kPa)	Angle of Shearing Resistance (Degrees)	UCS (MPa)	Bulk Unit Weight (kN/m ³)
Made Ground	0 – 2.6 m	-	-	-	18
Glaciofluvial Deposits	2.6 – 5.1 m	-	31	-	18
Till	5.1 – 12.4 m	60	-	-	18
Chester Pebble Beds (Sandstone)	12.4 - >20.0 m	-	34	2.5	22

Table 8 indicates preliminary minimum bored pile lengths and number of piles required to allow for column loads of 13,000 kN assuming 600 mm, 750 mm and 900 mm pile diameters. All piles are assumed to be socketed to at least 4.00 m into sandstone strata showing a UCS of at least 2.5 MPa.

Table 8: Indicative Pile Details

Preliminary Pile Details			
Pile Diameter	Number of Piles	Minimum Length of Piles (m)	Safe Allowable Pile Capacity (kN)
600 mm	6	15 *	2200
750 mm	4	16 *	3400
900 mm	3	17 *	4800

Notes: *Including at least 4.00m penetration into competent sandstone strata

6.3 Preliminary Tower Crane Considerations

It is anticipated that a tower crane may be utilised during the construction phase, and it is likely that a piled solution to support a tower crane may be the most suitable foundation option, however, anticipated loadings and the types of plant used are not yet quantified, and therefore, this aspect is not considered further in this report.

6.4 Preliminary Floor Slab Design Considerations

The proposed ground floor slab is anticipated to be predominantly underlain by made ground of laterally and vertically variable engineering properties. Made ground has been recorded locally to extend to 2.60 m bgl, although greater thicknesses cannot be discounted at this stage.

For the purpose of this assessment it is assumed that the floor slab will be at least 150 mm thick and be underlain by at least 150 mm 'Type 1' with anticipated uniform load of 15 kPa. Under this scenario a minimum excavation depth of 300 mm would be required in areas of the site that are required to support a ground bearing slab to allow for this formation. However, due to the variable nature of the made ground, it is recommended that this stratum be wholly removed and replaced by engineered fill, or, excavated, screened and re-engineered in order to mitigate differential settlement. This re-engineering of made ground would also have the added effect of reducing / negating negative skin friction acting upon the piles.

Alternatively, a suspended floor slab may be considered.

6.5 Preliminary Road Pavement and Hardstanding Design Considerations

A tarmac surfaced access road and car parking area will likely be constructed as parts of the proposed scheme. It is assumed that the proposed ground level will be similar to the existing ground level across the site. Additionally, although Newcastle Street is proposed to be a pedestrianised thoroughfare, it is assumed at this stage it may have to be trafficable to support emergency vehicles.

Laboratory CBR test results undertaken as part of the previous investigation recorded CBR values of 0.7 and 4.0 % within cohesive and granular made ground respectively.

Based on these preliminary findings, it is possible that subgrade improvement may be required for road construction where CBR values are lower than 2.5%.

6.6 Preliminary Drainage and Groundwater Considerations

No standing water or soft ground was noted on site during the site walkover. The previous investigation at the site indicated the potential presence of two bodies of water; a shallow depth body of water within the Glaciofluvial Deposits (Secondary A Aquifer) perched above the cohesive Till, and, a deeper sub-artesian body of water within the Chester Pebble Beds (Principal Aquifer). It is assumed at this stage that mains

drainage will be utilised for storm water and that soakaway drainage or permeable paving is unlikely to be a practical site-wide solution.

6.7 Preliminary Buried Concrete Grade Considerations

Based on the data included as part of the previous investigations on the site, both the Made Ground and natural soils would be considered to represent a Design Sulphate class of DS-1 and an Aggressive Chemical Environment Class of ACEC-1.

7. Recommendations for Further Work

7.1 Intrusive Site Investigation

In order to confirm or otherwise the preliminary assessments given in Sections 5 and 6 of this report, an intrusive site investigation is required.

Prior to any intrusive investigation being undertaken, a Detailed UXO Threat and Risk Assessment should be undertaken.

The intrusive site investigation should be undertaken prior to scheme designs being finalised in order to provide scheme specific geotechnical design parameters and allow refinement of the CSM and geoenvironmental risk assessment.

The investigation scope in summary should include the following:

- Cable percussion drilling to derive shallow soil characteristics and pavement design parameters.
- Rotary drilling, including the obtaining of core samples (using a high quality triple barrel system to ensure good quality core recovery) extending to depths of approximately 25.00 m bgl.
- Trial-pitting in the vicinity of the potential historic underground shelters and for sampling of shallow soils to substantiate the land quality assessment.
- Groundwater and ground gas monitoring / sampling installations in both the rotatory and cable percussion boreholes.
- Geotechnical (both soil and rock) and environmental testing, including additional laboratory CBR tests for road and pavement design.

NB it is recommended that the archaeological department of Manchester City Council is contacted to ascertain their requirements, if any regarding intrusive investigations at the site.



Drawings

DO NOT SCALE FROM THIS DRAWING

Notes

This cross section is based upon the Capita Symonds 2012 Ground Investigation.

- Vertical Exaggeration: x2.6
- Made Ground (confirmed in borehole)
 - Sand and Gravel (confirmed in borehole)
 - Clay (confirmed in borehole)
 - Sandstone (confirmed in borehole)
 - Made Ground
 - Glaciofluvial - Sand and Gravel
 - Till - Clay, Sand, Gravel & Boulders
 - Chester Pebble Beds Formation - Sandstone

General Notes

CPR / WS Capita Symonds 2012 Investigation

----- Inferred Strata Boundary

----- Proven Strata Boundary

Issue	Date	Description	By	Chkd	Verfd
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Project

Plot 8, First Street

Client

Southside Regeneration Ltd

Architect

RTKL

Title

Preliminary Conceptual Geological Model

Cross Section Line A - A'

Drawing No.

1011906.DWG.GL.002

Drawing Status

FINAL

Job No.

1011906

Scale

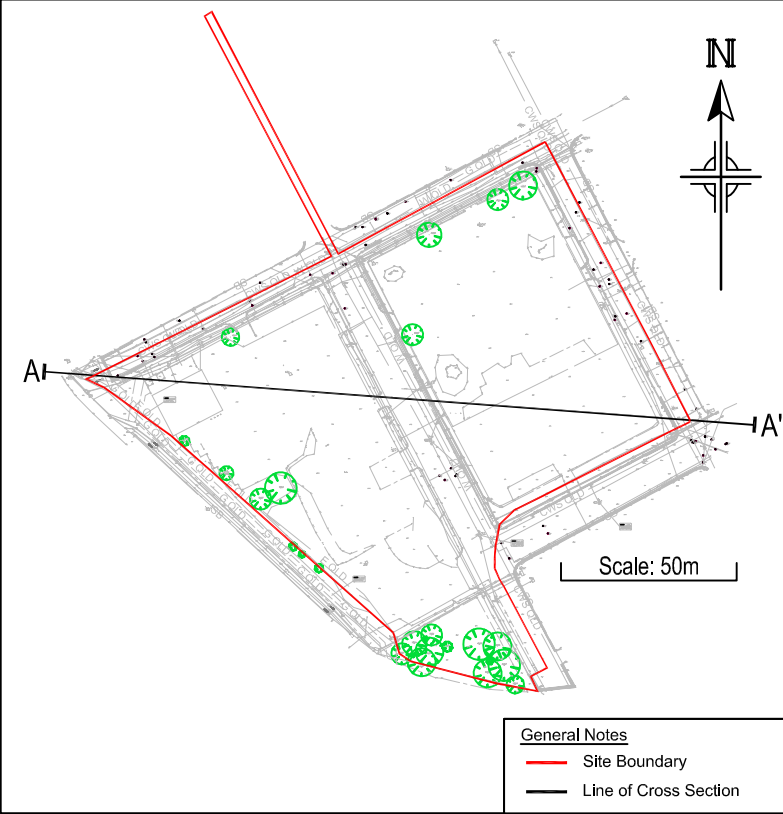
As Shown

Originator	Checked	Verified	Issue.
DS	KM	JA	

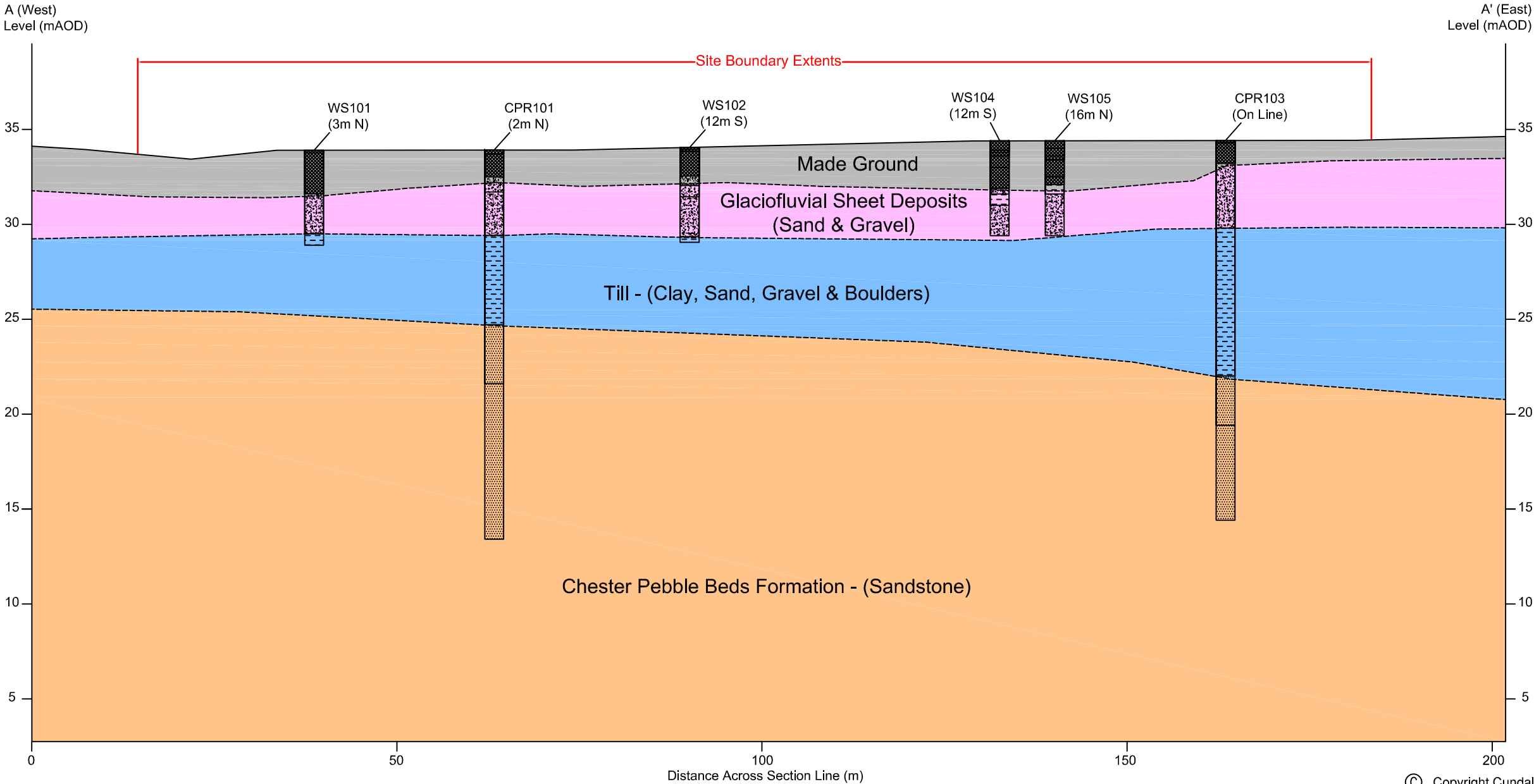
CUNDALL

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Indicative Only



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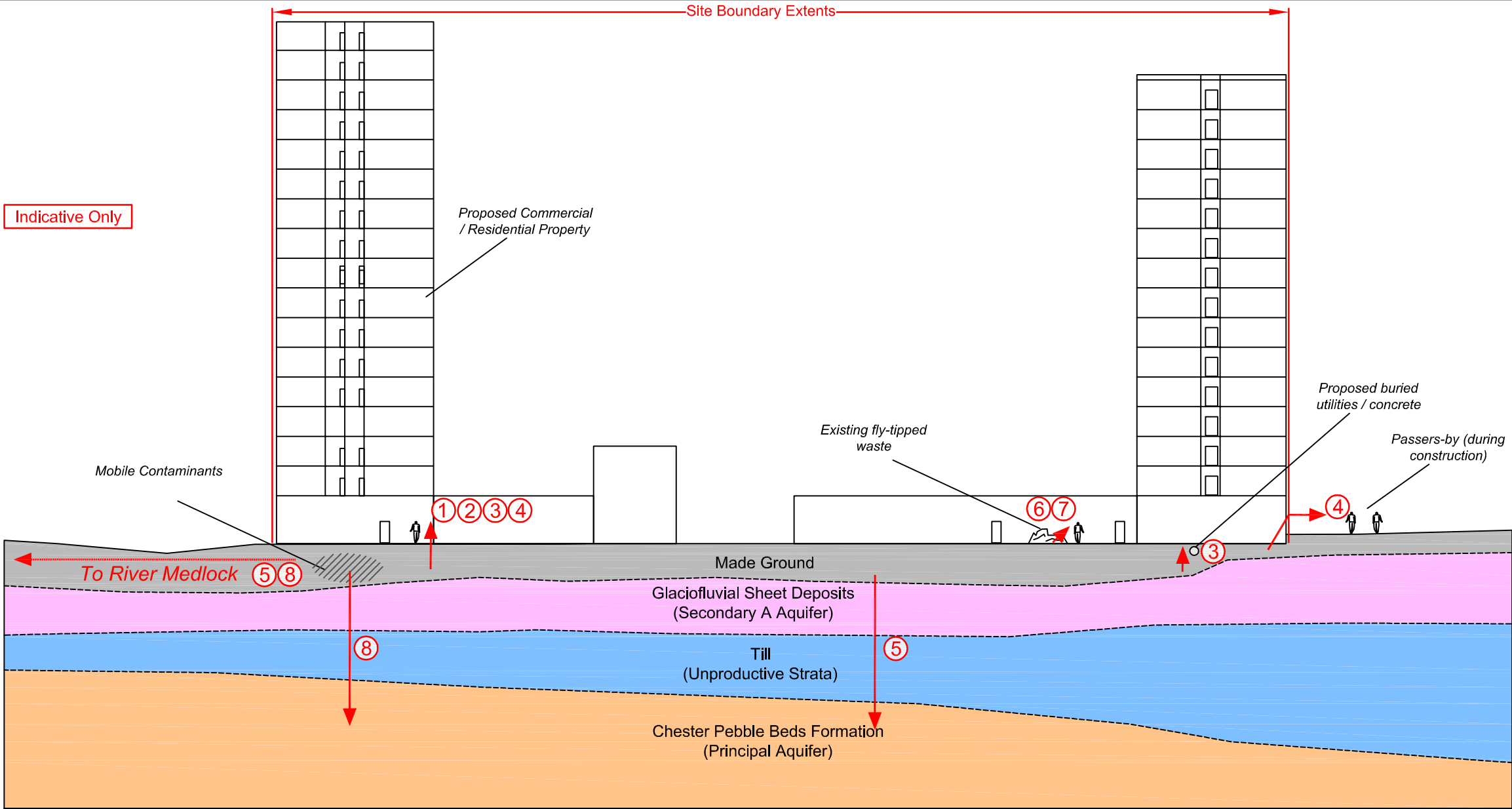
Notes

This Preliminary Conceptual Site Model is based upon the identified 'Source - Pathway - Receptor' linkages identified by this report

Notes: N (Negligible), L (Low), M (Moderate), H (High)

- 1

Potential Pollutant Linkage
- Made Ground
- Glaciofluvial - Sand and Gravel
- Till - Clay, Sand, Gravel & Boulders
- Chester Pebble Beds Formation - Sandstone



Source	Pathway	Receptor	Consequence of Pollutant Linkage	Likelihood of Pollutant Linkage	Overall Risk
On-site Made Ground	1. Migration of ground gas.	Construction workers	H	N	N
		Site end users	H	L	L
		Built environment	H	L	L
	2. Ingestion	Construction workers	H	L	L
		Site end users	H	N	N
	3. Direct contact	Construction workers	H	L	L
		Site end users	H	N	N
		Site end users (via water supply pipes)	H	L	L
	4. Inhalation of dust	Built environment (buried concrete)	M	L	L
		Construction workers	H	L	L
Fly-tipped Materials	5. Lateral / vertical migration (mobile contaminants)	Passers-by (during construction)	H	L	L
		River Medlock	M	N	N
Groundwater impacted by mobile contaminants	6. Ingestion	Construction workers	M	L	L
		Site end users	M	L	L
	7. Direct contact	Construction workers	H	L	L
		Construction workers	H	L	L
	8. Lateral / vertical migration	River Medlock	M	N	N
		Secondary A and Principal Aquifer	M	N	N

Issue	Date	Description	By	Chkd	Verfd
Project Plot 8, First Street					
Client Southside Regeneration Ltd					
Architect RTKL					
Title Preliminary Conceptual Model					
Drawing No. 1011906.DWG.GL.003		Drawing Status FINAL			
Job No. 1011906		Scale As Shown			
Originator DS	Checked KM	Verified JA	Issue.		
<div>CUNDALL</div> <div>Horsley House, Regent Centre, Gosforth, Newcastle NE3 3LU Telephone: +44 (0)191 213 1515 Website: www.cundall.com</div>					

Appendices

Appendix A

Historical Maps and Plans

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

	Gravel Pit		Sand Pit		Other Pits
	Quarry		Shingle		Orchard
	Osiers		Reeds		Marsh
	Mixed Wood		Deciduous		Brushwood
	Fir		Furze		Rough Pasture
	Arrow denotes flow of water		Trigonometrical Station		
	Site of Antiquities		Bench Mark		
	Pump, Guide Post, Signal Post		Well, Spring, Boundary Post		
	•285 Surface Level				
	Sketched Contour		Instrumental Contour		
	Main Roads		Minor Roads		
	Sunken Road		Raised Road		
	Road over Railway		Railway over River		
	Railway over Road		Level Crossing		
	Road over River or Canal		Road over Stream		
	Road over Stream				
	County Boundary (Geographical)				
	County & Civil Parish Boundary				
	Administrative County & Civil Parish Boundary				
	County Borough Boundary (England)				
	County Burgh Boundary (Scotland)				
	Rural District Boundary				
	Civil Parish Boundary				

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
			Pole
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		
	Administrative County, County Borough or County of City		
	Municipal Borough, Urban or Rural District, Burgh or District Council		
	Borough, Burgh or County Constituency Shown only when not coincident with other boundaries		
	Civil Parish Shown alternately when coincidence of boundaries occurs		
	BP, BS Boundary Post or Stone		Pol Sta Police Station
	Ch Church		PO Post Office
	CH Club House		PC Public Convenience
	F E Sta Fire Engine Station		PH Public House
	FB Foot Bridge		SB Signal Box
	Fn Fountain		Spr Spring
	GP Guide Post		TCB Telephone Call Box
	MP Mile Post		TCP Telephone Call Post
	MS Mile Stone		W Well

1:10,000 Raster Mapping

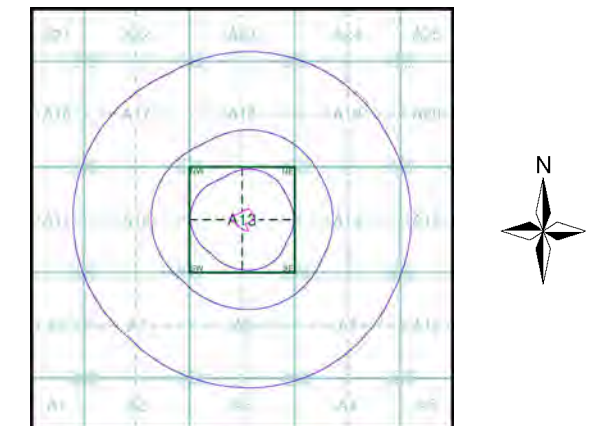
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil, parish or community boundary
	District, Unitary, Metropolitan, London Borough boundary		Constituency boundary
	Area of wooded vegetation		Non-coniferous trees
	Non-coniferous trees (scattered)		Coniferous trees
	Coniferous trees (scattered)		Positioned tree
	Orchard		Coppice or Osiers
	Rough Grassland		Heath
	Scrub		Marsh, Salt Marsh or Reeds
	Water feature		Flow arrows
	MHW(S) Mean high water (springs)		MLW(S) Mean low water (springs)
	Telephone line (where shown)		Electricity transmission line (with poles)
	Bench mark (where shown)		Triangulation station
	Point feature (e.g. Guide Post or Mile Stone)		Pylon, flare stack or lighting tower
	Site of (antiquity)		Glasshouse
	General Building		Important Building



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	3
Cheshire	1:10,560	1882	4
Lancashire And Furness	1:10,560	1894 - 1896	5
Cheshire	1:10,560	1899	6
Lancashire And Furness	1:10,560	1909	7
Cheshire	1:10,560	1911	8
Lancashire And Furness	1:10,560	1923	9
Lancashire And Furness	1:10,560	1931 - 1933	10
Lancashire And Furness	1:10,560	1938	11
Cheshire	1:10,560	1938	12
Ordnance Survey Plan	1:10,000	1956	13
Ordnance Survey Plan	1:10,000	1968	14
Ordnance Survey Plan	1:10,000	1972	15
Manchester	1:25,000	1975	16
Ordnance Survey Plan	1:10,000	1980 - 1981	17
Ordnance Survey Plan	1:10,000	1985 - 1987	18
Ordnance Survey Plan	1:10,000	1989	19
Ordnance Survey Plan	1:10,000	1993 - 1994	20
10K Raster Mapping	1:10,000	2006	21
VectorMap Local	1:10,000	2015	22

Historical Map - Slice A



Order Details

Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER

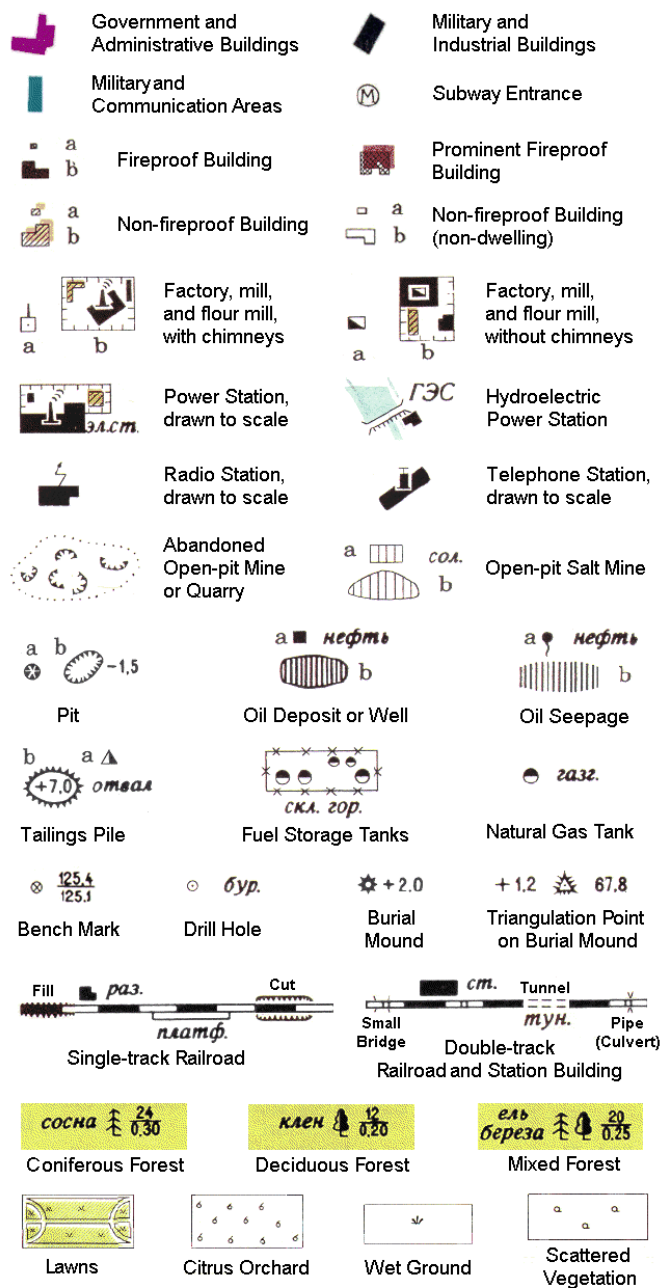


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Russian Military Mapping Legends

1:5,000 and 1:10,000 mapping

a. Not drawn to scale b. Drawn to scale



243.8 Values for prominent elevations

186.0 Numbers for spot elevations, depth soundings, contour lines, etc.

0.2 Velocity of the current, width of river bed, depth of river

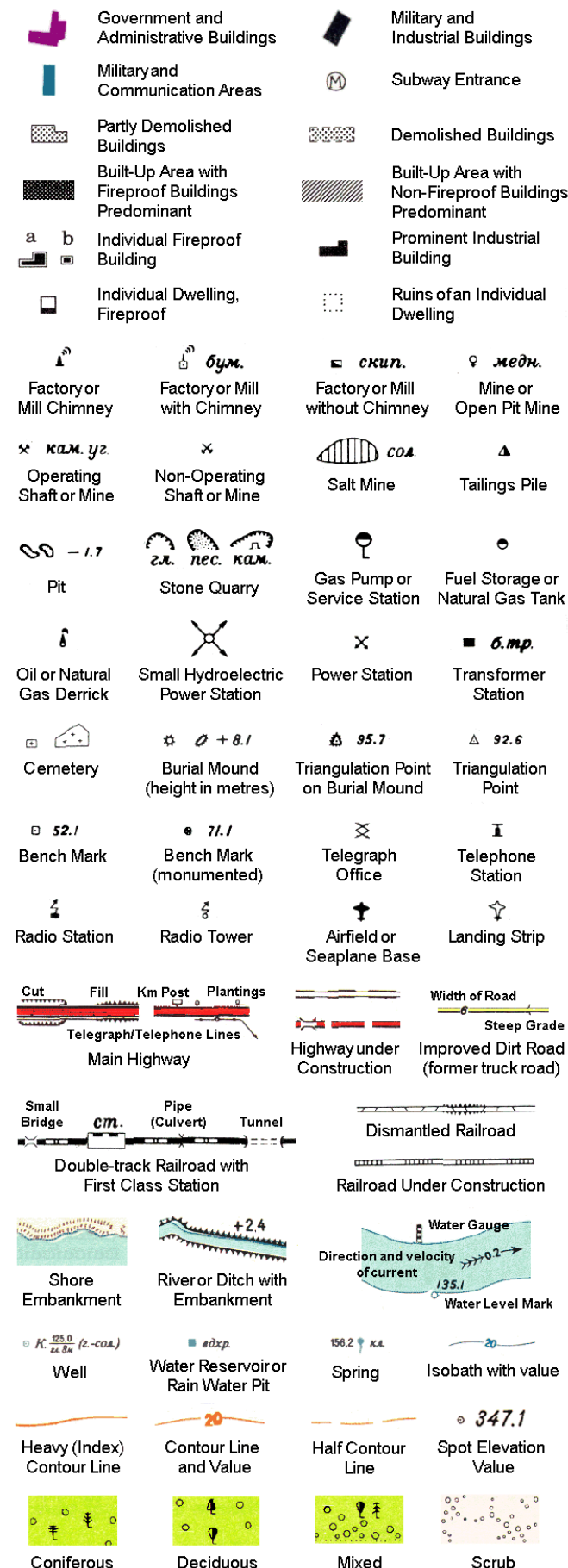
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

Russian Alphabet (For reference and phonetic interpretation of map text)

А а (A)	З з (Z)	П п (P)	Ч ч (CH)
Б б (B)	И и (I)	Р р (R)	Ш ш (SH)
В в (V)	Й й (Y)	С с (S)	Щ щ (SHCH)
Г г (G)	К к (K)	Т т (T)	Ъ (-)
Д д (D)	Л л (L)	У у (U)	Ы (Y)
Е е (E)	М м (M)	Ф ф (F)	Ь (')
Ё ё (YO)	Н н (N)	Х х (KH)	Э э (E)
Ж ж (ZH)	О о (O)	Ц ц (TS)	Ю ю (YU or IU)
			Я я (YA or IA)

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale



Key to Numbers on Mapping

SJ89_Manchester

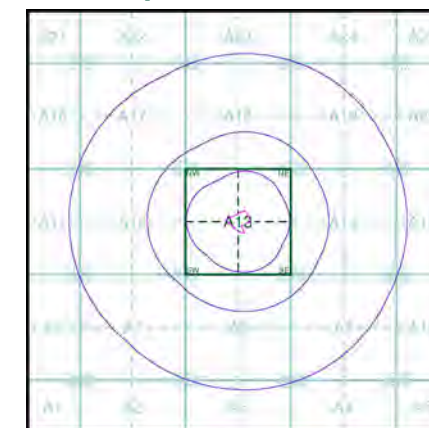
No.	Description
1	Airfield/Airport
6	Railway Station
66	Factory (Gas)
217	Education Establishment (University)



Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:10,560	1848	3
Cheshire	1:10,560	1882	4
Lancashire And Furness	1:10,560	1894 - 1896	5
Cheshire	1:10,560	1899	6
Lancashire And Furness	1:10,560	1909	7
Cheshire	1:10,560	1911	8
Lancashire And Furness	1:10,560	1923	9
Lancashire And Furness	1:10,560	1931 - 1933	10
Lancashire And Furness	1:10,560	1938	11
Cheshire	1:10,560	1938	12
Ordnance Survey Plan	1:10,000	1956	13
Ordnance Survey Plan	1:10,000	1968	14
Ordnance Survey Plan	1:10,000	1972	15
Manchester	1:25,000	1975	16
Ordnance Survey Plan	1:10,000	1980 - 1981	17
Ordnance Survey Plan	1:10,000	1985 - 1987	18
Ordnance Survey Plan	1:10,000	1989	19
Ordnance Survey Plan	1:10,000	1993 - 1994	20
10K Raster Mapping	1:10,000	2006	21
VectorMap Local	1:10,000	2015	22

Russian Map - Slice A



Order Details

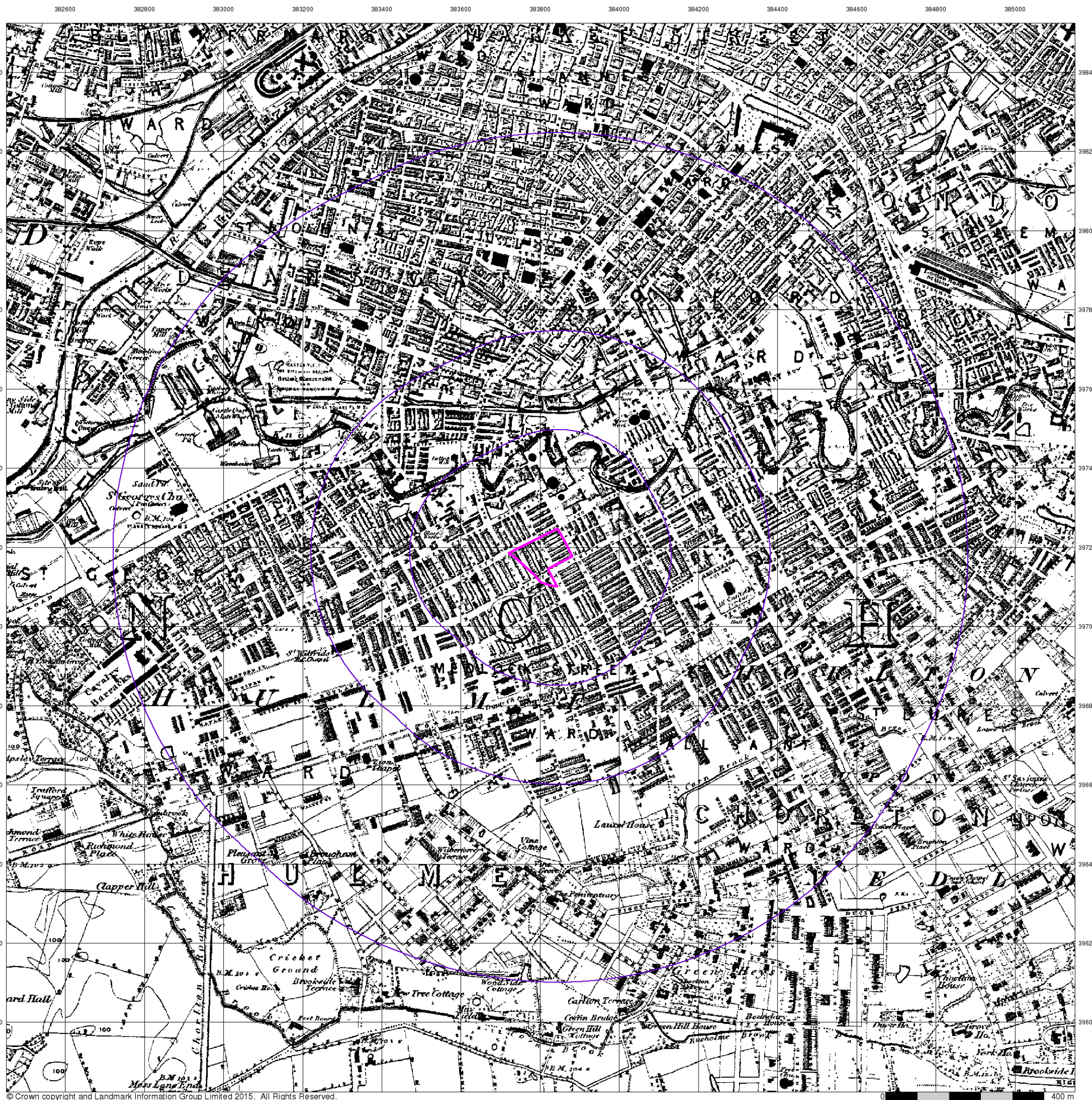
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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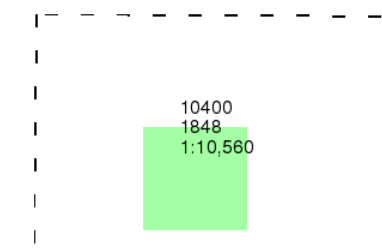
Lancashire And Furness

Published 1848

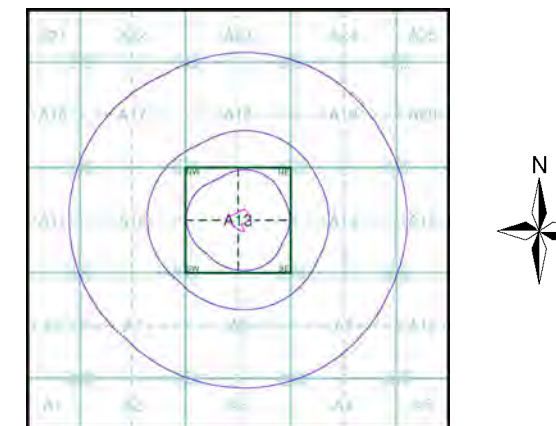
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

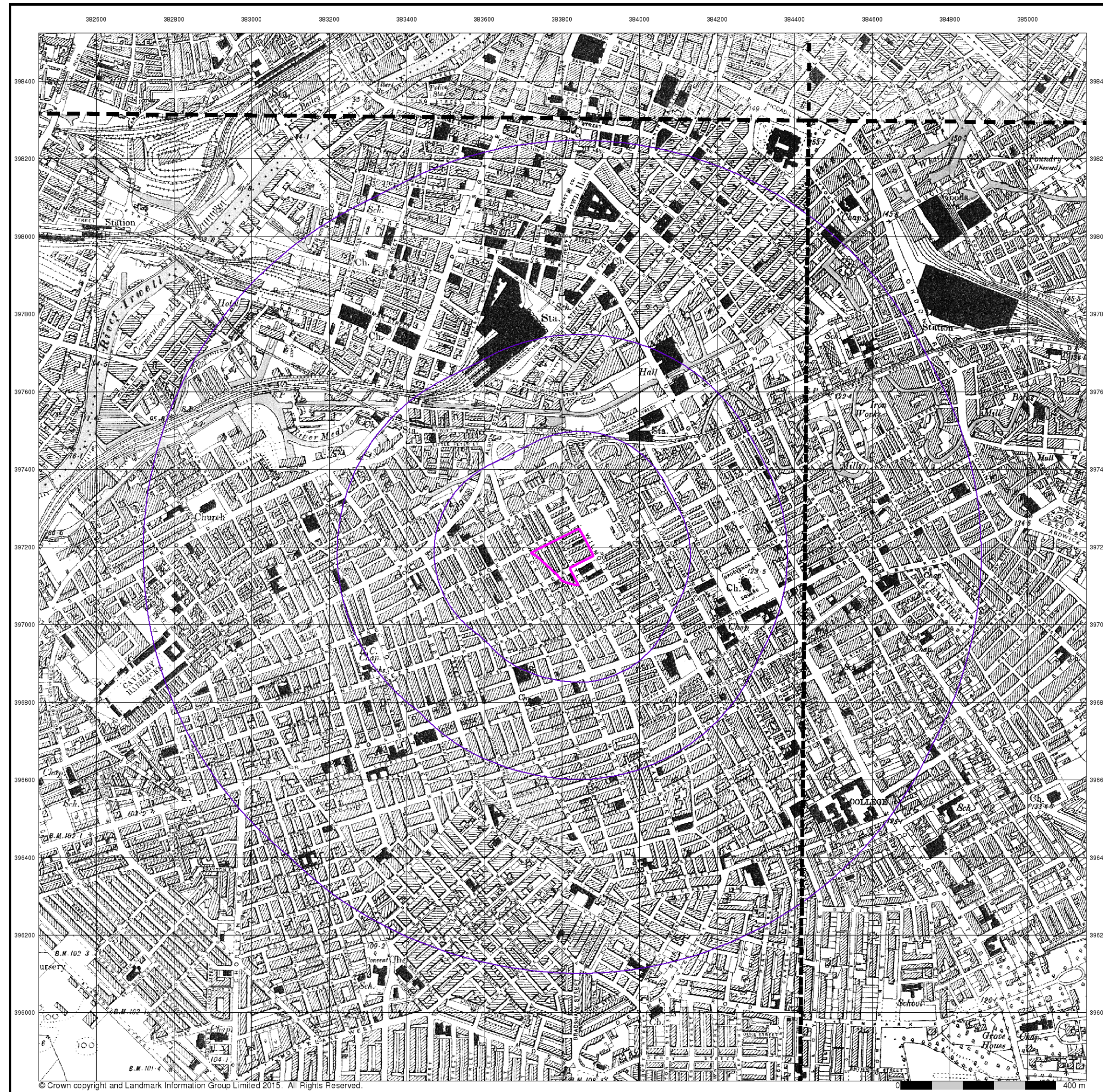
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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Lancashire And Furness

Published 1894 - 1896

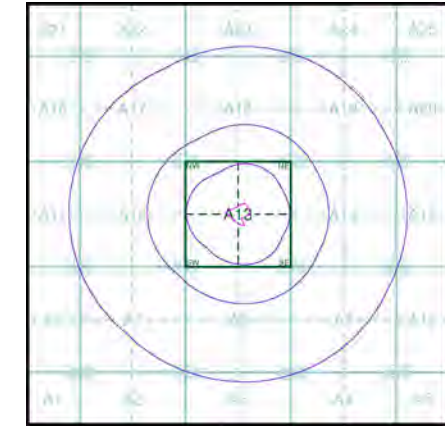
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

104NW 1894 1:10,560	104NE 1894 1:10,560
104SW 1896 1:10,560	104SE 1894 1:10,560

Historical Map - Slice A



Order Details

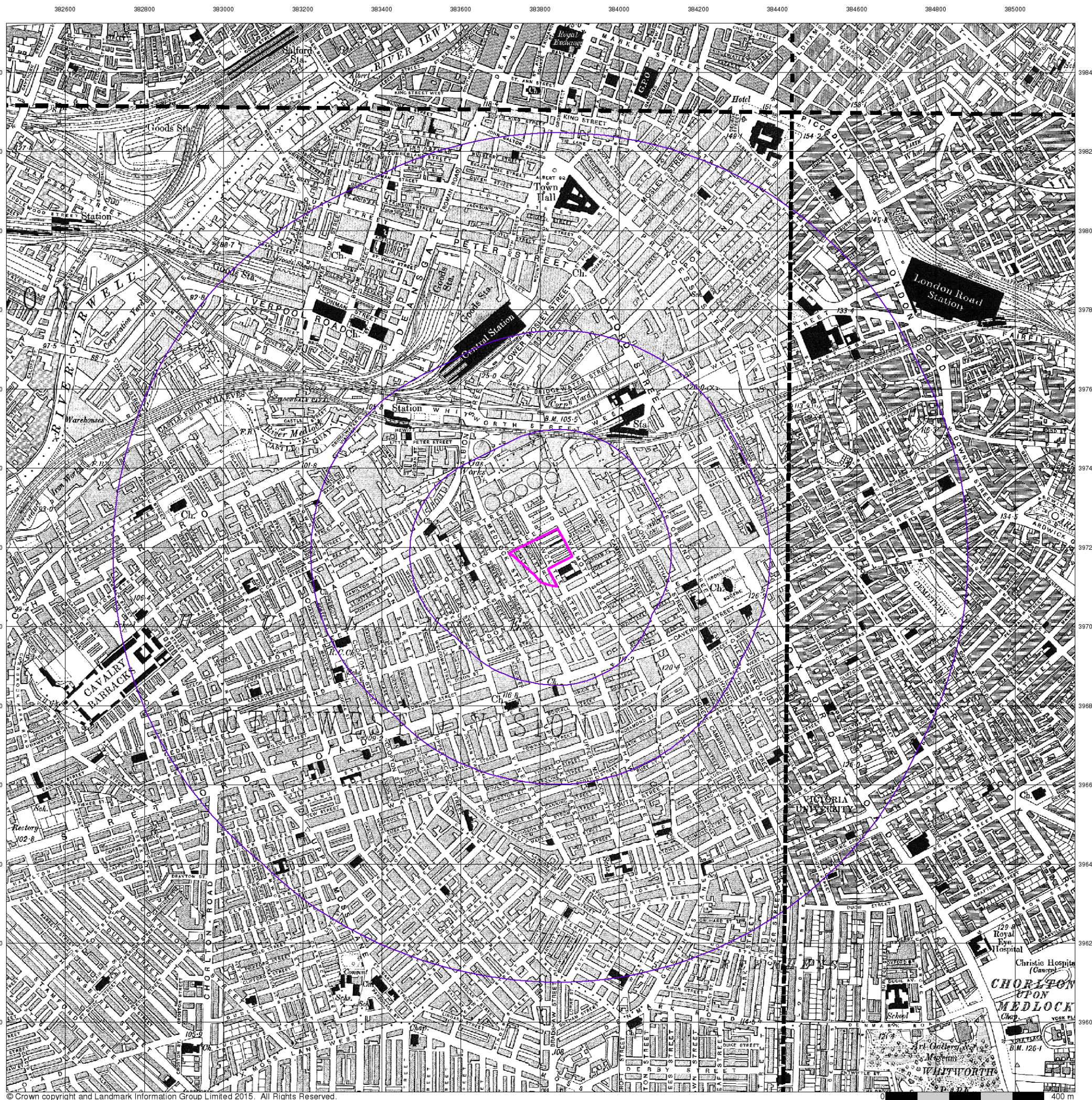
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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Lancashire And Furness

Published 1909

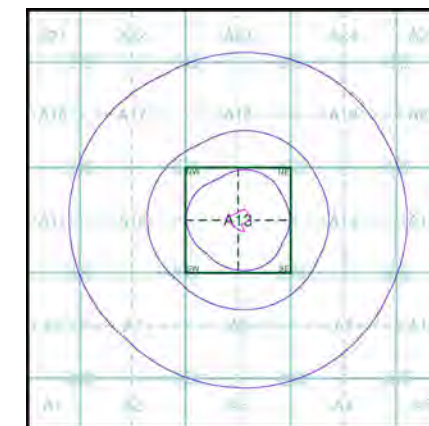
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

104NW 1909 1:10,560	104NE 1909 1:10,560
104SW 1909 1:10,560	104SE 1909 1:10,560

Historical Map - Slice A



Order Details

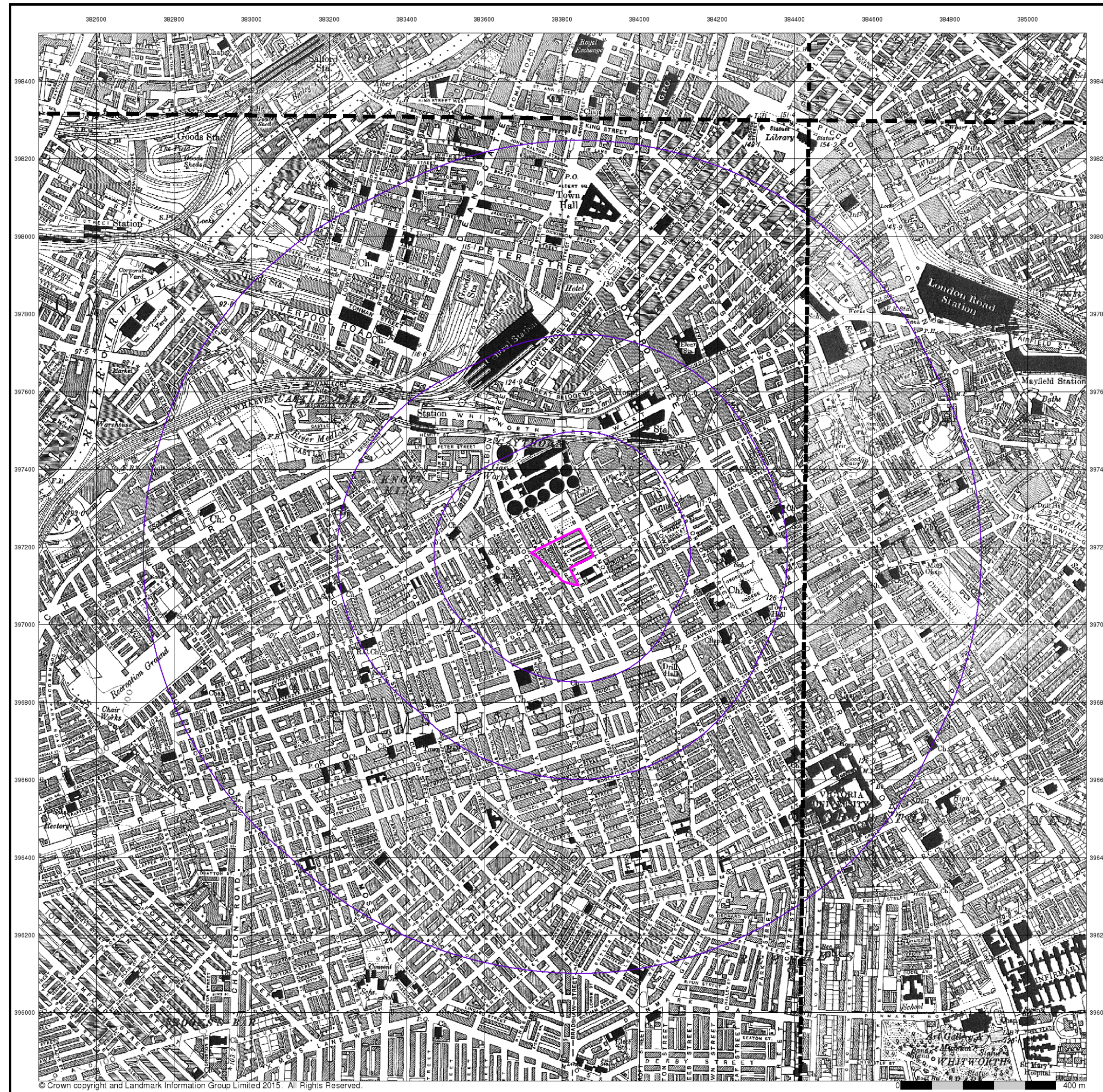
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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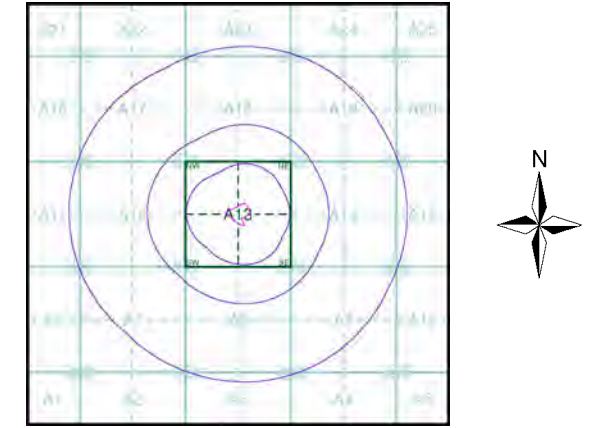
Lancashire And Furness
Published 1923
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

104NW 1923 1:10,560	104NE 1923 1:10,560
104SW 1923 1:10,560	104SE 1923 1:10,560

Historical Map - Slice A



Order Details

Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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Lancashire And Furness

Published 1938

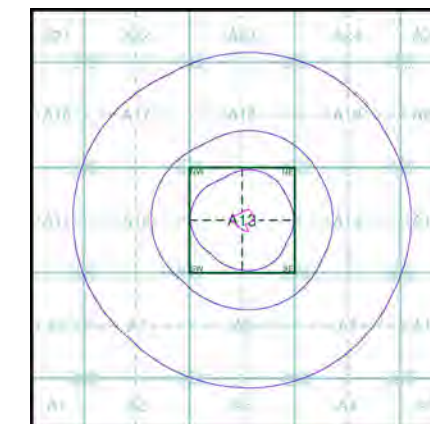
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

104NW 1938 1:10,560	104NE 1938 1:10,560
104SW 1938 1:10,560	104SE 1938 1:10,560

Historical Map - Slice A

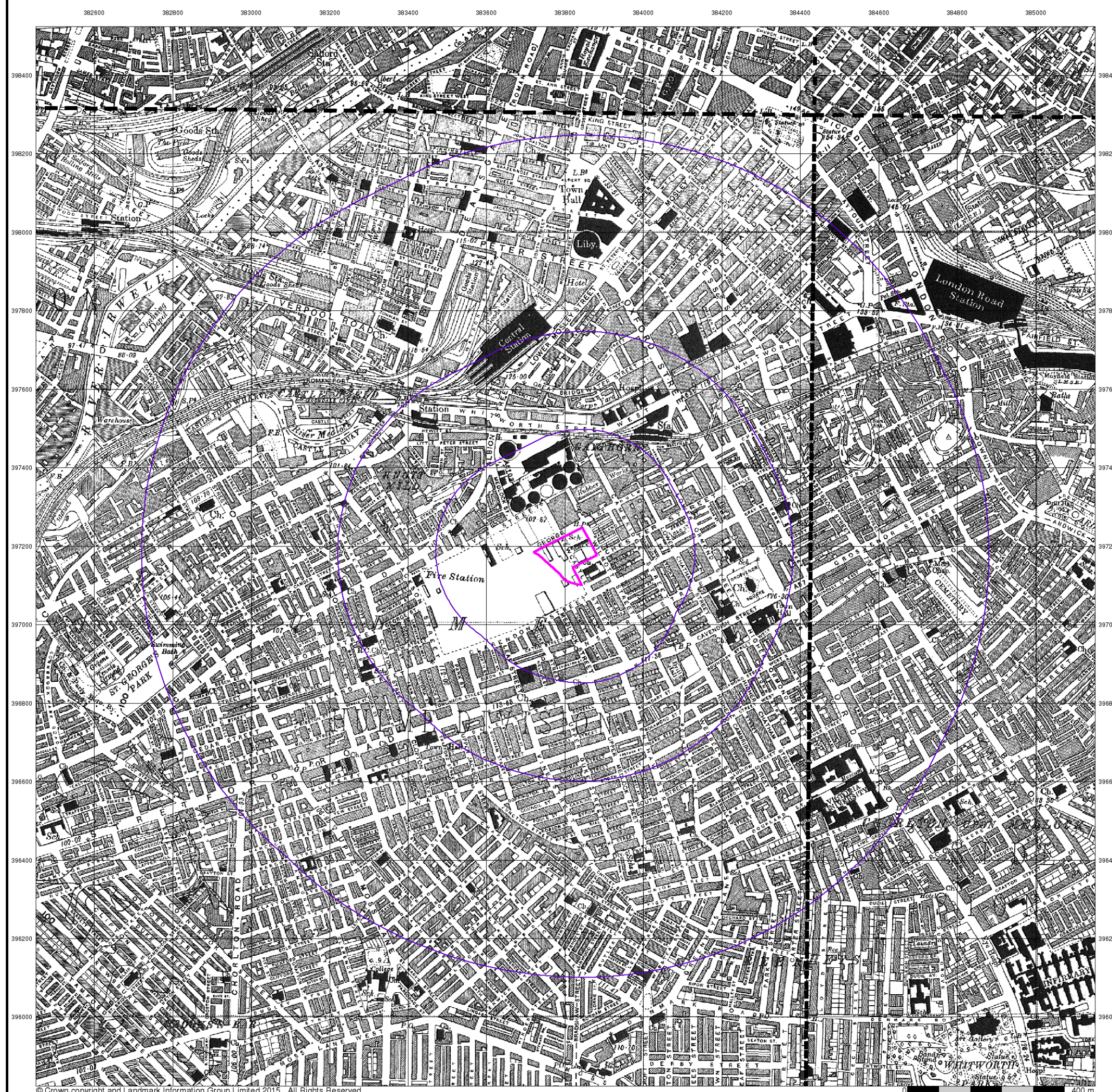


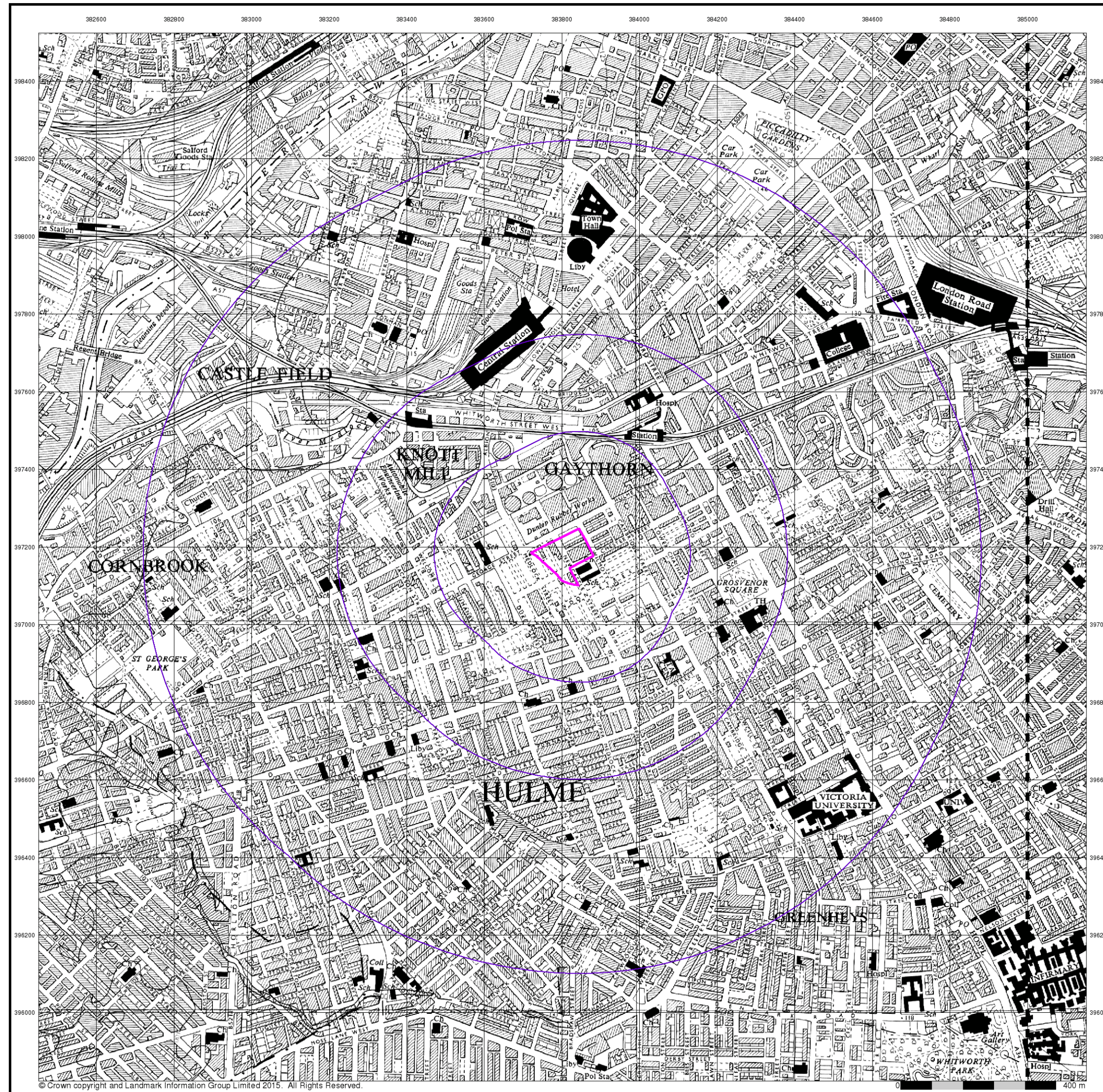
Order Details

Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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Ordnance Survey Plan

Published 1956

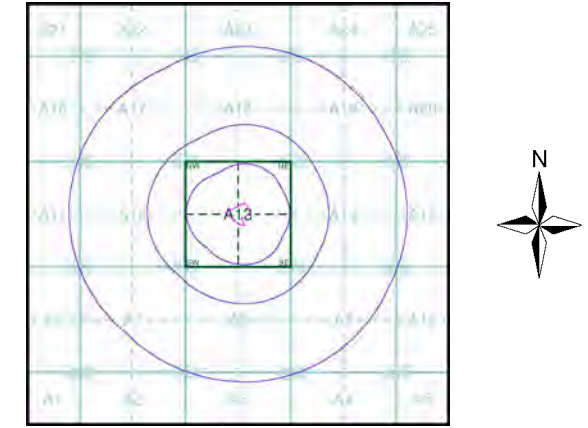
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SJ89NW 1956 1:10,560	SJ89NE 1956 1:10,560
----------------------------	----------------------------

Historical Map - Slice A



Order Details

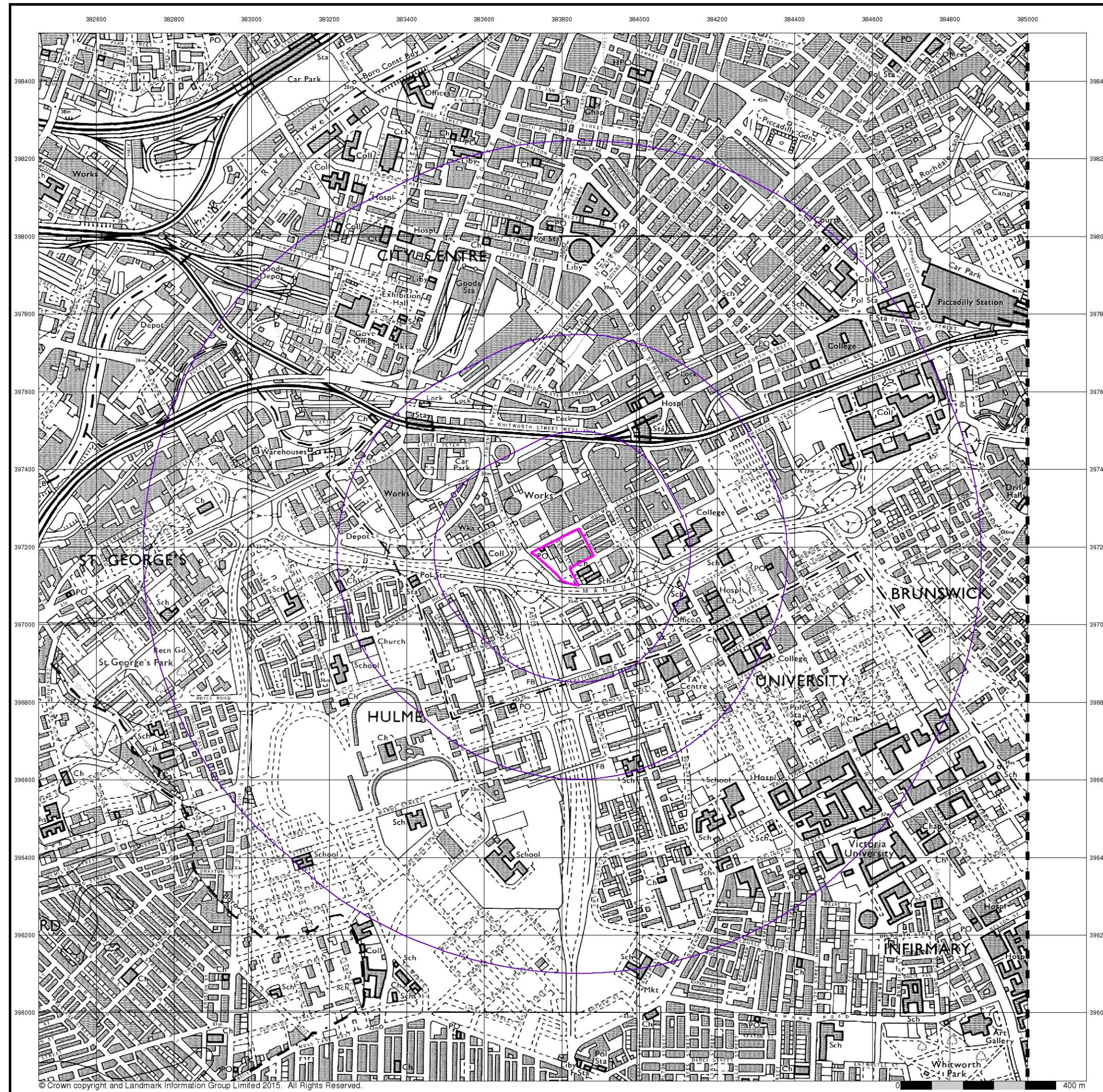
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Customer Ref:	1011906
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Search Buffer (m):	1000

Site Details

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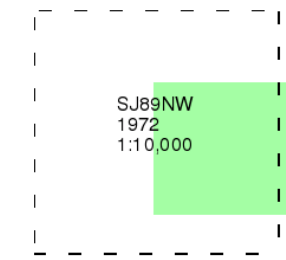
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Web: www.envirocheck.co.uk



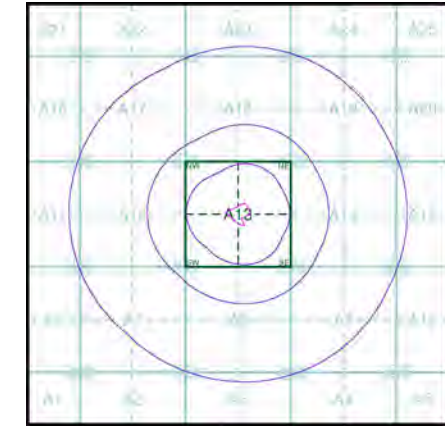
Ordnance Survey Plan
Published 1972
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details
Plot 8, First Street, MANCHESTER





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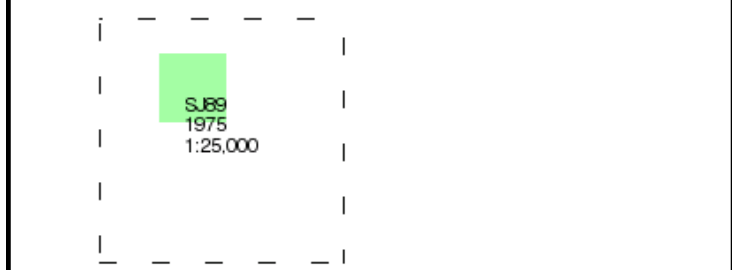
Manchester

Published 1975

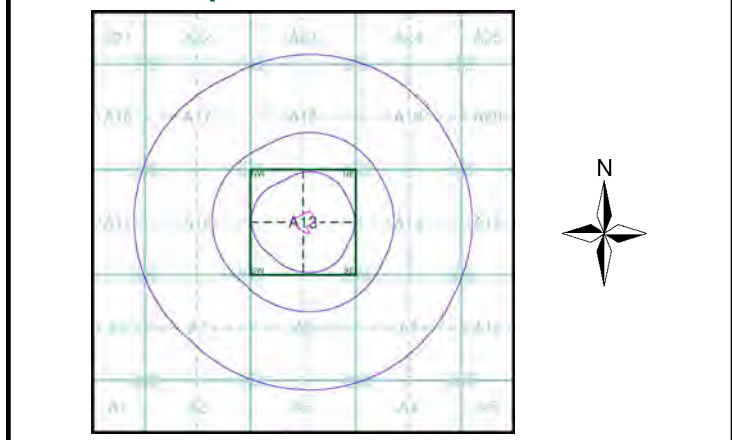
Source map scale - 1:25,000

These maps were produced by the Russian military during the Cold War between 1950 and 1997, and cover 103 towns and cities throughout the U.K. The maps are produced at 1:25,000, 1:10,000 and 1:5,000 scale, and show detailed land use, with colour-coded areas for development, green areas, and non-developed areas. Buildings are coloured black and important building uses (such as hospitals, post offices, factories etc.) are numbered, with a numbered key describing their use. They were produced by the Russians for the benefit of navigation, as well as strategic military sites and transport hubs, for use if they were to have invaded the U.K. The detailed information provided indicates that the areas were surveyed using land-based personnel, on the ground, in the cities that are mapped.

