One Medlock Street

Environmental Statement

November 2022



ENVIRONMENTAL STATEMENT VOLUME 4: TECHNICAL APPENDICES

temple

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Premier Inn Hotels Limited and Dominvs Project Company 20 Limited

One Medlock Street

EIA Scoping Report



ONE MEDLOCK STREET EIA SCOPING REPORT

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1.0 Introduction

1.1 Background

1.1.1 Premier Inn Hotels Limited and Dominvs Project Company 20 Limited, ('the Applicant') intend to submit a detailed planning application for the redevelopment of an approximate 1.1 hectares (ha) site known as One Medlock Street, which currently comprises a Premier Inn Hotel and car parking (the 'Site'), to provide a development delivering purpose-built student accommodation and office floorspace (the 'Proposed Development').

1.1.2 The determining authority for the planning application is Manchester City Council (MCC) and the Site is located on the southern edge of Manchester City Centre, centred on Ordnance Survey (OS) National Grid Reference (NGR) SJ836971. The Site boundary is shown in **Figure 1.1**.

1.1.3 The Site is bounded by commercial and residential properties to the north-west; Medlock Street (the A5103) to the north-east, with vacant space beyond; the Mancunian Way Ring Road (the A5103) to the south-east; and student accommodation to the south-west.

1.1.4 The proposed redevelopment of the Site will comprise the demolition of the existing Premier Inn Hotel on-site and the construction of the Proposed Development, providing approximately 1,014 purpose-built student accommodation units within a building of up to 37 storeys and approximately 36,500 square metres (m^2) of office floorspace within a building of up to 13 storeys. The Proposed Development will also provide public realm and associated landscaping.

1.1.5 The Proposed Development falls within the classification of Schedule 2, 10 (b) (Infrastructure Projects – Urban Development Projects) of the *Town and Country Planning (Environmental Impact Assessment) Regulations 2017* (the EIA Regulations')[1]. Given the scale of the Proposed Development exceeds the thresholds set out in Schedule 2 of the EIA Regulations: 10b Urban Development Projects (i.e. the Proposed Development will provide more than 150 dwellings equivalent), it is anticipated that there is the potential for significant environmental effects to arise. Therefore, the Applicant recognises that the Proposed Development will constitute 'EIA Development' under the EIA Regulations and has volunteered to produce an

[1] The Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (SI 2017/571).

Environmental Statement ('ES') which will accompany the planning application and communicate the findings of the EIA.

1.1.6 Temple Group Ltd ('Temple') has been commissioned by the Applicant to prepare an EIA Scoping Report in line with the requirements of the EIA Regulations, to support this request for an EIA Scoping Opinion.

1.2 Purpose of the Scoping Report

1.2.1 Scoping is the process of determining the scope and level of detail of information to be provided in the ES and agreeing where a topic is unlikely to have significant effects and, therefore, can be excluded. This forms an early stage in the EIA process enabling the activity of reviewing any environmental studies undertaken to date and identifying those environmental aspects that may be significantly affected/impacted by a Proposed Development.

1.2.2 This Scoping Report describes the scope of the technical studies to be undertaken in order to provide a comprehensive assessment of significant effects likely to arise, and to determine suitable mitigation measures for the construction and operational phases of the Proposed Development. The Scoping Report outlines the proposed scope of the One Medlock Street EIA, providing a mechanism for consulting on and agreeing the content and methodology of the subsequent EIA with MCC officers, statutory consultees, and other stakeholders.

1.2.3 This Scoping Report has been prepared in line with Regulation 15 of the EIA Regulations.

1.3 Structure of the Scoping Report

1.3.1 This Scoping Report is structured as follows:

- Section 1 introduces the requirement for EIA and scoping process;
- Section 2 describes the Site context and key receptors;
- Section 3 describes the Proposed Development;
- Section 4 summarises the consultation strategy;
- Section 5 outlines the overall assessment methodology and approach to the EIA;
- Section 6 presents the key environmental topics to be addressed by the EIA;
- Section 7 summarises the issues intended to be scoped out;
- Section 8 provides the proposed structure of the ES; and
- Section 9 provides an overall summary and conclusions to the report.

Figure 1.1: Site Boundary and Immediate Surroundings



1.4 The Need for an EIA

1.4.1 The EIA Regulations implement amendments to EU Directive 2011/92/EU contained within the European Directive 2014/52/EU. They apply to the assessment of environmental impacts that are likely to arise from certain types of public and private projects.

1.4.2 EIA is a systematic process during which potential significant environmental effects from a Proposed Development are identified and assessed, and the scope for minimising these is presented to the relevant decision maker (in the EU Directives, the 'competent authority') in an ES accompanying a planning application.

1.4.3 The aim of the EIA is to provide the competent authority with the information necessary to consider potential significant environmental effects (both negative and positive), to ascertain whether these are acceptable, and, where appropriate, to secure mitigation measures to minimise negative impacts prior to granting relevant consents.

1.4.4 The requirement for an EIA is either mandatory or conditional, depending on the classification of the development project and in the latter case this is based, in turn, on the likelihood of significant effects arising. Under the EIA Regulations, an ES must be submitted with planning applications for 'EIA Development'. EIA Development may be:

- Schedule 1 Development (development of a description set out at Schedule 1); and
- Schedule 2 Development likely to have significant effects on the environment by virtue of factors such as its nature, size, or location (where Schedule 2 Development is development of a description mentioned in column 1 of Schedule 2, where the relevant thresholds in Column 2 are exceeded (or any part of the development is in a *'sensitive area'* (e.g. National Parks, Area of Outstanding Natural Beauty)).

1.4.5 Schedule 1 Development always requires EIA. Schedule 2 development requires EIA only if it is likely to have significant effects on the environment.

1.4.6 Schedule 3 of the EIA Regulations describes the criteria that must be taken into account in determining whether a development, which falls within the size threshold applicable to Schedule 2 Development, is likely to have significant impacts and hence should be subject to EIA. These include:

- the characteristics of the development;
- the environmental sensitivity of the location; and
- the characteristics of the potential impact.

1.4.7 Where it is determined that a Proposed Development requires an EIA or where an ES is submitted, the application is known as an 'EIA Development'.

1.4.8 The Proposed Development is not considered to constitute a Schedule 1 Development.

1.4.9 The Proposed Development falls within a description of development listed within Schedule 2 of the EIA Regulations: 10b Urban Development Projects. The thresholds for developments under 10b are:

- the development includes more than 1 hectare of urban development which is not dwellinghouse development; or
- the development includes more than 150 dwellings; or
- the overall area of the development exceeds 5ha.

1.4.10 The Proposed Development will exceed the stated threshold of 150 dwellings (approximately 1,014 student rooms,, which is more than 150 dwellings equivalent).

1.4.11 Thus, the Applicant recognises that the Proposed Development will constitute 'EIA Development' under the EIA Regulations and has committed to undertaking an EIA for the Proposed Development. As such, an ES will be prepared to report the findings of the EIA.

1.5 The Environmental Statement

1.5.1 The EIA Regulations require that an EIA be undertaken for the Proposed Development, and that an ES identifying impacts and associated mitigation measures must be provided for EIA developments to accompany the planning application.

1.5.2 For the purposes of the EIA Regulations, Regulation 18 (3) defines an ES as:

"...a statement which includes at least:

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) 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.

1.5.3 Temple has been commissioned by the Applicant to prepare the EIA in accordance with the EIA Regulations and the other relevant EIA guidance and to produce the ES which will be submitted with the application.

1.5.4 The Applicant will provide the necessary information to enable preparation of the ES for the EIA. The ES will ensure that sufficient information is provided to enable the MCC to make a decision about the planning application with due regard to and in the knowledge of any likely significant environmental effects.

1.5.5 Once submitted, the competent authority responsible for authorising the relevant development should publicise the availability of the ES (and any related additional information) to potentially interested parties, such as statutory and non-statutory consultees and the public, so as to enable their opinions on the project and ES to be represented to the planning process.

1.6 The EIA Project Team

1.6.1 The EIA Regulations 2017, state in Regulation 18(5) *"In order to ensure the completeness and quality of the environmental statement-*

a) the developer must ensure that the environmental statement is prepared by competent experts; and

b) the environmental statement must be accompanied by a statement from the developer outlining the relevant expertise or qualifications of such experts".

1.6.2 In accordance with Regulation 18(5) (a & b), it is confirmed that this Scoping Report has been prepared, and the EIA will be undertaken and prepared, by competent experts from the below organisations. Their relevant expertise and qualifications of will be stated within the ES.

1.6.3 Temple is one of the UK's leading independent infrastructure and property consultancies, specialising in environment, planning and sustainability. Temple is a founding member of the Institute of Environmental Management and Assessment (IEMA) EIA Quality Mark and recognised provider of EIA services on some of the UK's most high-profile development schemes. Temple also has a strong track record providing expertise and formal review services on behalf of Local Authorities of EIAs

submitted by other third parties. Temple will be responsible for the coordination and management of the EIA and the preparation of the ES.

1.6.4 The EIA project team is comprised of the organisations identified in **Table 1.1.**

Table 1.1: The Proposed Project Team

Project Role	Organisation
The Applicant	Premier Inn Hotels Limited and Dominus Project Company 20 Limited
Architect	Jon Matthews Architects
Town Planning, Socio-Economics and Human Health, Climate Change, and Built Heritage	Turley
Landscape Architect and Townscape and Visual Impact Assessment	Planit IE
EIA coordination and lead ES author	Temple
Air Quality	Redmore Environmental Ltd
Noise and Vibration	Cundall
Wind Microclimate	Architectural Aerodynamics Ltd
Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution	GIA
Biodiversity	Greengage
Transport and Highways	Vectos
Archaeology	University of Salford
Energy and Sustainability	Ridge
Public Relations	Turley

2.0 Description of Context and Key Receptors

2.1 Site Description

2.1.1 Currently occupied by a Premier Inn hotel and car park, the Site comprises one building and is largely hardstanding, with small, isolated pockets of trees and bushes within the car park and at the southern end of the Site, adjacent to the Mancunian Way. The Site is bounded by:

- River street to the north-west, with commercial and residential properties beyond;
- Medlock Street (the A5103) to the north-east, with vacant space beyond;
- The Mancunian Way Ring Road to the south-east; and
- Student accommodation to the south-west

2.1.2 Vehicular access to the Site is available from River Street.

2.2 Site Context

2.2.1 The Site is located on the southern edge of Manchester City Centre, within the Deansgate ward of Manchester. The location of the Site in its wider geographical context is presented in **Figure 2.1**.

2.2.2 The Site has a Greater Manchester Accessibility Level (GMAL) of 8 (very high), demonstrating that the Site has a very high level of accessibility. The Site is situated approximately 330m to the south-east of the Deansgate Railway Station, served by Northern trains, and approximately 430m to the south-west of Oxford Road Railway Station, served by Northern, East Midlands Railway, Transport for Wales and Transpennine Express trains. Deansgate-Castlefield Metrolink (tram) Station also lies within 500m of the Site.

2.2.3 The Site is located directly adjacent to Medlock Street (the A5103) and the Mancunian Way Ring Road and there are approximately two bus stops within a 200m radius of the Site, providing services to route 256, serving Piccadilly Gardens, Hulme, Stretford, Lostock and Flixton.

2.2.4 The Site is located within the Greater Manchester Combined Authority Air Quality Management Area (AQMA), which was designated for exceedances in nitrogen dioxide (NO_2).

2.2.5 The existing building on-site is not a Listed Building, though there are approximately 235 Listed Buildings within a 1km radius of the Site. The closest Listed Buildings include the Grade II listed Former Cotton Mill on west side of the junction with Cambridge Street (approximately 185m to the north east of the Site); the Grade II

listed Mill Chimney Stack on west side of the junction with Cambridge Street (approximately 235m to the north-east of the Site); Grade II listed Chorlton Old Mill (approximately 285m to the north-east of the Site); and the Grade II listed Mill on the north-east corner of the junction with Chester Street (approximately 300m to the east of the Site).

2.2.6 The Site is not located in a Conservation Area; the closest Conservation Area is the Castlefield Conservation Area, situated approximately 385m to the north-west of the Site. There is one Scheduled Monument (Remains of eastern wall of the Roman fort) situated approximately 490m to the north-west of the Site. There are no known prehistoric remains within 250m of the Site and the potential for buried archaeological remains deriving from prehistoric activity within the Site is thus considered to be low.

2.2.7 There are no Local Nature Reserves (LNRs), National Nature Reserves (NNRs) or Sites of Special Scientific Interest (SSSIs) within 1km of the Site. There are no European designated sites (Special Protection Areas (SPAs) or Special Areas of Conservation (SACs)) within 10km of the Site.

2.2.8 There are no Sites of Biological Interest within 2km of the Site; the closest Sites of Biological Interest (Chorlton Ees, Hardy Farm, Barlow Eye Tip and Chorlton Water Park) are situated approximately 4.6km to 5km to the south-west of the Site.

2.2.9 The Site is located within Flood Zone 1; a small area in the centre of the Site has a low risk of surface water flooding, whereas a small area in the south of the Site has a medium to high risk of surface water flooding. The Site is located in the Conurbation Core Critical Drainage Area.

2.2.10 There are no National Parks or Areas of Outstanding Natural Beauty within 1km of the Site.

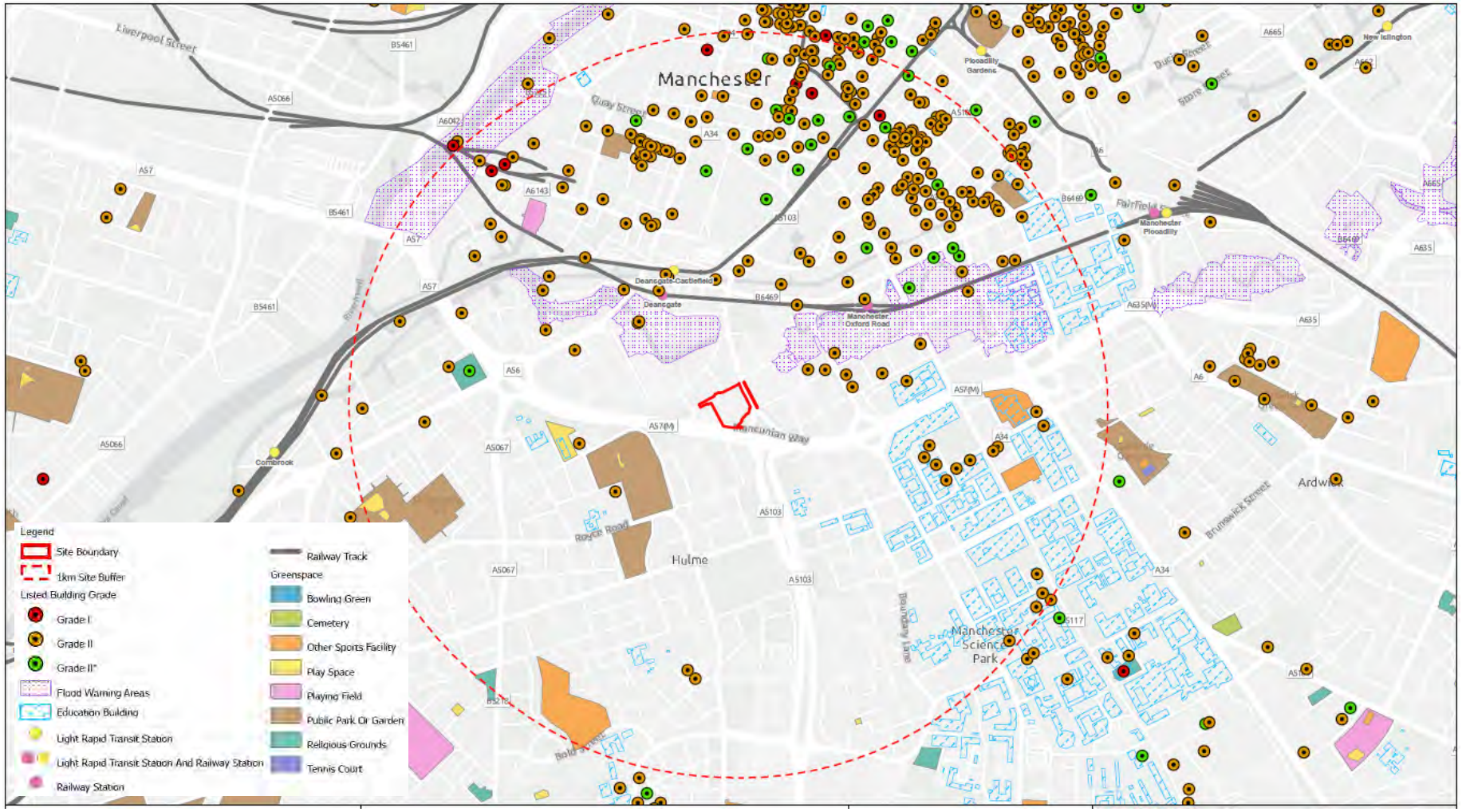
2.2.11 The key receptors which are considered potentially sensitive to the construction and operation of the Proposed Development have been identified and are summarised in **Table 2.2**.

Table 2.2: Potential Key Receptors

Category	Potential Sensitive Receptor / Land Use
Residential	Current residents within surrounding buildings and urban areas including those on City South River Street, River Street Tower Student Accommodation, Plot 9A First Street, Medlock Place, and future residents of the Proposed Development
Commercial	First Street development
Community	Users of current public open spaces, such as those in the wider First Street development and future public open spaces/realm
Geological and water resources	River Medlock
Heritage assets	Former Cotton Mill on west side of junction with Cambridge Street (grade II listed),

Category	Potential Sensitive Receptor / Land Use
	Mill chimney stack on west side of junction with Cambridge Street (grade II listed), Chorlton New Mill and attached chimney (grade II listed), Chorlton Old Mill (grade II listed), Mill on north east corner of junction with Chester Street (grade II listed)
Townscape and views	Residents within surrounding buildings and pedestrian and cycle routes with views of the Site, such as those on Bonsall Street Bridge, Albert Square, St Wilfred's Street and Castle Street and within new public spaces and public realm. Townscape Character and Urban Grain
Utilities	Existing and proposed utilities within the Site.

Figure 2.1: Site Context



3.0 Policy Context

3.1 Planning Context

3.1.1 The EIA will consider legislation and relevant national and local planning policy guidance as summarised below.

3.2 National Planning Policy

3.2.1 The ES will have regard to the National Planning Policy Framework (NPPF)[2], which sets out the Government's economic, environmental and social planning policies for England. The policies contained within the NPPF articulate the Government's vision of sustainable development, which are intended to be interpreted at a local level, to meet the requirements of local aspirations.

3.2.2 The NPPF should be read alongside the national Planning Practice Guidance (PPG), which aims to make planning guidance more accessible, and to ensure that the guidance is kept up to date.

3.2.3 The ES will have regard to the most recent revision of the NPPF, published in July 2021.

3.3 Regional Planning Policy

3.3.1 The ES will have regard to the draft Places for Everyone Joint Development Plan Document[3]. The Joint Development Plan Document is a plan for nine of the ten Greater Manchester districts, which will determine the type of development that will take place within the districts, maximising the use of brownfield land and urban spaces, whilst protecting Green Belt land from the risk of unplanned development. It will also ensure all new developments are sustainably integrated into Greater Manchester's transport network or supported by new infrastructure.

3.3.2 The Joint Development Plan Document:

- Sets out how the nine districts should be developed up until 2037;

[2] Ministry of Housing, Communities and Local Government (MHCLG) (July 2021); National Planning and Policy Framework.

[3] Greater Manchester Combined Authority (2021); Places for Everyone Joint Development Plan Document – Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford, wigan (publication stage).

- Identifies the amount of new development that will come forward, in terms of housing, offices, and industry and warehousing, and the main areas in which this will be focused;
- Supports the delivery of key infrastructure, such as transport and utilities;
- Protects the important environmental assets across the city region;
- Allocates sites for employment and housing outside of the existing urban area; and
- Defines a new Green Belt boundary for Greater Manchester.

3.4 Local Planning Policy

3.4.1 The ES will have regard to Manchester's Local Development Framework Core Strategy Development Plan Document[4] and any relevant Supplementary Planning Documents (SPDs) and Supplementary Planning Guidance (SPGs).

3.4.2 The adopted Core Strategy describes MCC's vision for Manchester from 2012 to 2027, along with the planning policies which would be used to deliver MCC's vision.

3.5 Other Policy and Guidance Considerations

3.5.1 There are a number of supporting policy and guidance documents that are relevant to each environmental discipline and will be considered on a topic-by-topic basis within the ES.

[4] MCC (2012); Manchester Core Strategy 2012 to 2027.

4.0 Scheme Description

4.1.1 The Proposed Development will comprise the demolition of the existing hotel building and structures and the development of the Site for commercial (Use Class E) and purpose-built student accommodation (Sui Generis), comprising two separate buildings, along with associated ancillary internal and external amenity space, hard and soft landscaping and associated highway works.

4.1.2 The Proposed Development will deliver approximately 1,014 student accommodation units and 36,500m^2 of office floorspace.

4.1.3 The Proposed Development will be formed of two buildings: a block for the student accommodation and a block of the office floorspace. The student accommodation block will be up to 37 storeys in height and the office block will be up to 13 storeys in height.

4.2 Demolition and Construction

4.2.1 It is anticipated that the demolition and construction of the Proposed Development will take place over approximately three years, starting late in Q4 2023. It is expected that the Proposed Development would be occupied in a phased manner; however, at this stage, it is not known whether the student accommodation tower or office block would come forward first; therefore, it is considered that the Proposed Development would be constructed in one phase, as a worst-case scenario.

4.2.2 At this stage limited detail is available on the proposed demolition and construction methodology; however, timescales and demolition and construction methods are likely to be comparable to those of any similar scale urban development. As such, the stages are likely to include demolition of the existing building on-site, excavation of the basement area and any necessary grading, piling/pouring of foundations, construction of the building structures, external fit-out, internal-fit out and landscaping. The ES will include a chapter describing the proposed demolition and construction methodology and timescales.

4.3 Operation

4.3.1 Once the Proposed Development is fully operational, it will be occupied by students and Site users of the office floorspace, including provision of public realm and associated landscaping. This will be detailed further within the ES.

5.0 Consultation and Engagement

5.1.1 The process of consultation is important to the development of a comprehensive and balanced ES. Views of the interested and affected parties serve to focus the environmental studies and to identify specific issues that require further investigation. Consultation is an ongoing process as part of the design development.

5.1.2 Information and views are being sought from a range of statutory and non-statutory bodies through public consultation and the intention is for consultees to be involved in the evolution of the design and assessment of environmental effects.

5.1.3 Key consultees are considered to include, but are not limited to:

- MCC (including departments such as Highways and Environmental Health);
- Adjacent authorities (e.g. Salford City Council);
- Environment Agency (EA);
- Historic England (HE);
- Natural England (NE);
- Network Rail;
- Greater Manchester Police;
- National Grid (NG) and other statutory utility providers such as United Utilities;
- Local residents and community groups (to be agreed with MCC); and
- Important neighbouring occupiers and landowners, where necessary.

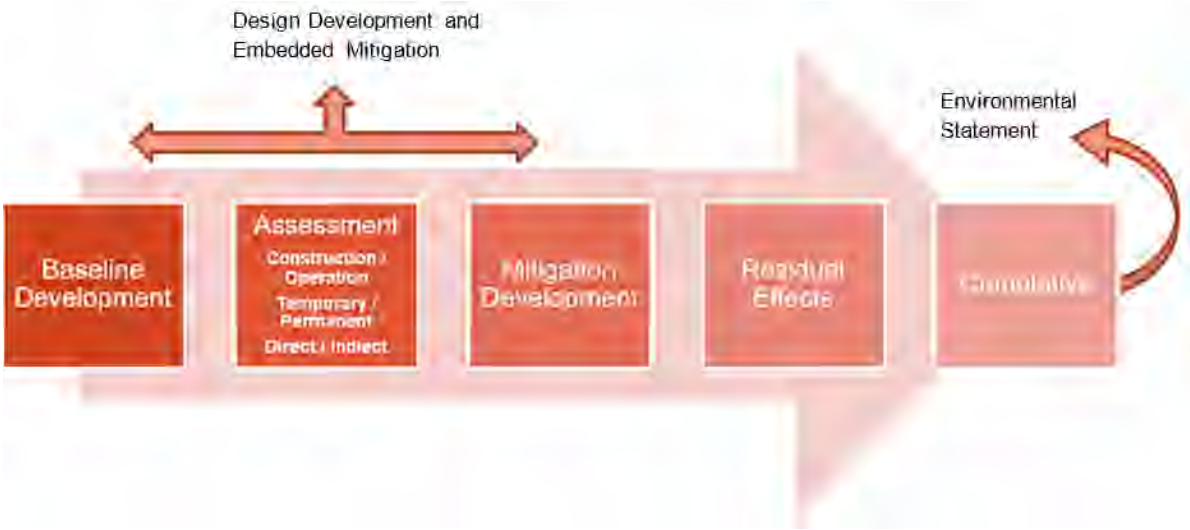
5.1.4 A programme of community consultation will be undertaken by the project team who will continue to engage with third parties and stakeholders throughout the planning process.

6.0 EIA Approach and Methodology

6.1.1 The general approach to assessment will establish a baseline for each topic. Receptors and resources will be identified, and their sensitivity classified. The potential impacts of the Proposed Development on these receptors and resources will be assessed, for the construction and operation of the Proposed Development. Subsequent mitigation of impacts will be considered, along with the identification of likely cumulative and residual effects.

6.1.2 The process that the EIA will take is shown in **Figure 6.1** below:

Figure 6.1: EIA Assessment Process



6.2 Baseline Development

6.2.1 The EIA will primarily describe environmental impacts in terms of the extent of likely change to the baseline environment. The baseline represents the environmental conditions of the Site at the time of the assessment.

Spatial Scope

6.2.2 The redline boundary of the Proposed Development is shown in **Figure 1.1**. Assessment study areas will vary by topic areas, according to the baseline information and the nature of likely impacts. These will be determined during the EIA.

Temporal Scope

6.2.3 The ES will assess the environmental impacts of the Proposed Development during the construction and operational stages. **Section 7.0** of this report sets out which phase of the development each topic proposes to assess based on the predicted impacts and the baseline conditions. The assessment will compare current and future baseline conditions (as appropriate) to those conditions expected with the

construction and operation of the Proposed Development. The assessment will assume that the construction will start in Q2 2023, subject to securing planning permission.

6.2.4 The assessment will consider the totality of the Proposed Development from construction through to operation, using the following assessment scenarios:

- existing baseline;
- future baseline (without Proposed Development);
- assessment of peak construction effects;
- assessment of operational effects (all construction complete, the Proposed Development fully occupied and operational).

6.2.5 The point at which peak construction effects are anticipated varies between assessment topics. For those assessments driven by the effects of traffic, peak construction traffic is likely to lead to peak effects. For assessment topics where effects are driven by massing, effects are likely to increase over the duration of the construction period. Effects related to the sub-surface will be greatest during enabling works, excavation and substructure stages.

6.2.6 This assessment of peak construction effects will assess a worst-case scenario and therefore be a conservative assessment of any interim effects; therefore, no time-slices or interim construction assessments are considered necessary for most topics. This will be reviewed on a topic-by-topic basis.

6.3 Assessment of Effects and Defining Significance

Prediction of Impacts

6.3.1 Once impacts have been identified, prediction methods will be used to identify the magnitude and nature of changes to the environment resulting from the Proposed Development, compared to the situation without the Proposed Development (i.e. the baseline conditions). The relative significance of these changes will then be defined using thresholds and criteria, as appropriate.

6.3.2 There are a number of methods available for predicting the effects of the Proposed Development, some of which are qualitative and quantitative. Quantitative methods predict measurable changes resulting from a development, and hence rely on the ability to measure and or model baseline conditions accurately, for example the concentration of air pollutants. In comparison, qualitative techniques rely on expert

judgement. In these circumstances, a clear distinction will be made between matters of fact and professional judgement.

Evaluation and Assessment of Significance of Impacts

6.3.3 The definition of significance thresholds and criteria will take account of the:

- value/sensitivity of the resource (international, national, regional and local level importance);
- magnitude of the impact (for example the number of receptors);
- duration of the impact; and
- reversibility of the effect.

6.3.4 Typically, the criteria will be developed from a matrix approach comprising the value/sensitivity of the resource on one axis and the magnitude of the predicted effects on the other. The classification of effects is shown in **Table 6.1**.

Table 6.1: Classification of Effects

Value / Sensitivity	Magnitude of Impact			
	Negligible	**Minor**	**Moderate**	**Major**
Negligible	Negligible	Negligible	Negligible	Negligible
Low	Negligible	Minor-negligible	Minor	Moderate-minor
Medium	Negligible	Minor	Moderate-minor	Major-moderate
High	Negligible	Moderate-minor	Major-moderate	Major

6.3.5 The classification of the effect will also consider the following descriptors:

- Adverse, neutral or beneficial;
- Permanent or temporary;
- Duration/frequency or likelihood; or
- Direct or indirect.

6.3.6 The duration of the effect will be assessed to be either temporary or permanent where:

- Temporary (e.g. demolition and construction phase):
- Short term (<5 years);
- Medium term (5 – 10 years);
- Long term (>10 years); or
- Permanent (e.g. once the Proposed Development is completed and operational).

6.3.7 **Table 6.1** displays a range of effects associated with the magnitude of change and sensitivity as in certain situations the effect may fall within this range, ultimately the level of significance is based upon the professional opinion of the specialist involved and the assessment matrix table is intended as a guide.

Mitigation Development

6.3.8 During the EIA, there will be an on-going design process, looking at ways to best mitigate any likely environmental effects through amendments to the design of the Proposed Development. This will constitute embedded design mitigation and where this has occurred it will be identified within the relevant topic chapters within the ES.

6.3.9 Further assessment mitigation measures may be introduced where adverse environmental impacts remain following the culmination of the design process and, in these instances, further mitigation will be proposed where feasible within the relevant technical chapters. A practical example of this (for illustrative purposes only) could be that all dwellings are designed to fulfil certain requirements in terms of noise insulation (embedded design mitigation); however, the noise assessment may identify, post outputs from modelling, that a specific dwelling requires enhanced glazing specification (additional assessment mitigation).

6.3.10 Proposals for mitigation will follow the following hierarchy set out in **Figure 6.2**. Where beneficial effects and or opportunities for enhancement and betterment are identified, measures to maximise these will also be proposed.

Figure 6.2: Mitigation Hierarchy



6.3.11 Design mitigation will include compliance with legislation, industry good practice, Best Practicable Measures (BPM) and construction environmental management procedures. Design features that have been adapted to reduce or prevent impacts will be described.

Residual Effects

6.3.12 The residual effects will be assessed using the same system as described above taking account of any assessment mitigation proposals. Generally, based on the described classification and professional judgement, **effects considered to be moderate or major will be deemed significant, and those considered minor, or negligible, will be deemed not significant.**

6.3.13 Residual effects will be presented within each individual topic chapter and summarised in a chapter entitled *Residual Effects and Conclusions.*

Cumulative Effects

6.3.14 The EIA Regulations specify that an ES should include *'a description of the likely significant effects of the development on the environment, which should cover the direct effects and any indirect, secondary, cumulative…effects.'*

6.3.15 Cumulative effects are the combined effects of several development schemes (in conjunction with the Proposed Development) which may, on an individual basis be non-significant but, cumulatively, have a significant effect.

6.3.16 Two types of cumulative effects will be considered in the assessment. These include Type 1, intra-project effects (or effect interactions) which are the combined effects of individual topic impacts on a particular sensitive receptor, and Type 2, inter-project effects which are the combined effects of different development projects, alongside the Proposed Development.

6.3.17 Type 1 cumulative effects will be addressed in a separate ES chapter. Type 2 cumulative effects will be assessed in each individual topic chapter. Cumulative effects during both the construction and operational phases of the Proposed Development will be assessed.

6.3.18 The EIA will consider Type 2 cumulative effects from schemes of an appropriate scale and spatial extent in the context of the Proposed Development.

6.3.19 Applying the EIA thresholds for what is more likely to be considered significant development schemes and therefore give rise to cumulative effects, schemes which are likely to produce an uplift of more than 10,000 m^2 (GEA) of mixed use floorspace or over 150 residential units have been considered within a 500m radius of the Site.

6.3.20 These schemes include:

- approved but incomplete projects (i.e. unimplemented or under construction);

- projects for which a planning application has been submitted and which are under consideration by the consenting authorities; and
- for certain topics (e.g. visual impact) it may be appropriate to include developments outside of this area of search, should those projects individual characteristics warrant it (e.g. a particularly tall building). Additional schemes for each topic will be identified within the individual topic chapters.

6.3.21 From an initial planning search, the developments as set out in **Table 6.2,** have been identified as 'major development' likely to generate significant inter project effects. **Figure 6.3** shows the location of these schemes as well as the 500m search boundary applied.

6.3.22 MCC officers are invited to identify any additional committed or consented major development that officers believe are likely to require consideration within the ES as a result of likely significant inter-project environmental effects.

Table 6.2: Consented and Committed Schemes

Ref. No. for Map	Development	Planning Application Reference	Summary of Development	Distance from site	Planning Status
1	One City Road 1 City Road East Manchester M15 4PN	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.	20m	Approved 26.01.2021
2	Plot 9 First Street Manchester M15 4FN	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	25m	Approved 14.04.2022
3	Plot 11 First Street Comprising Land Bound By Hulme Street To The North,	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,	45m	Approved 09.03.2021

Ref. No. for Map	Development	Planning Application Reference	Summary of Development	Distance from site	Planning Status
	Wilmott Street To The East, The Unite Parkway Gate Development And Mancunian Way To The South, And Medlock Street To The West Manchester		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.		
4	Olympia Trading Estate Great Jackson Street Manchester M15 4NP	116850/FO/2017	Demolition of the existing buildings on the site and construction of three residential buildings, 32, 26 and 18 storeys in height, comprising a total of 399 residential units (C3) and 50 retirement living units (C2) with roof top ancillary restaurant; 675 sq.m of commercial floor space (Use Classes A1, A2, A3, A4, B1, D1 or D2); associated car and cycle parking within a basement level; public realm and landscaping; access and servicing arrangements; and other associated works.	240m	Approved 03.05.2019
5	10-12 Whitworth Street West Manchester M1 5WY	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.	260m	Approved 11.04.2016
6	Hotspur Press 2 Gloucester Street Manchester M1 5QR	120635/FO/2018	Part demolition and redevelopment and part retention and refurbishment of the former Hotspur Press Complex (Medlock Mill) to deliver 171 residential units (10 no. 1 bed, 1 person apartments, 49 no. 1 bed, 2 person apartments, 2no. 2 bed, 3 person apartments and 110	270m	Approved 30.10.2020

Ref. No. for Map	Development	Planning Application Reference	Summary of Development	Distance from site	Planning Status
			no. 2 bed 4 person apartments) - Use Class C3, within refurbished mill space and 28 storey building (including two levels of basement), commercial floorspace (Use Classes A1 (shop), A2 (financial and professional services), A3 (restaurants and cafes), B1 (office), D1 (medical clinic, health centre, art gallery and museum only) and / or D2 (gymnasium or bowling alley only) together with servicing, access, landscaping including a new public space and pedestrian route between Gloucester Street and First Street, and other associated works		
7	John Dalton West/John Dalton Tower Chester Street Manchester M1 5GD	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.	340m	Approved 12.03.2020 Demolition undertaken, construction not yet started.
8	Land known as Birley Plot E Stretford Road Manchester	120896/FO/2018	Construction of a part 6, part 11 and part 16 storey building comprising 491 student bedspaces (sui generis), amenity space, cycle parking, landscaping, and associated highways work.	350m	Approved 09.10.2018 Under construction, almost complete.
9	Former Bauer Millet Site Albion Street Manchester	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	350 m	Approved 27.07.2017 Under

Ref. No. for Map	Development	Planning Application Reference	Summary of Development	Distance from site	Planning Status
			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		construction.
10	Land Bound By Silvercroft Street, Crown Street, And The Mancunian Way Manchester M15 4AX	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)	360m	Approved 03.08.2020 Construction has just started.
11	325 - 327 Deansgate Manchester M3 4LQ	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	390m	Approved 26.06.2020
12	Land Bounded By Chester Road,	119806/FO/2018	Erection of two tall buildings (51 storeys and 21 storeys) comprising 664no residential	400m	Approved 04.07.2018

Ref. No. for Map	Development	Planning Application Reference	Summary of Development	Distance from site	Planning Status
	Mancunian Way And Former Bridgewater Canal Offices Manchester		units (use class C3) and commercial space (A1, A3 or D1), provision of two levels of basement parking, alterations to surface level car park, landscaping, highway alterations, access and associated works.		Under construction.
13	2 – 4 Chester Road Manchester M15 4QG	113870/FO/2016	Construction of two residential apartment buildings with ancillary amenity facilities for residents including a gym, landscaped terrace and swimming pool, new public realm and landscaping including two new pedestrian connections to the Castlefield basin from Chester Road, basement car parking and related highway, access, servicing and associated works.	400m	Approved 05.04.2017 Under construction, almost complete.
14	Great Marlborough Street Car Park Great Marlborough Street Manchester M1 5NJ	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.	430m	Approved 23.07.2021
15	Land Bounded By Trumpet Street, Albion Street & Great Bridgewater Street	133172/FO/2022	Erection of a 26-storey residential tower for 72 apartments (Use Class C3) with associated car parking, cycle parking, servicing, and associated landscaping works.	320m	Validated 09.03.2022 Awaiting decision.

Ref. No. for Map	Development	Planning Application Reference	Summary of Development	Distance from site	Planning Status
	Manchester M1 5LE				
16	34 Great Jackson Street Manchester M15 4NG	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	270m	Validated 09.03.2021 Awaiting decision.
17	Land At Deansgate South Manchester	129406/FO/2021	Full planning permission for a 28-storey purpose built student accommodation building (Sui Generis)	355m	Appeal allowed 04.06.2021
18	Plot F Great Jackson Street Manchester M15 4AX	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, basement car parking, landscaping and public realm, servicing and access arrangements, highways alterations, and associated works.	100m	Approved 01.07.2022

6.4 Demolition and Construction

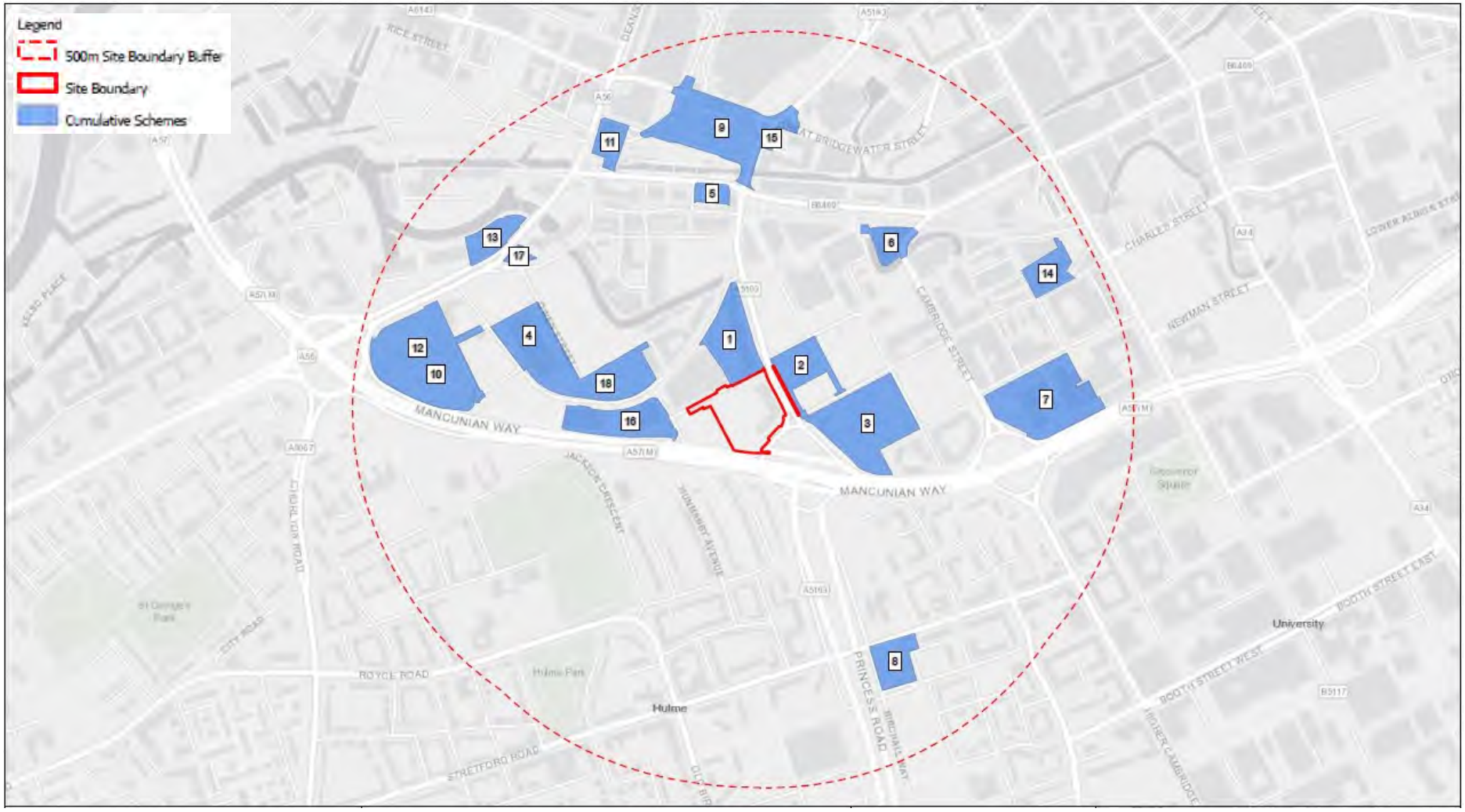
6.4.1 The ES will include a chapter describing the proposed construction methodology, the likely phasing of the Proposed Development and the proposed construction timescales. It will indicate the likely plant and equipment to be used, construction traffic access and management, the location and size of construction welfare facilities, materials and resource use and anticipated waste quantities. A framework Code of Construction Practice (CoCP) will also be prepared to support the planning application, which will set out construction related mitigation measures that will be implemented.