Map Name(s) and Date(s)



Russian Map - Slice A



Order Details	
Order Number:	72883240_1_1
Customer Ref:	1011906
National Grid Reference:	383810, 397180
Slice:	A
Site Area (Ha):	1.1
Search Buffer (m):	1000

Site Details

Plot 8, First Street, MANCHESTER





Ordnance Survey Plan

Published 1980 - 1981

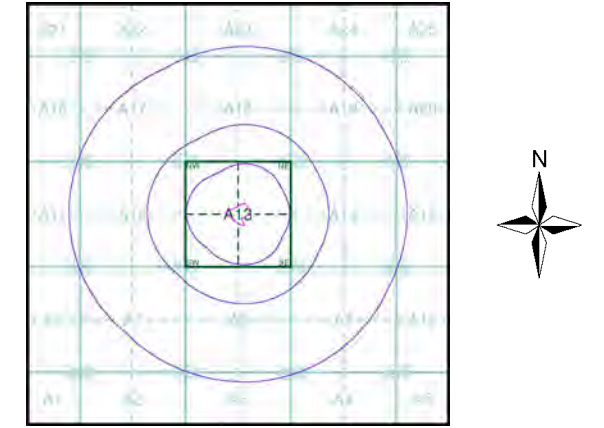
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SJ89NW 1980 1:10,000	SJ89NE 1981 1:10,000
----------------------------	----------------------------

Historical Map - Slice A



Order Details

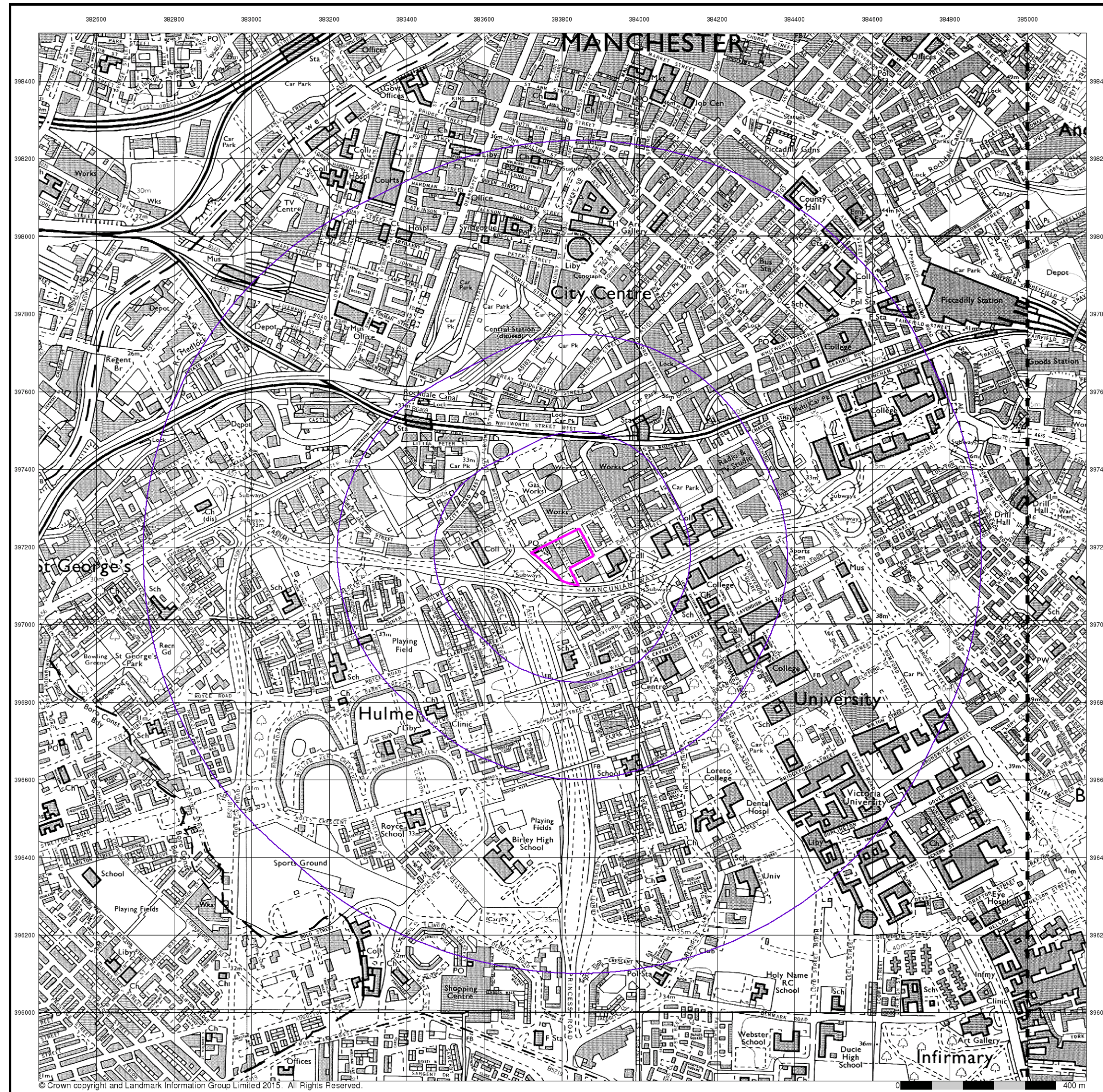
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

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Ordnance Survey Plan

Published 1985 - 1987

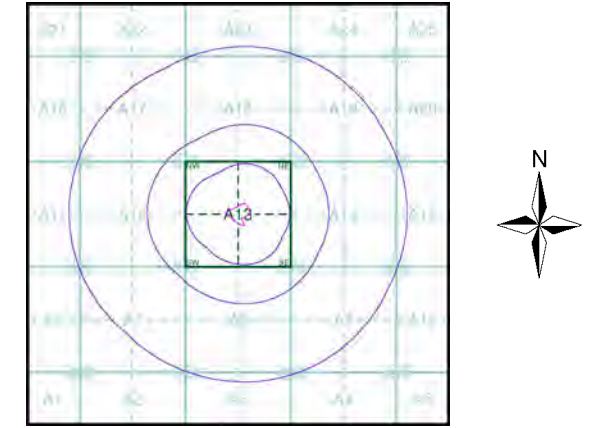
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SJ89NW 1985 1:10,000	SJ89NE 1987 1:10,000
----------------------------	----------------------------

Historical Map - Slice A



Order Details

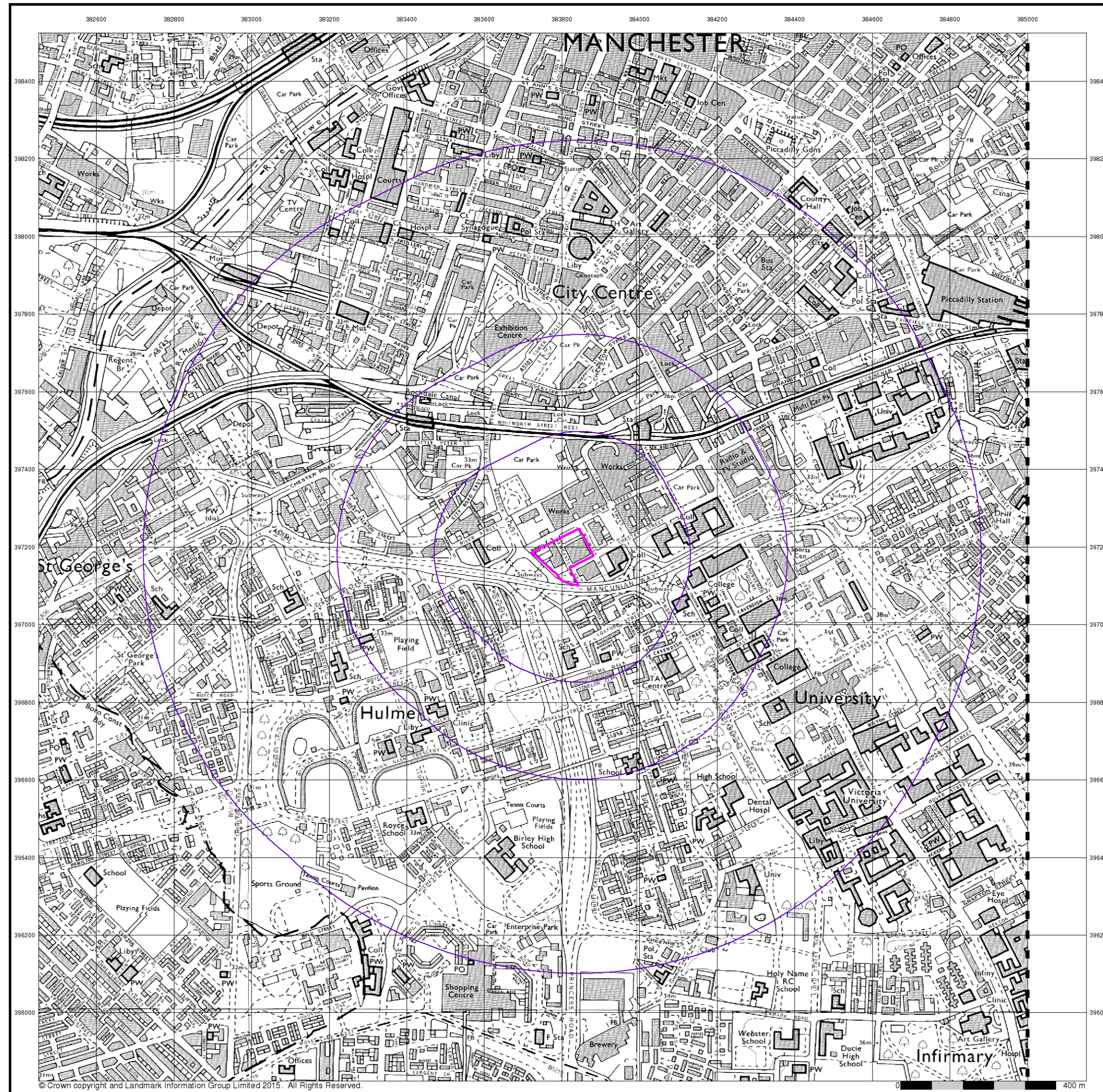
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



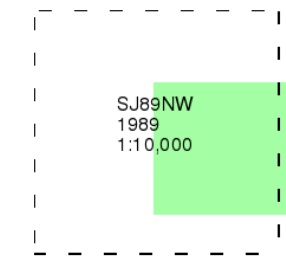
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



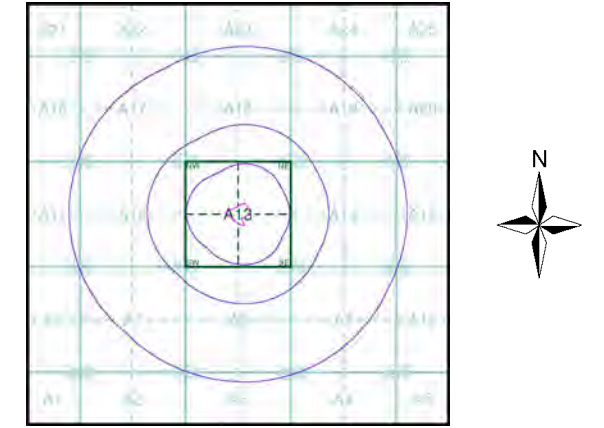
Ordnance Survey Plan
Published 1989
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

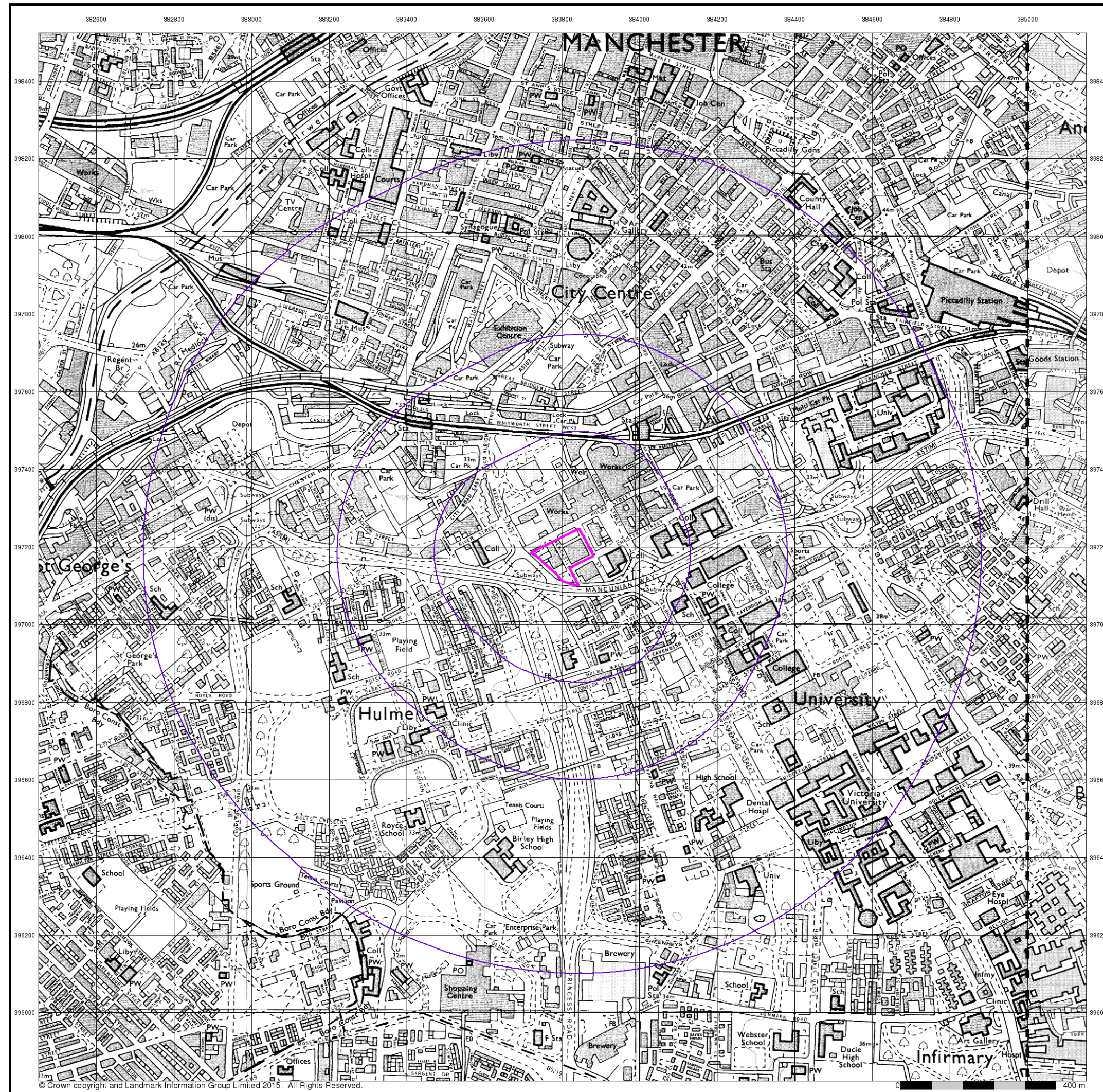


Historical Map - Slice A



Order Details
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details
Plot 8, First Street, MANCHESTER



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Ordnance Survey Plan

Published 1993 - 1994

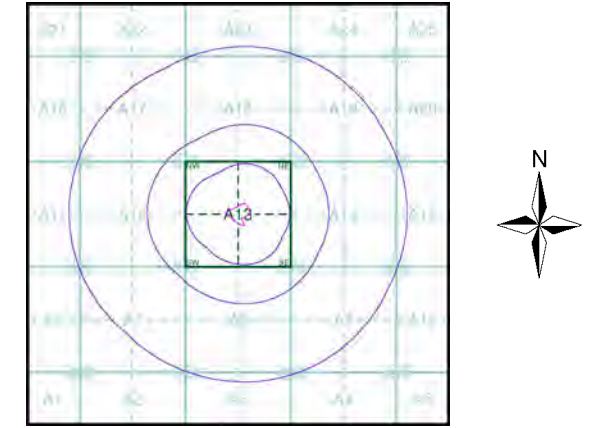
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

SJ89NW 1994 1:10,000	SJ89NE 1993 1:10,000
----------------------------	----------------------------

Historical Map - Slice A



Order Details

Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

10k Raster Mapping

Published 2006

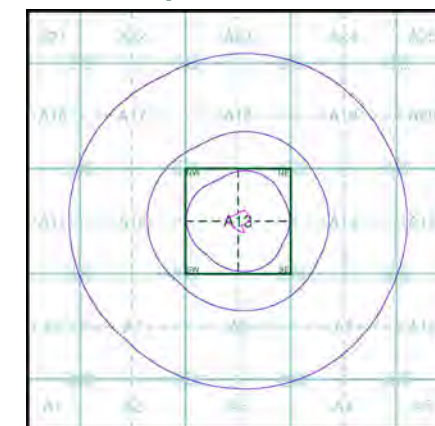
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)

SJ89NW 2006 1:10,000	SJ89NE 2006 1:10,000
----------------------------	----------------------------

Historical Map - Slice A



Order Details

Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER





VectorMap Local

Published 2015

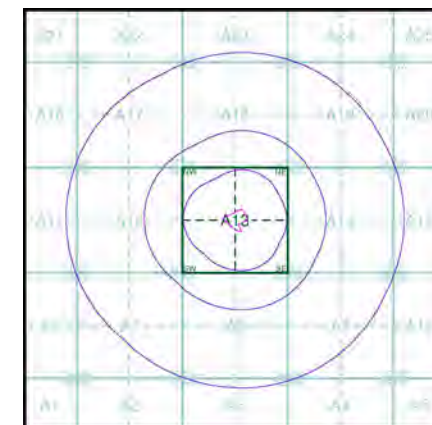
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities), 1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)

SJ89NW 2015 Variable	SJ89NE 2015 Variable
----------------------------	----------------------------

Historical Map - Slice A



Order Details

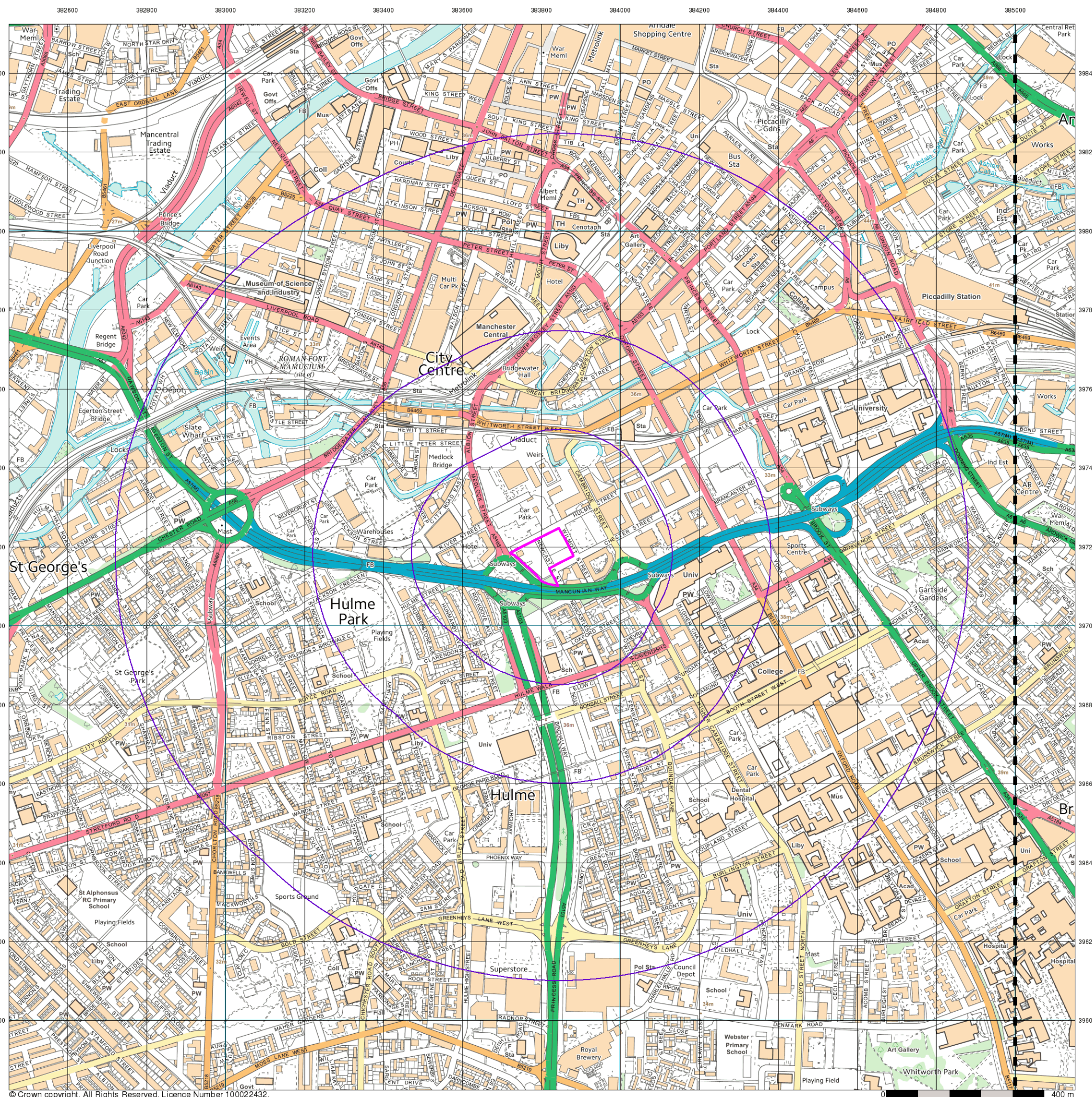
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

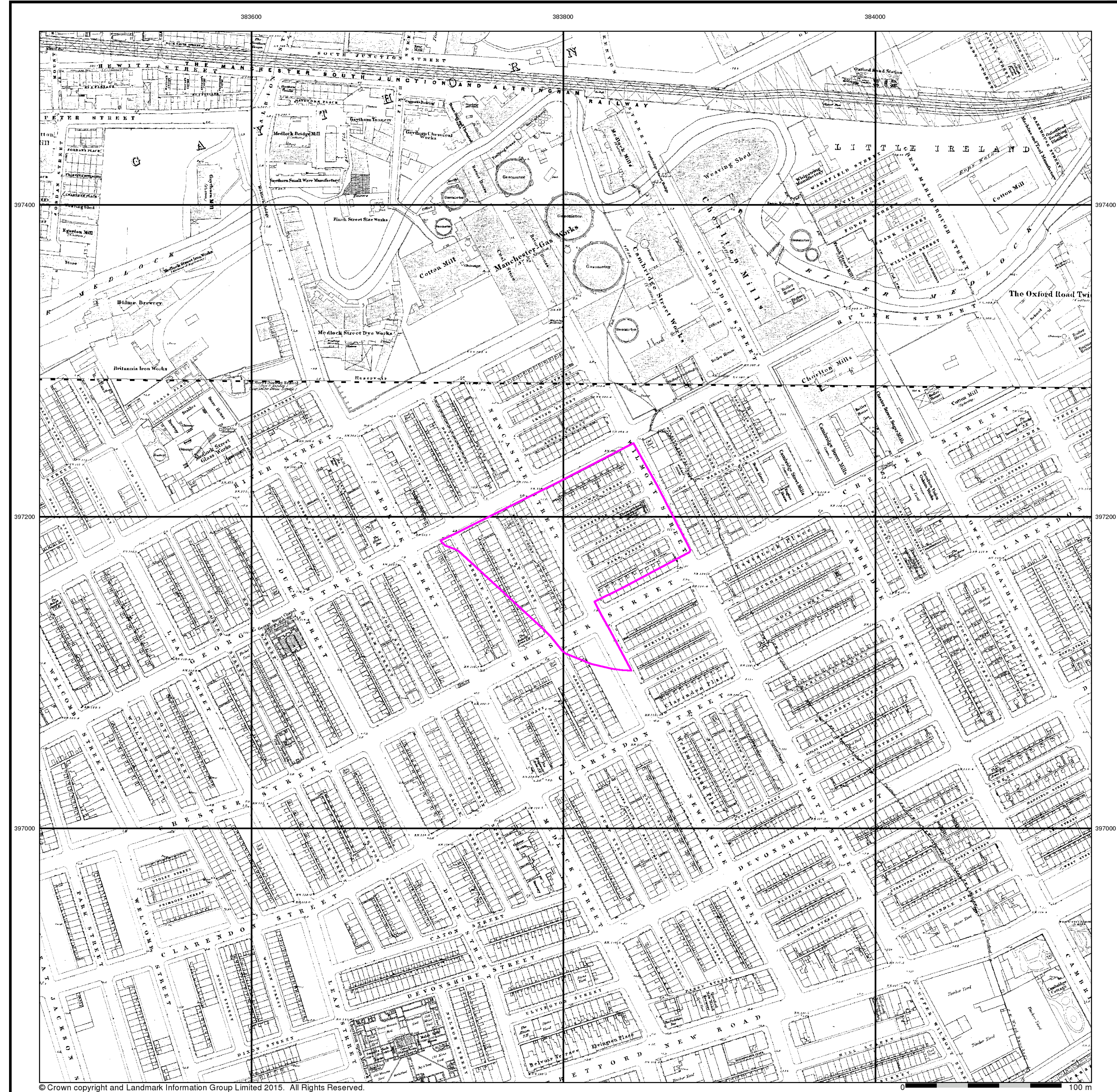
Site Details

Plot 8, First Street, MANCHESTER



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Fax: 0844 844 9951
Web: www.envirocheck.co.uk







Lancashire And Furness

Published 1851

Source map scale - 1:1,056

The 1:1056 scale of Ordnance Survey mapping was adopted from Ireland in 1848 and was used to survey towns with a population of over 4000, plus county towns of lesser population, in those counties mapped at the six-inch scale in 1841-55. The scale was the largest scale at which London was mapped by the Ordnance Survey and a 'skeleton' survey of the capital, showing little more than streets, street names, frontages and altitudes, was undertaken between 1848 and 1850. The majority of the 1:1056 surveys were later replaced by 1:500 surveys; although almost all the remainder were revised at this scale, sometimes more than once before 1895. The type of detail shown on the 1:1056 scale is broadly similar to that on 1:500; the apparent omission of minor details such as sewer access points and street lights may be as much a reflection of the generally earlier date of these plans, as of the specification of the map.

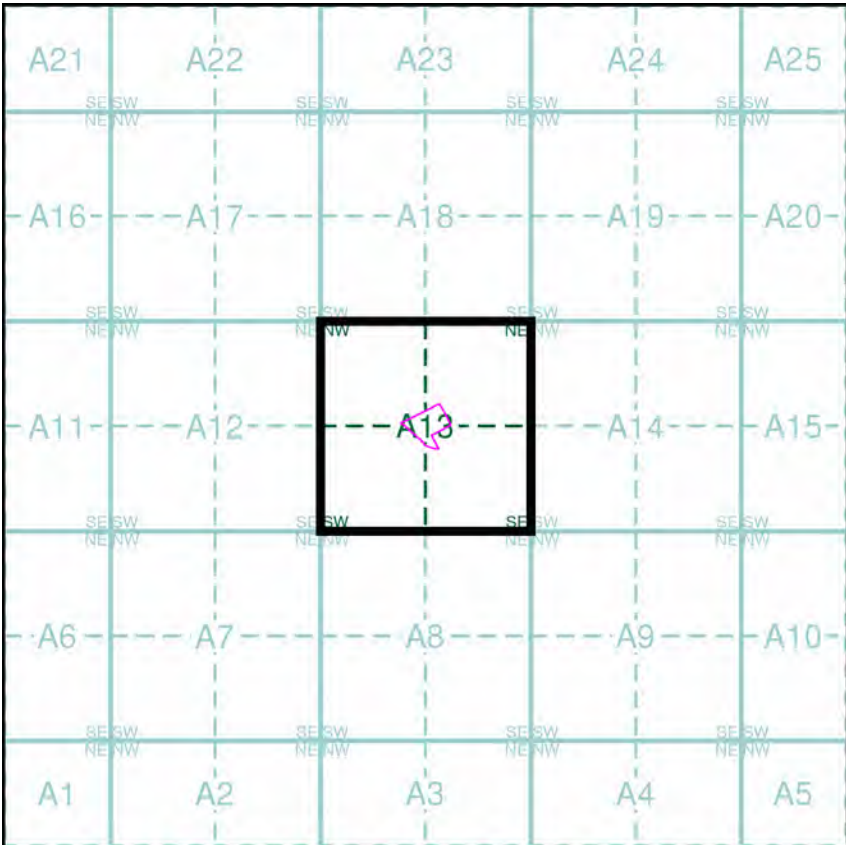
Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

000_00_033
1851
1:1,056

000_00_038
1851
1:1,056

Historical Town Plan - Segment A13



Order Details

Order Number:	72883240_1_1
Customer Ref:	1011906
National Grid Reference:	383810, 397180
Slice:	A
Site Area (Ha):	1.1
Search Buffer (m):	0

Site Details

Plot 8, First Street, MANCHESTER



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Web: www.envirocheck.co.uk

A Landmark Information Group Service v47.0 23-Sep-2015 Page 1 of 2

Lancashire And Furness

Published 1891

Source map scale - 1:500

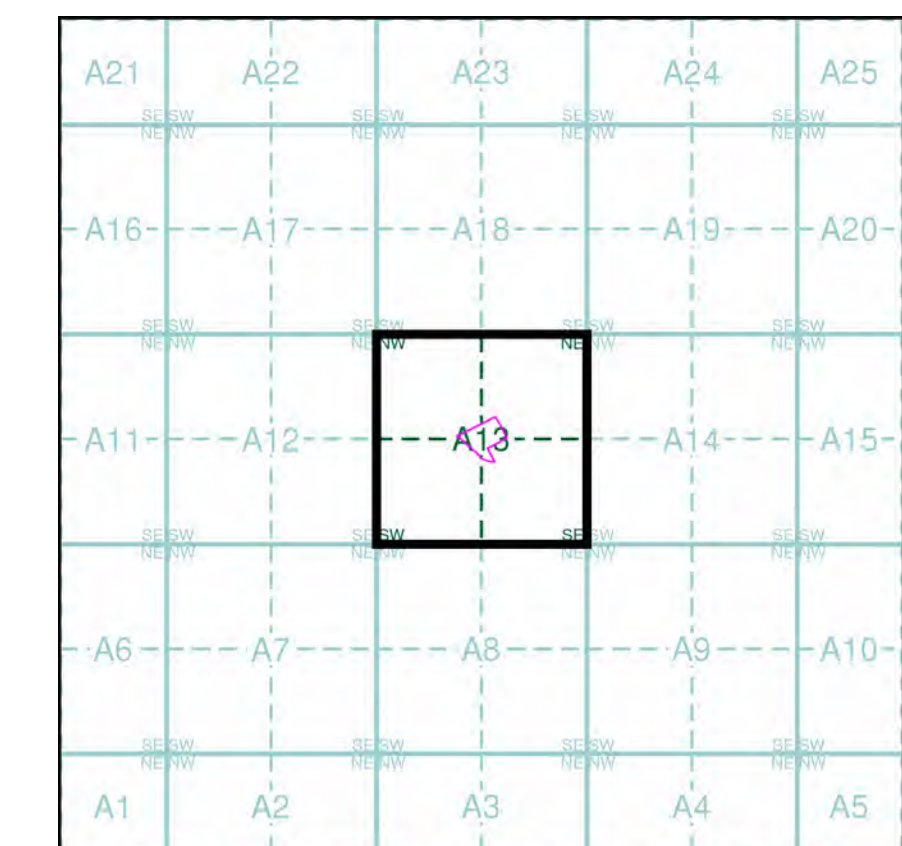
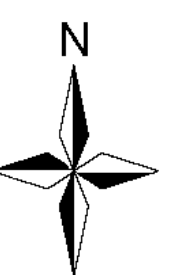
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to complement the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped more than once at this scale, and none have been since 1910. The 1:500 scale gives particular emphasis to such features as lamp posts, man holes, arched passages and minor building projections. Also often featured are divisions between tenements, interior ground floor layouts of public buildings, and on earlier plans, the functions of the various parts of larger industrial premises are also indicated. Content of the plans does vary however, from one town to the next in terms of, for example, the completeness of railway tracks and the coverage of public buildings.

Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

Map Name(s) and Date(s)

104_10_013	104_10_014	104_10_015
1891	1891	1891
1:500	1:500	1:500
—	—	—
	104_10_019	104_10_020
	1891	1891
	1:500	1:500
	—	—
	104_10_024	104_10_025
	1891	1891
	1:500	1:500
—	—	—

Historical Town Plan - Segment A13



Order Details

Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 0

Site Details

Plot 8, First Street, MANCHESTER

Ordinance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

	Quarry		Gravel Pit		Sand Pit
	Clay Pit		Shingle		Refuse Heap
	Sloping Masonry		Flat Rock		
	Marsh		Reeds		Osiers
	Rough Pasture		Furze		Wood
	Mixed Wood		Brushwood		Orchard
	Fir		Ford		Stepping Stones
	Ferry		Waterfall		Lock
	Trig. Station	507		Altitude at Trig. Station	
B.M. 325.9	Bench Mark	342		Surface Level	
	Arrow denotes flow of water		Antiquities (site of)		
	Cutting		Embankment		
	Railway crossing Road		Level Crossing		Road crossing Railway
	Railway crossing River or Canal		Road over single stream		Road over River or Canal
-----	County Boundary (Geographical)				
- . - . - .	County & Civil Parish Boundary				
+ . + . + .	Administrative County & Civil Parish Boundary				
--- Co. Boro. Bdy.	County Borough Boundary (England)				
--- Co. Burgh Bdy.	County Burgh Boundary (Scotland)				
B.P.	Boundary Post or Stone	P.C.B.	Police Call Box		
B.R.	Bridle Road	P	Pump		
E.P.	Electricity Pylon	S.P.	Signal Post		
F.B.	Foot Bridge	Sl.	Sluice		
F.P.	Foot Path	Sp.	Spring		
G.P.	Guide Post or Board	T.C.B.	Telephone Call Box		
M.S.	Mile Stone	Tr.	Trough		
M.P. M.R.	Mooring Post or Ring	W	Well		

	Inactive Quarry, Chalk Pit or Clay Pit		Active Quarry, Chalk Pit or Clay Pit
	Rock		Boulders
	Cliff		Slopes
	Roofed Building		Glazed Roof Building
	Sloping Masonry		Archway
	Non-Coniferous Tree (surveyed)		Coniferous Tree (surveyed)
	Non-Coniferous Trees (not surveyed)		Coniferous Trees (not surveyed)
	Orchard Tree		Scrub
	Coppice, Osier		Reeds
	Rough Grassland		Heath
	Direction of water flow		Bench Mark
	Cave Entrance		Triangulation Station
	Electricity Transmission Line		Antiquity (site of)
	County Boundary (Geographical)		Electricity Pylon
	County & Civil Parish Boundary		Symbol marking point where boundary mereing changes
	Civil Parish Boundary		
	Admin. County or County Bor. Boundary		
	London Borough Boundary		
BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, W Tr	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

	Cliff		Slopes		Top
	Rock		Rock (scattered)		Boulders (scattered)
	Boulders		Positioned Boulder		Scree
	Non-Coniferous Tree (surveyed)		Coniferous Tree (surveyed)		Non-Coniferous Trees (not surveyed)
	Non-Coniferous Trees (not surveyed)		Coniferous Trees (not surveyed)		Orchard Tree
	Orchard Tree		Scrub		Bracken
	Coppice, Osier		Reeds		Marsh, Saltings
	Rough Grassland		Heath		Culvert
	Direction of water flow		Triangulation Station		Antiquity (site of)
	Electricity Transmission Line		Electricity Pylon		Bench Mark
	Bench Mark		Buildings with Building Seed		Roofed Building
	Roofed Building		Glazed Roof Building		Civil parish/community boundary
	District boundary		County boundary		Boundary post/stone
	Boundary mereing symbol (note: these always appear in opposed pairs or groups of three)				
Bks	Barracks	P	Pillar, Pole or Post		
Bty	Battery	PO	Post Office		
Cemy	Cemetery	PC	Public Convenience		
Chy	Chimney	Pp	Pump		
Cis	Cistern	Ppg Sta	Pumping Station		
Dismted Rly	Dismantled Railway	PW	Place of Worship		
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station		
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge		
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light		
FB	Filter Bed	Spr	Spring		
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track		
Gas Gov	Gas Valve Compound	Tr	Trough		
GVC	Gas Governor	Wd Pp	Wind Pump		
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap		
MH	Manhole	Wks	Works (building or area)		
MP, MS	Mile Post or Mile Stone	W	Well		



Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1908	2
Lancashire And Furness	1:2,500	1922	3
Ordnance Survey Plan	1:1,250	1948 - 1950	4
Ordnance Survey Plan	1:2,500	1950 - 1951	5
Ordnance Survey Plan	1:1,250	1951 - 1964	6
Ordnance Survey Plan	1:2,500	1955 - 1963	7
Ordnance Survey Plan	1:1,250	1960 - 1973	8
Ordnance Survey Plan	1:2,500	1965	9
Ordnance Survey Plan	1:1,250	1969 - 1988	10
Ordnance Survey Plan	1:2,500	1970	11
Supply of Unpublished Survey Information	1:1,250	1974 - 1975	12
Additional SIMs	1:1,250	1978 - 1990	13
Additional SIMs	1:1,250	1985 - 1990	14
Ordnance Survey Plan	1:1,250	1987	15
Additional SIMs	1:1,250	1987 - 1990	16
Additional SIMs	1:1,250	1990	17
Large-Scale National Grid Data	1:1,250	1992	18
Large-Scale National Grid Data	1:1,250	1993 - 1995	19
Large-Scale National Grid Data	1:1,250	1993 - 1995	20
Large-Scale National Grid Data	1:1,250	1995	21
Large-Scale National Grid Data	1:1,250	1995	22
Large-Scale National Grid Data	1:1,250	1996	23

A 5x5 grid of points labeled A1 through A25. The points are arranged in a regular grid. A 3x3 grid of points is highlighted with a black border, and a circle is drawn around the central point A13. A compass rose is located to the right of the grid, pointing North.

Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 250

Plot 8, First Street, MANCHESTER



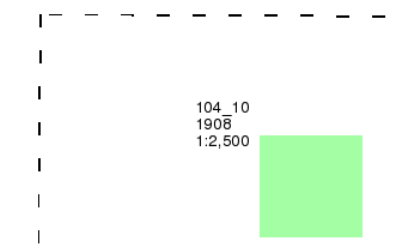
Lancashire And Furness

Published 1908

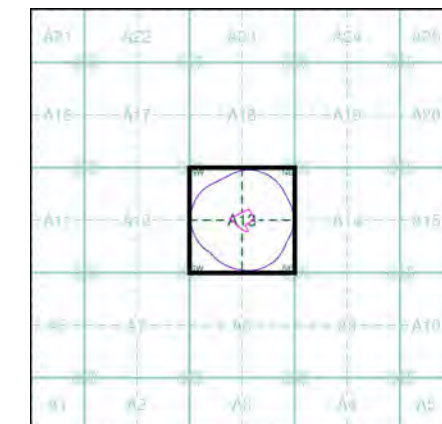
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

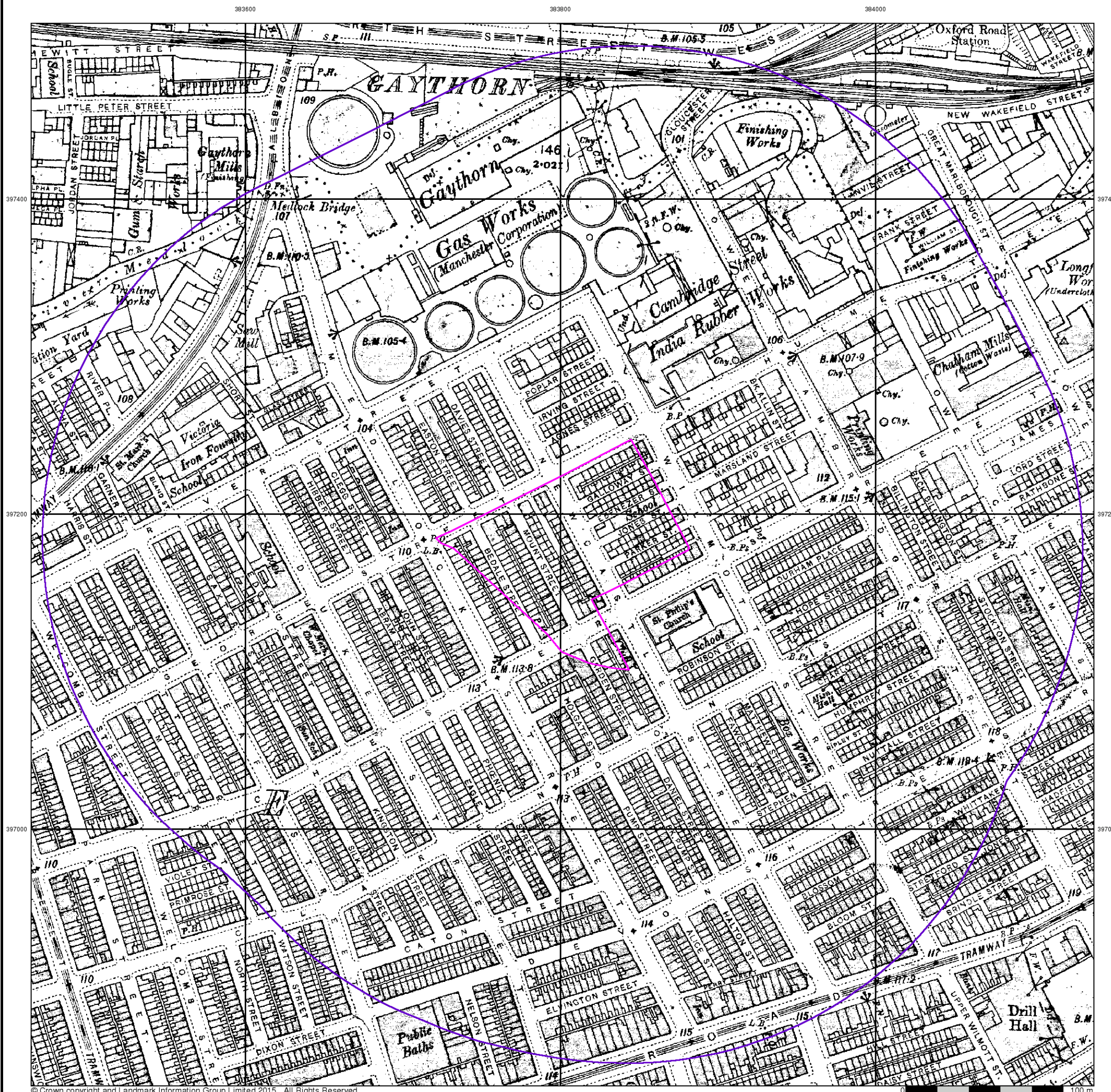


Order Details

Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER



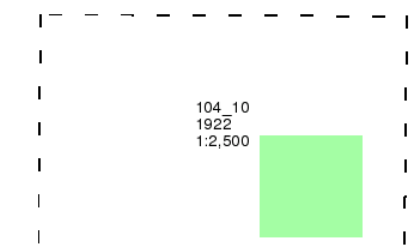
Lancashire And Furness

Published 1922

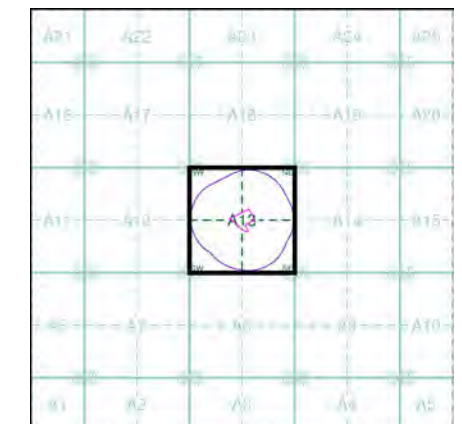
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13

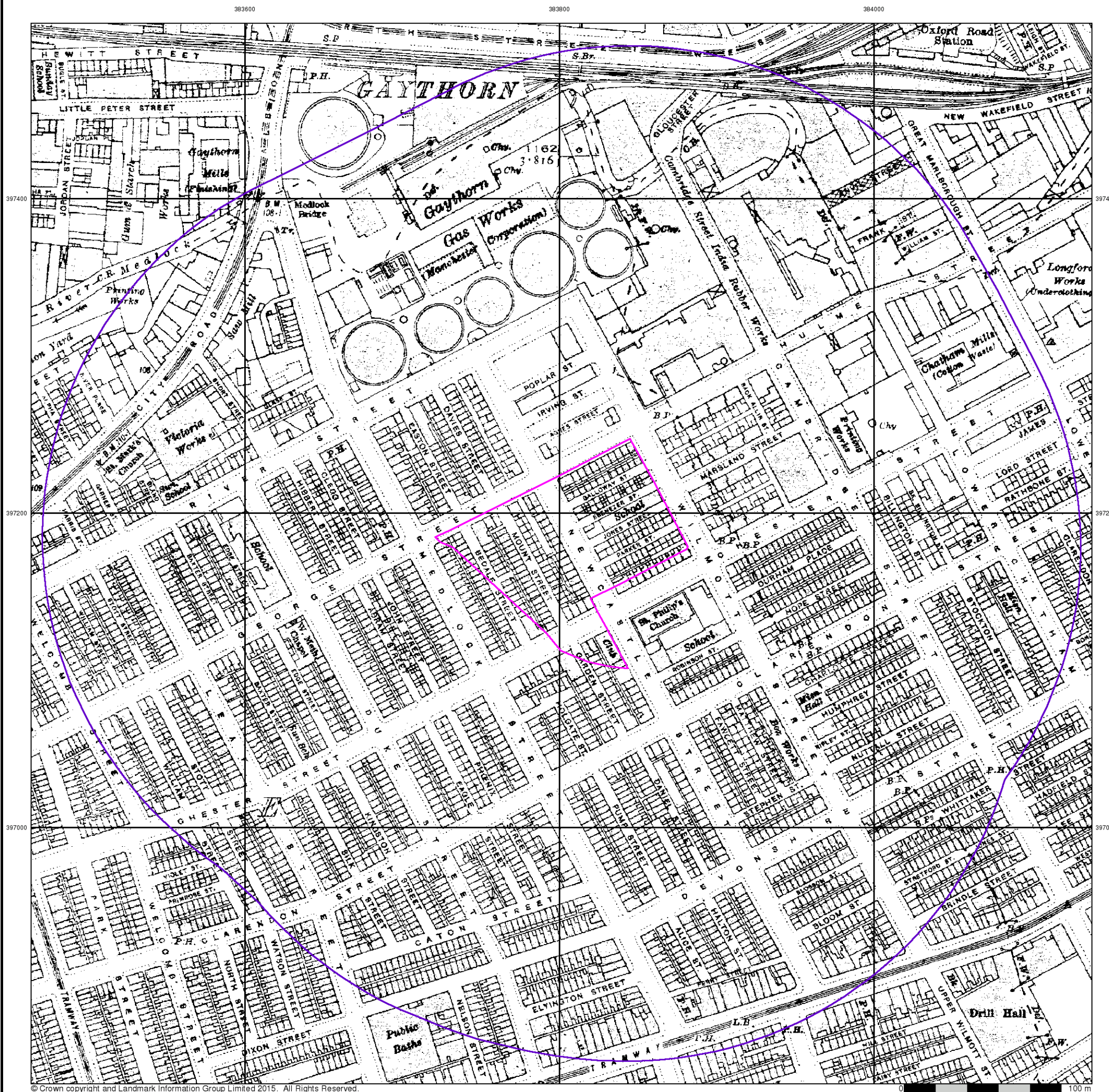


Order Details

Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER



Ordnance Survey Plan

Published 1948 - 1950

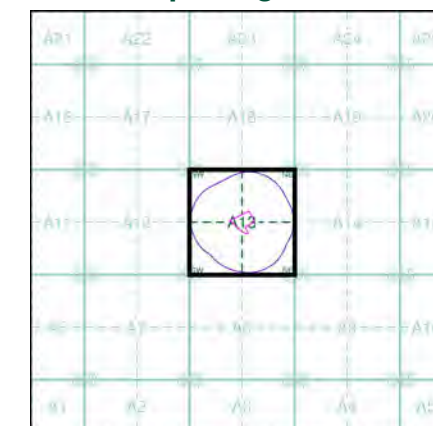
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8397NW	SJ8397NE	SJ8497NW
1948	1948	1948
1:1,250	1:1,250	1:1,250
SJ8397SW	SJ8397SE	SJ8497SW
1948	1948	1948
1:1,250	1:1,250	1:1,250
SJ8396NW	SJ8396NE	SJ8496NW
1950	1950	1948
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13

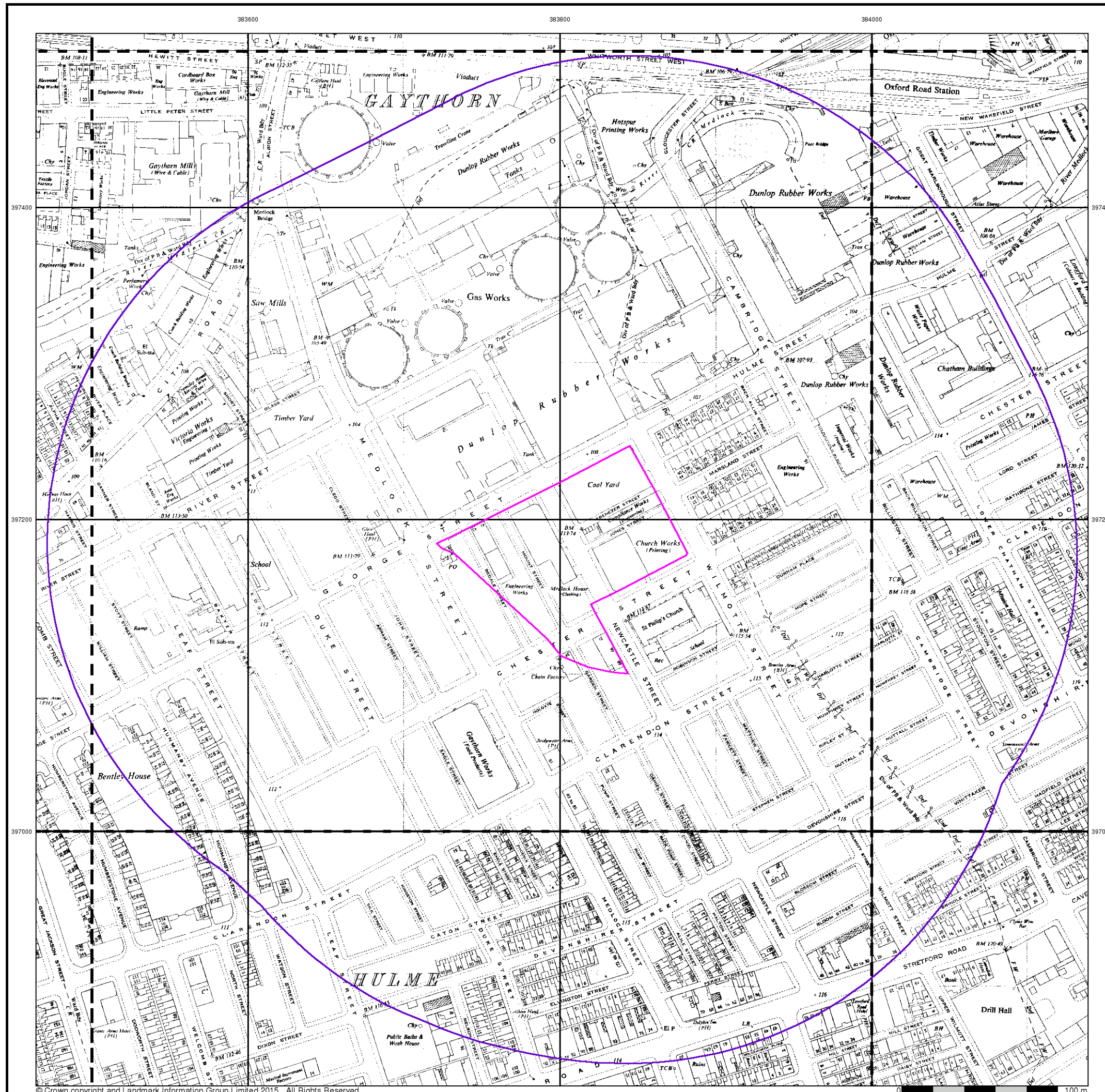


Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER



Ordnance Survey Plan

Published 1950 - 1951

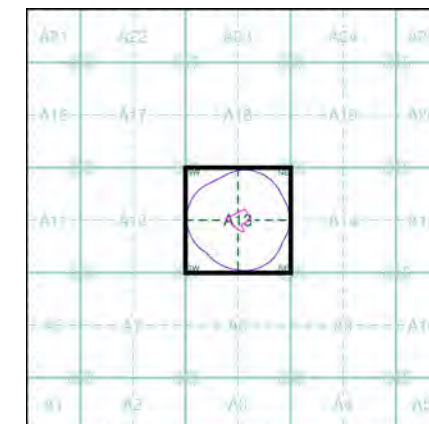
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8397	SJ8497
1950	1950
12,500	12,500
SJ8396	SJ8496
1951	1951
12,500	12,500

Historical Map - Segment A13



Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER



Ordnance Survey Plan

Published 1951 - 1964

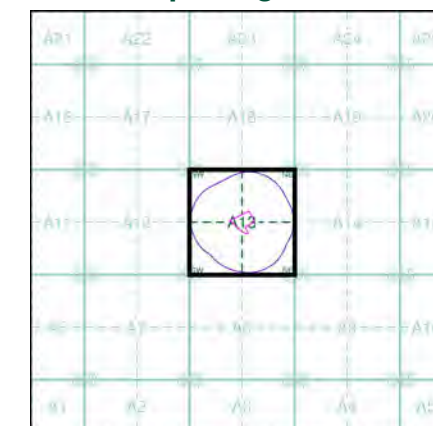
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8397NW	SJ8397NE	SJ8497NW
1955	1951	1964
1:1,250	1:1,250	1:1,250
SJ8397SW	SJ8397SE	SJ8497SW
1954	1954	1954
1:1,250	1:1,250	1:1,250
SJ8396NW	SJ8396NE	SJ8496NW
1956	1956	1952
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13

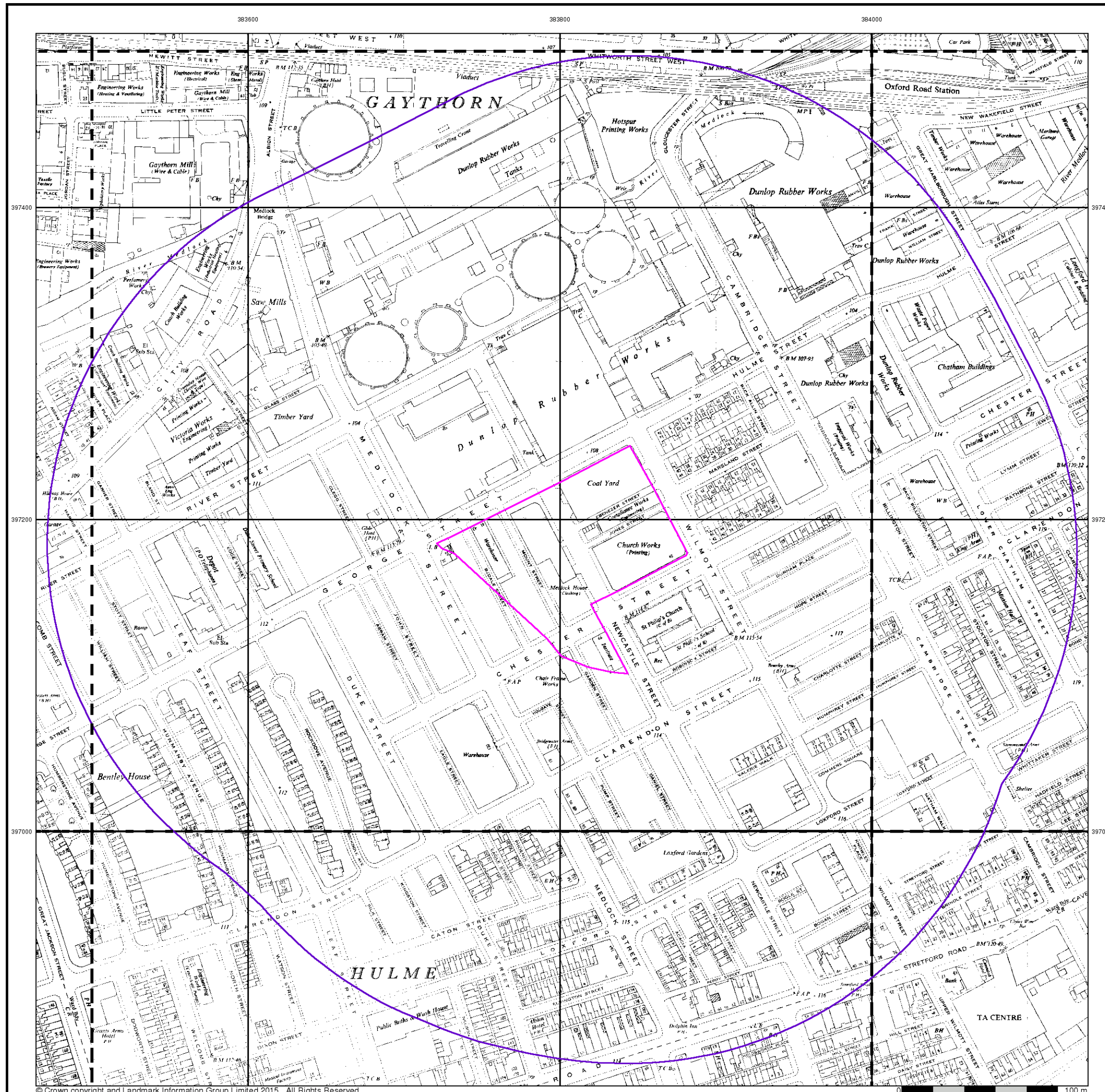


Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER



Ordnance Survey Plan

Published 1955 - 1963

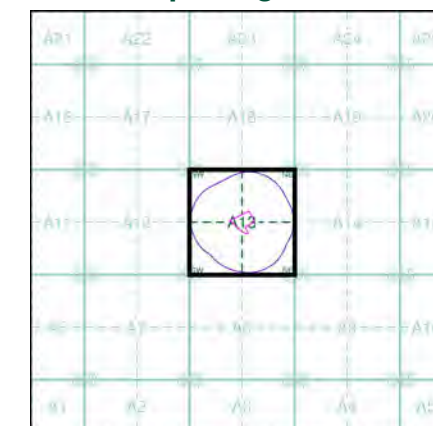
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8397	SJ8497
1956	1955
12,500	12,500
	SJ8496
	1963
	12,500

Historical Map - Segment A13

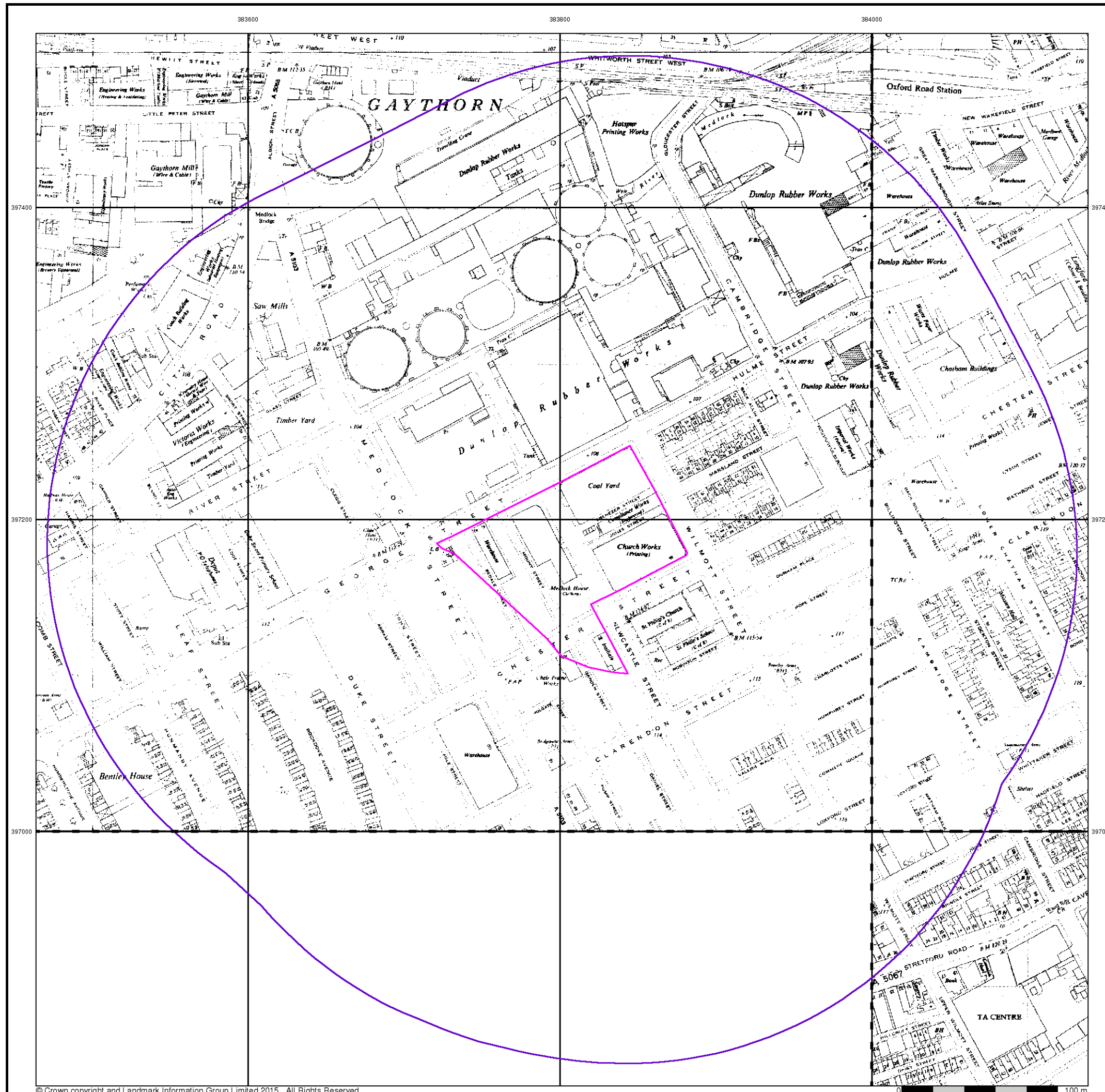


Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER



Ordnance Survey Plan

Published 1960 - 1973

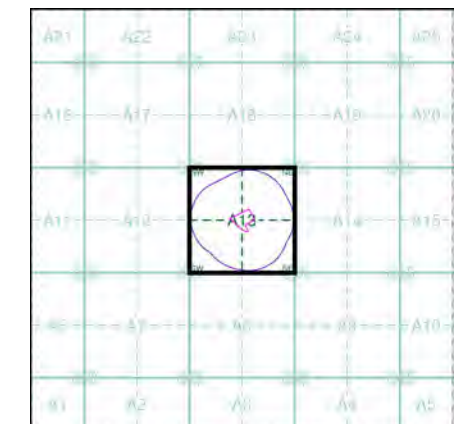
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8397NW	SJ8397NE	
1963	1973	
1:1,250	1:1,250	
SJ8397SW	SJ8397SE	SJ8497SW
1960	1969	1962
1:1,250	1:1,250	1:1,250
SJ8396NW	SJ8396NE	SJ8496NW
1973	1973	1961
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13

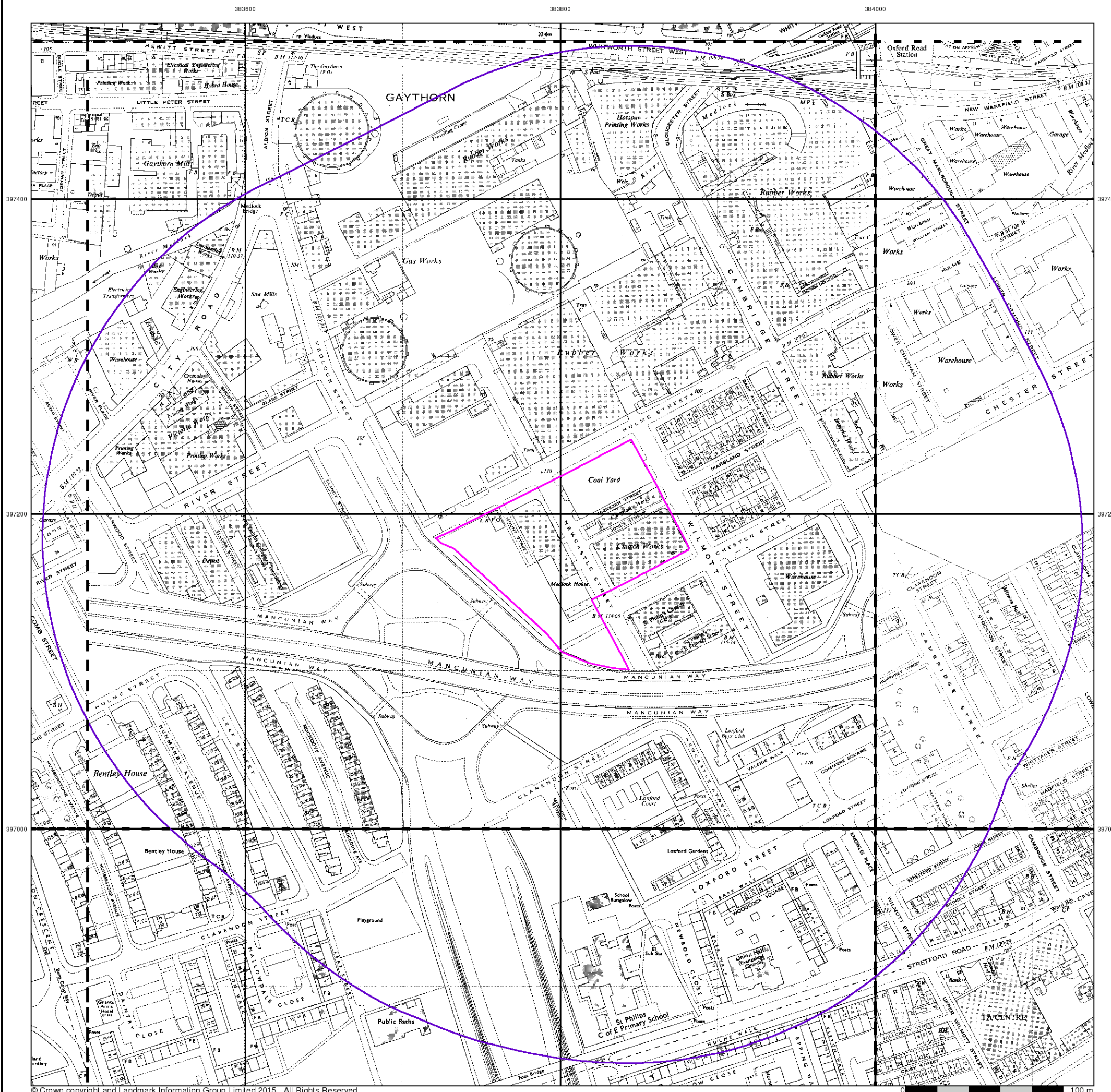


Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER



Ordnance Survey Plan

Published 1965

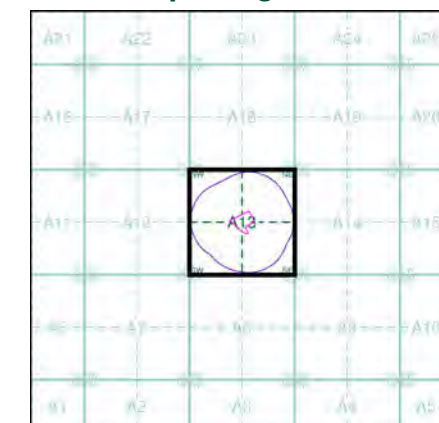
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)

SJ8397	SJ8497
1965	1965
1:2,500	1:2,500

Historical Map - Segment A13

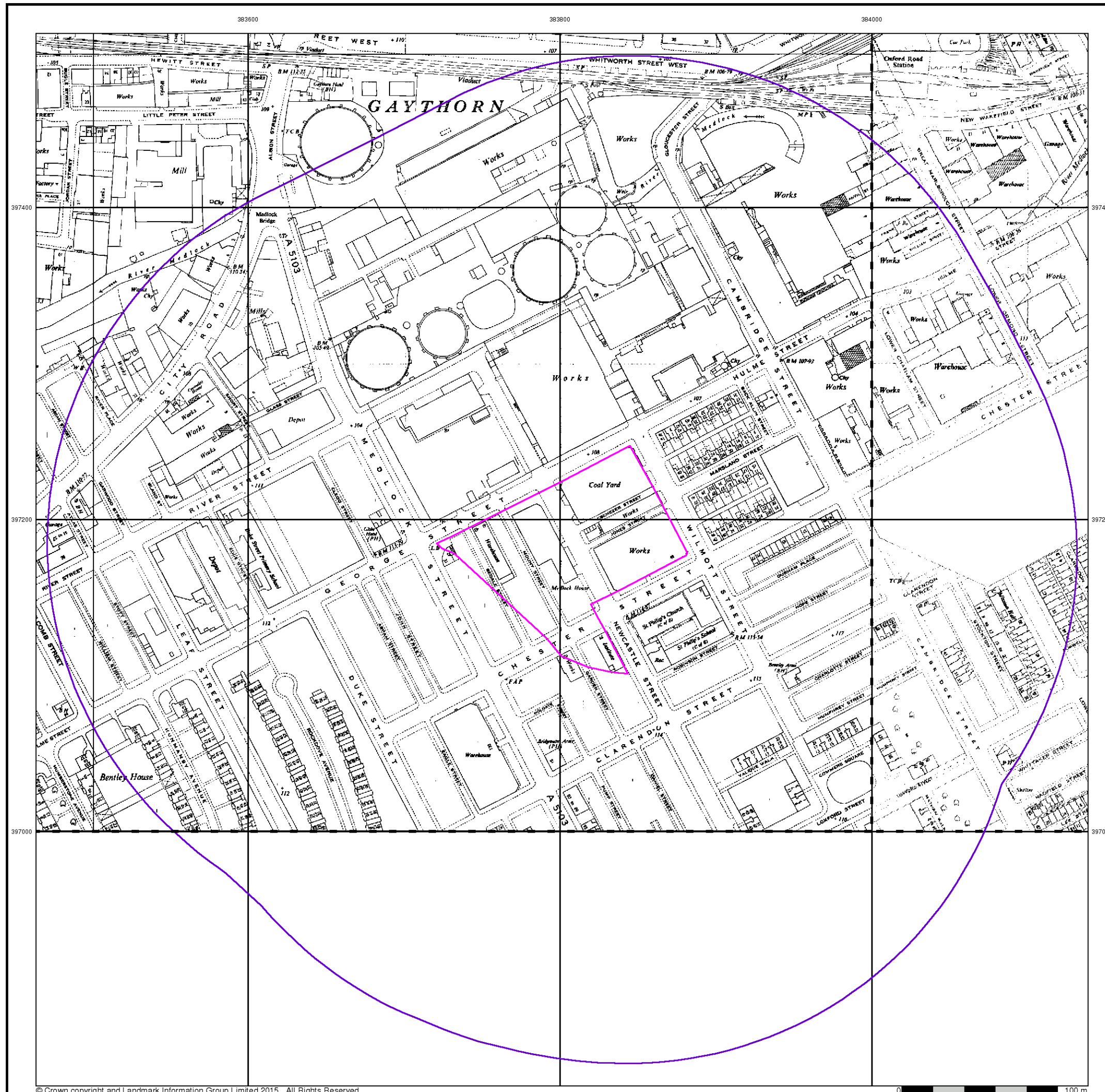


Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER



Additional SIMs

Published 1978 - 1990

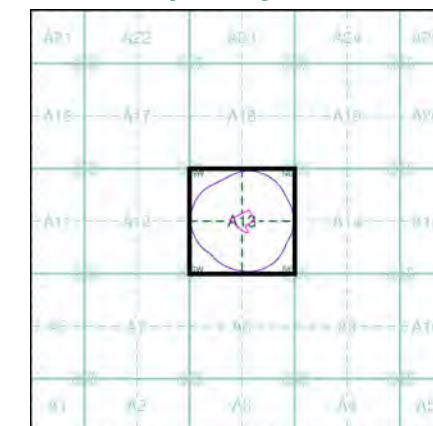
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ8397NWS	SJ8397NES	SJ8497NW
1981	1985	1985
1:1,250	1:1,250	1:1,250
SJ8397SW	SJ8397SE	SJ8497SW
1980	1980	1978
1:1,250	1:1,250	1:1,250
SJ8396NWS	SJ8396NES	SJ8496NW
1990	1990	1990
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13

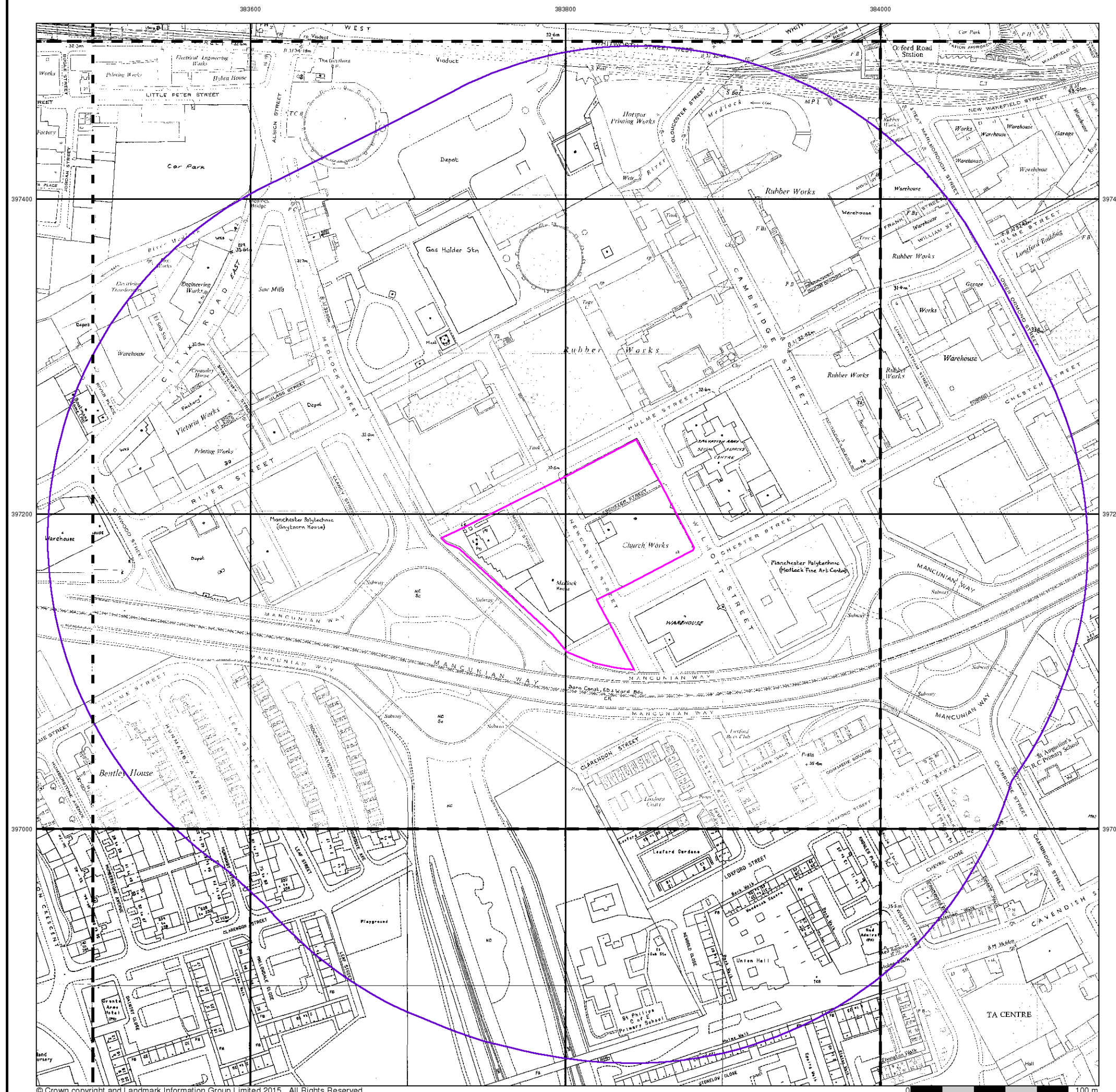


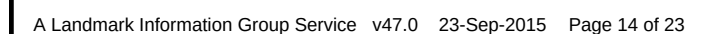
Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER





Additional SIMs

Published 1987 - 1990

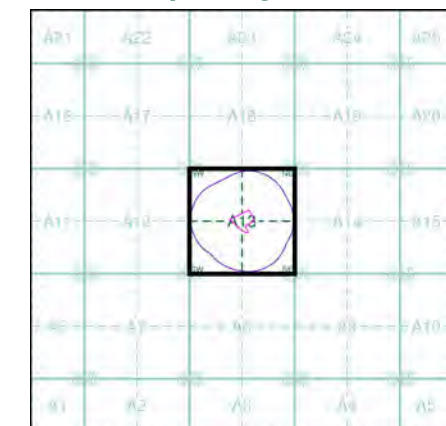
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ8397NW	
1990	
1:1,250	
SJ8397SE	SJ8497SW
1987	1990
1:1,250	1:1,250

Historical Map - Segment A13

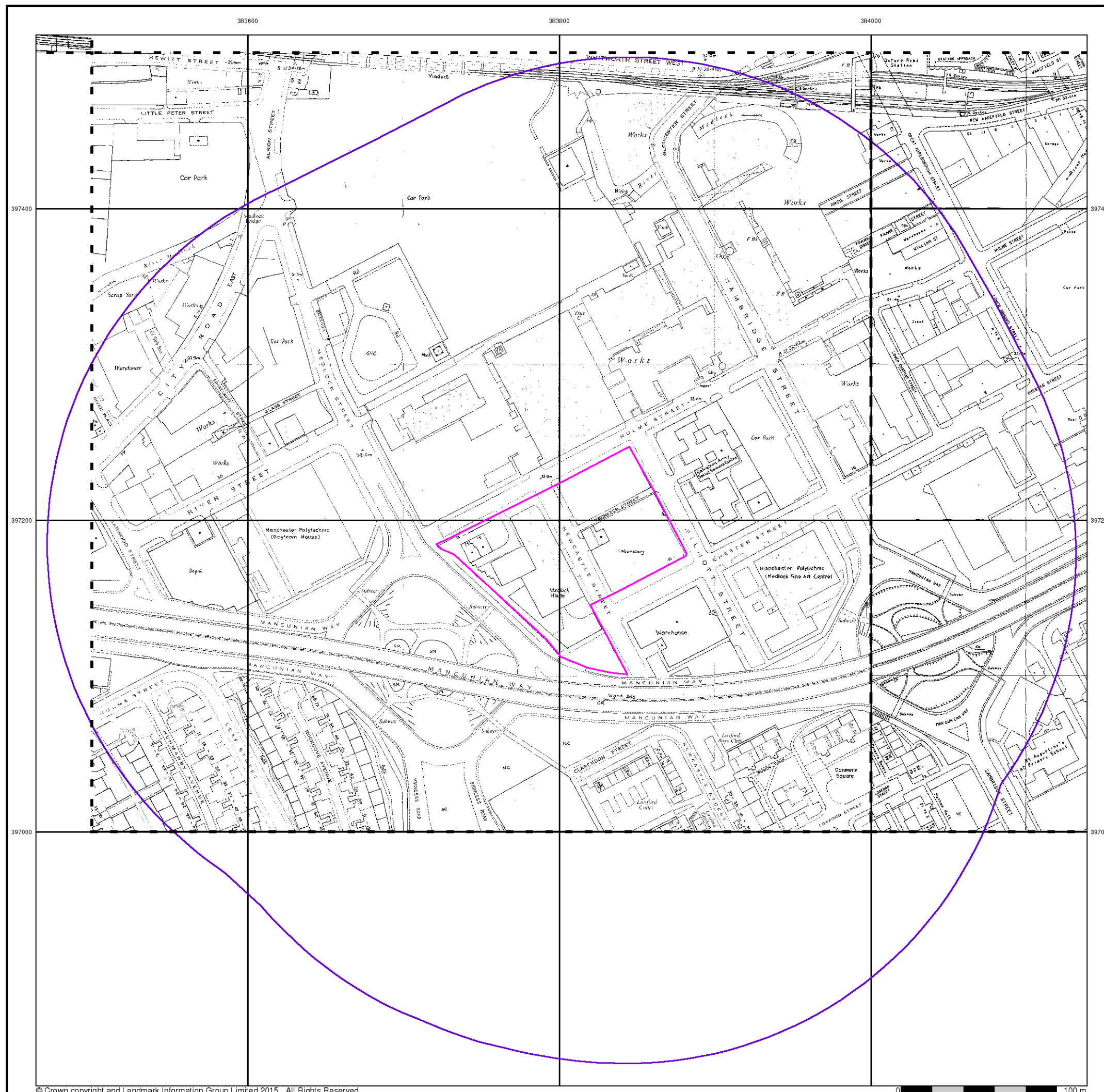


Order Details

Order Number: 72883240_1_1
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 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 250

Site Details

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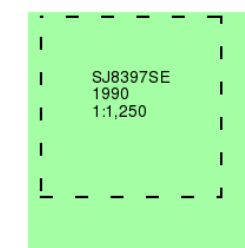
Additional SIMs

Published 1990

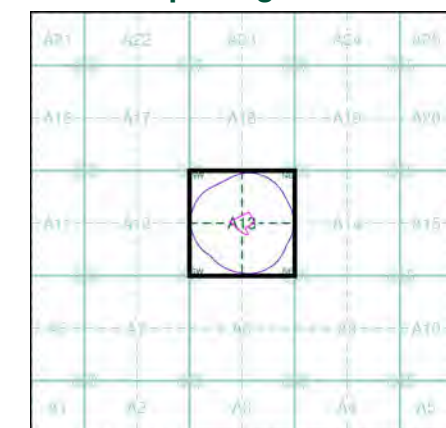
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13

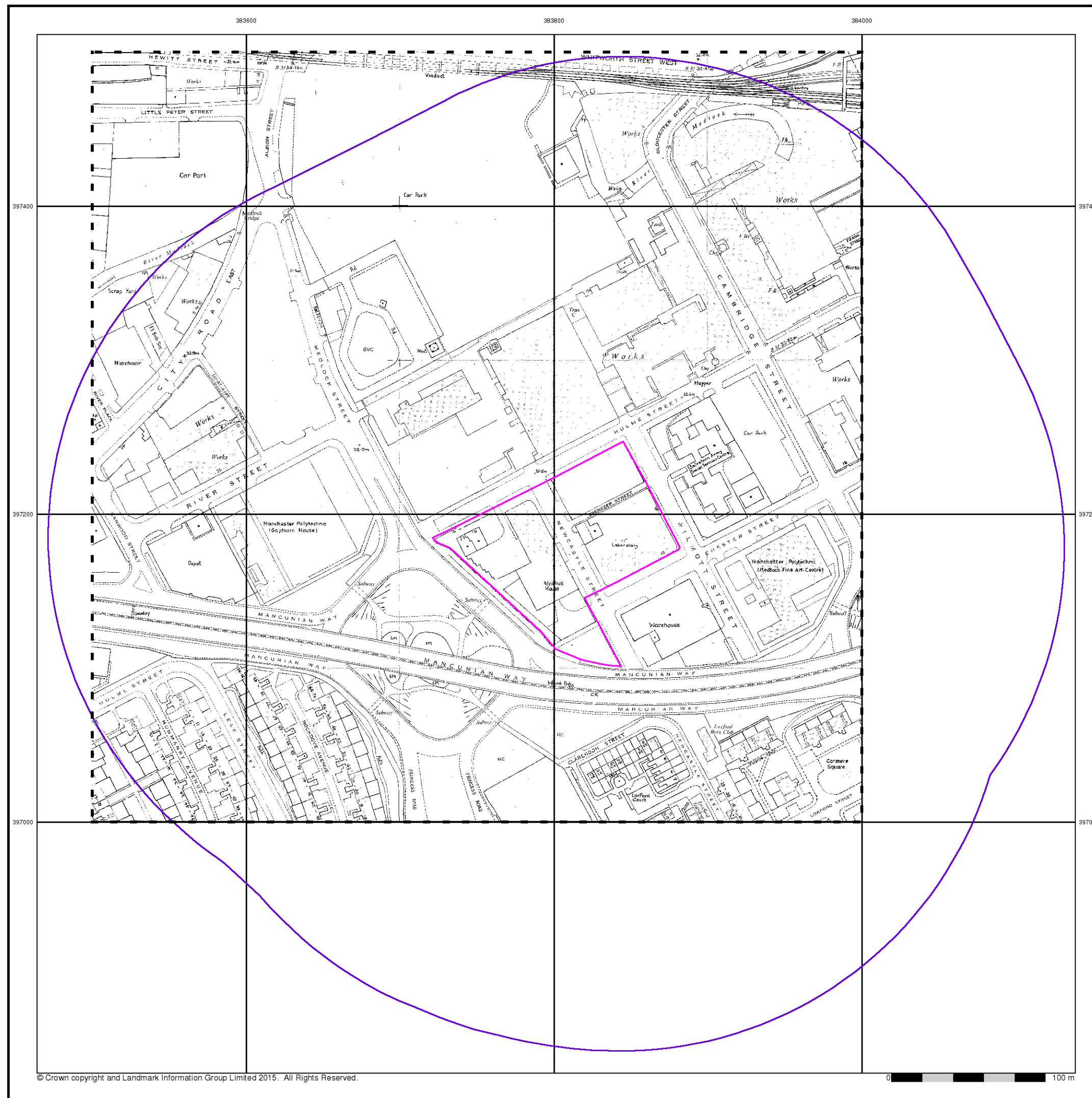


Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 250

Site Details

Plot 8, First Street, MANCHESTER





Large-Scale National Grid Data

Published 1992

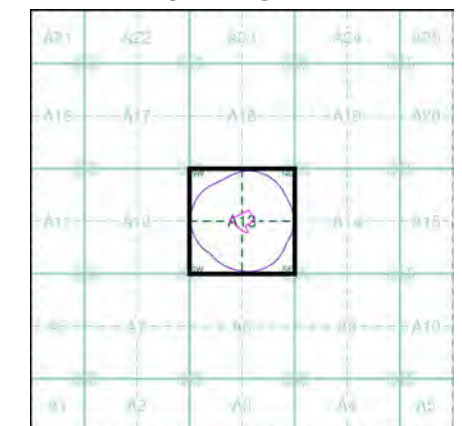
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

SJ8397NW	SJ8397NE	SJ8497NW
1992	1992	1992
1:1,250	1:1,250	1:1,250
<hr/>		
SJ8397SW	SJ8397SE	SJ8497SW
1992	1992	1992
1:1,250	1:1,250	1:1,250
<hr/>		
SJ8396NW	SJ8396NE	SJ8496NW
1992	1992	1992
1:1,250	1:1,250	1:1,250

Historical Map - Segment A13



Order Details

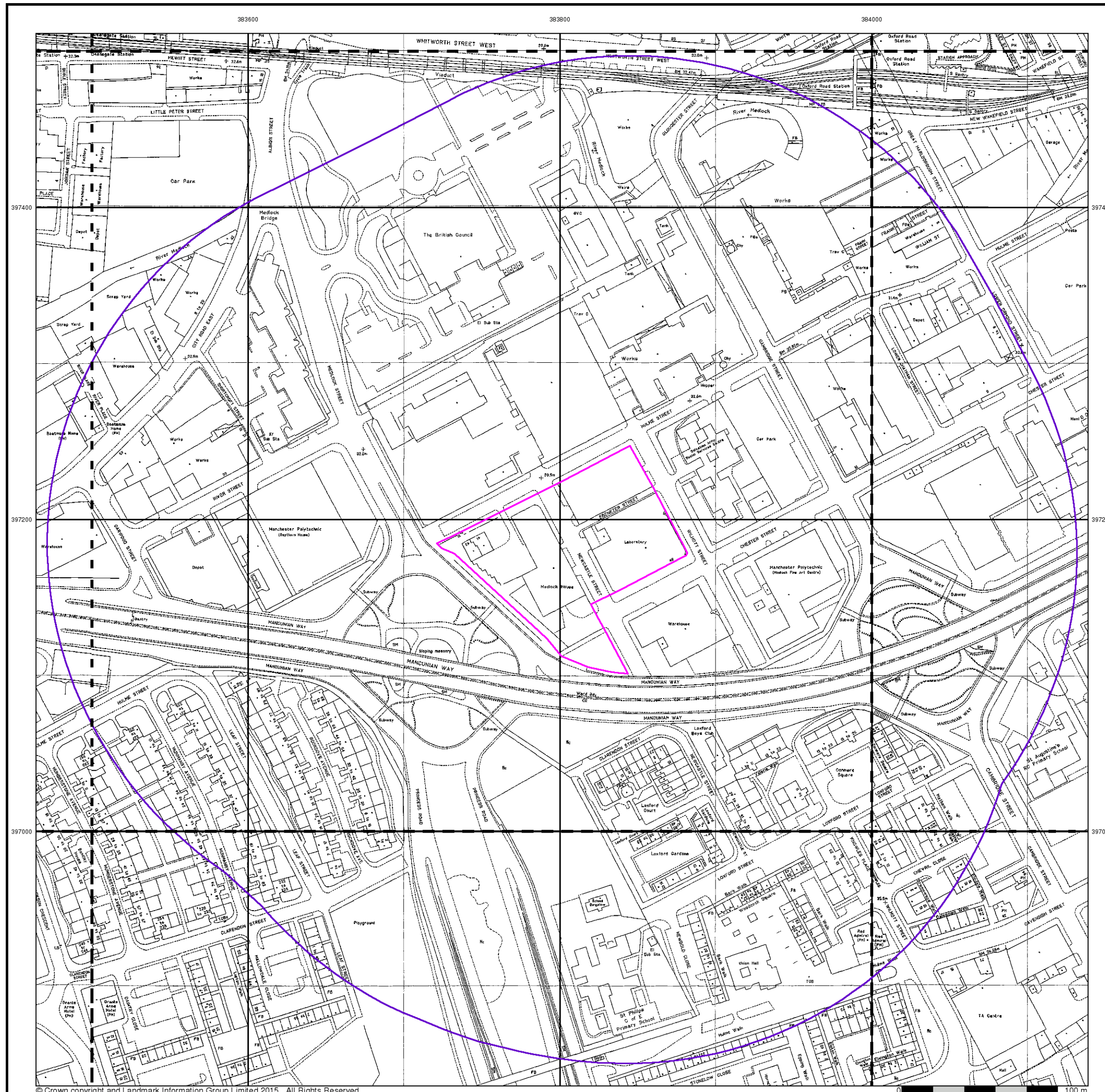
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 250

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Appendix B

Envirocheck Report

Geology 1:10,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WGR	Worked Ground (Undivided)	Void	Holocene - Holocene
	MGR	Made Ground (Undivided)	Artificial Deposit	Holocene - Holocene
	WMGR	Infilled Ground	Artificial Deposit	Holocene - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Flandrian - Pleistocene
	ALV	Alluvium	Sand with Clay And Gravel	Flandrian - Pleistocene
	GFSDD	GLACIOFLUVIAL SHEET DEPOSITS, DEVENSIAN	Sand and Gravel	Devensian - Ipswichian
	TILLD	Till, Devensian	Diamicton	Devensian - Ipswichian

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	CPB	Chester Pebble Beds Formation	Sandstone	Early Triassic - Early Triassic
	WLSF	Wilmslow Sandstone Formation	Sandstone	Early Triassic - Early Triassic
	MM	Manchester Marls Formation	Mudstone	Late Permian - Late Permian
	Fault			



Geology 1:10,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:10,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around a site. This mapping may be more up to date than previously published paper maps.

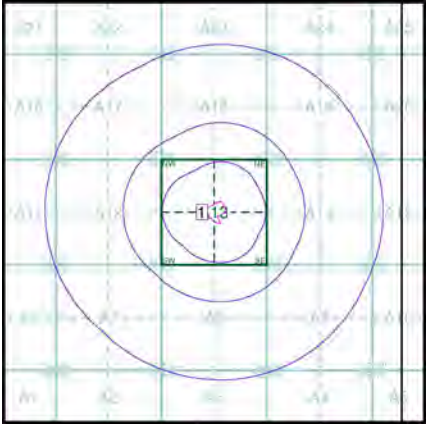
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page.

Please Note: Not all of the layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:10,000 Maps Coverage

Map ID:		Map ID:	1
Map Name:	SJ89NE	Map Name:	SJ89NW
Map Date:	1976	Map Date:	1973
Bedrock Geology:	Available	Bedrock Geology:	Available
Superficial Geology:	Available	Superficial Geology:	Available
Artificial Geology:	Available	Artificial Geology:	Available
Faults:	Available	Faults:	Available
Landslip:	Available	Landslip:	Not Available
Rock Segments:	Available	Rock Segments:	Not Available

Geology 1:10,000 Maps - Slice A



Order Details

Order Number:	72883240_1_1
Customer Ref:	1011906
National Grid Reference:	383810, 397180
Slice:	A
Site Area (Ha):	1.1
Search Buffer (m):	1000

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Artificial Ground and Landslip

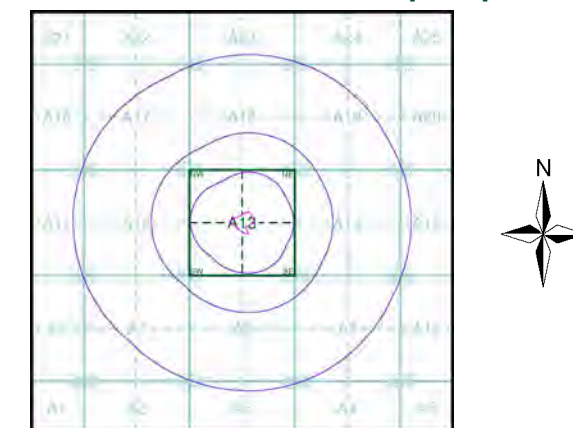
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A

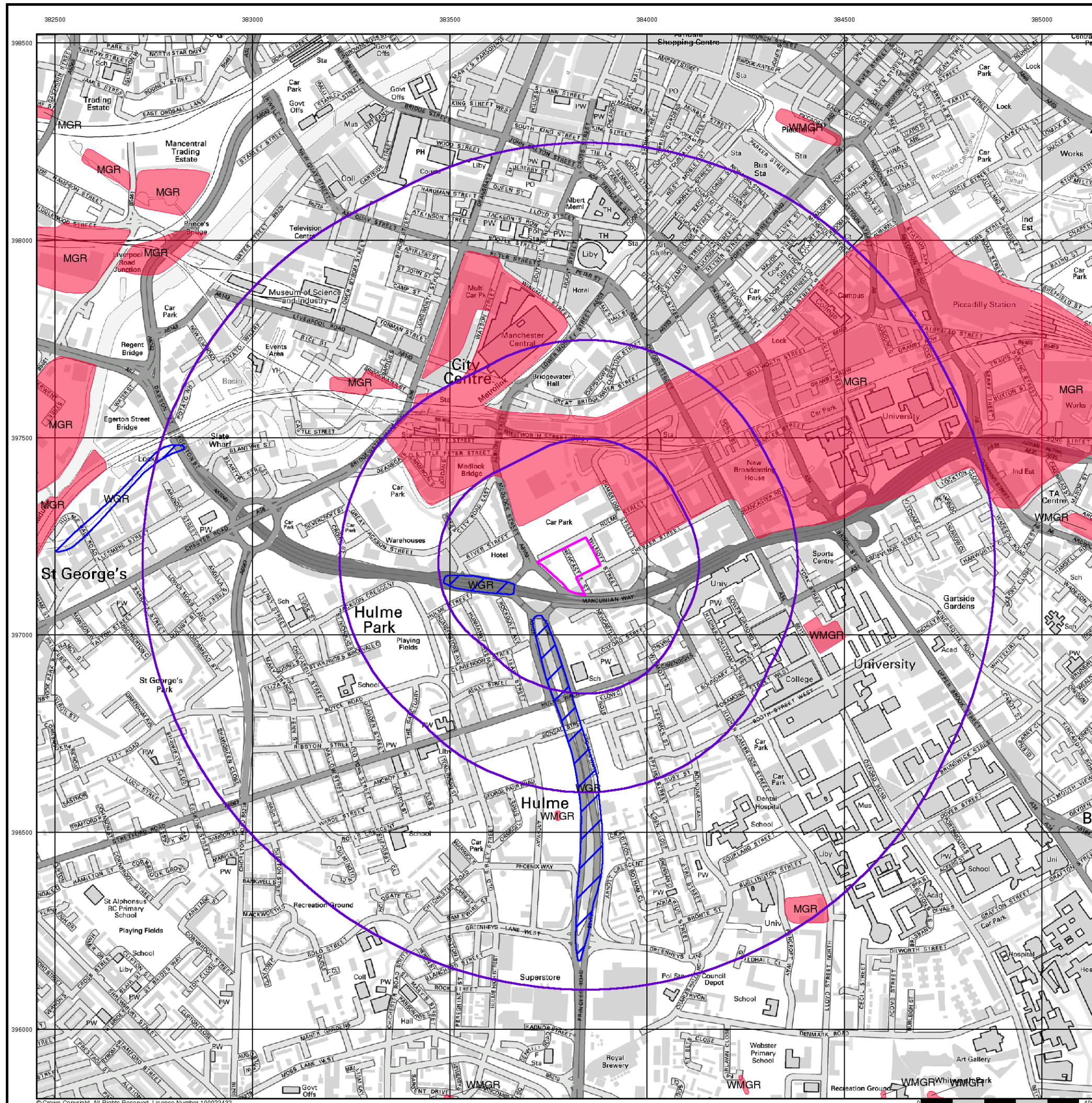


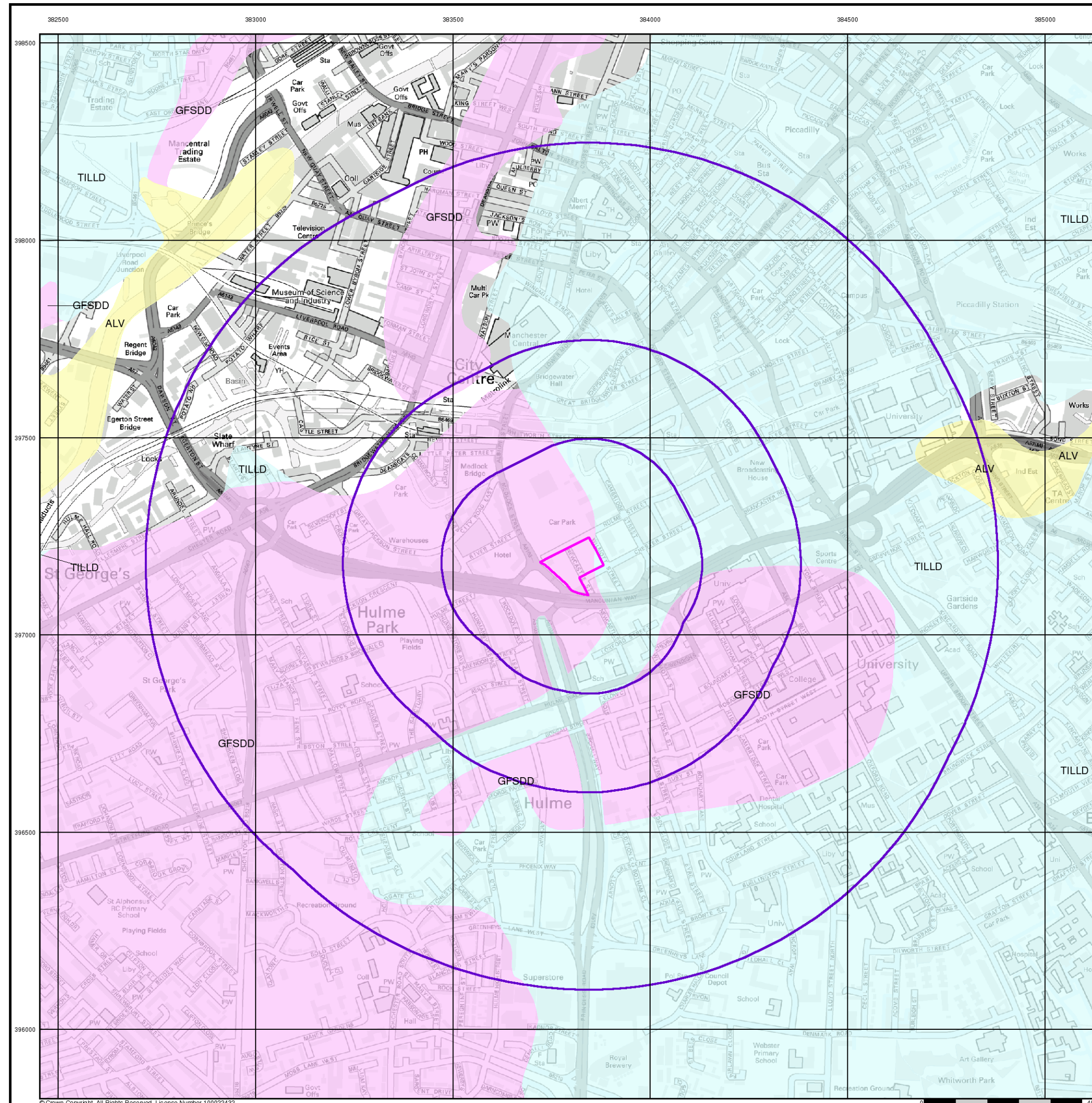
Order Details

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 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER





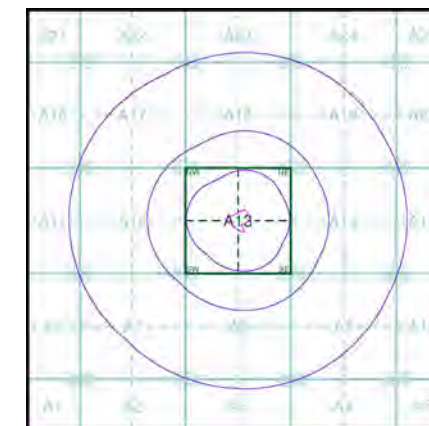
Superficial Geology

BGS 1:10,000 Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



Order Details

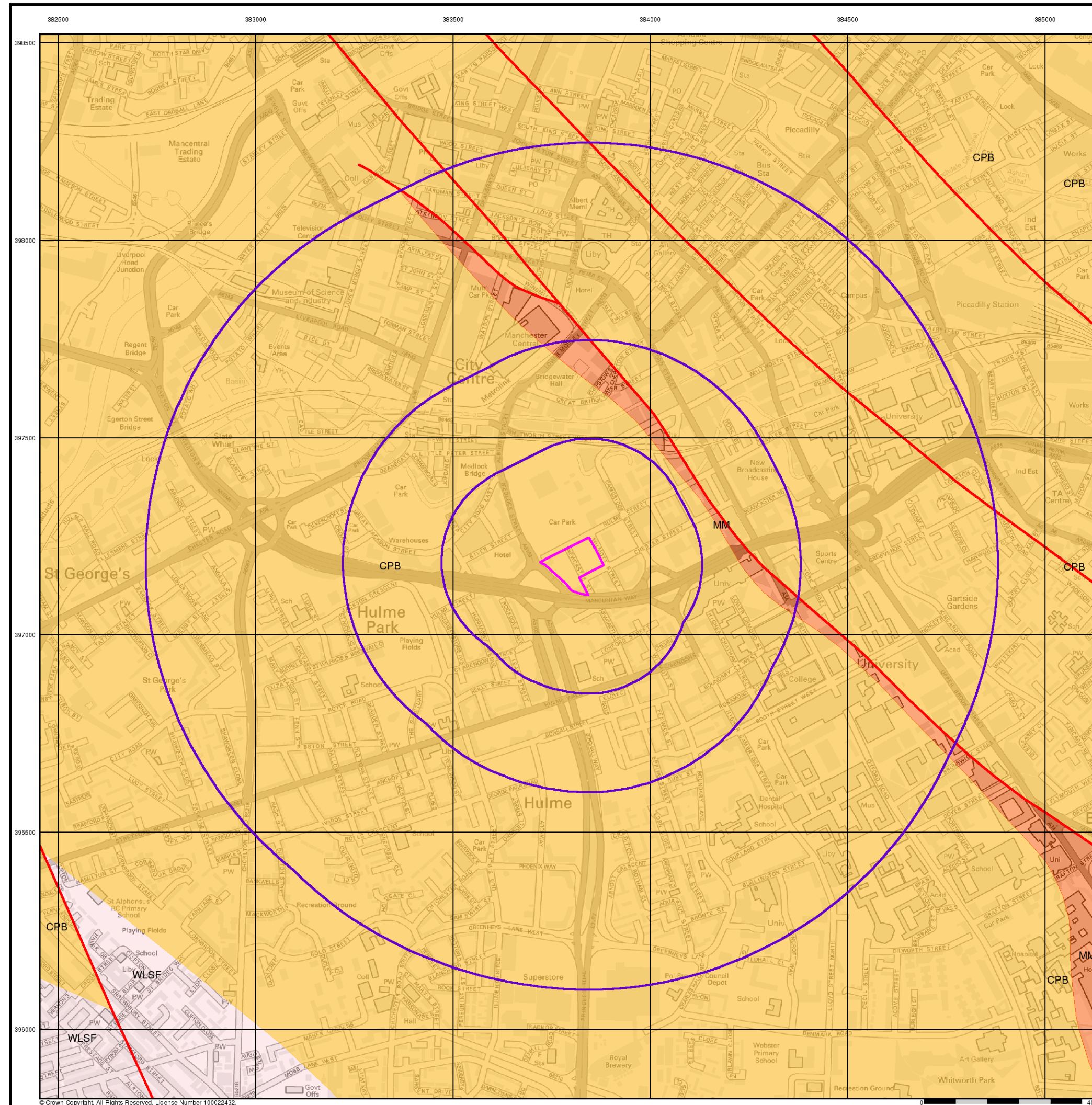
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

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Bedrock and Faults

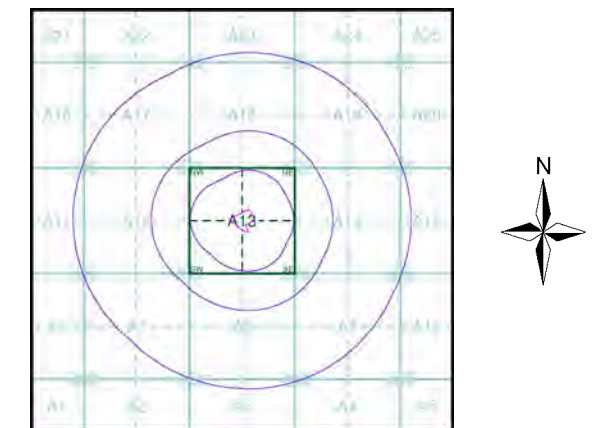
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults and thin beds mapped as lines such as coal seams and mineral veins. These are not restricted by age and could relate to features of any of the 1:10,000 geology datasets.