6.5 Consideration of Alternatives

6.5.1 The ES will include consideration of the main alternatives considered during the design process, such as the location and types of land uses and layouts. The rationale for the selection of the preferred option will also be included within the ES, which will

include a comparison of the environmental effects associated with each of the alternatives considered.

Figure 6.3: Consented and Committed Schemes



7.0 Proposed Environmental Topics to be included in the ES

7.1.1 The following topics are proposed to be scoped into the ES and these are further described below:

- Socio-Economics and Health;
- Air Quality;
- Noise and Vibration;
- Wind Microclimate;
- Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution;
- Built Heritage;
- Townscape and Visual Impact; and
- Climate Change.

7.2 Socio-Economics and Health

Summary of Baseline Conditions

7.2.1 The Office for National Statistics' (ONS') 2020 Population Estimates[5] found that a total of c. 46,000 people reside across the four Middle Super Output Areas (MSOAs)[6] which combine to form an approximation of Manchester City Centre[7]. This accounts for c. 8% proportion of the total population of c. 555,700 living in the local authority of Manchester. The population of Greater Manchester as a whole is c. 2.85 million.

7.2.2 The Site's city centre location means that numerous General Practitioner (GP) surgeries are identified in the neighbourhood and immediate vicinity. Guidance from the Royal College of GPs published by the NHS Healthy Urban Development Unit (HUDU)[8] outlines that 1 full-time equivalent (FTE) GP per 1,800 patients is an appropriate ratio in terms of healthcare provision. The

[5] ONS via Nomis (2021) Population Estimates: 2020.

[6] MSOAs are a geographic hierarchy designed to report of small area statistics in England and Wales. The minimum population of an MSOA is 5,000 and the average is 7,200.

[7] The four MSOA references are: Manchester 054 (City Centre North & Collyhurst); Manchester 055 (Piccadilly & Ancoats); Manchester 057 University North & Whitworth Street; and Manchester 060 (Castlefield & Deansgate).

[8] NHS Healthy Urban Development Unit (2009) HUDU Planning Contribution Model: Guidance Notes.

latest NHS GP Workforce data[9] indicates that facilities such as Ardwick Medical Practice (1.2 miles walking distance from the Site) has available capacity for an additional c. 2,350 patients based on this ratio. It is also noted that many of those GP surgeries in the locality of the Site which appear to be operating with more patients than the recommended ratio (including the closest practice to the Site, The Arch Medical Practice) nonetheless currently appear to be accepting new patient registrations[10]. Additionally, surgeries such as the City Health Centre state that they operate a 'Urgent Primary Care Hub' service for registered and non-registered patients[11], which is open seven days a week. Universities also often provide students with recommended GP surgeries with which they can register[12].

7.2.3 A total of 179,000 (workplace-based) jobs are recorded within Manchester City Centre, representing 43% of the total 412,000 recorded across Manchester[13]. The greatest contribution to the city centre area's employment is made by the professional, scientific & technical sector (the sector's 41,000 jobs equating to 23% of total jobs) and business administration & support services (35,000 jobs, equating to 20% of the total). Albeit accounting for a lower proportion of total employment in Manchester as a whole, these sectors are also among those which are most prevalent across the authority (respectively accounting for 14% and 12% of workforce jobs). Construction supports c. 2,000 jobs in the city centre (equating to 1.1% of the workforce) expanding to 8,000 jobs across the whole of Manchester local authority (equating to 1.9% of employment).

7.2.4 The latest ONS Claimant Count data[14] indicates that c. 1.4 % of the resident population aged 16-64 in Manchester City Centre are claiming benefits associated with being out of work. This is a lower proportion than recorded in Manchester local authority (5.9%) and in Greater Manchester as a whole (5%). It is notable that the number of people claiming out-of-work benefits remains

[9] NHS Digital (2022) General Practice Workforce, 31 July 2022 [Online]. https://digital.nhs.uk/data-and-information/publications/statistical/general-and-personal-medical-services/31-july-2022

[10] The Arch Medical Practice website (2020) 'New Patients' [Online]. Available at: https://www.thearchmedicalpractice.co.uk/register-online/

[11] GDT Healthcare website (2020) 'City Health Walk-in Centre' [Online]. Available at: https://www.gtdhealthcare.co.uk/manchesterurgentprimarycarehub

[12] For example, University of Manchester highlight that new students can register with The Robert Darbishire Practice, near the university's south campus. See https://www.welcome.manchester.ac.uk/get-ready/become-a-student/register-with-a-gp/

[13] ONS via Nomis (2021) Business Register & Employment Survey: 2020

[14] ONS via Nomis (2022) Claimant Count: July 2022

notably higher across all spatial scales in comparison to prior to the Covid-19 pandemic; compared to January 2020, the number of claimants living in Manchester City Centre is 131% higher as of July 2022 (albeit growing from a relatively low base), with more modest (yet still notable) changes in the number of claimants also recorded in Manchester local authority (42% higher) and across Greater Manchester (32%) respectively.

7.2.5 Analysis of Office for Health Improvement and Disparities (OHID) data[15] highlights several indicators for which Manchester has poorer health outcomes than recorded in Greater Manchester and nationally. Life expectancies for both men (75.5 years) and women (79.9 years) are lower in Manchester than recorded in Greater Manchester (respectively 77.9 and 81.7 years), with both areas also being lower than recorded nationally (respectively 79.4 and 83.1 years). Whilst a lower proportion of adults are classified as overweight or obese in Manchester (62%) than in both Greater Manchester (66%) and nationally (at 64%), childhood obesity is more prevalent in Manchester (where 27% of Year 6 children are obese) than in Greater Manchester (23%) or England (21%). A lower percentage of adults are physically active (63%) in Manchester in comparison with Greater Manchester (65%) albeit the rates in both areas are lower than in England as a whole (67%).

Key Issues and Potential Likely Impacts Identified

Identification of Effects which are Not Significant

7.2.6 The following effects have been identified and are not considered significant. They will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this.

Increase Demand for Primary Healthcare Infrastructure

7.2.7 The Proposed Development's purpose-built student accommodation could accommodate 1,014 residents. Based on published guidance[16], it is estimated that this could generate demand for fewer than one (0.6) FTE GPs. Analysis of existing primary GP healthcare provision indicated that there are GP surgeries accessible from the Site which currently have available capacity against recommend guidelines of a scale which could readily accommodate this number of additional patients. In addition, there are further GP facilities in the immediate vicinity which, whilst appear to be operating with patient numbers

[15] Office for Health Improvement and Disparities (2022) Local Authority Health Profiles

[16] NHS Healthy Urban Development Unit (2009) HUDU Planning Contribution Model: Guidance Notes.

slightly above recommended guidelines, continue to register new patients and offer walk-in GP services to non-registered patients.

7.2.8 Therefore, impact on provision of primary healthcare infrastructure is unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

Resident and Workforce Expenditure

7.2.9 The residents and workforce accommodated at the Proposed Development are likely to generate additional expenditure on retail and leisure goods and services in the local economy. Whilst this will have a beneficial effect on businesses in the locality and will support the employment capacity of the retail and leisure sectors in Manchester, it is considered that the change as a result of the Proposed Development is likely to be relatively limited in comparison with the existing annual local resident expenditure baseline (estimated at c. £4.13 billion in 2022).

7.2.10 Therefore, the impact of resident and workforce expenditure is unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

Provision of Visitor Accommodation

7.2.11 The Proposed Development will result in the loss of the existing 199 hotel rooms currently at the Site. Whilst an adverse impact in terms of the provision of visitor accommodation, it is noted that this represents just 1.6% of the current number of visitor accommodation units within Manchester city centre (c. 12,700), and 0.7% of stock in Greater Manchester as a whole (c. 27,600)[17].

7.2.12 It is also noted that there is a notable pipeline of planned new visitor accommodation in Manchester city centre and across Greater Manchester; 2022 data indicates that 2,058 rooms are confirmed as coming forward in Manchester City Centre through new openings and property extensions, increasing current supply by 16%. The pipeline expands to 6,123 new rooms at the scale of Greater Manchester, increasing supply by 22%[18].

7.2.13 Taking the above into account, impact on provision of visitor accommodation is therefore unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

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[17] Marketing Manchester (2022) One Stop Intelligence Document: Greater Manchester's Tourism Sector – Tourism, its Value to the Local Economy (March 2022)

[18] Ibid.

Access to Open Space, Public Amenity Space and Facilities for Sports and Leisure Activities

7.2.14 The Proposed Development will provide a publicly accessible external green space and a residents gym. Access to open space, public amenity space and facilities for sports and leisure activities is therefore inherent and mitigated within the design of the Proposed Development. Additionally, the Site's city centre location means that there is a full range of further amenities and facilities for these purposes for the Proposed Development's residents and workers to access.

7.2.15 Therefore, impact on access to open space, public amenity space and facilities for sports and leisure activities is unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

Social and Neighbourhood Cohesion

7.2.16 The Site of the Proposed Development is currently occupied by commercial uses and surface car park. Therefore, the Site's redevelopment will not result in the displacement of any existing residential communities. Provision of internal and external amenity space within the Proposed Development will also support social cohesion for those residents and workers who will occupy the Scheme. As such, given the embedded mitigation included within the Proposed Development, social and neighbourhood cohesion is not considered to be significant and will not be considered further within the EIA or reported in the ES.

Crime Levels and Community Safety

7.2.17 The Site security arrangements for the Proposed Development during the construction phase will be in line with the requirements set out in the Construction (Design and Management) Regulations 2015. The design of the Proposed Development will be informed by 'Secured by Design' principles and appropriate measures to ensure safety for residents, workers and all others accessing and using on-site spaces.

7.2.18 Therefore, impact on crime levels and community safety is unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

Access to Active Travel and Sustainable Travel Options

7.2.19 The Proposed Development is located within a city centre location with good access to public transport options; Manchester Oxford Road Railway Station, Deansgate Railway Station and Deansgate-Castlefield Metrolink (tram) Station are all under 0.5 miles walking distance (i.e. accessible in under 10 minutes) from the Proposed Development, providing a range of local, regional and national transport links, with stops on the city centre's bus network also being

easily accessible. The location of the Proposed Development will therefore allow and encourage the new residential and workforce population at the Proposed Development to utilise existing public transport options. The Proposed Development does not include residents' parking, which will also serve to minimise travel by private car to and from the Site and promote sustainable and active travel choices once operational.

7.2.20 Therefore, impact on access to active travel and sustainable travel options is unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

Access to Healthy Food

7.2.21 There are a number of supermarkets which can be reached within a 10-minute walking distance of the Proposed Development (including a Sainsbury's Local at First Street, with further provision accessible elsewhere within the city centre) therefore providing a range of food to future residents and the workforce located on Site.

7.2.22 Therefore, impact on access to healthy food is unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

Identification of Likely Significant Effects and Receptors

7.2.23 The following effects shown in **Table 7.1** below have been identified and will be assessed within the EIA and reported in the ES.

Table 7.1: Likely Significant Effects and Receptors

Effect	Receptor	Development Phase (Demolition and Construction/Operation)
Employment generated during the demolition and construction phase	Labour force in the local and wider impact areas	D&C
Employment generated during the operational phase	Labour force in the local and wider impact areas	O

Assessment Methodology

7.2.24 The following methodology for assessment is proposed:

- Appropriate study areas will be defined, which – in the absence of formal guidance – will be based on an understanding of relevant local and wider economic geographies and a consideration of the extent to which socio-economic and human health effects are likely to be captured therein. The neighbourhood impact area will be the four MSOAs which form an

approximation on Manchester City Centre[19]; the local authority of Manchester will form the local impact area; and the Greater Manchester Combined Authority (GMCA) area will form a wider impact area. This reflects existing evidence of labour force containment from the 2011 Census[20];

- Best practice and methodological guidance will be drawn upon as appropriate to inform key elements of the assessment, including the Additionality Guide (4th Edition)[21] and the Employment Density Guide (3rd Edition)[22] published by the Homes and Communities Agency (HCA, the body now known as Homes England) and the HUDU Rapid Health Impact Assessment Toolkit (4th Edition)[23]. Net additional economic impacts will be presented, accounting for leakage, displacement and multiplier effects;
- The sensitivity of receptors will be determined through comparison with city-regional, regional and national trends. Through observation of a receptor's capacity for change relative to wider comparator areas and/or national standards, the sensitivity of receptors locally can be observed. Consideration is also given to the priority attributed to specific receptors in strategy and policy terms, particularly in the case of qualitative receptors and those where there may be a shortage of quantitative evidence. The assessment is based on professional judgment; and
- Once the sensitivity of the receptor has been identified, the magnitude of change associated with the Proposed Development will be benchmarked against the current rate of change in the corresponding social, economic or health baseline.

7.2.25 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)

[19] The four MSOA's references are: Manchester 054 (City Centre North & Collyhurst); Manchester 055 (Piccadilly & Ancoats); Manchester 057 University North & Whitworth Street; and Manchester 060 (Castlefield & Deansgate)

[20] ONS via Nomis (2011) 2011 Census. The Census found that 38% of residents of Manchester also work within the authority, with 84% of jobs in Manchester taken by residents of the wider impact area of Greater Manchester. This therefore indicates that the majority of significant socio-economic effects generated by the Proposed Development would be contained within this wider geography.

[21] Homes and Communities Agency (2014) Additionality Guide 4th Edition.

[22] Homes and Communities Agency (2015) Employment Density Guide 3rd Edition.

[23] NHS Healthy Urban Development Unit (2019) Rapid Health Impact Assessment 4th Edition.

to determine significance on a scale of major, moderate, minor and negligible. Significant effects will be determined through professional judgment.

7.3 Air Quality

Summary of Baseline Conditions

7.3.1 The Greater Manchester Combined Authority (GMCA), of which MCC is a part of, have designated one Air Quality Management Area (AQMA) within their administrative area as a consequence of the Review and Assessment work carried out by the councils that make up the GMCA. The Site lies within the AQMA which has been designated due to exceedances of the Air Quality Strategy (AQS) objectives for nitrogen dioxide (NO_2). 2019 annual monitoring data has been utilised as a baseline and considered to be a standard assessment approach. At all diffusion tube sites in the vicinity of the Site, the AQS objective for annual mean NO_2 concentrations has been exceeded in 2019. As these sites are positioned adjacent to road sources within an AQMA, elevated concentrations are to be expected. Concentrations of NO_2 during 2020 and 2021 were lower than previous years due to a reduction in traffic and associated emissions caused by the COVID-19 pandemic. These results will therefore be viewed with caution.

7.3.2 The Site is located in an area where air quality is mainly influenced by road transport using the A57 (M) Mancunian Way and the A5103 Medlock Street/Mancunian Way/Princess Road, which borders the Site to the east and south.

7.3.3 There are no industrial pollution sources in the immediate vicinity of the Site that will influence the local air quality. There are no railways within 30m of the Site.

Key Issues and Potential Likely Impacts Identified

Identification of Effects which are Not Significant

7.3.4 The following effects have been identified and are not considered significant. They will not be considered further with the EIA or reported in the ES. A factual evidence base has been provided below to support this.

Impacts on Ecological Receptors

7.3.5 There are no ecological designated sites within 2km of the Site or on the roads leading away from the Site. As such, impacts on ecological receptors are

unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

Changes to Local Air Quality as a result of Operational Traffic Generated by the Proposed Development

7.3.6 Data provided by the transport consultants indicates that the Proposed Development will result in a decrease of overall trips when compared to the existing baseline. The impact of road vehicles generated by the operation of the Proposed Development is unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

Identification of Likely Significant Effects and Receptors

7.3.7 The following effects shown in **Table 7.2** below have been identified and will be assessed within the EIA and reported in the ES.

Table 7.2: Likely Significant Effects and Receptors

Effect	Receptor	Development Phase (Demolition and Construction/Operation)
Dust and particulate matter generated during the construction phase	Existing residents within 350m of the Site (dust soiling and health)	D&C
Effects on local air quality from emissions from construction traffic	Existing residents	D&C
Emissions from existing future baseline traffic*	Future residents	O
Emissions from potential energy centre	Existing and future residents	O
*Only existing traffic has been considered in the model due to the absence of industrial and railway sources in the vicinity of the Site.		

Assessment Methodology

7.3.8 The following methodology for assessment is proposed:

- During the construction of the Proposed Development there is the potential for air quality effects as a result of fugitive dust emissions from demolition, earthworks, construction and trackout activities. It is proposed to assess these in accordance with the Institute of Air Quality Management (IAQM) document 'Guidance on the Assessment of Dust from Demolition and Construction V1.1[24]'. The assessment of likely significant effects to

[24] Guidance on the assessment of dust from demolition and construction (2014) Institute of Air Quality Management

sensitive receptors will consider the sensitivity of the receptor and the magnitude of change in accordance with the IAQM guidance;

- Impacts associated with road vehicle exhaust emissions during construction will also be examined. This will involve a review of the proposed works and related traffic data during the various phases of the development to identify any potentially adverse effects at nearby sensitive receptors. This will be carried out in-line with IAQM 'Land-Use Planning & Development Control: Planning for Air Quality' guidance[25];
- During the operational phase, there is the potential for the exposure of future occupants to elevated pollution levels. The Air Quality Assessment will be undertaken using detailed dispersion modelling using ADMS-Roads in order to fully quantify NO_2, particulate matter with an aerodynamic diameter of less than 10µm (PM_{10}) and particulate matter with an aerodynamic diameter of less than 2.5µm ($PM_{2.5}$) concentrations across the site;
- The assessment will be undertaken using relevant traffic data, local land use characteristics and 1-year of hourly meteorological records taken from the Manchester Airport observation station. The modelling outputs will be verified against local monitoring data in accordance with the Defra methodology. Predicted pollutant concentrations will be compared against the Air Quality Objectives, as defined in the UK Air Quality Strategy and associated regulations. This will determine the potential for the exposure of future residents to poor air quality. Concentrations will be displayed graphically throughout the assessment extents using contour plots;
- The ADMS Roads modelling will be verified against existing monitoring data for the area (where relevant data exists). In accordance with the IAQM position statement 'Use of 2020 and 2021 Monitoring Datasets', model verification will be undertaken for 2019 using traffic data, meteorological data and monitoring results from this year;
- If required following the assessment, suitable mitigation measures will be identified in order to reduce air quality effects to an appropriate level with reference to the recommendations included within the IAQM guidance and MCC'S Air Quality and Planning Technical Guidance.

[25] Land-Use Planning & Development Control: Planning For Air Quality (2017) Guidance from Environmental Protection UK and the Institute of Air Quality Management for the consideration of air quality within the land-use planning and development control processes. Institute of Air Quality Management

7.4 Noise and Vibration

Summary of Baseline Conditions

7.4.1 The acoustic environment across the Site is heavily influenced by road traffic on the Mancunian Way flyover to the south and Medlock Street to the east. Both are major arterial roads through Manchester, subject to high levels of traffic throughout the day.

7.4.2 An external noise survey was carried out at the Site in 2019, in accordance with the methodology of 'BS 7445:2003 Description and measurement of environmental noise', at two measurements positions to determine prevailing noise levels. Data was recorded in 15-minute samples across a six-day period, between 16:00 on Thursday 2nd May and 15:30 on Tuesday 7th May 2019. One position was on the north-west Site boundary, overlooking River Street, and the other was to the south-east, on the roof of the existing hotel, overlooking the Mancunian Way flyover and Medlock Street junction. The results of this showed that noise levels follow a typical diurnal pattern, increasing in the morning with rush hour traffic, remaining steady throughout the day before gradually falling away into the early hours of the morning.

7.4.3 An updated noise survey will be carried out in accordance with the same methodology (BS 7445:2003), at one long-term measurement position to validate the prevailing noise levels. The position is to be located at the south-east boundary of the Site.

7.4.4 An image of the equipment set up on other sites, which is to be replicated on the Site, is presented in **Figure 7.1**.

Figure 7.1: Image of Meter Recording on Another Site



7.4.5 The survey will be undertaken using a Class 1 CEL 633 precision sound level meter (serial number: 1211404)

7.4.6 Data will be recorded as per the same methodology above and summaries of the statistical noise level data will be provided in the ES and used to inform the assessment.

Key Issues and Potential Likely Impacts Identified

Identification of Effects which are Not Significant

7.4.7 The following effects have been identified and are not considered significant. They will not be considered further within the EIA or reported in the ES. A factual evidence base has been provided below to support this.

Nuisance and Disturbance to Future Users of the Site as a result of Tactile Vibration or Re-Radiated Ground-Borne Noise during the Operational Phase

7.4.8 No prominent sources of vibration, such as railway lines or tram routes, are located in proximity to the Site and it is understood that the commercial hotel has been operating successfully on the Site without any issue relating to vibration.

7.4.9 Consequently, neither tactile vibration nor re-radiated ground-borne noise are likely to have an impact upon future users of the Proposed Development and therefore not considered significant and will not be considered further within the EIA or reported in the ES.

Noise Nuisance and Disturbance from Road Traffic associated with the Operational Proposed Development

7.4.10 Guidance on the assessment of road traffic noise is set down within the Design Manual for Roads and Bridges (DMRB) LA 111 Noise and vibration[26]. This document advises that an assessment of road traffic noise should only be scoped into an EIA when a project is likely to cause a change in the baseline noise level ($L_{A10,18hr}$) of 1dB which is equivalent to a 25% increase in traffic volume.

7.4.11 It is understood from traffic flow information (see **Section 8.6: Transport**) provided that baseline traffic flow counts show the local road network is already subject to high levels of traffic well in excess of 10,000 vehicles movements per day and that predicted flow counts upon completion of the Proposed Development showed a negligible (<5%) increase in traffic volumes. It

[26] Design Manual for Roads and Bridges (DMRB) LA 111 – Noise and vibration (2020) Version: 2

is understood that a slight increase in the percentage of HGV traffic on River Road during the operation of the Proposed Development is predicted, but again this change is not expected to result in a meaningful uplift in noise levels (< 1dB).

7.4.12 It has therefore been concluded that any increase in traffic noise would be negligible (< 1dB) and the effect of noise disturbance associated with road traffic during the operational phase upon the existing receptors is expected to be negligible. As such, this effect will not be considered further within the EIA or reported in the ES.

Identification of Likely Significant Effects and Receptors

7.4.13 The following effects shown in **Table 7.3** below have been identified and will be assessed within the EIA and reported in the ES.

Table 7.3: Likely Significant Effects and Receptors

Effect	Receptor	Development Phase (Demolition and Construction / Operation)
Disturbance to existing sensitive receptors from noise and vibration generated by demolition and construction activities (including construction traffic)	Flats at City South River Street, student accommodation on River Street Tower and Plot 9A First Street	D&C
Disturbance to existing and future sensitive receptors from noise generated by building services plant servicing the Proposed Development	Residential users of the Proposed Development, Flats at City South River Street, student accommodation on River Street Tower and Plot 9A First Street	O
Disturbance to existing and future/proposed sensitive receptors from amplified music within the gym area.	Residential users of the Proposed Development, Flats at City South River Street, student accommodation on River Street Tower and Plot 9A First Street	O
Disturbance to future proposed sensitive receptors from prevailing external noise levels	Residential and commercial users of the Proposed Development	O

Assessment Methodology

7.4.14 The following methodology for assessment is proposed:

- Assessment of noise and vibration associated with demolition and construction works:

- Noise and vibration associated with demolition and construction works for the Proposed Development shall be predicted in accordance with BS 5228: 2009 + A1: 2014 *Code of practice for noise and vibration control on construction and open sites*;
- The significance of noise levels at nearby noise-sensitive receptors shall be determined in accordance with the methodologies presented in Annex E of BS 5228;
- Where necessary, guidance shall be provided on measures to minimise construction noise which can be adopted within a Construction Environmental Management Plan (CEMP); and
- Guidance shall also be provided on the human and structural response to vibration, establishing suitable criteria for vibration levels to be adopted within a CEMP.

- Assessment of noise emissions from building services plant:
  - Noise emissions from external plant associated with the Proposed Development shall be assessed against MCC's planning criteria in accordance with the methodology set out in BS 4142: 2014 *Methods for rating and assessing industrial and commercial sound*;
  - Indicative noise data for the proposed equipment shall be taken from manufacturers and compliance with assessment criteria shall be demonstrated through calculation. Any attenuation measures to satisfy the limits shall be included from the outset;
  - If the plant proposals are unknown then the background noise level data from the external noise survey shall be used to establish limits for the cumulative rating level from fixed plant at each of the noise sensitive receptors in proximity to the Site. High level commentary on unit selections and attenuation measures to satisfy the limits will be provided;
- Assessment of entertainment noise:
  - For structurally detached locations, entertainment noise relating to the Proposed Development will be assessed against MCC's planning criteria where noise is controlled to 10 dB below the existing background noise level (L_{A90}) in each octave band;
  - For structurally attached locations, entertainment noise relating to the Proposed Development will be assessed against MCC's planning criteria where noise is controlled to 10 dB below the existing background noise level (L_{A90}) in each octave band, with levels in the 63 HZ and 125 Hz bands controlled to 47 dB and 41 dB (L_{Aeq}) respectively;

- These assessments will be used to set limiting levels within the gym that can be implemented with the installation of a sound limiter to control maximum outputs from any installed speaker system;

- Assessment of external noise intrusion:

  - A 3D noise model of the Proposed Development shall be developed using proprietary computer software and the noise level data from the external noise survey. The model shall be used to predict the ambient and maximum noise levels anticipated at the façades of the Proposed Development;

  - The façade noise levels shall then be used to establish minimum sound insulation performances for façade elements and ventilation openings. Internal noise levels within the residential spaces shall be assessed against the internal noise criteria adopted by MCC and the good practice guidance from documents such as BS 8233: 2014 *Guidance on sound insulation and noise reduction for buildings and ProPG: Planning and Noise – New Residential Development*; and

  - Internal noise levels within the commercial spaces shall be assessed against internal noise criteria recommended by good practice guidance documents such as BS 8233: 2014 *Guidance on sound insulation and noise reduction for buildings* and the British Council for Offices' *Guide to Specification 2019*.

7.4.15 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 significance on a scale of major, moderate, minor and negligible. Significant effects will be determined through professional judgment.

7.5 Wind Microclimate

Summary of Baseline Conditions

7.5.1 The Site is relatively exposed to prevailing south-westerly winds, but it is not considered a significant structure with respect to wind. In accordance with the London Dockland Development Corporation (LDDC) variant of the Lawson Safety Criteria[27], it is expected that wind conditions within the existing Site and

[27] Lawson, T.V. The determination of the wind environment of a building complex before construction. University of Bristol, Department of Aeronautical Engineering, TVL/9025, 1990. The industry standard criteria for wind microclimate assessments are commonly referred to as the Lawson criteria and emerged during a period of substantial research on the subject. Professor Tom Lawson presented what has become the 'University of Bristol' variant of the Lawson criteria in 1973, prior to a collaborative initiative that produced the London Docklands Development Corporation (LDDC) variant of

immediate surrounds would be generally suitable for at least leisurely strolling throughout the year, and for standing at entrances. In addition, wind conditions are expected to satisfy the safety criteria for wind. These conditions may be exceeded near the base of the adjacent high-rise development, where it is expected that local mitigation measures have been introduced as part of this development.

Key Issues and Potential Likely Impacts Identified

Identification of Effects which are Not Significant

7.5.2 The following effects have been identified and are not considered significant. They will not be considered further with the EIA or reported in the ES. A factual evidence base has been provided below to support this.

Temporary Exceedance of LDDC Wind Safety and Comfort Criteria during Construction

7.5.3 During the construction phase, built form within the Site will be demolished and construction of the Proposed Development will occur gradually, across the entire construction period. In the first instance when the demolition of the existing built form occurs, there is considered to be limited opportunity for accelerated wind due to channelling or downdraughts.

7.5.4 Nonetheless, as the built form (specifically the massing) of the Proposed Development gradually occurs there will be instances where accelerated wind conditions may occur, albeit these will be gradual over the course of the construction period. As the massing nears completion, the level of effect is likely to be similar to that being considered/assessed at the operational phase, albeit, in instances mitigation measures required for appropriate wind conditions at the operational phase may or may not be implemented, and as such wind levels may be greater than that determined at the operational phase. Nonetheless, given that the Site will still be within the construction phase, the receptors within the Site are generally considered to be of a lower sensitivity that even should adverse effects be greater than that at operation, the resulting level of effect would not be significant. Therefore, it is considered that an assessment of operational effects would represent an appropriate approximation of a worst-case scenario during construction. As a result, the assessment of construction effects will not be considered within the EIA or

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the Lawson criteria. The LDDC variant applies a single percentage probability of exceedance of a range of wind speeds, and associates each wind speed to a common pedestrian use such as sitting, standing and walking for comfort, with higher wind speed thresholds for the assessment of safety.

reported within the ES, as the operational assessment is considered applicable for consideration of construction effects on a worst-case basis.

Identification of Likely Significant Effects and Receptors

7.5.5 The following effects shown in **Table 7.4** below have been identified and will be assessed within the EIA and reported in the ES.

Table 7.4: Likely Significant Effects and Receptors

Effect	Receptor	Development Phase (Demolition and Construction "C" / Operation "O")
Exceedance of the LLDC wind safety criteria	Pedestrians within the Proposed Development and surrounding areas	O
Exceedance of the LLDC wind comfort criteria	Pedestrians within the Proposed Development and surrounding areas	O

Assessment Methodology

7.5.6 The following methodology for assessment is proposed:

- At least 15 years of wind climate data will be acquired from nearby weather stations and used to undertake a statistical analysis of the wind climate prevailing across the area. Regional wind climate statistics will then be combined with a site-specific wind analysis to derive a wind climate model for the Site;
- A physical model of the Site and surrounding area will be constructed and assessments will be performed using a boundary layer wind tunnel for 16 wind directions, spaced at 22.5° intervals, to represent all directions;
- The study will take into account the following factors:
  - The effect of the geometry, height, massing, exposure and orientation of the Proposed Development within existing and cumulative surroundings respectively; 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 fast walking.
- The results of the assessment will thus be presented, showing the adherence of conditions at all points to the LDDC variant of the Lawson Criteria.

- The LDDC variant of the comfort criteria (shown in **Table 7.5**) 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 Lawson safety criteria identify 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 7.5: Lawson Comfort Criteria

Comfort Category	5% Exceedance Threshold	Description
Long-term sitting	4 m/s	Light breezes desired for outdoor restaurants and seating areas where one can read a paper of 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 of this magnitude are considered a nuisance for most activities.

7.5.7 The assessment of likely significant effects to 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.

7.6 Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution

Summary of Baseline Conditions

7.6.1 Baseline studies are currently being undertaken. The baseline assessment will review the daylight and sunlight conditions within each of the surrounding residential properties in the Proposed Development area's present form.

7.6.2 Solar glare and light spillage are not comparative assessments; the fact that they may occur in the baseline does not necessarily justify their occurrence as a

result of the Proposed Development. Consequently, the assessment will consider the effects of the Proposed Development in absolute terms and no baseline conditions are relevant.

Key Issues and Potential Likely Impacts Identified

Identification of Effects which are Not Significant

7.6.3 The following effects have been identified and are not considered significant. They will not be considered further with the EIA or reported in the ES. An evidence base has been provided below to support this.

Reduction in Daylight and Sunlight Amenity on Buildings of Non-Residential Use

7.6.4 The Building Research Establishment (BRE) Guidance[28] emphasises the impact assessment of neighbouring buildings of residential use (and in particular habitable rooms) as well as external amenity areas, such as gardens, playgrounds, public spaces etc. Therefore, in line with the guidance it has been considered that neighbouring buildings that are not in residential use do not require consideration of changes to daylight and sunlight. As such, on this basis, reduction in daylight and sunlight amenity on buildings of non-residential use is not considered to be significant and will not be considered further within the EIA or reported in the ES.

Reduction in Daylight and Sunlight Amenity to the Residential Buildings on Rockdove Avenue, Hunmanby Avenue and Hulme Street

7.6.5 The Proposed Development is located to the north of these neighbouring receptors, and on that basis the Proposed Development will have no material impact on the sunlight amenity of these neighbouring buildings. The buildings also have windows overlooking the Proposed Development. On this basis, there will be no impact on the daylight and sunlight amenity of these residential buildings. Therefore, reduction in daylight and sunlight amenity to residential buildings on Rockdove Avenue, Hunmanby Avenue and Hulme Street are not considered to be significant and will not be considered further within the EIA or reported in the ES.

Reduction in Daylight and Sunlight Amenity to the Residential Buildings known as Lumiere, The Nile, The Danube, The Rhine and 30 City Road East

7.6.6 Residential buildings known as Lumiere, The Nile, The Danube, The Rhine and 30 City Road East are located to the north of the Proposed Development.

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[28] Building Research Establishment (BRE) Guidelines Site layout planning for daylight and sunlight: a guide to good practice (BR 209).

Whilst they will have an oblique view of the Proposed Development, they are located approximately 120m away from the Site and the view will be of the narrowest northern elevation. Therefore, the potential for daylight and sunlight impacts is not considered to be significant and will not be considered further within the EIA or reported in the ES.

Daylight and Sunlight Amenity Impact on Residential Buildings not listed within Table 7.6

7.6.7 There are other buildings of residential use within 500m of the Site that have windows that either overlook the Site or through which the Proposed Development will be seen once constructed. Notwithstanding, neighbouring buildings of residential use, outside of those specified within **Table 7.6**, are considered to be too far from the Site to be materially affected by the massing of the Proposed Development.

7.6.8 On that basis, impacts on Daylight and Sunlight Amenity of any residential buildings not identified within **Table 7.6** are not considered significant and will not be considered further within the EIA or reported in the ES.

Identification of Likely Significant Effects and Receptors

7.6.9 The following effects shown in **Table 7.6** below have been identified and will be assessed within the EIA and reported in the ES.

Table 7.6: Likely Significant Effects and Receptors

Effect	Receptor	Development Phase (Demolition and Construction/Operation)
Reduced daylight and sunlight amenity	City South Apartments and River Street Tower	O
Solar Glare	Drivers at major road junctions within 500m of the Site where the Proposed Development is visible	O
Light pollution	City South Apartments	O

Assessment Methodology

7.6.10 The following methodology for assessment is proposed for the daylight, sunlight and overshadowing element:

- The assessment will be based on the BRE Design Guidance Site Layout Planning for Daylight & Sunlight: A Guide to Good Practice, with consideration of Appendix I of the BRE Guidance which provides advice to on how the Guidance should be administered and applied in the context of an Environmental Impact Assessment;

- In evaluating the daylight amenity impact, the BRE's Vertical Sky Component ('VSC') and No Sky Line ('NSL') tests will be undertaken;
- The sunlight amenity impact will be evaluated with reference to the BRE's Annual Probable Sunlight Hours ('APSH') tests. The BRE confirm that it is only necessary to appraise living rooms within neighbouring receptors that face within 90° of due south (because, in the northern hemisphere, the availability of sunlight is only available from the south). North facing receptors can have no expectation of sunlight amenity;
- The technical analyses carried out to inform the daylight, sunlight and overshadowing assessment will be undertaken by creating a digital three-dimensional (3D) model of the existing Site and Proposed Development; and
- The 3D model uses Waldram Diagrams to establish the VSC and 3D geometric calculations for daylight distribution. This model (which is orientated to north by the uses of Ordnance Survey (OS) information) enables the path of the sun to be tracked throughout the year to establish the shadow cast by the existing and proposed buildings and thus calculate the sun hours on ground in each scenario.

7.6.11 The following methodology for assessment is proposed for the solar glare element:

- The assessment of solar glare is particularly important at pedestrian and road junctions and train lines, where glare can cause temporary blinding of drivers or pedestrians. Typically, elements considered to be reflective are either glazed apertures or specular metal cladding;
- The result of the solar glare assessment will be assessed in absolute terms upon the façade of the Proposed Development to determine the potential for solar reflections at surrounding road and railway viewpoints; and
- There are no quantitative criteria within the BRE Guidelines or elsewhere regarding acceptable levels of solar glare. By reference to the International Commission on Illumination's (CIE's) 2007 Collection on Glare[29], professional judgement will therefore be applied, as well as taking into consideration the duration of solar reflections, location of these in relation to a driver's line of sight, and the probability of these solar reflections occurring to assign the significance of solar glare arising from the Proposed Development.

[29] International Commission on Illumination (CIE) (2002) Collection On Glare (2002).

7.6.12 The following methodology for assessment is proposed for the light pollution element:

- The assessment of light pollution is required given that the Proposed Development comprises highly glazed areas of commercial use where extensive artificial lighting may be used;
- The assessment of light pollution would focus on the effects of light egress from within the highly glazed illuminated spaces and the subsequent light pollution onto sensitive receptors; and
- The Institute of Lighting Professionals' (ILP's) Guidance Notes 2021[30] set out numerical criteria for light pollution before and after curfew (11pm) based on the lighting environment of the surrounding context. In combination with the ILP Guidance, professional judgement will be used to establish the scale of the adverse effect.

7.7 Built Heritage

Summary of Baseline Conditions

7.7.1 Historic maps show that the Site formed part of an area of dense court and terraced housing during the 19th century, arranged around a grid network of streets and interspersed with public houses and industry closer to the River Medlock.

7.7.2 Former buildings were largely demolished as part of extensive clearance in this area of Manchester during the 1930s and the Site remained vacant until the existing hotel was built in circa 2000, fronting Medlock Street with surface level car parking to the rear.

7.7.3 There are no designated or non-designated built heritage assets within the Site, however there are assets within the wider area, including the Britons Protection public house, 13 to 17 Albion Street, Chepstow House, Peverill of the Peak public house, Lee House, the Ritz Dance Hall and Manchester Oxford Road Station to the north and north-east. Directly to the east of the Site, beyond existing areas of vacant land is a grouping of grade II listed former cotton mills and associated chimneys lining Hulme Street and Cambridge Street and beyond the A5105 (Mancunian Way), to the south-east, is a former school house and the Roman Catholic Church of St Wilfrid.

7.7.4 With the exception of the Former Congregational Chapel on Deansgate to the north-west of the Site, within the boundary of Castlefield Conservation Area,

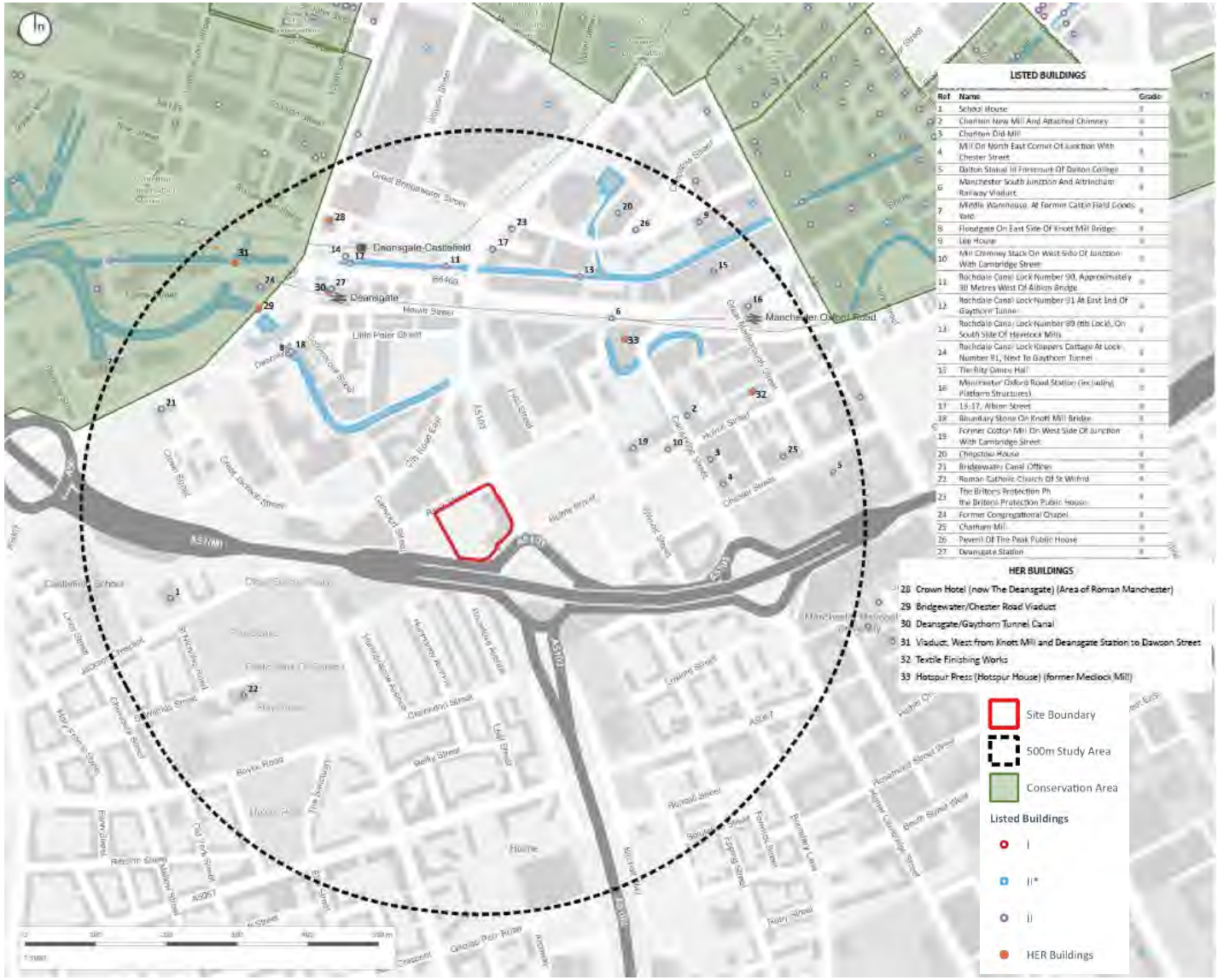
[30] Institute of Lighting Professionals (ILP) (2021) Guidance Note 1 for the reduction of obtrusive light (2021).

other assets are 19th century buildings and structures associated with the development of the canal and rail network in the city.