Bedrock and Faults Map - Slice A



Order Details

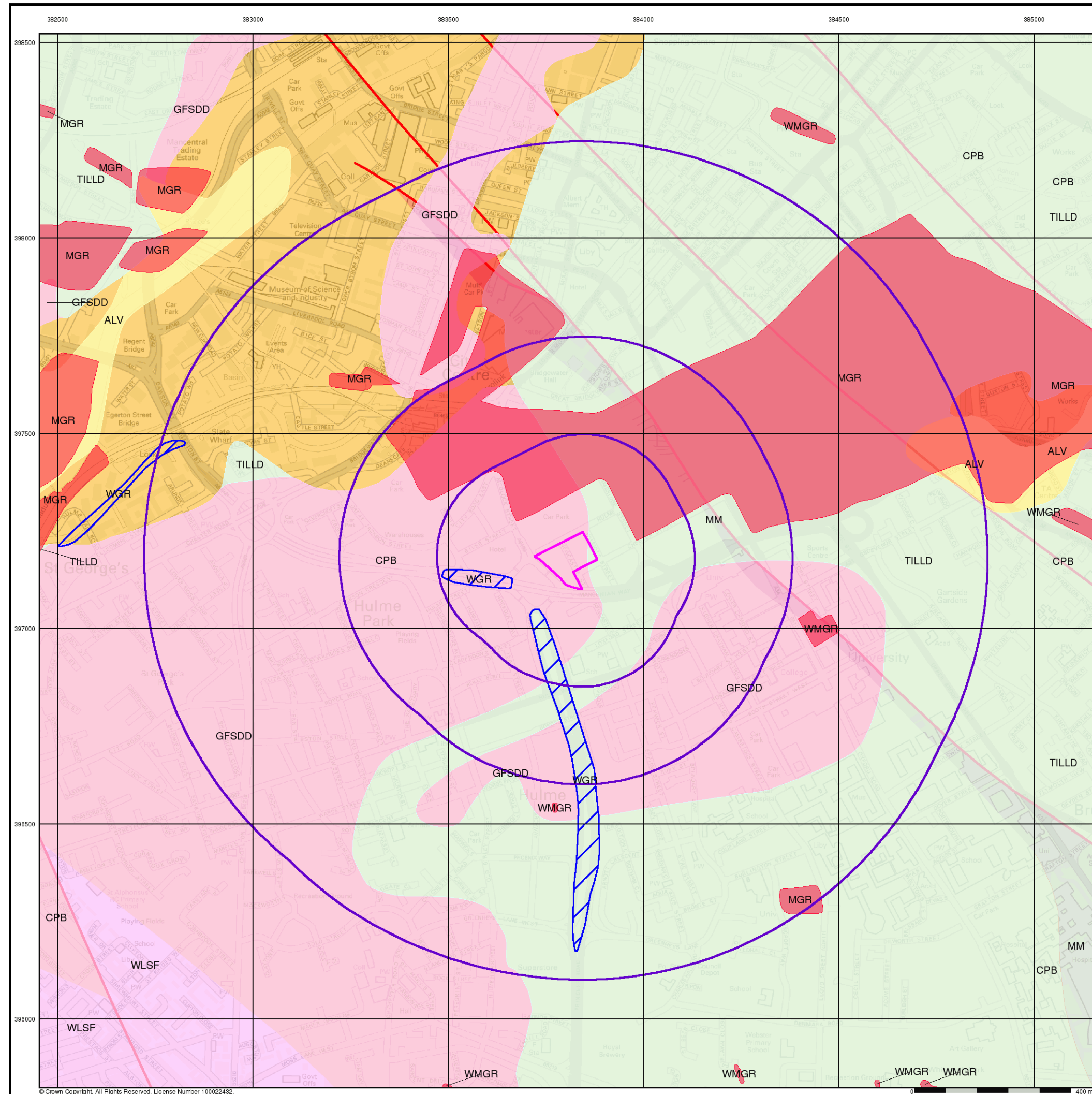
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Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

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Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

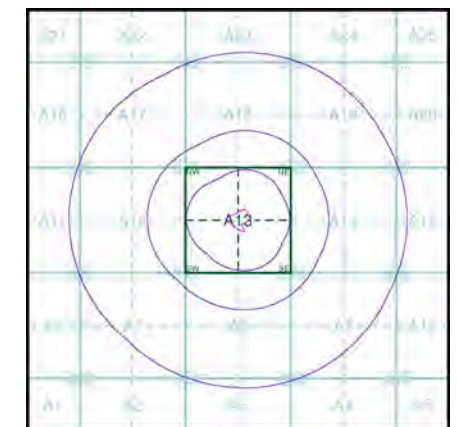
Additional Information

More information on 1:10,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



Order Details

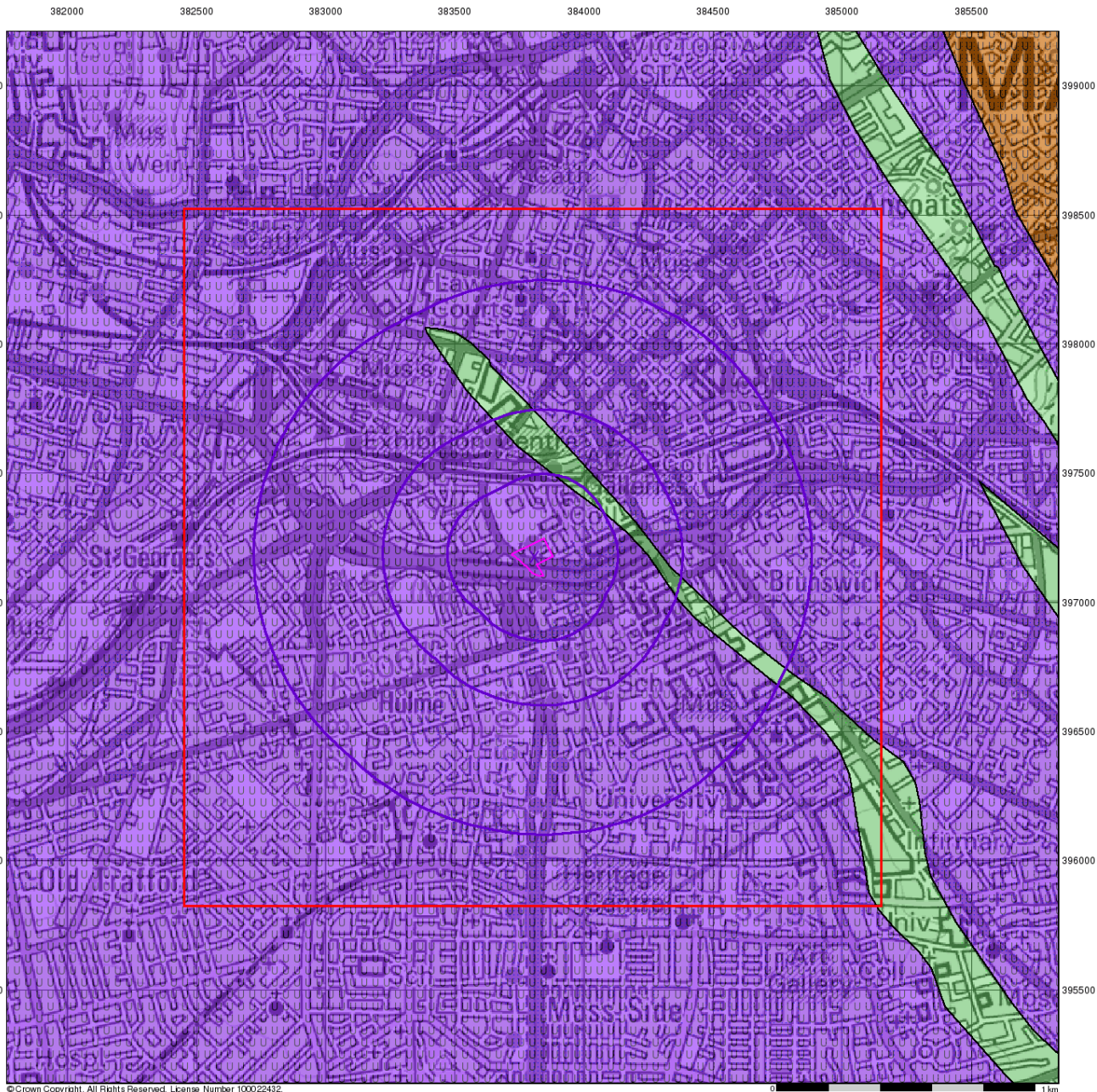
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Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



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Groundwater Vulnerability

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

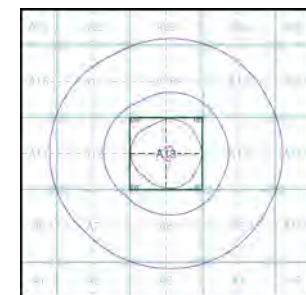
Geological Classes

- Major Aquifer (Highly Permeable)**
 - High (H) 1, 2, 3, U
 - Intermediate (I) 1, 2
 - Low
- Minor Aquifer (Variably Permeable)**
 - High (H) 1, 2, 3, U
 - Intermediate (I) 1, 2
 - Low
- Non Aquifer (Negligibly Permeable)**
- Water or Sea**
- Drift Deposit**

Soil Classes

- High (H) 1, 2, 3, U
- Intermediate (I) 1, 2
- Low
- High (H) 1, 2, 3, U
- Intermediate (I) 1, 2
- Low

Site Sensitivity Context Map - Slice A



Order Details

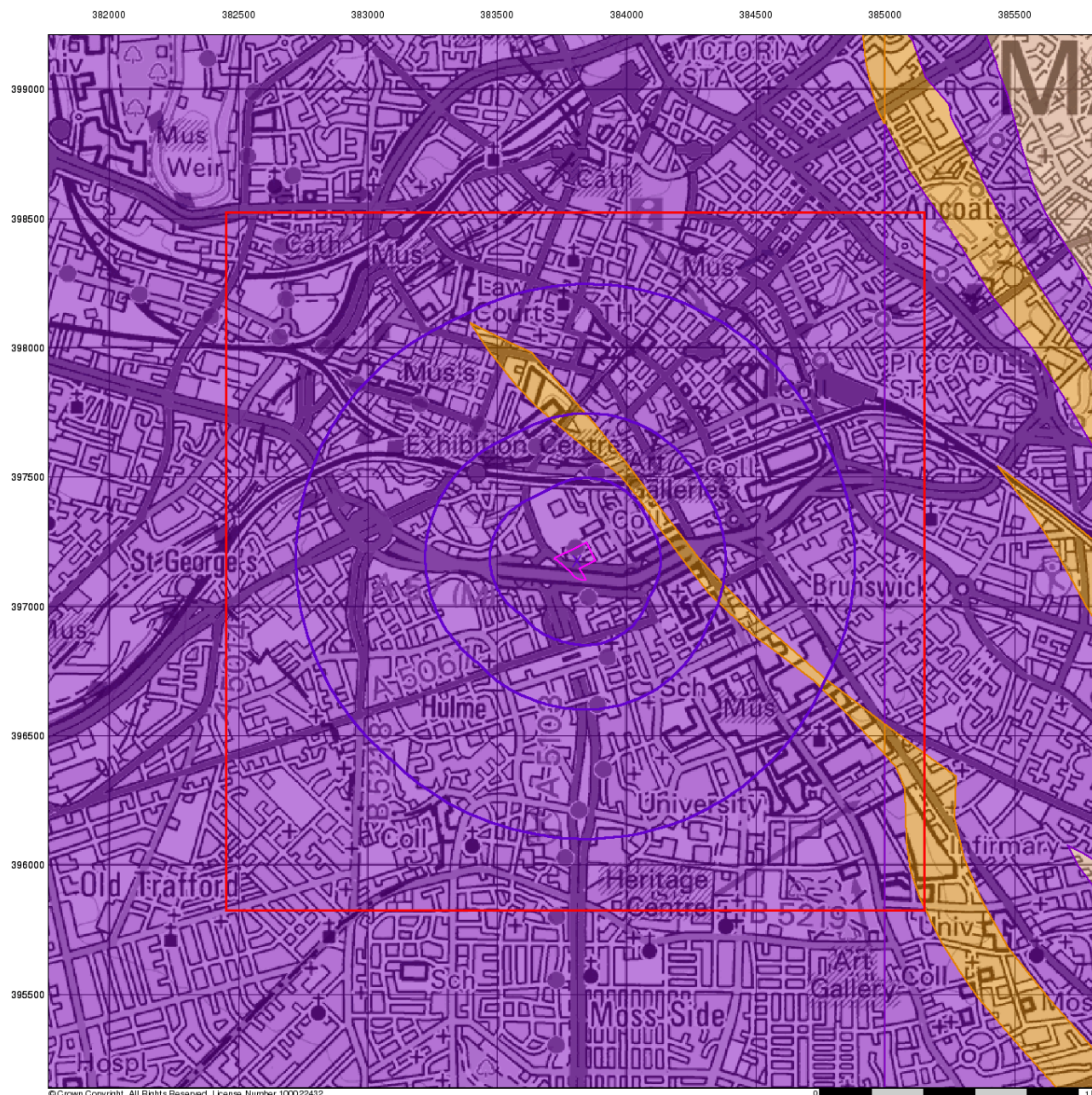
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 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 1000

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Bedrock Aquifer Designation

General

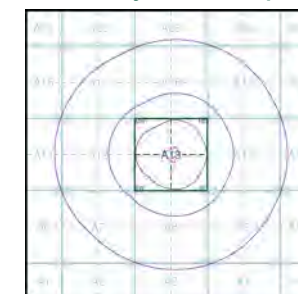
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

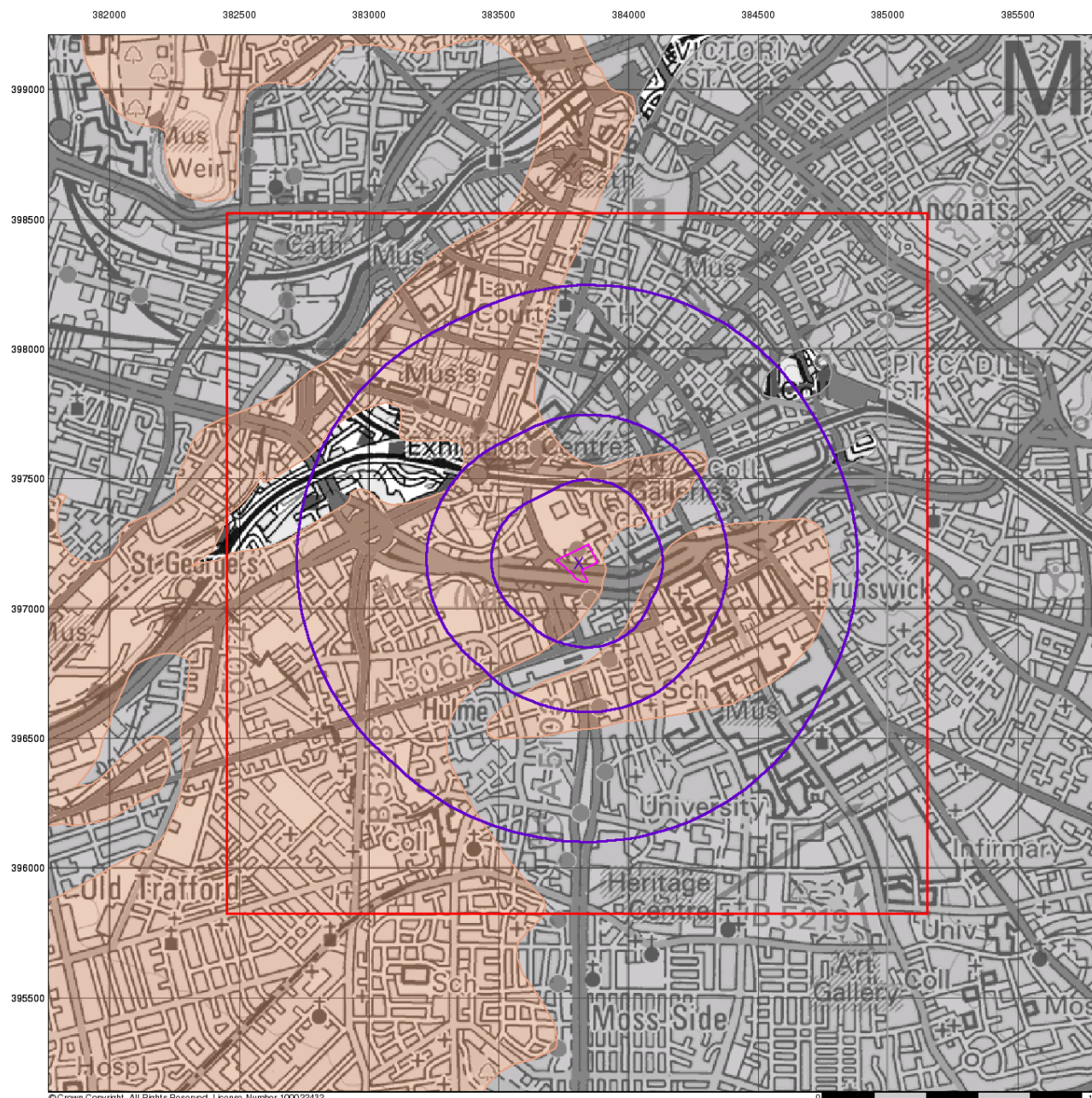
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 Customer Ref: 1011906
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 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 1000

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0 1 km



Superficial Aquifer Designation

General

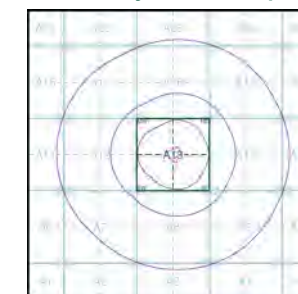
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

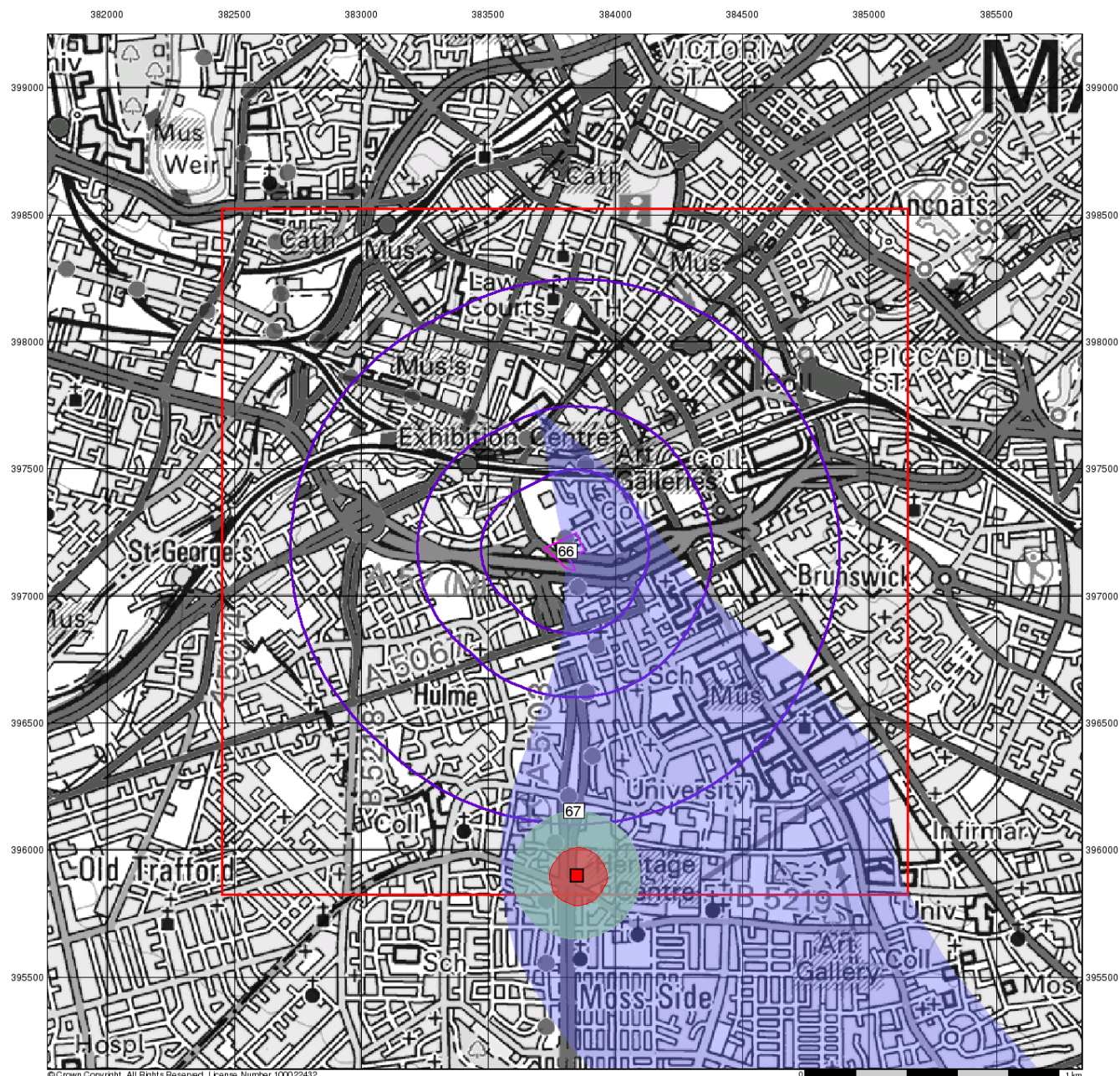
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 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
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 Site Area (Ha): 1.1
 Search Buffer (m): 1000

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0 1 km



Source Protection Zones

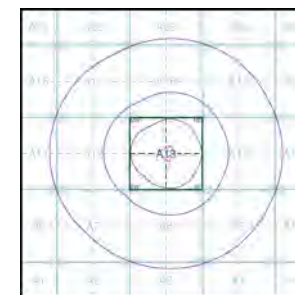
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Slice
- Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)
- Source Protection Zone Borehole

Site Sensitivity Context Map - Slice A



Order Details

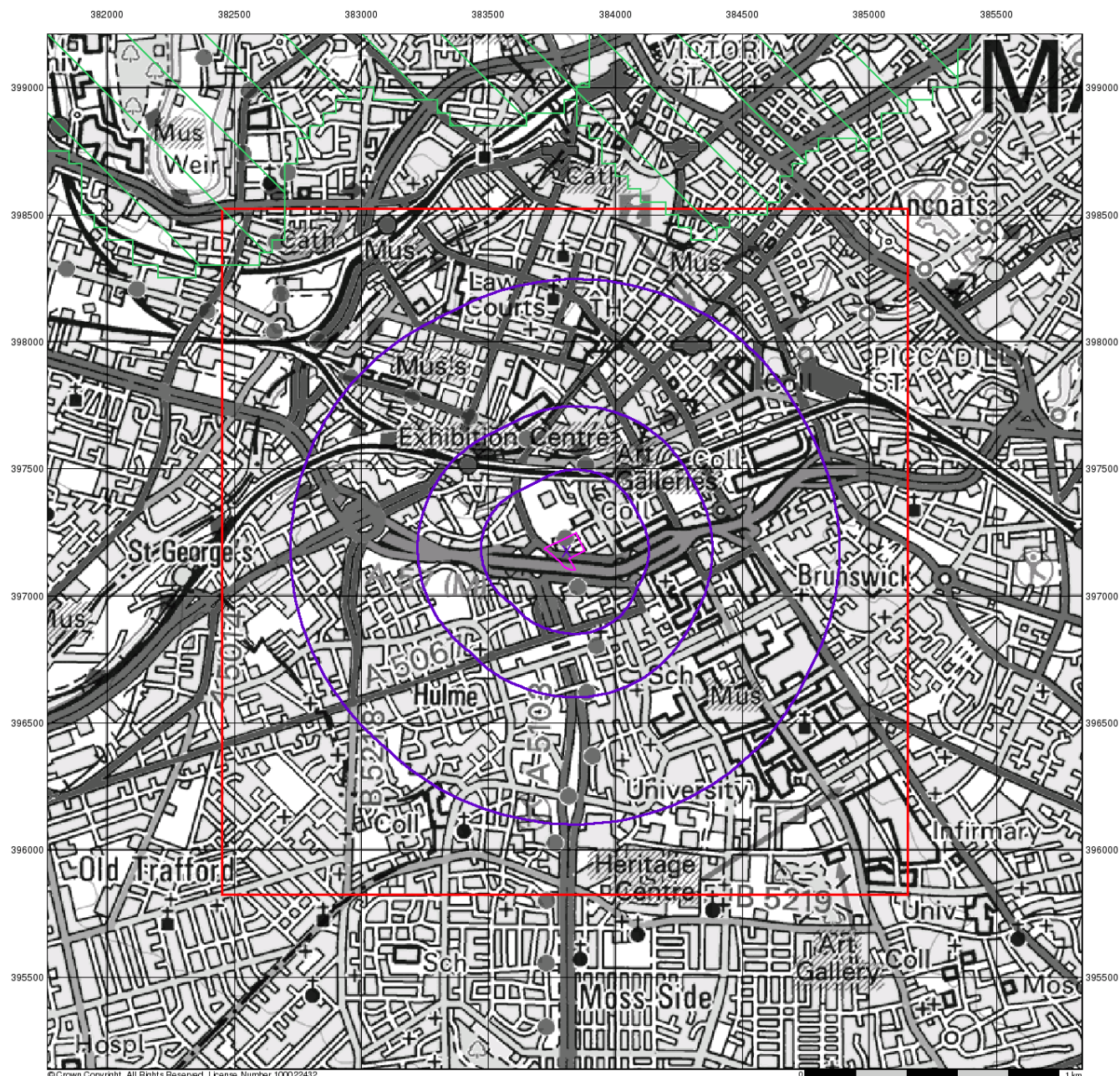
Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
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 Search Buffer (m): 1000

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Sensitive Land Uses

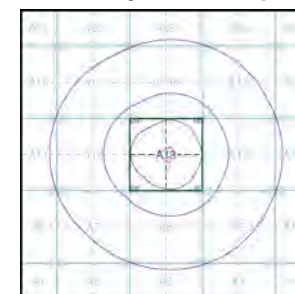
General

- ◇ Specified Site
- Specified Buffer(s)
- X Bearing Reference Point
- Slice
- B Map ID

Sensitive Land Uses

- A Area of Adopted Green Belt
- A Area of Unadopted Green Belt
- A Area of Outstanding Natural Beauty
- A Environmentally Sensitive Area
- A Forest Park
- A Local Nature Reserve
- A Marine Nature Reserve
- A National Nature Reserve
- A National Park
- A Nitrate Sensitive Area
- A Nitrate Vulnerable Zone
- A Ramsar Site
- A Site of Special Scientific Interest
- A Special Area of Conservation
- A Special Protection Area

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 1000

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Datasheet

Order Details:

Order Number:

72883240_1_1

Customer Reference:

1011906

National Grid Reference:

383810, 397180

Slice:

A

Site Area (Ha):

1.1

Search Buffer (m):

1000

Site Details:

Plot 8

First Street

MANCHESTER

Client Details:

Mr J Allen

Cundall

Horsley House

Regent Centre, Gosforth

Newcastle Upon Tyne

NE3 3LU

Report Section	Page Number
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Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination. For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

In the attached datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

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Information supplied from a joint dataset compiled by The British Geological Survey and Public Health England.

Report Version v50.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		11	21	43
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 19	1	1	1	3
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 20		Yes		
Pollution Incidents to Controlled Waters	pg 20		1	5	8
Prosecutions Relating to Authorised Processes					
Prosecutions Relating to Controlled Waters					
Registered Radioactive Substances	pg 23		6	1	17
River Quality	pg 27		2	2	1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points	pg 28				1
Substantiated Pollution Incident Register					
Water Abstractions	pg 28		1	6	4 (*35)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 40	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 40	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 40	Yes	n/a	n/a	n/a
Source Protection Zones	pg 40	1			1
Extreme Flooding from Rivers or Sea without Defences	pg 40		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
Detailed River Network Lines	pg 41		Yes	Yes	n/a
Detailed River Network Offline Drainage					n/a

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 43				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 43		1	1	
Local Authority Recorded Landfill Sites					
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 43				1
Registered Waste Treatment or Disposal Sites	pg 44				1
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					
Geological					
BGS 1:625,000 Solid Geology	pg 45	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 45	Yes	Yes	Yes	Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry	pg 52	Yes		Yes	Yes
BGS Urban Soil Chemistry Averages	pg 55	Yes			
Brine Compensation Area			n/a	n/a	n/a
Coal Mining Affected Areas	pg 55	Yes	n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 55	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 55		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 55	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 55	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 56	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Industrial Land Use					
Contemporary Trade Directory Entries	pg 57		17	36	183
Fuel Station Entries	pg 77		1	1	2
Sensitive Land Use					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Newcastle St/Chester St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0361 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A13NW (N)	42	3	383780 397260
2	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Lower Cambridge St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0285 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 15th November 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m	A13NE (N)	149	3	383830 397395
2	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Wilmott St @ River St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0184 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 18th October 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A13NE (N)	154	3	383830 397400
2	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Lower Cambridge St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982721 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 14th November 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Manually corrected supplier location	A13NE (N)	154	3	383830 397400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	Discharge Consents Operator: United Utilities Water Plc (?) Property Type: Sewerage Network - Sewers - Water Company Location: Cambridge Street Cso, Gaythorn, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982721 Permit Version: 2 Effective Date: 15th November 1999 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A13NE (N)	163	3	383850 397410
3	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Great Bridgewater St, Opposite Chepstow Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982707 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A13NE (N)	211	3	383810 397455
3	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Great Bridgewater St, Opposite Chepstow Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0252 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m	A13NE (N)	216	3	383810 397460
4	Discharge Consents Operator: Swinton Insurance Property Type: Sewage Disposal Works - Other Location: Car Pk, Malborough St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991176 Permit Version: 1 Effective Date: 8th September 1987 Issued Date: Not Supplied Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Lapsed (under Environment Act 1995, Schedule 23) Positional Accuracy: Manually corrected supplier location	A13NE (NE)	218	3	384000 397400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	Discharge Consents Operator: Manchester Metropolitan University Property Type: Education Location: Gshp At Manchester Metropolitan Uni Manchester Metropolitan Uni, Lower Chatham Street, ., Manchester, M15 6bh Authority: Environment Agency, North West Region Catchment Area: Medlock Reference: Eprdp3526gn Permit Version: 1 Effective Date: 1st April 2011 Issued Date: 23rd August 2010 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Cooling Water Discharge: Into Land Environment: Receiving Water: Groundwaters Status: New issued under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A13SE (E)	224	3	384096 397114
5	Discharge Consents Operator: Manchester Metropolitan University Property Type: Education Location: Gshp At Manchester Metropolitan Uni Manchester Metropolitan Uni, Lower Chatham Street, ., Manchester, M15 6bh Authority: Environment Agency, North West Region Catchment Area: Medlock Reference: Eprdp3526gn Permit Version: 1 Effective Date: 1st April 2011 Issued Date: 23rd August 2010 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Cooling Water Discharge: Into Land Environment: Receiving Water: Groundwaters Status: New issued under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A13SE (E)	228	3	384083 397072
6	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Hulme Walk, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0362 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A13SE (S)	233	3	383870 396870
7	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Lower Ormold St/Hulme St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0282 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	252	3	384070 397360

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
7	Discharge Consents Operator: United Utilities Water Plc (?) Property Type: Sewerage Network - Sewers - Water Company Location: Chester Street Cso, Gaythorn, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016983278 Permit Version: 1 Effective Date: 1st December 1999 Issued Date: 19th February 1999 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: The River Medlock Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	256	3	384080 397350
8	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Albion Street/Hewitt St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982706 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A13NW (N)	261	3	383700 397465
8	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Albion Street/Hewitt St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0251 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m	A13NW (N)	265	3	383700 397470
9	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Hulme Walk/Princess Rd, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0363 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A13SW (S)	268	3	383780 396840

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Hulme Walk/Leaf Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0364 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A8NW (S)	322	3	383690 396810
11	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Trumpet Street, Sso, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0168 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: River Tib Culvert-Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A18SW (N)	328	3	383720 397550
12	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Oxford Rd, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0342 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 19th December 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	361	3	384150 397440
12	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Oxford Rd, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982631 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 19th December 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Manually corrected supplier location	A14NW (NE)	361	3	384150 397440

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Great Bridgewater St, Opposite Chepstow Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0163 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: River Tib Culvert Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A18SW (N)	367	3	383790 397610
14	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Oxford Rd/Grosvenor St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0189 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	372	3	384150 397460
14	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Oxford/New Wakefield St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0165 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 31st March 1998 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	372	3	384150 397460
14	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Oxford Rd/Grosvenor St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0189 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	372	3	384150 397460

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Mallard St Off Charles St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982736 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	412	3	384170 397500
14	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Medlock St(Off Charles St), Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0343 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	412	3	384170 397500
14	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: York St/Charles St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0281 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	420	3	384180 397500
15	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Chester Rd At Owen St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982719 Permit Version: 2 Effective Date: 1st December 1999 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Modified (Water Resources Act 1991, Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	434	3	383360 397425

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
15	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Chester Rd At Owen St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0276 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st December 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	437	3	383360 397430
15	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Chester Rd At Owen St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982719 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 30th November 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Manually corrected supplier location	A12NE (NW)	437	3	383360 397430
15	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Deansgate, L. Peter St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0157 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 18th July 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Tunnel To Medlock Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	441	3	383370 397450
15	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Deansgate, L. Peter St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0157 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Into And/Or Watercourse Environment: Receiving Water: Tunnel To Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	441	3	383370 397450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	Discharge Consents Operator: Manchester Metropolitan University Property Type: Education Location: Manchester Metropolitan University Birley Fields Campus, Hulme, Manchester, ., M15 6bh Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Eprub3936ax Permit Version: 1 Effective Date: 14th August 2013 Issued Date: 14th August 2013 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Cooling Water Discharge: Into Land Environment: Receiving Water: Groundwater Via A Borehole Status: New issued under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A8NW (S)	514	3	383779 396591
17	Discharge Consents Operator: Factory Communications Ltd Property Type: Domestic Property (Multiple) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991403 Permit Version: 1 Effective Date: 24th April 1989 Issued Date: Not Supplied Revocation Date: 31st March 1992 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	521	3	384300 397500
17	Discharge Consents Operator: Factory Communications Ltd Property Type: Domestic Property (Multiple) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991403 Permit Version: 2 Effective Date: 1st April 1992 Issued Date: Not Supplied Revocation Date: 10th February 1993 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	521	3	384300 397500
17	Discharge Consents Operator: Factory Communications Ltd Property Type: Domestic Property (Multiple) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016991403 Permit Version: 3 Effective Date: 11th February 1993 Issued Date: Not Supplied Revocation Date: 1st November 1994 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	521	3	384300 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Charles Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0183 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	539	3	384320 397500
17	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Charles Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0183 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	539	3	384320 397500
17	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Charles St/Princess St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0166 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	552	3	384330 397510
17	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Charles St/Princess St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0166 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	552	3	384330 397510

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Whitworth St/Sackville St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0253 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	552	3	384330 397510
17	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Princess St/Granby Row Cs, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Upper Mersey Reference: 016982956 Permit Version: 1 Effective Date: 23rd June 1995 Issued Date: Not Supplied Revocation Date: 31st March 1998 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Consent revoked: Discharge ceased (Water Resources Act 1991, Schedule 10 & 6) Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	557	3	384330 397520
17	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Princess St/Whitworth St Cso, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982950 Permit Version: 1 Effective Date: 23rd June 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	557	3	384330 397520
18	Discharge Consents Operator: Hanson Quarry Products Europe Limited Property Type: Sewage Disposal Works - Other Location: Potato Wharf, Off Liverpool Rd, Manchester, Greater Manchester, M3 4la Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0175/5 Permit Version: 1 Effective Date: 20th January 1975 Issued Date: Not Supplied Revocation Date: 31st March 1991 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Crowton Brook Status: Authorisation revoked Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	527	3	383300 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	Discharge Consents Operator: Hanson Quarry Products Europe Limited Property Type: Sewage Disposal Works - Other Location: Potato Wharf, Off Liverpool Rd, Manchester, Greater Manchester, M3 4la Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0175/5 Permit Version: 2 Effective Date: 1st April 1991 Issued Date: Not Supplied Revocation Date: 31st December 1994 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Crowton Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	527	3	383300 397500
18	Discharge Consents Operator: Hanson Quarry Products Europe Limited Property Type: Sewage Disposal Works - Other Location: Potato Wharf, Off Liverpool Rd, Manchester, Greater Manchester, M3 4la Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0175/5 Permit Version: 3 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 30th June 1995 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Crowton Brook Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	527	3	383300 397500
18	Discharge Consents Operator: Hanson Quarry Products Europe Limited Property Type: Sewage Disposal Works - Other Location: Potato Wharf, Off Liverpool Rd, Manchester, Greater Manchester, M3 4la Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 0175/5 Permit Version: 4 Effective Date: 1st July 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge: Freshwater Stream/River Environment: Receiving Water: Crowton Brook Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	527	3	383300 397500
19	Discharge Consents Operator: British Broadcasting Corporation Property Type: Other Transport Location: Bbc Vehicle Maintenance Base Swo, Pritchard Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991346 Permit Version: 1 Effective Date: 22nd September 1994 Issued Date: Not Supplied Revocation Date: 22nd September 1994 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A14NW (E)	564	3	384400 397400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
20	Discharge Consents Operator: Factory Communications Ltd Property Type: Domestic Property (Multiple) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016991403 Permit Version: 1 Effective Date: 24th April 1989 Issued Date: Not Supplied Revocation Date: 31st March 1992 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	609	3	384400 397500
20	Discharge Consents Operator: Factory Communications Ltd Property Type: Domestic Property (Multiple) Location: 112-116 Princess Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016991403 Permit Version: 2 Effective Date: 1st April 1992 Issued Date: Not Supplied Revocation Date: 10th February 1993 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	609	3	384400 397500
21	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Brook St/Mount St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982723 Permit Version: 1 Effective Date: 28th November 1994 Issued Date: Not Supplied Revocation Date: 14th July 2000 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Manually corrected supplier location	A14NW (E)	622	3	384450 397430
22	Discharge Consents Operator: West Contracting Limited Property Type: Trade (Unknown/Other) Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 3 Effective Date: 1st April 2013 Issued Date: 28th October 2011 Revocation Date: 3rd October 2014 Discharge Type: Trade Discharges - Cooling Water Discharge: Underground Water Environment: Receiving Water: Groundwater Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	661	3	384291 397734

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	Discharge Consents Operator: West Contracting Limited Property Type: Trade (Unknown/Other) Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 2 Effective Date: 16th April 2009 Issued Date: 16th April 2009 Revocation Date: 31st March 2013 Discharge Type: Trade Discharges - Cooling Water Discharge: Underground Water Environment: Receiving Water: Groundwater Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	661	3	384291 397734
22	Discharge Consents Operator: West Contracting Limited Property Type: Trade (Unknown/Other) Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 1 Effective Date: 1st April 2009 Issued Date: 5th March 2009 Revocation Date: 15th April 2009 Discharge Type: Trade Discharges - Cooling Water Discharge: Underground Water Environment: Receiving Water: Groundwater Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	661	3	384291 397734
22	Discharge Consents Operator: West Contracting Limited Property Type: Trade (Unknown/Other) Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 3 Effective Date: 1st April 2013 Issued Date: 28th October 2011 Revocation Date: 3rd October 2014 Discharge Type: Trade Discharges - Cooling Water Discharge: Underground Water Environment: Receiving Water: Groundwater Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	680	3	384306 397746
22	Discharge Consents Operator: West Contracting Limited Property Type: Trade (Unknown/Other) Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 2 Effective Date: 16th April 2009 Issued Date: 16th April 2009 Revocation Date: 31st March 2013 Discharge Type: Trade Discharges - Cooling Water Discharge: Underground Water Environment: Receiving Water: Groundwater Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	680	3	384306 397746

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	Discharge Consents Operator: West Contracting Limited Property Type: Trade (Unknown/Other) Location: Gshp Serving Origin Development 56 Princess Street, Manchester, ., ., M1 6ja Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Npswqd004449 Permit Version: 1 Effective Date: 1st April 2009 Issued Date: 5th March 2009 Revocation Date: 15th April 2009 Discharge Type: Trade Discharges - Cooling Water Discharge: Underground Water Environment: Receiving Water: Groundwater Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	680	3	384306 397746
23	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Mount St/Greek St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0187 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A14NE (E)	683	3	384530 397390
23	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Mount St/Greek St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0187 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A14NE (E)	683	3	384530 397390
24	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Mount St/Rutland St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0287 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A14NE (E)	746	3	384580 397440

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Mancunian Way Roundabout, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0368 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A12NW (W)	768	3	382960 397280
26	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Pumping Station - Water Company Location: Rice St Near Castle St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0171 Permit Version: 1 Effective Date: 15th September 1993 Issued Date: Not Supplied Revocation Date: 15th September 1993 Discharge Type: Sewage Discharges - Final/Treated Effluent - Water Company Discharge: Canal Environment: Receiving Water: Bridgewater Canal Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	786	3	383120 397690
27	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: The Eagle/William Kent Cres Cso, Hulme, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0365 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 30th March 2005 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Canal Environment: Receiving Water: Manchester Ship Canal Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	826	3	383110 396630
28	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Chorlton Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0162 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Dukes Tunnel Status: Varied under EPR 2010 Positional Accuracy: Located by supplier to within 10m	A19SE (NE)	878	3	384510 397820

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Chorlton Street, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0162 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 2nd September 2010 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Into And/Or Watercourse Environment: Receiving Water: Dukes Tunnel Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	878	3	384510 397820
29	Discharge Consents Operator: Charles Topham (Developments) Ltd Property Type: Domestic Property (Multiple) Location: Topham Res Development Swo, Liverpool Road/Potato Wharf, Castlefield, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016991276 Permit Version: 1 Effective Date: 18th May 1988 Issued Date: Not Supplied Revocation Date: 1st July 1991 Discharge Type: Discharge Of Other Matter-Surface Water Discharge: Canal Environment: Receiving Water: Bridgewater Canal Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	887	3	383000 397700
29	Discharge Consents Operator: Rmc Roadstone Ltd - North West Property Type: Manufacture Of Cement, Lime Plaster Location: Ready Mixed Concrete Depot, Liverpool Road, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016990275 Permit Version: 1 Effective Date: 10th March 1977 Issued Date: Not Supplied Revocation Date: 31st August 1989 Discharge Type: Trade Discharge - Process Water Discharge: Canal Environment: Receiving Water: Bridgewater Canal Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	905	3	383000 397730
30	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Minshull St/Whitworth St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0355 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 18th July 2014 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Unknown Environment: Receiving Water: Not Supplied Status: Surrendered under EPR 2010 Positional Accuracy: Located by supplier to within 100m	A19NE (NE)	964	3	384580 397870

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Aytoun St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982630 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Shooters Brook Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A19NE (NE)	967	3	384580 397875
30	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewerage Network - Sewers - Water Company Location: Aytoun St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0318 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 1st January 1995 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: Shooters Brook Status: Consent revoked or revised: New Consent issued (Section 37(1)) Positional Accuracy: Located by supplier to within 100m	A19NE (NE)	970	3	384580 397880
31	Discharge Consents Operator: United Utilities Water Plc (?) Property Type: Sewerage Network - Sewers - Water Company Location: Egerton St/Worsley St Cso, Cornbrook, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016983277 Permit Version: 1 Effective Date: 1st November 1999 Issued Date: 19th February 1999 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: The River Medlock Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995) Positional Accuracy: Located by supplier to within 100m	A17SW (W)	993	3	382791 397530
31	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Chester Rd At York St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 016982720 Permit Version: 1 Effective Date: 30th September 1994 Issued Date: Not Supplied Revocation Date: 18th February 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m	A17SW (W)	994	3	382790 397530

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Chester Rd/York St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0279 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 19th December 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 100m	A17SW (W)	994	3	382790 397530
31	Discharge Consents Operator: United Utilities Water Limited Property Type: Sewage Disposal Works - Water Company Location: Egerton St/Elesmere St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01man0180 Permit Version: 1 Effective Date: 1st January 1995 Issued Date: Not Supplied Revocation Date: 12th August 1999 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Post National Rivers Authority Legislation where issue date > 31/08/1989 Positional Accuracy: Located by supplier to within 10m	A17SW (W)	994	3	382790 397530
31	Discharge Consents Operator: United Utilities Water Plc (?) Property Type: Sewage Disposal Works - Water Company Location: Chester Rd At York St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982720 Permit Version: 2 Effective Date: 19th February 1999 Issued Date: Not Supplied Revocation Date: 14th July 2000 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge: Freshwater Stream/River Environment: Receiving Water: River Medlock Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 100m	A17SW (W)	994	3	382790 397530
32	Local Authority Pollution Prevention and Controls Name: Jessop & Baird Ltd Location: Medlock House, Hulme Street, Hulme, MANCHESTER, Lancashire, M15 6AL Authority: Manchester City Council, Environmental Health Department Permit Reference: 41/93 Dated: 14th June 1993 Process Type: Local Authority Air Pollution Control Description: PG6/32 Adhesive coating Status: Authorisation revokedRevoked Positional Accuracy: Automatically positioned to the address	A13SW (SW)	0	4	383796 397169
33	Local Authority Pollution Prevention and Controls Name: Dunlop LtdGrg Division Location: P O Box 151, MANCHESTER, Lancashire, M60 1PD Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/58/93 Dated: 2nd December 1993 Process Type: Local Authority Air Pollution Control Description: PG6/28 Rubber processes Status: Authorisation revokedRevoked Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	62	4	383890 397289

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	Local Authority Pollution Prevention and Controls Name: Tom Garner Motors Location: Chester Road, MANCHESTER, Lancashire, M15 4GA Authority: Manchester City Council, Environmental Health Department Permit Reference: 43/93 Dated: 21st June 1993 Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles Status: Authorised Positional Accuracy: Automatically positioned to the address	A12NE (W)	478	4	383280 397369
35	Local Authority Pollution Prevention and Controls Name: The Laundry Shop (Manchester Ltd) Location: Unit 5 Peter House, Oxford Street, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/DC/RM/01/09 Dated: 1st February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Authorisation revokedRevoked Positional Accuracy: Located by supplier to within 10m	A18SE (N)	596	4	383915 397839
36	Local Authority Pollution Prevention and Controls Name: Johnson Cleaners Uk Ltd - Manchester Location: 59 Cross Street, Albert Square, Manchester Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/DC/RM/12/07 Dated: 1st February 2007 Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning Status: Permitted Positional Accuracy: Located by supplier to within 10m	A23SE (N)	952	4	383845 398199
37	Local Authority Pollution Prevention and Controls Name: Hanson Aggregates Location: Potato Wharf, Off Liverpool Road, MANCHESTER, M3 4NB Authority: Manchester City Council, Environmental Health Department Permit Reference: PPC/B/03/05/AW Dated: 7th August 1992 Process Type: Local Authority Air Pollution Control Description: PG3/1Blending, packing, loading and use of bulk cement Status: Authorised Positional Accuracy: Manually positioned to the address or location	A17SW (NW)	958	4	382848 397577
	Nearest Surface Water Feature	A13NE (N)	155	-	383835 397401
38	Pollution Incidents to Controlled Waters Property Type: Road Location: Mancunian Way , HULME Authority: Environment Agency, North West Region Pollutant: Chemicals - Unknown Note: 20 Litres Of Chemical Irgasol In Drains Incident Date: 7th September 1998 Incident Reference: SO981631 Catchment Area: Manchester Ship Canal Receiving Water: Freshwater Stream/River Cause of Incident: Road Traffic Accident Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (W)	222	3	383500 397200
39	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Moorefield Cres, LOWTON Authority: Environment Agency, North West Region Pollutant: Oils - Unknown Note: Stream Discoloured Incident Date: 30th May 1998 Incident Reference: SO980959 Catchment Area: Glaze Receiving Water: Freshwater Stream/River Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	387	3	383400 397400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	Pollution Incidents to Controlled Waters Property Type: Private Sewage (Non-PLC): Sewerage Systems Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Crude Sewage Note: River Medlock; Crude Sewage Incident Date: 25th March 1996 Incident Reference: 96630555 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	433	3	384200 397495
40	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Affected; Diesel Spill Incident Date: 22nd August 1996 Incident Reference: 96631887 Catchment Area: Irwell Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A14NW (NE)	436	3	384200 397500
41	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Oils - Unknown Note: Not Supplied Incident Date: 8th July 1992 Incident Reference: 92611241 Catchment Area: Bridgewater Canal Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	451	3	383400 397500
42	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Inert Suspended Solids Note: River Medlock; Cement Washings Incident Date: 21st February 1995 Incident Reference: 95650362 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Land Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	473	3	383300 397400
43	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Pollution Found Incident Date: 11th January 1996 Incident Reference: 96630052 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	521	3	384300 397500
44	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Foam Note: River Medlock; Detergent Incident Date: 30th March 1995 Incident Reference: 95630655 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	609	3	384400 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
45	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: River Medlock; None Pollution Found Incident Date: 6th October 1995 Incident Reference: 95632478 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	657	3	384500 397400
46	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Affected Incident Date: 8th November 1996 Incident Reference: 96632315 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SE (NE)	744	3	384500 397600
47	Pollution Incidents to Controlled Waters Property Type: Pollution Found Source Not Determined Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Other Note: General Debris Incident Date: 13th September 1994 Incident Reference: 94652060 Catchment Area: Manchester Ship Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12SW (W)	745	3	383000 397000
48	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: None Pollution Found Incident Date: 8th November 1996 Incident Reference: 96632326 Catchment Area: Rochdale Canal Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A19SW (NE)	784	3	384400 397800
49	Pollution Incidents to Controlled Waters Property Type: Pollution Found Source Not Determined Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Miscellaneous - Colour Note: Not Supplied Incident Date: 2nd February 1995 Incident Reference: 95630210 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Other Incident/Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14NE (E)	974	3	384800 397500
50	Pollution Incidents to Controlled Waters Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Oil To Drains Incident Date: 10th July 1996 Incident Reference: 96631536 Catchment Area: Medlock Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19NE (NE)	998	3	384500 398000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	Registered Radioactive Substances Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Lancashire, M1 5GD Authority: Environment Agency, North West Region Permit Reference: Bw5861 Dated: 1st December 2003 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A13NE (E)	194	3	384070 397222
51	Registered Radioactive Substances Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Greater Manchester, M1 5GD Authority: Environment Agency, North West Region Permit Reference: BI0324 Dated: 23rd May 2001 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Minor variation to a registration under the Act of an open source which is also the subject of an authorisation Status: Application has been authorised and any conditions apply to the operatorAuthorised Positional Accuracy: Automatically positioned to the address	A13NE (E)	194	3	384070 397222
51	Registered Radioactive Substances Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Greater Manchester, M1 5GD Authority: Environment Agency, North West Region Permit Reference: AP8403 Dated: 9th March 1995 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A13NE (E)	194	3	384070 397222
51	Registered Radioactive Substances Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Greater Manchester, M1 5GD Authority: Environment Agency, North West Region Permit Reference: AO3155 Dated: 16th October 1994 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A13NE (E)	194	3	384070 397222
51	Registered Radioactive Substances Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Greater Manchester, M1 5GD Authority: Environment Agency, North West Region Permit Reference: AC9718 Dated: 31st March 1991 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A13NE (E)	194	3	384070 397222

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
51	Registered Radioactive Substances Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, Greater Manchester, M1 5GD Authority: Environment Agency, North West Region Permit Reference: AC9688 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A13NE (E)	194	3	384070 397222
52	Registered Radioactive Substances Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, MANCHESTER, M1 5GD Authority: Environment Agency, North West Region Permit Reference: Ca1464 Dated: 17th February 2006 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA Status: Application has been authorised and any conditions apply to the operatorAuthorised Positional Accuracy: Automatically positioned to the address	A14NW (E)	342	3	384195 397314
53	Registered Radioactive Substances Name: Umist Location: Po Box 88, Sackville Street, MANCHESTER, M60 1QD Authority: Environment Agency, North West Region Permit Reference: AZ8692 Dated: 13th November 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	683	3	384477 397512
53	Registered Radioactive Substances Name: Umist Location: Po Box 88, Sackville Street, MANCHESTER, M60 1QD Authority: Environment Agency, North West Region Permit Reference: AX0526 Dated: 30th January 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	683	3	384478 397512
53	Registered Radioactive Substances Name: Umist Location: Po Box 88, Sackville Street, MANCHESTER, M60 1QD Authority: Environment Agency, North West Region Permit Reference: AP0143 Dated: 16th January 1995 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location	A19SE (NE)	683	3	384478 397512
53	Registered Radioactive Substances Name: Umist Location: PO Box 88, MANCHESTER, Lancashire, M60 1QD Authority: Environment Agency, North West Region Permit Reference: Bq2154 Dated: 9th April 2002 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Located by supplier to within 100m	A14NE (NE)	697	3	384500 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
53	Registered Radioactive Substances Name: Umist Location: PO Box 88, MANCHESTER, Lancashire, M60 1QD Authority: Environment Agency, North West Region Permit Reference: AC8878 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Located by supplier to within 100m	A14NE (NE)	697	3	384500 397500
54	Registered Radioactive Substances Name: University Of Manchester Location: North Campus, Sackville Street, Manchester, M60 1qd Authority: Environment Agency, North West Region Permit Reference: Bx8645 Dated: 2nd September 2004 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Application has been authorised and any conditions apply to the operatorAuthorised Positional Accuracy: Manually positioned to the road within the address or location	A19SE (NE)	755	3	384479 397657
55	Registered Radioactive Substances Name: University Of Manchester Location: North Campus, Sackville Street, Manchester, M60 1qd Authority: Environment Agency, North West Region Permit Reference: Bx8661 Dated: 1st October 2004 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation Status: Application has been authorised and any conditions apply to the operatorAuthorised Positional Accuracy: Manually positioned to the road within the address or location	A19SW (NE)	778	3	384399 397792
56	Registered Radioactive Substances Name: Umist Location: Po Box 88, Sackville Street, MANCHESTER, M60 1QD Authority: Environment Agency, North West Region Permit Reference: Bk5380 Dated: 6th March 2001 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Manually positioned to the address or location	A14NE (E)	782	3	384612 397456
57	Registered Radioactive Substances Name: University Of Manchester Location: Oxford Road, Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: CB0137 Dated: 8th December 2006 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA Status: Application has been authorised and any conditions apply to the operatorAuthorised Positional Accuracy: Automatically positioned to the address	A9NE (SE)	815	3	384615 396824
57	Registered Radioactive Substances Name: University Of Manchester Location: Oxford Road, MANCHESTER, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bz3067 Dated: 28th June 2005 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Initial variation to an authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A9NE (SE)	815	3	384615 396824

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	Registered Radioactive Substances Name: University Of Manchester Location: Oxford Road, MANCHESTER, Lancashire, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bx8548 Dated: 1st October 2004 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation Status: Application has been authorised and any conditions apply to the operatorAuthorised Positional Accuracy: Automatically positioned to the address	A9NE (SE)	815	3	384615 396824
57	Registered Radioactive Substances Name: University Of Manchester Location: Oxford Road, MANCHESTER, Lancashire, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bx8564 Dated: 2nd September 2004 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A9NE (SE)	815	3	384615 396824
57	Registered Radioactive Substances Name: Central Manchester University Hospitals Nhs Foundation Trust Location: Oxford Road, Manchester, Lancashire, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bm2918 Dated: 19th November 2001 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Automatically positioned to the address	A9NE (SE)	815	3	384615 396824
58	Registered Radioactive Substances Name: Victoria University Of Manchester Location: Williamson Building, Oxford Road, MANCHESTER, Greater Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: Bt9640 Dated: 3rd February 2003 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is not the subject of an authorisation, or an application for an authorisation Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	900	3	384645 396692
58	Registered Radioactive Substances Name: Victoria University Of Manchester Location: Williamson Building, Oxford Road, MANCHESTER, Greater Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: BG4739 Dated: 16th August 1999 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Substantial variation to a registration under the Act of an open source which is not the subject of an authorisation, or an application for an authorisation Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	900	3	384645 396692

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	Registered Radioactive Substances Name: Victoria University Of Manchester Location: Williamsom Building, Oxford Road, MANCHESTER, Greater Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: AP8713 Dated: 20th February 1995 Process Type: Registration under S7 RSA for the keeping and use of Radioactive materials (was RSA60 S1) Description: Registration under the Act of an open source which is also the subject of an authorisation Status: Authorisation superseded by a substantial or non substantial variationSuperseded Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	900	3	384645 396692
58	Registered Radioactive Substances Name: University Of Manchester Location: Williamson Building, Oxford Road, MANCHESTER, Greater Manchester, M13 9PL Authority: Environment Agency, North West Region Permit Reference: AD0155 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA Status: Authorisation either revoked or cancelledCancelled Positional Accuracy: Manually positioned to the address or location	A9NE (SE)	900	3	384645 396692
	River Quality Name: Medlock GQA Grade: River Quality E Reach: Lords Bk To Inwell Estimated Distance (km): 9.5 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A13NE (N)	29	3	383809 397275
	River Quality Name: Corn Bk GQA Grade: River Quality C Reach: Qsl At Openshaw To Msc Estimated Distance (km): 5.6 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A13SW (S)	212	3	383776 396896
	River Quality Name: Rochdale Canal GQA Grade: River Quality B Reach: Ashton Canal To Knott Mill Estimated Distance (km): 1.8 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A13NE (N)	263	3	383809 397510
	River Quality Name: Bridgewater Canal GQA Grade: River Quality B Reach: Conf Rochdale Canal To Tilting Weir Estimated Distance (km): .4 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A12NE (NW)	441	3	383335 397398
	River Quality Name: Bridgewater Canal GQA Grade: River Quality B Reach: Waters Meeting To Conf Rochdale Canal Estimated Distance (km): 3.6 Flow Rate: Flow greater than 80 cumecs Flow Type: Canal Year: 2000	A12NW (W)	798	3	382988 397498