7.7.5 **Figure 7.2**[31] identifies the Site, Study Area and designated and non-designated heritage assets.

[31] Note this figure has been sourced from the Heritage Asset Plan produced in consideration of the development under planning reference WHIM3011; however, given the similarity of the Site Boundary and the baseline conditions with the Proposed Development, it is considered to present a suitable source of information on which to base the scoping of assessment. An updated HER search will be undertaken for the Proposed Development and used to supplement the assessment reported in the ES.

Figure 7.2: Heritage Asset Plan



Key Issues and Potential Likely Impacts Identified

Identification of Effects which are Not Significant

7.7.6 The following effects have been identified and are not considered significant. They will not be considered further with the EIA or reported in the ES. A factual evidence base has been provided below to support this.

Change in the Setting of Heritage Assets Outside the 500m Study Area

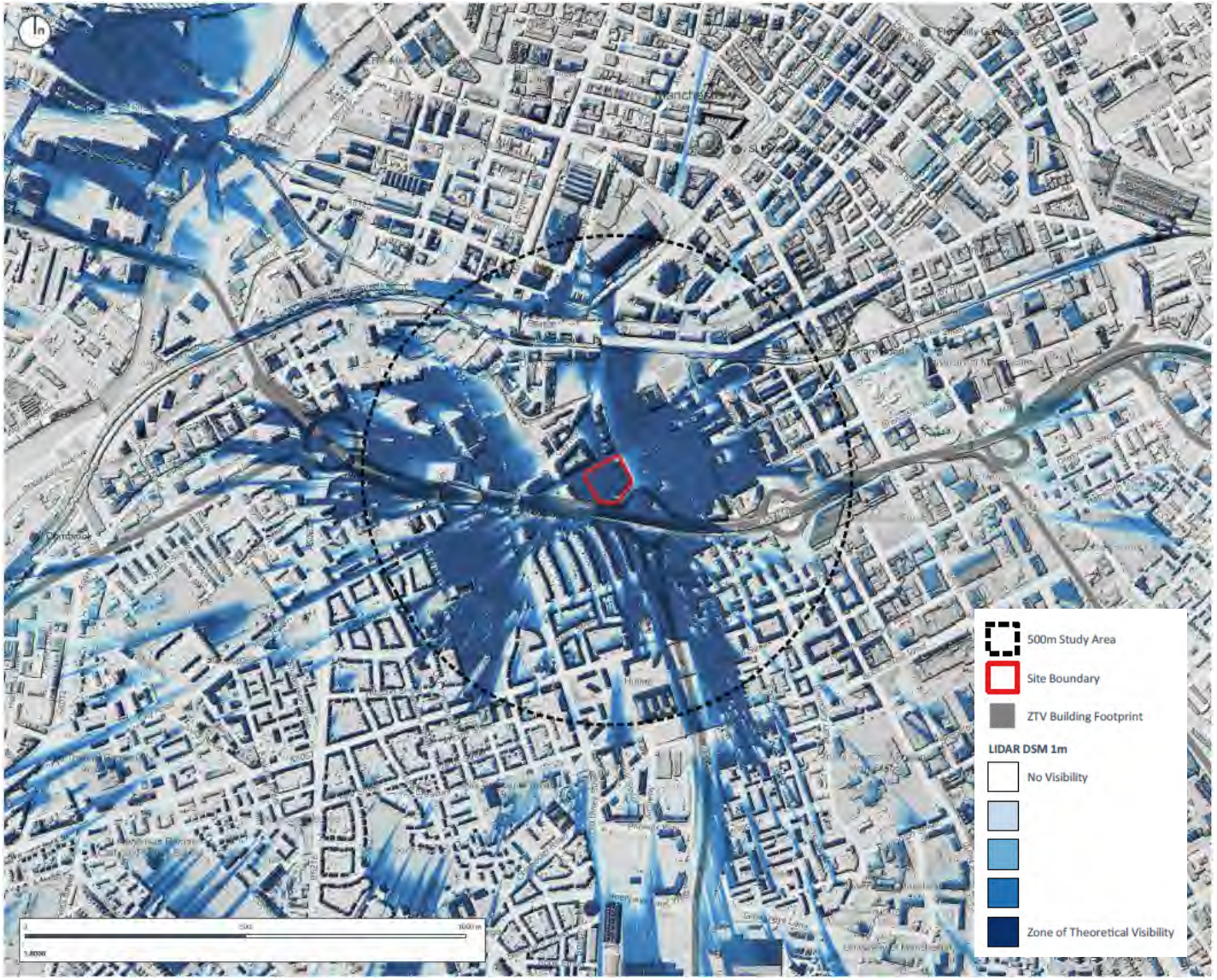
7.7.7 A Study Area of 500m from the Site Boundary has been defined following a Site visit, inspection of relevant designated and non-designated heritage assets, review of a Zone of Theoretical Visibility (ZTV) (**Figure 7.3**[32]) and informed by the following factors:

- The nature of the scope of the Proposed Development;
- The proximity of heritage assets to the Site;
- The degree of inter-visibility between the heritage assets and the Site, taking into consideration, for example, changes in topography as well as interposing townscape and landscape features; and
- The significance of the relevant heritage assets and the contribution made by their setting.

7.7.8 Although the ZTV indicates that the Proposed Development is likely to be visible or partially visible beyond the 500m Study Area, heritage assets in these areas are unlikely to experience significant effects as a result of distance and intervening development. From these assets the Proposed Development will be viewed in combination with other buildings as part of an existing and emerging backdrop. Therefore, changes in setting of heritage assets beyond 500m are not considered to be significant and will not be considered further within the EIA or reported in the ES. These will be considered, as appropriate, within a separate Heritage Assessment, prepared to address the requirements of Paragraph 194 of the NPPF.

[32] Note this ZTV figure has been sourced from the Heritage Assessment produced in consideration of the development under planning reference WHIM3011; however, given the similarity of the Site Boundary, nature of development and the baseline conditions with the Proposed Development, it is considered to present a suitable source of information on which to base the scoping of assessment. An updated ZTV will be undertaken for the Proposed Development and used to supplement the assessment reported in the ES.

Figure 7.3: Zone of Theoretical Visibility



Change in the Setting of Heritage Assets within the 500m Study Area

7.7.9 A large number of heritage assets within the Study Area are also unlikely to experience significant environmental effects due to distance, intervening development, due to their orientation or the way in which they are experienced and appreciated, or by virtue of their significance principally being derived from their historic or functional interest as canal or rail infrastructure. Although visible or partially visible from some assets, the Proposed Development will be experienced in combination with existing and proposed buildings and will form part of a backdrop and wider cityscape in views southwards. With the exception of those identified in **Table 7.7**, these assets are unlikely to experience significant effects during the construction or operation phases and will not be considered further within the ES.

Identification of Likely Significant Effects and Receptors

7.7.10 The following effects shown in **Table 7.7** below have been identified and will be assessed within the EIA and reported in the ES.

Table 7.7: Likely Significant Effects and Receptors

Effect	Receptor	Development Phase (Demolition and Construction / Operation)
Change in the setting of heritage assets	Former Cotton Mill on west side of junction with Cambridge Street (Grade II listed) Mill chimney stack on west side of junction with Cambridge Street (Grade II listed) Chorlton New Mill and attached chimney (Grade II listed) Chorlton Old Mill (Grade II listed) Mill on north east corner of junction with Chester Street (Grade II listed) [a]	D&C and O

[a] It should be noted that these assets have potential to experience a significant environmental effect and thus reported within the ES. Other assets within the study area with potential to be affected (not a significant environmental effect) will be appropriately considered within the Heritage Assessment, in line with the NPPF.

Assessment Methodology

7.7.11 The following methodology for assessment is proposed:

- Designated and non-designated heritage assets within the 500m Study Area have been identified and confirmed through a search of the Greater Manchester Historic Environment Record (provided by Greater Manchester Archaeological Advisory Service (GMAAS) on 11 November 2020). An updated search is currently being undertaken to confirm if this remains valid for the assessment within the final ES;

- In the absence of specific prescribed criteria for the assessment of impacts on built heritage the methodology for establishing the relative value or importance of heritage assets; the magnitude of change; and the significance of effect will be informed by the DMRB ((LA 104 Environmental Assessment and Monitoring[33] and LA 106 Cultural Heritage Assessment[34])) and Historic England guidance including Good Practice Advice in Planning Note 2, Managing Significance in Decision Taking in the Historic Environment[35], and Good Practice Advice Note 3 The Settings of Heritage Assets[36]; and
- The assessment will take into account the findings of the Townscape and Visual and Archaeology assessments to ensure integration of approach and assessment.

7.7.12 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 significance on a scale of major, moderate, minor and negligible. Significant effects will be determined through professional judgment.

7.8 Townscape and Visual Impact

Summary of Baseline Conditions

7.8.1 A number of medium sized trees are located around the edge of the Site and parking areas, although the immediate environment is dominated by the road infrastructure, and has a hard, urban character.

7.8.2 The Site is located within the southern city centre edge which is defined by a number of new large mixed-use developments such as Deansgate Square, Elizabeth Tower, River Street and Parkway Gardens. All of these include tall building elements of 30 storeys and above. Beyond the ring road to the south, the scale of the city drops noticeably with a number of lower rise residential neighbourhoods, together with smaller green spaces around the Princess Parkway roadway and the larger Hulme Park to the south-west.

[33] DMRB LA 104 - Environmental assessment and monitoring (2020) Version 1

[34] DMRB LA 106 Cultural heritage assessment (2020) Version 1

[35] Managing Significance in Decision-Taking in the Historic Environment (2015) Historic Environment Good Practice Advice in Planning: 2

[36] The Setting of Heritage Assets (2017) Historic Environment Good Practice Advice in Planning Note 3 (Second Edition)

Townscape

7.8.3 The Site is located within the First Street Area, as defined in the City Centre Strategic Plan 2015-2018. The Site is also located within the boundary of the First Street Development Framework (2018) area, specifically located within the 'First Street Central' section of the framework area.

7.8.4 The wider area presents a coarse urban grain, with large swathes of land currently vacant, in construction or covered by temporary surface car parking. More recent infill development, particularly to the east of the Site within the First Street Development Framework area has successfully begun to repair the urban grain of the area. The predominant land use within the study area is commercial, comprising hotels, offices and food and beverage outlets. The wider study area has a greater emphasis on residential land uses.

7.8.5 The area to the east of the Site is broadly characterized by a 6-10 storey height datum, with a handful of buildings reaching 15 storeys or higher. To the west of the Site, high-rise residential towers are increasing the height datum of the wider area.

7.8.6 The Site straddles Medlock Street, a primary route that merges into Princess Street to the south. Princess Street is a key arterial route, connecting the city centre with several suburbs to the south. The form of the building on the Site addressing Medlock Street acts as a barrier to east-west movement, its linear nature creating a hard development edge to the street.

7.8.7 There are no environmental designations covering the Site. There is no designated public open space within the Site. A new public open space has recently been created adjacent to the Site with new cycle and footpath links around this major road junction under the Mancunian Way.

Visual

7.8.8 The Site occupies a prominent position within the City, and is open to a range of viewpoints around it. These include:

- Residents within surrounding buildings and urban areas;
- Visitors to the City, in Conservation areas and within the context of buildings of Heritage value;
- Key routes such as roads, cycle ways, or long-distance paths located around the Site;
- Users of public open spaces, such as those in the wider First Street development area; and
- Drivers of vehicles on the adjacent major roadways, on the entry to the city centre.

Key Issues and Potential Likely Impacts Identified

Identification of Effects which are Not Significant

7.8.9 The following effects have been identified and are not considered significant. They will not be considered further with the EIA or reported in the ES. A factual evidence base has been provided below to support this.

Townscape Effects on Topography, Flooding and Heritage Assets

7.8.10 Site levels are not predicted to be altered significantly from the existing, and the Site is not located within identified flood zones. Therefore, topography and flooding are unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

7.8.11 Whilst there are no listed buildings within the Site, the Grade II* Manchester Central building is located to the north. Heritage is considered within this assessment as part of the townscape character only and assessment of heritage assets (i.e. their setting) is considered separately, as detailed within **Section 7.7: Built Heritage**).

Changes to Character and Amenity of Views

7.8.12 The following receptors will not be considered within the visual assessment due to the lack of inter-visibility between the receptor and the Proposed Development and therefore views from the following positions are unlikely to be considered significant and will not be considered further within the EIA or reported in the ES:

- St Anne's Square;
- St Peter's Square; and
- Piccadilly Gardens.

Changes to Townscape Character of the Site

7.8.13 During the demolition and construction phase of the Proposed Development gradual and temporary changes to the townscape of the Site will occur due to: demolition activities, enclosure of the Site with hoardings/fencing; presence of material stockpiles; movement of plant and other construction vehicles; the presence and use of tower cranes; and, the progressive construction of elements present within the Proposed Development. The general effects on Urban Grain, Land Use, Movement, Building Heights and Public Open Space associated with the demolition and construction phase is not considered to be significant given the existing poor quality/low rise built form, limited connectivity and lack of public space within the Site at present. As such,

changes to these receptors during construction are not considered to be significant and will not be considered further within the ES.

Identification of Likely Significant Effects and Receptors

7.8.14 The study area for the Townscape assessment extends to approximately 500m from the centre of the Site, in order to encompass the southern City gateway area/First Street, key public open spaces and adjacent conservation areas. The viewshed analysis has indicated that that potential viewpoints would be contained within a 1km radius around the Site.

7.8.15 The following effects shown in **Table 7.8** below have been identified and will be assessed within the EIA and reported in the ES.

Table 7.8: Likely Significant Effects and Receptors

Effect	Receptor	Development Phase (Demolition and Construction / Operation)
Changes to townscape character within the study area due to the construction of the Proposed Development and associated activities	Townscape character	D&C
Changes to townscape character within the study area as a result of the Proposed Development. Large scale contemporary development at prominent City gateway.	Townscape character	O
Changes to the urban grain within the study area as a result of the Proposed Development. New built form providing definition of urban block and frontage.	Urban grain	O
Changes to land use within the study area as a result of the Proposed Development. Intensification of land use – new uses introduced	Land use	O
Changes to building heights within the	Building heights	O

Effect	Receptor	Development Phase (Demolition and Construction / Operation)
study area due to the Proposed Development. New landmark building at City gateway		
Improvement to movement and linkages within the study area due to the Proposed Development	Movement & Linkages	O
Changes to the public open space and public realm within the study area due to the Proposed Development	Public open space/public realm	O
Adverse effects during demolition and construction from Site clearance, disruption and noise	Site character	D&C
Change to the Site character as a result of the Proposed Development	Site character	O
Changes to the character and amenity of views due to the demolition and construction of the Proposed Development	Viewpoints 2, 7, 10, 11 and 12 [a]	D&C
Changes to the character and amenity of views due to the Proposed Developments	Viewpoints 1 – 20 [a]	O

[a] Viewpoints are set out below in more detail.

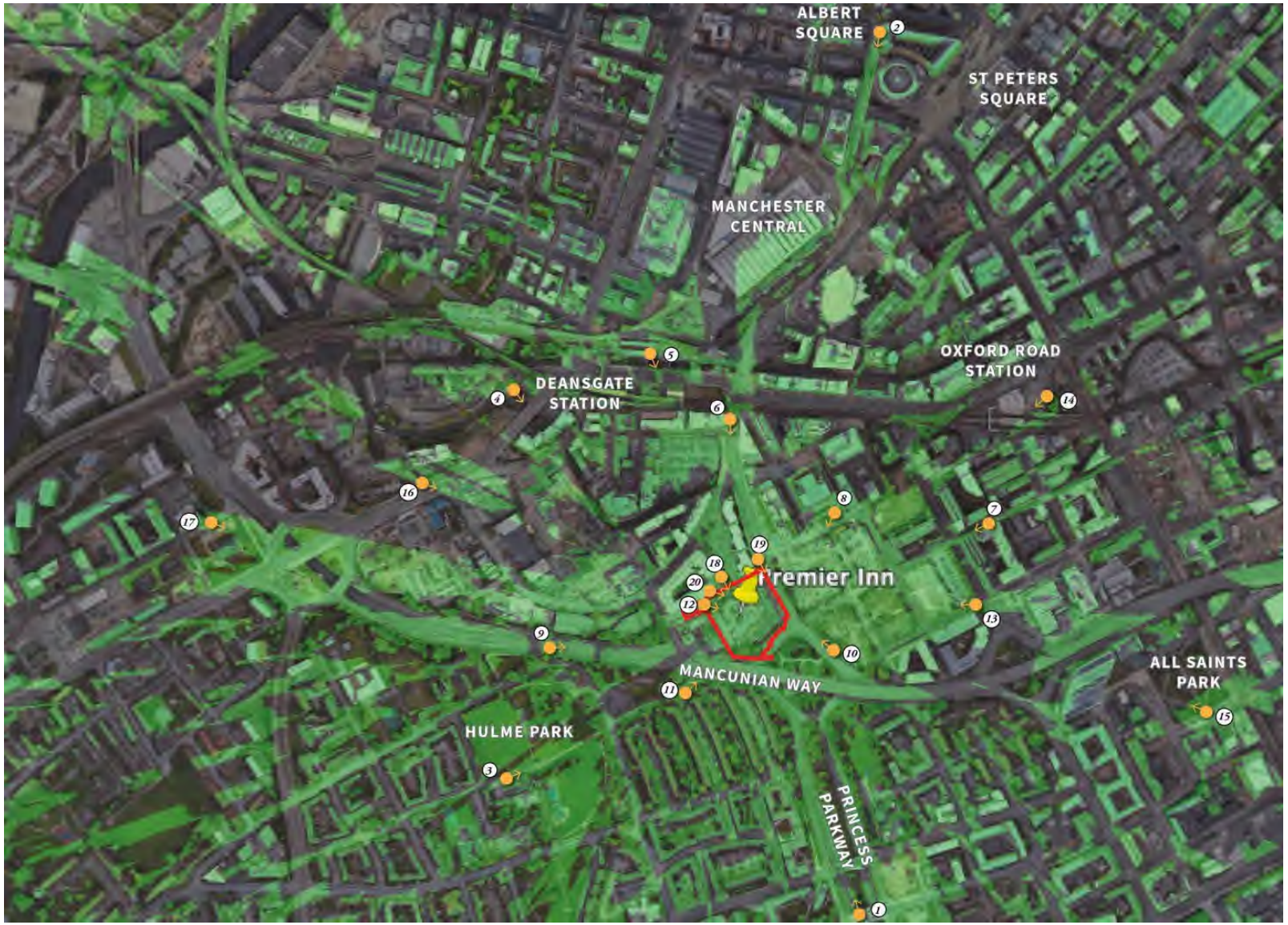
7.8.16 The following viewpoints have been identified and will be assessed as part of the assessment, in line with **Table 7.8**. The locations of the viewpoints are set out within **Figure 7.4**.

- Viewpoint 1: View from pedestrian space on Bonsall Street Bridge looking north over Hulme Arch to the city skyline beyond;
- Viewpoint 2: View from Albert Square & Grade I Listed Town Hall looking south along Mount Street;

- Viewpoint 3: View from footway on St Wilfreds Street looking east - adjacent to listed church and school entrance;
- Viewpoint 4: View from Castle Street looking east - within Castlefield Conservation Area and adjacent to listed buildings;
- Viewpoint 5: Elevated view south from platform of Deansgate-Castlefield Tram Stop – over city skyline;
- Viewpoint 6: View from Medlock Street adjacent to railway viaduct – showing context of street, the wider First Street setting and gateway out of the city centre;
- Viewpoint 7: View from Hulme Street looking south-west adjacent to the cluster of listed mill buildings and through wider First Street development;
- Viewpoint 8: View from public square within First Street development looking south-west;
- Viewpoint 9: View from pedestrian bridge over the Mancunian Way looking east;
- Viewpoint 10: View from Princess Road roundabout looking north-west, north from Mancunian Way;
- Viewpoint 11: View from Hulme Street looking north-east - adjacent to existing residential area looking over the Mancunian Way;
- Viewpoint 12: View from River Street looking south-east towards site, and wider First Street development;
- Viewpoint 13: View from footpath/local centre on Cambridge Street looking west to site and wider First Street development;
- Viewpoint 14: View from steps of Oxford Road station forecourt looking west over Grade II Listed station buildings to city skyline;
- Viewpoint 15: View from All Saints Park, in front of MMU Arts and Media building, looking north-west over Grade II Listed Former Manchester Ear Hospital and Roman Catholic Church of St Augustine;
- Viewpoint 16: View from junction of Chester Road/Great Jackson Street on the edge of Castlefield Conservation Area - looking east over Grade II Listed Bridgewater Canal Offices;
- Viewpoint 17: View from Arundal Street – looking east adjacent to Grade II* Listed Church of St George; and
- Viewpoint 18: View from Shortcroft Street – looking south-east
- Viewpoint 19: View from junction of Medlock Street and River Street, looking south-west; and

- Viewpoint 20: View from River Street, looking north-east.

Figure 7.4: Zone of Visual Influence (ZVI) Mapping and Viewpoint Selection



Assessment Methodology

7.8.17 The assessment will be undertaken in accordance with the methodology and approach set out in the 'Guidelines for Landscape and Visual Impact Assessment Third Edition' (2013) (GLVIA 3) – produced by the Landscape Institute (LI) and the Institute of Environmental Management and Assessment (IEMA). This guidance is the most thorough and current in relation to the assessment of landscape character and visual effects.

7.8.18 In line with GLVIA 3, the methodology used for this assessment has the following key stages. These are as follows:

- Baseline – includes the gathering of documented information; agreement of the scope of the assessment with the client and local planning authority; Site visits and initial reports to client of issues that may need to be addressed within the design;
- Design – input into the design; review of initial design and consideration of mitigation options;
- Assessment – includes an assessment of the landscape and visual effects of the Proposed Development, requiring site-based work and the completion of a full report and supporting graphics. 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 significance on a scale of major, moderate, minor and negligible. Significant effects will be determined through professional judgment;
- Representative viewpoints will be finalised which are considered to be of particular significance in terms of providing a range of views of the Site and where development would have the potential to affect their character and quality;
- Photographs of each of the principal viewpoints will be taken by a professional photographer using a fixed lens camera. The camera lens will be a focal length equivalent to 50 mm, i.e. similar to that seen with the naked eye. Where panoramic views are taken, the individual frames will be stitched together in accordance with the Guidelines;
- Photomontages or wireline views will be produced to show the potential impact of the Proposed Development. Where development is only partially visible, a combination of photomontage and wireline will be used. The views will show the detailed proposals for the Scheme; and
- A proposed viewpoints location plan and Google Viewshed mapping is provided in **Figure 7.4.**

7.9 Climate Change

Summary of Baseline Conditions

7.9.1 Regarding greenhouse gas (GHG) emissions, the existing baseline comprises current emissions that result from the operation of the existing Premiere Inn Hotel. Such baseline emissions may include direct GHG emissions from the Site such as gas combustion in building plant, as well as indirect emissions beyond the Site such as the generation of consumed electricity.

Key Issues and Potential Likely Impacts Identified

Identification of Effects which are Not Significant

7.9.2 The following effects have been identified and are not considered significant. They will not be considered further with the EIA or reported in the ES. A factual evidence base has been provided below to support this.

Summertime Overheating in Buildings

7.9.3 The new Building Regulations Part O 'Overheating' was adopted in June 2022 following publication of *Overheating: Approved Document O*[37] in December 2021. Part O aims to reduce the risk of summertime overheating in new residential buildings including homes, care homes and also student accommodation as proposed here. It presents two methods for compliance: a simplified method, intended to be quicker and easier to use, but that is more prescriptive, and another, more flexible route that requires dynamic thermal modelling. It is anticipated that this latter dynamic thermal modelling route is taken for the Proposed Development, effectively comprising revised *CIBSE TM59*[38] methodology.

7.9.4 Overheating will also be considered in detail for the office block, with mitigation measures anticipated to include improved glazing specification ("g value") and solar shading to the south and south-west elevations to limit unwanted solar gain, as well as the provision of exposed slabs to promote night-time cooling. The BREEAM Pre-assessment to be prepared by Greengage is anticipated to target both credits under Hea04 Thermal Comfort. These credits are awarded for carrying out thermal modelling in accordance with *CIBSE AM11 Building*

[37] https://www.gov.uk/government/publications/overheating-approved-document-o

[38] https://www.cibse.org/knowledge-research/knowledge-portal/technical-memorandum-59-design-methodology-for-the-assessment-of-overheating-risk-in-homes

Performance Modelling[39] and *CIBSE TM52 Thermal Comfort Analysis*[40], and for demonstrating that the building design and services strategy can deliver the CIBSE comfort criteria.

7.9.5 In view of this primary and tertiary mitigation to address summertime overheating risk for both the PBSA and office elements of the Proposed Scheme, summertime overheating in buildings is not considered to be significant and will not be considered further within the EIA or reported in the ES.

Changes to Temperature and Rainfall as a result of Climate Change

The BREEAM Pre-assessment is anticipated to confirm that credit LE05 Long Term Ecology Management & Maintenance are targeted, comprising the development of a management plan covering first five years in accordance with *BS 42020:2013 Biodiversity: Code of Practice for Planning and Development*[41]. BS 42020:2013 references various benefits from the implementation of biodiversity management plans, including benefits in relation to climate change adaptation.

7.9.6 In view of the promotion of climate change adaptation measures within landscaping that will be demonstrated through compliance LE05, changes to the temperature and rainfall as a result of climate change to the Site habitats and species is not considered to be significant and will not be considered further within the EIA or reported in the ES.

Heat Stress on Construction Workers

7.9.7 Increasing summer temperatures as a result of climate change may increase heat stress risks for construction workers. The CEMP will include measures to reduce overheating risks to construction workers such as provision of shaded areas and potable water supplies. Therefore, the effect of heat stress on construction workers is considered unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Water Availability for Construction

7.9.8 Decreasing summer rainfall as a result of climate change may reduce mains water availability for construction activities. The CEMP will include measures to promote water efficiency and management during construction including

[39] https://www.cibse.org/knowledge-research/knowledge-portal/applications-manual-11-building-performance-modelling-2015

[40] https://www.cibse.org/knowledge-research/knowledge-portal/tm52-the-limits-of-thermal-comfort-avoiding-overheating-in-european-buildings

[41] https://knowledge.bsigroup.com/products/biodiversity-code-of-practice-for-planning-and-development/standard

monitoring and target setting. Therefore, the effect of reduced water availability on construction activities is considered unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Water Availability for Operation

7.9.9 Decreasing summer rainfall as a result of climate change may reduce mains water availability for the operational development. Ridge M&E consultants confirm that a combination of water efficient appliances and flow restrictions will be specified to limit residential water usage in line with the optional 110 litre/person/day standard of Building Regulations Part G. Water efficiency measures will also be implemented for the office block to contribute to its BREEAM rating. Therefore, the effect of reduced water availability on construction activities is considered unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Flood Impacts during Construction and Operation

7.9.10 Increased winter rainfall as a result of climate change may increase local flood risk and effect construction activities. The CEMP will include measures to minimise flood risk such as raised floor levels of construction areas and temporary drainage as appropriate.

7.9.11 Increased rainfall during operation may increase local flood risk and affect future users of the Proposed Development. Future surface water generated by the Proposed Development will be managed through a Site-specific drainage strategy and design. The drainage strategy and design for the Proposed Development will account for any increased surface water runoff and include a climate change allowance in accordance with Environment Agency guidance.

7.9.12 Therefore, the effect of flooding during construction and operation is considered unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Contamination Impacts from Construction Run-Off

7.9.13 Increasing winter rainfall as a result of climate change may increase the potential for contamination impacts from increased run off during construction which may affect local habitats and water resources. The CEMP will include measures to mitigate flooding and pollution risks through appropriate management, drainage and pollution prevention measures (i.e. such as bunded storage, designated wheel washing areas, etc, in line with Guidance for Pollution Prevention). Therefore, the effect of contamination from surface run-

off during construction is considered unlikely to be significant and will not be considered further within the EIA or reported in the ES.

Reduction in Heating Demand as a result of Climate Change

7.9.14 Increasing temperatures as a result of climate change may reduce building heating demand and associated GHG emissions. Any such effect would be beneficial but is unlikely to be considered significant within the context of likely operational GHG emissions from the Proposed Development and therefore the effect of reduced heating demand on operational GHG emissions will not be considered further within the EIA or reported in the ES.

Identification of Likely Significant Effects

7.9.15 The following effects shown in **Table 7.9** below have been identified and will be assessed within the EIA and reported in the ES.

Table 7.9: Likely Significant Effects and Receptors

Effect	Receptor	Development Phase (Demolition and Construction / Operation)
GHG emissions from demolition and construction	Global climate system	D&C
GHG emissions from energy consumed by the operational development	Global climate system	O

Assessment Methodology

7.9.16 The GHG assessment and ES chapter will, in conjunction with professional judgement, draw from relevant guidance, principally *IEMA's EIA Guide to: Assessing Greenhouse Gas Emissions and Evaluating their Significance (2022)*[42] and comprise the following key elements:

- Estimate baseline GHG emissions from the existing operational hotel using appropriate benchmarks e.g. CIBSE[43]/BSRIA[44];

[42] https://www.iema.net/articles/iema-publishes-updated-eia-guidance-on-assessing-ghg-emissions

[43] Guide F Energy Efficiency in Buildings (CIBSE, 2012).

[44] Rules of Thumb: Guidelines for Building Services; 5th Edition (BSRIA, 2011).

- Estimate GHG emissions from the demolition of the existing hotel (principally from waste arisings), using appropriate benchmarks e.g. BRE[45];
- Estimate GHG emissions from the construction of the Proposed Development from any construction carbon lifecycle assessment (LCA) undertaken pre-planning as part of the BREEAM assessment, or using appropriate benchmarks e.g. RICS, LETI;
- Estimate annual operational GHG emissions from the Proposed Development drawing on information on electricity and gas (if proposed) demand provided by the Environmental Standards Statement;
- Review the GHG emissions mitigation measures proposed for the construction and operational phases and support the development of additional mitigation as appropriate;
- Estimate residual construction and operational phase GHG emissions and report these in the context of baseline GHG emissions from within the local authority area, and also future carbon budgets proposed for Manchester, in order to establish their magnitude;
- Evaluate the contribution or otherwise of the Proposed Development and associated GHG mitigation measures to the UK and Manchester's net zero targets; and
- Report the approach to, and findings of the above within a Climate Change ES Chapter including a summary of mitigation measures, residual GHG effects and whether these are considered significant.

7.9.17 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), contribution of the Proposed Development to UK and Manchester net zero targets and also professional judgement in order to determine significance of residual effect on a scale of major adverse, moderate adverse, minor adverse, negligible or beneficial.

[45] Benchmarks for Predicting & Forecasting Construction Waste; Annex 3 (BRE, 2009).

8.0 Non-Significant Issues

8.1 Topic Sections

8.1.1 The following sections of this EIA Scoping Report describe the topics where it is believed there is not the potential for significant environmental effects to arise from impacts associated with the Proposed Development.

8.1.2 The following topics are proposed to be scoped out of the EIA as standalone chapters:

- Archaeology;
- Biodiversity;
- Ground Conditions and Contamination;
- Flood Risk, Drainage and Water Quality;
- Transport;
- Materials and Waste; and
- Major Accidents and/or Natural Disasters.

8.2 Archaeology

8.2.1 A comprehensive archaeological desk-based assessment has already been prepared to assess the potential impact of the Proposed Development on the subsurface archaeological resource. However, as this was completed in 2021, this is in the process of being updated and a revised version will be submitted with the planning application.

8.2.2 The Site does not fall within a conservation area, and does not contain any designated heritage assets, such as Scheduled Monuments, Registered Parks and Gardens or listed buildings.

8.2.3 The Upper Palaeolithic to Iron Age Periods (c 12,800 BC – AD 43): the current understanding of any human activity in the Manchester region during the prehistoric period is poor, although it is reasonable to suggest that the Castlefield area may have been conducive for late prehistoric settlement on account of the natural topography and its location close to the confluence of the rivers Medlock and Irwell. However, physical evidence is wanting, and there are no known prehistoric remains within 250m of the Site. The potential for buried archaeological remains deriving from prehistoric activity within the Site is thus considered to be low.

8.2.4 The Romano-British Period (c AD 43 – AD 410): the first military occupation of Manchester was established during the governorship of Agricola (AD 77-84),

and commenced with a five-acre wooden fort, known as Mamucium, situated a short distance to the north-west of the Site. The Site lies within an area of known Roman activity and, pending the extent of disturbance caused by intensive development during the 19th century, has some potential to contain buried archaeological remains deriving from the Roman period. However, given the extent of development that occurred across the Site from the 19th century onwards, it seems likely that any buried archaeological remains deriving from the Roman period will, at best, be very fragmentary.

8.2.5 The Early Medieval Period (c AD 410 – AD 1066): there is scant archaeological evidence in the region as a whole that represents the period between the end of the Roman occupation and the Norman Conquest. There are no known early medieval sites within the Site and its vicinity, and the potential for remains dating to this period is considered to be low.

8.2.6 The Late Medieval Period (c AD 1066 – AD 1540): the medieval town was focused around the manor house and parish church of St Mary (the site of the modern cathedral). A deer park known as Aldport Park, documented from the late 13th century, was located towards the southern end of Deansgate. The only other known activity in the area during the medieval period was focused upon a mill at Knott Mill, situated to the west of the Site, which is referenced in a document dated to 1509. The potential for medieval remains to survive in the Site is thus considered to be low.

8.2.7 The Post-medieval Period (c AD 1540 – 1750): the Castlefield area remained almost wholly undeveloped until the 18th century, and the Site is likely to have remained in agricultural use during this period. The potential for post-medieval remains to survive in the Site is thus considered to be low.

8.2.8 The Industrial Period (post-c AD 1750): the rapid development of the Site at the end of the 18th century is captured on a detailed plan produced by William Green in 1787-94, which shows the area was mainly rural, with a field boundary crossing through the centre of the Site from north to south. By the mid-19th century, however, the Site had been developed with rows of workers' housing and two public houses, with a large school replacing the houses along the west side of Duke Street in the 1890s.

8.2.9 Previous desk-based research has indicated that the archaeological interest in the Site dates primarily to the 19th century and, specifically, the footprint of different types of early 19th-century workers' housing, two public houses and a school. These comprise early 19th-century workers' houses on Clegg Street, slightly larger mid-19th-century workers' houses on Duke Street, an early 19th-century public house known originally as The George Inn (but renamed subsequently to The Lochnagar Inn), a second early 19th-century public house referred to as The Globe Inn, and a late 19th-century school on Duke Street.

Pending the presence and extent of any below-ground foundations that survive intact, these sites may be considered non-designated heritage assets. Any such remains are likely to be of local/borough significance, although further investigation will be required to confirm the presence, extent and significance of the archaeological resource across the Site.

8.2.10 It is possible that non-designated buried archaeological remains, particularly potential remains dating to the 19th century, are present within the Site. These remains are likely to be at least partially truncated across the Site and may have been fully removed within the footprint of existing buildings. Any assets have been determined to be of local/borough significance. This will be confirmed in the updated Desk-based assessment to be submitted with the planning application.

8.2.11 The Proposed Development has the potential to impact upon archaeological deposits, if present. Under the NPPF[46], adverse effects on archaeological remains require mitigation, regardless of the significance of effect. As some of the Site is currently occupied by standing buildings, it is considered that evaluation pre-application is unachievable at this time.

8.2.12 Nonetheless, the combination of archaeological trial trenching and targeted mitigation (as appropriate) will mitigate any potential adverse effects through preservation by record. A specification for trial trenching will be prepared and submitted to MCC for approval, with works undertaken prior to construction on Site. On completion of these works, a Written Scheme of Investigation for mitigation will be devised (if required) in consultation with the MCC Conservation Officer. This will implement any mitigation (such as recording) required for assets of local/borough significance.

8.2.13 As such, the effects of the Proposed Development on 19th century archaeological remains are unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

8.3 Biodiversity

8.3.1 A Preliminary Ecological Appraisal (PEA) was completed for the Site based on surveys undertaken on 15th July 2019 and again on 8th November 2020. An updated walkover survey was undertaken on 30th August 2022 to validate the findings of these previous surveys and inform an updated PEA, which will be submitted with the planning application. The updated survey confirmed there

[46] NPPF (2021) National Planning Policy Framework, Chapter 16, para 199.

have been no changes in the site condition since the previous survey, as summarised in the text below.

8.3.2 Features within the Site boundary and accessible features immediately bordering it were evaluated and the extent and distribution of habitats and plant communities were recorded. Fauna using the area were recorded and areas of habitat suitable for statutorily protected species were identified where present, with an active search carried out for evidence of such use. In addition, a review of readily available ecological information and other relevant environmental databases (included Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) website[47]) was undertaken for the Site and vicinity. In addition, a biological records search from Greater Manchester Local Records Centre (GMLRC) were reviewed to identify the location and citations of local non-statutory designated sites and presence of records for notable and protected species. This provided the overall ecological context for the Site.

8.3.3 In addition, a tree survey was also carried out during the site visits in 2019 and 2020 where the tree stock was recorded to the BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations[48] methodology. Most of the trees within the Site boundary and immediately adjacent were Category C whilst 3no. Category B trees were recorded in the small area of amenity grassland at the southern end of the Site.

8.3.4 In summary, most of the area is covered by buildings or hardstanding as car parking, service yards and other ancillary areas. Areas of green space are limited to urban trees, amenity grassland and a small area of introduced shrub. The trees on-site provide low potential for nesting birds although there is no further protected species potential, within or immediately adjacent to the Site. No invasive species are recorded and generally the Site is considered to be of low ecological value.

8.3.5 Furthermore, consultations with the local biological record centres (GMLRC and the MAGIC dataset) have confirmed that there are no statutory designations of national or international importance within the boundary of the site or within a 2km radius. Records from GMLRC did, however, identify three non-statutory Sites of Biological Interest (SBIs) within 2km of the Site. SBIs are recognised by

[47] MAGIC (2019); Interactive Map. (Partnership project involving six government organisations: Defra (Department for Environment, Food and Rural Affairs); English Heritage; Natural England; Environment Agency; Forestry Commission; Department for Communities and Local Government). Available at: www.magic.gov.uk.

[48] British Standards Institution. (2012). 5837: Trees in relation to design, demolition and construction - Recommendations. London: BSI.

LPAs as important wildlife sites. The closest is Rochdale Canal Stott's Lane – Ducie Street Basin approximately 1.7km to the north-east of the Site. No formal description of this SBI is cited but its function as a wildlife corridor and waterway is most likely its value for biodiversity.

8.3.6 Impacts on protected habitats and species have been considered, although the lack of any habitats of value or protected species potential means that there are no anticipated likely significant effects that will occur. The only exception to this is the limited breeding bird value presented by the trees on-site. Nonetheless, as a precautionary measure, any vegetation on-site will be cleared outside of the breeding bird season (March to August, inclusive) to avoid any impact, controlled through the CEMP. The Proposed Development includes the loss of 3 Category B trees located in the small area of amenity grassland to the south of the Site and adjacent to the Mancunian Way. Nonetheless, compensatory tree planting will be provided within the 'pocket park' proposed as part of the Proposed Development.

8.3.7 Therefore, impacts on protected habitats & species are unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

8.4 Ground Conditions and Contamination

8.4.1 A Contaminated Land Desk Study[49] (presented in **Appendix A**) has been completed for the Site. Intrusive ground investigation work has also been undertaken and a Geotechnical Interpretative Report[50] has been produced (presented in **Appendix B**).

8.4.2 The surrounding area has historically been industrial with Manchester Gas Works, later Gaythorne Gas Works, Cambridge Street Works with gasometer, tanks and boiler houses, Medlock Street Glass Works, Medlock Street Dye Works, Cotton Mills, railway land and sidings, Victoria Foundry, Cambridge

[49] Premier Inn Site, Manchester, Contaminated Land Desk Study, Report Ref: 1620005811, Ramboll, 01 May 2019.

[50] Premier Inn Site, Manchester, Contaminated Land Interpretative Report, Report Ref: 1620005811, Ramboll, August 2019.

Street Rubber Works, Dunlop Rubber Works, timber yards, engineering works, saw mills, depots, all within 250m of the Site.

8.4.3 An unexploded ordnance (UXO) report was undertaken for the Site by Alpha 6 Associates who recorded a risk of HIGH. An UXO was known to have hit the Site in December 1940, though during the site investigation no UXO was identified.

8.4.4 The Site is not in a radon affected area, as less than 1% of homes are above the action level. There is potential for ground gas to be generated from Made Ground and any organic material associated with the superficial deposits at the Site.

8.4.5 During demolition and construction, there is the potential for adverse environmental effects to arise due to the disturbance of existing on-site contamination, including the migration of contamination to ground, soil, surface water and groundwater.

8.4.6 Following the desk study and ground investigation, a generic risk assessment has been completed and indicates that there are limited risks associated with the ground contamination at this Site (hydrocarbons and semi-volatile organic compounds in soils and ground gases). A programme of remediation will be carried out prior to any demolition or breaking of ground in line with a Remediation Method Statement. This will be considered part of the Proposed Development and integrated into the CEMP.

8.4.7 There is also the potential for the accidental release of new contamination due on-site activities (i.e. fuel spillage from plant/machinery, or disturbance due to foundations works). However, all on-site enabling and construction activities will be undertaken in line with Construction Design and Management Regulations (CDM), CL:AIRE Development Industry Code of Practice, as well as best practice measures (i.e. tool-box talks, personal protective equipment (PPE), use of Respiratory Protective Equipment (RPE) and working method statements as required) and led by the contactor when appointed.

8.4.8 There is a potential high risk of UXO on-site. During demolition and construction, a working method statement will be prepared by the principal contractor, identifying safe working practices and response mechanism, should UXO be encountered within the Site. This will be managed as part of the CEMP.

8.4.9 During the operational phase of the Proposed Development, there is also the potential for localised spillages of fuel, which may be carried to surface watercourses and underlying groundwater through surface run-off and leaching through the soil profile. Contaminants from fuel spillages are likely to occur on areas of hardstanding (i.e. car park). However, such areas will be subject to a controlled drainage scheme as part of the Site's drainage strategy,

which will include necessary pollution preventative measures (i.e. interceptors etc.).

8.4.10 Therefore, risks from ground contamination are unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

8.5 Flood Risk, Drainage and Water Quality

8.5.1 The closest watercourse to the Site is the River Medlock, located approximately 150m to the north of the Site where the river is culverted beneath Medlock Street and the wider First Street developments.

8.5.2 Flood data received from the Environment Agency (EA) on the 10th April 2019 shows the Site to be located in Flood Zone 1, therefore the Site is at 'Low' risk (<0.1% Annual Exceedance Probability) of flooding from rivers and sea.

8.5.3 The EA's indicative online surface water flood risk maps show the majority to be at 'Very Low' flood risk from surface water. A small area of the Site to the south-east of the site is shown to be at 'Low' risk from surface water flooding. The Site is not shown to be within an area at risk of reservoir flooding. Therefore, the overall flood risk to the site is considered to be low.

8.5.4 In terms of drainage, there are a number of combined public and private sewers within the vicinity of the Site. Although the Site is shown to be at very low risk of surface water flooding, the majority of Manchester is designated as a Critical Drainage Area. This is detailed in the Level 1 Strategic Flood Risk Assessment (SFRA) Critical Drainage Areas map produced jointly by MCC, Salford City Council, and Trafford Metropolitan Borough Council[51].

8.5.5 The Site is located within Flood Zone 1, which is land considered at Low Probability of flooding from rivers and sea as well as an area predicted to be at a low susceptibility to groundwater flooding. Furthermore, all future surface water generated by the Proposed Development will be managed through a Site-specific drainage strategy and design. The drainage strategy and design for the Proposed Development will account for any increased surface water runoff (including from the building façades) and maintain or reduce surface water run-off and associated flooding (including surface water attenuation and betterment provided as part of the sustainable drainage system (SuDS) strategy for the Site). This will include an allowance for climate change in line with Environment Agency guidance. It will also be designed in line with CIRIA SuDS

[51] Salford City Council and Trafford Metropolitan Borough Council (2011) MST SFRA current critical drainage area map 4.5.

Manual[52] and requirements specified by MCC. The Site drainage will also be designed in accordance with the guidance set out in Sewers for Adoption Vol. 8 which provides guidance on design of sewer connections, manholes, gradients and general setting out which minimises the risk of blockages and surcharging.

8.5.6 Drainage features will be developed to provide sufficient control of surface pollutants where/as necessary, providing suitable levels of treatment for surface water which will remove pollutants prior to discharge to the wider aquatic environment. This is likely to include permeable paving, tree planters, rain gardens and blue roofs, all of which provide water quality benefits. Details of the treatment train for all surface water runoff from the development will be included in the final drainage strategy submitted with the planning application.

8.5.7 Based on the above evidence, adverse changes to water resources and surface water flooding are unlikely to be considered significant and will not be considered further within the EIA or reported in the ES.

8.6 Transport

8.6.1 The Site is currently operational, accessed from River Street, and benefits from a 113-space car park and attracts around 400 vehicle movements (two-way) per day. The Site is sustainably located within the city centre which offers excellent access to transport and local amenities within a short walk. The Deansgate – Castlefield tram stop and Deansgate railway station is within a 650m walk and the Oxford Road railway station is within 1km of the Site or a 12-minute walk and there are bus stops close by on Medlock Street. The Sainsburys Local Store on First Street is within an easy walk along with Home cultural centre and the leisure facilities around it.

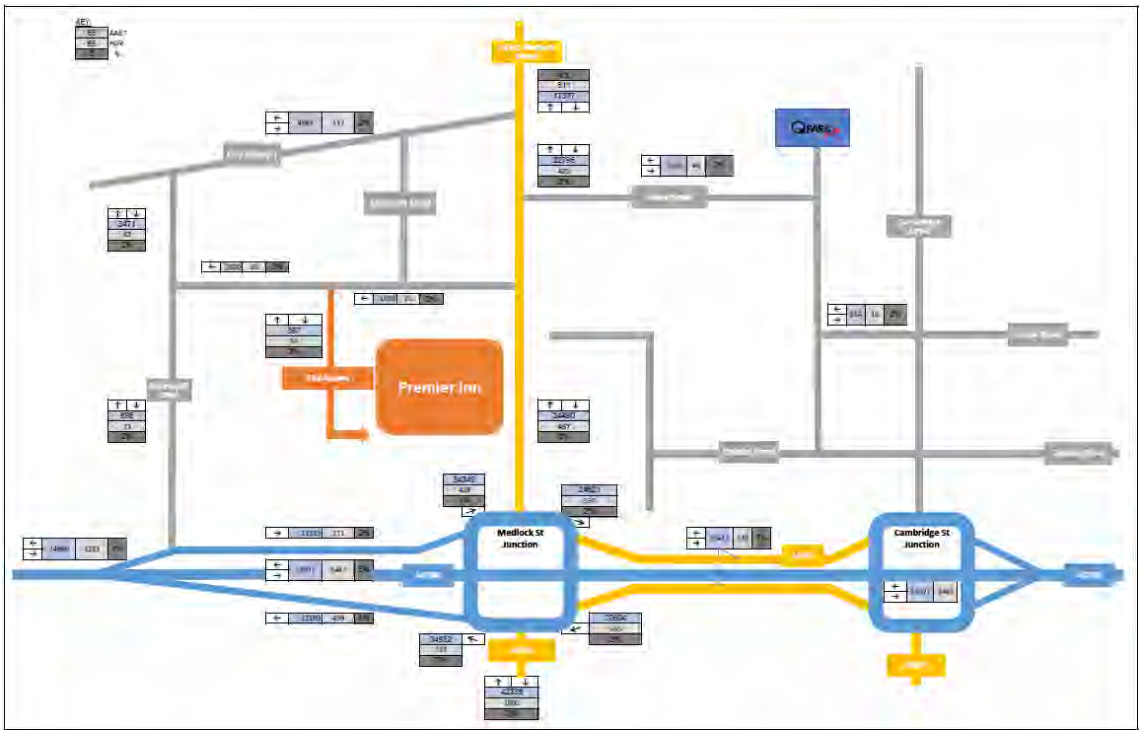
8.6.2 The local road network carries relatively high traffic volumes with the main flows on the elevated Mancunian Way at around 75,000 vehicles per day (including the slip roads) (**Figure 8.1**). Medlock Street is a busy gateway into the city and carries around 24,000 vehicles per day. The traffic on the side roads of River Street is much lower at around 1,000 vehicles on the one-way link west of Medlock Street past the Site.

8.6.3 MCC have implemented a highway improvement scheme at the Medlock Junction Roundabout which has eased congestion and has improved pedestrian and cycle linkages from the City to the residential areas to the south. Post lockdown, the peak period flows have reduced which has further eased

[52] The SuDS Manual, C753, CIRIA 2015.

congestion but in general the daily traffic have recovered to broadly to the previous levels.

Figure 8.1: Baseline Daily Traffic Flows (AADT)



Source: The traffic data is derived from DfT, MCC and surveyed traffic counts over various years between 2015 - 2019.

8.6.4 The local road network operates in a relatively safe manner despite the traffic flows, with only a few accidents on Medlock Street and none on River Street.

8.6.5 Demolition and construction phase of the Proposed Development will result in the addition of temporary traffic on the local road network as a result of movement of plant/machinery, workers (including subcontractors) and deliveries/collections/removal of waste. The additional traffic generated by demolition and construction activities will include a greater level of Heavy Goods Vehicles (HGVs) alongside general trips from construction staff and contractors.

8.6.6 The exact number of trips anticipated to be generated by the Proposed Development is currently not known and is subject to the specific construction phasing and timings, which will be determined by the principal contractor (when appointed). It is considered that the construction traffic generated is likely to be similar to that associated with the neighbouring development

(118683/FO/2017)[53], which was determined to be at peak construction 30-40 vehicles a day[54], albeit this was associated with piling and core/slab pours, and then quickly reducing.

8.6.7 Such additional vehicles would equate to a change of less than 5% of vehicular flows but will be a perceptible increase (+40%) in the volume of HGV movements on River Street. This percentage increase is more a reflection of the current low volumes of HGVs and would equate to around 2 HGVs per hour accessing the Site on River Street. Despite the relatively large percentage increase, the volumes are not unusual for an urban area and similar volumes have been seen with the neighbouring adjacent Downing development. The maximum impact would be short lived (i.e. associated with piling and core/slab pours which only account for a small element of the overall construction programme) and HGV trips would be anticipated to reduce.

8.6.8 Unmitigated, the additional vehicular movement could give rise to changes to traffic flows/composition on the local road network, albeit this is considered to be limited to River Street and Garwood Street, as further afield, the construction traffic would not give rise to a noticeable change. In order to reduce adverse effects associated with the construction phase a traffic logistics plan (TLP) (or equivalent) will be implemented through demolition and construction phase and managed as part of the CEMP. The TLP will adopt best practice measures, which will be enforced by the appointed contractor, including provisions of traffic routing, management of deliveries and appropriate signage. Such embedded mitigation measures would be considered an integral part of the Proposed Development and controlled as part of the CEMP. As such, adverse effects resulting from construction traffic are not considered to be significant and will not be considered further within the EIA or reported in the ES.

8.6.9 During the operational phase of the Proposed Development, potential environmental effects relating to traffic and transport are solely associated with the level of operational traffic. To inform early stages of design development, an appraisal of future development trips has been conducted[55].

[53] It is noted that the assessment work submitted in support of this application did not include predictions of construction traffic.

[54] Confirmed within the Construction Environmental Management Plan submitted in support of discharge of condition 7 (CDN/18/0225) attached to planning permission 118683/FO/2017.

[55] Based on a figure of 382 apartments and up to 12 residential parking spaces, 35,861sqm of office space with up to 10 office parking spaces.

8.6.10 The appraisal work identified that the Proposed Development would result in a reduction in trips accessing the Site, due to the removal of the hotel car park. It is, therefore, considered that the Proposed Development would give rise to a negligible impact on potential sensitive environmental receptors and would be borderline of being perceptible to either the local residents or vulnerable road users. Furthermore, the forecast trip generation is not considered to give rise to significant effects in relation to severance, pedestrian delay and amenity (including fear and intimidation), driver delay or road collisions and safety. As such, adverse effects resulting from operational traffic are not considered to be significant and will not be considered further within the EIA or reported in the ES.

8.6.11 It should be noted that a Transport Assessment will be submitted in support of the Application which will provide the full analysis of operational traffic required by MCC Highways Authority.

8.7 Materials and Waste

8.7.1 The Proposed Development will require the demolition of the existing Premier Inn Hotel, which will generate a series of waste arisings, likely to include but not be limited to concrete, brick and steel. A percentage of the concrete and brick associated with the demolition will be crushed and reused within the Site. Other materials and any contaminated material will be disposed to appropriate landfill facilities. Such waste will be handled, processed and removed from Site by suitability qualified contractors, all being undertaken in line with The Hazardous Waste (England and Wales) Regulations 2005 prior to full demolition. In addition, it is anticipated that waste will be produced as a result of construction activities. Overall, it is anticipated that that there will be a surplus of material for disposal off-site.

8.7.2 All waste arisings during demolition and construction are to be controlled through the implementation of a CEMP and a best practice Site Waste Management Plan (SWMP). The CEMP will be informed by the waste provisions of the Environmental Protection Act 1990 and will set out the principles and legal requirements relating to waste (including hazardous waste). The SWMP will describe how materials will be managed and stored efficiently and disposed of legally during the construction phase. It will also outline the aims, objectives and on-going management responsibilities, including management and storage practices, to be implemented during the demolition and construction phase, and will set targets for the reduction, diversion from landfill and reuse of waste.

8.7.3 Operational waste will be predominantly from residents and users of the commercial space. The Proposed Development will include provisions for waste storage facilities, which will include facilities for the separation of waste for

recycling purposes. An Operational Waste Strategy will be developed for the Site which will set out the principles, strategy and targets for the management of waste and maximise recycling, in accordance with MCC established policy.

8.7.4 With regards to materials, there is not anticipated to be any significant issues in terms of availability of materials required for the Proposed Development. The Proposed Development will comprise a high number of sustainable features and construction methods when compared to the industry standard. Subsequently, there are not anticipated to be any significant effects on materials from the Proposed Development.

8.7.5 Based on the evidence above, effects related to materials and waste are not considered to be significant and will not be assessed within the EIA or reported within the ES.

8.8 Major Accidents and/or Natural Disasters

8.8.1 Under Schedule 3 of the EIA Regulations, the risks of major accidents and natural disasters relevant to the Proposed Development need to be considered.

8.8.2 As a student accommodation and office development, the Proposed Development would not be a source of hazard that could result in a major accident or disaster during operation. Measures to eliminate the risk of major accidents of disasters as a result of the demolition and construction of the Proposed Development will be outlined in a CEMP.

8.8.3 A review has been undertaken of potential sources of hazard in the surrounding area, that have the potential to interact with the Proposed Development.

8.8.4 As described in **Section 8.4: Ground Conditions and Contamination**, risks from ground contamination are unlikely to be considered significant and, as described in **Section 8.5: Flood Risk, Drainage and Water Quality**, adverse changes to water resources and surface water flooding are unlikely to be considered significant.

8.8.5 No structural, geomorphological or geochemical features are recorded on or near the Site by British Geological Survey (BGS) mapping. The Site is not in an area potentially affected by past coal mining activities and there are no Health and Safety Executive (HSE) Control of Major Accident Hazards (COMAH) sites in close proximity to the Site.

8.8.6 An unexploded ordnance (UXO) report was undertaken for the Site by Alpha 6 Associates who recorded a risk of HIGH. An UXO was known to have hit the Site in December 1940, though during the updated site investigation no UXO was identified. During demolition and construction, a working method statement will be prepared by the appointed contractor, identifying safe working practices

and response mechanism, should UXO be encountered within the Site. This will be managed as part of the CEMP

8.8.7 Any increased risk of major accidents or disasters as a result of climate change will be addressed in the Climate Change chapter of the ES.

8.8.8 It is considered that existing design measures and standard practice will adequately control any potential major accidents and/or disasters; therefore, Major Accidents and/or Natural Disasters will not be considered further within the EIA or reported in the ES.

9.0 Proposed Structure of the Environmental Statement

9.1 Structure of the Assessment Chapters

9.1.1 The proposed standardised structure for the individual assessment chapters is as follows:

- Scope of Assessment;
- Key Legislation, Policy and Guidance Considerations;
  - Legislation and Regulations;
  - Planning Policy;
  - Technical Standards and Guidance;
- Assessment Methodology;
  - Determination of the Baseline;
  - Prediction Methodology;
  - Limitations and Assumptions;
- Baseline Assessment and Identification of Key Receptors;
  - Baseline Assessment;
  - Conclusions Regarding Baseline Environmental Quality and Key Receptors;
- Identification and Description of Changes Likely to Generate Effects;
  - Construction Phase;
  - Operational Phase;
- Assessment of Likely Significant Effect;
  - Embedded Construction Mitigation Measures;
  - Anticipated Effects During the Construction Phase;
  - Embedded Operational Mitigation Measures;
  - Anticipated Effects During the Operational Phase;
- Scope for Additional Mitigation Measures;
  - Potential Additional Mitigation Measures;
  - Likely Effectiveness of Additional Mitigation Measures;
- Residual Effects;

- Significant Residual Effects;
- Cumulative Effects; and
- Summary and Conclusion

9.2 Structure of the ES

9.2.1 The ES will comprise the following set of documents:

- ES Volume 1: Non-Technical Summary NTS: this document will provide a concise summary of the Proposed Development, alternative designs that were considered, environmental impacts and mitigation measures;
- ES: Volume 2: Main Text: this will contain the main body of the EIA with the proposed chapter headings as set out below;
- ES Volume 3: Townscape, Visual Impact Assessment (TVIA): the methodology and findings of the TVIA accompanied by a full set of views and verified images; and
- ES Volume 4: Technical Appendices: these will provide supplementary details of the environmental studies conducted during the EIA including relevant data tables, figures and photographs.

9.2.2 It is currently envisaged that the ES Volume 2: Main Text will be structured with the following chapter headings:

- Chapter 1: Introduction;
- Chapter 2: The Site;
- Chapter 3: EIA Methodology;
- Chapter 4: Alternatives Considered and Design Evolution;
- Chapter 5: The Proposed Development and Demolition and Construction Overview;
- Chapter 6: Socio Economics and Human Health;
- Chapter 7: Air Quality;
- Chapter 8: Noise and Vibration;
- Chapter 9: Wind Microclimate;
- Chapter 10: Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution;
- Chapter 11: Built Heritage;
- Chapter 12: Climate Change;
- Chapter 13: Effect Interactions; and

- Chapter 14: Residual Effects and Conclusions.

9.2.3 There will also be the following related stand-alone documents submitted as part of the planning application:

- Archaeological Desk Based Assessment (DBA);
- Preliminary Ecological Assessment (PEA);
- Drainage Strategy;
- Flood Risk Assessment;
- Energy Strategy;
- Sustainability Assessment; and
- Framework CoCP.

10.0 Conclusion

10.1.1 **Table 10.1** provides a summary of the topics which have been scoped in and out of the assessment for each phase of the Proposed Development.

Table 10.1: Summary of Topics Scoped In or Scoped Out for each Phase of the Proposed Development

Environmental Topic	Demolition & Construction	Operation
Socio-Economics and Health	IN	IN
Air Quality	IN	IN
Noise and Vibration	IN	IN
Wind Microclimate	OUT	IN
Daylight, Sunlight, Overshadowing, Solar Glare and Light Pollution	OUT	IN
Built Heritage	IN	IN
Townscape and Visual Impact	IN	IN
Climate Change	IN	IN
Archaeology	OUT	OUT
Biodiversity	OUT	OUT
Ground Conditions and Contamination	OUT	OUT
Flood Risk, Drainage and Water Quality	OUT	OUT
Transport	OUT	OUT
Materials and Waste	OUT	OUT
Major Accidents and / or Natural Disasters	OUT	OUT

10.1.2 This report requests a Scoping Opinion from MCC pursuant to Regulation 15 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2017.

10.1.3 MCC and consultees are invited to consider the contents of this Report and comment accordingly within the five-week period prescribed by the EIA Regulations.

Appendices

- Appendix A: Contaminated Land Desk Study
- Appendix B: Contaminated Land Interpretative Report

Appendix A: Contaminated Land Desk Study

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Whitbread PLC

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ONE MEDLOCK STREET

CONTAMINATED LAND DESK STUDY

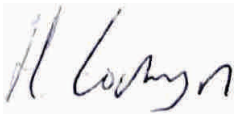
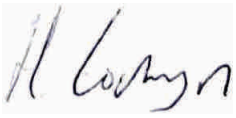


RAMBOLL

ONE MEDLOCK STREET
CONTAMINATED LAND DESK STUDY

Revision History

Revision	Date	Purpose / Status	Document Ref.	Comments
P01	May 2019		5811-RAM-XX-XX-RP-YE-00001 Contaminated Land Desk Study	
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ONE MEDLOCK STREET
CONTAMINATED LAND DESK STUDY

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Appendix B Envirocheck Report

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Appendix E Legislative Context and Ground Contamination Assessment Methodologies

1. INTRODUCTION

Ramboll UK Ltd (Ramboll) has been appointed by Whitbread PLC as Multi-Disciplinary Engineer for the development of new residential and office buildings at the existing Premier Inn Site at Medlock Street, Manchester.

Part of this commission is to undertake a Contaminated Land Desk Study in support of the planning application.

1.1. Development Proposals

The proposal comprises the demolition of the existing building and erection of two buildings: a part 11, part 41 storey residential development; and a 13 storey commercial development (c.36,500 sqm GIA). The development includes a high quality landscaping scheme and public realm pocket park, along with service space at ground level, amenity space, car parking, cycle parking, and works to the junction of Medlock Street and River Street.

1.2. Objectives

The objective of a contaminated land desk study is to provide a preliminary risk assessment identifying potential risks and constraints associated with the ground and groundwater conditions, and any contamination which may be present.

1.3. Scope of Works

The scope of this study is as follows:

- Review desk-based information sources including site history, geology, hydrogeology, hydrology, environmental and regulatory information, radon and ground gas, and unexploded ordnance;
- Review any relevant previous ground investigation reports;
- Establish a contaminated land Conceptual Site Model and undertake a Preliminary Risk Assessment;
- Provide recommendations for a ground investigation to inform the design and construction of the development, and to provide sufficient information to enable potential risks from contaminated land to be established.

1.4. Previous Ground Investigations

No previous ground investigation information has been made available at the time of writing this report.

1.5. Limitations

This report has been prepared for Whitbread PLC and shall not be relied upon by any third party unless that party has been granted a contractual right to rely on this report for the purpose for which it was prepared.

This report has been prepared in general accordance with current UK guidance.

The findings and opinions in this report are based upon information derived from a variety of information sources. Ramboll believe these information sources to be reliable. Information from the public register was largely derived from the Envirocheck environmental database; information sources for this database include the Environment Agency, the Coal Authority and other statutory authorities.

This review has been prepared on the basis of the above information. Ramboll cannot accept any liability for the accuracy or otherwise of any information derived from third party sources.

It should be noted that some of the aspects considered in this study are subject to change with time. Therefore, if the development is delayed or postponed for a significant period, a review should be completed to confirm that no changes have taken place, either at the site or within relevant legislation. The risk assessment detailed in the report is based on the end use specified; if this end use is changed then this risk assessment must be reviewed and amended as appropriate.

References to possible asbestos containing material made within this report do not constitute an asbestos survey. Ramboll are not asbestos specialists and cannot provide specific asbestos risk assessment advice, it is recommended that the Client appoints an asbestos consultant to advise on any matters relating to asbestos.

This report addresses contaminated land issues only. No intrusive ground investigation works were undertaken as part of this study.

2. SITE DETAILS

2.1. Site Location

The site is located in Manchester City Centre at National Grid Reference 383630, 397190. The site is approximately 0.85 Ha (2.1 acres) in area and is roughly square in shape. A Site Location Plan is presented as **Figure 1**.

2.2. Site Description

A site walkover survey was undertaken by a representative from Ramboll on 18th of April 2019. A selection of representative walkover photographs are attached in **Appendix A.** A Site Layout Plan is presented in **Figure 2.**

The site is accessible via River Street at the northern boundary of the site, which comes off Mancunian Way Ring Road.

The site comprises of a five-storey elongate building operated by Premier Inn Hotel (in the east and south east of the site), adjoining car park (in the centre and the west) and vegetation in the south of the site. An electricity sub-station is located within the building, at the northern site boundary. In addition, there are six air-conditioning units located around the entrance of the hotel.

Limited areas of soft landscaping have been noted in the car park, comprising of trees and bushes. At the time of the site walkover, a storage container and a waste skip were noted in the south of the site. Litter was observed in the south of the car park. Some localised car oil staining was noted in the car park.

The site is largely covered with concrete hardstanding which appeared to be in good condition. In areas of pedestrian walkways and around the building, concrete slabs were noted. Drainage runs were observed in the car park and appeared to be in a good condition. Manhole covers and lamp posts were observed around the hotel building and the car park, indicating presence of various utilities below the site.

The southern site boundary is vegetated with grass, shrubs and trees. This area sits approximately 1.3m higher than the car park, and due to a brick wall separating the two, can be accessed from the south. There is a high-mast lighting pole and electric cabinet located at the southern tip of the site.

The site is bound to the north and west by a two-metre high brick wall with metal palisade (which also separates the vegetation area and the car park to the south of the site). The building acts as a boundary of the site to the east.

2.3. Surrounding Land Use

The site lies within an area characterised by suburban residential development, but including mixed use of residential, educational, commercial and open space.

The site is bound to the:

- North by semi-detached residential apartments and offices;
- East by Medlock Street with the First Street Development of mixed office and residential use beyond;
- South by Mancunian Way and residential housing beyond; and
- West by construction site with a high rise building in construction, with former industrial warehousing beyond which is currently used as a car park.

2.4. Topography

The site is generally flat, however there is a distinct level difference on the northern boundary at the corner of River Street and Medlock Street.

3. SITE HISTORY

The site history has been derived from the 1:500, 1:1,250, 1:10,560 and 1:10,000 scale historical Ordnance Survey maps provided in the Envirocheck report included within **Appendix B**. A summary of the main features has been provided in Table 3.1 below. Potentially contaminative historic land uses are highlighted in ***bold italics***.

Table 3.1: Summary Site History

Date	Significant Land Uses and Changes in Use	
	On Site	Off-site
1848, 1851	The site is shown as terraced housing with Hibbert Street, Clegg Street and Duke Street running north east to south west with the Globe Inn in the SE corner of the site and the George Inn in the NW corner of the site.	The surrounding land is predominantly residential and industrial with terraced housing east, south and west and ***Medlock Street Glass Works*** approx.70m N along with ***Brewery, Store house, reservoir*** and Stables at the same location. George Street Methodist Chapel is shown adjacent to the south western site boundary. There is ***Medlock Street Dye Works*** shown approx. 50m NE with a meander of the River Medlock immediately beyond; ***Cotton Mill*** approx. 100m NE; ***Manchester Gas Works*** approx. 150m NE; ***Cambridge Street Works with gasometer, tanks and boiler houses*** approx.200m NE.
1891, 1894-1896	-	A school is noted approx. 20m NW of the site. The ***Medlock Street Dye Works, Cotton Mill and Manchester Gas works*** are no longer present, the area is shown as part of ***Gaythorne Gas Works*** with ***6 large gasometers, railway sidings, Chimneys and tanks*** which is shown approx. 20m NE. The Medlock Street Glass Works is shown as ***Victoria Foundry***. The ***reservoir is no longer present***. St Marks Church is very close to the former reservoir approx. 200m NE of the site with ***tramway*** immediately beyond the church.
1908,1923,	The western area of the site is shown as a school.	Cambridge Street Works is shown as ***Cambridge Street Rubber Works*** approx. 200m NE. Housing clearance is shown approx. 150m east.
1932	The centre of the site is shown on the 1:10,000 map is shown to have been cleared. However, housing is still present on the 1:2,500 map. Therefore, a discrepancy of the time of the clearance.	The land immediately E of Medlock Street is shown on the 1:10,000 map as cleared and vacant. However, on the 1:2,500 map terraced housing is present onsite. Therefore, a discrepancy of the time of the clearance.
1938	The school is still present in the western area of the site, and the Globe Inn in the SE corner of the site, however, everything else has been ***demolished*** and appears vacant.	The area immediately W, SW and S of the site has been cleared with a ***Fire Station*** approx. 180m SW.
1948-1950, 1951, 1954, 1956,	-	Cambridge Street Rubber Works is now shown as ***Dunlop Rubber Works*** and has extended up to Medlock Street approx. 20m E of the site. ***Two Timber Yards, two Printing Works, Victoria Engineering Works, and electrical wire and tape works and saw mill*** noted immediately N of the site. ***Industrial buildings*** shown adjacent to the W shown as ***PO telephones Depot*** in 1956. The school (approx. 20m N) is now shown as an ***Auto-Engineering Works*** and St Marks Church (approx. 200m N) is no longer shown. There are various industrial works noted within 300m of the site to the

Date	Significant Land Uses and Changes in Use	
	On Site	Off-site
		SE and S including ***engineering works, clothing factory, coal yard, printing works, chain factory and Gaythorn Works (food production).***
1969, 1972	The site is vacant apart from the former school in the W now shown as John Dalton College of Technology.	Mancunian Way has been constructed immediately south of the site. There are only three out of the six gasometers shown at Gaythorn Gas Works.
1980, 1985	The building onsite is now shown as Manchester Polytechnics (Gaythorn House).	Gaythorn Gas Works is now shown to have two gas holders and shown as a ***gas holder station and depot.***
1987, 1989, 1990	-	Gaythorn Gas Works no longer shown, the majority of site is shown as a ***car park.***
1992, 1994	-	*Gaythorn Gas Works has been redeveloped* and a building in the centre of the site shown as the British Council with associated car parking and soft landscaping. Offices are shown in the area of former industrial buildings immediately N of the site.
1999	The site is completely vacant.	Land immediately N on River Street has been cleared of buildings.
2000	Aerial photography shows the site to be a construction site with the building layout as shown today.	Land immediately east and west are shown as ***car parks***. Land immediately N is shown as a construction site for what appears to be residential apartments.
Present	Hotel shown with associated ***car parking*** and soft landscaping.	Site immediately W is vacant.

Notes:
- No significant changes in use
Potentially contaminative historic land uses are highlighted in ***bold italics***.

In summary, the following potential historic contamination sources have been identified:

On site

- ***Demolition of housing and public houses:*** potential for underground structures still present onsite.
- ***Construction and Demolition of School/Manchester Polytechnic Building:*** potential for underground structures still present onsite, and
- ***Construction of Hotel and associated car parking***

Off-site

- ***Glass Works, Brewery, Infilled Reservoir, Victoria Works (foundry then later engineering works), saw mills, printing works, timber yards, electrical wire and tape works immediately N of the site.***
- ***Auto-Engineering Works*** approx. 20m N
- ***Medlock Street Dye Works*** approx. 50m NE
- ***Cotton Mill*** approx. 100m NE
- ***Manchester Gas Works,*** approx. 150m NE
- ***Gaythorn Gas Works*** approx. 20m NE
- ***Cambridge Street Rubber Works*** approx. 200m NE
- ***Dunlop Rubber Works*** approx. 20m E
- ***Tramway*** approx. 200m NW
- ***Various industrial buildings including engineering works, clothing factory, coal yard, printing works, chain factory and Gaythorn Works (food production)*** within 300m

- ***Various car parks*** within 100m of the site
- ***Depot*** immediately W of site
- ***Construction and demolition of various buildings, works an depots etc*** over time within 100m of the site.

3.1. Unexploded Ordnance

The Zetica Regional UXB Risk Map for Manchester shows the site to be located in an area of moderate risk from unexploded ordnance.

A separate UXO risk assessment report is being commissioned to inform risks during ground investigation and development.

4. ENVIRONMENTAL SETTING

The information provided within this section is based primarily on information from the following sources:

- British Geological Survey (BGS): https://www.bgs.ac.uk/;
- Environment Agency (EA): http://maps.environment-agency.gov.uk;
- Coal Authority: http://mapapps2.bgs.ac.uk/coalauthority/home.html;
- Public Health England: http://www.ukradon.org/;
- Natural England: http://www.magic.gov.uk/;
- Envirocheck report.

4.1. Published Geology, Hydrogeology and Hydrology

Published information is summarised in Tables 4.1- 4.3 below.

Table 4.1: Geological Features

Feature	Details
Geology	BGS Sheet 85 shows the geology to be Glaciofluvial Sheet Deposits overlying the Chester Formation of Sandstone. Although not shown on the BGS maps, Made Ground is likely to be identified onsite due to previous developments of the site. The Glaciofluvial Sheet Deposits are described by the BGS as "Sand And Gravel. Superficial Deposits formed up to 2 million years ago in the Quaternary Period. Local environment previously dominated by ice age conditions (UGF)". The underlying Chester Formation is described by the BGS as "Sandstone. Sedimentary Bedrock formed approximately 247 to 250 million years ago in the Triassic Period. Local environment previously dominated by rivers". From previous knowledge of sites very close to this, the underlying sandstone bedrock is highly weathered in some locations. There are several borehole logs noted on the BGS website for the site, however these are confidential (SJ89NW4070, SJ89NW4071, SJ89NW4072, SJ89NW4073, SJ89NW4074, SJ89NW4075, and SJ89NW4076). The nearest available historical borehole log (SJ89NE116), approximately 100m north of the site, obtained from the BGS website (http://scans.bgs.ac.uk/sobi_scans/boreholes/1042258/images/12295467.html) show ground conditions to comprise stone, clay and sand underlain by Sand and ballast, which is underlain by Sandstone. The borehole records are presented in **Appendix C.**
Geohazards	The Envirocheck report states that the site is at very low or no risk from the following ground stability hazards: • Collapsible Ground • Compressible Ground • Ground Dissolution • Running Sand • Shrinking or Swelling Clay • Landslides No assessment of the validity of these risk classifications has been made at this stage.
Radon	The property is not in a radon affected area, as less than 1% of homes are above the action level No radon protective measures are therefore necessary in the construction of new dwellings or extensions
Ground gas	There is potential for ground gas to be generated from Made Ground and any organic material associated with the superficial deposits at the site.
Mineral extraction	The site is not within an area potentially affected by past coal mining activities. However, the site is in an area where reserves of coal exist and could be worked at some time in the

Feature	Details
	future. A coal mining report has been obtained for the site and is included within **Appendix D.** The site is not within a brine compensation area. There are no BGS recorded mineral sites within 1km of the site.

Table 4.2: Hydrogeological Features

Feature	Details
Aquifers	The underlying Glaciofluvial sheet deposits are classified as a Secondary A Aquifer. The underlying Chester Formation is classified as a Principal Aquifer. The groundwater vulnerability is designated as high.
Groundwater depth	Unknown
Groundwater quality	Unknown
Groundwater abstractions and Source Protection Zones	The site is approx. 110m E from a Zone 3 of a groundwater source protection zone (SPZ) defined to protect water supply abstractions. The Envirocheck report has records of 4 groundwater abstractions within 1km of the site. The closest being 400m S for Manchester Metropolitan University for heat pump and general use.

Table 4.3: Hydrological Features

Feature	Details
Surface water features	The nearest surface water feature is the River Medlock which is culverted approx. 180m north of the site. The Envirocheck report states Corn Brook is approx. 220m S of the site.
River Quality	River Medlock is shown as River Quality E. Corn Brook is shown as River Quality C.
Surface water abstractions	None active within 1km of the site.
Drainage features	None
Flooding	Not in flood risk zone. There are two small areas on the site which are shown as a low risk from surface water flooding.

4.2. Environmental Records

Environmental permits, licences, consent provide an indication of potentially contaminative activities in the local area. Potentially sensitive sites in the area are considered as potential receptors. The key environmental records are summarised in Table 4.4.

Table 4.4: Environmental Records

Records	Details
Discharge Consents	The Envirocheck report lists 30No. discharge consents within 500m of the site, the closest of which is for United Utilities Water Ltd approx. 110m NE of the site for *Storm Sewage Overflow* into an unknown receiving water.
Pollution incidents	The closest incident is noted to be approx. 80mW on Mancunian Way for a chemical Irgasol in to the drains on 7th September 1998, causing a minor

Records	Details
	(Category 3) incident. There are a further three incidents noted within 500m of the site, all minor (Category 3) incidents.
Landfill and waste sites	None within 250m of the site
Regulated activities	There are 6No. Local Authority Pollution Prevention and Control records within 1km of the site with only 3No. authorised or permitted. The closest authorised record is 335m NW for Tom Garner Motors for the respraying of motor vehicles.
Contemporary Trade Directory Entries	There are 51No. entries within 500m of the site. However, only 7No. are active entries, the closest being 150m NE for Auto-traders car customisation and conversion specialists. The other entries are for printers, car dealers and garage services, gas suppliers, pest and vermin control, tyre dealers, furniture equipment and mirror sales, pattern makers, textile manufacturers, photographic processors, printers, book binders, china and glassware manufacturers and repairs, mechanical engineers.
Fuel Station Entries	There are four records of fuel stations within 1km of the site. However, only one is active, approx. 850m S for Asda.
Potentially Sensitive Sites	None within 1km of the site
Enforcement and Prohibition notices	Manchester Children's hospital were in breach of their conditions regarding the accumulation of radioactive wastes, 4th August 1995.
Registered Radioactive Substances	There are 20no. records within 1km of the site. However, these relate to only five locations. The closest being approx. 380m E of the site for The John Dalton Building, Manchester Metropolitan University.

4.3. Previous Ground Investigation

No previous ground investigation reports have been made available to Ramboll at the time of writing this report.

The planning conditions for the current site use (055877/FO/CITY3/99) did not require a site investigation. However, the BGS borehole locations show several boreholes onsite, presumable for the construction of the existing hotel and car park. These records are confidential and so Ramboll has not been able to view them.

It is likely that there would be a site investigation report to supplement the borehole records. It would be useful if this information could be obtained prior to any new investigations onsite.

5. GROUND CONTAMINATION – RISK EVALUATION

5.1. Conceptual Site Model

The information presented in the previous sections of this report has been collated and evaluated to develop an preliminary conceptual model for the site. Further details of the legislative context and background to assessment methodologies are provided in **Appendix E**.

5.1.1. Potential Sources

The potential contamination sources are summarised in Table 5.1.

Table 5.1: Potential Sources

Source	Key Potential Contaminants
ON SITE	
Former buildings and dwellings	Metals, hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), asbestos-containing materials (ACMs), pH
Made Ground	Metals, hydrocarbons, ACMs, PAHs, pH, ground gas
Ground gases from either Made Ground or natural superficial deposits	Ground gas
Car parking onsite	Hydrocarbons, PAHs, metals
OFF SITE	
Gas Works including gasometers	Hydrocarbons, ACMs, PAHs, metals, cyanide, phenols, pH, semi volatile organic compounds (SVOCs), volatile organic compounds (VOCs)
Infilled reservoir	ACMs, hydrocarbons, metals, PAHs, ground gas
Industrial land uses including engineering works, timber yards, glass works, saw mills, cotton mill, rubber works, depots, warehouses, car parking	Pesticides, herbicides, hydrocarbons, ACMs, nitrates, ammonia, metals, pH, ground gas, SVOCs, VOCs.

There is also a potential for UXO on site, this is being considered further through commission of a separate UXO risk report and is not considered further herein.

5.1.2. Receptors

The site-specific receptors that could potentially be affected by the contamination hazards are summarised in Table 5.2.

Table 5.2: Potential Receptors

Receptor	Details
ON SITE	
Site development workers	Site development workers are likely to come into direct contact with the underlying ground conditions during the redevelopment; they may be exposed to ground gases or vapours when working in confined spaces, or to dust or fibres during excavation and stockpiling activities, *etc*.
Future site users	Future site users (*e.g.* office workers, residents) may come into direct contact with the underlying ground conditions in areas of soft landscaping *etc*.; ground gases may accumulate in void spaces and migrate inside buildings; future site users may also be exposed to dusts or fibres in areas of soft landscaping, *etc*.

Receptor	Details
Adjacent site users	Adjacent site users (*e.g.*, residential properties in the vicinity of the site, office workers in the vicinity of the site, members of the public passing the site) may be exposed to wind-blown dusts or fibres.
Underlying aquifer	Superficial deposits classified as a Secondary A Aquifer; Bedrock aquifer classified as Principal Aquifer.
Construction materials	Buildings materials used below ground, *e.g.*, foundations and services.
Flora/fauna	There is likely to be limited soft landscaping areas associated with this development.
OFF SITE	
Local watercourses	The River Medlock is shown approximately 180m N of the site.
Adjacent site users and structure	Housing, offices, car parks.

5.1.3. Pathways

In order for the potential contaminants to pose a risk to the identified receptors, there has to be a viable pathway for the contaminant. The potential pathways are summarised in Table 5.3.

Table 5.3: Potential Pathways

Receptor	Pathway	Comments
Human health, fauna	Direct contact with contaminated soils	This is likely to be a key pathway for site development workers. The site is likely to have limited soft landscaping area for the site users to come into contact with any underlying soils.
Human health and fauna	Inhalation of dusts, vapours and fibres	Inhalation of dusts, vapours or fibres is likely to be possible in areas of soft landscaping, or during the construction process to adjacent site users. Any organic material or hydrocarbon impacts identified in soils and groundwater have the potential to generate ground gases which have the potential to migrate and build-up in particular in buildings and confined spaces.
Flora	Direct contact with impacted soils and root uptake	As there are limited areas of soft landscaping proposed it is unlikely that this is a key pathway.
Water environment	Leaching and vertical migration of soil impacts to groundwater	As the site is currently mainly hardstanding for car parking with minimal soft landscaping, and the development proposal are to include hardstanding over the majority of the site, there is little potential for rainfall infiltration, leaching and contaminant migration at the site.
Water environment	Migration of contaminants via groundwater to surface water courses and underlying aquifer	The geology is likely to comprise Glaciofluvial Sheet Deposits over the Chester Formation. The site is in an area of high groundwater vulnerability. Glaciofluvial Sheet Deposits and Chester Formation are likely to be significantly permeable.
Buildings and structures	Damage to building materials or services through direct contact with contaminants or through contaminant migration	Aggressive ground conditions or contaminants such as hydrocarbons may affect subsurface construction materials and in particular water supply pipes. Sulphate concentrations will affect the concrete classification required.