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	River Quality Chemistry Sampling Points Name: Rochdale Canal Reach: Ashton Canal To Knott Mill Estimated Distance: 1.80 Objective: Not Supplied Positional Accuracy: Located by supplier to within 10m Year: 1990 GQA Grade: River Quality Chemistry GQA Grade D - Fair Compliance: Not Supplied Year: 1993 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1994 GQA Grade: River Quality Chemistry GQA Grade B - Good Compliance: Not Supplied Year: 1995 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1996 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1997 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1998 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 1999 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2000 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2001 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2002 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2003 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2004 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2005 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2006 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2007 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2008 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied Year: 2009 GQA Grade: River Quality Chemistry GQA Grade A - Very Good Compliance: Not Supplied	A17SE (NW)	541	3	383330 397558
60	Water Abstractions Operator: Dunlop Rubber Co Limited Licence Number: 2569007027 Permit Version: Not Supplied Location: Borehole, Cambridge Street, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 1811 Yearly Rate (m3): 154564 Details: Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13NE (E)	121	3	384000 397200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
61	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 2 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 4th April 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	312	3	384180 397091
61	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 2 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 4th April 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	312	3	384180 397091
61	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 1 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	312	3	384180 397091
61	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0006/003 Permit Version: 1 Location: Borehole 1 At Lower Chatham Street Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2011 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SW (E)	312	3	384180 397091

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
62	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0004/003 Permit Version: 1 Location: Borehole At Manchester Metropolitan University Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: Heat Pump Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 20th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NW (S)	374	3	383715 396746
62	Water Abstractions Operator: Manchester Metropolitan University Licence Number: Nw/069/0004/003 Permit Version: 1 Location: Borehole At Manchester Metropolitan University Authority: Environment Agency, North West Region Abstraction: Schools and Colleges: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 20th September 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NW (S)	374	3	383715 396746
63	Water Abstractions Operator: North Western Electricity Board Licence Number: 2569006023 Permit Version: Not Supplied Location: Rochdale Canal, Dickinson Street, MANCHESTER Authority: Environment Agency, North West Region Abstraction: Cooling Abstraction Type: Not Supplied Source: Canal Daily Rate (m3): 82 Yearly Rate (m3): 25230 Details: Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	520	3	384100 397700
64	Water Abstractions Operator: West Contracting Licence Number: Nw0690006001 Permit Version: 1 Location: Boreholes At Origin Developments, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 May Authorised End: 30 September Permit Start Date: 19th January 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	722	3	384378 397733

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
64	Water Abstractions Operator: West Contracting Licence Number: Nw/069/0006/001 Permit Version: 1 Location: Boreholes At Origin Developments, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 May Authorised End: 30 September Permit Start Date: 19th January 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	722	3	384378 397733
65	Water Abstractions Operator: British Telecommunications Plc Licence Number: 2569007069 Permit Version: 100 Location: Borehole At George St, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 860 Yearly Rate (m3): 1100 Details: Premises At Rutherford Hse, York St Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18NE (N)	795	3	384100 398000
	Water Abstractions Operator: Her Majesty'S Court Service Licence Number: 2569007089 Permit Version: 2 Location: 2 Boreholes At Gartside Street Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Gartside Street Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th July 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SE (NW)	1179	3	383335 398310
	Water Abstractions Operator: Bovis Lend Lease Ltd Licence Number: 2569007089 Permit Version: 1 Location: 2 Boreholes At Gartside Street Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Gartside Street Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 28th January 2005 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SE (NW)	1179	3	383335 398310

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Heineken Uk Ltd Licence Number: 2569007007 Permit Version: 103 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th May 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NE (S)	1193	3	383865 395909
	Water Abstractions Operator: Heineken Uk Ltd Licence Number: 2569007007 Permit Version: 103 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th May 2014 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NE (S)	1193	3	383865 395909
	Water Abstractions Operator: Heineken Uk Ltd Licence Number: 2569007007 Permit Version: 102 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd November 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A3NE (S)	1203	3	383900 395900
	Water Abstractions Operator: Heineken Uk Ltd Licence Number: 2569007007 Permit Version: 102 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd November 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A3NE (S)	1203	3	383900 395900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Scottish And Newcastle Uk Ltd Licence Number: 2569007007 Permit Version: 101 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A3NE (S)	1203	3	383900 395900
	Water Abstractions Operator: Scottish And Newcastle Uk Ltd Licence Number: 2569007007 Permit Version: 101 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A3NE (S)	1203	3	383900 395900
	Water Abstractions Operator: Scottish Courage Brewing Ltd Licence Number: 2569007007 Permit Version: 100 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 900 Yearly Rate (m3): 227000 Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 31st December 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A3NE (S)	1203	3	383900 395900
	Water Abstractions Operator: Scottish Courage Brewing Ltd Licence Number: 2569007007 Permit Version: 100 Location: Borehole At Premises Moss Side Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Moss Side, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 31st December 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NE (S)	1203	3	383900 395900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Cds Computer Design Systems Ltd Licence Number: 2569007053 Permit Version: 100 Location: R Irwell At Irwell Works, Ordsall Lane, Salford Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): 455 Yearly Rate (m3): 22730 Details: Irwell Works, Ordsall Lane, Salford Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st November 1987 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A11NE (W)	1240	3	382500 397400
	Water Abstractions Operator: Hydes Brewery Ltd Licence Number: 2569007009 Permit Version: 102 Location: Borehole At Premises, Moss Lane West Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: 46 Moss Lane West, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 12th April 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2NE (SW)	1390	3	383220 395850
	Water Abstractions Operator: Hydes Brewery Ltd Licence Number: 2569007009 Permit Version: 101 Location: Borehole At Premises, Moss Lane West Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 373 Yearly Rate (m3): 66826 Details: 46 Moss Lane West, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 7th October 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2NE (SW)	1390	3	383220 395850
	Water Abstractions Operator: Hydes Brewery Ltd Licence Number: 2569007009 Permit Version: 101 Location: Borehole At Premises, Moss Lane West Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: 46 Moss Lane West, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 7th October 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2NE (SW)	1390	3	383220 395850

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Moseley Rubber Co Ltd Licence Number: 2569006001 Permit Version: 100 Location: Borehole At Premises, Broadie St, Ardwick, Manchester Authority: Environment Agency, North West Region Abstraction: Rubber: General Cooling (Existing Licences Only) (Low Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 909 Yearly Rate (m3): 331858 Details: Premises At Broadie St., Ardwick Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 8th February 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A20SE (E)	1406	3	385240 397540
	Water Abstractions Operator: British Telecommunications Plc Licence Number: 2569007070 Permit Version: 101 Location: Borehole At Dial House Chapel Street Salford Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Premises At Dial House, Salford Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A23NW (N)	1460	3	383700 398700
	Water Abstractions Operator: British Telecom Licence Number: 2569007070 Permit Version: 100 Location: Borehole At Dial House, Chapel St, Salford Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: General Cooling (Existing Licences Only) (High Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 30 Yearly Rate (m3): 45 Details: Premises At Dial House, Salford Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 27th January 1971 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A23NW (N)	1460	3	383700 398700
	Water Abstractions Operator: Threlfalls (Salford) Ltd. Licence Number: 2569006009 Permit Version: Not Supplied Location: Four Boreholes, Cook Street, SALFORD Authority: Environment Agency, North West Region Abstraction: Cooling & Manufacturing Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 977 Yearly Rate (m3): 227300 Details: Additional Purpose: Cooling; Licence Status: Revoked Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A22NE (N)	1682	3	383200 398800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: G T Energy Uk Limited Licence Number: Nw/069/0004/005 Permit Version: 2 Location: Area Of Abstraction - Lower Carboniferous Limestone Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Devonshire Street, Manchester Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 11th June 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1891	3	385729 396778
	Water Abstractions Operator: Gt Energy Limited Licence Number: Nw/069/0004/005 Permit Version: 1 Location: Area Of Abstraction - Lower Carboniferous Limestone Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Heat Pump Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 17th January 2013 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(E)	1891	3	385729 396778
	Water Abstractions Operator: Cemex Uk Materials Ltd Licence Number: 2569007085 Permit Version: 3 Location: Borehole At Hope Street, Salford, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Hope Street, Salford, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th October 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SW (NW)	1913	3	382190 398330
	Water Abstractions Operator: Cemex Uk Materials Ltd Licence Number: 2569007085 Permit Version: 2 Location: Borehole At Hope Street, Salford, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Hope Street, Salford, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 22nd March 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SW (NW)	1913	3	382190 398330

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ready Mixed Concrete (North West) Limited Licence Number: 2569007085 Permit Version: 1 Location: Borehole At Hope Street, Salford, Manchester Authority: Environment Agency, North West Region Abstraction: Other Industrial/Commercial/Public Services: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Land At Hope Street, Salford, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st November 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SW (NW)	1913	3	382190 398330
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 2 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1943	3	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 2) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1943	3	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 2 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1943	3	383820 399190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 2 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1943	3	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 2) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 682 Yearly Rate (m3): 194755 Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1943	3	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 2) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1943	3	383820 399190
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 3 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1973	3	383830 399220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 3 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1973	3	383830 399220
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole Number 3 At Premises Strangeways Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1973	3	383830 399220
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 102 Location: Borehole (No 3) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Borehole At Strangeways Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st January 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1973	3	383830 399220
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 3) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Drinking, Cooking, Sanitary, Washing, (Small Garden) Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1973	3	383830 399220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Interbrew Uk Ltd Licence Number: 2569004023 Permit Version: 101 Location: Borehole (No 3) At Premises, Strangeways, Manchester Authority: Environment Agency, North West Region Abstraction: Breweries/Wine: Process Water Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Strangeways Brewery, Manchester Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 25th May 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(N)	1973	3	383830 399220
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 17 Derbyshire & North Staffordshire Scale: 1:100,000	A13NE (NW)	0	3	383809 397175
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13NE (NW)	0	2	383809 397175
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (NW)	0	2	383809 397175
66	Source Protection Zones Name: Moss Side Source: Environment Agency, Head Office Reference: Nw097 Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A13NE (NW)	0	3	383809 397175
67	Source Protection Zones Name: Moss Side Source: Environment Agency, Head Office Reference: Nw097 Type: Zone II (Outer Protection Zone): Either 25% of the source area or a 400 day travel time whichever is greater.	A3NE (S)	950	3	383838 396152
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (N)	102	3	383833 397348
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	114	3	383938 397313
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (NW)	239	3	383592 397385
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	244	3	384071 397342
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
68	Detailed River Network Lines River Type: Primary River River Name: Medlock Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: MEDLOCK Name: Water Course: MEDL Reference:	A13NE (N)	162	3	383837 397409
69	Detailed River Network Lines River Type: Extended Culvert (greater than 50m) River Name: Not Supplied Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Not a Drain Flood Risk: Currently Undefined Management Status: Water Course: MEDLOCK Name: Water Course: MEDL Reference:	A13NE (NE)	169	3	383966 397365
70	Detailed River Network Lines River Type: Extended Culvert (greater than 50m) River Name: River Medlock Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Below Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: MEDLOCK Name: Water Course: MEDL Reference:	A13NW (N)	203	3	383730 397422
71	Detailed River Network Lines River Type: Primary River River Name: River Medlock Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Currently Undefined Management Status: Water Course: MEDLOCK Name: Water Course: MEDL Reference:	A13NW (NW)	243	3	383595 397393
72	Detailed River Network Lines River Type: Canal River Name: Albion Mill Lock Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Other Rivers Management Status: Water Course: Not Supplied Name: Water Course: Not Supplied Reference:	A18SE (N)	293	3	383806 397542
73	Detailed River Network Lines River Type: Primary River River Name: River Medlock Hydrographic Area: D011 River Flow Type: Primary Flow Path River Surface Level: Surface Drain Feature: Not a Drain Flood Risk: Flood Risk Management Indicative/Statutory Main River Management Status: Water Course: MEDLOCK Name: Water Course: MEDL Reference:	A13NE (NE)	313	3	384115 397404

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Detailed River Network Offline Drainage None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	Historical Landfill Sites Licence Holder: Demolition Service Limited Location: Hulme, Manchester Name: Moss Side Shopping Centre Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD16588 First Input Date: 31st May 1994 Last Input Date: 5th June 1995 Specified Waste: Deposited Waste included Inert and Industrial Waste Type: EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 4200/9100 BGS Ref: Not Supplied Other Ref: F061 ,0103, RD/LIC/1036/93	A8SW (S)	929	3	383523 396225
75	Licensed Waste Management Facilities (Locations) Licence Number: 50191 Location: Little Ireland Phase B, Great Marlborough Street, Manchester, M1 5NN Operator Name: Terra Vac (uk) Ltd Operator Location: Strategic Business Centre, Blue Ridge Park, Thunderhead Ridge, Glasshoughton, Castleford, WF10 4UA Authority: Environment Agency - North East Region, Ridings Area Site Category: Mobile Plant Licence Status: Issued Issued: 17th June 2002 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	199	3	383998 397374
76	Licensed Waste Management Facilities (Locations) Licence Number: 105196 Location: 100 Barbirolli Square , Manchester, M2 3AB Operator Name: Hillhouse Remediation Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Mobile plant for reclamation, restoration Licence Status: Issued Issued: 22nd June 2011 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Manually positioned to the address or location	A18SE (N)	448	3	383879 397693
	Local Authority Landfill Coverage Name: Manchester City Council - Had landfill data but passed it to the relevant environment agency		0	8	383809 397175
77	Registered Waste Transfer Sites Licence Holder: Spray Shop Supplies Ltd Licence Reference: 00858/92 Site Location: 2A Manchester Trading Estate, New Elm Road, Water Street, MANCHESTER, Greater Manchester, M3 4JV Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Site exempt from licenceExempt Dated: 1st May 1993 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Max.Storage In Licence Solvents & Thinners Prohibited Waste: Explosive Waste Malodorous Waste Pressurized Containers/Waste Therein Violently Reactive Wastes Waste N.O.S.	A17SW (NW)	997	3	382903 397754

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	Registered Waste Treatment or Disposal Sites Licence Holder: Manchester Wharf Steel Ltd Licence Reference: 00587 Site Location: Potato Wharf, MANCHESTER, Greater Manchester, M3 4LA Operator Location: As Site Address Authority: Environment Agency - North West Region, South Area Site Category: Scrapyard Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source: No known restriction on source of waste Restrictions: Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st May 1996 Preceded By: Not Given Licence: Superseded By: Not Given Licence: Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste Associated Non-Scrap Max.Storage Of Ferrous Scrap Pre-Sorted Scrap Metal Incl. Scrap Vehicles Prohibited Waste Asbestos (Other Than Integral To Veh.) Bulk Powders Clinical Wastes Explosive Waste Highly Reactive Wastes Pcbs And Analogues Pressurised Wastes Or Cont'Rs Special Wastes N.O.S. Waste Drums (Unless Pre-Cleaned) Waste N.O.S.	A17SW (NW)	931	3	382960 397720

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13NE (NW)	0	2	383809 397175
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 150 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13NE (NW)	0	2	383809 397175
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <150 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13NE (E)	20	2	383899 397190
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 150 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SE (S)	102	2	383809 397000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 150 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SE (S)	102	2	383850 397000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 150 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13NE (E)	119	2	384000 397175
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 150 - 300 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13NE (NE)	169	2	384000 397316

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A13SE (SE)	187	2	384000 397000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A13SE (SE)	201	2	384048 397062
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 300 - 600 mg/kg Nickel 30 - 45 mg/kg Concentration:	A13SE (SE)	205	2	384021 397000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A13SE (SE)	220	2	384000 396947
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A13NE (NE)	264	2	384084 397365
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A13NE (NE)	269	2	384098 397345

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 25 - 35 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A13NE (NE)	275	2	384000 397473
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 25 - 35 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A14NW (E)	296	2	384169 397246
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A18SE (N)	302	2	383874 397548
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A13NE (NE)	307	2	384112 397403
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 25 - 35 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel: 15 - 30 mg/kg Concentration:	A18SE (N)	311	2	383923 397548
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic: 15 - 25 mg/kg Concentration: Cadmium: <1.8 mg/kg Concentration: Chromium: 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel: 30 - 45 mg/kg Concentration:	A14NW (NE)	317	2	384142 397362

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18SE (NE)	341	2	384000 397551
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A14NW (E)	342	2	384209 397275
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18SE (NE)	352	2	383985 397570
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel <15 mg/kg Concentration:	A12NE (NW)	486	2	383337 397482
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 300 - 600 mg/kg Nickel 45 - 60 mg/kg Concentration:	A14SW (E)	521	2	384370 397000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A8NE (S)	559	2	384000 396565

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18SW (N)	566	2	383646 397777
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 300 - 600 mg/kg Nickel 30 - 45 mg/kg Concentration:	A14SW (E)	604	2	384457 397000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A19SW (NE)	698	2	384333 397745
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12NW (W)	722	2	383000 397175
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NW (N)	737	2	383651 397958
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A12SW (W)	745	2	383000 397000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NE (N)	753	2	383809 398000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NW (N)	765	2	383631 397981
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel <15 mg/kg Concentration:	A12NW (W)	768	2	383000 397448
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NE (N)	769	2	384000 398000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NW (N)	776	2	383659 398000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NE (N)	786	2	384070 398000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NW (N)	788	2	383614 398000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 15 - 30 mg/kg Concentration:	A18NW (N)	796	2	383589 398000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 30 - 45 mg/kg Concentration:	A18NE (N)	838	2	384000 398070
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel 15 - 30 mg/kg Concentration:	A9NE (SE)	848	2	384630 396782
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A9NE (SE)	861	2	384661 396814
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel <15 mg/kg Concentration:	A19SE (NE)	888	2	384517 397827

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 15 - 25 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: 150 - 300 mg/kg Nickel 30 - 45 mg/kg Concentration:	A17SW (NW)	930	2	383000 397771
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic 25 - 35 mg/kg Concentration: Cadmium <1.8 mg/kg Concentration: Chromium 60 - 90 mg/kg Concentration: Lead Concentration: <150 mg/kg Nickel <15 mg/kg Concentration:	A19SE (E)	978	2	384783 397557
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383750, 397170 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured 23.00 mg/kg Concentration: Cadmium Measured 1.10 mg/kg Concentration: Chromium Measured 109.00 mg/kg Concentration: Lead Measured 284.00 mg/kg Concentration: Nickel Measured 31.00 mg/kg Concentration:	A13SW (W)	0	2	383750 397170
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383760, 396710 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured 15.00 mg/kg Concentration: Cadmium Measured 0.50 mg/kg Concentration: Chromium Measured 39.00 mg/kg Concentration: Lead Measured 111.00 mg/kg Concentration: Nickel Measured 13.00 mg/kg Concentration:	A8NW (S)	399	2	383760 396710
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383880, 397770 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured 12.00 mg/kg Concentration: Cadmium Measured 0.30 mg/kg Concentration: Chromium Measured 56.00 mg/kg Concentration: Lead Measured 102.00 mg/kg Concentration: Nickel Measured 18.00 mg/kg Concentration:	A18SE (N)	524	2	383880 397770

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383340, 396800 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 27.00 mg/kg Cadmium Measured Concentration: 1.70 mg/kg Chromium Measured Concentration: 66.00 mg/kg Lead Measured Concentration: 193.00 mg/kg Nickel Measured Concentration: 25.00 mg/kg	A7NE (SW)	542	2	383340 396800
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384430, 397270 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 13.00 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 66.00 mg/kg Lead Measured Concentration: 64.00 mg/kg Nickel Measured Concentration: 19.00 mg/kg	A14NW (E)	557	2	384430 397270
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384270, 396640 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 31.00 mg/kg Cadmium Measured Concentration: 1.70 mg/kg Chromium Measured Concentration: 63.00 mg/kg Lead Measured Concentration: 204.00 mg/kg Nickel Measured Concentration: 27.00 mg/kg	A9NW (SE)	629	2	384270 396640
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383070, 397210 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 18.00 mg/kg Cadmium Measured Concentration: 0.70 mg/kg Chromium Measured Concentration: 64.00 mg/kg Lead Measured Concentration: 159.00 mg/kg Nickel Measured Concentration: 27.00 mg/kg	A12NW (W)	652	2	383070 397210
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383250, 397700 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 16.00 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 49.00 mg/kg Lead Measured Concentration: 148.00 mg/kg Nickel Measured Concentration: 21.00 mg/kg	A17SE (NW)	699	2	383250 397700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384430, 397810 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 35.00 mg/kg Cadmium Measured Concentration: 1.90 mg/kg Chromium Measured Concentration: 78.00 mg/kg Lead Measured Concentration: 339.00 mg/kg Nickel Measured Concentration: 32.00 mg/kg	A19SW (NE)	812	2	384430 397810
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383660, 396290 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 26.00 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 76.00 mg/kg Lead Measured Concentration: 273.00 mg/kg Nickel Measured Concentration: 32.00 mg/kg	A8SW (S)	831	2	383660 396290
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384750, 397300 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 19.00 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 81.00 mg/kg Lead Measured Concentration: 157.00 mg/kg Nickel Measured Concentration: 26.00 mg/kg	A14NE (E)	877	2	384750 397300
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384230, 396230 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 14.00 mg/kg Cadmium Measured Concentration: 0.70 mg/kg Chromium Measured Concentration: 52.00 mg/kg Lead Measured Concentration: 174.00 mg/kg Nickel Measured Concentration: 20.00 mg/kg	A9SW (SE)	954	2	384230 396230
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 382800, 396860 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 10.00 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 43.00 mg/kg Lead Measured Concentration: 70.00 mg/kg Nickel Measured Concentration: 13.00 mg/kg	A12SW (W)	977	2	382800 396860

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 384720, 396660 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 118.00 mg/kg Cadmium Measured Concentration: 2.50 mg/kg Chromium Measured Concentration: 362.00 mg/kg Lead Measured Concentration: 1513.00 mg/kg Nickel Measured Concentration: 129.00 mg/kg	A9NE (SE)	982	2	384720 396660
	BGS Urban Soil Chemistry Averages Source: British Geological Survey, National Geoscience Information Service Sample Area: Manchester Count Id: 300 Arsenic Minimum Concentration: 3.00 mg/kg Arsenic Average Concentration: 28.00 mg/kg Arsenic Maximum Concentration: 1008.00 mg/kg Cadmium Minimum Concentration: 0.30 mg/kg Cadmium Average Concentration: 1.40 mg/kg Cadmium Maximum Concentration: 80.30 mg/kg Chromium Minimum Concentration: 29.00 mg/kg Chromium Average Concentration: 92.00 mg/kg Chromium Maximum Concentration: 1252.00 mg/kg Lead Minimum Concentration: 21.00 mg/kg Lead Average Concentration: 270.00 mg/kg Lead Maximum Concentration: 2687.00 mg/kg Nickel Minimum Concentration: 6.00 mg/kg Nickel Average Concentration: 32.00 mg/kg Nickel Maximum Concentration: 137.00 mg/kg	A13NE (NW)	0	2	383809 397175
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13NE (NW)	0	5	383809 397175
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	2	383809 397175
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	2	383809 397175
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	100	2	383736 397304
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	2	383809 397175
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	2	383809 397175
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	2	383809 397175

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	2	383856 397175
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	2	383809 397175
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	201	2	384041 397053
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	2	383809 397175
	Radon Potential - Radon Affected Areas Affected Area: The property is in a lower probability radon area, as less than 1% of homes are above the action level Source: British Geological Survey, National Geoscience Information Service	A13NE (NW)	0	2	383809 397175

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	Contemporary Trade Directory Entries Name: Ats Euromaster Ltd Location: 20, Wilmott Street, Manchester, Lancashire, M15 6BE Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SE (SE)	42	-	383881 397130
80	Contemporary Trade Directory Entries Name: Hunters Contracts Ltd Location: Macintosh House, 4A, Manchester, Lancashire, M1 5GG Classification: Office Furniture & Equipment Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A13NE (NE)	107	-	383930 397312
81	Contemporary Trade Directory Entries Name: Residential Real Estate Management Location: Student Village, Lower Chatham Street, Manchester, M1 5SX Classification: Food Products - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	130	-	383973 397285
82	Contemporary Trade Directory Entries Name: Autogas Cars Direct Location: 1, City Road East, Manchester, Lancashire, M15 4PN Classification: Car Dealers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	154	-	383625 397305
83	Contemporary Trade Directory Entries Name: Auto Trader Location: 1, Tony Wilson Place, Manchester, M15 4FN Classification: Car Customisation & Conversion Specialists Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (N)	161	-	383735 397371
84	Contemporary Trade Directory Entries Name: Danebridge Engineering Co Ltd Location: 3, Lower Chatham Street, Manchester, M1 5QL Classification: Air Conditioning Equipment & Systems Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	188	-	384044 397273
84	Contemporary Trade Directory Entries Name: Sundream International Location: 8, Chester Street, Manchester, M1 5GE Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	220	-	384072 397287
85	Contemporary Trade Directory Entries Name: In Our Coats Location: 225, Hulme Street, Hulme, Manchester, M15 5EF Classification: Greeting Card Publishers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13SW (W)	200	-	383555 397075
86	Contemporary Trade Directory Entries Name: Copybook Press Ltd Location: 45-47 City Road East, Manchester, M15 4PN Classification: Printers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NW (W)	208	-	383522 397242
87	Contemporary Trade Directory Entries Name: George Woodhead & Co Ltd Location: 2, Gloucester Street, Manchester, M1 5GP Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	209	-	383844 397455
87	Contemporary Trade Directory Entries Name: John Sherratt & Co Ltd Location: Hotspur House, 2, Gloucester Street, Manchester, M1 5QR Classification: Bookbinding & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	209	-	383844 397455
87	Contemporary Trade Directory Entries Name: Aaa Location: 2, Gloucester Street, Manchester, M1 5GP Classification: Distribution Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (N)	209	-	383844 397455

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
87	Contemporary Trade Directory Entries Name: 24 Design Ltd Location: Hotspur House, 2, Gloucester Street, Manchester, Lancashire, M1 5QR Classification: Furniture Manufacturers - Home & Office Status: Active Positional Accuracy: Manually positioned to the address or location	A13NE (N)	209	-	383844 397455
88	Contemporary Trade Directory Entries Name: Www.Easywheels.Co.Uk Location: 8, Lower Ormond Street, Manchester, M1 5QF Classification: Confectionery Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (NE)	240	-	384078 397320
88	Contemporary Trade Directory Entries Name: Ormond Street Motors Location: 2-4, Lower Ormond Street, Manchester, M1 5QF Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	240	-	384078 397320
88	Contemporary Trade Directory Entries Name: Manchester Print Co Location: 8, Lower Ormond Street, Manchester, M1 5QF Classification: T-Shirts Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NE (NE)	240	-	384078 397320
89	Contemporary Trade Directory Entries Name: Watt Energy Ltd Location: River Pl, City Rd East, Manchester, M15 4PG Classification: Gas Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A13NW (NW)	241	-	383510 397300
90	Contemporary Trade Directory Entries Name: J E Gordon Ltd Location: 60, Whitworth Street West, Manchester, M1 5WW Classification: Sheet Metal Work Status: Active Positional Accuracy: Automatically positioned to the address	A13NE (N)	260	-	383931 397492
90	Contemporary Trade Directory Entries Name: Graham'S Motors Location: 59, Whitworth Street West, Manchester, Lancashire, M1 5WW Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A13NE (N)	266	-	383939 397495
91	Contemporary Trade Directory Entries Name: Flanny Cleaning Services Location: Flat 13, Hornchurch Court, Bonsall Street, Manchester, Lancashire, M15 6DS Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NE (S)	283	-	383943 396837
92	Contemporary Trade Directory Entries Name: C G (Europe) Ltd Location: Enterprise House, 15, Whitworth Street West, Manchester, Lancashire, M1 5WG Classification: China & Glassware Manufacturers & Repairs Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SW (N)	306	-	383721 397526
93	Contemporary Trade Directory Entries Name: Premier Environmental Ltd Location: 14, Commercial Street, Manchester, M15 4PZ Classification: Pest & Vermin Control Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (NW)	314	-	383460 397358
93	Contemporary Trade Directory Entries Name: Manchester Pest Control Location: 14, Commercial Street, Manchester, M15 4PZ Classification: Pest & Vermin Control Status: Active Positional Accuracy: Automatically positioned to the address	A12NE (NW)	314	-	383460 397358

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	Contemporary Trade Directory Entries Name: Harrison Motors Location: 51 New Wakefield St, Manchester, Lancashire, M1 5NP Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A13NE (NE)	316	-	384080 397457
95	Contemporary Trade Directory Entries Name: The Dolly Tub Laundry Service Location: 1b, Bonsall Street, Manchester, M15 6DR Classification: Laundries & Launderettes Status: Active Positional Accuracy: Automatically positioned to the address	A8NE (SE)	341	-	384034 396819
95	Contemporary Trade Directory Entries Name: The Dolly Tub Location: 1, Bonsall Street, Manchester, M15 6DR Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NE (SE)	341	-	384034 396819
96	Contemporary Trade Directory Entries Name: Bookbind Location: 2-4, Oxford Road, Manchester, Lancashire, M1 5QA Classification: Bookbinders Status: Inactive Positional Accuracy: Manually positioned to the address or location	A14NW (NE)	349	-	384146 397423
97	Contemporary Trade Directory Entries Name: G & M Fabrics Location: Symco House, Little Peter St, Manchester, M15 4PS Classification: Pattern Makers - Paper Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A13NW (NW)	358	-	383493 397460
97	Contemporary Trade Directory Entries Name: G T Autos Location: 88, Hewitt Street, MANCHESTER, M15 4GB Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A13NW (NW)	388	-	383505 397506
98	Contemporary Trade Directory Entries Name: Texco Location: 10, Little Peter Street, Manchester, Lancashire, M15 4PS Classification: Textile Manufacturing Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	375	-	383457 397450
98	Contemporary Trade Directory Entries Name: John C Hewitt Location: Hewitt Street, Manchester, M15 4GB Classification: Car Dealers - Used Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	391	-	383462 397477
99	Contemporary Trade Directory Entries Name: E F G Matthews Office Furniture Ltd Location: Albion Street, Manchester, M1 5LL Classification: Office Furniture & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (N)	376	-	383661 397574
100	Contemporary Trade Directory Entries Name: Gesco Location: Oxford Rd, Manchester, M1 7ED Classification: Plastics - Injection Moulding Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A14NW (E)	378	-	384246 397276
101	Contemporary Trade Directory Entries Name: Hobs Legal Docs Location: 4, Whitworth Street West, Manchester, M1 5WY Classification: Copying & Duplicating Services Status: Active Positional Accuracy: Manually positioned to the address or location	A18SW (NW)	385	-	383532 397520
102	Contemporary Trade Directory Entries Name: Smart And Effective Cleaning And Support Services Location: Flat 1, 1, New Welcome Street, Manchester, M15 5NA Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A8NW (SW)	400	-	383561 396793

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
103	Contemporary Trade Directory Entries Name: Impex Trading Co Location: Flat 23, Oxford Place, 7, Oxford Road, Manchester, M1 6EY Classification: Carpets & Rugs - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (NE)	400	-	384176 397471
104	Contemporary Trade Directory Entries Name: Grand Central Autos Location: 19 Trafford St, Manchester, M1 5LH Classification: Garage Services Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A18SW (NW)	400	-	383608 397575
104	Contemporary Trade Directory Entries Name: Bauer Millett & Co Ltd Location: Lawrence House, 8, Albion Street, Manchester, M1 5NZ Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	436	-	383592 397607
105	Contemporary Trade Directory Entries Name: Muprint Ltd Location: 28, Higher Cambridge Street, MANCHESTER, M15 6AA Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A14SW (SE)	413	-	384162 396839
106	Contemporary Trade Directory Entries Name: Colour Point (Manchester) Ltd Location: Unit 4, Olympia Trading Estate, Great Jackson Street, Manchester, M15 4NP Classification: Photographic Processors Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	414	-	383320 397283
106	Contemporary Trade Directory Entries Name: Pro2col Imaging Ltd Location: Unit 4, Olympia Trading Estate, Great Jackson Street, Manchester, Lancashire, M15 4NP Classification: Photo & Digital Imaging Bureaus Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	414	-	383320 397283
107	Contemporary Trade Directory Entries Name: Hulley & Kirkwood Consulting Engineers Location: 2, Commercial Street, Manchester, M15 4RQ Classification: Mechanical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (NW)	420	-	383389 397440
108	Contemporary Trade Directory Entries Name: William Hodgson & Co Location: Sixth Floor, Churchgate House, 56, Oxford Street, Manchester, Lancashire, M1 6EU Classification: Oils - Edible Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	441	-	384028 397647
109	Contemporary Trade Directory Entries Name: Print Copy Shop Location: Mandela Buildings, 99, Oxford Road, Manchester, M1 7EL Classification: Copying & Duplicating Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	449	-	384328 397221
109	Contemporary Trade Directory Entries Name: Print Location: Mandela Buildings, 99, Oxford Road, Manchester, M1 7EL Classification: Copying & Duplicating Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NW (E)	449	-	384328 397221
110	Contemporary Trade Directory Entries Name: Tom Garner Location: Chester Road, Manchester, M15 4GA Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NE (W)	478	-	383280 397369

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
111	Contemporary Trade Directory Entries Name: C H A Technologies Group Location: St. James Buildings, 79, Oxford Street, Manchester, M1 6FQ Classification: Knitting Yarn Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (NE)	489	-	384075 397678
111	Contemporary Trade Directory Entries Name: Acorn Location: St. James Buildings, 79, Oxford Street, Manchester, Lancashire, M1 6FQ Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (NE)	489	-	384075 397678
111	Contemporary Trade Directory Entries Name: Faupeil Plc Location: St. James Buildings, 79, Oxford Street, Manchester, Lancashire, M1 6FQ Classification: Soft Furnishings - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (NE)	489	-	384075 397678
111	Contemporary Trade Directory Entries Name: Jany (Uk) Location: St. James Buildings, 79, Oxford Street, Manchester, Lancashire, M1 6FQ Classification: Commercial Vehicle Bodybuilders & Repairers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	489	-	384075 397678
112	Contemporary Trade Directory Entries Name: Complete Office Printer Support Location: St. Wilfrids Enterprise Centre, Birchvale Close, Manchester, M15 5BJ Classification: Office Equipment Servicing & Maintenance Status: Active Positional Accuracy: Automatically positioned to the address	A12SE (SW)	490	-	383296 396943
113	Contemporary Trade Directory Entries Name: I D Location: 219, Hulme Walk, Manchester, M15 5FQ Classification: Mechanical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A8NW (SW)	496	-	383486 396730
114	Contemporary Trade Directory Entries Name: First North Western Location: Bridgewater House, 58, Whitworth Street, Manchester, M1 6LS Classification: Railways Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	497	-	384158 397633
115	Contemporary Trade Directory Entries Name: Manchester Radiator Co Ltd Location: Arch 19, Watson Street, Manchester, M3 4LP Classification: Car Radiator Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	518	-	383561 397683
115	Contemporary Trade Directory Entries Name: Duffy Motors (Manchester) Ltd Location: Arch 16-17, Watson Street, Manchester, M3 4LP Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	535	-	383563 397703
116	Contemporary Trade Directory Entries Name: Zed Two Location: 131-133 Portland St, Manchester, Lancashire, M1 4PZ Classification: Toys, Games & Sporting Goods - Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SE (N)	518	-	384027 397732
117	Contemporary Trade Directory Entries Name: Euro-Industrial Engineering Ltd Location: 133, Grosvenor Street, Manchester, M1 7HE Classification: Pumps - Sales, Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SW (E)	531	-	384404 397085
118	Contemporary Trade Directory Entries Name: Williams Landrover Location: Birchall Way, Manchester, M15 6DU Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A8NE (S)	542	-	383898 396562

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	Contemporary Trade Directory Entries Name: Best Rest Location: 120-122, Grosvenor Street, Manchester, M1 7HL Classification: Bed & Mattress Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A14SW (E)	546	-	384426 397144
120	Contemporary Trade Directory Entries Name: Gliptone Leather Care Location: 5, Bridgewater Street, Manchester, M3 4NH Classification: Leather Products - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	548	-	383381 397613
121	Contemporary Trade Directory Entries Name: Seba (Uk) Ltd Location: 84 Princess St, Manchester, Lancashire, M1 6NG Classification: Machine Tool Accessories & Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	559	-	384296 397577
121	Contemporary Trade Directory Entries Name: Broomwell Healthwatch Ltd Location: 86, Princess Street, Manchester, Lancashire, M1 6NG Classification: Medical & Dental Laboratories Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	560	-	384297 397578
121	Contemporary Trade Directory Entries Name: Northern Contract Cleaners Location: Asia House, 82, Princess Street, Manchester, M1 6NF Classification: Cleaning Services - Commercial Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	582	-	384288 397624
121	Contemporary Trade Directory Entries Name: William Chitham Location: 121, Princess Street, Manchester, M1 7AD Classification: Photo & Digital Imaging Bureaus Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	615	-	384333 397620
121	Contemporary Trade Directory Entries Name: Harris Darkrooms Location: 121, Princess Street, Manchester, M1 7AD Classification: Photographic Processors Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	615	-	384333 397620
121	Contemporary Trade Directory Entries Name: Subway Location: Second Floor, 121, Princess Street, Manchester, Lancashire, M1 7AG Classification: Printers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	615	-	384333 397620
121	Contemporary Trade Directory Entries Name: Chamber Communication Ltd Location: 121, Princess Street, Manchester, Lancashire, M1 7AG Classification: Telecommunications Equipment & Systems Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	615	-	384333 397620
122	Contemporary Trade Directory Entries Name: Wise Pharmaceuticals Ltd Location: Oxford House, 16, Oxford Street, Manchester, M1 5AE Classification: Pharmaceutical Manufacturers & Distributors Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (N)	565	-	383944 397803
122	Contemporary Trade Directory Entries Name: Twistfix Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Builders' Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (N)	605	-	383925 397847
122	Contemporary Trade Directory Entries Name: Joe Scrapping In Manchester Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Car Breakers & Dismantlers Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (N)	605	-	383925 397847

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
122	Contemporary Trade Directory Entries Name: Energy Feat Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Energy Efficient Products and Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	605	-	383925 397847
122	Contemporary Trade Directory Entries Name: Pest Solutions Ltd Location: Peter House, Oxford St, Manchester, Lancashire, M1 5AN Classification: Pest & Vermin Control Status: Active Positional Accuracy: Manually positioned within the geographical locality	A18SE (N)	606	-	383925 397847
122	Contemporary Trade Directory Entries Name: Scrap Yard In Manchester Htt Location: Peter House, Manchester, Lancashire, m1 5an Classification: Car Breakers & Dismantlers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A18SE (N)	606	-	383925 397847
122	Contemporary Trade Directory Entries Name: Laundry Shop Location: Peter House, Oxford Street, Manchester, Lancashire, M1 5AN Classification: Dry Cleaners Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SE (N)	606	-	383925 397847
123	Contemporary Trade Directory Entries Name: Autopaint International Location: 293, Deansgate, Manchester, M3 4EW Classification: Car Painters & Sprayers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	590	-	383458 397713
124	Contemporary Trade Directory Entries Name: Holt Springs (Manchester) Ltd Location: 16, Bridgewater Street, Manchester, M3 4NH Classification: Spring Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	602	-	383347 397656
124	Contemporary Trade Directory Entries Name: E E Chrisp Location: 6, Southern Street, Manchester, M3 4WP Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	613	-	383368 397686
125	Contemporary Trade Directory Entries Name: Access Pest Control Location: 16, Peter Street, Manchester, M60 2DS Classification: Pest & Vermin Control Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SE (N)	602	-	383833 397848
126	Contemporary Trade Directory Entries Name: Feather Brooksbank Location: 117-119, Portland Street, Manchester, M1 6ED Classification: Tungsten Tool Manufacturers & Distributors Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (NE)	606	-	384105 397794
126	Contemporary Trade Directory Entries Name: V T G Location: Gainsborough House, 109, Portland Street, Manchester, Lancashire, M1 6DN Classification: Lift Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SE (NE)	644	-	384124 397827
126	Contemporary Trade Directory Entries Name: Operations Abroad Ltd Location: Gainsborough House, 109, Portland Street, Manchester, M1 6DN Classification: Hospitals Status: Active Positional Accuracy: Automatically positioned to the address	A18SE (NE)	644	-	384124 397827
127	Contemporary Trade Directory Entries Name: James & Taylor Ltd Location: Eastagte, 2, Castle Street, Manchester, M3 4LZ Classification: Cladding Suppliers & Installers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	612	-	383235 397554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	Contemporary Trade Directory Entries Name: Influx Design & Print Location: 98, Grosvenor Street, Manchester, M1 7HL Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	616	-	384497 397179
128	Contemporary Trade Directory Entries Name: Fleetwood Agencies Location: Grosvenor House, 94-96, Grosvenor Street, Manchester, M1 7HL Classification: Rubber & Plastic Products - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	626	-	384507 397176
128	Contemporary Trade Directory Entries Name: Euro Exim Ltd Location: 96-98, Grosvenor Street, Manchester, M1 7HL Classification: Chemicals - Distributors & Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address	A14NE (E)	626	-	384507 397176
128	Contemporary Trade Directory Entries Name: Final Print Location: 94-96 Grosvenor Street, All Saints, Manchester, Greater Manchester, M1 7HL Classification: Printers Status: Active Positional Accuracy: Manually positioned to the address or location	A14NE (E)	628	-	384509 397178
128	Contemporary Trade Directory Entries Name: Dunkleys Location: 39-44 Davy Close, Park Farm Industrial Estate, Wellingborough, Northamptonshire, NN8 6XX Classification: Food Products - Manufacturers Status: Active Positional Accuracy: Manually positioned to the address or location	A14NE (E)	628	-	384509 397178
128	Contemporary Trade Directory Entries Name: Wildwood Charcoal & Coppice Products Location: 53 Warehead Cottages, Hainaker, Chichester, West Sussex, PO18 0NF Classification: Coal & Smokeless Fuel Merchants & Distributors Status: Active Positional Accuracy: Manually positioned to the address or location	A14NE (E)	628	-	384509 397178
129	Contemporary Trade Directory Entries Name: Aaa Office Emporium Location: Pryme Works, Silvercroft Street, Manchester, M15 4WG Classification: Office Furniture & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	617	-	383117 397307
130	Contemporary Trade Directory Entries Name: Bright & Beautiful Location: Great Northern Warehouse, 275, Deansgate, Manchester, M3 4EL Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	632	-	383478 397769
130	Contemporary Trade Directory Entries Name: Docutech Solutions Location: Great Northern Warehouse, 275, Deansgate, Manchester, M3 4EL Classification: Photographic Equipment Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	632	-	383478 397769
130	Contemporary Trade Directory Entries Name: Studio Macs Location: Great Northern Warehouse, 275, Deansgate, Manchester, M3 4EL Classification: Electrical Heating Equipment & Systems Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	632	-	383478 397769
130	Contemporary Trade Directory Entries Name: Scrap Car Now Today Cash Manchester Location: Great Northern Warehouse, 275, Deansgate, Manchester, M3 4EL Classification: Car Breakers & Dismantlers Status: Active Positional Accuracy: Automatically positioned to the address	A18SW (NW)	632	-	383478 397769

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
130	Contemporary Trade Directory Entries Name: Cushy Living Location: Unit 24 275, Manchester, Lancashire, M3 4EL Classification: Textile Manufacturing Status: Active Positional Accuracy: Manually positioned within the geographical locality	A18SW (NW)	632	-	383478 397769
130	Contemporary Trade Directory Entries Name: Freez Drinks Location: Suite 1, 275 Deansgate, Manchester, Lancashire, M3 4EL Classification: Soft Drinks - Manufacturers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A18SW (NW)	632	-	383478 397769
130	Contemporary Trade Directory Entries Name: Accountancy & Payroll Services Location: Great Northern Warehouse, 275, Deansgate, Manchester, Lancashire, M3 4EL Classification: Commercial Cleaning Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	632	-	383478 397769
130	Contemporary Trade Directory Entries Name: Automation Providers Location: Great Northern Warehouse, 275, Deansgate, Manchester, Lancashire, M3 4EW Classification: Electrical Goods Sales, Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	632	-	383478 397769
130	Contemporary Trade Directory Entries Name: Dalton Automation Ltd Location: Great Northern Warehouse, 275, Deansgate, Manchester, Lancashire, M3 4EL Classification: Automation Systems & Equipment Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SW (NW)	632	-	383478 397769
130	Contemporary Trade Directory Entries Name: Docutech Solutions Ltd Location: Great Northern Warehouse, 275, Deansgate, Manchester, M3 4EL Classification: Photocopiers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18SW (NW)	632	-	383478 397769
130	Contemporary Trade Directory Entries Name: Timberwise (Uk) Ltd Location: Great Northern Warehouse, 275, Deansgate, Manchester, M3 4EW Classification: Damp & Dry Rot Control Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	633	-	383476 397770
130	Contemporary Trade Directory Entries Name: Rimo Designs Location: 269-273, Deansgate, Manchester, M3 4EW Classification: Carpets & Rugs - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18SW (NW)	645	-	383484 397787
131	Contemporary Trade Directory Entries Name: Licence Trade Consultants Location: Imex House, 40, Princess Street, Manchester, Lancashire, M1 6DE Classification: Brewers' Equipment & Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	680	-	384170 397844
131	Contemporary Trade Directory Entries Name: Northern Consultancy Of Medical Management Ltd Location: Imex House, 40, Princess Street, Manchester, Lancashire, M1 6DE Classification: Medical & Dental Laboratories Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	680	-	384170 397844
131	Contemporary Trade Directory Entries Name: R S I S Projects Ltd Location: Imex House, 40, Princess Street, Manchester, Lancashire, M1 6DE Classification: Railways Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	680	-	384170 397844

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
131	Contemporary Trade Directory Entries Name: Patriot Advertising Solutions Location: Imex House, 40, Princess Street, Manchester, M1 6DE Classification: Distribution Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	680	-	384170 397844
131	Contemporary Trade Directory Entries Name: Dunbar & Boardman Partnership Location: Imex House, 40, Princess Street, Manchester, Lancashire, M1 6DE Classification: Lift Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	680	-	384170 397844
131	Contemporary Trade Directory Entries Name: London Global Location: 40 Princess St, Manchester, Lancashire, M1 6DE Classification: Printers Status: Active Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	680	-	384170 397844
131	Contemporary Trade Directory Entries Name: Scootabout International Location: 101, Princess Street, Manchester, Lancashire, M1 6DD Classification: Materials Handling Equipment Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19NW (NE)	713	-	384208 397860
132	Contemporary Trade Directory Entries Name: Spi Materials Location: 105 Princess St, Manchester, Lancashire, M1 6DD Classification: Electricity Companies Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	683	-	384240 397804
133	Contemporary Trade Directory Entries Name: Strong Mechanical Services Location: Peter St, Manchester, Lancashire, M2 3NQ Classification: Mechanical Engineers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A18NW (N)	689	-	383770 397932
133	Contemporary Trade Directory Entries Name: Down Under Location: 47, Peter Street, Manchester, Lancashire, M2 3NG Classification: Abattoirs Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18NW (N)	719	-	383742 397958
134	Contemporary Trade Directory Entries Name: Archmate Ltd Location: Flat 15, Granby House, Granby Row, Manchester, M1 7AR Classification: Rubber & Plastic Products - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	705	-	384447 397612
135	Contemporary Trade Directory Entries Name: R M R I Ltd Location: 44, Peter Street, Manchester, Lancashire, M2 5GP Classification: Materials Handling Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (N)	708	-	383661 397930
135	Contemporary Trade Directory Entries Name: Kinnarps (Uk) Ltd Location: Colchester House, 38-40, Peter Street, Manchester, M2 5GP Classification: Office Furniture & Equipment Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	718	-	383644 397937
136	Contemporary Trade Directory Entries Name: W H Hammond & Co (Manchester) Ltd Location: 58, Richmond Street, Manchester, M1 3WB Classification: Soft Furnishings - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	719	-	384296 397807
137	Contemporary Trade Directory Entries Name: Buildings 2 Clean Location: 237-239, Deansgate, Manchester, M3 4EN Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (N)	721	-	383521 397891

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
138	Contemporary Trade Directory Entries Name: Fleetwood Agencies Ltd Location: 6, Porchfield Square, Manchester, M3 4FG Classification: Rubber & Plastic Products - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SE (NW)	727	-	383376 397824
139	Contemporary Trade Directory Entries Name: Avon Tyres Ltd Location: 8, Blantyre Street, Manchester, M15 4LH Classification: Tyre Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	731	-	383021 397391
140	Contemporary Trade Directory Entries Name: Lotus (Manchester) Location: 229-235, Deansgate, Manchester, Lancashire, M3 4EN Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NW (N)	732	-	383524 397905
140	Contemporary Trade Directory Entries Name: Hobs On Site Location: 244, Deansgate, Manchester, Lancashire, M3 4BQ Classification: Copying & Duplicating Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18NW (N)	777	-	383503 397945
141	Contemporary Trade Directory Entries Name: Farrow & Ball Location: 270, Deansgate, Manchester, M3 4JB Classification: Wallpapers & Wall Coverings Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (NW)	735	-	383469 397880
142	Contemporary Trade Directory Entries Name: Forths Location: Amazon House, 3 Brazil Street, Manchester, Lancashire, M1 3PJ Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A19SW (NE)	739	-	384358 397778
142	Contemporary Trade Directory Entries Name: Neat & Tidy Location: Amazon House, 3, Brazil Street, Manchester, M1 3PJ Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A19SW (NE)	739	-	384358 397778
142	Contemporary Trade Directory Entries Name: Kdp (Uk) Ltd Location: 36, Canal Street, Manchester, M1 3WD Classification: Non-Ferrous Metals Status: Active Positional Accuracy: Automatically positioned to the address	A19SW (NE)	760	-	384346 397818
143	Contemporary Trade Directory Entries Name: U Print Location: Sackville St, Manchester, Lancashire, M1 3NL Classification: Copying & Duplicating Services Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A19SE (NE)	745	-	384504 397594
144	Contemporary Trade Directory Entries Name: Scrap My Car Now For Money Manchester Kws Location: Lawrence Buildings, Manchester, Lancashire, M2 5WQ Classification: Car Breakers & Dismantlers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A18NW (N)	776	-	383774 398020
145	Contemporary Trade Directory Entries Name: University Dental Hospital Location: University Dental Hospital of Manchester, Higher Cambridge Street, Manchester, M15 6FH Classification: Hospitals Status: Inactive Positional Accuracy: Automatically positioned to the address	A9NW (SE)	778	-	384383 396542

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	Contemporary Trade Directory Entries Name: Dr'S Batley & Bisset Location: 11, St. John Street, Manchester, M3 4DW Classification: X-Ray Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	780	-	383419 397905
147	Contemporary Trade Directory Entries Name: Lewis Bookmakers Location: 48a, Faulkner Street, Manchester, M1 4FH Classification: Clothing & Fabrics - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A19NW (NE)	786	-	384146 397973
148	Contemporary Trade Directory Entries Name: M G Trading Castlefield Location: Flat 1, Ship Canal House, 25, Slate Wharf, Manchester, M15 4SX Classification: Toiletries Status: Active Positional Accuracy: Automatically positioned to the address	A17SW (NW)	786	-	383027 397554
149	Contemporary Trade Directory Entries Name: Sky Blue Box Location: 5, Brownbank Walk, Manchester, M15 6WS Classification: Printers Textile Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	792	-	383940 396315
150	Contemporary Trade Directory Entries Name: Manchester Pathology Group Location: 27, Byrom Street, Manchester, M3 4PF Classification: Medical & Dental Laboratories Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	803	-	383367 397905
151	Contemporary Trade Directory Entries Name: Bright House Trading Location: Flat 46, Ledburn Court, Ledburn Close, Manchester, M15 4HR Classification: Cleaning Services - Domestic Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	805	-	382944 396979
151	Contemporary Trade Directory Entries Name: Greenhalls Location: Flat 33, Ledburn Court, Ledburn Close, Manchester, M15 4HR Classification: Breakdown and Recovery Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	805	-	382944 396979
152	Contemporary Trade Directory Entries Name: Samkou Export Co Location: 26, Richmond Street, Manchester, M1 3NB Classification: Textile Manufacturing Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	806	-	384356 397870
153	Contemporary Trade Directory Entries Name: Service Point Uk Ltd Location: Liverpool Road, Manchester, M3 4AQ Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A17SE (NW)	808	-	383162 397768
154	Contemporary Trade Directory Entries Name: Yating Lighting Location: Oxford Rd, Manchester, Lancashire, M13 9PL Classification: Lighting Manufacturers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9NE (SE)	815	-	384615 396824
155	Contemporary Trade Directory Entries Name: Boda Skins Location: Lloyds House, 18-22, Lloyd Street, Manchester, M2 5WA Classification: Leather Garments & Products Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (N)	817	-	383718 398054
155	Contemporary Trade Directory Entries Name: Manchester Chemicals & Pigments Ltd Location: Lloyds House, 18-22, Lloyd Street, Manchester, Lancashire, M2 5WA Classification: Chemicals - Distributors & Wholesalers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18NW (N)	817	-	383718 398054

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
156	Contemporary Trade Directory Entries Name: Stratstone Jaguar Location: 19-21, Upper Brook Street, Manchester, M13 9XH Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A14SE (E)	818	-	384691 397062
156	Contemporary Trade Directory Entries Name: Stratstone Jaguar Manchester Location: 19-21, Upper Brook Street, Manchester, M13 9XH Classification: Car Dealers Status: Active Positional Accuracy: Automatically positioned to the address	A14SE (E)	818	-	384691 397062
157	Contemporary Trade Directory Entries Name: Gothard Pine Location: Fallover House, 30, Bronte Street, Manchester, M15 6QL Classification: Furniture Manufacturers - Home & Office Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SE (S)	819	-	384031 396304
158	Contemporary Trade Directory Entries Name: First Maid Ltd Location: 165, Warde Street, Hulme, Manchester, M15 5TF Classification: Cleaning Services - Domestic Status: Active Positional Accuracy: Automatically positioned to the address	A7NE (SW)	829	-	383220 396522
159	Contemporary Trade Directory Entries Name: P P S Print Communications Location: 198, Deansgate, MANCHESTER, M3 3NE Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (N)	833	-	383526 398016
159	Contemporary Trade Directory Entries Name: Northern Image Centre Location: Invicta House, 2-4, Atkinson Street, Manchester, Lancashire, M3 3HH Classification: Copying & Duplicating Services Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18NW (N)	878	-	383520 398062
160	Contemporary Trade Directory Entries Name: Mels Location: 2, Stockland Close, Manchester, M13 9WY Classification: Ironing & Home Laundry Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A14NE (E)	833	-	384713 397202
161	Contemporary Trade Directory Entries Name: Q Street Domestic Appliances Location: 45, Quenby Street, Manchester, M15 4HX Classification: Vacuum Cleaners - Sales & Service Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	836	-	382895 397060
161	Contemporary Trade Directory Entries Name: Q Street Domestic Appliances Location: 45, Quenby Street, Manchester, M15 4HX Classification: Washing Machines - Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A12SW (W)	836	-	382895 397060
162	Contemporary Trade Directory Entries Name: Leaflet Distribution Manchester Location: Portland Tower, Portland Street, Manchester, Lancashire, M1 3LF Classification: Distribution Services Status: Active Positional Accuracy: Manually positioned within the geographical locality	A19NW (NE)	838	-	384280 397963
162	Contemporary Trade Directory Entries Name: Scrap A Car For Cash Manchester Location: Portland Tower, Portland Street, Manchester, M1 3LD Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	838	-	384280 397963

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
162	Contemporary Trade Directory Entries Name: See-Av Location: Manchester One, 53 Portland Street, Manchester, Greater Manchester, M1 3LD Classification: Cinema Equipment Status: Active Positional Accuracy: Manually positioned within the geographical locality	A19NW (NE)	838	-	384280 397963
162	Contemporary Trade Directory Entries Name: Debs Europe Liason Office Location: Portland Tower, Portland Street, Manchester, M1 3LD Classification: Clothing & Fabrics - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	838	-	384280 397963
162	Contemporary Trade Directory Entries Name: Beverley Clifton Morris Location: Portland Tower, Portland Street, Manchester, Lancashire, M1 3LF Classification: Mechanical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (NE)	838	-	384280 397963
162	Contemporary Trade Directory Entries Name: Scrap Cars For Cash Manchester Location: Portland St, Manchester, Lancashire, M1 3LF Classification: Car Breakers & Dismantlers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A19NW (NE)	838	-	384280 397963
163	Contemporary Trade Directory Entries Name: Manchester City Council Location: Town Hall, Albert Square, Manchester, Lancashire, M2 5DB Classification: Waste Disposal Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	843	-	383867 398089
164	Contemporary Trade Directory Entries Name: Scrap My Car Now For Money Manchester Kws Location: Croxley House, Manchester, Lancashire, M2 5ND Classification: Car Breakers & Dismantlers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A18NW (N)	846	-	383667 398074
164	Contemporary Trade Directory Entries Name: The Leaflet Co Ltd Location: Croxley House, 14, Lloyd Street, Manchester, Lancashire, M2 5ND Classification: Distribution Services Status: Active Positional Accuracy: Manually positioned to the address or location	A18NW (N)	846	-	383667 398074
165	Contemporary Trade Directory Entries Name: Hong Kong Printing Co Ltd Location: 41, Faulkner Street, Manchester, M1 4EE Classification: Printers Status: Active Positional Accuracy: Automatically positioned to the address	A19NW (NE)	862	-	384224 398021
166	Contemporary Trade Directory Entries Name: Cedric'S Motors Location: 1-5, Greenheys Lane, Manchester, M15 6NQ Classification: Mot Testing Centres Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	865	-	384232 396329
166	Contemporary Trade Directory Entries Name: 1st Callautolocksmith.Co.Uk Location: 9, Greenheys Lane, Manchester, M15 6NQ Classification: Lock Suppliers and Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	885	-	384226 396304
167	Contemporary Trade Directory Entries Name: Industrial Tomography Systems Location: Sunlight House, Quay Street, Manchester, M3 3JZ Classification: Scientific Apparatus & Instruments - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A18NW (N)	875	-	383473 398039