5.2. Qualitative Risk Assessment

Potential pollutant linkages are identified using the source-pathway-receptor framework detailed above. An assessment of the potential significance of each linkage is then made by consideration of the likely magnitude and mobility of the source, the sensitivity of the receptor and nature of the migration/exposure pathways. A visual representation of the Conceptual Site Model is presented as **Figure 3**.

This qualitative hazard assessment has been undertaken in accordance with NHBC and Environment Agency, 2008. Further details of which are provided in **Appendix E** including definition of risk categories.

Table 5.4 summarises the pollutant linkages and risk ratings associated with the proposed development.

Table 5.4: Preliminary Risk Assessment

Hazard / Pollutant	Pathway	Receptor	Potential Severity	Probability of Risk	Level of Risk
Potential asbestos-containing materials (ACMs) in Made Ground	Inhalation/ingestion of fibres/dusts Dermal contact	Site development workers	Severe	Likely	**HIGH** *
		Future site users	Severe	Low Likelihood	**MODERATE**
		Adjacent site users	Severe	Low Likelihood	**MODERATE**
Potential metals, hydrocarbons, PAHs, pH from previous site use	Dermal contact Ingestion/inhalation of soils/dusts	Site development workers	Medium	Likely	**MODERATE**
		Future site users	Medium	Unlikely	LOW
		Adjacent site users	Medium	Unlikely	LOW
	Leaching and migration	Aquifer and surface watercourses	Medium	Likely	**MODERATE**
	Direct contact	Building materials	Mild	Likely	**LOW/MODERATE**
Ground gases	Ground gas migration	Site development workers	Severe	Low Likelihood	**MODERATE**
		Future site users	Severe	Low Likelihood	**MODERATE**
Potential impact to site from migration of mobile contaminants (*e.g.*, PAHs, hydrocarbons, VOCs, SVOCs) from off-site sources (gas works, rubber works, printing works, timber yards, saw mills, engineering works etc)	Groundwater or ground gas migration	Site development workers Future site users	Medium	Low Likelihood	**LOW/MODERATE**

Notes:

Assessment completed assuming site in current condition; should site levels be altered during development, a reassessment would be required;
Assessment completed assuming no remediation/mitigation in place;
Should the development proposals alter significantly a review of this risk assessment may be required; in particular if wider or new areas of soft landscaping / open areas are planned;
* Given the use of appropriate PPE and on-site health and safety precautions, risk to site development workers would be reduced to low.

5.3. Summary of Potentially Significant Pollutant Linkages

Table 5.5 below summarises the pollutant linkages requiring further consideration through intrusive site investigation works.

Table 5.5: Potential Pollutant Linkages Requiring Further Investigation

Hazard / Pollutant	Pathway	Receptor	Level of Risk
Potential ACMs in Made Ground	Inhalation/ingestion of fibres/dusts Dermal contact	Site development workers	**HIGH** *
		Future site users	**MODERATE**
		Adjacent site users	**MODERATE**
Potential metals, hydrocarbons, PAHs, pH from previous site use	Dermal contact Ingestion/inhalation of soils/dusts	Site development workers	**MODERATE**
	Leaching and migration	Aquifer and surface watercourses	**MODERATE**
	Direct Contact	Building materials	**LOW/MODERATE**
Ground gases	Ground gas Migration	Site development workers	**MODERATE**
		Future site users	**MODERATE**
Potential impact to site from migration of mobile contaminants (*e.g.*, PAHs, hydrocarbons, VOCs, SVOCs) from off-site sources	Groundwater or ground gas migration	Site development workers Future site users	**LOW/MODERATE**

6. CONCLUSIONS

The site lies within a largely residential and commercial area within Manchester City Centre.

The site was historically occupied by terraced housing and two public houses with later a school in the west of the site. The houses and one of the public houses were cleared around 1938. The site remained the same until around 2000 when the site was redeveloped as hotel and car park which is still present today. The area to the north and east were heavily industrialised with various mills and works such as Rubber works and Gas works to the east, timber yard, saw mill and engineering works to the north.

Previous and current uses of the land lead to a low to moderate risk of potential soil and /or groundwater contamination at the site. The site lies in an area of moderate environmental sensitivity with residential, office, construction site land uses adjacent, and underlying geological strata classified as Secondary and Principal aquifers. The site is not in an area affected by past coal mining activities. However, coal reserves exist and could be extracted in the future

A previous site investigation was undertaken for the existing Premier Inn. However, this has not been made available to date. From BGS records there are 8 boreholes which are shown to be confidential.

There is a moderate risk from UXO and a separate UXO risk assessment report has been commissioned to assess risks for intrusive ground investigation and development purposes.

A ground investigation will be required to provide quantify the ground conditions and allow further assessment of risks from the potential ground contamination sources identified.

7. RECOMMENDATIONS

It is recommended that a ground investigation is undertaken. This would be used to obtain information on geotechnical and contaminated land conditions at the site, to inform the design and construction of the proposed development, and to identify any mitigation measures or remediation that may be required to reduce the potential risks from ground contamination. Information on contamination is also likely to be required as part of the planning process for the future proposed development of the site.

It is recommended that the geotechnical and contaminated land investigation is combined to reduce costs associated with undertaking these works separately.

The objectives of the intrusive ground investigation would be to:

- Confirm the ground profile;
- Confirm the presence, depth and direction of shallow groundwater flow;
- Characterise the underlying soil, gas and shallow groundwater quality;
- Obtain soil and rock properties for foundation design;
- Assess possible soil waste classifications (should it be necessary to remove material off-site);
- Confirm and develop the conceptual model and the risks associated with contamination.

The scope of the ground investigation will include the following:

- Windowless sampler boreholes to determine shallow ground conditions;
- Boreholes to determine deeper ground conditions;
- *In situ* testing to determine geotechnical parameters of the soils and rocks on site;
- Installation of monitoring wells in exploratory holes for ground gas and groundwater monitoring and sampling;
- Recovery of soil and groundwater samples for chemical testing;
- Recovery of soil samples (and rock if required) for geotechnical laboratory testing;
- Ground gas and groundwater level monitoring;
- Factual reporting; and
- Interpretative Reporting.

If unexpected ground conditions or significant contamination are encountered during the intrusive ground investigation, it may be necessary to extend this investigation or undertake additional ground investigation but the intention would be to avoid this if possible.

The risk from ground gas will need to be confirmed through installation of monitoring wells and a programme of ground gas monitoring comprising six rounds over two months to meet the requirements of current UK ground gas guidance.

The findings of this Desk Study and the recommendations for ground investigation should be discussed with the Contaminated Land Officer prior to undertaking the ground investigation. It is likely that the Local Authority will require, through planning, that any mitigation or remediation works at the site are fully validated and recorded so that a Verification Report can be compiled. This could also involve the preparation of a Remediation Strategy and a Verification Plan following the ground investigation.

8. REFERENCES

British Geological Survey (BGS) 1:50,000 scale geological mapping (Solid and Drift editions);

BGS website (www.bgs.ac.uk).

BS 10175; 2011+ A1:2013 Investigation of Potentially Contaminated Sites- Code of Practice

BS EN1997-1:2004 Eurocode 7: Geotechnical design —Part 1: General rules

BS EN1997-2 Eurocode 7: Geotechnical design — Part 2: Ground investigation and testing.

CIRIA C552 (2001) Contaminated land risk assessment, a guide to good practice.

Environment Agency (2004) Model procedures for the management of land contamination. Contaminated land report 11.

Environment Agency (EA) website (www.environment-agency.gov.uk);

Google Maps (2012) www.google.com

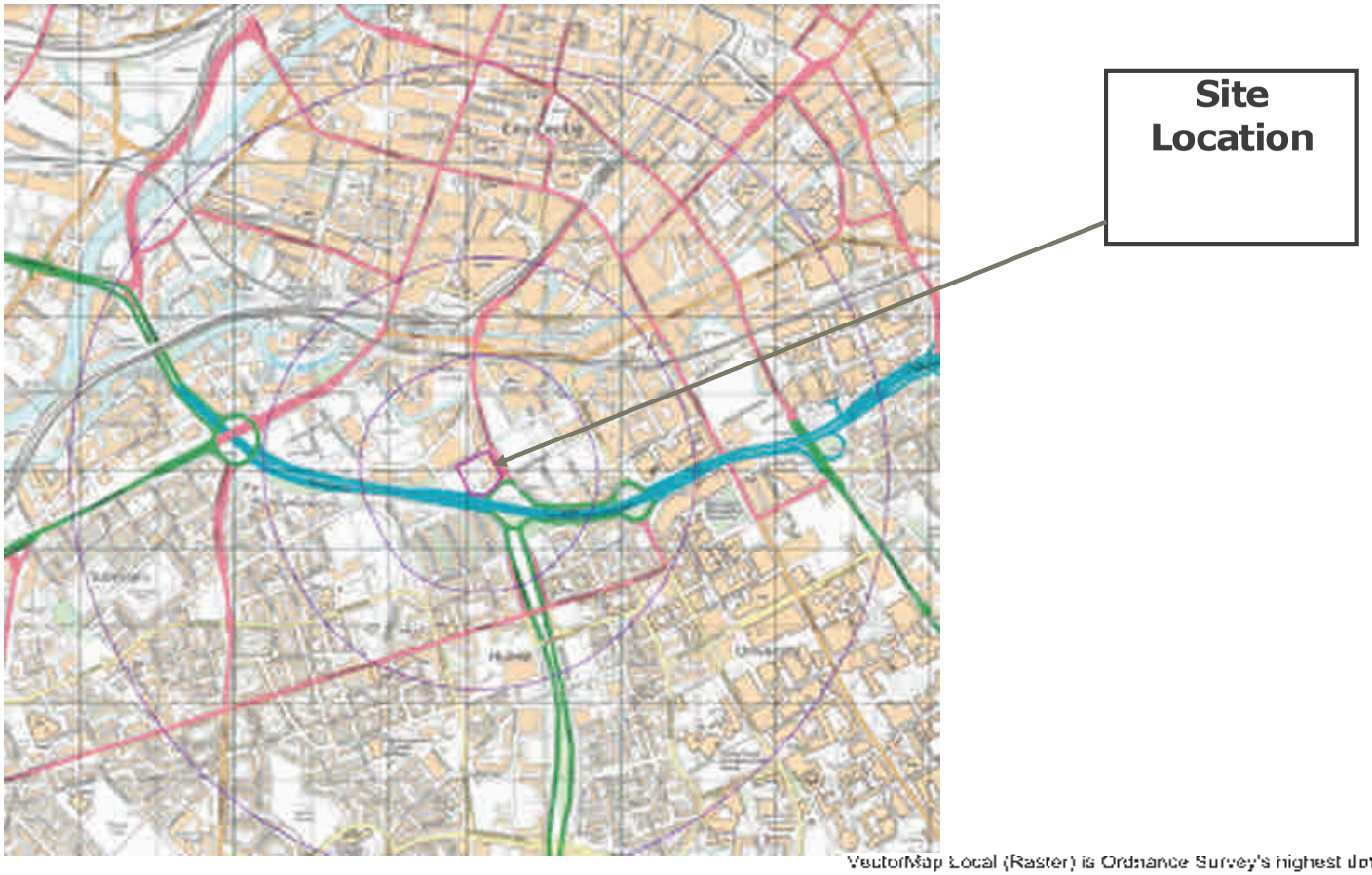
NHBC and Environment Agency 2008. Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66: 2008

Radon risk maps - http://www.ukradon.org

Zetica Unexploded Ordnance (UXO) Risk Map.

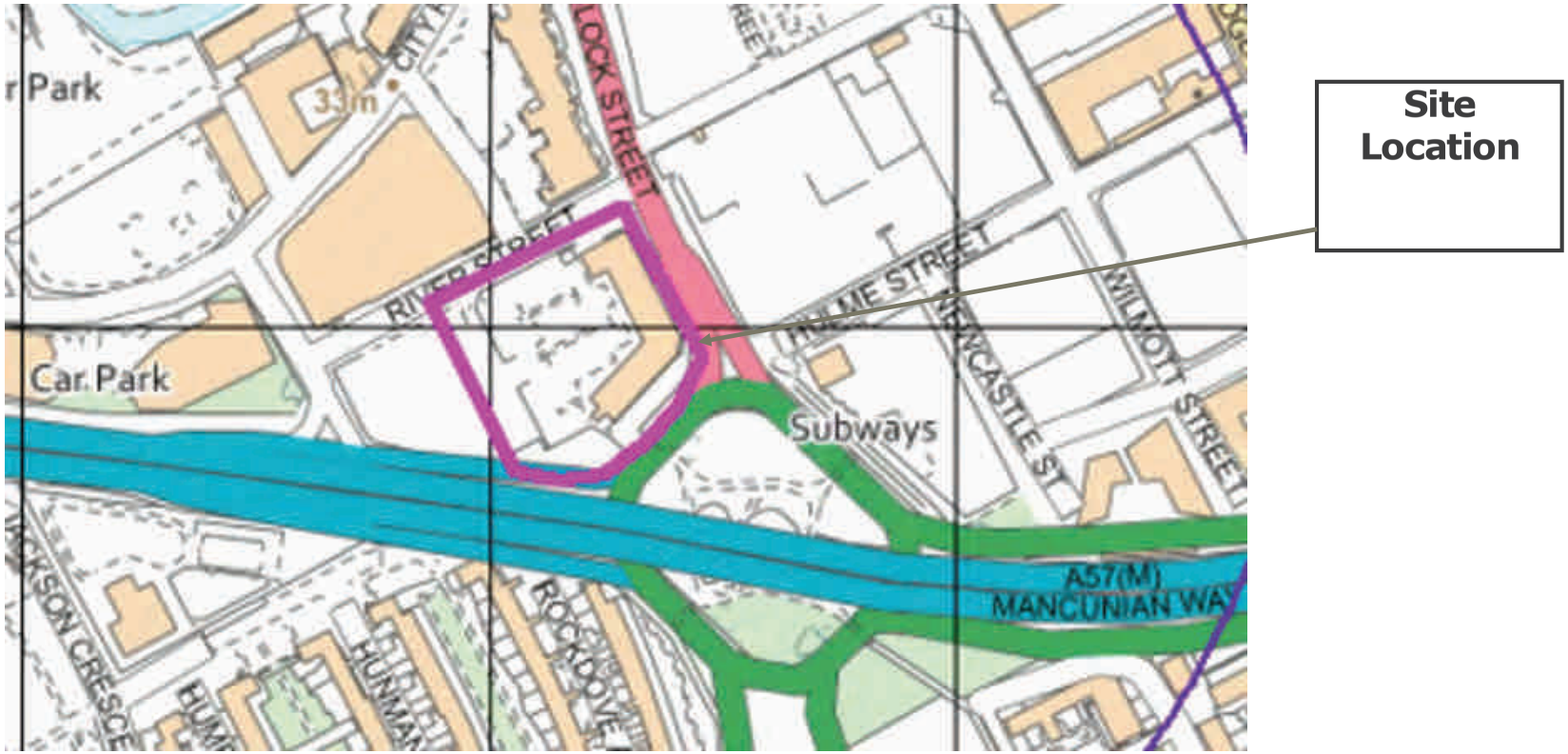
FIGURES AND DRAWINGS

FIGURE 1
SITE LOCATION PLAN

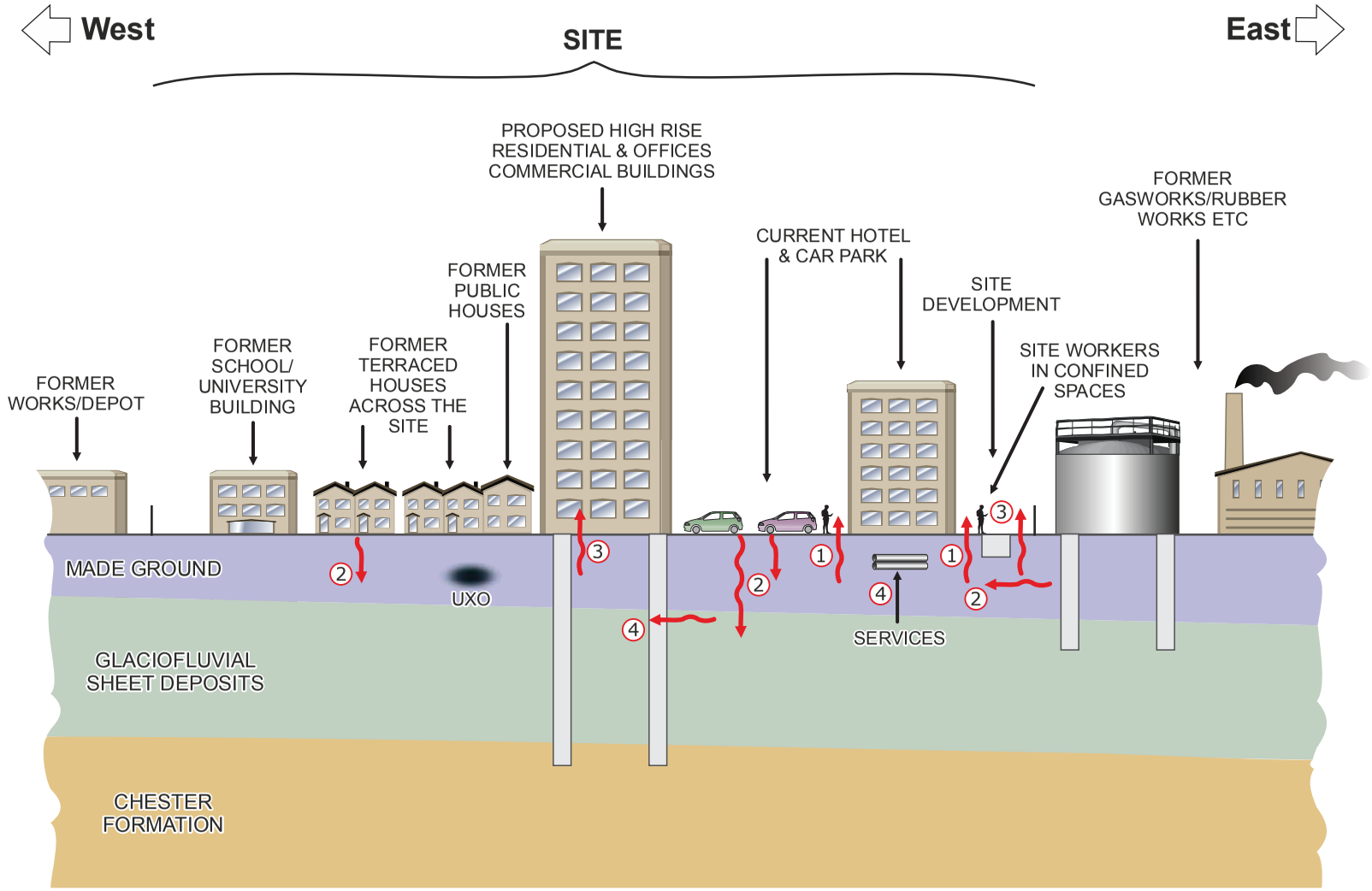


VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap 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).

FIGURE 2
SITE LAYOUT PLAN



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).



Potential Pathways

1. Inhalation / Ingestion / Dermal Contact of Dust & Fibres.
2. Leaching & Migration, Lateral & Vertical of Contamination.
3. Ground Gas Migration.
4. Direct Contact with Services and Underground Structures.

Figure Title

Figure 3: Conceptual Site Model

Project Name

River Street, Manchester, M15 5GQ

Project Number	Figure No.
1620005811	3
Date	**Prepared By**
April 2019	BVK
Scale	**Issue**
Not to scale	1

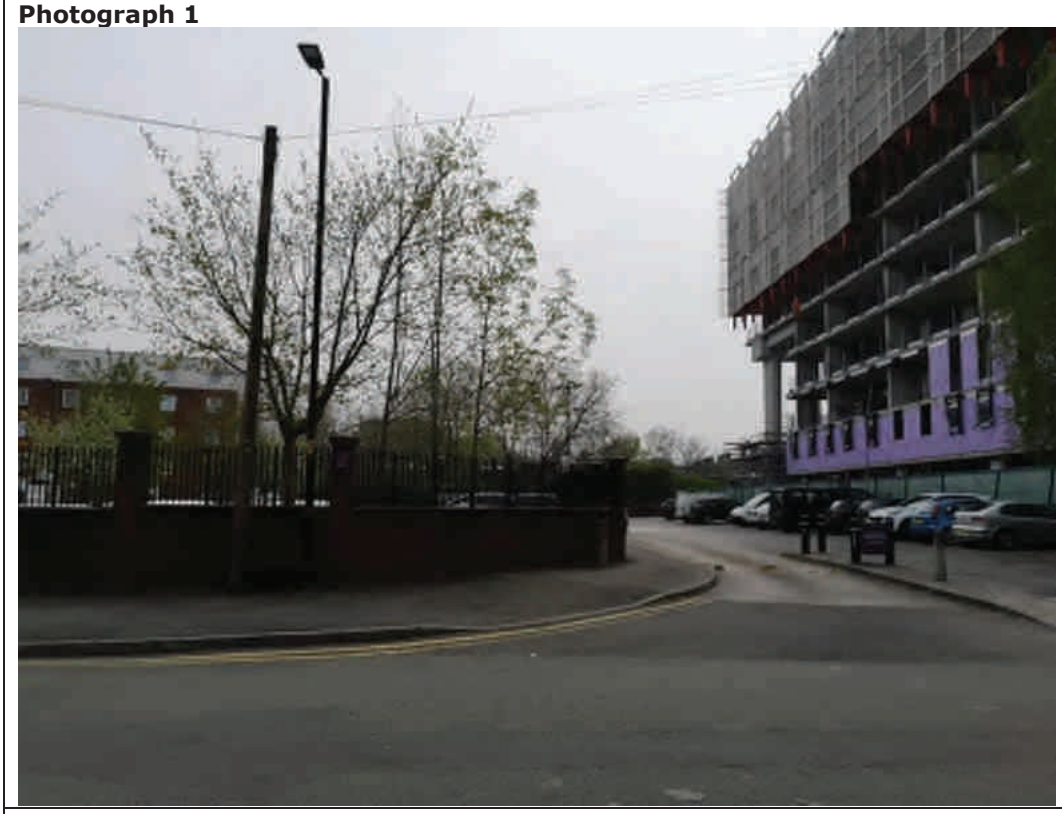
Client

Ask Real Estate Ltd

RAMBOLL

APPENDIX A SITE WALKOVER NOTES AND PHOTOGRAPHS

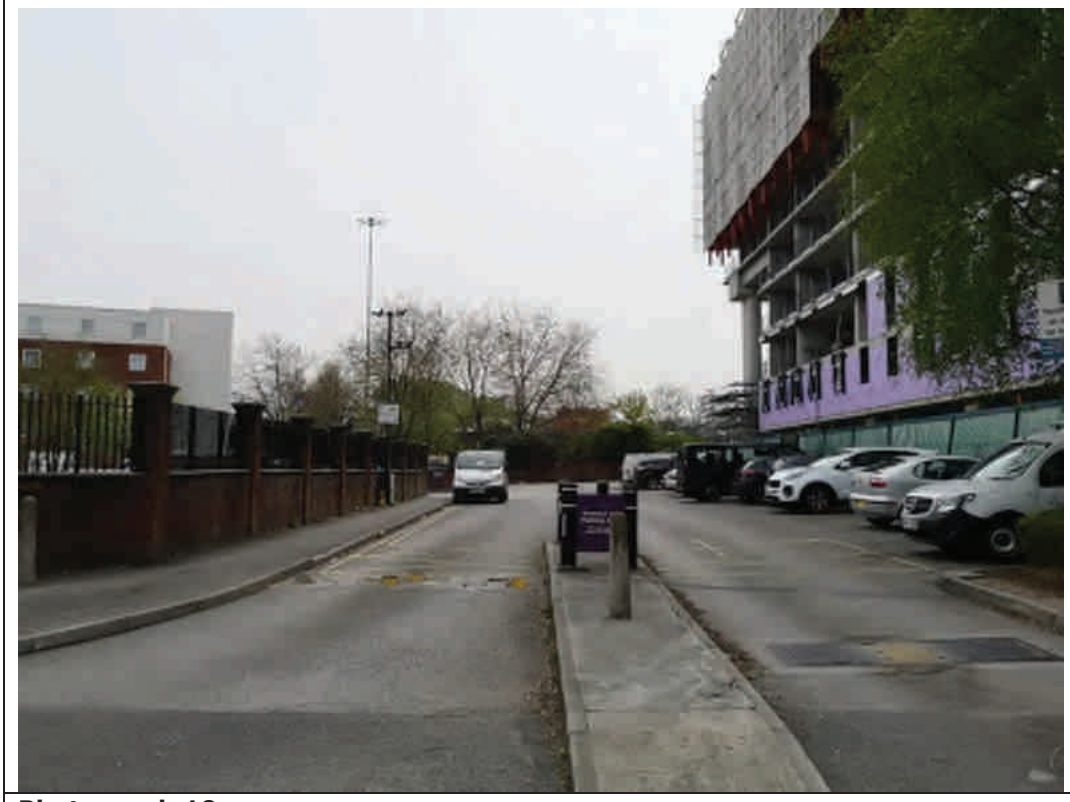
PHOTOGRAPHIC RECORD OF SITE VISIT
PREMIER INN, MANCHESTER

Photographic Record	Action /Comment
Photograph 1 	Photograph showing the entrance to the site off River Street. Photograph taken facing south-east.
Photograph 2 	Photograph showing the north boundary, facing the north-east.

Photograph 3 	Photograph of the hotel sitting at a higher elevation. Photograph taken facing south-east.
Photograph 4 	View of the underground subway off-site at the eastern corner of the site.

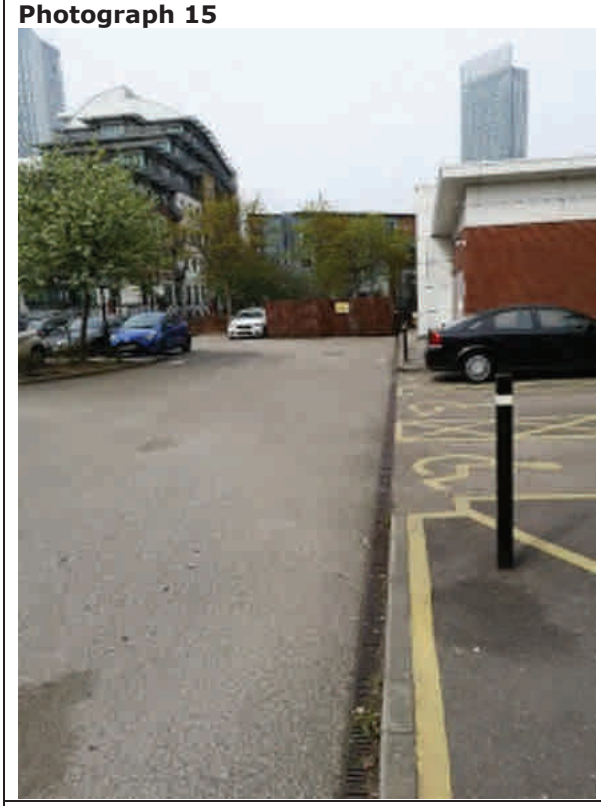
Photograph 5 	View of south-east boundary, facing the north-east.
Photograph 6 	Photograph taken facing west.

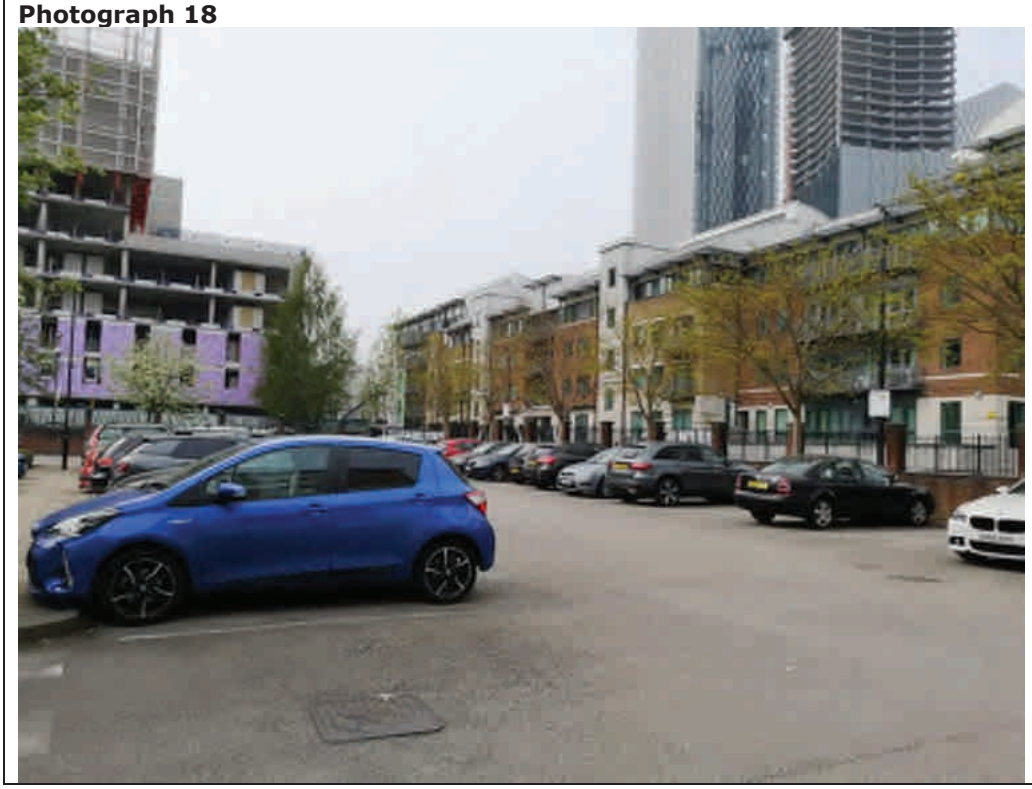
Photograph 7 	Vegetated part of the site in the south. Photograph taken facing the north-west.
Photograph 8 	High-mast lighting pole with an electric cabinet located at the southern tip of the site. Photograph taken facing north-west.

Photograph 9 	The entrance to the site is via the car park operated by Premier Inn. Photograph taken facing south-east.
Photograph 10 	View of the car park and hotel. Photograph taken facing the north-east.

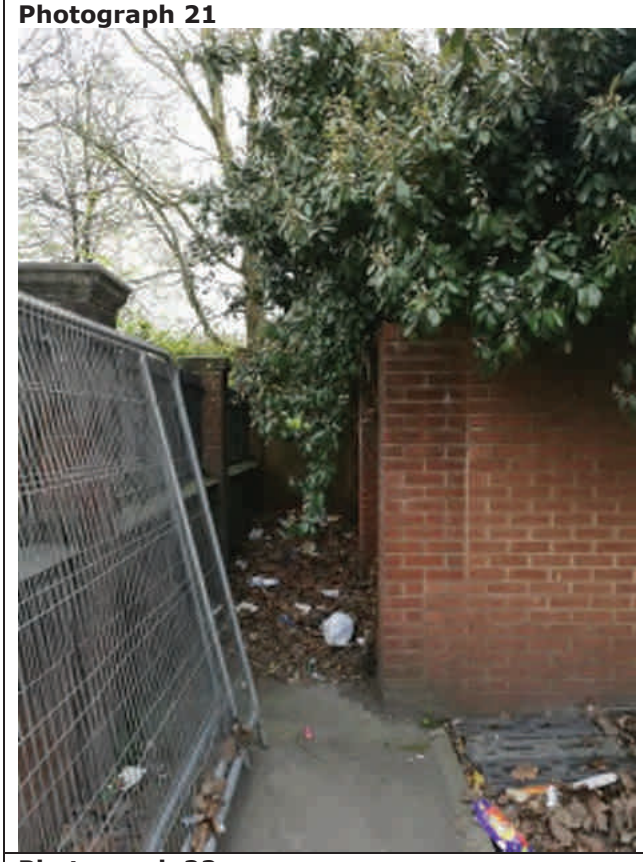
Photograph 11 	View of the car park taken facing the north-west.
Photograph 12 	View of the car park facing the north.

Photograph 13 	View of the car park towards the south-east.
Photograph 14 	View of the hotel with the entrance (left) facing south-east.

Photograph 15 	Drainage run along the hotel. Photoraph taken facing the north-west.
Photograph 16 	Door leading to the Premier Inn yard which holds, amongst other things, cylinders with "hazardous to the environment" hazard symbol. Photograph taken facing the south-east.

Photograph 17 	View along the fencing to the south of the site which separates the vegetation from the car park. Photograph taken facing south-west.
Photograph 18 	View of the car park facing the north-west.

Photograph 19 	View of the electrical sub-station (right) and outdoor waste collection point (left). Photograph taken facing the north.
Photograph 20 	View of the car park facing south.

Photograph 21 	Rubbish at the south of the site. Photograph taken facing the south-east.
Photograph 22 	View of the car park towards the west.

APPENDIX B ENVIROCHECK REPORT

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
199235460_1_1

Customer Reference:
Premier Inn Redevelopment

National Grid Reference:
383630, 397190

Slice:
A

Site Area (Ha):
0.85

Search Buffer (m):
1000

Site Details:

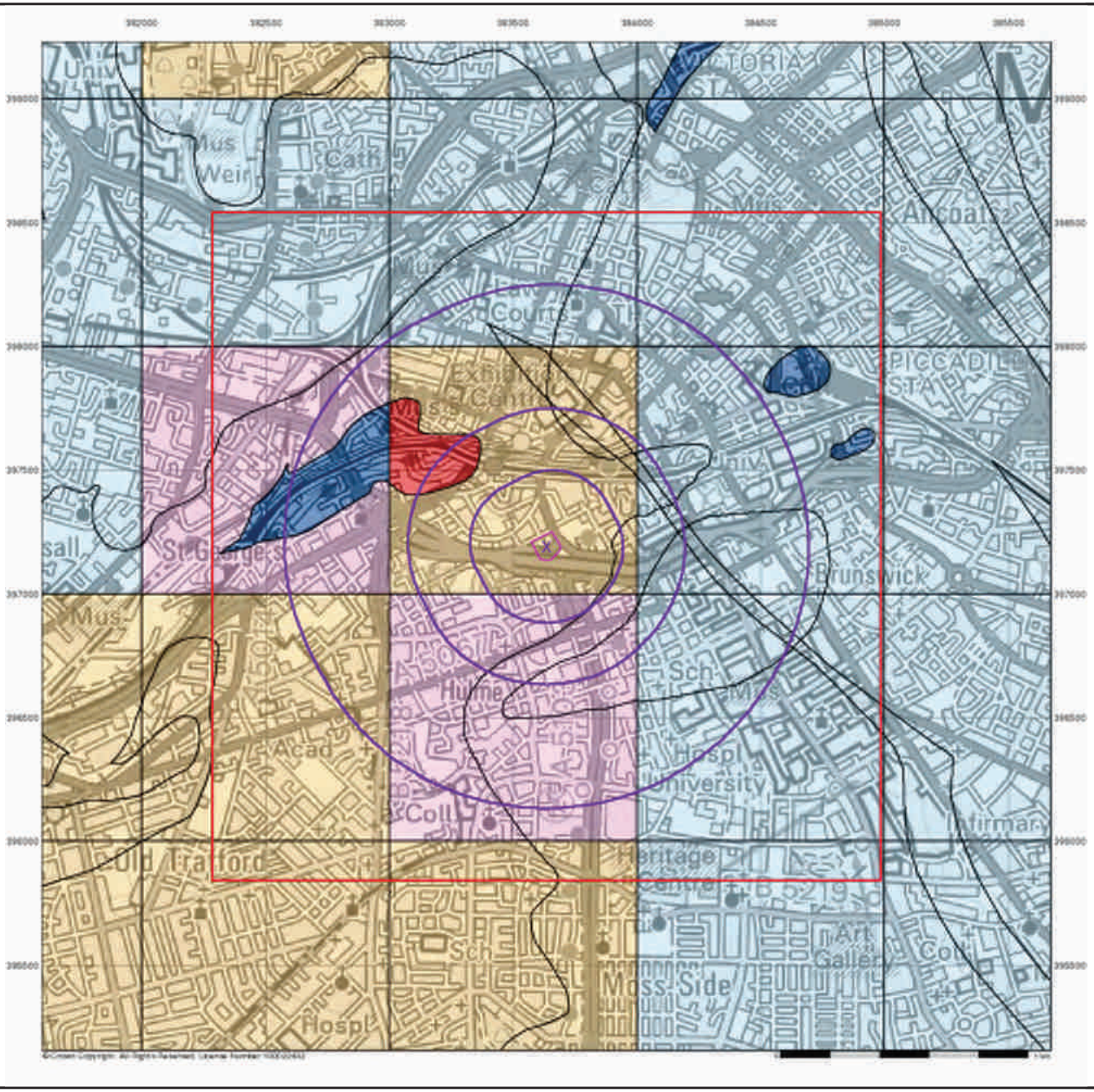
Flat 27, River Street Tower
2
River Street
MANCHESTER
M15 5GQ

Client Details:

Ms T Carey
Ramboll UK Ltd
Carlton House
Ringwood Road
Woodlands
Southampton
SO40 7HT

Prepared For:

Caroline Clark



RAMBOLL

Groundwater Vulnerability

General

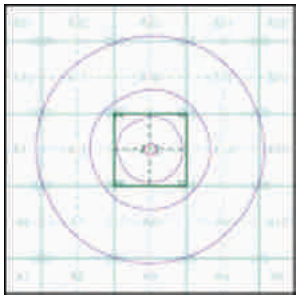
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer
Soluble Rock

Site Sensitivity Context Map - Slice A



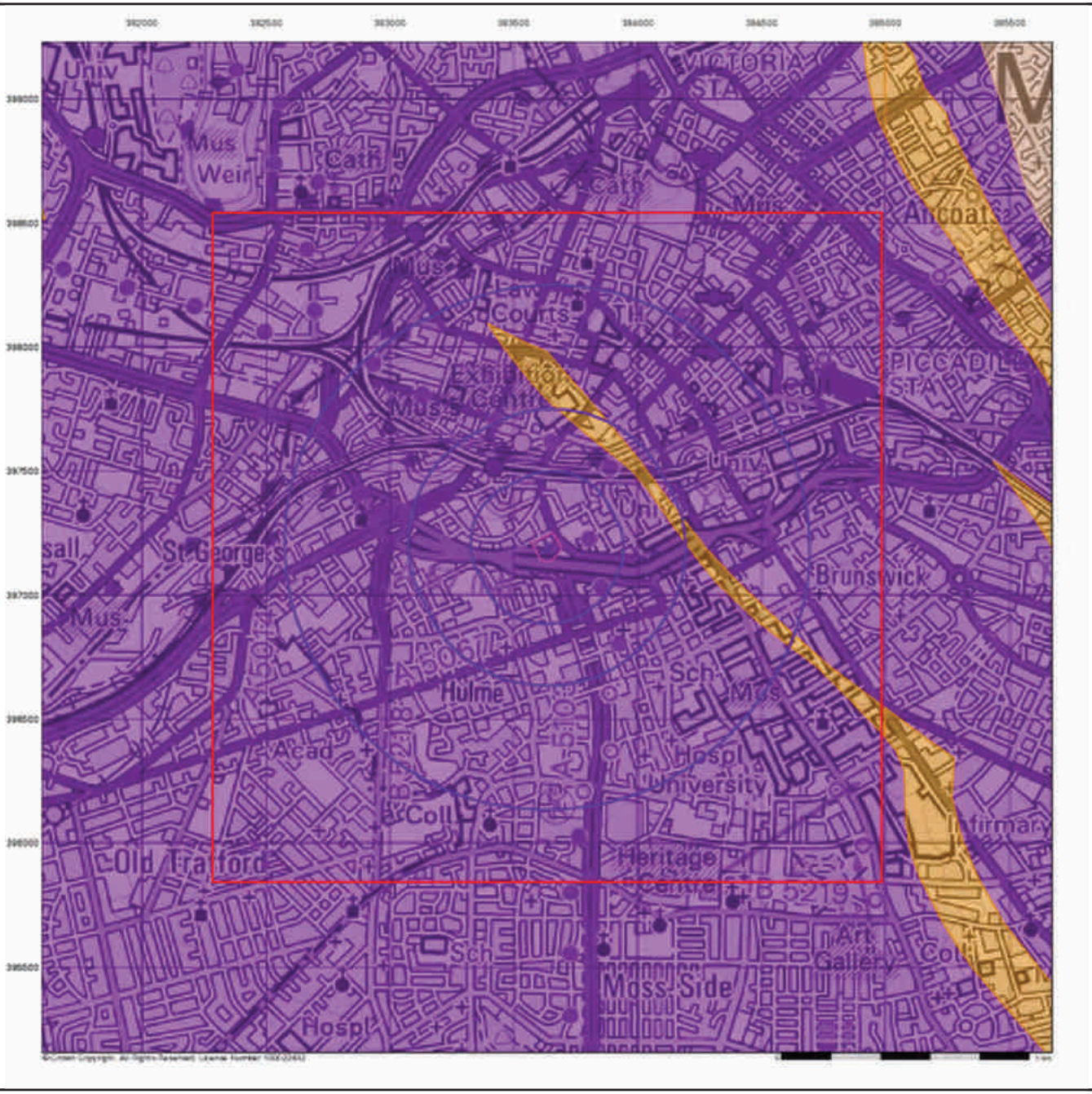
Order Details

Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

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Web: www.envirocheck.co.uk



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Bedrock Aquifer Designation

General

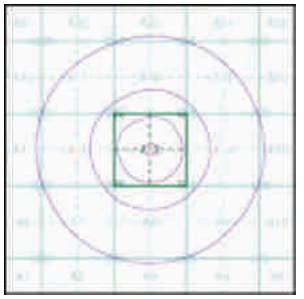
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

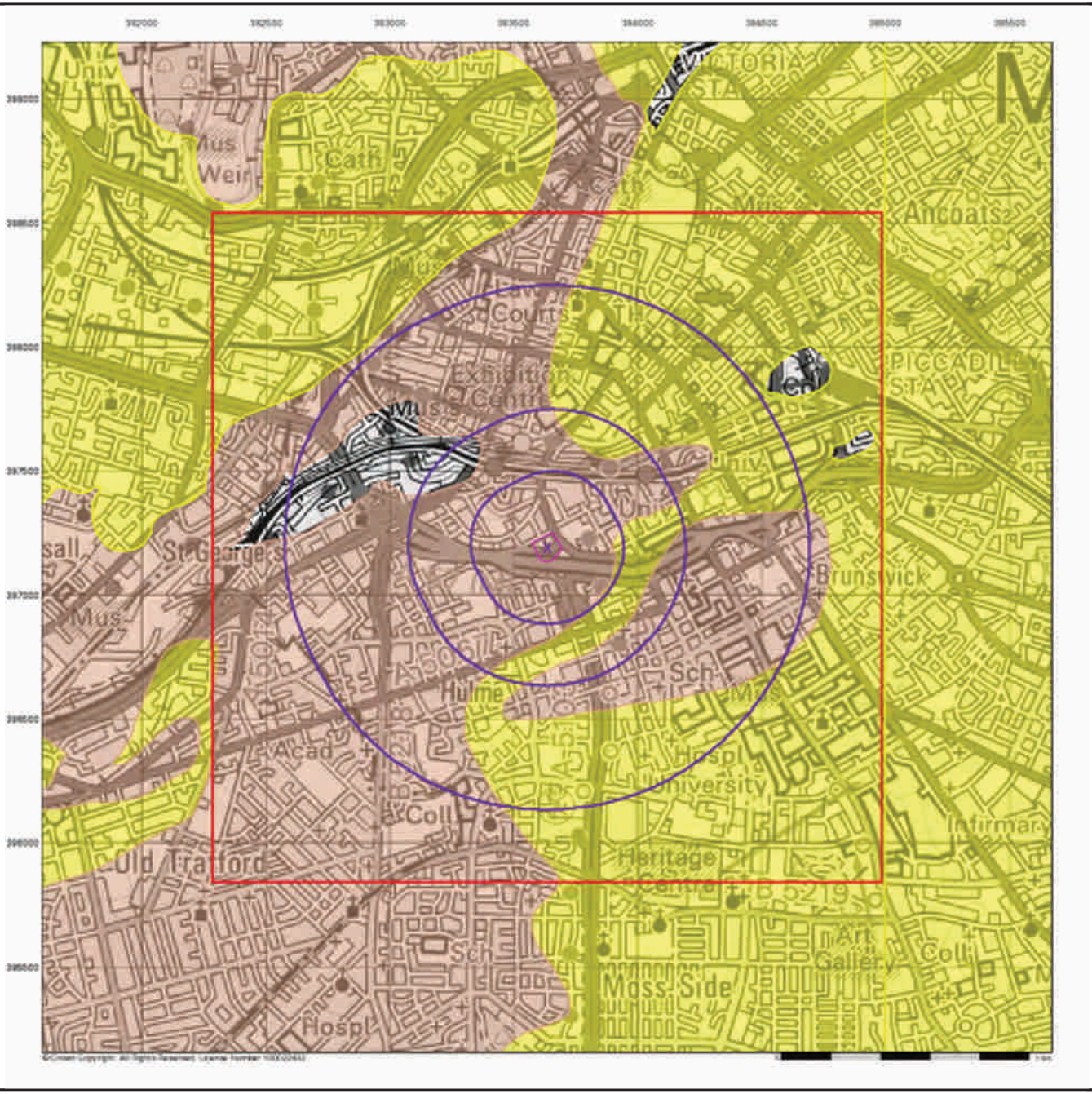


Order Details

Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



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Superficial Aquifer Designation

General

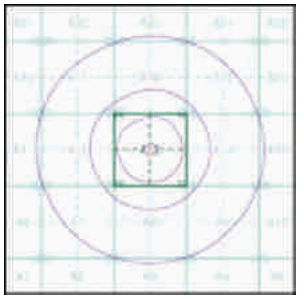
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A

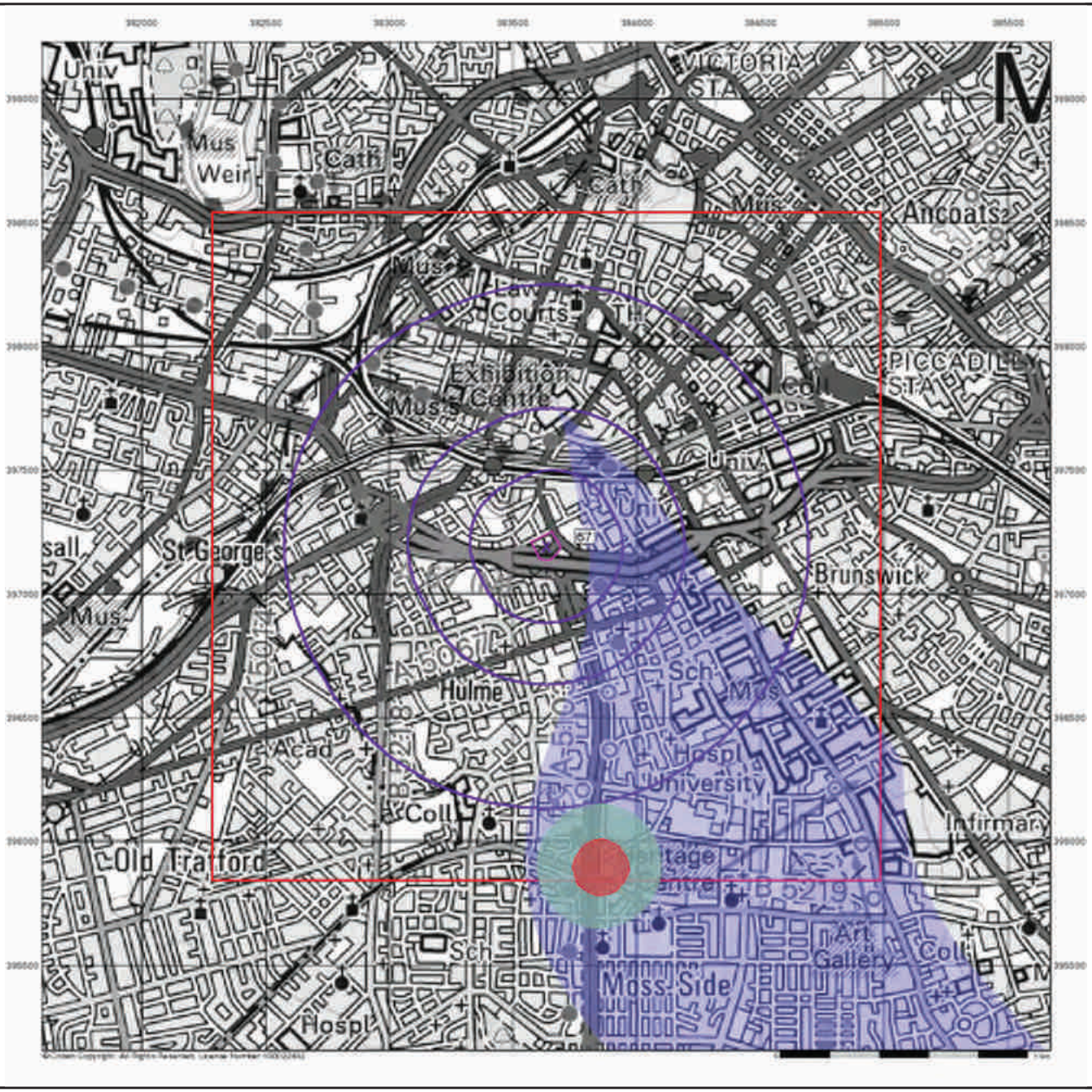


Order Details

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Slice:	A
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Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



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Source Protection Zones

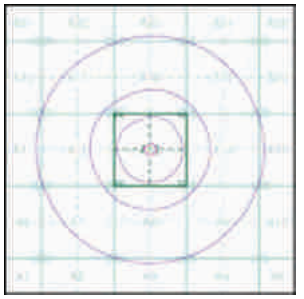
General

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)

Site Sensitivity Context Map - Slice A

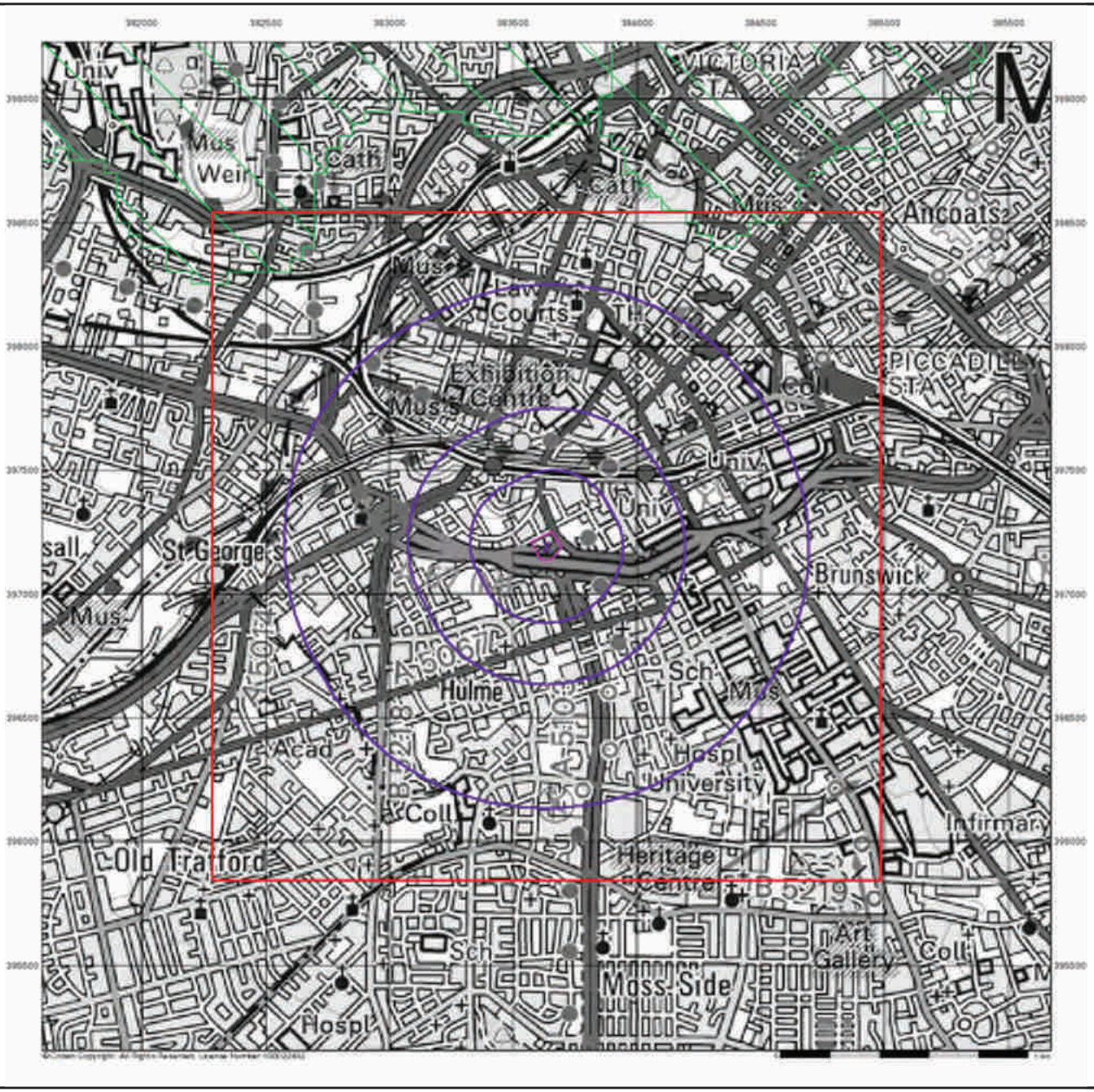


Order Details

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Slice:	A
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Search Buffer (m):	1000

Site Details

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Sensitive Land Uses

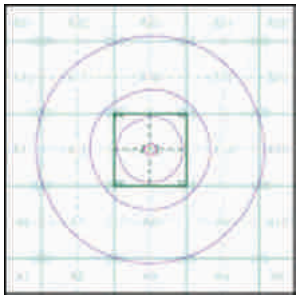
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A

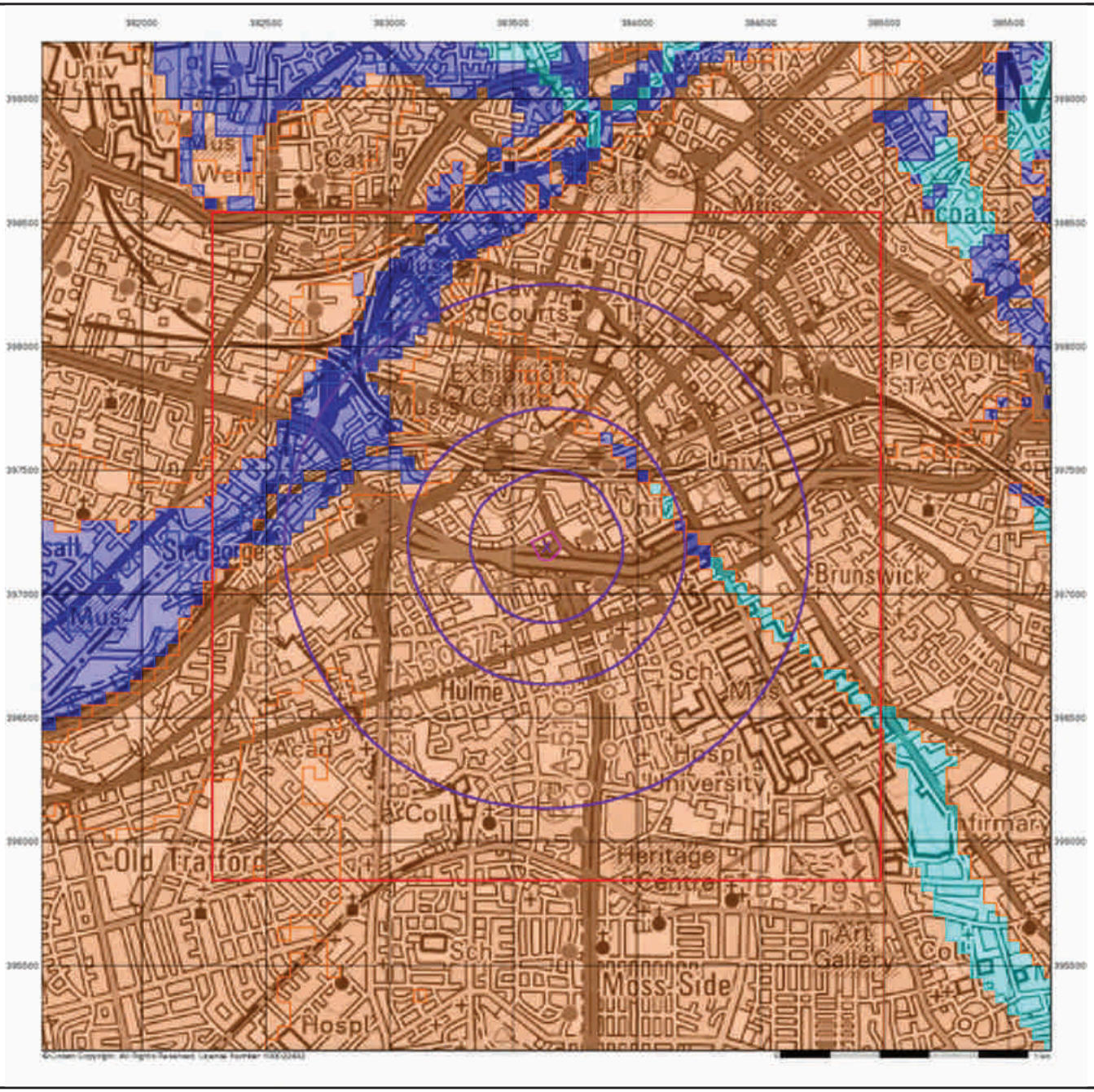


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Search Buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



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BGS Flood GFS Data

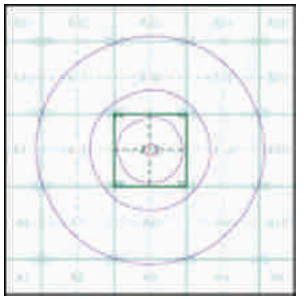
General

Specified Site Specified Buffer(s) Bearing Reference Point Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



Order Details

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Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	GFSDD	Glaciofluvial Sheet Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian
	TILLD	Till, Devensian	Diamicton	Not Supplied - Devensian
	GFDUD	Glaciofluvial Deposits, Devensian	Sand and Gravel	Not Supplied - Devensian

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	CHES	Chester Formation	Sandstone	Not Supplied - Olenekian
	WLSF	Wilmslow Sandstone Formation	Sandstone	Not Supplied - Early Triassic
	MM	Manchester Marls Formation	Mudstone	Not Supplied - GUADALUPIAN
	CS	Collyhurst Sandstone Formation	Sandstone	Not Supplied - Cisuralian
	HA	Halesowen Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	GML	Great Mine Limestone	Limestone	Not Supplied - Westphalian
	HTS	Holt Town Sandstone Bed	Sandstone	Not Supplied - Westphalian
	PUCM	Pennine Upper Coal Measures Formation	Mudstone, Siltstone and Sandstone	Not Supplied - Westphalian
	ETM	Etruria Formation	Sandstone and Mudstone	Not Supplied - Westphalian
		Faults		

RAMBOLL

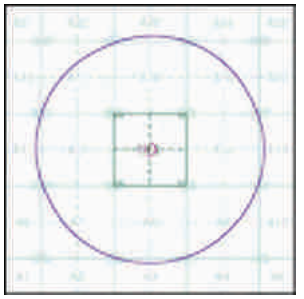
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the 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. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	085
Map Name:	Manchester
Map Date:	2010
Bedrock Geology:	Available
Superficial Geology:	Not Available
Artificial Geology:	Not Available
Faults:	Not Supplied
Landslip:	Not Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



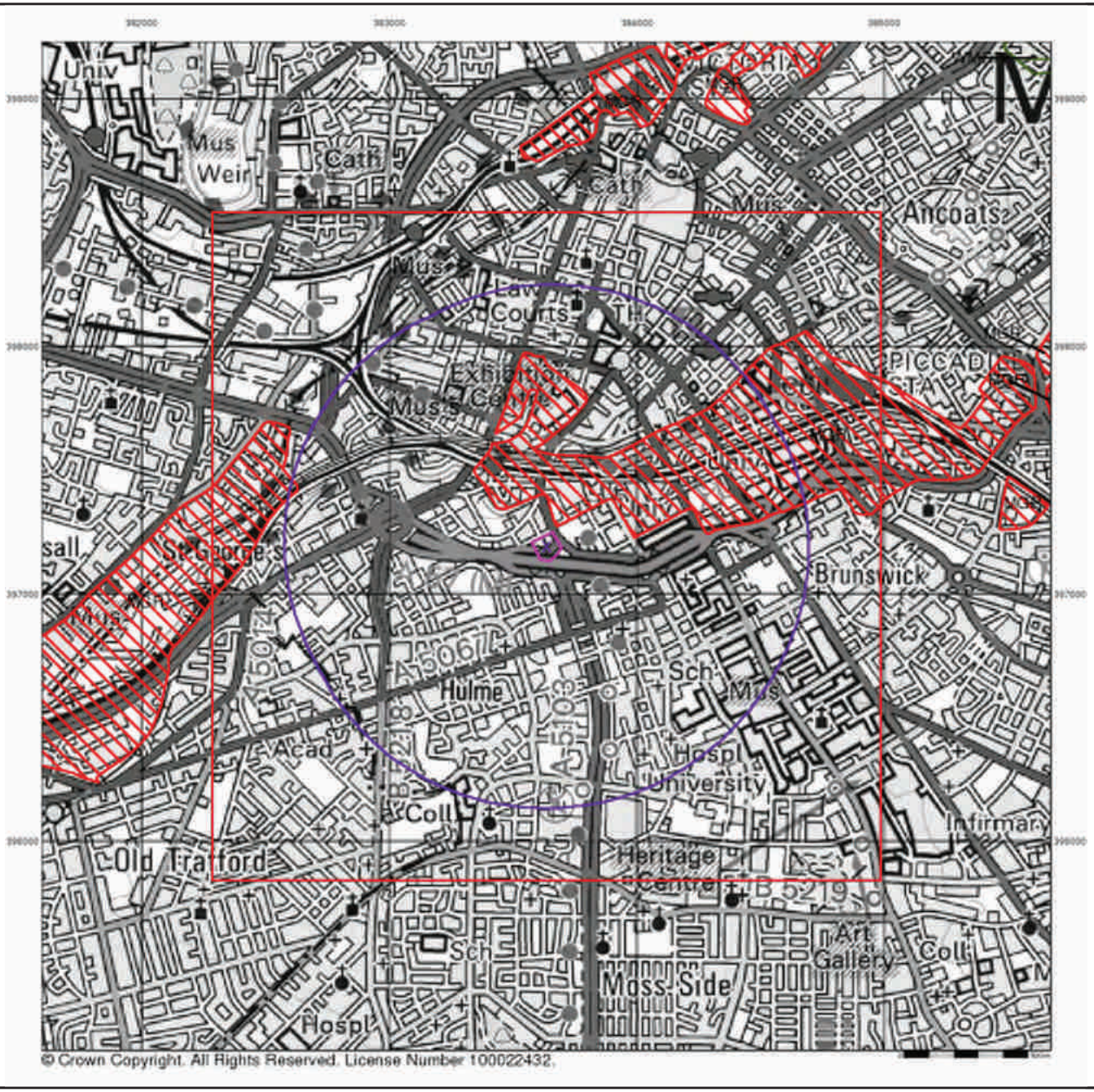
Order Details:

Order Number:	199235460_1_1
Customer Reference:	Premier Inn Redevelopment
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Slice:	A
Site Area (Ha):	0.85
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Site Details:

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Artificial Ground and Landslip

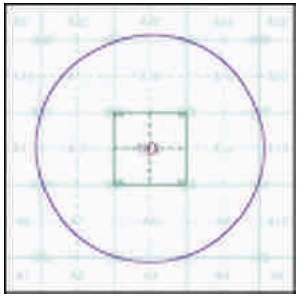
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

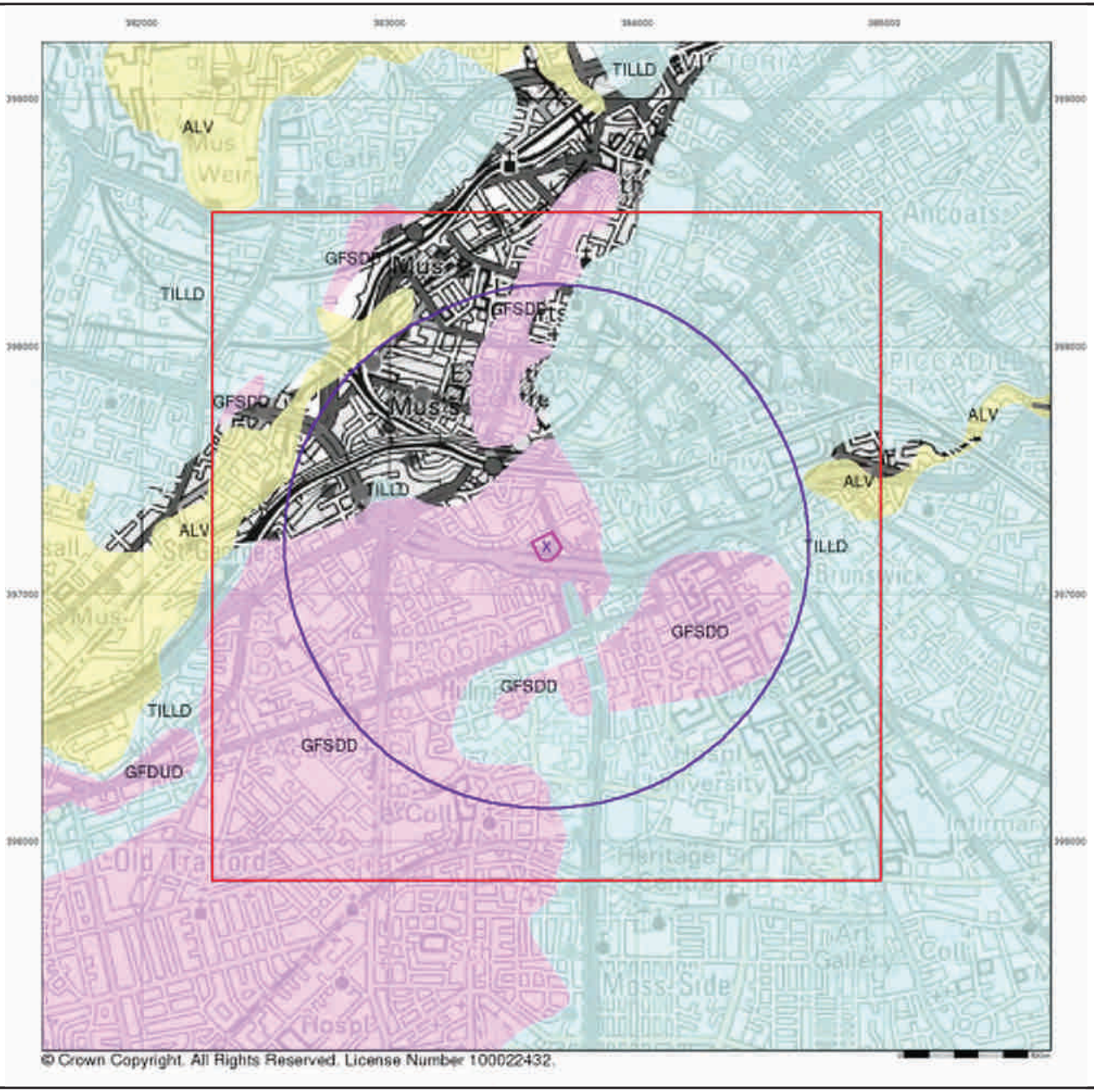


Order Details:

Order Number:	199235460_1_1
Customer Reference:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details:

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



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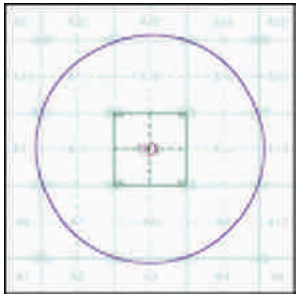
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, 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

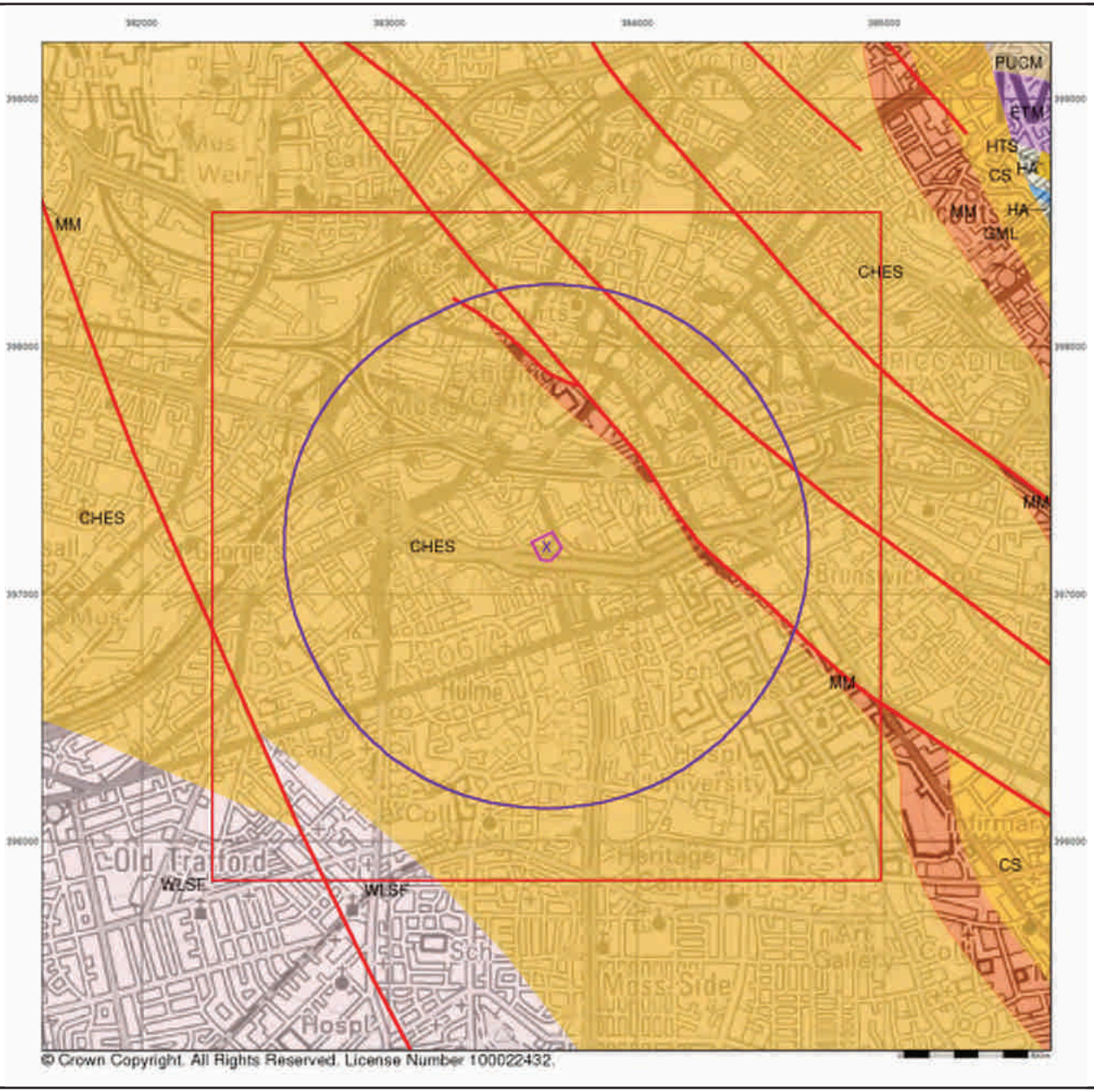


Order Details:

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Customer Reference:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details:

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RAMBOLL

Bedrock and Faults

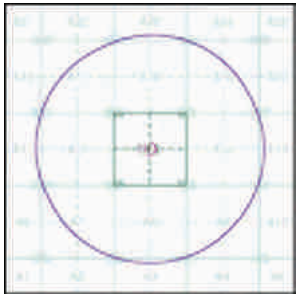
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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 (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A

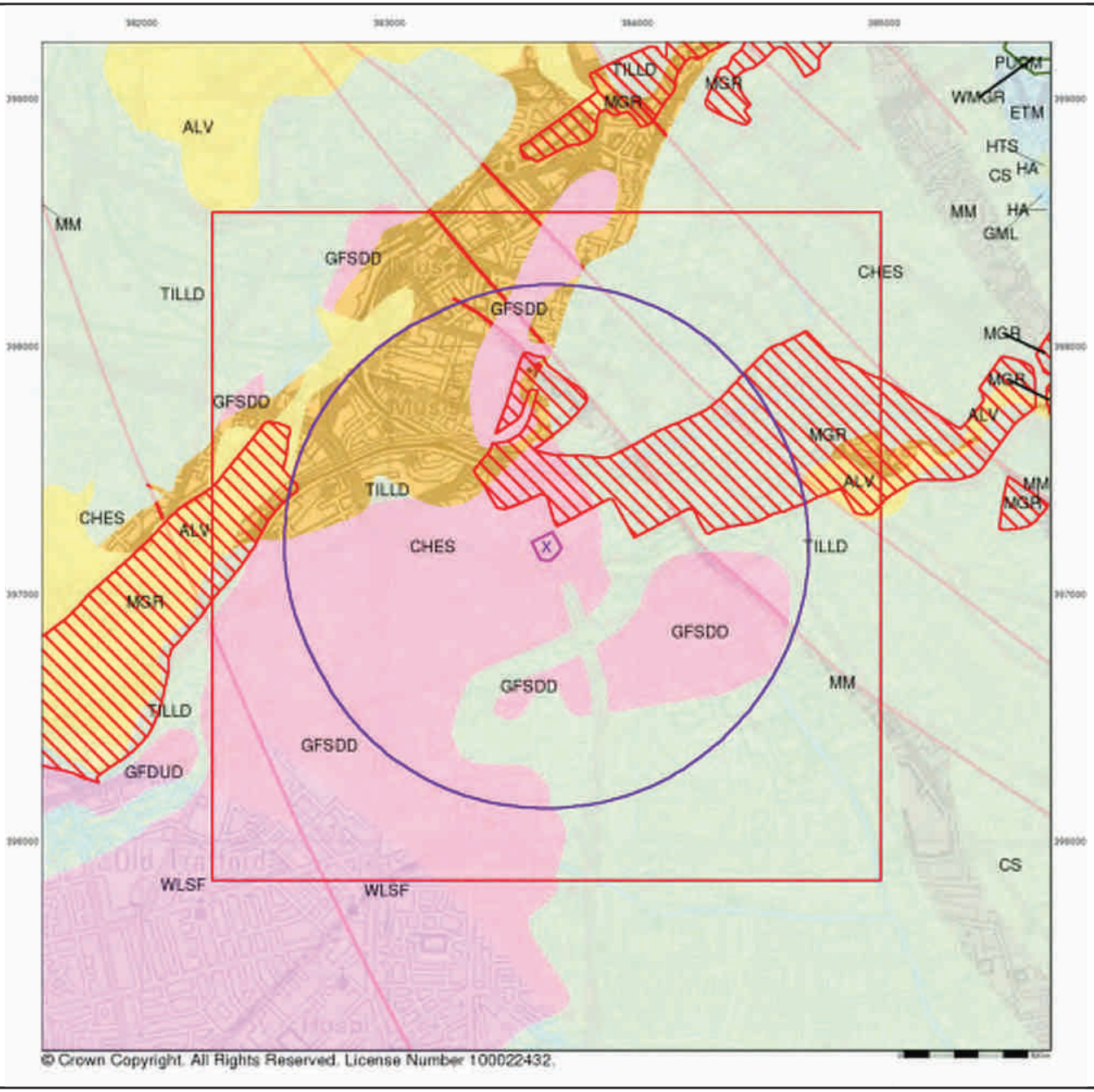


Order Details:

Order Number:	199235460_1_1
Customer Reference:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
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.

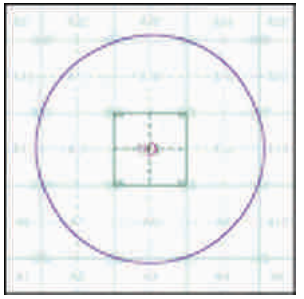
Additional Information

More information on 1:50,000 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

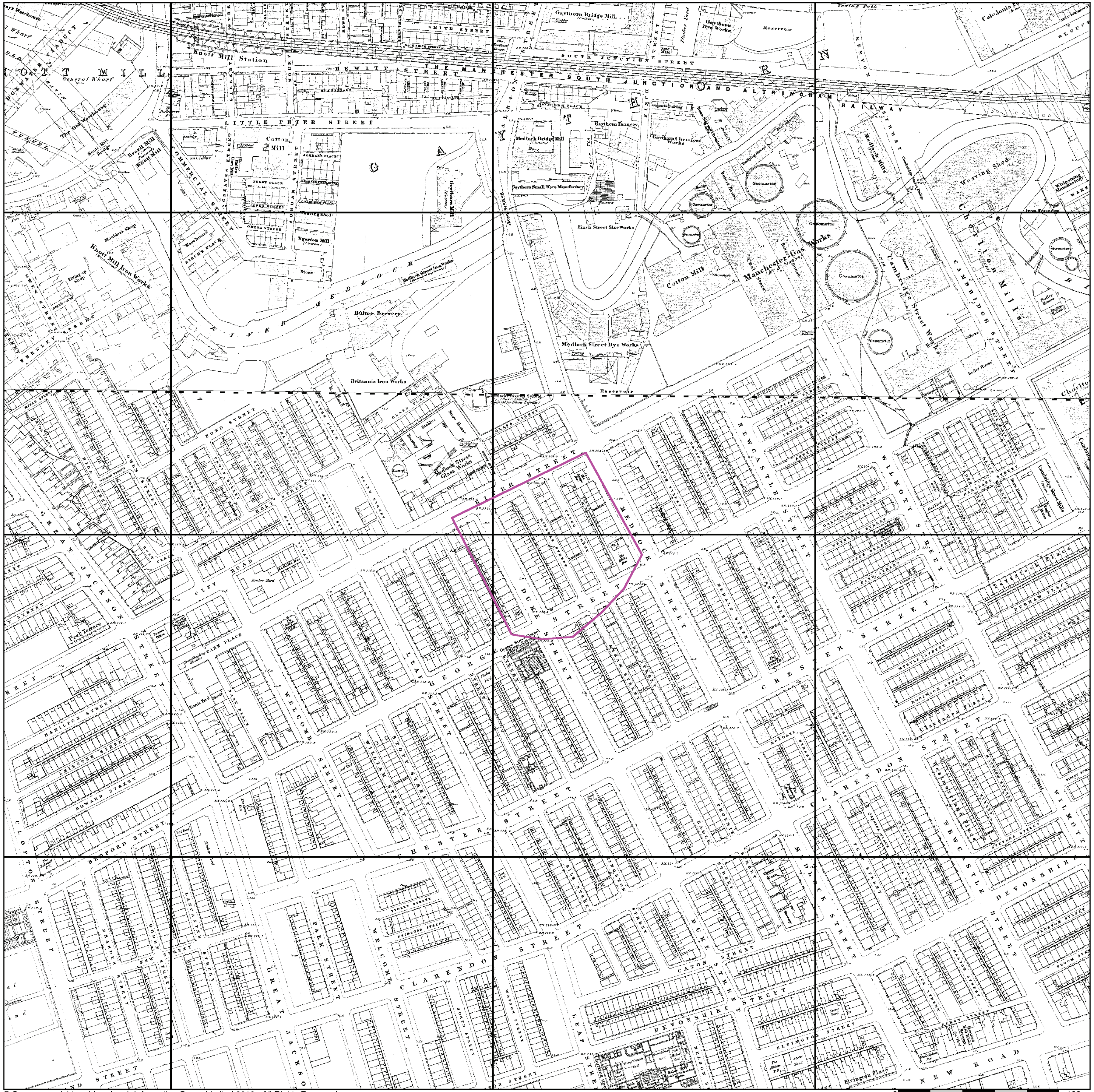


Order Details:

Order Number:	199235460_1_1
Customer Reference:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
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Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details:

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RAMBOLL

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.

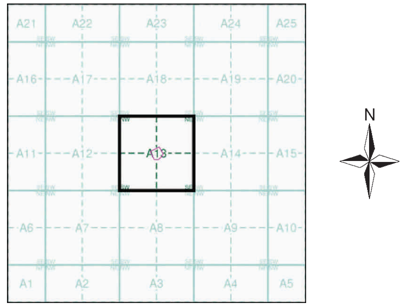
Please note: Due to the partial coverage of Historical Town Plans, it is possible that not all segments within an order will contain mapping. Only the segments that have Town Plan coverage will be generated.