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
168	Contemporary Trade Directory Entries Name: New & Used Office Equipment Location: A, 100, Chorlton Road, Manchester, Lancashire, M15 4AP Classification: Office Furniture & Equipment Status: Inactive Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	875	-	383003 396685
169	Contemporary Trade Directory Entries Name: Sofas4u Location: George House, 48, George Street, Manchester, Lancashire, M1 4HF Classification: Furniture - Reproduction Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19NW (N)	877	-	384140 398073
169	Contemporary Trade Directory Entries Name: Prontaprint Location: 71a, Mosley Street, Manchester, M2 3JN Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	883	-	384105 398090
169	Contemporary Trade Directory Entries Name: Prontaprint Location: 71a, Mosley Street, Manchester, M2 3JN Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	887	-	384107 398094
169	Contemporary Trade Directory Entries Name: Oakland Fabrics Ltd Location: 44, George Street, Manchester, M1 4HF Classification: Textile Manufacturing Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (N)	891	-	384149 398085
170	Contemporary Trade Directory Entries Name: Direct Line Rescue Location: 17, Quay Street, Manchester, M3 3HN Classification: Car Breakdown & Recovery Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	880	-	383394 398004
170	Contemporary Trade Directory Entries Name: Parkgate Shipping Ltd Location: Third Floor, Byrom House, 21, Quay Street, Manchester, M3 3JD Classification: Freight Forwarders Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	910	-	383345 398013
171	Contemporary Trade Directory Entries Name: Andrew'S Auto Repairs Location: Unit 6, Bentinck Street Industrial Estate, Bentinck Street Ind Est, Manchester, Lancashire, M15 4LN Classification: Garage Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	884	-	382839 397243
171	Contemporary Trade Directory Entries Name: Peter Stone Co Ltd Location: Unit 6, Bentinck Street Industrial Estate, Manchester, M15 4LN Classification: Printers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	884	-	382839 397243
172	Contemporary Trade Directory Entries Name: Frank Rostron Location: 39, Princess Street, Manchester, M2 4FN Classification: Shirt Makers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	887	-	383924 398130
172	Contemporary Trade Directory Entries Name: Cheshire Shirtmakers Ltd Location: 39, Princess Street, Manchester, Lancashire, M2 4FN Classification: Shirt Makers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	887	-	383924 398130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
173	Contemporary Trade Directory Entries Name: Egerton Narrow Boat Ltd Location: The Arches Boatyard, Potato Wharf, Manchester, M3 4NB Classification: Boatbuilders & Repairers Status: Inactive Positional Accuracy: Automatically positioned in the proximity of the address	A17SW (NW)	891	-	382932 397597
174	Contemporary Trade Directory Entries Name: United Global Logistics Location: Minshull House, 47, Chorlton Street, Manchester, M1 3FY Classification: Freight Forwarders Status: Active Positional Accuracy: Automatically positioned to the address	A19NE (NE)	900	-	384479 397885
175	Contemporary Trade Directory Entries Name: Manchester Radiators Location: St. Georges House, 36, Ellesmere Street, Manchester, M15 4JW Classification: Boilers - Servicing, Replacements & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	900	-	382834 397329
175	Contemporary Trade Directory Entries Name: Futura Tech (Uk) Location: St. Georges House, 36, Ellesmere Street, Manchester, M15 4JW Classification: Plastics - Raw Materials Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	900	-	382834 397329
175	Contemporary Trade Directory Entries Name: Urban Angel Designs Location: St. Georges House, 36, Ellesmere Street, Manchester, Lancashire, M15 4JW Classification: Stationery Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A12NW (W)	900	-	382834 397329
175	Contemporary Trade Directory Entries Name: A Bigger Splash (Manchester) Ltd Location: 40, Ellesmere Street, Manchester, M15 4JY Classification: Greeting Card Publishers & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NE (W)	945	-	382787 397327
176	Contemporary Trade Directory Entries Name: Steelcase Solutions Location: 12, Booth Street, Manchester, M2 4AW Classification: Furniture Manufacturers - Home & Office Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	908	-	383975 398145
177	Contemporary Trade Directory Entries Name: Norman Disney & Young Location: St. James House, 7, Charlotte Street, Manchester, Lancashire, M1 4DZ Classification: Mechanical Engineers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A19NW (NE)	915	-	384227 398079
178	Contemporary Trade Directory Entries Name: Crown Knitwear Ltd Location: 10-20, Grosvenor Street, MANCHESTER, M1 7JJ Classification: Knitwear Manufacturers & Wholesalers Status: Active Positional Accuracy: Automatically positioned to the address	A14NE (E)	918	-	384785 397340
178	Contemporary Trade Directory Entries Name: Le Missey Ltd Location: 10-20, Grosvenor Street, Manchester, Lancashire, M1 7JJ Classification: Knitwear Manufacturers & Wholesalers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A14NE (E)	918	-	384785 397340
179	Contemporary Trade Directory Entries Name: Scientific Laboratory Supplies Ltd Location: Greenheys Business Centre, Pencroft Way, Manchester, Lancashire, M15 6JJ Classification: Laboratory Equipment, Instruments & Supplies Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	919	-	384268 396287
179	Contemporary Trade Directory Entries Name: Kaiku Ltd Location: Greenheys Business Centre, Pencroft Way, Manchester, M15 6JJ Classification: Scientific Apparatus & Instruments - Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	919	-	384268 396287

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
179	Contemporary Trade Directory Entries Name: Idvac Location: Unit 15 Greenheys Business Centre, Pencroft Way, Manchester, Greater Manchester, M15 6JJ Classification: Coating Specialists Status: Active Positional Accuracy: Manually positioned within the geographical locality	A9SW (SE)	919	-	384268 396287
179	Contemporary Trade Directory Entries Name: Ipec Location: Greenheys Business Centre, Pencroft Way, Manchester, Lancashire, M15 6JJ Classification: Engineers - General Status: Inactive Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	919	-	384267 396286
179	Contemporary Trade Directory Entries Name: Grand Healthcare Location: 40 Greenheys Business Centre, Pencroft Way, Manchester, Lancashire, M15 6JJ Classification: Disability Equipment - Manufacturers & Suppliers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	919	-	384267 396286
179	Contemporary Trade Directory Entries Name: Green Digits Location: Greenheys Business Centre, Pencroft Way, Manchester, Lancashire, M15 6JJ Classification: Recycling Services Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A9SW (SE)	919	-	384268 396287
180	Contemporary Trade Directory Entries Name: Pumpcare Technical Services Location: Unit 3, Cornbrook Estate, Ellesmere Street, Manchester, M15 4JY Classification: Pump Manufacturers Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	933	-	382792 397262
180	Contemporary Trade Directory Entries Name: Seal Services Ltd Location: Unit 3, Cornbrook Estate, Ellesmere Street, Manchester, M15 4JY Classification: Pumps - Sales, Servicing & Repairs Status: Inactive Positional Accuracy: Automatically positioned to the address	A12NW (W)	933	-	382792 397262
181	Contemporary Trade Directory Entries Name: Alpha M Services Location: Apartment 52, 99, Greenheys Lane West, Manchester, M15 5AX Classification: Car Engine Tuning & Diagnostic Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A8SW (S)	933	-	383646 396189
182	Contemporary Trade Directory Entries Name: Williams Bmw Location: 45, Upper Brook Street, Manchester, M13 9WS Classification: Car Dealers Status: Inactive Positional Accuracy: Automatically positioned to the address	A14SE (E)	934	-	384784 396937
182	Contemporary Trade Directory Entries Name: Williams Location: 45, Upper Brook Street, Manchester, M13 9WS Classification: Car Customisation & Conversion Specialists Status: Active Positional Accuracy: Automatically positioned to the address	A14SE (E)	934	-	384783 396937
182	Contemporary Trade Directory Entries Name: Citroen Manchester - Central Location: 53-57, Upper Brook Street, Manchester, M13 9TD Classification: Car Customisation & Conversion Specialists Status: Active Positional Accuracy: Automatically positioned to the address	A15SW (E)	978	-	384820 396905
183	Contemporary Trade Directory Entries Name: Cannon Electrical Contractors (Manchester) Ltd Location: 8, Clarence Street, Manchester, M2 4DW Classification: Electrical Engineers Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	936	-	383872 398182

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
183	Contemporary Trade Directory Entries Name: Inpeto Ltd Location: Northern Assurance Building, 9-21, Princess Street, Manchester, Lancashire, M2 4DN Classification: Pet Foods & Animal Feeds Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18NE (N)	936	-	383872 398182
183	Contemporary Trade Directory Entries Name: Johnson Cleaners (Uk) Ltd Location: 61, Cross Street, Manchester, M2 4JW Classification: Dry Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A23SE (N)	944	-	383843 398190
183	Contemporary Trade Directory Entries Name: Max Spielmann Location: 59a, Cross Street, Manchester, Lancashire, M2 4JW Classification: Photographic Processors Status: Inactive Positional Accuracy: Automatically positioned to the address	A23SE (N)	948	-	383845 398194
184	Contemporary Trade Directory Entries Name: Whitecliffs Group Location: 61-63, Brown Street, Manchester, Lancashire, M2 2JG Classification: Electrolysis Status: Inactive Positional Accuracy: Manually positioned to the address or location	A18NE (N)	938	-	383995 398172
184	Contemporary Trade Directory Entries Name: Tetra Pak Business Services Ltd Location: The Chancery, 58 Spring Gdns, Manchester, M2 1EW Classification: Boxes & Cartons Status: Inactive Positional Accuracy: Automatically positioned to the address	A23SE (N)	958	-	384010 398190
185	Contemporary Trade Directory Entries Name: Aesthetic Services Soda Blasting Location: Devonshire House, 36, George Street, Manchester, M1 4HA Classification: Blast Cleaning Status: Inactive Positional Accuracy: Automatically positioned to the address	A19NW (N)	939	-	384185 398122
186	Contemporary Trade Directory Entries Name: Hanson Premix Location: Potato Wharf, Manchester, M3 4NB Classification: Concrete & Mortar Ready Mixed Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	941	-	382928 397690
186	Contemporary Trade Directory Entries Name: Great Man Beer Location: 202 Potato Wharf, Castlefield, Manchester, Lancashire, M3 4BB Classification: Brewers Status: Active Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	948	-	382915 397683
187	Contemporary Trade Directory Entries Name: Recycle Nw Location: Fourth Floor, Brazenose House, Brazenose Street, Manchester, Lancashire, M2 5AS Classification: Office Furniture & Equipment Status: Active Positional Accuracy: Manually positioned within the geographical locality	A18NW (N)	941	-	383683 398174
187	Contemporary Trade Directory Entries Name: Instadrinks Ltd Location: Ridgefield House, 14, John Dalton Street, Manchester, Lancashire, M2 6JR Classification: Vending Machine Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A23SW (N)	963	-	383705 398200
187	Contemporary Trade Directory Entries Name: Commercial Facilities Location: Ridgefield House, 14, John Dalton Street, Manchester, Lancashire, M2 6JR Classification: Cleaning Services - Commercial Status: Inactive Positional Accuracy: Manually positioned to the address or location	A23SW (N)	963	-	383705 398200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
188	Contemporary Trade Directory Entries Name: Davidson Powell Design Location: 40, John Dalton Street, Manchester, M2 6LE Classification: Jewellery Manufacturers & Repairers Status: Inactive Positional Accuracy: Automatically positioned to the address	A23SW (N)	945	-	383781 398190
189	Contemporary Trade Directory Entries Name: Ops International Ltd Location: Brook House, 64-72, Spring Gardens, Manchester, M2 2BQ Classification: Oil Companies Status: Inactive Positional Accuracy: Automatically positioned to the address	A18NE (N)	945	-	384072 398164
190	Contemporary Trade Directory Entries Name: Print Chain Location: Barlow House, Minshull Street, Manchester, Greater Manchester, M1 3DZ Classification: Printers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A19NW (NE)	954	-	384380 398036
191	Contemporary Trade Directory Entries Name: Rentokil Specialist Hygiene Location: Faulkner House, Faulkner Street, Manchester, M1 4DY Classification: Commercial Cleaning Services Status: Active Positional Accuracy: Automatically positioned to the address	A19NW (NE)	967	-	384264 398118
191	Contemporary Trade Directory Entries Name: Scrap Cars Vans Caravans Buyer Location: Faulkner House, Faulkner Street, Manchester, M1 4DY Classification: Car Breakers & Dismantlers Status: Active Positional Accuracy: Automatically positioned to the address	A19NW (NE)	967	-	384264 398118
192	Contemporary Trade Directory Entries Name: R Lewtas Shopfitters Ltd Location: Unit 12, Bentinck Street Industrial Estate, Manchester, Lancashire, M15 4LN Classification: Joinery Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A11NE (W)	979	-	382743 397191
192	Contemporary Trade Directory Entries Name: Star Auto Glass Location: Unit 12, Bentinck Street Industrial Estate, Manchester, M15 4LN Classification: Car Customisation & Conversion Specialists Status: Inactive Positional Accuracy: Automatically positioned to the address	A11NE (W)	979	-	382743 397191
192	Contemporary Trade Directory Entries Name: Jook Design Location: Unit 2, Bentinck Street Industrial Estate, MANCHESTER, M15 4LN Classification: Soft Furnishings - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A11NE (W)	997	-	382725 397179
193	Contemporary Trade Directory Entries Name: Gazprom Marketing & Trading Retail Ltd Location: 27, Quay Street, Manchester, M3 3GY Classification: Gas Suppliers Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (NW)	982	-	383232 398036
193	Contemporary Trade Directory Entries Name: Gazprom Marketing & Trading Location: 27, Quay Street, Manchester, M3 3GY Classification: Gas Companies Status: Inactive Positional Accuracy: Automatically positioned to the address	A17NE (NW)	982	-	383232 398036
193	Contemporary Trade Directory Entries Name: Gazprom Marketing & Trading Retail Ltd Location: Quay St, Manchester, Lancashire, M3 3GY Classification: Gas Suppliers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A17NE (NW)	983	-	383270 398058

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
194	Contemporary Trade Directory Entries Name: Zilico Location: Rutherford House, 40 Pencroft Way, Manchester Science Park, Manchester, Greater Manchester, M15 6SZ Classification: Medical Equipment Manufacturers Status: Active Positional Accuracy: Manually positioned within the geographical locality	A9SW (SE)	982	-	384312 396239
194	Contemporary Trade Directory Entries Name: I P E C Location: Rutherford House, 40, Pencroft Way, Manchester Science Park, MANCHESTER, M15 6SZ Classification: Electronic Engineers Status: Active Positional Accuracy: Automatically positioned to the address	A9SW (SE)	982	-	384312 396239
194	Contemporary Trade Directory Entries Name: Pharmalogical Location: Rutherford House, 40, Pencroft Way, Manchester Science Park, Manchester, Lancashire, M15 6SZ Classification: Chemists' & Pharmacists' Suppliers & Wholesalers Status: Inactive Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	982	-	384312 396239
194	Contemporary Trade Directory Entries Name: Igm Resins Location: Rutherford House, 40, Pencroft Way, Manchester Science Park, Manchester, M15 6GG Classification: Chemicals - Distributors & Wholesalers Status: Inactive Positional Accuracy: Automatically positioned to the address	A9SW (SE)	982	-	384312 396239
195	Contemporary Trade Directory Entries Name: Mbnk Ltd Location: 123, Deansgate, Manchester, M3 2BY Classification: Cookers - Sales & Service Status: Active Positional Accuracy: Automatically positioned to the address	A23SW (N)	984	-	383642 398209
195	Contemporary Trade Directory Entries Name: Pharma Karma Location: 123, Deansgate, Manchester, M3 2BY Classification: Pharmaceutical Manufacturers & Distributors Status: Inactive Positional Accuracy: Automatically positioned to the address	A23SW (N)	984	-	383642 398209
196	Contemporary Trade Directory Entries Name: Burofloor Location: 3, Hardman Street, Manchester, M3 3AW Classification: Carpets & Rugs - Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (N)	990	-	383454 398156
196	Contemporary Trade Directory Entries Name: Laserox Location: 3, Hardman Street, Manchester, M3 3HF Classification: Medical Equipment Manufacturers Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (N)	990	-	383454 398156
196	Contemporary Trade Directory Entries Name: Merlin Specialists Repairs Ltd Location: 3, Hardman Street, Manchester, M3 3HF Classification: Bath Resurfacing Status: Active Positional Accuracy: Automatically positioned to the address	A17NE (N)	990	-	383454 398156
197	Contemporary Trade Directory Entries Name: Hayes Location: Unit 2, Ellesmere St, Manchester, Lancashire, M15 4FY Classification: Bed & Mattress Manufacturers Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A11NE (W)	990	-	382735 397264
198	Contemporary Trade Directory Entries Name: Brenca Metals Ltd Location: Ship Canal House, 98, King Street, Manchester, M2 4WU Classification: Scrap Metal Merchants Status: Active Positional Accuracy: Automatically positioned to the address	A23SE (N)	996	-	383976 398234

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
198	Contemporary Trade Directory Entries Name: Houghton Engineering Services Location: Ship Canal House, 98, King Street, Manchester, Lancashire, M2 4WU Classification: Engineering Services Status: Inactive Positional Accuracy: Automatically positioned to the address	A23SE (N)	996	-	383976 398234
199	Contemporary Trade Directory Entries Name: Atlantis Piccadilly Laundry Services Location: 121 Woollam Pl, Manchester, M3 4JJ Classification: Laundries & Launderettes Status: Inactive Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	996	-	382968 397836
200	Contemporary Trade Directory Entries Name: Msl Interiors Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Office Furniture & Equipment Status: Active Positional Accuracy: Automatically positioned to the address	A23SE (N)	997	-	384112 398208
200	Contemporary Trade Directory Entries Name: Fast Carpet Cleaners Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Carpet, Curtain & Upholstery Cleaners Status: Active Positional Accuracy: Automatically positioned to the address	A23SE (N)	997	-	384112 398208
200	Contemporary Trade Directory Entries Name: Scrap My Car Now For Money Manchester Kws Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Car Breakers & Dismantlers Status: Active Positional Accuracy: Automatically positioned to the address	A23SE (N)	997	-	384112 398208
200	Contemporary Trade Directory Entries Name: We Print Group Location: Barnett House, 53, Fountain Street, Manchester, M2 2AN Classification: Printers Status: Inactive Positional Accuracy: Manually positioned within the geographical locality	A23SE (N)	998	-	384112 398208
200	Contemporary Trade Directory Entries Name: Indie Cases Location: Barnett House, Manchester, Lancashire, M2 2AN Classification: Mobile Phone Accessories and Car Kits Status: Active Positional Accuracy: Manually positioned within the geographical locality	A23SE (N)	998	-	384112 398208
201	Contemporary Trade Directory Entries Name: Spray Shop Supplies Location: 2a, New Elm Road, Manchester, M3 4JH Classification: Car Paint & Lacquer Manufacturers & Suppliers Status: Inactive Positional Accuracy: Automatically positioned to the address	A17SW (NW)	997	-	382914 397769
202	Fuel Station Entries Name: Ormond Street Motors Location: 2-4 Lower Ormond Street, Manchester, M1 5QF Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A13NE (NE)	240	-	384078 397320
203	Fuel Station Entries Name: Castlefield Service Station Location: 14 Great Jackson Street, Castlefield, Manchester, M15 4NG Brand: Obsolete Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Automatically positioned to the address	A12NE (W)	483	-	383248 397279
204	Fuel Station Entries Name: Asda Hulme Location: Greenhays Lane West, Archway, Hulme, Manchester, Lancashire, M15 5AQ Brand: ASDA Premises Type: Hypermarket Status: Open Positional Accuracy: Manually positioned to the address or location	A8SW (S)	823	-	383694 396292

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
205	Fuel Station Entries Name: Castlefield Travellers Check Location: Dawson Street, Manchester, M3 4JZ Brand: OBSOLETE Premises Type: Not Applicable Status: Obsolete Positional Accuracy: Approximate location provided by supplier	A12NW (W)	950	-	382813 397463

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices Stockport Metropolitan Borough Council - Environment Team (Land & Water) Tameside Metropolitan Borough Council - Environmental Health Department Salford City Council - Environmental Health Department Trafford Metropolitan Borough Council - Renewal and Environmental Protection Bury Metropolitan Borough Council - Environmental Health Department Manchester City Council - Environmental Health Department	December 2014 May 2013 November 2013 November 2013 October 2013 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Discharge Consents Environment Agency - North West Region	July 2015	Quarterly
Enforcement and Prohibition Notices Environment Agency - North West Region	March 2013	As notified
Integrated Pollution Controls Environment Agency - North West Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control Environment Agency - North West Region	July 2015	Quarterly
Local Authority Integrated Pollution Prevention And Control Bury Metropolitan Borough Council - Environmental Health Department Tameside Metropolitan Borough Council - Environmental Health Department Salford City Council - Environmental Health Department Stockport Metropolitan Borough Council - Environmental Health Department, EEDD Trafford Metropolitan Borough Council - Environmental Health Department Manchester City Council - Environmental Health Department	February 2015 June 2015 March 2015 October 2014 October 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Controls Bury Metropolitan Borough Council - Environmental Health Department Trafford Metropolitan Borough Council - Environmental Health Department Tameside Metropolitan Borough Council - Environmental Health Department Salford City Council - Environmental Health Department Stockport Metropolitan Borough Council - Environmental Health Department, EEDD Manchester City Council - Environmental Health Department	February 2015 July 2015 June 2015 March 2015 October 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements Bury Metropolitan Borough Council - Environmental Health Department Tameside Metropolitan Borough Council - Environmental Health Department Salford City Council - Environmental Health Department Stockport Metropolitan Borough Council - Environmental Health Department, EEDD Trafford Metropolitan Borough Council - Environmental Health Department Manchester City Council - Environmental Health Department	February 2015 June 2015 March 2015 October 2014 October 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Nearest Surface Water Feature Ordnance Survey	July 2012	Quarterly
Pollution Incidents to Controlled Waters Environment Agency - North West Region	January 2000	Not Applicable
Prosecutions Relating to Authorised Processes Environment Agency - North West Region	March 2013	As notified
Prosecutions Relating to Controlled Waters Environment Agency - North West Region	March 2013	As notified
River Quality Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register Environment Agency - North West Region - South Area	July 2015	Quarterly

Agency & Hydrological	Version	Update Cycle
Water Abstractions Environment Agency - North West Region	April 2015	Quarterly
Water Industry Act Referrals Environment Agency - North West Region	July 2015	Quarterly
Groundwater Vulnerability Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations British Geological Survey - National Geoscience Information Service	October 2012	As notified
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	January 2015	As notified
Source Protection Zones Environment Agency - Head Office	July 2015	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2015	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2015	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	May 2015	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	May 2015	Quarterly
Flood Defences Environment Agency - Head Office	May 2015	Quarterly
Detailed River Network Lines Environment Agency - Head Office	March 2012	Annually
Detailed River Network Offline Drainage Environment Agency - Head Office	March 2012	Annually
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	As notified
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	As notified
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	As notified
Surface Water Suitability Environment Agency - Head Office	October 2013	As notified

Waste	Version	Update Cycle
BGS Recorded Landfill Sites British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites Environment Agency - North West Region - South Area	May 2015	Quarterly
Integrated Pollution Control Registered Waste Sites Environment Agency - North West Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries) Environment Agency - North West Region - South Area	August 2014	Quarterly
Licensed Waste Management Facilities (Locations) Environment Agency - North East Region - Ridings Area Environment Agency - North West Region - South Area	July 2015 July 2015	Quarterly Quarterly
Local Authority Landfill Coverage Bury Metropolitan Borough Council Manchester City Council - Planning Department Salford City Council - Environmental Health Department Stockport Metropolitan Borough Council - Environmental Health Department, EEDD Tameside Metropolitan Borough Council Trafford Metropolitan Borough Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Local Authority Recorded Landfill Sites Bury Metropolitan Borough Council Manchester City Council - Planning Department Salford City Council - Environmental Health Department Stockport Metropolitan Borough Council - Environmental Health Department, EEDD Tameside Metropolitan Borough Council Trafford Metropolitan Borough Council - Environmental Health Department	May 2000 May 2000 May 2000 May 2000 May 2000 May 2000	Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable Not Applicable
Registered Landfill Sites Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Transfer Sites Environment Agency - North West Region - South Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites Environment Agency - North West Region - South Area	March 2003	Not Applicable
Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH) Health and Safety Executive	June 2015	Bi-Annually
Explosive Sites Health and Safety Executive	June 2015	Bi-Annually
Notification of Installations Handling Hazardous Substances (NIHHS) Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements Bury Metropolitan Borough Council Stockport Metropolitan Borough Council - Environment and Economic Development Trafford Metropolitan Borough Council Manchester City Council - Planning Department Salford City Council Tameside Metropolitan Borough Council - Planning and Building Control	March 2015 November 2014 November 2014 September 2014 September 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update
Planning Hazardous Substance Consents Bury Metropolitan Borough Council Stockport Metropolitan Borough Council - Environment and Economic Development Trafford Metropolitan Borough Council Manchester City Council - Planning Department Salford City Council Tameside Metropolitan Borough Council - Planning and Building Control	March 2015 November 2014 November 2014 September 2014 September 2014 September 2014	Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update Annual Rolling Update

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	January 2010	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	May 2015	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	June 2011	Annually
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	June 2011	Annually
Brine Compensation Area Cheshire Brine Subsidence Compensation Board	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Mining Report Service	March 2014	As notified
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	July 2014	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	As notified
Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	August 2015	Quarterly
Fuel Station Entries Catalist Ltd - Experian	August 2015	Quarterly

Sensitive Land Use	Version	Update Cycle
Areas of Adopted Green Belt		
Bury Metropolitan Borough Council	May 2015	As notified
Manchester City Council	May 2015	As notified
Salford City Council	May 2015	As notified
Stockport Metropolitan Borough Council	May 2015	As notified
Tameside Metropolitan Borough Council	May 2015	As notified
Trafford Metropolitan Borough Council	May 2015	As notified
Areas of Unadopted Green Belt		
Bury Metropolitan Borough Council	May 2015	As notified
Manchester City Council	May 2015	As notified
Salford City Council	May 2015	As notified
Stockport Metropolitan Borough Council	May 2015	As notified
Tameside Metropolitan Borough Council	May 2015	As notified
Trafford Metropolitan Borough Council	May 2015	As notified
Areas of Outstanding Natural Beauty		
Natural England	February 2015	Bi-Annually
Environmentally Sensitive Areas		
Natural England	August 2014	Annually
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	April 2015	Bi-Annually
Marine Nature Reserves		
Natural England	July 2013	Bi-Annually
National Nature Reserves		
Natural England	March 2015	Bi-Annually
National Parks		
Natural England	August 2015	Bi-Annually
Nitrate Sensitive Areas		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	February 2012	Not Applicable
Nitrate Vulnerable Zones		
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	July 2014	Annually
Ramsar Sites		
Natural England	March 2014	Bi-Annually
Sites of Special Scientific Interest		
Natural England	April 2015	Bi-Annually
Special Areas of Conservation		
Natural England	March 2014	Bi-Annually
Special Protection Areas		
Natural England	April 2015	Bi-Annually

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Contact	Name and Address	Contact Details
2	British Geological Survey - Enquiry Service British Geological Survey, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
3	Environment Agency - National Customer Contact Centre (NCCC) PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 08708 506 506 Email: enquiries@environment-agency.gov.uk
4	Manchester City Council - Environmental Health Department PO Box 463, Town Hall Extension, Albert Square, Manchester, Greater Manchester, M60 3NY	Telephone: 0161 234 4884 / 234 4873. Fax: 0161 234 4508 Website: www.manchester.gov.uk
5	The Coal Authority - Mining Report Service 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0845 7626848 Email: thecoalauthority@coal.gov.uk
6	Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) Government Buildings, Otley Road, Lawnswood, Leeds, West Yorkshire, LS16 5QT	Telephone: 0113 2613333 Fax: 0113 230 0879
7	Environment Agency - Head Office Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
8	Manchester City Council - Planning Department Town Hall, Manchester, Greater Manchester, M60 2LA	Telephone: 0161 234 5000 Fax: 0161 234 4508 Website: www.manchester.gov.uk
-	Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral
- BGS Recorded Mineral Site
- Contemporary Trade Directory Entry
- Fuel Station Entry

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

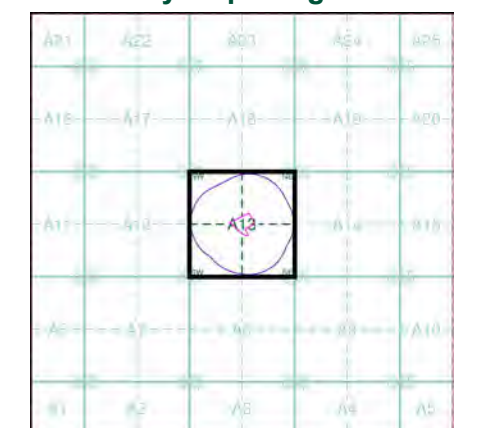
Geological

- BGS Recorded Mineral Site

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

Site Sensitivity Map - Segment A13

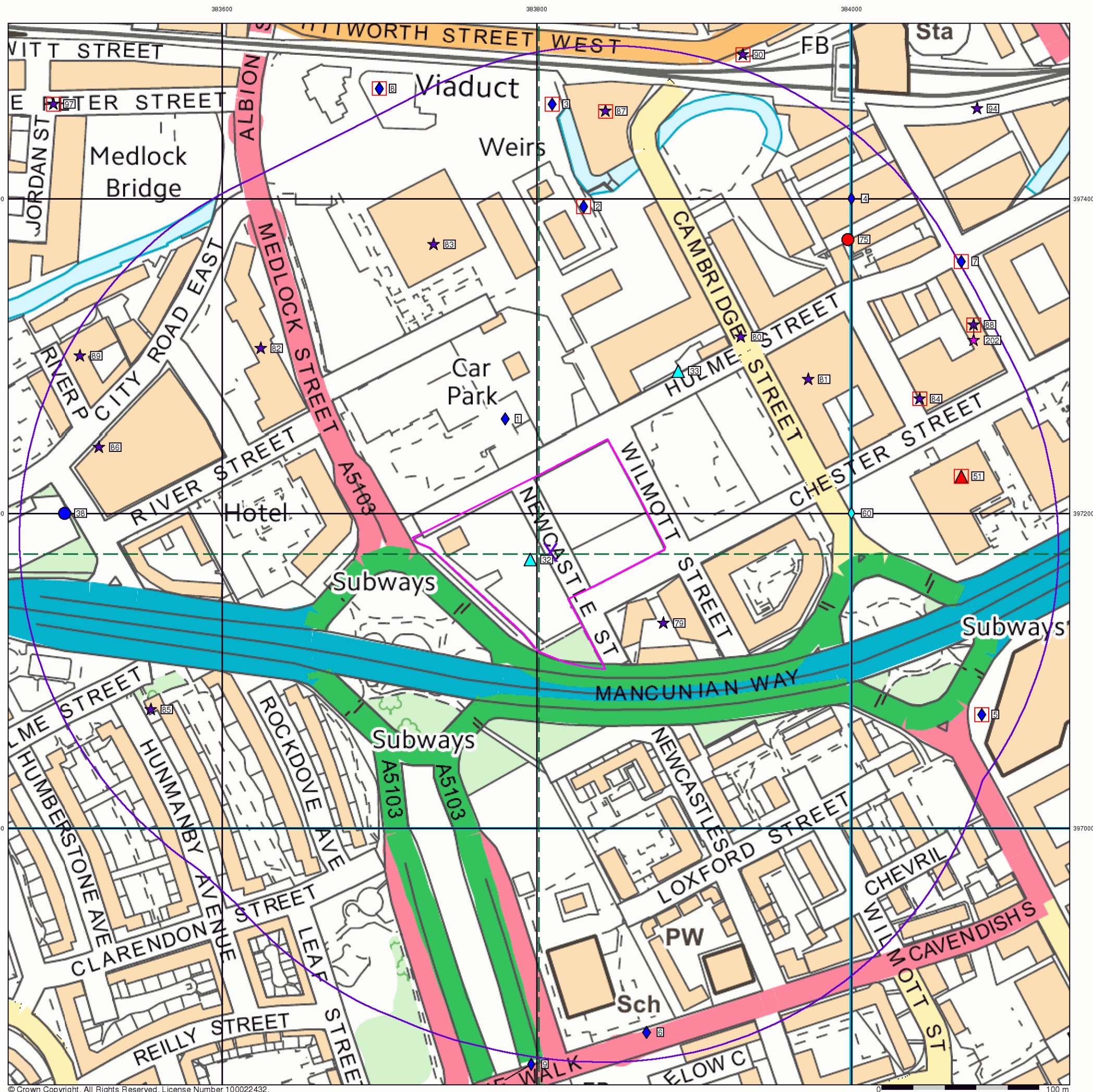


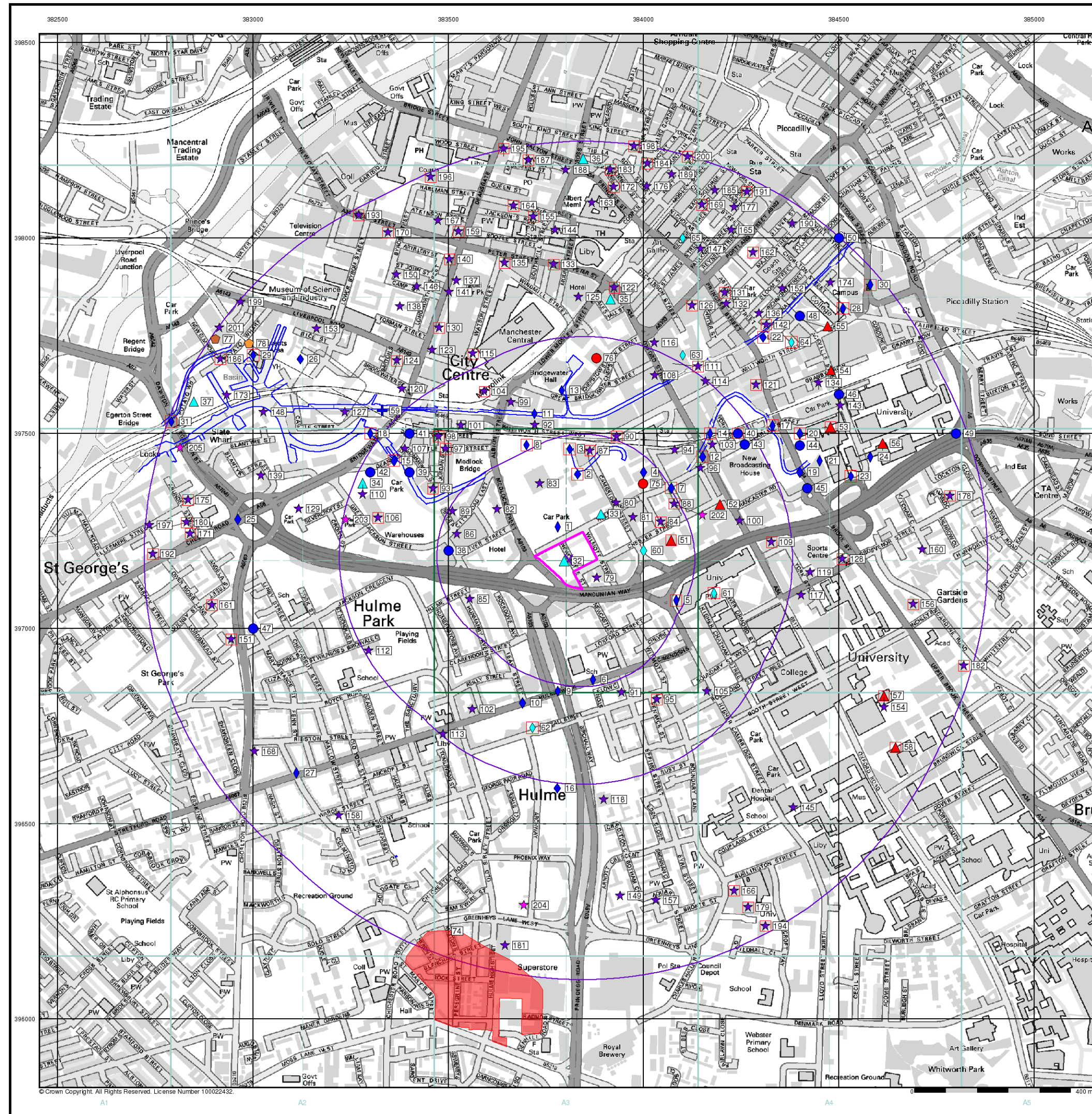
Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1

Site Details

Plot 8, First Street, MANCHESTER



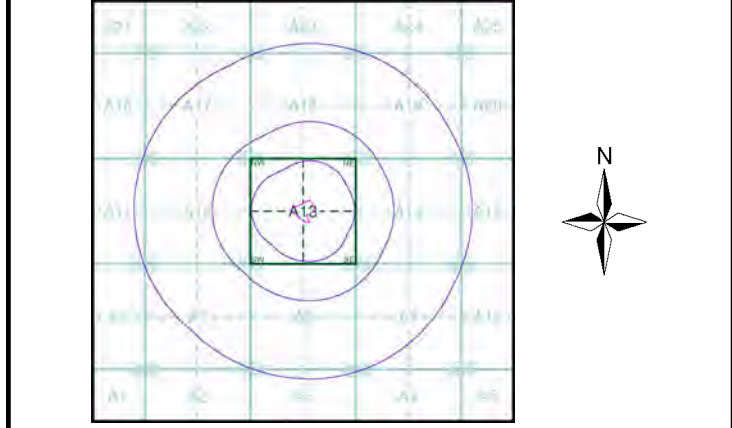


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- General**
 - Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
 - Severall of Type at Location
- Agency and Hydrological**
 - Contaminated Land Register Entry or Notice (Location)
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- Hazardous Substances**
 - COMAH Site
 - Explosive Site
 - NIHHS Site
 - Planning Hazardous Substance Consent
 - Planning Hazardous Substance Enforcement
- Geological**
 - BGS Recorded Mineral Site
- Industrial Land Use**
 - Contemporary Trade Directory Entry
 - Fuel Station Entry

Site Sensitivity Map - Slice A



Order Details
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details
Plot 8, First Street, MANCHESTER

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

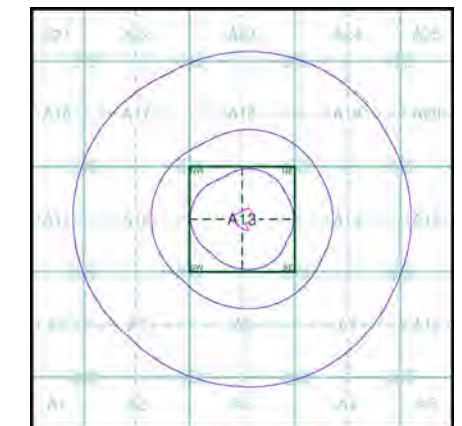
General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

Agency and Hydrological (Flood)

-  Extreme Flooding from Rivers or Sea without Defences (Zone 2)
-  Flooding from Rivers or Sea without Defences (Zone 3)
-  Area Benefiting from Flood Defence
-  Flood Water Storage Areas
-  Flood Defence

Flood Map - Slice A

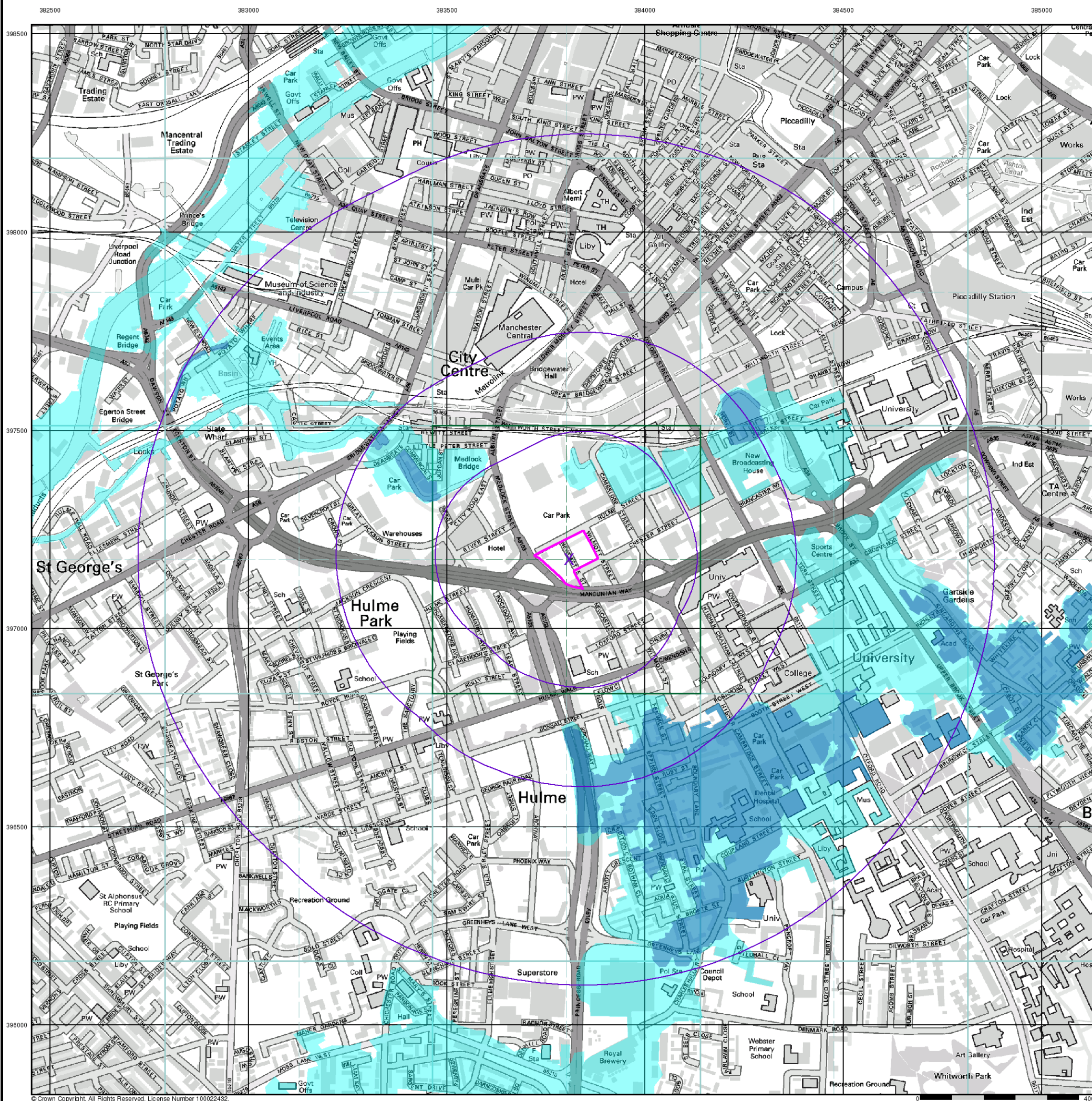


Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Map ID
-  Several of Type at Location

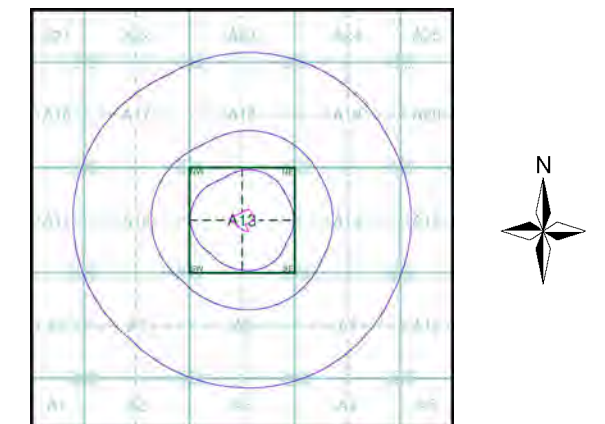
Agency and Hydrological (Boreholes)

-  BGS Borehole Depth 0 - 10m
-  BGS Borehole Depth 10 - 30m
-  BGS Borehole Depth 30m +
-  Confidential
-  Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A

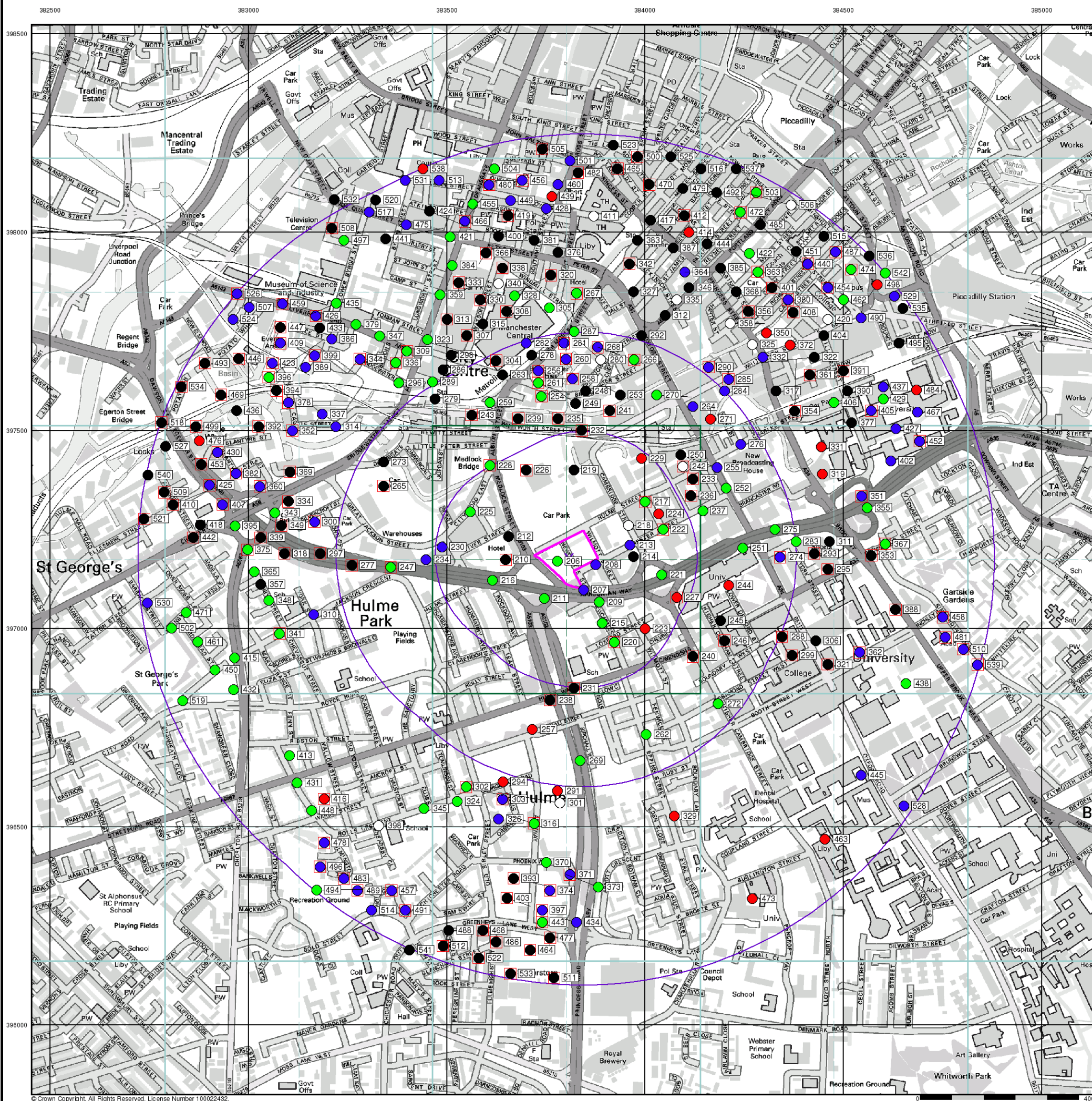


Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point
-  Map ID

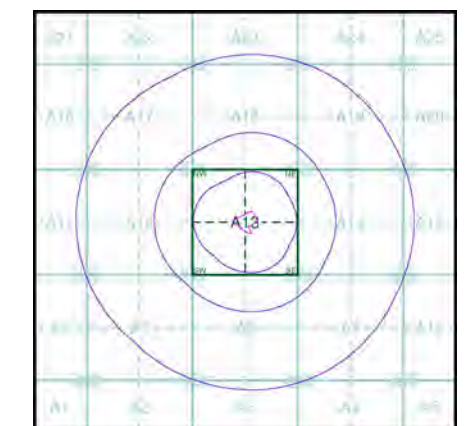
Detailed River Network Data

- | | |
|--|---|
|  Primary River |  Extended Culvert (greater than 50m) |
|  Secondary River |  Underground River (inferred) |
|  Tertiary River |  Underground River (local knowledge) |
|  Canal |  Downstream of High Water Mark |
|  Canal Tunnel |  Downstream of Seaward Extension |
|  Undefined River |  Not assigned River feature |
|  Lake/Reservoir | |
|  Offline Drainage Feature | |

Contours (height in metres)

- Standard Contour  105  Mean Low Water
- Master Contour  100  Mean Low Water
- Spot Height  167.3  Mean High Water

EA/NRW Detailed River Network Map - Slice A

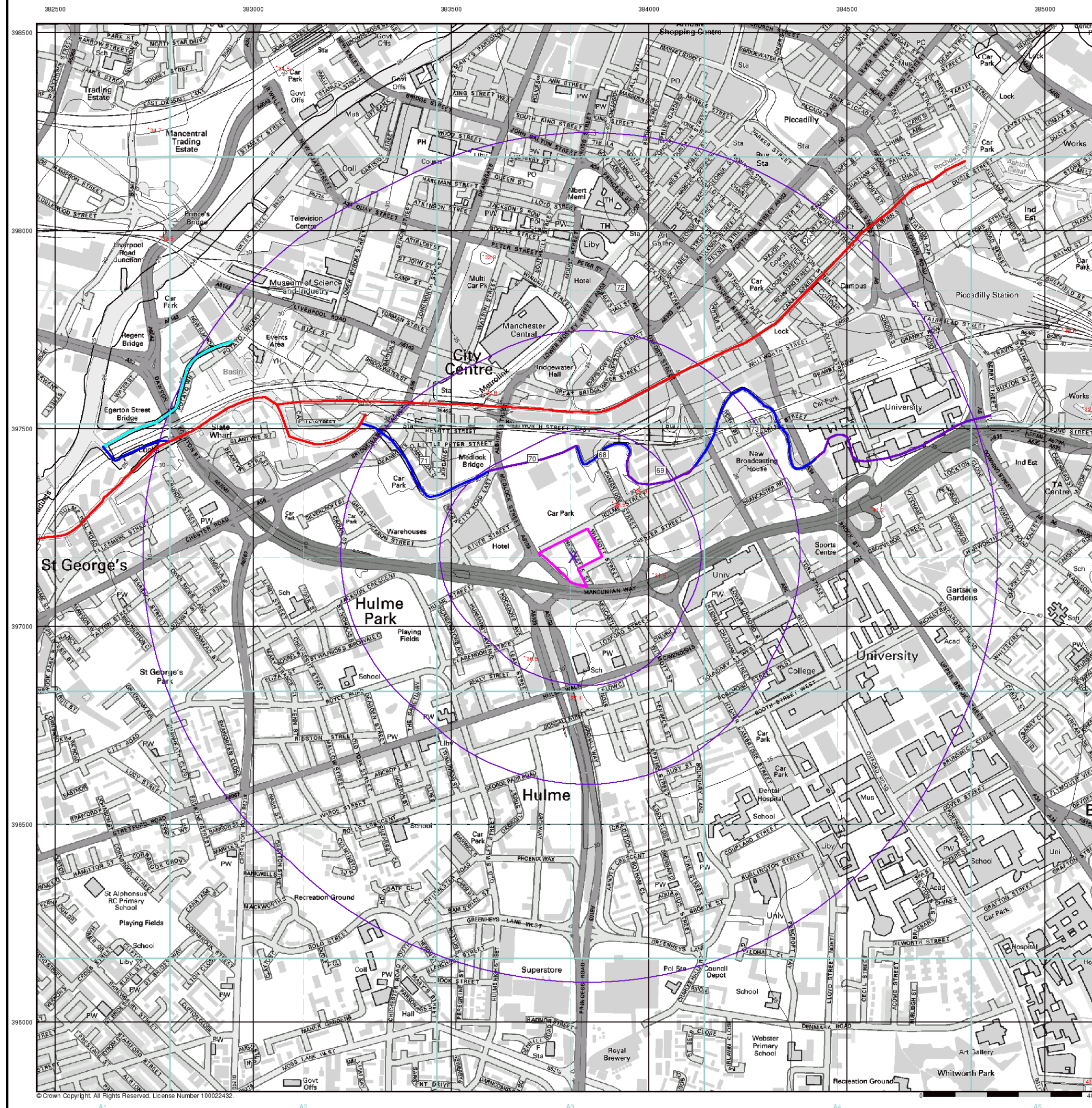


Order Details

Order Number: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



General

-  Specified Site
-  Specified Buffer(s)
-  Bearing Reference Point

Risk of Flooding from Surface Water

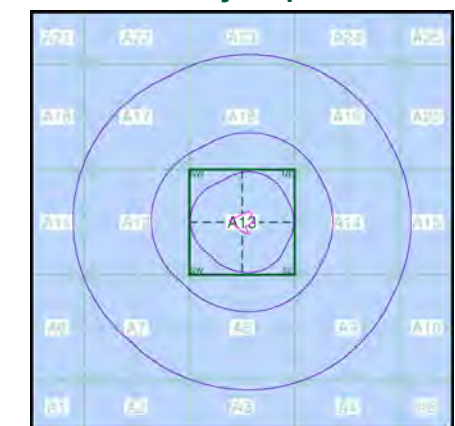
-  High - 30 Year Return
-  Medium - 100 Year Return
-  Low - 1000 Year Return

Suitability

See the suitability map below

-  National to county
-  County to town
-  Town to street
-  Street to parcels of land
-  Property

EA/NRW Suitability Map - Slice A

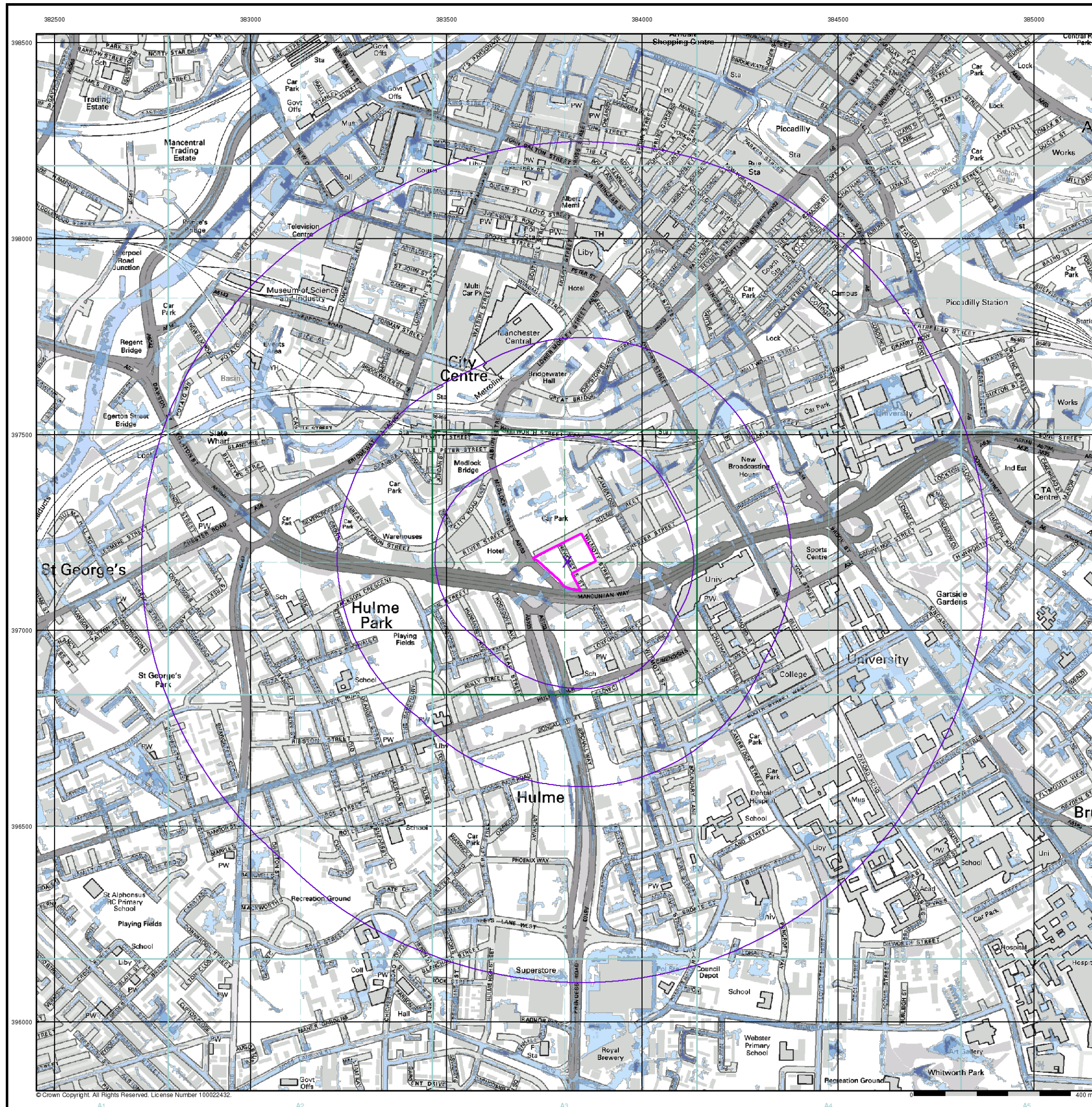


Order Details

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 Slice: A
 Site Area (Ha): 1.1
 Search Buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



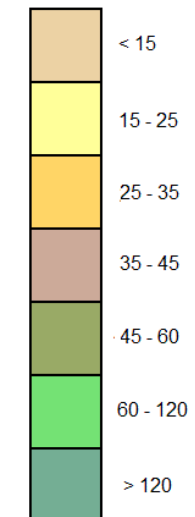
General

 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

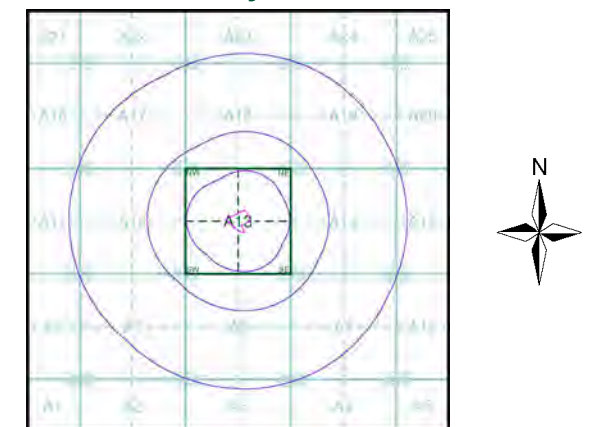
Urban Soil Chemistry Arsenic

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Arsenic Concentrations mg/kg



Urban Soil Chemistry Arsenic - Slice A

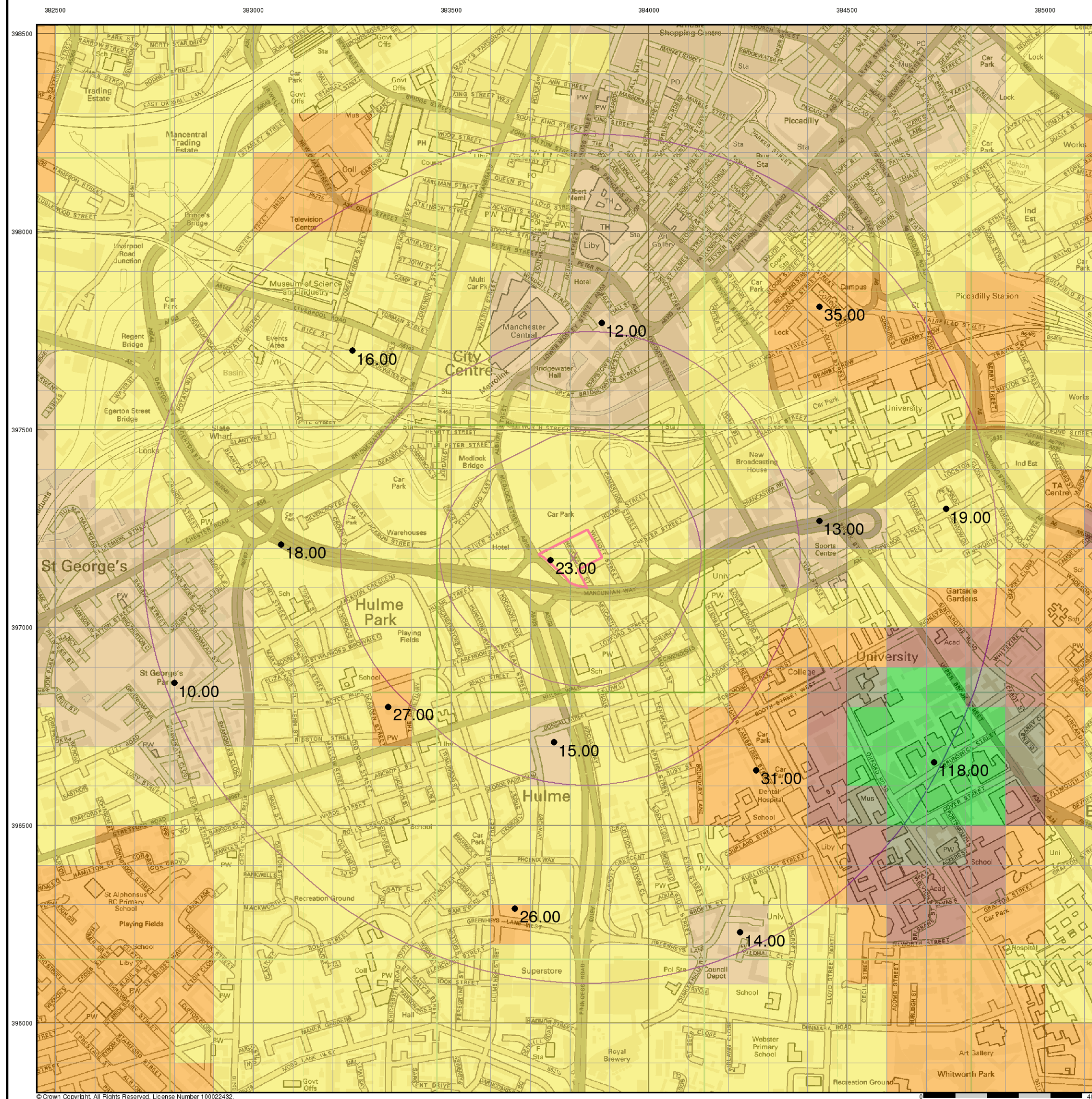


Order Details

Order Details: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER

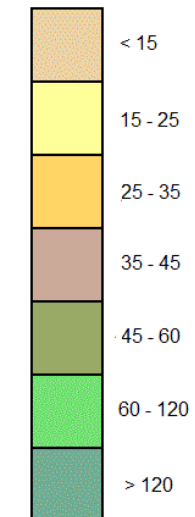


General

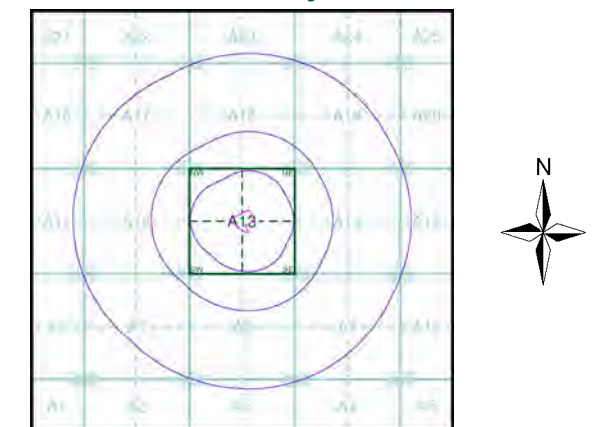
 Specified Site
  Specified Buffer(s)
  Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg



Estimated Soil Chemistry Arsenic - Slice A

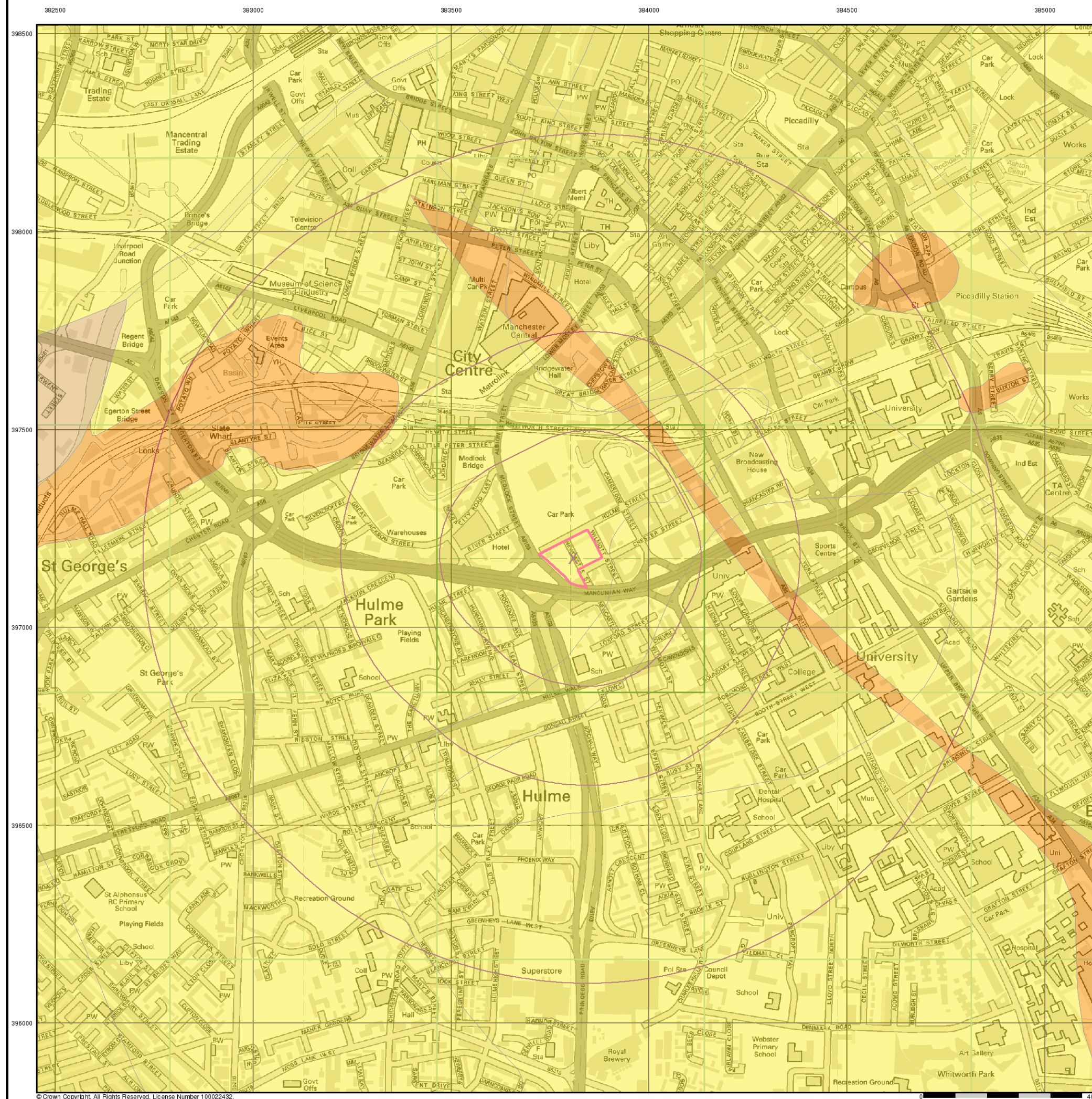


Order Details

Order Details: 72883240_1_1
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 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



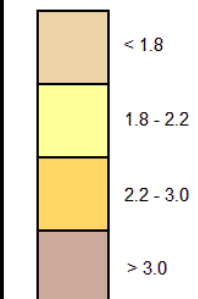
General

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  Bearing Reference Point

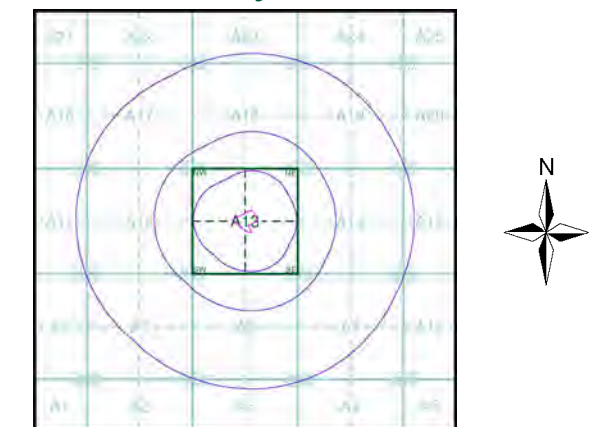
Urban Soil Chemistry Cadmium

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Cadmium Concentrations mg/kg



Urban Soil Chemistry Cadmium - Slice A

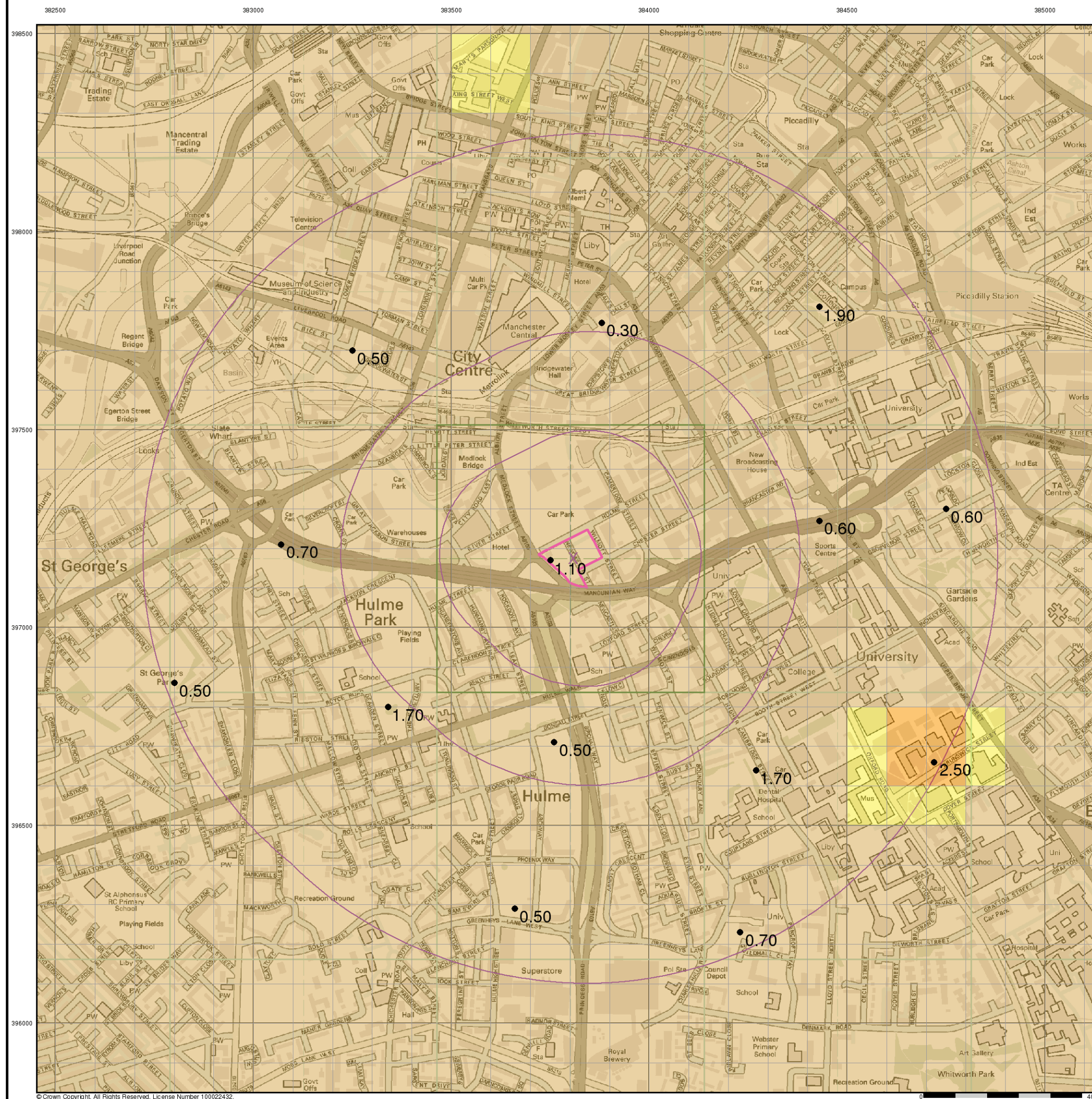


Order Details

Order Details: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER





1

 Specified Buffer(s)

X Bearing Reference Point

42

2



A15



A10

22

1

[illegible]

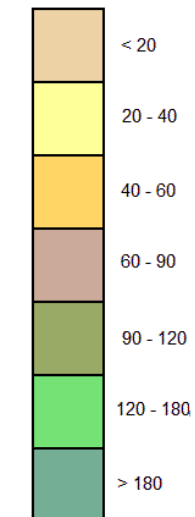
General

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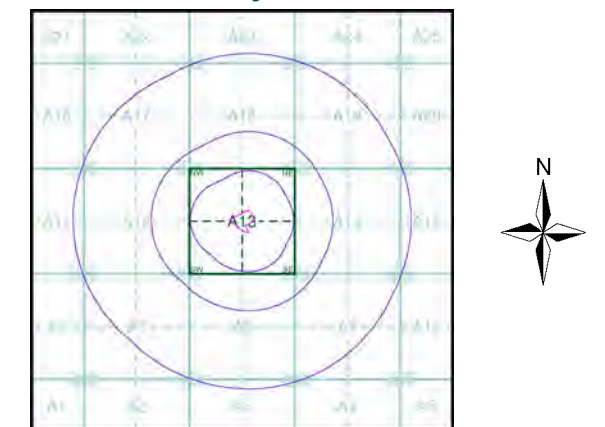
Urban Soil Chemistry Chromium

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Chromium Concentrations mg/kg



Urban Soil Chemistry Chromium - Slice A

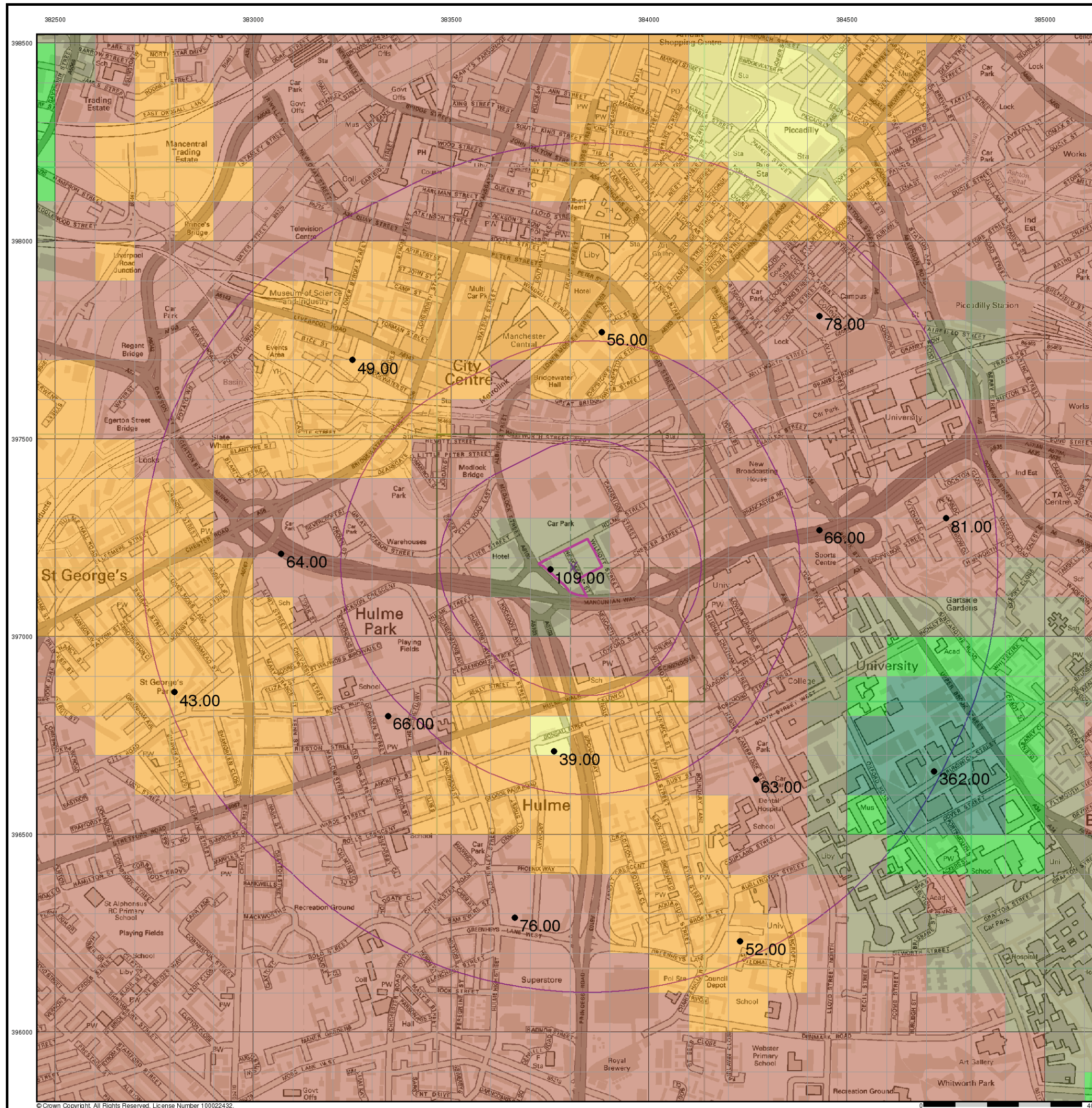


Order Details

Order Details: 72883240_1_1
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 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER

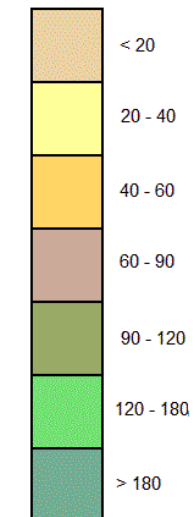


General

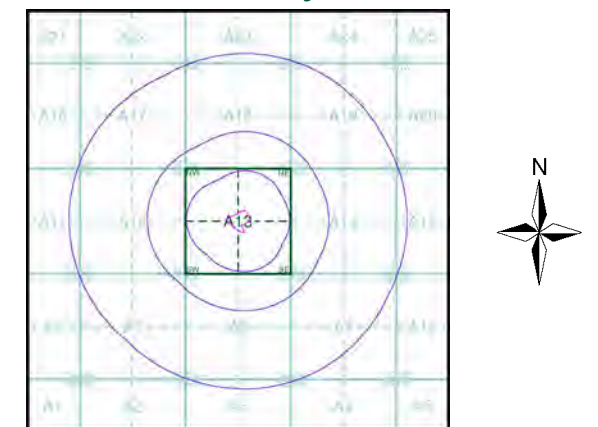
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  Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg



Estimated Soil Chemistry Chromium - Slice A

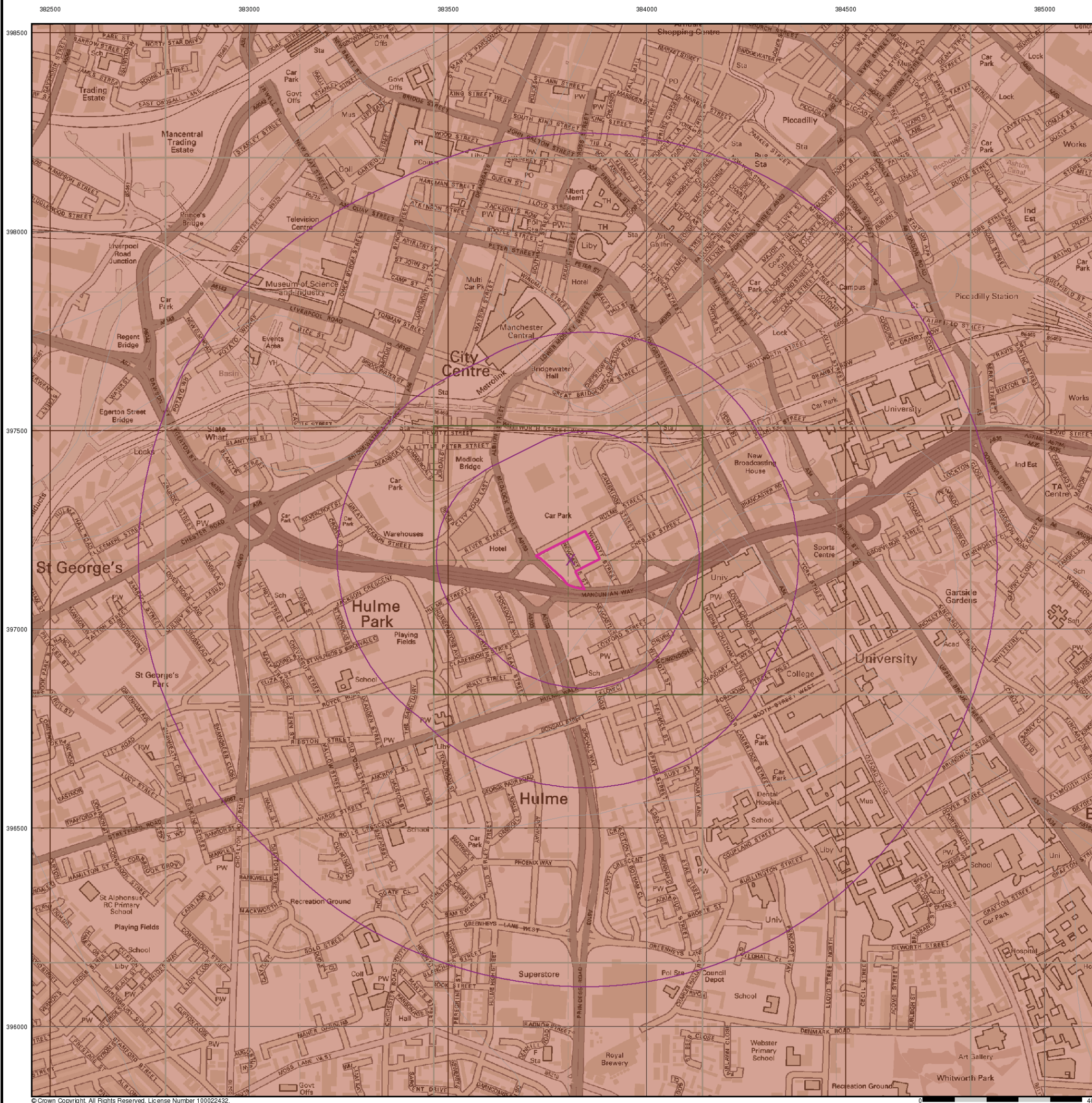


Order Details

Order Details: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



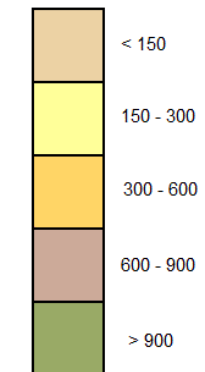
General

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  Bearing Reference Point

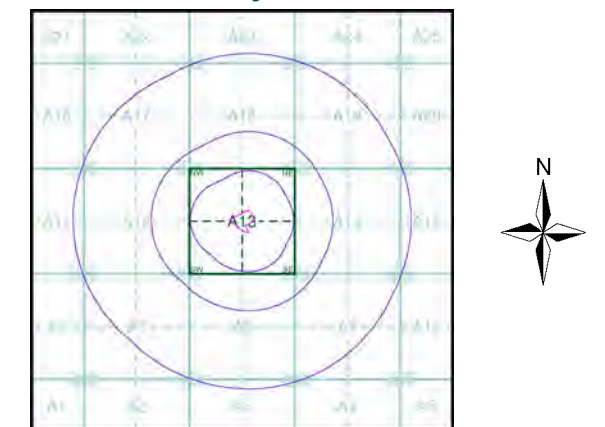
Urban Soil Chemistry Lead

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Lead Concentrations mg/kg



Urban Soil Chemistry Lead - Slice A

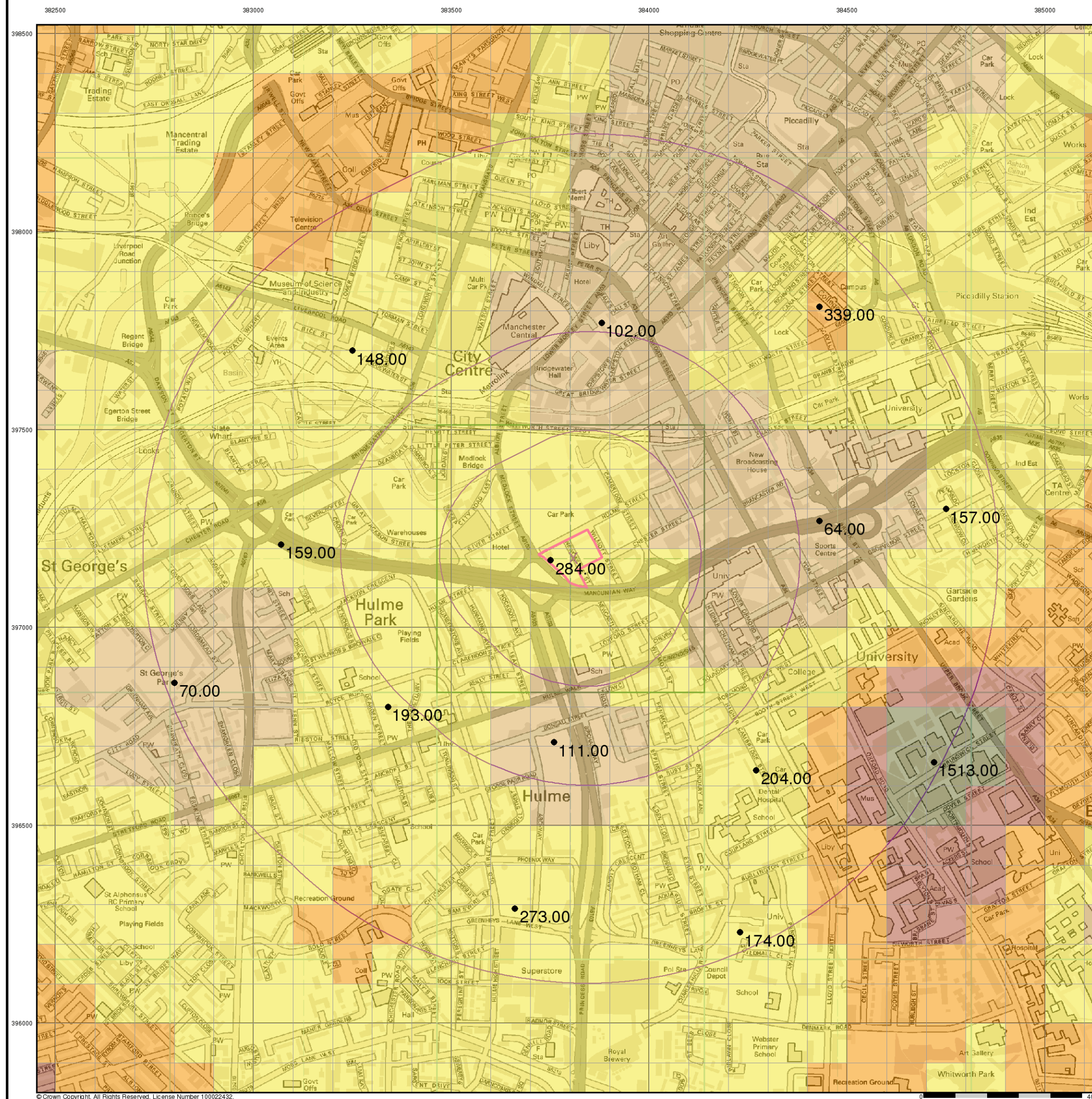


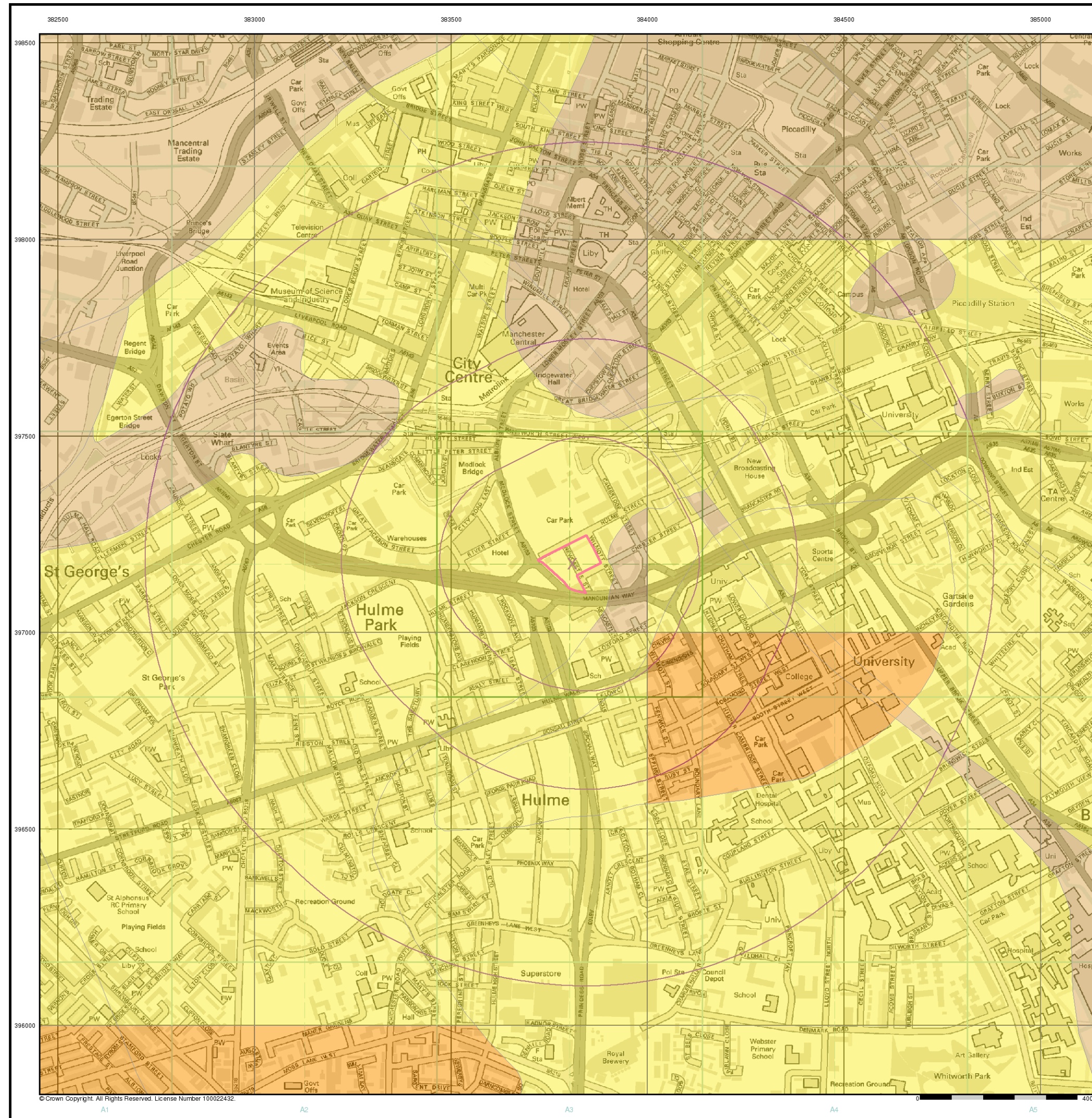
Order Details

Order Details: 72883240_1_1
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 Slice: A
 Site Area (Ha): 1.1
 Search buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



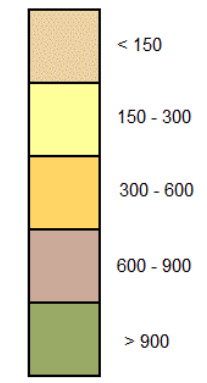


General

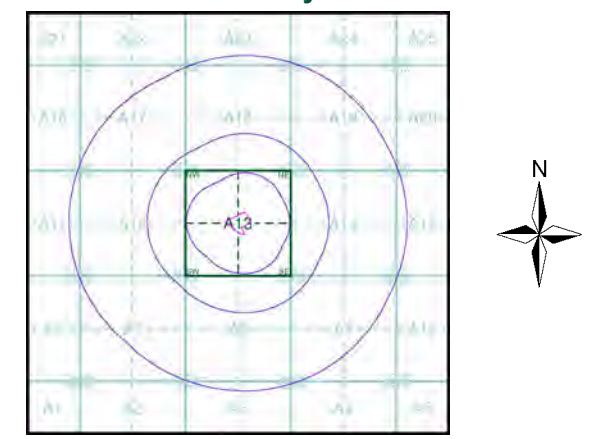
- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg



Estimated Soil Chemistry Lead - Slice A



Order Details

Order Details: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Slice: A
Site Area (Ha): 1.1
Search buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER



Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

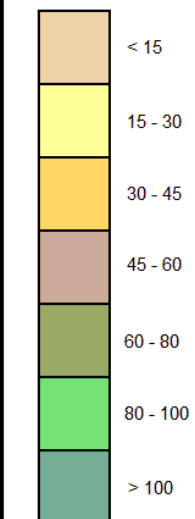
General

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  Specified Buffer(s)
  Bearing Reference Point

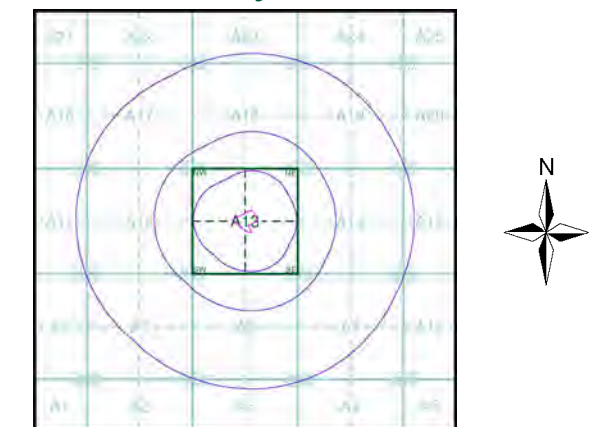
Urban Soil Chemistry Nickel

● BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Nickel Concentrations mg/kg



Urban Soil Chemistry Nickel - Slice A

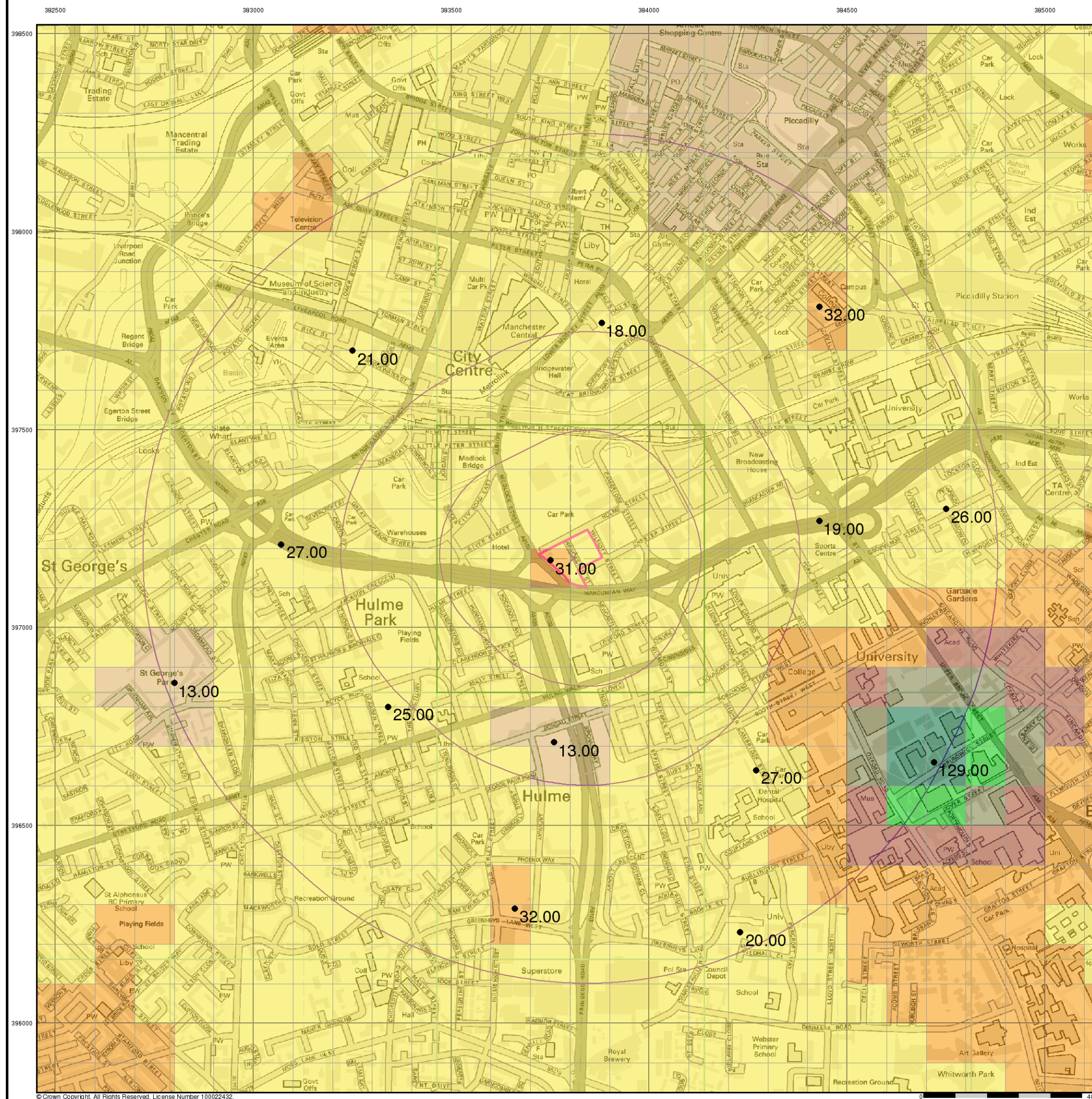


Order Details

Order Details: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER

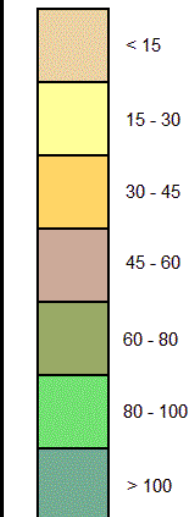


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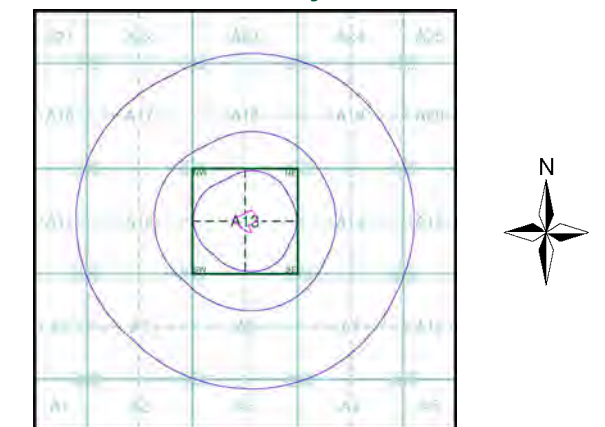
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  Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg



Estimated Soil Chemistry Nickel - Slice A

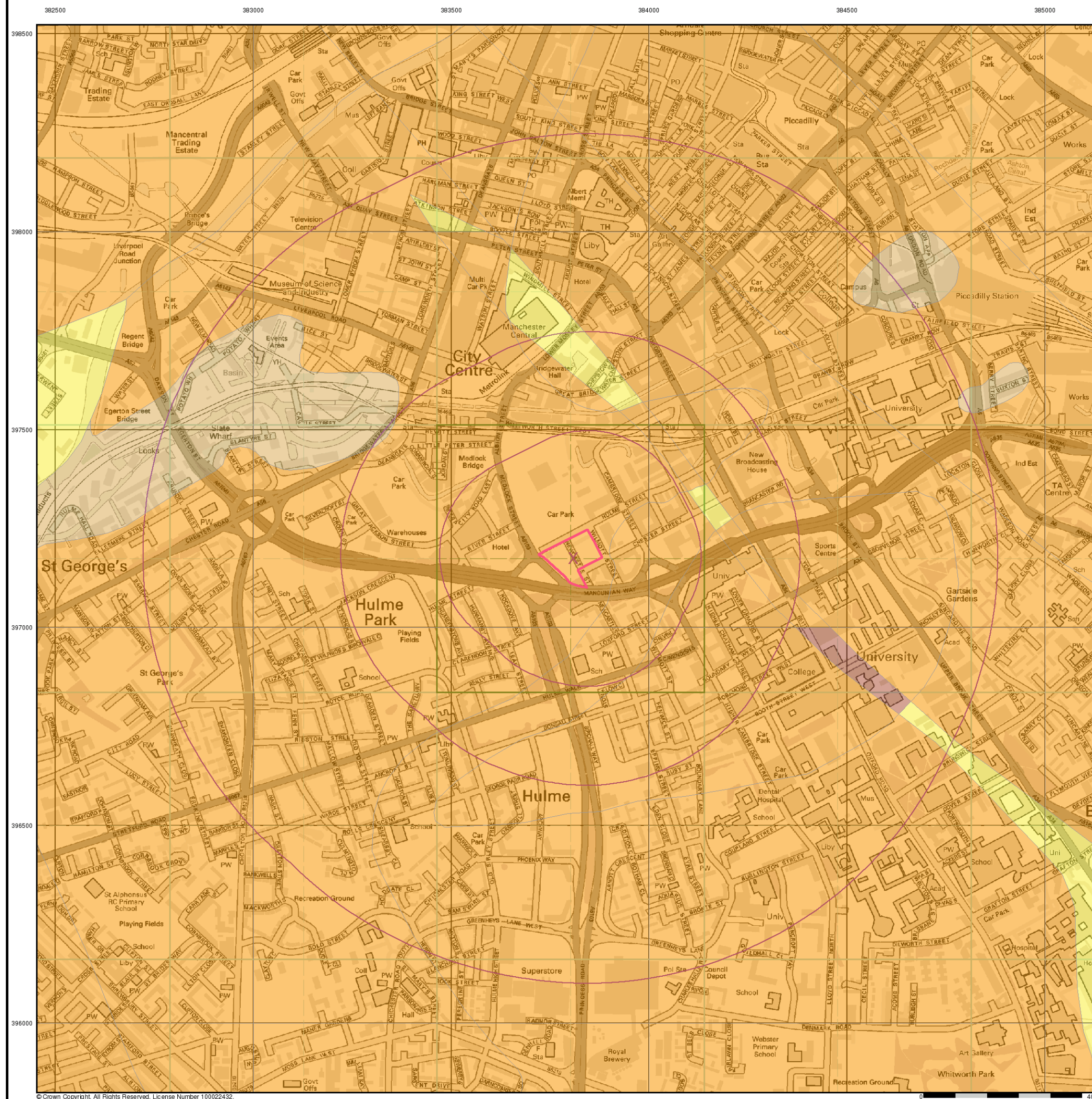


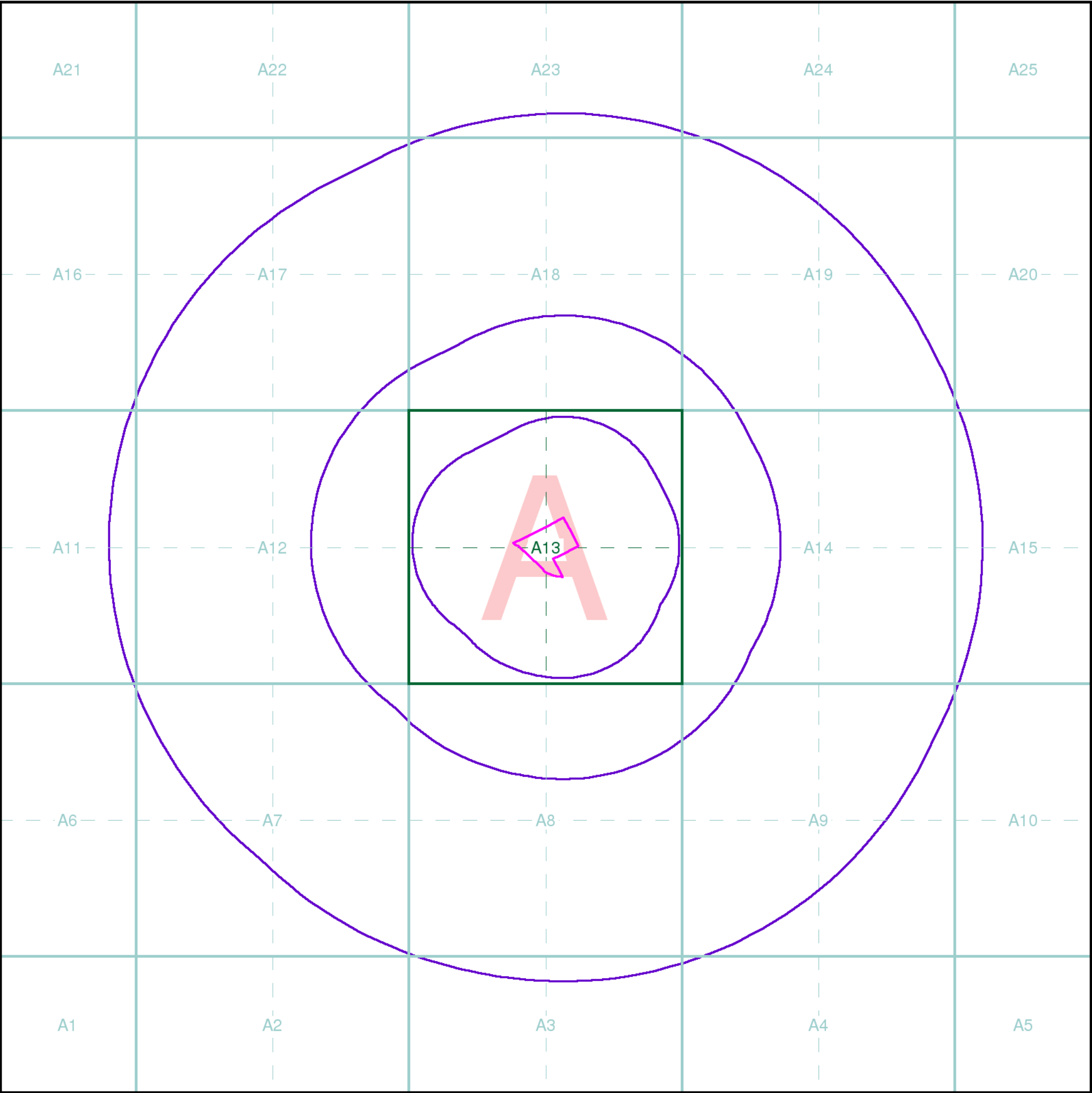
Order Details

Order Details: 72883240_1_1
 Customer Ref: 1011906
 National Grid Reference: 383810, 397180
 Slice: A
 Site Area (Ha): 1.1
 Search buffer (m): 1000

Site Details

Plot 8, First Street, MANCHESTER





Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:



Envirocheck reports are compiled from 136 different sources of data.

Client Details
Mr J Allen, Cundall, Horsley House, Regent Centre, Gosforth, Newcastle Upon Tyne, NE3 3LU

Order Details
Order Number: 72883240_1_1
Customer Ref: 1011906
National Grid Reference: 383810, 397180
Site Area (Ha): 1.1
Search Buffer (m): 1000

Site Details
Plot 8, First Street, MANCHESTER

Full Terms and Conditions can be found on the following link:
<http://www.landmarkinfo.co.uk/Terms/Show/515>





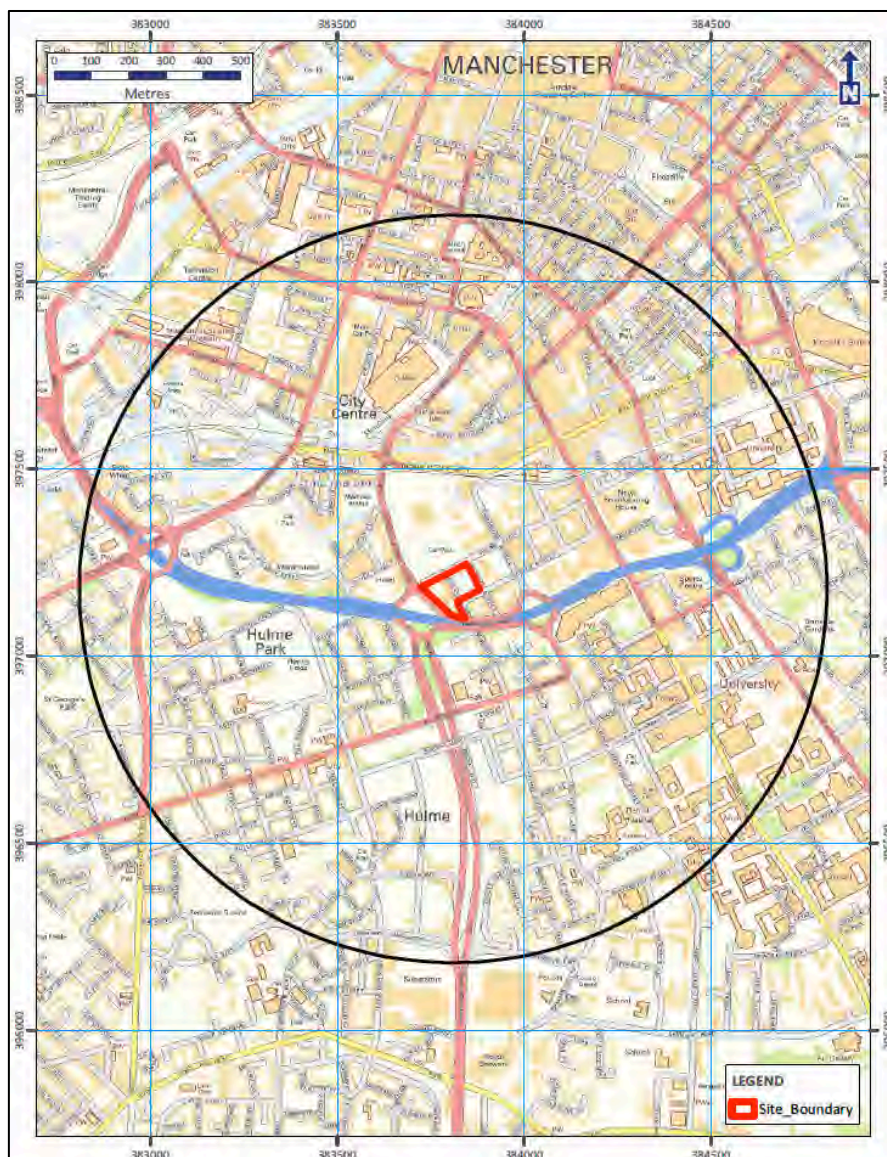
Appendix C

Preliminary Unexploded Ordnance (UXO) Assessment



Preliminary Unexploded Ordnance (UXO) Risk Assessment

Meeting the requirements of CIRIA C681 "Unexploded Ordnance (UXO) – A guide for the Construction Industry" Risk Management Framework



Site: Plot 8, First Street, Manchester

Originator: Rebecca Griffiths

Released By: Lisa Askham (25th September 2015)



Study Site

The Study Site is described as “Plot 8, First Street, Manchester”, and it is centred on National Grid Reference 383810, 397180.

Threat Potential

UXO PROBABILITY ASSESSMENT = 3 RATING, INDICATING A
MEDIUM PROBABILITY OF UXO ENCOUNTER

The rating scale can be seen on *Figure 2* (Probability of UXO Encounter). In accordance with current guidelines (CIRIA C681 Chapter 5), the highest risk rating has been determined at this specific site for UXO risk consideration and has been used for the final assessment and recommendations.

Summary

During WWII the Study Site was situated within *Manchester County Borough*, which recorded 26 High Explosive (HE) bomb strikes per 1,000 acres; a relatively low level of bombing.

Luftwaffe aerial reconnaissance photography associated with the Site identified a gas works (located 80m to the north) as a primary bombing target. In addition, numerous gas works located in the vicinity may have been considered secondary bombing targets.

Air Raid Precaution (ARP) HE bomb strike records did not identify HE bomb strikes within the Site. Nonetheless, four HE bomb strikes were identified within 110m and 195m of the Site boundary. In addition, an IB was located 50m to the north.

Official bomb damage mapping did not record damage to structures on-Site. However, an analysis of post-war mapping identified numerous missing buildings on-Site and within the immediate area which is likely attributed to bomb damage. Furthermore, this is strong evidence that unrecorded bombs landed closer to the Study Site and possibly within the Site itself.

Given that potential bomb damage was recorded on-Site and within close proximity; it would suggest that further action is warranted to address the potential for UXO encounter.

Recommendations

In accordance with CIRIA C681 Chapter 5 on managing UXO risks, 6 Alpha recommends that the next stage in the risk management framework is:

DETAILED UXO THREAT & RISK ASSESSMENT

We would be pleased to provide this service, please contact Envirocheck for further details:

Telephone: +44 (0)844 844 9952

Email: customerservice@envirocheck.co.uk

Using This Report

This Preliminary Assessment is designed to inform environmental and construction professionals of the potential threat of military related explosives and/or ordnance on, or in, the vicinity of the Study Site.

This assessment is designed to be employed as a site-screening tool to meet with the requirement of Phase One of the CIRIA UXO Risk Management Framework; there are two broad prospective outcomes; either the threat level requires a detailed UXO threat & risk assessment; or no further action is required. In the former instance we can provide a report within 10 working days (or more quickly upon application).

Two figures accompany the report, the *Second World War* (WWII) High Explosive (HE) Bomb Density and the final Probability of UXO Encounter. The purpose of this approach is to demonstrate that whilst bomb density statistics give an indication for WWII bombing, they should not be relied upon exclusively to generate a holistic assessment.

For further information, please contact Envirocheck:

Website: <http://www.envirocheck.co.uk>

Telephone: +44 (0)844 844 9952

Email: customerservice@envirocheck.co.uk

Data Findings			
Threat Source (Within 1,000m)		Detail	
		Identified	Comments
	Airfields/Military Facilities	✗	None recorded within 1,000m.
	Ordnance Manufacture/Storage	✗	None recorded within 1,000m.
	WWII Decoy Bombing Sites	✗	None recorded within 1,000m.
	WWII Defensive Features	✗	None recorded within 1,000m.
	WWII <i>Luftwaffe</i> Designated Bombing Targets	✓	<i>Luftwaffe</i> aerial photography identified a gas works (located 80m to the north) as a primary bombing target.
	Secondary Bombing Targets	✓	Works (two located 115m to the northeast and one located 150m to the northwest).
	WWII Bomb Strikes Within Site Boundary	✗	ARP HE bomb strike records did not identify any HE bomb strikes within the Site.
	WWII Bomb Strikes Near Site Boundary	✓	ARP HE bomb strike records identified HE bomb strikes 110m northwest and 140m southeast. An IB was located 50m north.
	WWII Bomb Damage	✓	Post-war mapping identified buildings missing on-Site and within the immediate vicinity, which may be attributed to bombing.
	Abandoned Bomb Register	✗	The official abandoned bomb list did not identify any abandoned bombs within 1,000m.
	WWII Bombing Density Per 1,000 Acres	✓	The Site was located within <i>Manchester County Borough</i> , which recorded 26 HE bomb strikes per 1,000 acres.