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: 199235460_1_1
Customer Ref: Premier Inn Redevelopment
National Grid Reference: 383630, 397190
Slice: A
Site Area (Ha): 0.85
Search Buffer (m): 0

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

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RAMBOLL

Lancashire And Furness

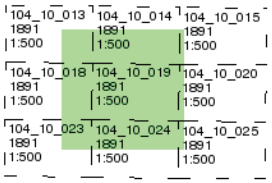
Published 1891

Source map scale - 1:500

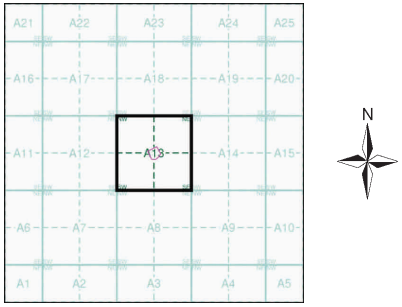
The 1:500 scale Ordnance Survey mapping was introduced in 1855 as a replacement for the 1:528 scale and to compliment the 1:2500 scale that had been implemented in 1853. By 1895, the 1:500 scale covered most towns over a population of about 4000 at the time of survey, although very few towns were mapped 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)



Historical Town Plan - Segment A13



Order Details

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Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	0

Site Details

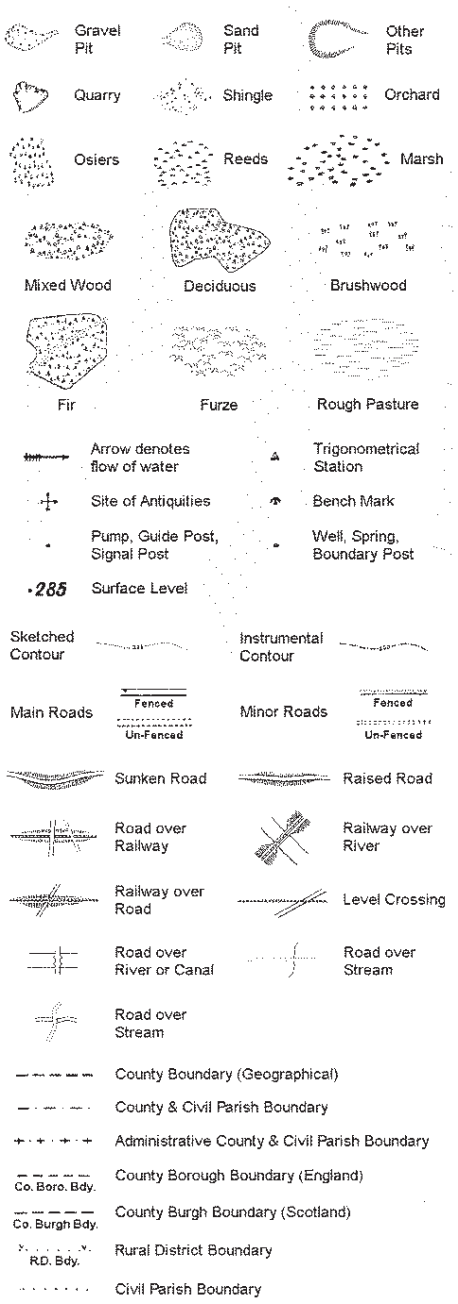
Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

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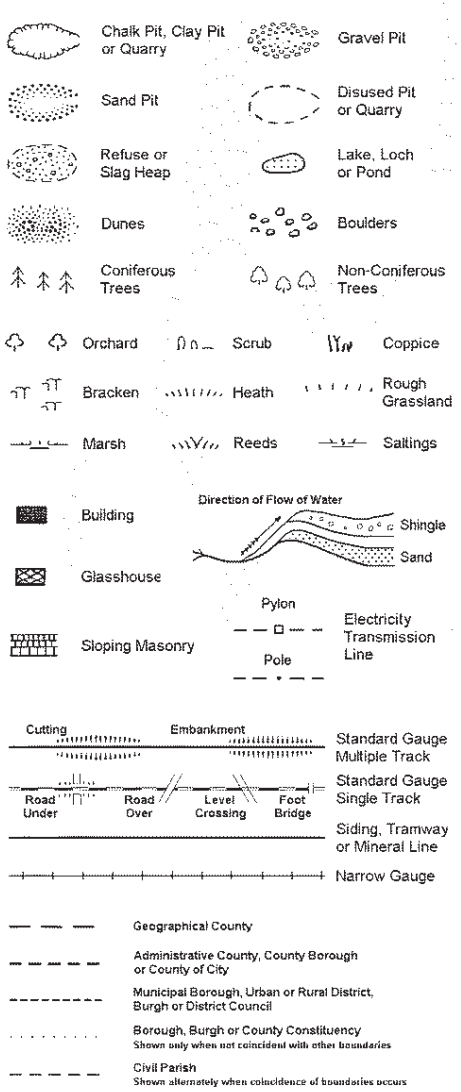
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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

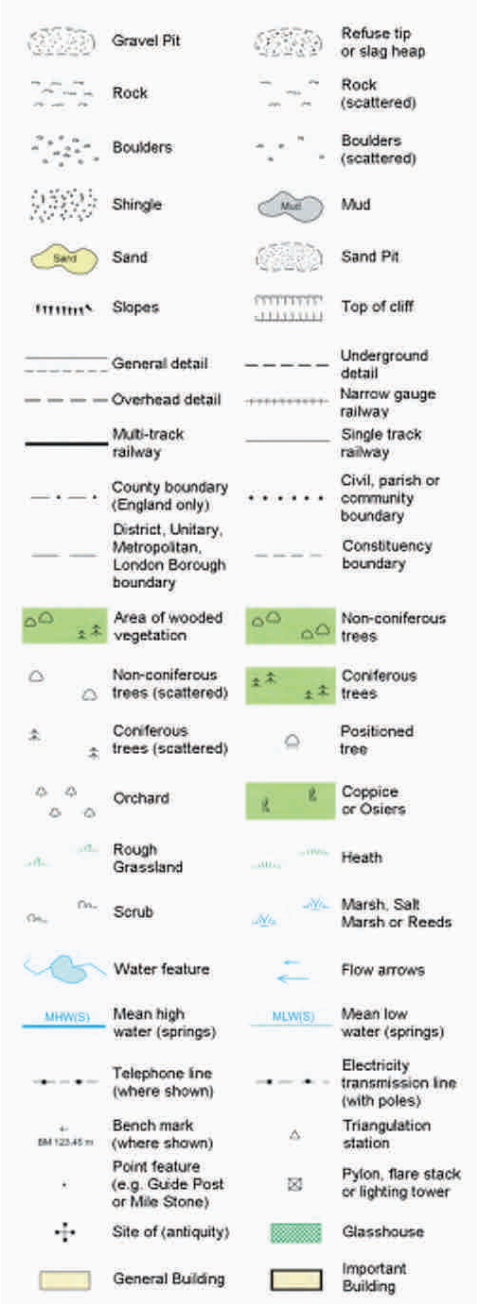


Ordnance Survey Plan 1:10,000



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

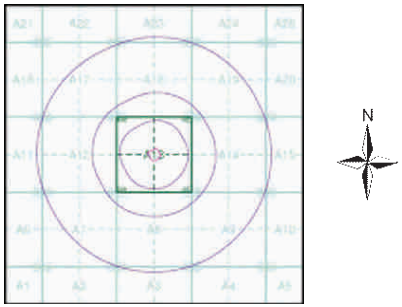


RAMBOLL

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	1972	14
Manchester	1:25,000	1975	15
Ordnance Survey Plan	1:10,000	1980	16
Ordnance Survey Plan	1:10,000	1985	17
Ordnance Survey Plan	1:10,000	1989	18
Ordnance Survey Plan	1:10,000	1994	19
10K Raster Mapping	1:10,000	1999	20
10K Raster Mapping	1:10,000	2006	21
VectorMap Local	1:10,000	2019	22

Historical Map - Slice A



Order Details

Order Number: 199235460_1_1
Customer Ref: Premier Inn Redevelopment
National Grid Reference: 383630, 397190
Slice: A
Site Area (Ha): 0.85
Search Buffer (m): 1000

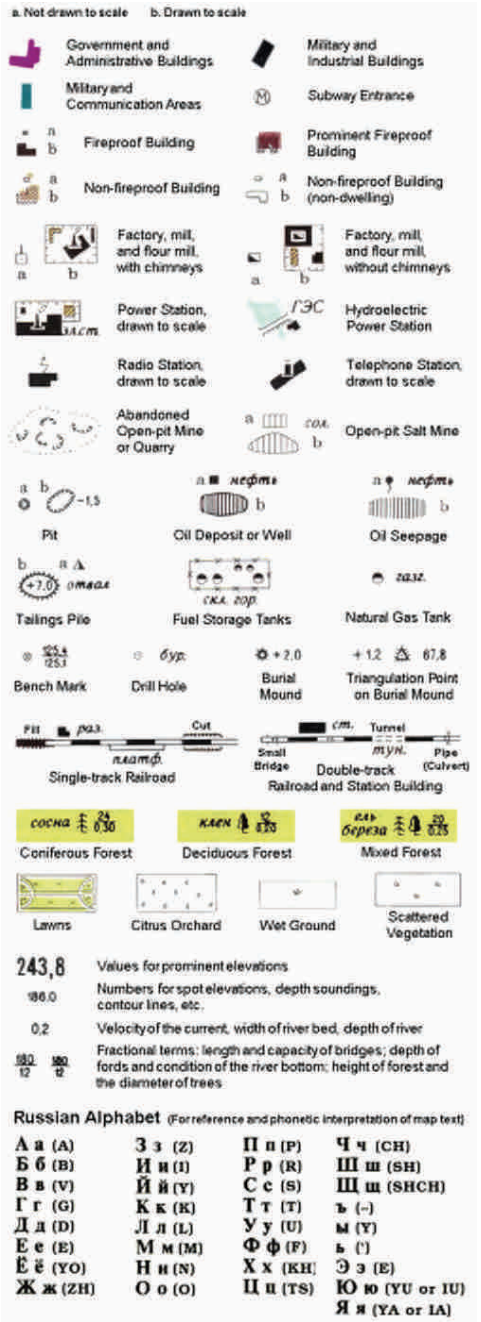
Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

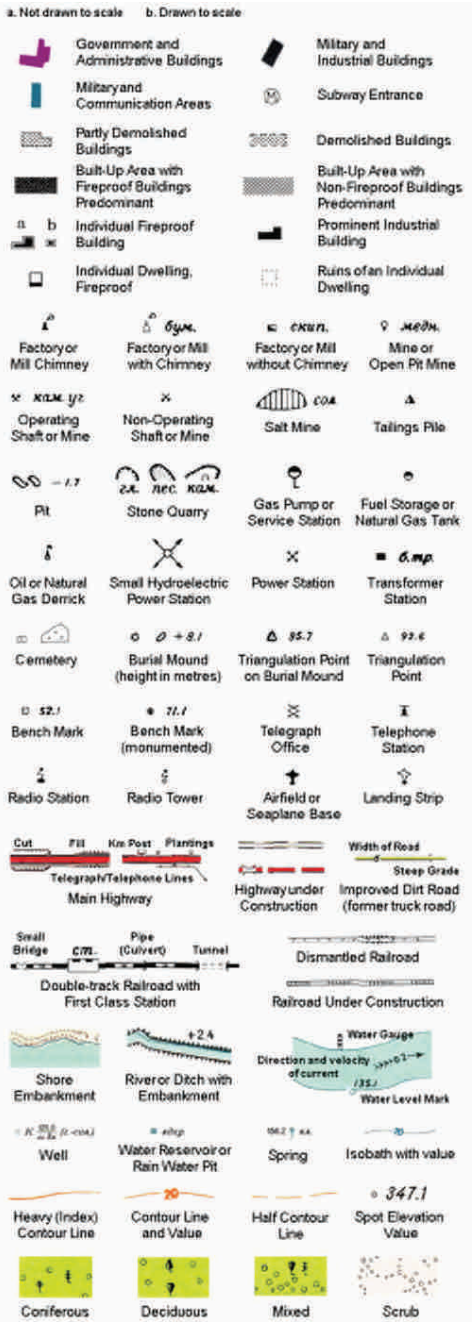
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Russian Military Mapping Legends

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



1:25,000 mapping



Key to Numbers on Mapping

SJ89_Manchester

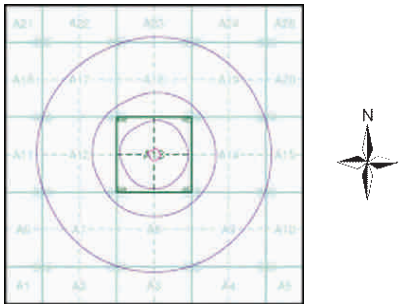
No.	Description
1	Airfield/Airport
6	Railway Station
66	Factory (Gas)

RAMBOLL

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	1972	14
Manchester	1:25,000	1975	15
Ordnance Survey Plan	1:10,000	1980	16
Ordnance Survey Plan	1:10,000	1985	17
Ordnance Survey Plan	1:10,000	1989	18
Ordnance Survey Plan	1:10,000	1994	19
10K Raster Mapping	1:10,000	1999	20
10K Raster Mapping	1:10,000	2006	21
VectorMap Local	1:10,000	2019	22

Russian Map - Slice A



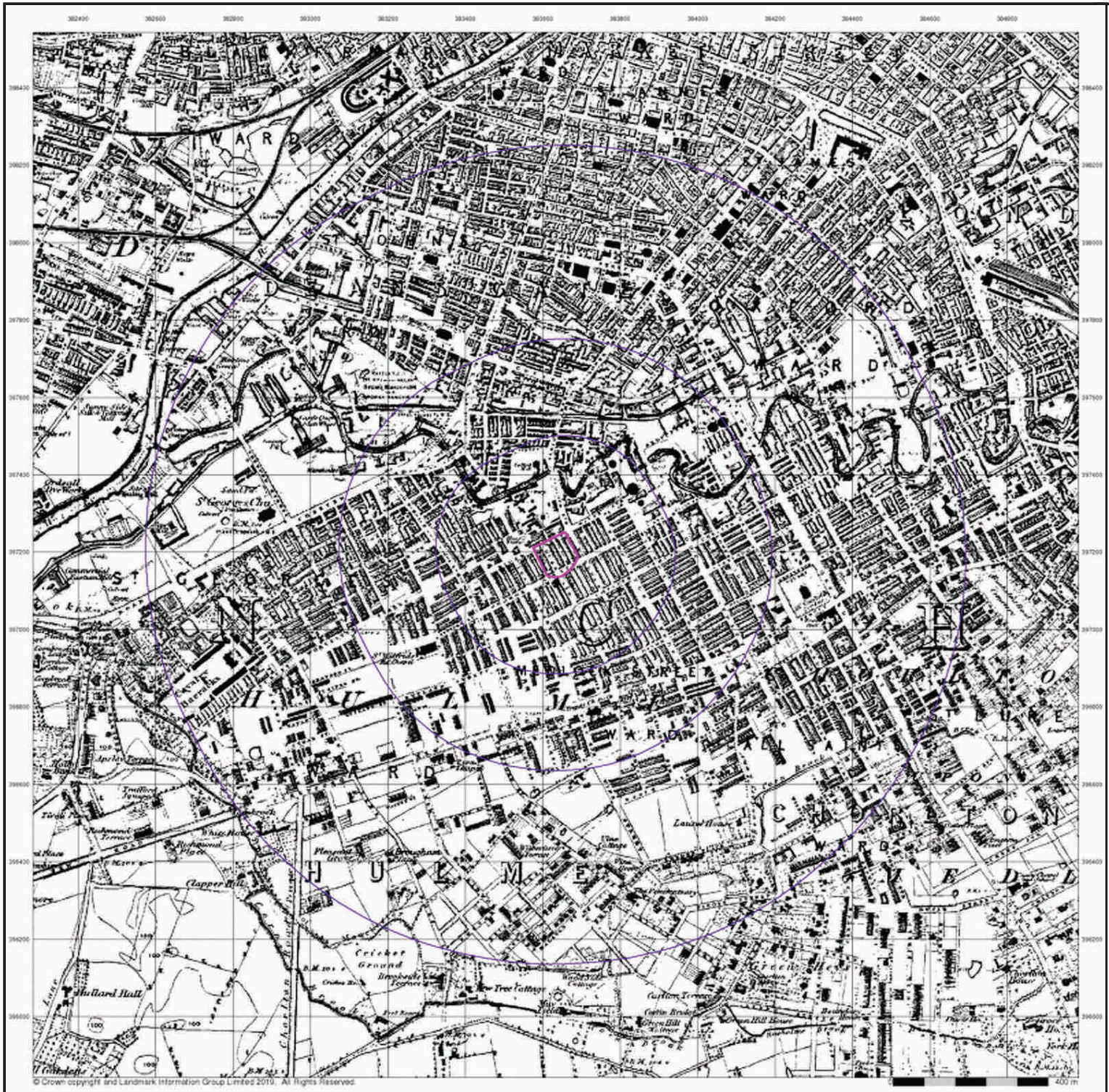
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National Grid Reference: 383630, 397190
Slice: A
Site Area (Ha): 0.85
Search Buffer (m): 1000

Site Details

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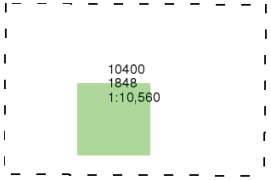
Lancashire And Furness

Published 1848

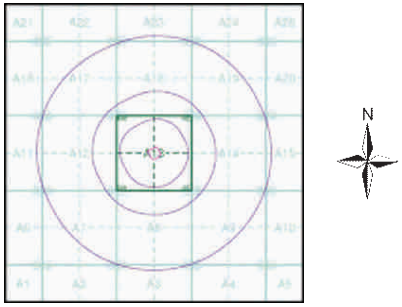
Source map scale - 1:10,560

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



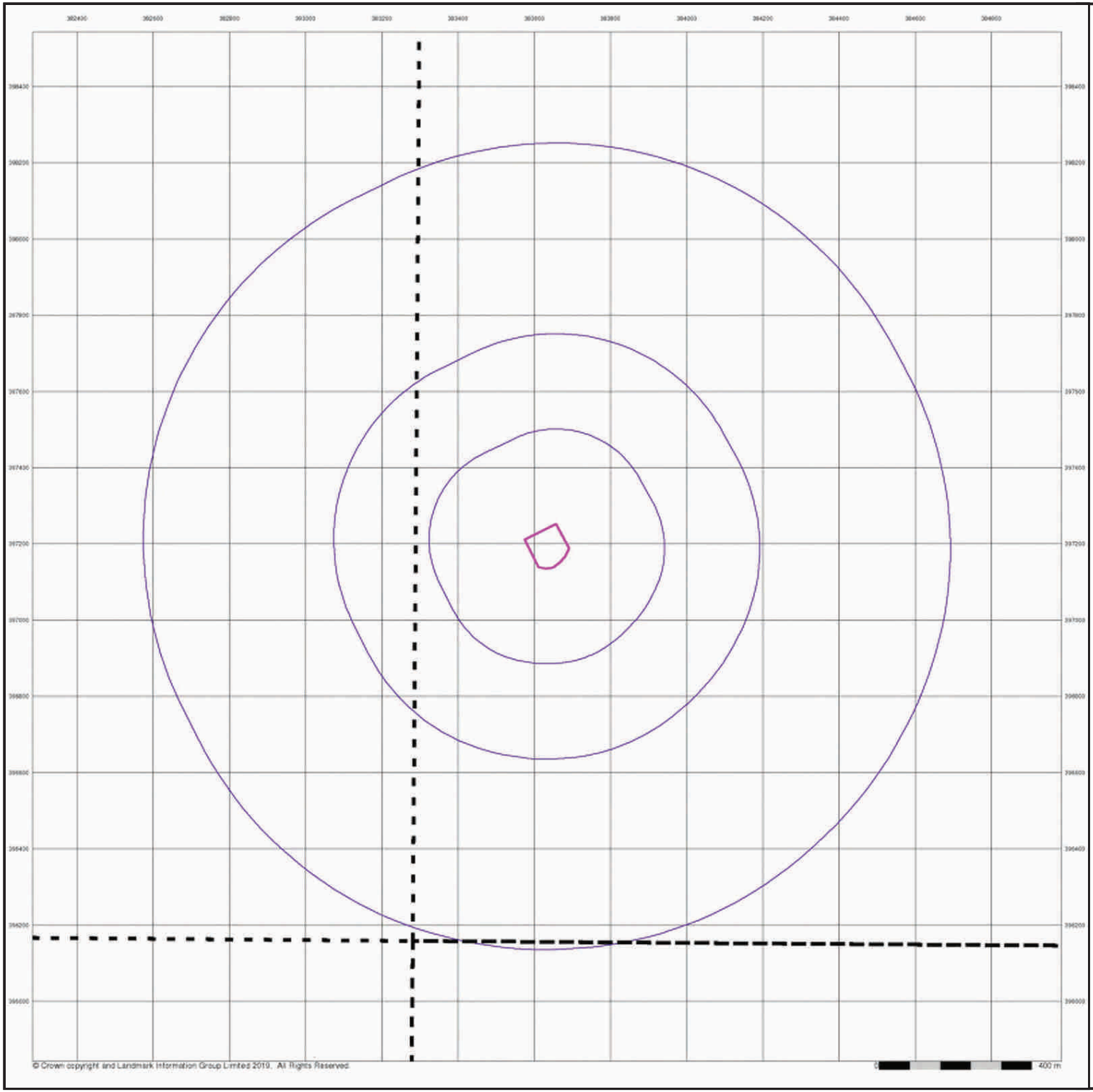
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National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

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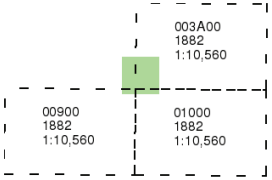
Cheshire

Published 1882

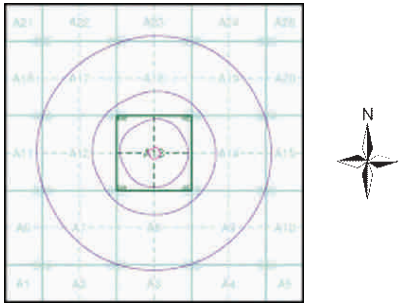
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

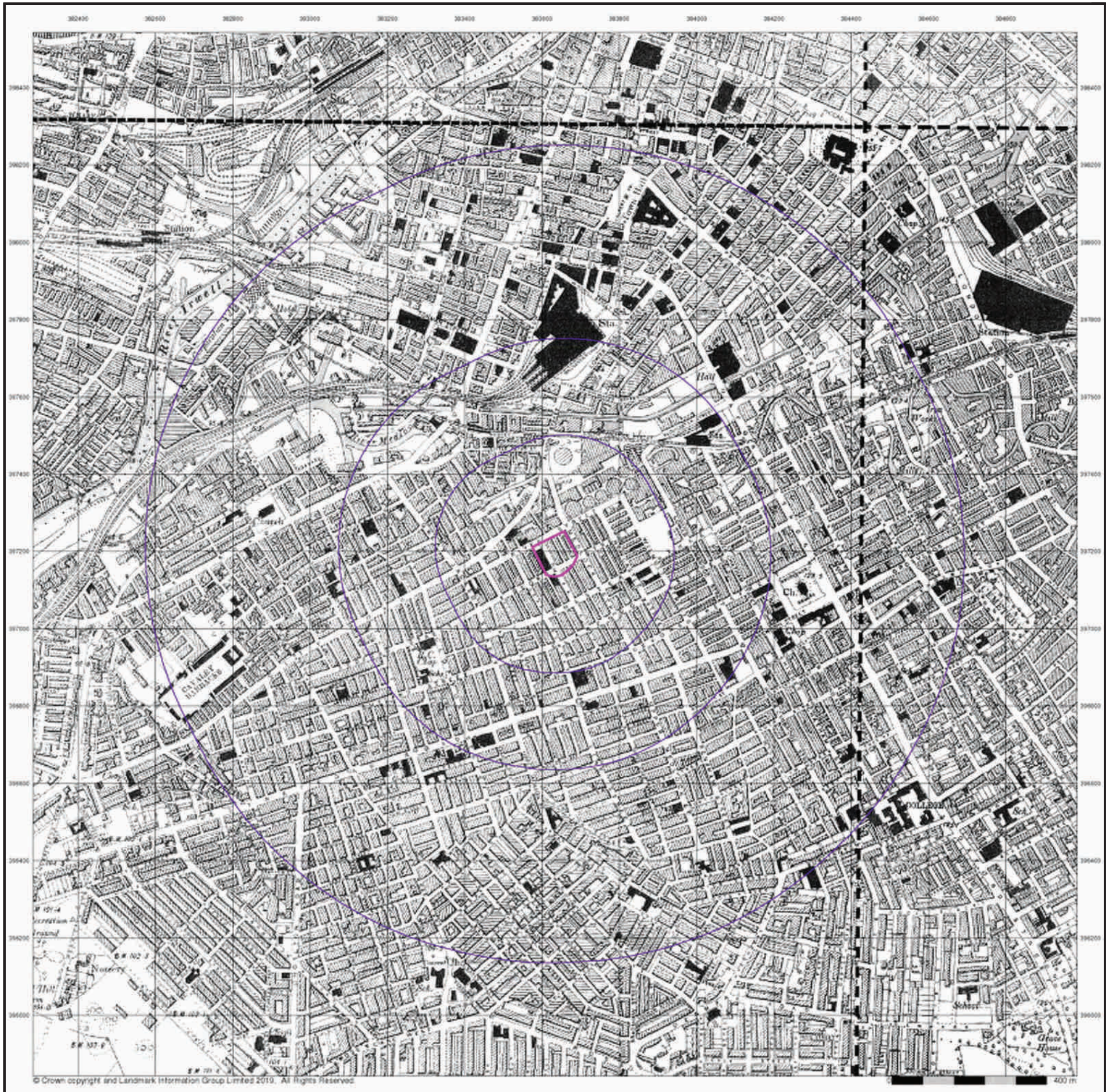
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National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

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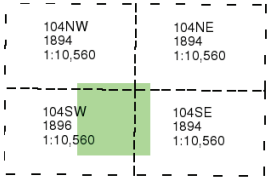
Lancashire And Furness

Published 1894 - 1896

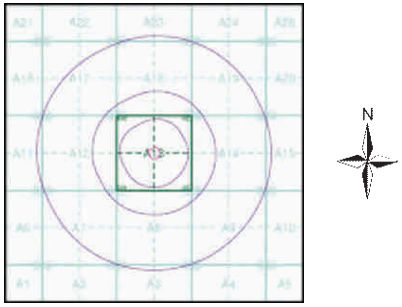
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A

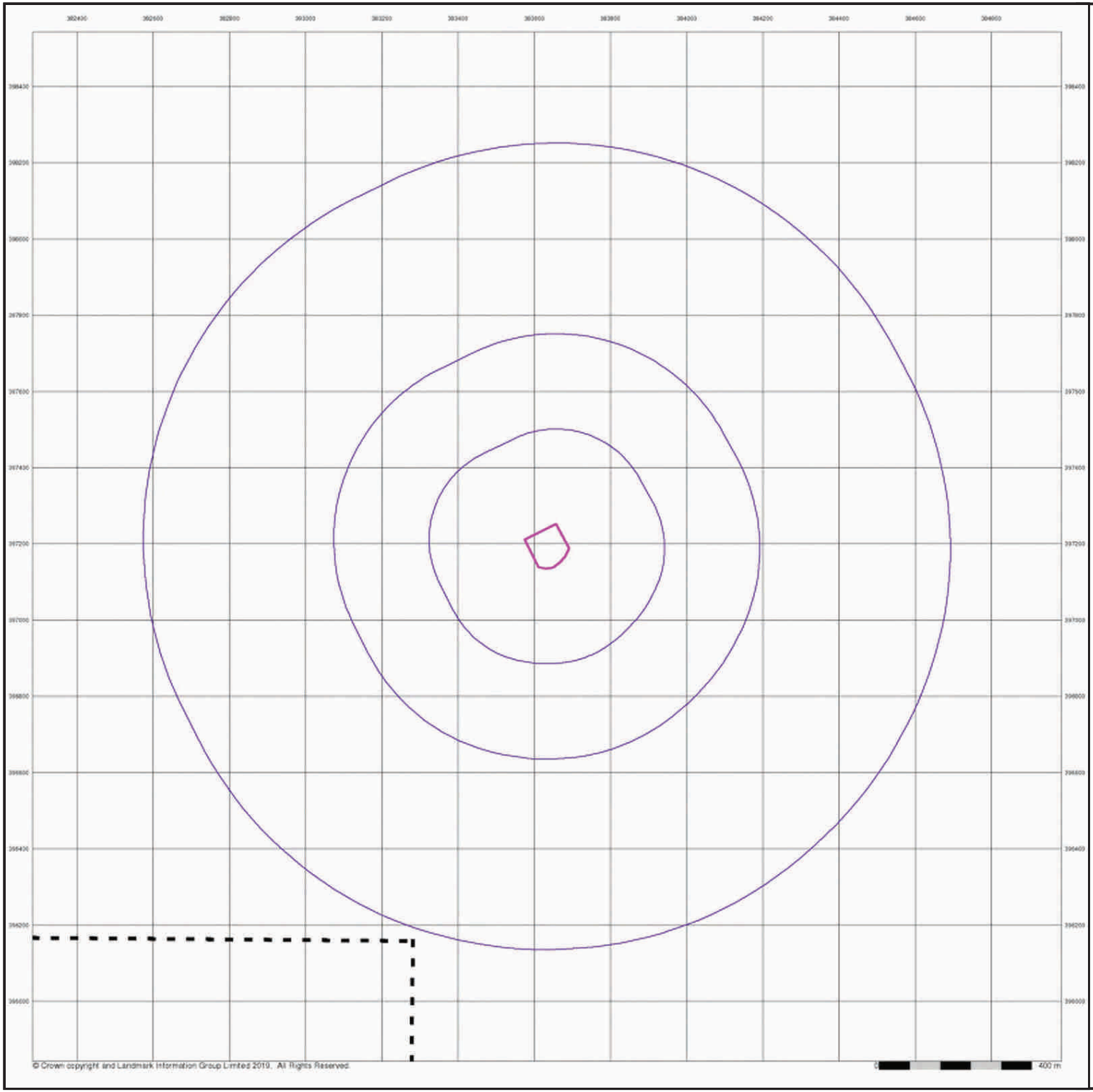


Order Details

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National Grid Reference:	383630, 397190
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Search Buffer (m):	1000

Site Details

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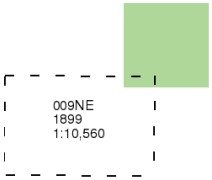
Cheshire

Published 1899

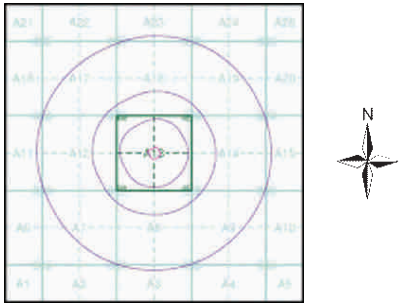
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A

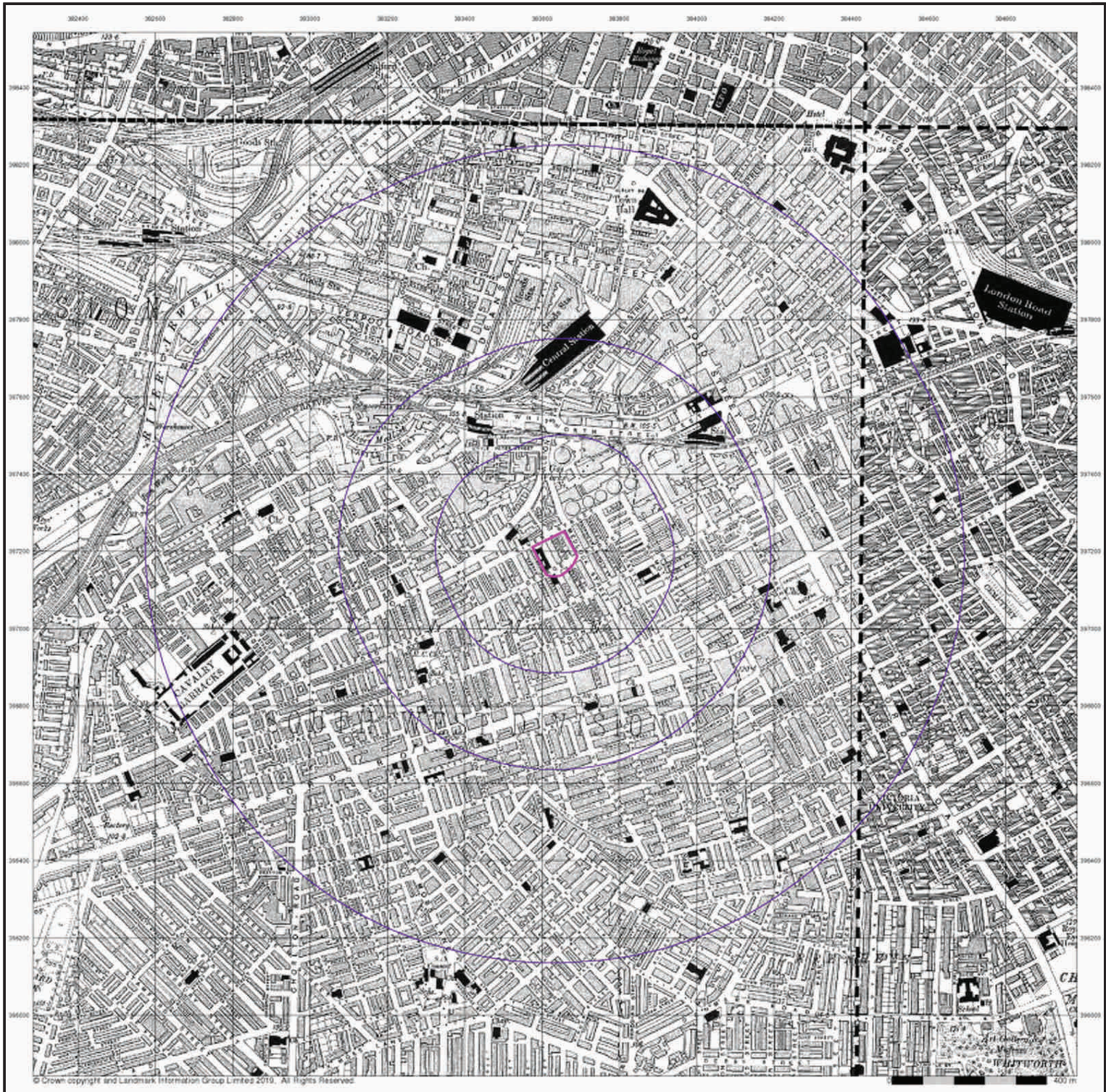


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National Grid Reference:	383630, 397190
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Search Buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



RAMBOLL

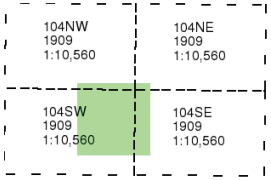
Lancashire And Furness

Published 1909

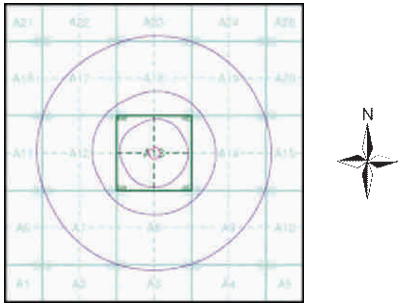
Source map scale - 1:10,560

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Map Name(s) and Date(s)



Historical Map - Slice A



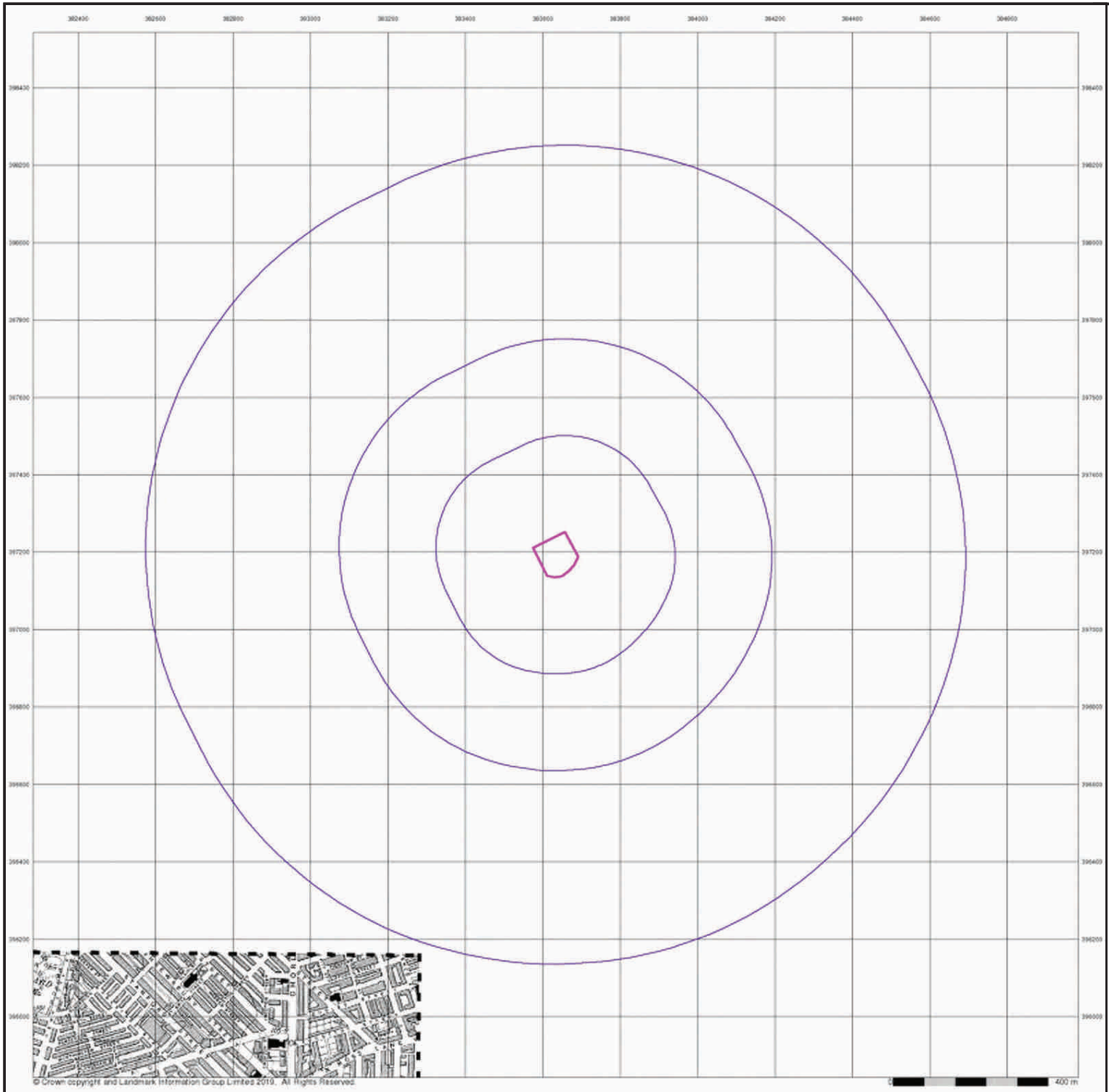
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Customer Ref:	Premier Inn Redevelopment
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Slice:	A
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Search Buffer (m):	1000

Site Details

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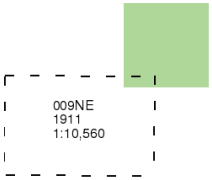
Cheshire

Published 1911

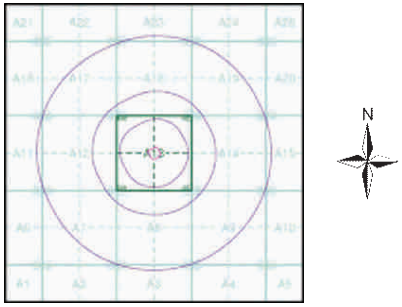
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	199235460_1_1
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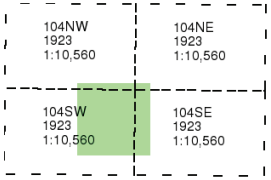
Lancashire And Furness

Published 1923

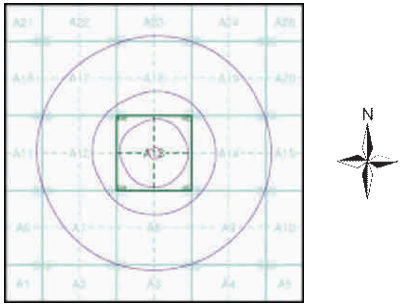
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Map Name(s) and Date(s)



Historical Map - Slice A



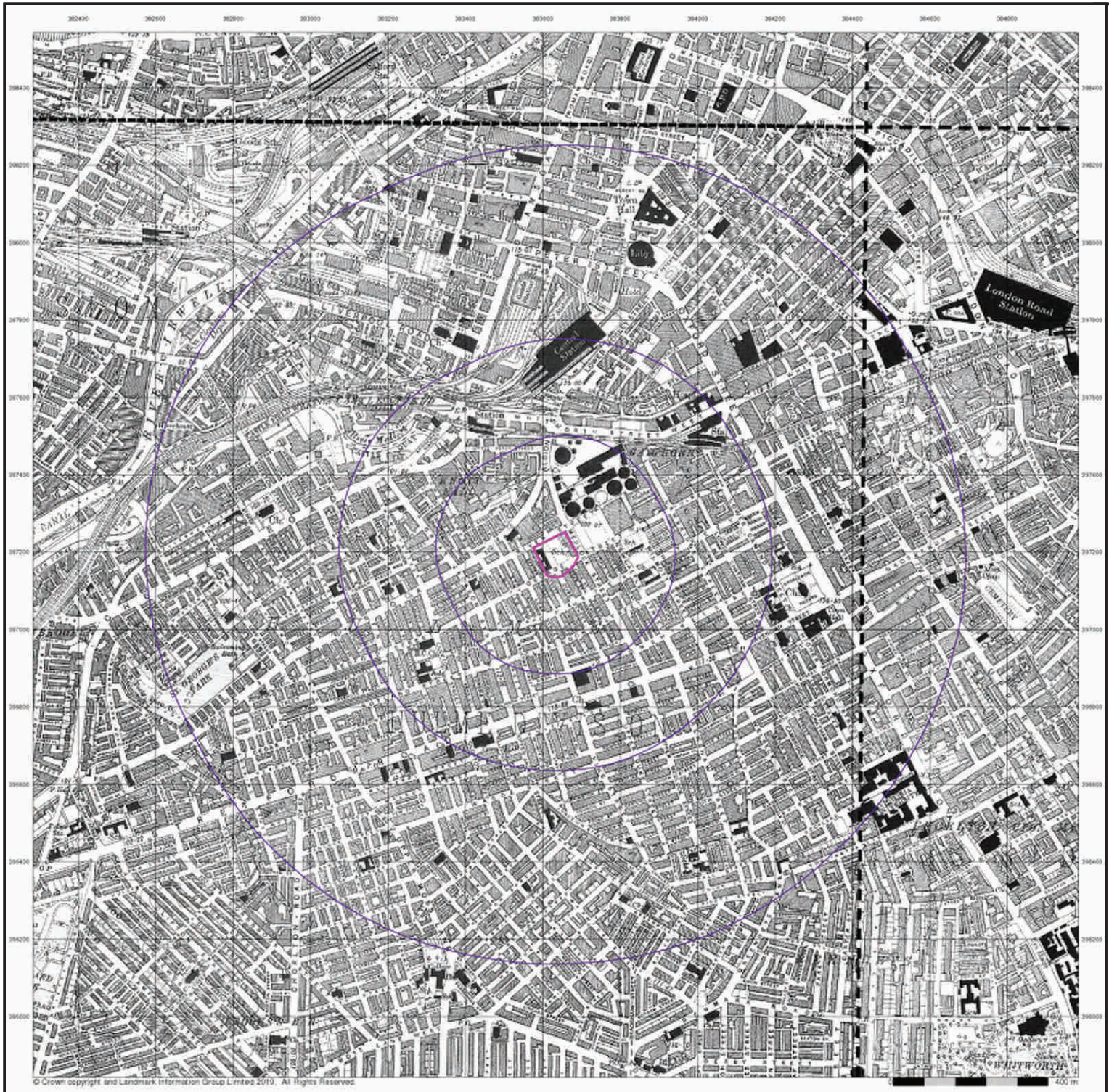
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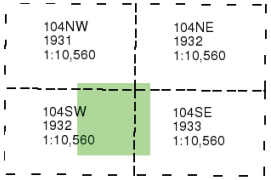
Lancashire And Furness