Important Notes

1. The term 'Preliminary UXO Risk Assessment' has been used to describe this report, to fall inline with the CIRIA C681 guidelines. Whilst the term 'Risk' can be justifiably used at this stage, the reader should note that the 'Consequence' function of 'Risk' is not considered. Should it be required, this would be addressed in the 'Detailed UXO Threat & Risk Assessment' (Stages 2 and 3).
2. This report is accurate and up to date at the time of writing.
3. The assessment levels have been generated from historical data and third party sources. Where possible 6 Alpha have sought to verify the accuracy of such data, but cannot be held accountable for inherent errors that may be in third party data sets (e.g. National Archive or library sources).
4. 6 Alpha have exercised all reasonable care, skill and due diligence in producing this service.
5. Whilst every effort has been used to identify all potential UXO/explosive threats, there were a number of private facilities, which may not have released privately recorded information concerning UXO/explosive threats into the public domain. It is therefore possible that some of the aforementioned sites may not be included within the database.



BRITISH NATIONAL GRID

PLOT 8, FIRST STREET, MANCHESTER

WWII High Explosive Bomb Density



PROJECT NO.
P4845

FIGURE NO.
1

DRAWN BY
DR

CHECKED BY
RB

DATE
24 September 2015

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Crown copyright and database right 2015

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Ltd. Users noting any errors please notify 6 Alpha.

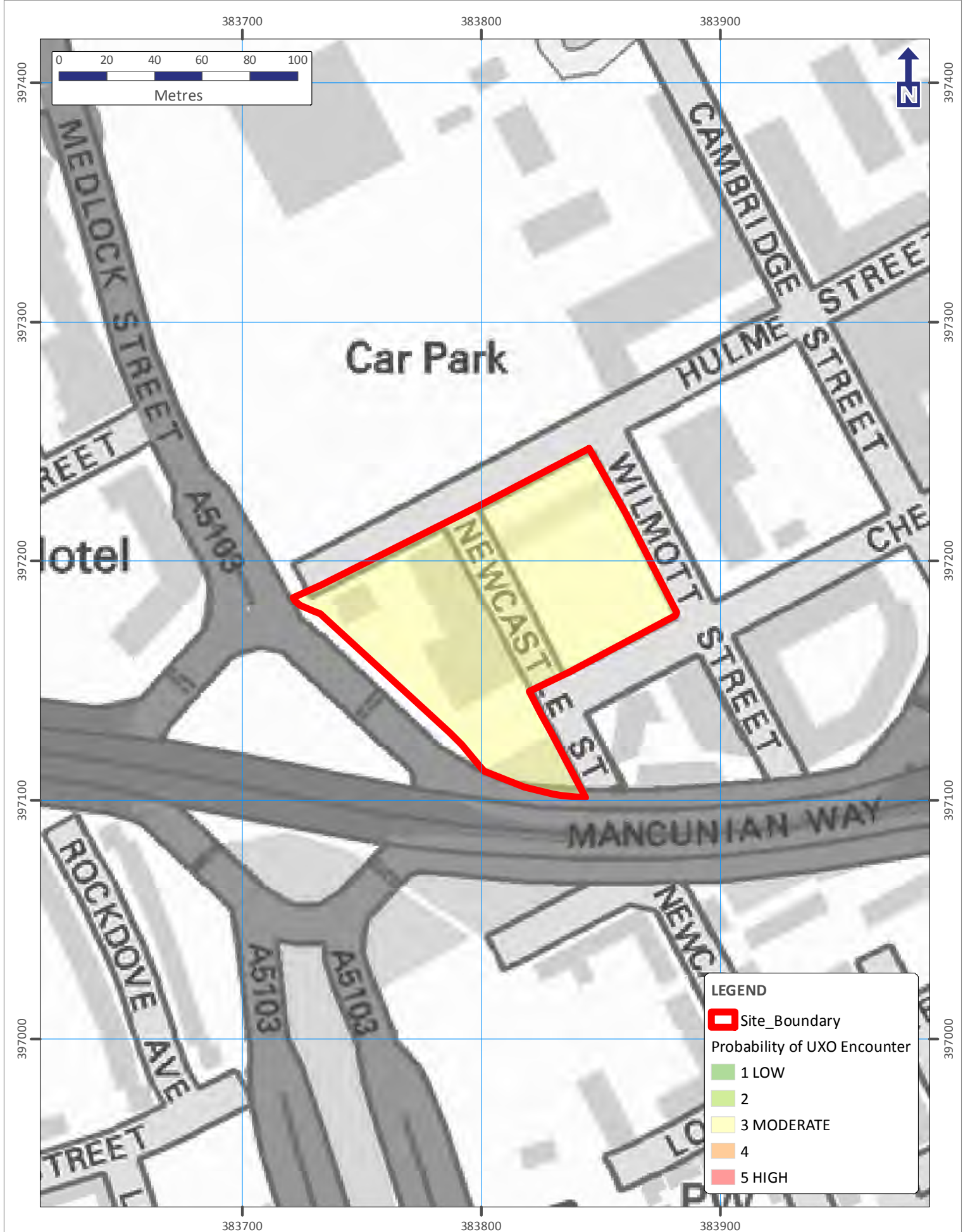


PLOT 8, FIRST STREET, MANCHESTER

Probability of UXO Encounter



BRITISH NATIONAL GRID



PROJECT NO.
P4845

FIGURE NO.
2

DRAWN BY
DR

CHECKED BY
RB

DATE
24 September 2015

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Plot 8 – First Street

Detailed Remediation and Verification Strategy

For: Ask Real Estate Ltd

Job No: 1011906

Doc Ref: 1011906.RPT.GL.006

Latest Revision: -

Date: 22/07/2016

Project Name:	Plot 8 – First Street
Client:	Ask Real Estate Ltd
Report Title:	Detailed Remediation and Verification Strategy
Job Number:	1011906.RPT.GL.006

Document Revision History

Revision Ref	Issue Date	Purpose of issue / description of revision

Document Validation (latest issue)

 Recoverable Signature

22/07/2016

22/07/2016

X



Principal author

Signed by: k.mcqee@cundall.com

X



Checked by

Signed by: Allen, Jim

X



Verified by

Signed by: Allen, Jim

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1. Introduction

1.1 The Scheme

Ask Real Estate Limited (the Client) propose to redevelop a parcel of land located off First Street, Manchester (known as Plot 8) with a multi storey (up to 23) residential apartment blocks together with associated hard landscaping, raised soft landscaping and access infrastructure. Additionally, some commercial and retail uses are anticipated within the lower levels. Figure 1 gives the site's location and approximate red line boundary and Figure 2 indicates the proposed landscaping / building layouts.

Figure 1: Site Location Plan

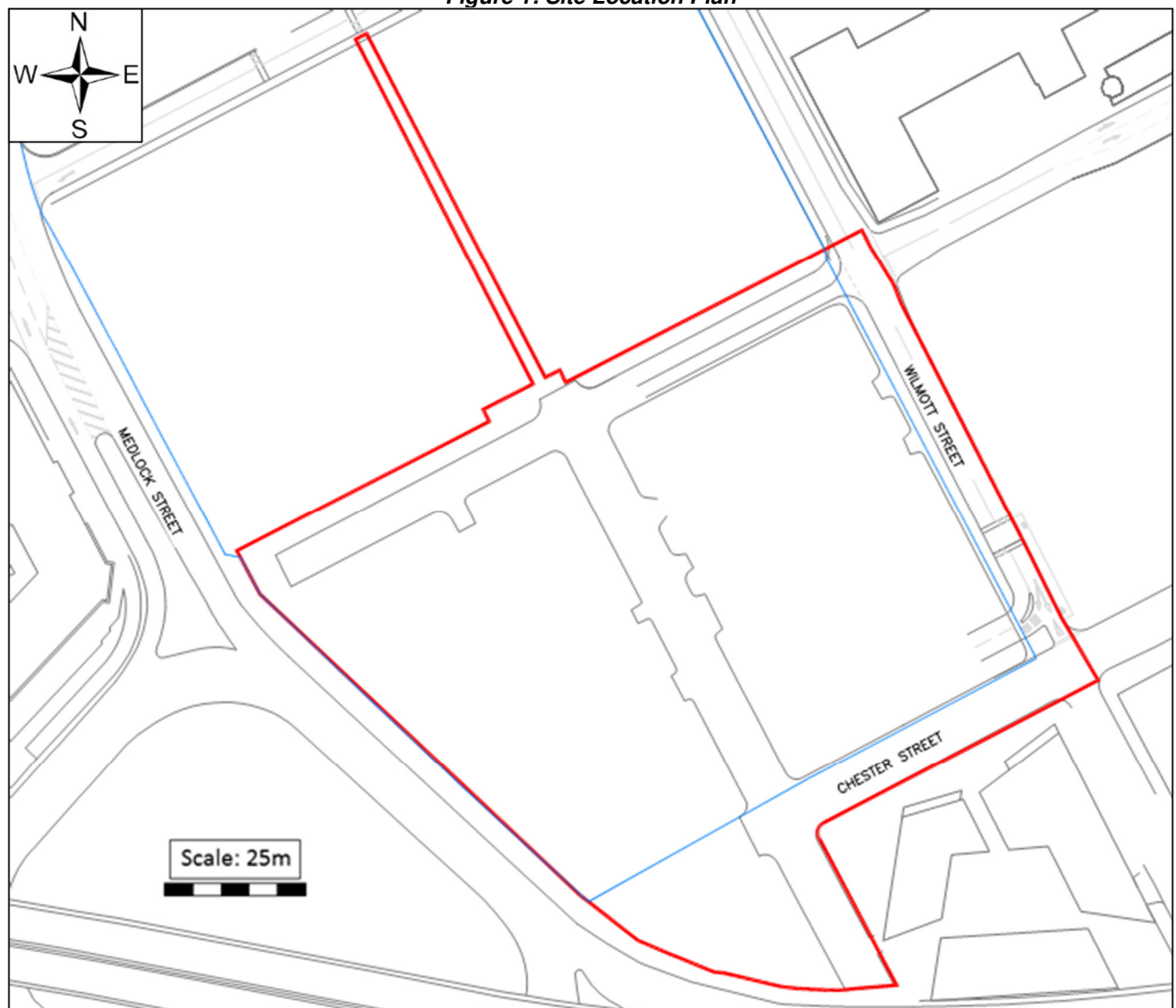


Figure 2: Proposed Development / Landscaping Layout



1.2 The Brief

Cundall Geotechnical was commissioned by the Client to prepare a Detailed Remediation and Verification Strategy report for the development. The brief included the following:

- The protection of human health receptors both during and following development.
- Ensuring that potential risks to either human health or controlled waters are adequately mitigated as part of the construction / development.
- Providing control measures required for the importation of fill materials to the site.
- Detailing the verification requirements of the above.

Note that at this stage it is not known whether surplus soils are to be re-used under the Definition of Waste Code of Practice (DoWCoP). Additional advice is given throughout this document where appropriate with respect to issues associated with applying the DoWCoP, however, should the DoWCoP be followed then further documentation / consultancy will be required, and this is identified in this document as appropriate.

At this stage due to the lack of readily identifiable reusable aggregate, material re-use under the WRAP protocol is not anticipated.

1.3 Limitations

The opinions provided and recommendations given in this report are based on the information contained within the information listed in Section 2.1 of this report. Whilst every effort has been made to interpret the conditions between the investigation locations, such information is only indicative and liability cannot be accepted for its accuracy. There may be exceptional ground conditions elsewhere on the site which have not been disclosed by the previous investigations and which have therefore not been taken into account in this report. The test results that are available can only be regarded as a likely representative sample range, assessed against current guidelines. The possibility of the presence of contaminants, possibly in higher concentrations elsewhere on the site or the presence of encountering ground conditions at variance with the logs elsewhere on the site cannot be discounted.

If during construction, ground conditions vary from those revealed by the previous information provided for the site or the proposed development layout is revised, Cundall reserves the right to carry out further assessments and revise their recommendations in line with the revised scheme details.

Cundall cannot be held liable for those elements of the works that others have retained responsibility for.

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2. Site Description and Background Information

2.1 Background Information

This document follows the recommendations given in the Cundall Phase II Geotechnical and Geoenvironmental Assessment, report reference 1011906.RPT.GL.004, dated June 2016. The Cundall Phase II report also refers to a series of earlier reports, for which full references are provided in the Cundall Phase II report.

2.2 Site Details

The site comprises an irregular shaped parcel of land extending to an area of approximately 1.7 ha. The site is bounded by adopted public highways to all aspects, namely Hulme Street to the north, Wilmott Street to the east, Chester Street to the south-east, Mancunian Way to the south-west and Medlock Street to the west. The site is generally surrounded by dense commercial and residential properties with some of these being in the process of development and / or regeneration.

Ground levels vary / undulate by up to 4 m across the site with a general fall from north to south.

The site is currently disused but can be divided into the following uses:

- The western portion of the site comprising former car parking.
- The southwest corner, currently occupied by grassed land and mature trees.
- The southeast corner, comprising former car parking.
- The north eastern corner, disused and encapsulated by high fences (hoarding).
- The northern extents comprising the former adopted highway of Newcastle Street.

2.3 Historical Land Uses

The site has been developed since at least the late 1700s and undergone numerous phases of redevelopment. Land uses have included several phases of dense residential land use, together with at least two phases of industrial use. In addition, the site was recorded to have been subject to bomb damage during the Second World War.

2.4 Geology & Ground Conditions

2.4.1 Published Mapping

Published geological mapping indicates the site to be immediately underlain by superficial deposits comprising Glaciofluvial Sheet Deposits (sand and gravel) overlying Glacial Till (clay, sand, gravel, cobbles and boulders) beneath the majority of the site. The Glaciofluvial Sheet Deposits were indicated to be absent beneath the far south eastern extents. The solid geology is indicated to comprise the Chester Pebble Beds Formation (sandstone).

2.4.2 Exploratory Data

The stratigraphy encountered at the exploratory hole positions is generally in keeping with the published geology and is summarised in Table 1. Full details of the ground conditions encountered are recorded in the exploratory hole records presented in the relevant Capita and Geotechnical factual reports, referenced in the Cundall Phase II Geotechnical and Geoenvironmental Assessment.

Table 1 – Encountered Soil Stratigraphy

Stratum	Description	Elevation of Top of Stratum (m OD)	Stratum Thickness (m)
Made Ground	TOPSOIL (at ground level where recorded, generally in the far south western extents) dark brown sandy gravelly clay.	30.80 to 35.10	0.2 to 0.40
	MADE GROUND comprising tarmac and / or concrete (at ground level where topsoil absent)		0.05 to 0.35
	MADE GROUND comprising variable clay, sand, and gravel containing occasional brick and concrete cobbles, ash, wood and infrequent wire.		0.20 to 3.75
Glaciofluvial Deposits	Fine to medium brown gravelly (predominately sub-rounded quartzite) SAND to SAND & GRAVEL occasional clay layers and clayey pockets	30.10 to 34.20	1.35 to 5.10
Glacial Till	Stiff to very stiff sandy, gravelly CLAY	27.10 to 32.60	1.80 to 7.80
Completely Weathered Bedrock	Completely weathered sandstone recovered as very dense slightly gravelly, slightly clayey to clayey SAND to very dense reddish brown fine grained SAND. Gravel is sub-rounded to rounded sandstone and mudstone (Locally Absent)	21.35 to 26.20	0.50 to 4.15
Competent Bedrock	Extremely weak to medium strong reddish brown fine grained SANDSTONE with sub horizontal and sub-vertical fractures.	19.30 to 21.90	Not proven

2.5 Determination of Engineering Rockhead

The geological sequence at the site does not transition directly from the overlying glacial materials into what may be considered 'competent' rock. Instead, there is generally a weathering profile comprising an upper weathered profile (exhibiting an engineering behaviour more typical of a soil) grading with depth to material exhibiting engineering behaviour more typical of a competent rock mass the distinction between weathered and competent rock is described below.

- The upper weathered profile is the material typically recorded in the exploratory hole logs as 'sand' and exhibiting no unconfined compressive strength.
- The competent rock mass is the material described in the exploratory logs as 'sandstone', and exhibits an unconfined compressive strength.

2.6 Buried Obstructions

The potential presence of an air raid shelter and further buried structures have been identified on the site and their potential locations are indicated on Figures 3 and 4.

Figure 3 – Extract of 1968 Fire Insurance Plan indicating potential air raid shelter and basements

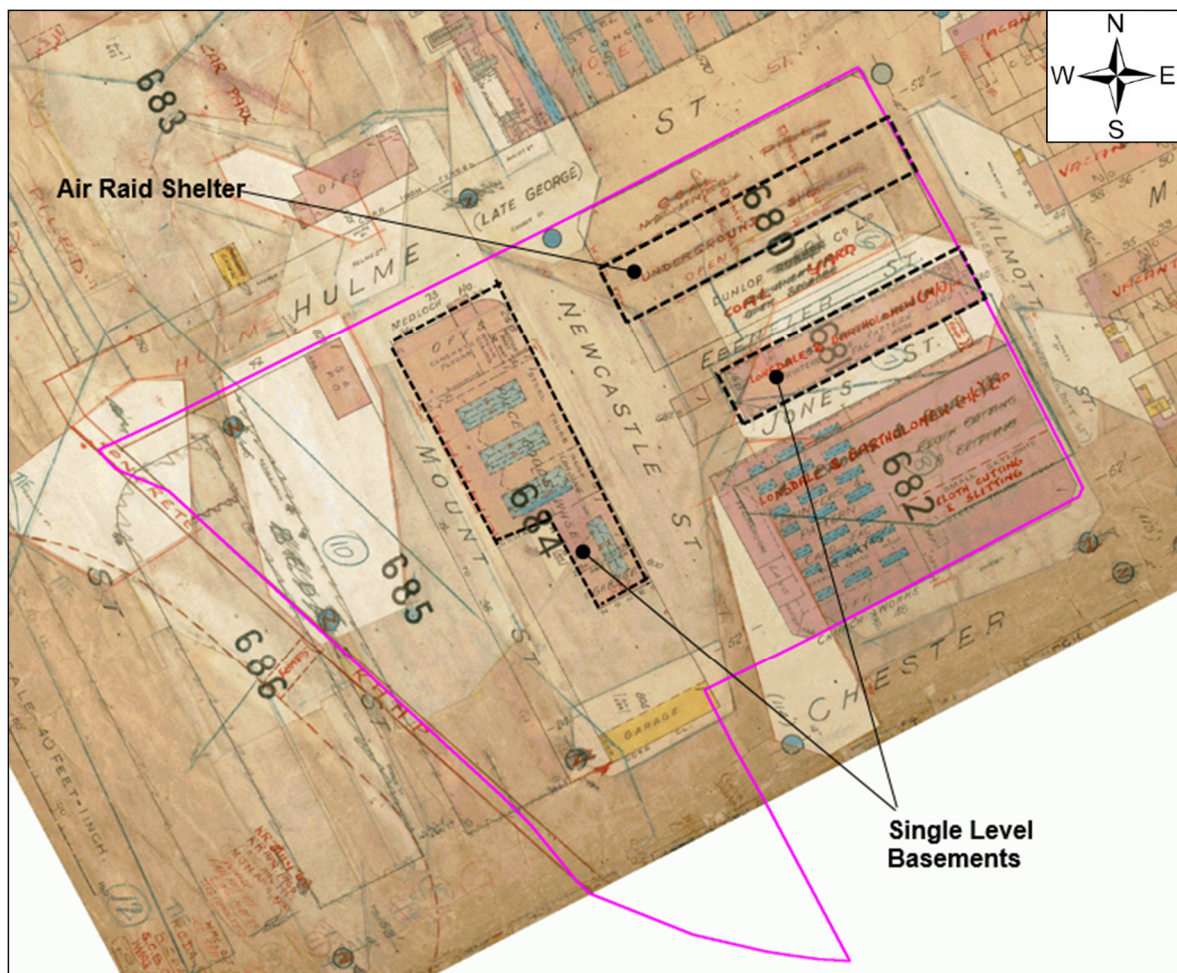
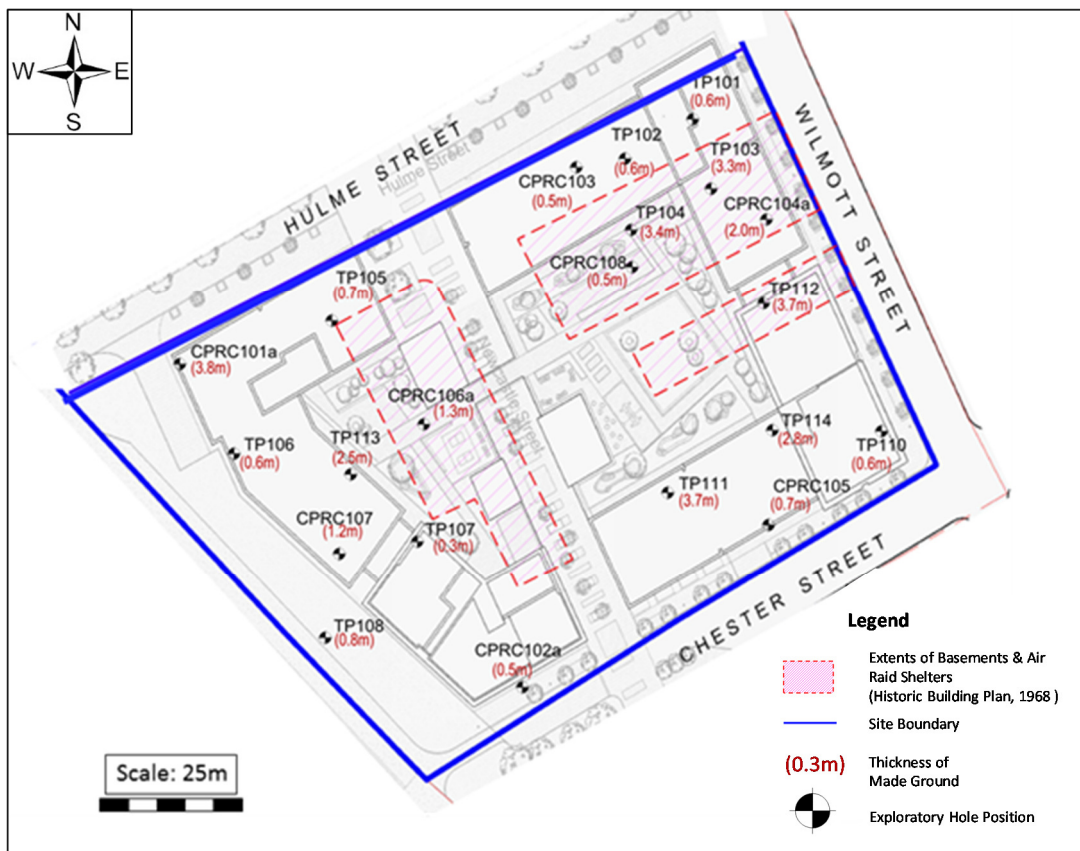


Figure 4 – Possible Obstruction Positions



2.7 Geoenvironmental Setting

2.7.1 Hydrogeology

The site is underlain by Glaciofluvial Deposits which are classified as a Secondary A Aquifer while the underlying Glacial Till would typically be classified as Unproductive strata and potentially act as an aquiclude. The underlying solid geology is classified as a Principle Aquifer.

Groundwater has been recorded to be present as two vertically separated bodies, one being a laterally discontinuous and finite body of perched water within the Made Ground / Glaciofluvial Soils perched upon the Glacial Till, and, the second being a deeper body within the Cheshire Pebble Beds.

There are however no groundwater abstractions or Source Protection Zones within 250 m of the site.

2.7.2 Hydrology

There are no surface water abstractions within 500 m of the site.

The nearest surface water feature to the site is the River Medlock, located 162 m north of the site. The river is wholly culverted within the vicinity of the site; as an open culvert to the north west and north east, and as an enclosed culvert to the north. There is however the potential for historic former river channels to be either close to or beneath the site which may remain in hydraulic conductivity with the River Medlock.

3. Development Site Contamination Status

3.1 Controlled Waters

No significant risks to controlled waters have been identified within the near to surface soils at the site.

No further action is therefore required with respect to controlled waters risk.

3.2 Human Health

3.2.1 Visual and / or Olfactory Evidence of Contamination

No significant olfactory evidence of contamination was noted during the intrusive investigations.

3.2.2 Potable Water Supply Pipes

It is considered that Polyethylene (PE) pipes were likely to be unsuitable where new potable water supply pipes are to be established within Made Ground soils. Consultation with the Statutory Water Provider (United Utilities) is required prior to development to determine their requirements.

Further action is therefore required with respect to determining appropriate material for new potable water supply pipes, both during and post construction.

3.2.3 Lead

Elevated Lead concentrations were recorded within the Made Ground soils in seven out of 11 samples tested at a maximum of 990 mg/kg indicating that the presence of lead is ubiquitous. The risk assessment undertaken as part of the geoenvironmental assessment considered that these concentrations present a risk to both construction workers and the general public (passers-by) during the construction phase of redevelopment.

Risks to the site's end users are considered to be adequately mitigated in design.

Further action is therefore required under this scenario to mitigate construction phase risks.

3.2.4 Asbestos

Asbestos fibres have been recorded in approximately 20 % of the soil samples analysed at the site. However, there is no apparent bias to the spatial distribution of the recorded asbestos fibres, indicating that asbestos fibres may be present elsewhere within the made ground beneath the site. Asbestos within the made ground soils was recorded at a maximum mass of 1.485% w/w toward the centre of site as loose fibres of crocidolite asbestos, with the remaining areas typically between below detection level of 0.001 % and 0.015 % w/w.

Given that the development proposals comprise new buildings, external hard landscaping and hard surfaced access infrastructure, the risk of asbestos fibre liberation post construction is considered to be low. However, during the redevelopment phase the risks of liberation are considered to be high under which scenario both construction workers and adjacent site users and / or the general public could be at risk of exposure.

Further action is therefore required under this scenario to mitigate both the construction phase risks and to manage future risks in accordance with the Control of Asbestos Regulations 2012.

3.3 Ground Gas

The site is classified as CS-1, under which scenario no specific ground gas protection measures are required.

No further action is therefore required with respect to gas risk / gas protection measures.

4. Remediation Strategy

4.1 Objectives of Strategy

The objective of this Strategy is to ensure that following redevelopment, the specific identified geoenvironmental risks that remain within the remit of this report will have been adequately mitigated in accordance with the current contaminated land and planning guidance, regulations, and legislation. Note that general advice on site organisation and set up is given in Section 5.

This Strategy does not provide advice with respect to the geotechnical aspects of earthworks, materials handling or engineering.

Additionally, the Strategy is intended to:

- Satisfy the Local Planning Authority that upon completion of the works the identified risks that remain within the remit of this report have been adequately mitigated.
- Ensure construction workers are not put at an unacceptable short term risk during the redevelopment works.
- Provide a Verification Strategy for the works. This is required in order to verify that the remedial works undertaken are implemented in accordance with this Strategy.

This document must be submitted to the Local Planning Authority for their approval and for the discharge of the relevant part(s) of the planning condition.

Note that should excavated soils be proposed for re-use on site, or, re-use on another site then this will require appropriate management / tracking that could include management under the DoWCoP. Under this scenario a Materials Management Plan (MMP), Design Statement, and Qualified Person Declaration (QPD) together with associated verification will be required.

It is anticipated that the Main Contractor will be responsible for arranging all necessary permissions and licences and consents to complete the works, and, that they will issue their own detailed Health & Safety plan in accordance with current best practice and legislation as appropriate.

The Contractor must be conversant with and adhere to the Control of Asbestos Regulations (2012) where appropriate.

The Contractor must also be cognisant to the risks associated with buried unexploded ordnance on the site, and employ the correct procedures at all times to mitigate the associated risks.

4.2 Methodology

4.2.1 Pre-Construction

A Risk Assessment in accordance with the Control of Asbestos Regulations (2012) must be completed prior to works commencing. This Health and Safety Executive (HSE) state that this risk assessment must be undertaken by persons who *“have a sufficient level of knowledge, training and expertise. This is to make sure that they understand the risks from asbestos (and general risks) to enable them to make informed decisions about the risks and identify the appropriate action required to reduce them. They will also need to be able to estimate the expected level of exposure to help them decide whether or not the control limit is likely to be exceeded.”*

In addition:

- All site workers must be briefed in the form of a toolbox talk on good environmental working practice at the site, Health and Safety and CDM protocols and the procedures to be followed if previously unidentified contamination, including further asbestos or suspected asbestos, or any other unexpected ground conditions are encountered.
- All site workers must undertake an asbestos awareness training course and be briefed on how to identify possible asbestos containing material (ACM).
- All site workers, subject to the findings of the asbestos risk assessment, will require appropriate PPE / RPE and protective clothing together with appropriate hygiene facilities. It is the Contractors responsibility to ensure that the correct construction phase mitigation measures are employed once they have undertaken their asbestos risk assessment.

Dust / fibre monitoring points shall be established at the work boundaries. These monitors should have detection limits that account for reasonable / realistic background levels, given the urban setting, and shall take into account the conclusions of the relevant risk assessments. The limits of detection for fibres typically would be set at the Control of Asbestos Regulations (2012) control limit of 0.01 f/cm³, however, this is dependent on the findings of the asbestos risk assessment undertaken by the Contractor, which may advise on an alternative limit of detection. Note that this will require agreement with the Local Planning Authority prior to works commencing. As a minimum, the monitoring points must be placed on all four aspects of the working boundaries, with additional monitoring points placed as to be lea-ward of the prevailing wind on any given day. Additionally, the technicians undertaking monitoring shall also be fitted with fibre monitoring on their person, with the limits of detection set at a level that reflects the RPE / PPE that they have employed.

If the DoWCoP is to be employed, then construction staff / managers shall be briefed on the MMP and the relevant Design Statements, and these shall be adhered to as appropriate. A QP Declaration will be required at each stage / revision of the MMP / Design Statement as appropriate.

4.2.2 Site Preparatory Works

Control measures shall be employed to prevent / minimise off-site migration of dust / fibres during earthworks, this should include, but not be limited to the use of damping down of stockpiles, wetting of materials and the sheeting of soil stockpiles. Mobile water bowsers / water sprayers shall be used if required. Additionally, fibre and dust monitoring shall be undertaken daily during the excavation of Made Ground materials at all monitoring locations.

All existing concrete surfacing and tarmac surfacing must be broken out and excavated prior to redevelopment. Furthermore, all relic structures including those not fully quantified (such as the indicated former cellars and air raid shelters) must be identified, delineated, broken out and excavated so as not to present an obstruction to the proposed construction (including associated piling works). All buried structures must be inspected to ensure that no contaminated or potential contaminated materials are present within them. Where it is suspected that contaminated materials are present, these must be excavated separately, stockpiled such as not to cause cross contamination (i.e. the use of bunds and physical sealing) and subjected to further analysis and assessment as appropriate. The Contractor must liaise with a geoenvironmental specialist where contamination is suspected and records must be retained with respect to what was encountered, what action was taken, together with relevant records of regulatory liaison / compliance. This will also apply to any previously unrecorded contamination encountered.

The Contractor must ensure that any masonry / relic construction arising from grubbing out former foundations, structures and hardstanding are wholly segregated from any general Made Ground soils or any other potential contaminated material such as asbestos containing materials in order that waste materials are correctly managed. It is recommended that the Contractor utilise a geoenvironmental resident engineer during the excavation works to direct their soil management procedures and minimise uncertainty and delays.

4.2.3 Waste Soils

As discussed in Section 4.2.2 it is essential that the Contractor manages surplus materials resulting from preparatory works in an appropriate manner. It is paramount that surplus materials are not mixed once excavated in order to minimise disposal costs and ensure materials are managed in their correct waste stream, and, where appropriate, determination of whether hazardous substances are present in accordance with WM3 will also be required, particularly with respect to made ground soil arisings. It is anticipated that the majority of surplus materials will be classified as indicated in Table 2, however, it must be noted that there may be other materials encountered (for instance metals, plastics etc.) on site that are classified otherwise.

Table 2: Anticipated List of Wastes

Waste Code	Waste Type	Waste Classification
17-01-01	Concrete	Non-hazardous
17-01-01	Bricks	Non-hazardous
17-01-01	Tiles and Ceramics	Non-hazardous
17-01-06	Concrete, bricks, tiles and ceramics (alone or in mixtures) containing hazardous substances	Hazardous
17-01-07	Concrete, bricks, tiles and ceramics in mixtures	Non-hazardous
17-03-01	Bituminous mixtures containing coal tar	Hazardous
17-03-02	Other bituminous mixtures	Non-hazardous
17-05-03	Soil and stones containing hazardous substances	Hazardous
17-05-04	Other soil and stones	Non-hazardous

WAC (Waste Acceptance Criteria) of all resulting stockpiles of material prior to off-site disposal is likely to be required to determine final disposal costs and waste streams. It should be noted that it is possible that materials such as concrete, brick, tiles and ceramics that can be demonstrated to have been excavated in a controlled manner and do not include hazardous properties can be disposed of as non-hazardous waste without further assessment.

Note that any materials exported from site to landfill shall be hauled by a registered waste carrier in accordance with the requirements of the Duty of Care Regulations 1991, The Landfill Directive, and where appropriate, the Hazardous Waste Regulations 2005. A waste transfer note (WTN) shall be completed, signed and retained by all parties involved. The WTN shall state the volume of waste, the nature of the material and statement of its chemical composition. The WTN shall be kept by the Main Contractor and copies made available for inclusion in the 'Verification Report', if required.

4.2.4 During Construction

There may be the requirement to use site won soils as fill material following the excavation of former buried structures. Where site-won excavated soils are proposed for re-use as fill, these shall be sampled and tested for the identification of asbestos fibres in soil at a frequency of 1 sample per 100 m³ of excavated soil. Where a positive identification is made, the samples shall be quantified, and in the event that quantum is equal to, or exceeds 0.1% w/w, further risk assessment shall be undertaken to determine if additional treatment /

control measures are required, or, whether off-site disposal is required. It is anticipated that in general site won material shall be re used as close as is reasonably possible or at the point of origin.

Note that where asbestos impacted soils are retained on site (including condition and locations) this will require recording in accordance with the Control of Asbestos Regulations 2012 within an asbestos register and / or health and safety file so that future accidental exposure can be avoided.

Certification of the potable water supply pipes installed will be required for all newly installed supplies. Should the Contractor wish to use PE pipes as an alternative to upgraded pipes and connections where pipes are installed in the existing Made Ground soils, then as a minimum they will require installation in 'clean' trenches; i.e. trenches backfilled with uncontaminated fill material (typically as-dug natural quarried stone) and separated from the surrounding soils with a geotextile separator layer. The 'clean' trench shall comprise a minimum of 1 m in width and 1 m in depth. Should this method be employed, then liaison with United Utilities must be undertaken prior to construction to secure their agreement.

All other services established in the existing made ground soils must be installed in trenches of clean soil / fill, separated from the surrounding made ground soils by a geotextile separator, in order that future maintenance workers are appropriately protected.

4.2.3 Control Measures for Imported Soil and Fill (General)

The imported materials should be tested in accordance with the requirements in Tables 3 and 4 of this report. Table 3 summarises the testing regime and suites of analysis required, and Table 4 summarises the acceptable threshold concentrations.

It is anticipated that imported soils and fill will be limited to materials required for temporary working platforms, and, landscaping planter boxes sited on the podium decks.

It must be noted that should materials be imported under a Materials Management Plan (MMP) to comply with the DoWCoP, they will have to be demonstrated to not contain any Hazardous properties under WM3.

4.2.4 Control Measures for Clean Imported Soil and Fill for either Temporary or Permanent Works

In addition to the control measures detailed in Section 4.2.3, it is essential that fill imported for either temporary working platforms, or as part of the permanent construction works is adequately separated from the underlying asbestos impacted made ground soils to prevent cross contamination.

Any clean imported fill materials placed above the asbestos impacted made ground soils at the site should be physically separated from the asbestos impacted made ground soils so as to prevent cross contamination of the asbestos free imported materials. The physical separation shall be achieved by use of a geotextile separator layer printed with asbestos warning markers placed between the asbestos impacted soils and the

clean fill above. Where the imported fill is used for temporary works (i.e. piling mat) and subsequently requires removal from site the geotextile separator will also require careful disposal to ensure no cross contamination occurs.

4.2.5 Controlling Risks to the Wider Environment including Controlled Waters and MMP / DoWCoP Compliance (if required)

In addition to the testing to determine the suitability of imported soils for human health, the following measures are required to protect the wider environment, to ensure quality of materials imported, and if required provide compliance with a MMP:

- Soils are Non-hazardous (to avoid importation of a new hazard to site in contravention of the Definition of Waste Code of Practice) if applicable.
- Soils are such that they will not present a risk to controlled waters and future site users and building materials.
- Soils in landscaped areas are not phytotoxic (to avoid poor plant growth and demonstrate suitability for use).
- Topsoil is certified to British Standard BS3882:2015.
- Subsoil is certified to British Standard BS8601:2013.

Table 3: Material Re-use and Import Sampling & Testing Frequency

Type	No. of Samples	Testing Schedule	Assessment Criteria
Virgin Quarried Material	1 or 2 depending on the type of stone utilised, to confirm the nature of the material.	Metals suite as prescribed in Appendix 6/15.	As prescribed in Table 3.
Crushed Hardcore, Stone, Brick	Minimum 3 per source or 1 per 250 m ³ (whichever is greater)	Metals suite, PAH suite and asbestos as prescribed in Appendix 6/15.	
Greenfield / Manufactured Soils	Minimum 3 per source or 1 per 250 m ³ (whichever is greater)	Metals suite, PAH suite and asbestos as prescribed in Appendix 6/15.	
Brownfield / Screened Soils	Minimum 6 per source or 1 per 100 m ³ (whichever is greater)	Metals suite, PAH suite and asbestos as prescribed in Appendix 6/15 plus additional analysis dependent on the source.	

Table 4: Material Import Suites of Analysis and Threshold Criteria

Contaminant	Units	Threshold Value for Public Open Space (Residential)
Metals, pH, asbestos		
pH	pH units	N/A
Arsenic	mg/kg	79**
Cadmium	mg/kg	120**
Chromium (III)	mg/kg	1500**

Contaminant	Units	Threshold Value for Public Open Space (Residential)
Chromium (VI)	mg/kg	7.7**
Copper	mg/kg	12000**
Nickel	mg/kg	230** (inorganic)
Lead	mg/kg	630***
Mercury	mg/kg	120**
Selenium	mg/kg	1100**
Zinc	mg/kg	81000**
Asbestos	fibres	presence
PAHs		
Acenaphthylene	mg/kg	15000**
Acenaphthene	mg/kg	15000**
Anthracene	mg/kg	74000**
Benzo(a)anthracene	mg/kg	29**
Benzo(a)pyrene	mg/kg	5.7**
Benzo(b)fluoranthene	mg/kg	7.1**
Benzo(ghi)perylene	mg/kg	640**
Benzo(k)fluoranthene	mg/kg	190**
Chrysene	mg/kg	57**
Dibenzo(ah)anthracene	mg/kg	0.57**
Indeno(123cd)pyrene	mg/kg	82**
Fluoranthene	mg/kg	3100**
Fluorene	mg/kg	9900**
Naphthalene	mg/kg	4900**
Phenanthrene	mg/kg	3100**
Pyrene	mg/kg	7400**
TPHs		
Aliphatic C5-C6	mg/kg	570000**
Aliphatic C6-C8	mg/kg	600000**
Aliphatic C8-C10	mg/kg	13000**
Aliphatic C10-C12	mg/kg	13000**
Aliphatic C12-C16	mg/kg	13000**
Aliphatic C16-C35	mg/kg	250000**
Aromatic C5-C7	mg/kg	56000**
Aromatic C7-C8	mg/kg	56000**
Aromatic C8-C10	mg/kg	5000**
Aromatic C10-C12	mg/kg	5000**
Aromatic C12-C16	mg/kg	5100**
Aromatic C16-C21	mg/kg	3800**
Aromatic C21-C35	mg/kg	3800**

N/A – Not applicable / No threshold value exists.

PAHs & TPHs assume 1% Soil Organic Matter (SOM), Metals assume 6% (SOM)

* ATRISK

** LQM/CIEH S4ULs Public Open Space (Residential)

*** Department for Food & Rural Affairs C4SLs Public Open Space 1

NOTE: It must be noted that any materials that are imported under a Materials Management Plan (MMP) will additionally have to be demonstrated to not contain any Hazardous properties under WM3. Under this scenario the threshold values for many determinants will be superseded by WM3 guidance and will require further assessment prior to importation / re-use.

4.2.6 Variations to the Strategy

Any significant deviation from the agreed remedial strategy must be agreed in writing with the LPA and their CLO prior to implementation.

4.3 Verification of the Works

4.3.1 Introduction

A suitably qualified, experienced and competent Geoenvironmental Consultant shall complete the Verification Report. Full-time on site monitoring from a geoenvironmental professional during site preparatory works is strongly recommended.

In complying with this Strategy the Contractor (and their Specialist Sub-Contractors) will have to produce their own Risk Assessments and Method Statements to allow them to carry out the works specified within the strategy in a safe manner. This includes ensuring they employ a safe system of work for working with soils potentially impacted by asbestos and adherence to the Control of Asbestos Regulations (2012) where necessary.

Any imported materials shall be accompanied with the relevant supplier certification and fall within the relevant acceptance criteria given in Tables 3 and 4 of this report.

Any materials that are imported under a MMP where DoWCoP is employed have to be demonstrated to not contain any Hazardous properties under WM3.

4.3.2 Verification Requirements

The 'Verification Report' should include the following information, as relevant:

- A description of the site and previous risk assessments and of the purpose and objectives of the remediation works.
- A full report of any additional sampling, analysis and risk assessment works (including laboratory testing) undertaken during the site preparatory works.
- A comprehensive set of environmental monitoring data obtained during the works.
- A photographic record of the works as they progressed.
- Locations of all fibre / dust monitoring points recorded by way of a survey drawing.
- Base of excavation and lateral extents ('as-dug') survey undertaken once the preparatory works are completed.
- A record of the volume of imported soil / fill and the accompanying (at the relevant frequency) test certificates to verify the chemical suitability of any imported fill / soil.
- United Utilities installation certification / agreements for newly installed water supply pipes including details of the services installed and any trench fill where 'clean trenches' are employed.

- All waste transfer notes and other certification and documentation (Duty of Care), as relevant including detail of each and every waste removed from the site including volumes.
- A description of any aspects of the works relevant to any future maintenance regime.
- Details of any variations from the originally agreed remedial strategy (with the corresponding agreement from the relevant regulatory body).
- The final MMP, final Design Statement, and all QP Declarations, including the relevant CLAiRE documentation / approvals if this method is employed.
- Any other information required by the regulators in agreement with the Client and geoenvironmental consultant.

5. Site Preparation and Organisation Requirements

5.1 Site Preparation Requirements

5.1.1 General

It is assumed that the earthworks and remedial works will be undertaken using traditional excavation and re-compaction earthworks methods using readily available, conventional plant machinery.

5.1.2 Services

The Main Contractor shall be responsible for obtaining service records and the safe disconnection and / or diversion of any existing services entering the site, except any which are to remain operational.

5.1.3 CDM Regulations (2015)

All design documentation / specifications must be approved in writing by the Principal Designer prior to works commencing.

5.2 Site Organisation Requirements

The site works shall be supervised by the site manager from the Main Contractor.

- Prior to the commencement of any works, the Main Contractor shall establish the boundaries of the site and working areas. The site boundary shall be secured to prevent unauthorised access to the site during the course of the works.
- Site offices and welfare facilities will be established at a location to be agreed with the Client's representative.
- Access to the site shall be from approved access points and routes to be agreed with the Client and Manchester City Council.
- Vehicles leaving the site will pass through cleaning facilities, such as wheel wash and / or hose down area. Vehicles that are to be used for the haulage of any contaminated material from the site (including potential asbestos fibres) shall be sheeted, lapped and taped to prevent the release of fugitive dust / fibres.
- Airborne fibre sampling equipment will be set up as detailed in Section 4 of this report.
- If appropriate noise monitoring equipment will be set up in suitable areas of the site. The requirements of BS 5228:1997 'Noise and Vibration Control on Construction Sites' shall be adhered to at all times. All machinery shall be fitted with effective silencers. If appropriate, noise monitoring equipment will be set

up in suitable areas of the site. Working hours shall be agreed with the Local Planning Authority and the Client prior to commencement of the works.

- Noisy operations, i.e. the use of hydraulic breakers shall be restricted to hours agreed with the Local Authority and the Client.
- Mobile water bowsers and sprayers shall be available on the site to water any haul routes / stockpiles of excavated soils to reduce dust / fibre emissions. The water spray may include chemical dust suppressants or wetting agents to improve dust control. Vapour masts shall be used if required. Regular inspections of the public roads adjacent to the site or within the site shall be carried out and if deemed necessary the roads shall be swept regularly to remove any mud, slurry or dust deposited by vehicles entering or leaving the site.
- Fuelling of any plant shall be undertaken in a designated area and all above ground fuel storage tanks shall comply with the requirements of the Pollution Prevention Guideline PPG2.
- Waste oil, hydraulic fluid etc. should not be tipped directly or discharged onto the site.
- Waste oil may be a special waste and disposal shall be undertaken by a registered carrier in accordance with the Duty of Care Regulations.

The following site records of the works shall be maintained, as a minimum:

- Daily record sheets to include a summary of the day's activities.
- Weather conditions.
- Plan, personnel and visitors present.
- Aspects relating to Health and Safety, environmental control or non-compliance with the General Specifications and Method Statements.
- As built surveys, including records of all excavations.
- Waste transfer notes.
- Any deviations from this report and the MMP / Design Statement in the event DoWCoP is employed.

5.3 Health and Safety

Before site operations are commenced the necessary COSHH Assessments, Method Statements and Health and Safety Plans should be completed and issued by the Main Contractor.

The works shall be undertaken in accordance with all relevant legislation including, but not limited to:

- The Workplace (Health, Safety and Welfare) Regulations; 1992.
- The Management of Health and Safety at Work Regulations; 1999.
- The Control of Substances Hazardous to Health Regulations; 2002.
- The Construction (Design and Management) Regulations; 2007.
- The Asbestos (Licensing) (Amendment) Regulations; 1998.
- The Control of Asbestos Regulations; 2012.

This will be the responsibility of the Principal Contractor who should establish procedures in case of emergency.

During the construction phase of the site's re-development it will be necessary to protect health and safety of site personnel and other site users. General guidance on these matters is given in the Health and Safety Executive (HSE) document 'Protection of Workers and the General Public during the Redevelopment of Contaminated Land' (HS(G)66). In summary, the following measures are suggested to provide a minimum level of protection:

- All ground workers should be issued with protective clothing, hard hats, footwear and gloves. Personnel should be instructed as to how they are to be used.
- Personal Respiratory Equipment (PRE) shall be employed as required. Personnel should be instructed as to how they are to be used and shall be 'face-fitted' prior to use.
- Personnel shall always wear hard hats, high visibility clothing and protective footwear.
- Hand washing and boot cleaning facilities shall be provided.
- No smoking except in designated areas.
- Good practices relating to personal / site hygiene shall be adopted.

5.4 Environmental Good Practice on Site

The Main Contractor should be conversant with the following EA Pollution Prevention Guidelines (PPG) and Construction Industry Research and Information Association (CIRIA) documents. They provide advice and recommendations with respect to environmental good practice on site and the various activities likely to be

carried out during redevelopment works. Key documents include the following (note that this list is not exhaustive and further documentation / guidance may require reference as appropriate);

- PPG 1 General guide to the prevention of pollution
- PPG 2 Above ground oil storage tanks
- PPG 6 Working at construction and demolition sites
- PPG20 Dewatering underground ducts and chambers
- PPG27 Installation, decommissioning and removal of underground storage tanks

The above can be downloaded from www.netregs.gov.uk

- CIRIA (2005) Environmental Good Practice on Site, Report C650, Connolly, S & Charles, P

5.5 Open Fires

No open fires or burning of waste materials shall be permitted at the site during any stage of the construction/remediation works at the site.

5.6 Odour

The excavation works are not considered likely to give rise to any significant odour problems. However, previously unidentified odorous materials may be encountered during excavation. Should this occur, vapour masts may need to be used to provide odour control.

Block C, First Street Committed Developments – October 2023

Application Reference	Description of Development Proposals	Date Approved	Map No.	Distance from Site (m)	Status as of June 2023	Estimated Completion Date
Baseline						
Plot 9a, First Street 132600/FO/2021	Erection of a nine-storey building with rooftop plant and basement comprising office accommodation (Use Class E(c)) with ancillary facilities for occupiers including roof top terrace, winter gardens, gym/ yoga studio, basement car parking (26 spaces) and cycle parking (130 spaces) landscaping and other associated works.	14 April 2022	1.	120	Under construction	Q2 2024
First Street South (Plots A, B and D only) 125573/FO/2019	Construction of four buildings of heights varying from 10 storeys to 45 storeys together comprising Co-living bedspaces (use class sui generis) and associated amenity facilities, with ground floor commercial units (Use classes A3 (Café / Restaurant and D2 (Gym)), private amenity space and public realm comprising hard and soft landscaping, car parking and cycle facilities and other associated works.	09 March 2021	2.	0	Under Construction – Blocks A, B and D only NOTE: Assessments should exclude Block C due to being superseded by the latest scheme.	Q2 2025
Metropolitan University Science and Engineering Building 125799/FO/2019	Demolition of existing John Dalton West Building and associated structures, and erection of a new 7 storey education building (Use Class D1) for the Faculty of Science and Engineering (comprising teaching and research spaces, academic offices, social learning areas, catering/kitchen facilities and an energy centre), physical connections to and external refurbishment of the John Dalton Tower, hard and soft landscaping works, car and cycle parking and associated works.	12 March 2020	3.	235	Under construction	Q1 2024
Barclay House 118033/P3OPA/2017	Notification for Prior Approval for a Proposed Change of Use of building (excluding basement) from Office Use (Class B1 (a)) to a provide 90 no. residential apartments (Use Class C3)	31 Jan 2018	4.	360	Under construction	Q2 2024
Havelock 129081/FO/2021	Partial demolition and reconfiguration of 70 Great Bridgewater Street to create a new office building (Use Class E), including the replacement of building facades, a 2-storey rooftop extension and	23 April 2021	5.	400	Under construction	Q1 2024

	alterations to the internal layout including the infilling of the central atrium, servicing and cycle parking, access and associated works.					
Viadux 115871/FO/2017	Erection of a 40 storey building to form 375 residential apartments (Use Class C3a) and the erection of a 14 storey building for form offices (Use Class B1) (31,756 sqm) together with ground floor commercial space (Use Class A1, A3 or A4) (1010 sqm) with associated enclosed service yard, public realm including staircase and lift to connect with viaduct, car and le parking, landscaping and other associated works	27 July 2017	6.	480	Under construction	Q2 2024
Staycity Deansgate 125804/FO/2019	Demolition of existing buildings and structures on-site and erection of 22-storey building comprising apart-hotel (Use Class C1) with flexible commercial uses at ground floor and within existing viaduct arches (Use Class A1, A2, A3, A4, D2), access, landscaping and other associated works	26 June 2020	7.	565	Under construction	Q3 2025
The Blade and Three60 126668/FO/2020	Full planning permission for the erection of two 52-storey residential buildings (Use Class C3) each incorporating a podium accommodating residential amenity facilities and ground floor and first floor commercial units (Use Classes A1, A2, A3, or D1), private and public basement car parking, landscaping and a public park, servicing and access arrangements, highways improvements, and associated works (Phases A, B, and D as defined on Drawing Reference: 10292Z1SHPG000PL00 B5D802 and 10292Z1SHPG000PLB1B5D801). Outline planning permission (with all matters reserved) for an educational facility (Use Class D1) (Phase C as defined on Drawing References: 10292Z1SHPG000PL00B5D802 and 10292Z1SHPG000PLB1B5D801)	03 August 2020	8.	565	Under construction	The Blade: Q3 2023 Three 60:Q1 2024
Plot 10a, First Street 136043/FO/2023	Erection of 13-storey office building (Use Class E) with associated public realm, external roof terraces (floors 11 and 12) and other associated works including external amenity spaces (Plot 10A).	13 May 2023	9.	105	Under construction	Q4 2025
Plot 10b, First Street 136170/FO/2023	Erection of 14-storey building comprising purpose-built student accommodation (PBSA) (Sui Generis) and ground floor Food Hall (Sui Generis Use), and other associated works including external amenity spaces, public realm, secure cycle parking, access and servicing arrangements (Plot 10B)	1 June 2023	10.	90	Under construction	Q3 2026
Great Jackson Plot F 132199/FO/2021	Full planning permission for the demolition of existing structures and the erection of two 51-storey residential buildings (Use Class C3) across two phases, including residential amenity facilities,	01 July 2022	11.	310	Under construction	Tower F1: Q4 2027

	basement car parking, landscaping and public realm, servicing and access arrangements, highways alterations, and associated works.					Tower F2: Q4 2028
Vision 111003/FO/2016/C1	Demolition of existing building at 10 - 12 Whitworth Street West, and redevelopment of the site for a new 35 storey residential building (Use Class C3) comprising 327 apartments, with associated residents' services, facilities and communal spaces: servicing, highways, public realm and associated works.	11 Apr 2016	12.	420	Not on site.	Permission lapses 30 November 2023
Deansgate South 129406/FO/2021	Full planning permission for a 28-storey purpose built student accommodation building (Sui Generis)	04 June 2021	13.	560	Not on site.	Permission lapses 4 June 2024
Cumulative						
One City Road 128002/FO/2020	Full Planning Application for demolition of existing structures on site, erection of one 11-storey plus basement office building (Use Class E) and one 14-storey plus basement office building with ground floor commercial unit (Use Class E), landscaping, highways works, and associated works	26 Jan 2021	14.	180	Not on site.	Permission lapses 26 January 2024
Park Place 129273/FO/2021	Demolition of existing structures and the construction of two residential buildings of 56 storeys (plus basement and roof plant) (use class C3), with ground floor commercial uses (use class E), car parking, cycle provision, landscaping, access and other associated works	29 July 2021	15.	280	Not on site.	Permission lapses 29 July 2024
Travelodge Deansgate Locks 126308/FO/2020	The demolition of 2 to 4 Whitworth Street West and the construction of a mixed-use building, comprising flexible units for retail, food and drink use at ground floor level with a hotel at upper storeys, together with associated landscaping, servicing, cycle parking and other associated works.	18 Dec 2020	16.	470	Not on site.	Permission lapses 18 December 2023
Bridgewater House 134694/FO/2022	Restoration and conversion of the Grade II listed Bridgewater House and redevelopment of car park area to create a ground plus three storey apartment building; overall providing 53 residential units, including landscaping to courtyard, bike storage and associated works	06 Feb 2023	17.	580	Not on site.	Permission lapses 6 February 2026
One Medlock Street 135419/FO/2022	Demolition of the existing hotel building and structures and redevelopment of the site to comprise two separate buildings: one 13 storey office building with commercial unit (Use Class E) at ground floor; a part 11, part 38 storey building comprising 1,014 purpose built student accommodation units (sui generis) with ground floor office/community uses (Use Class E, F1 or F2); and	1 June 2023	18.	85	Not on site.	Permission lapses 4 June 2024

	associated ancillary internal and external amenity space, hard and soft landscaping and associated highway works.					
Great Jackson Street - Crown Street Plot D	Full planning permission for the demolition of existing structures and the erection of one residential building to a height of 71 storeys and comprising 642 homes (Use Class C3) with food and drink uses (Use Class E) and / or drinking establishment (Sui Generis); and one office building (Use Class E); with basement car parking, cycle parking, landscaping and public realm, servicing and access arrangements, highways alterations and associated works.	n/a	19.		<i>Application submitted – awaiting determination</i>	
Great Jackson Street – Plot C and E	Full planning permission for the demolition of existing structures and the phased construction of four residential buildings ranging from 47 to 51 storeys to provide a mix of and providing 1,746 homes (Use Class C3), flexible commercial, leisure, food and drink uses (all Use Class E) and / or drinking establishment (Sui Generis), basement car parking, cycle parking, landscaping and public realm, servicing and access arrangements, highways alterations and associated works.	n/a	20.		<i>Application submitted – awaiting determination</i>	
Student Castle 121252/FO/2018	Partial reconfiguration of existing Multi-Storey Car Park (MSCP), including temporary access off Great Marlborough Street, construction of 5 storey external ramps, closure of vehicular access to top level; and construction of new facade; and partial demolition of the surplus part of existing MSCP and erection of a part 55, part 11 storey, part 4 storey mixed-use building comprising 853 Purpose Built Student Accommodation units (sui generis), ancillary amenity space and support facilities, and 786sqm (GIA) SME incubator workspace (Use Class B1), including public realm improvements and other associated work	23 July 2021	21.	360	Not on site.	Permission lapses 23 July 2024



Appendix 1 - Methodology for Determining Impact Magnitude

Magnitude of Impact	Criteria for assessing impact
Major	Total loss or major/substantial alteration to key element/features of the baseline (pre-development) conditions such that the post development character/composition/attributes will be fundamentally changed.
Moderate	Loss or alteration to one or more key elements/features of the baseline conditions such that post development character/composition/attributes of the baseline will be materially changed.
Minor	A minor shift away from baseline conditions. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstance/situation.

The sensitivity of a receptor is based on relative importance of the receptor using the scale in the table below:

Methodology for Determining Sensitivity

Sensitivity	Examples of receptor
High	The receptor/resource has little ability to absorb change without fundamentally altering its present character, or is of international or national importance.
Moderate	The receptor/resource has moderate capacity to absorb change without significantly altering its present character, or is of high importance.
Low	The receptor/resource is tolerant of change without detriment to its character, is of low or no local importance.

The significance of an environmental impact is determined by the interaction of magnitude and sensitivity, whereby the impacts can be positive or negative. The Impact Significance Matrix is set out in the table below.

Impact Significance Matrix

Magnitude	High	Sensitivity Moderate	Low
Major	Major Adverse/Beneficial	Major - Moderate Adverse -Beneficial	Moderate - Minor Adverse -Beneficial
Moderate	Major Adverse/Beneficial	Moderate Adverse – Beneficial	Minor Adverse/Beneficial
Minor	Minor Adverse/Beneficial	Minor Adverse/Beneficial	Negligible
Negligible	Negligible	Negligible	Negligible