Published 1931 - 1933

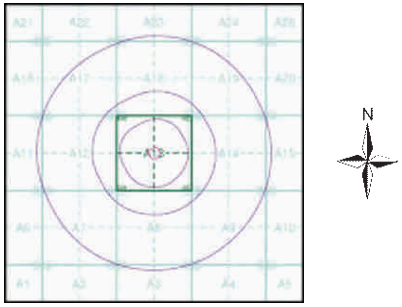
Source map scale - 1:10,560

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

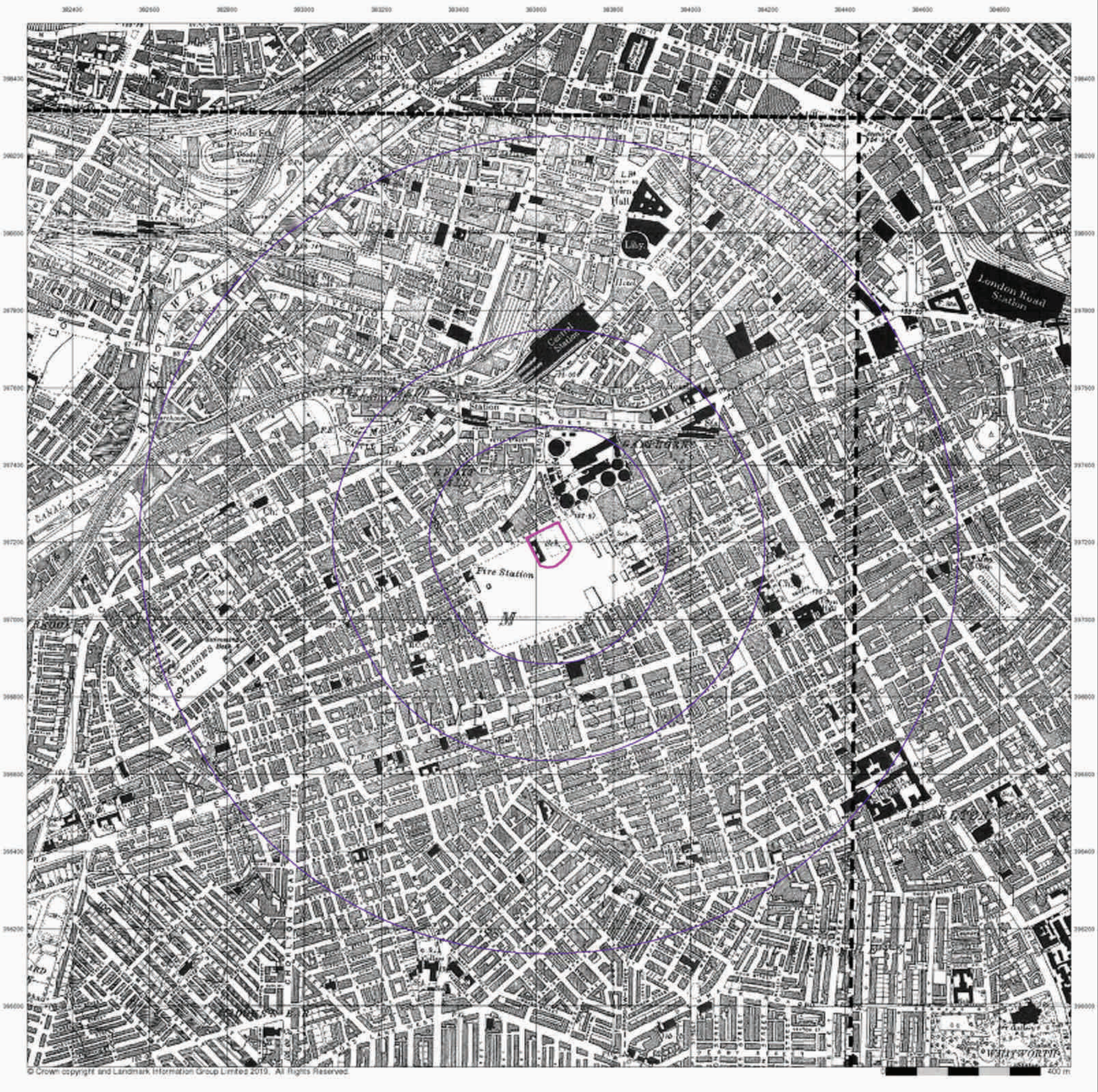


Order Details

Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

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Lancashire And Furness

Published 1938

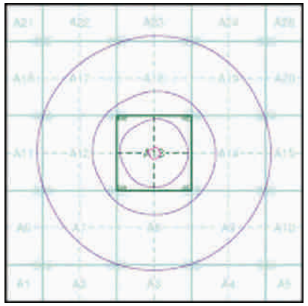
Source map scale - 1:10,560

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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



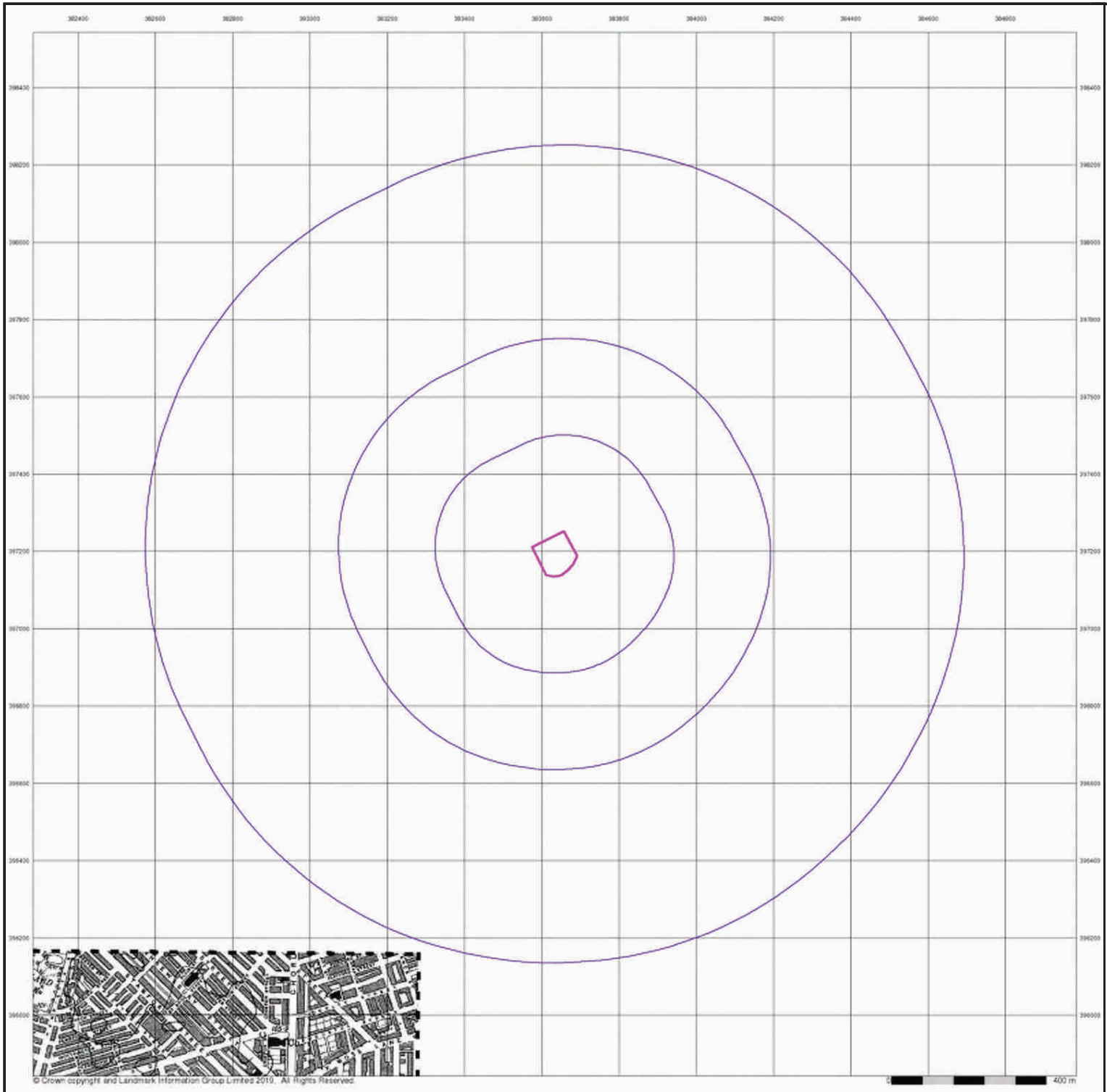
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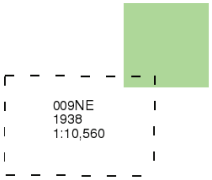
Cheshire

Published 1938

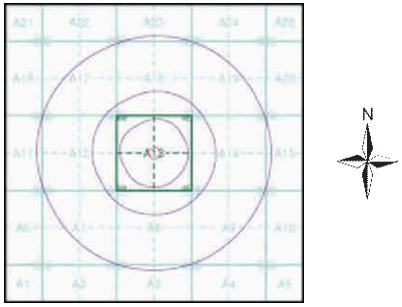
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Historical Map - Slice A



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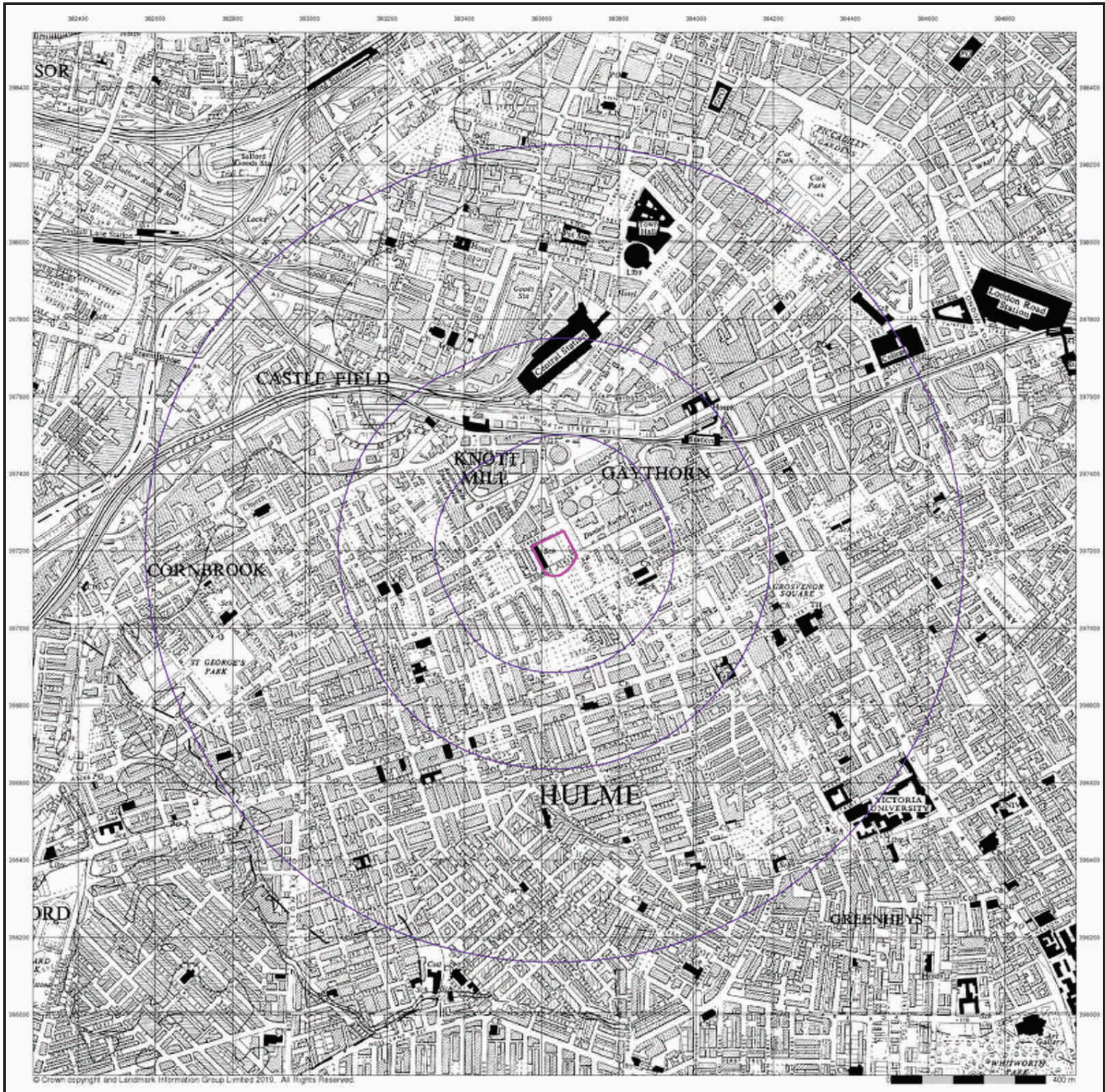
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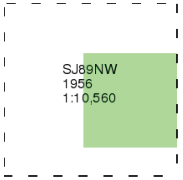
Ordnance Survey Plan

Published 1956

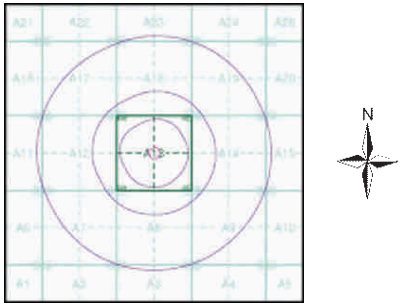
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A

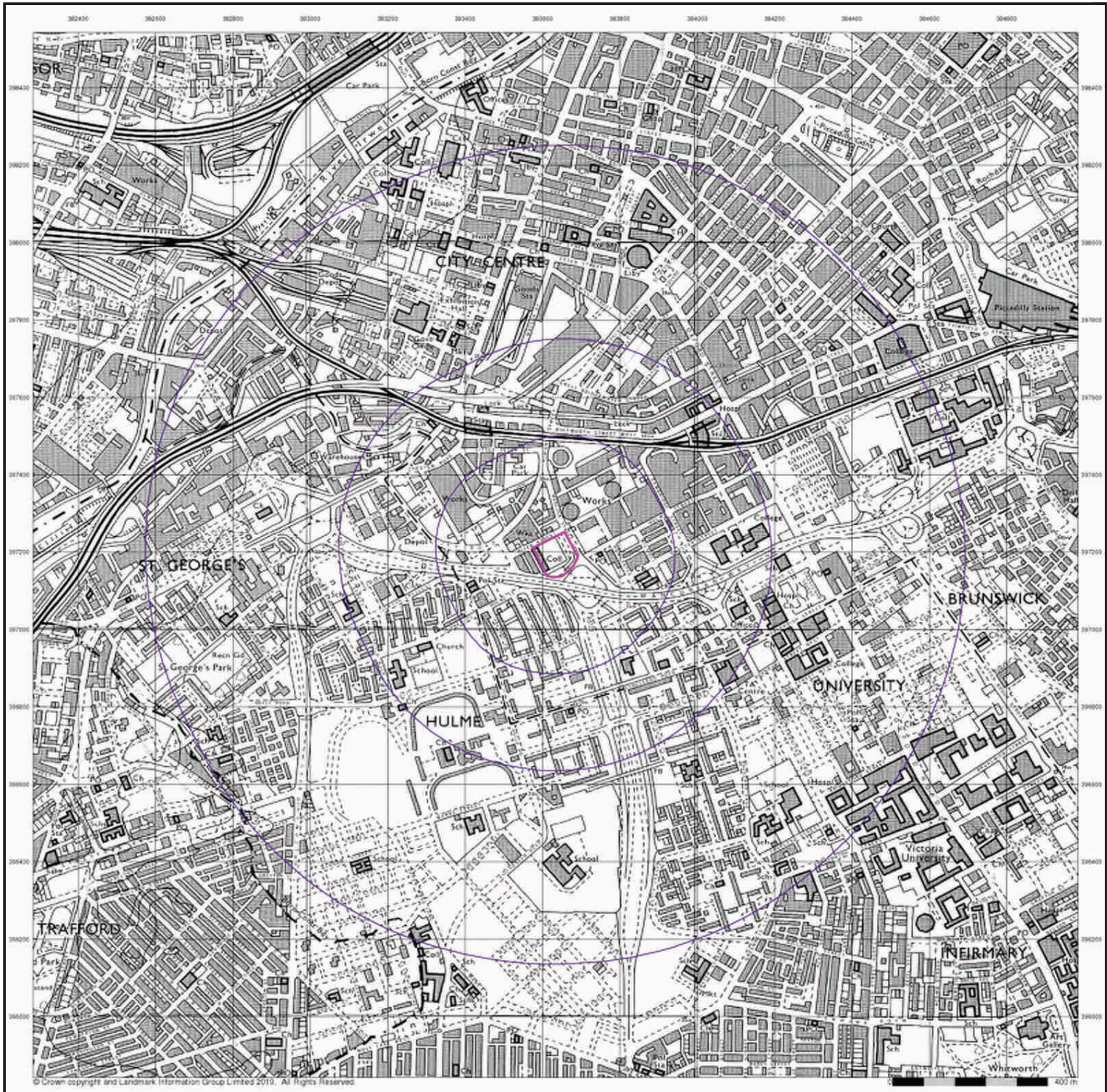


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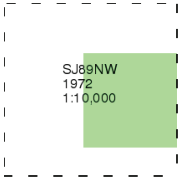
Ordnance Survey Plan

Published 1972

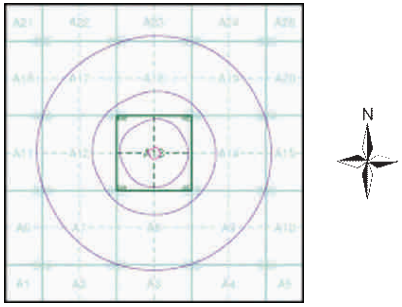
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



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Site Details

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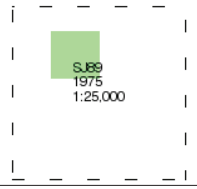
Manchester

Published 1975

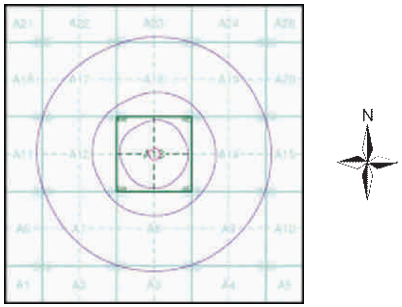
Source map scale - 1:25,000

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



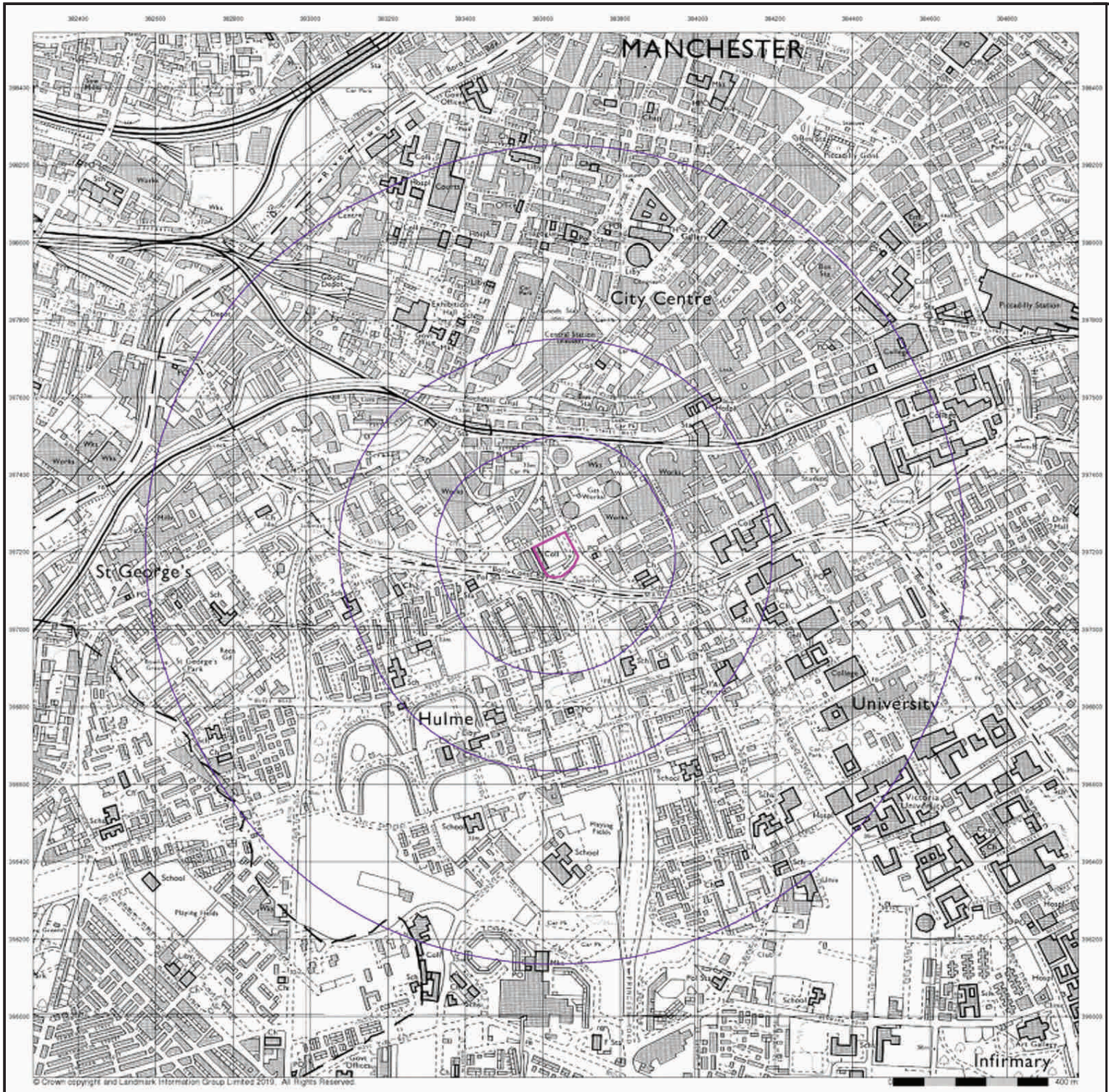
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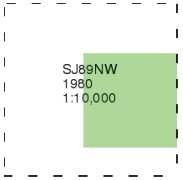
Ordnance Survey Plan

Published 1980

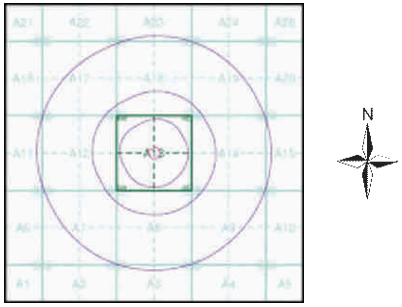
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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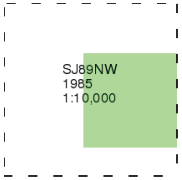
Ordnance Survey Plan

Published 1985

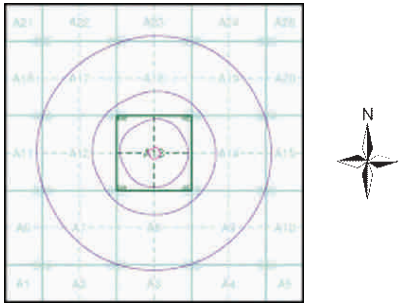
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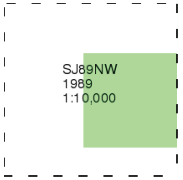
Ordnance Survey Plan

Published 1989

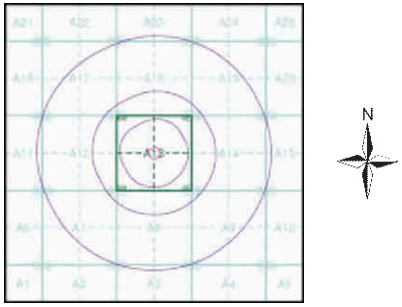
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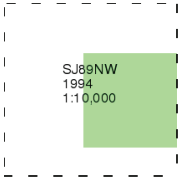
Ordnance Survey Plan

Published 1994

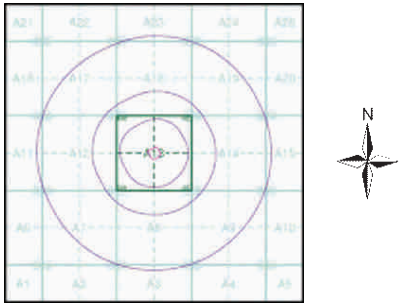
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Historical Map - Slice A



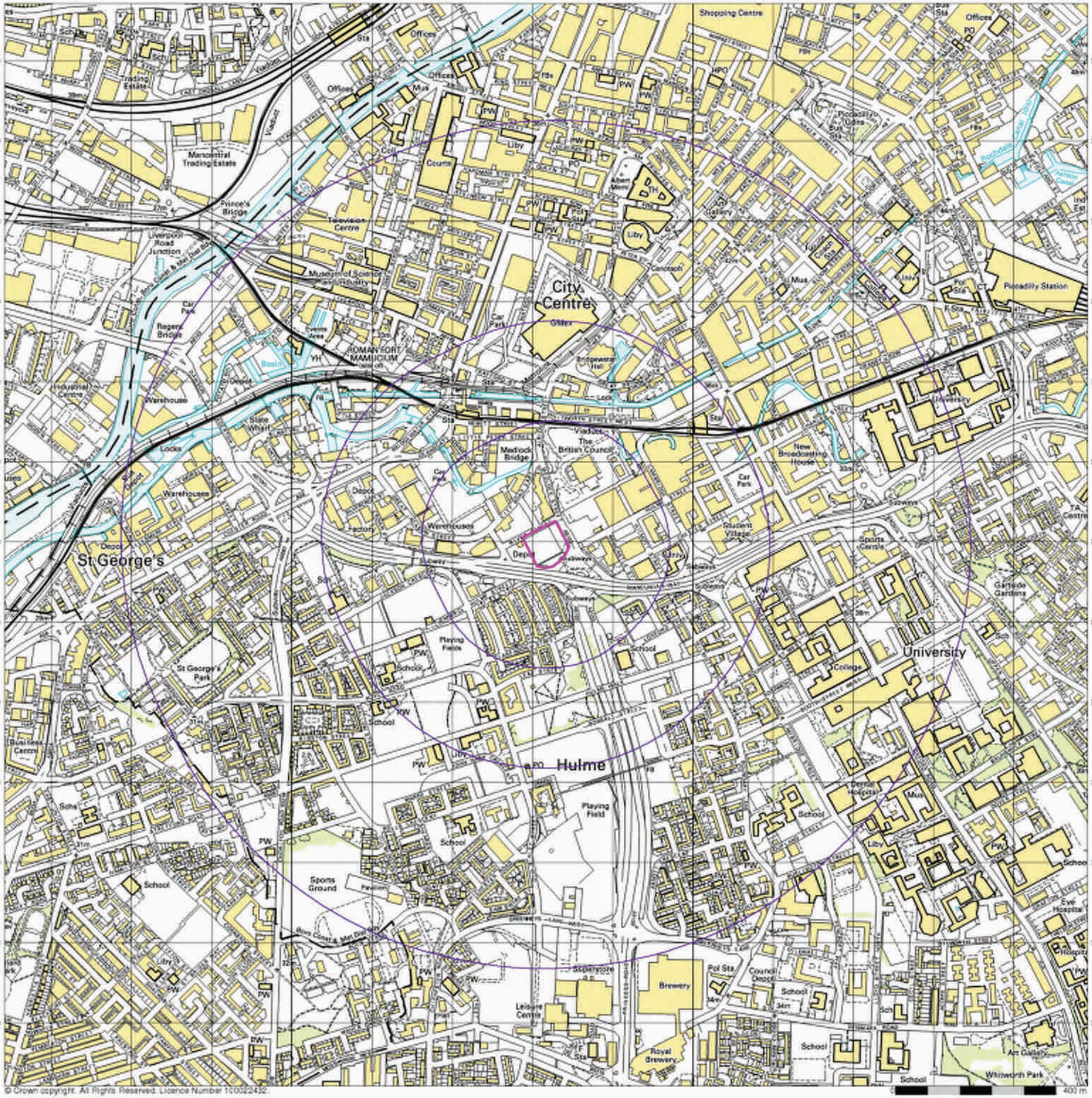
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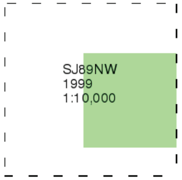
10k Raster Mapping

Published 1999

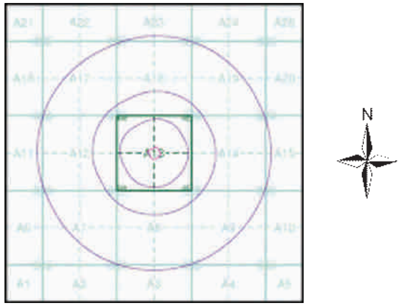
Source map scale - 1:10,000

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)



Historical Map - Slice A



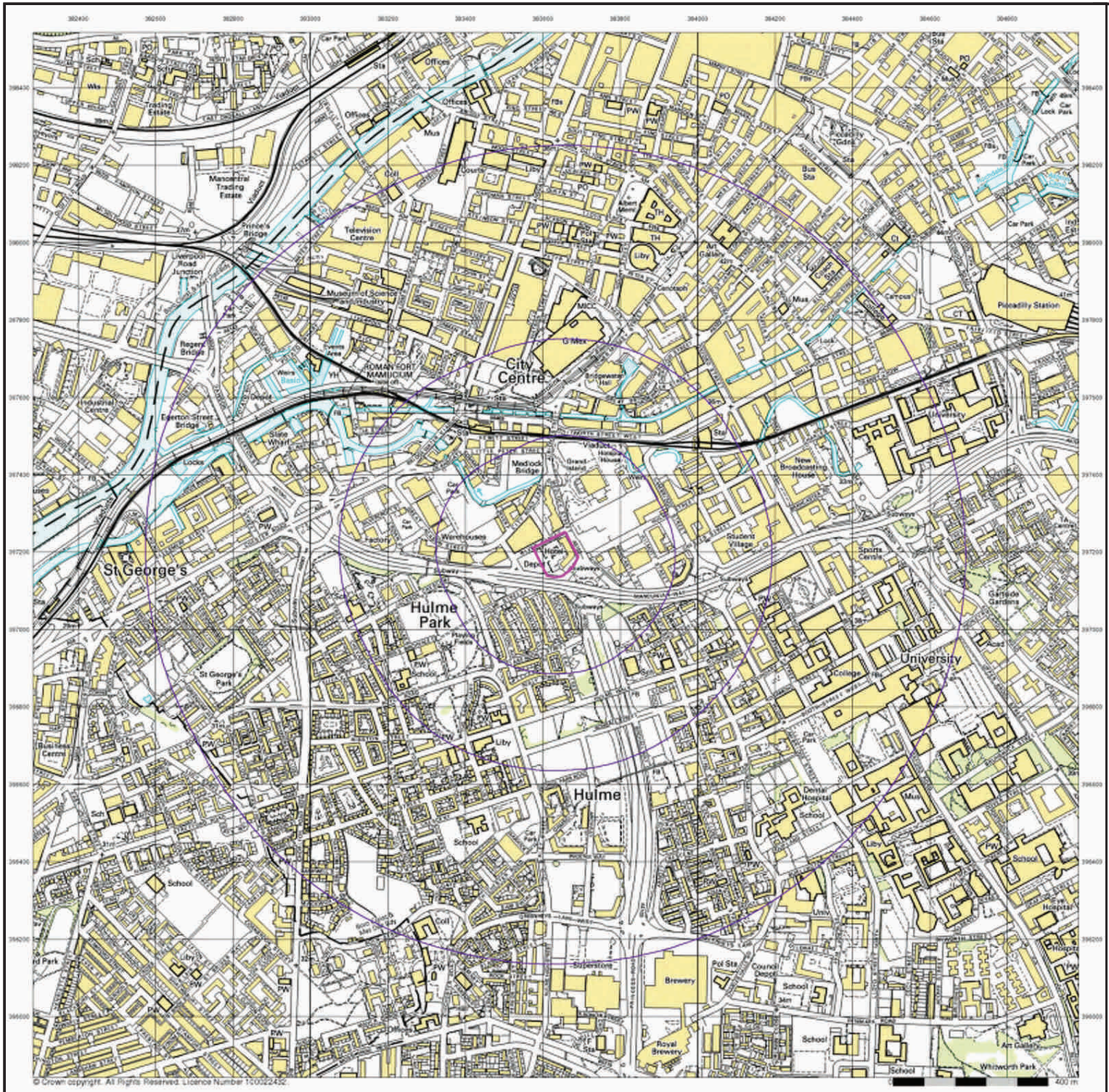
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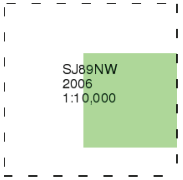
10k Raster Mapping

Published 2006

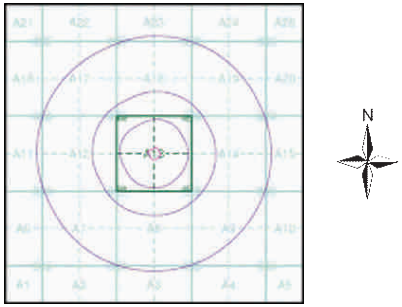
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Order Details

Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

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



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VectorMap Local

Published 2019

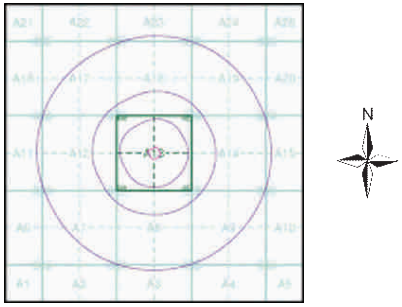
Source map scale - 1:10,000

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)



Historical Map - Slice A



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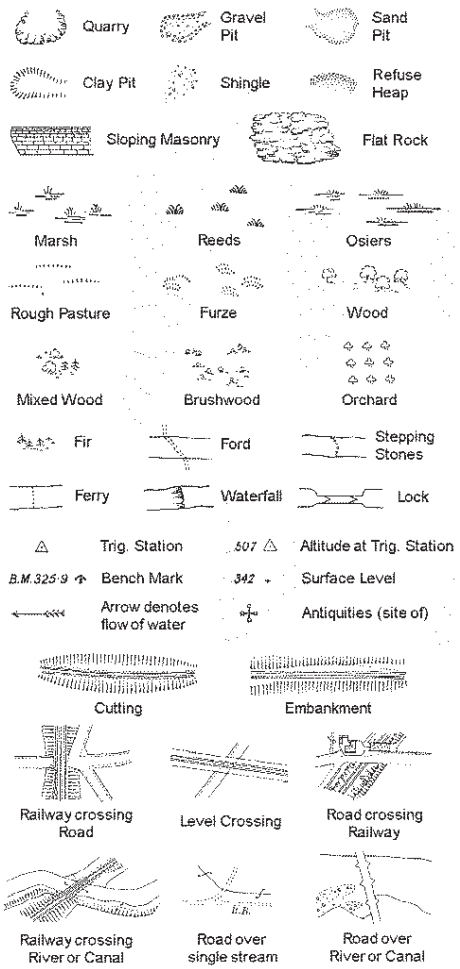
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Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



County Boundary (Geographical)

County & Civil Parish Boundary

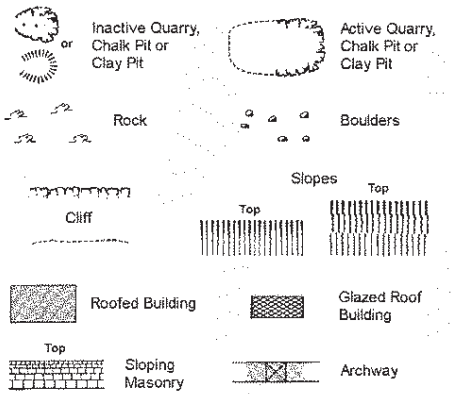
Administrative County & Civil Parish Boundary

Co. Boro. Bdy. County Borough Boundary (England)

Co. Burgh Bdy. County Burgh Boundary (Scotland)

B.S	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	Mooring Post or Ring	W	Well

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

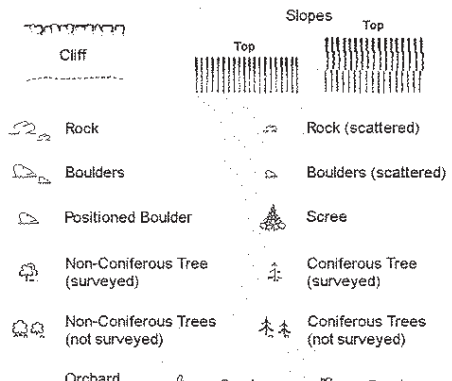
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

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, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250



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)

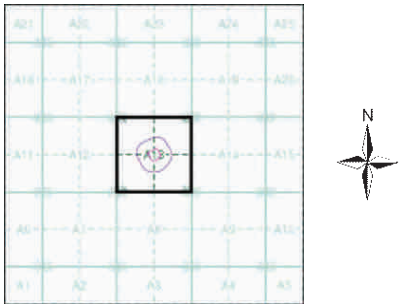
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity 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 Governer	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

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Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Lancashire And Furness	1:2,500	1908	2
Lancashire And Furness	1:2,500	1932	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 - 1956	6
Ordnance Survey Plan	1:2,500	1956	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
Supply of Unpublished Survey Information	1:1,250	1974	11
Additional SIMs	1:1,250	1980 - 1990	12
Additional SIMs	1:1,250	1985 - 1990	13
Additional SIMs	1:1,250	1987 - 1990	14
Additional SIMs	1:1,250	1990	15
Large-Scale National Grid Data	1:1,250	1992	16
Large-Scale National Grid Data	1:1,250	1993 - 1995	17
Large-Scale National Grid Data	1:1,250	1993 - 1995	18
Large-Scale National Grid Data	1:1,250	1995	19
Large-Scale National Grid Data	1:1,250	1995	20
Large-Scale National Grid Data	1:1,250	1996	21
Historical Aerial Photography	1:2,500	2000	22

Historical Map - Segment A13



Order Details

Order Number: 199235460_1_1
Customer Ref: Premier Inn Redevelopment
National Grid Reference: 383630, 397190
Slice: A
Site Area (Ha): 0.85
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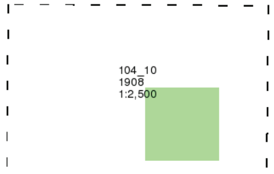
Lancashire And Furness

Published 1908

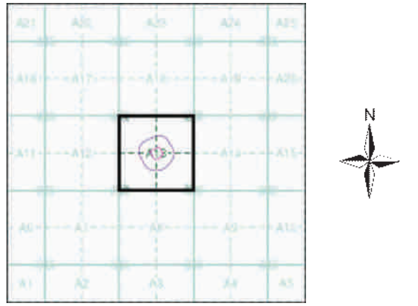
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



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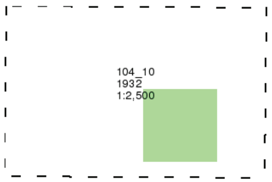
Lancashire And Furness

Published 1932

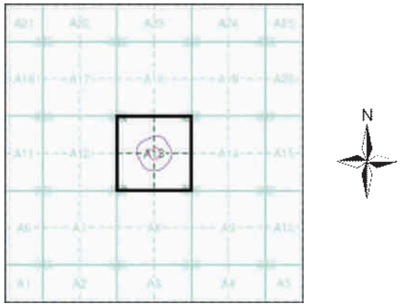
Source map scale - 1:2,500

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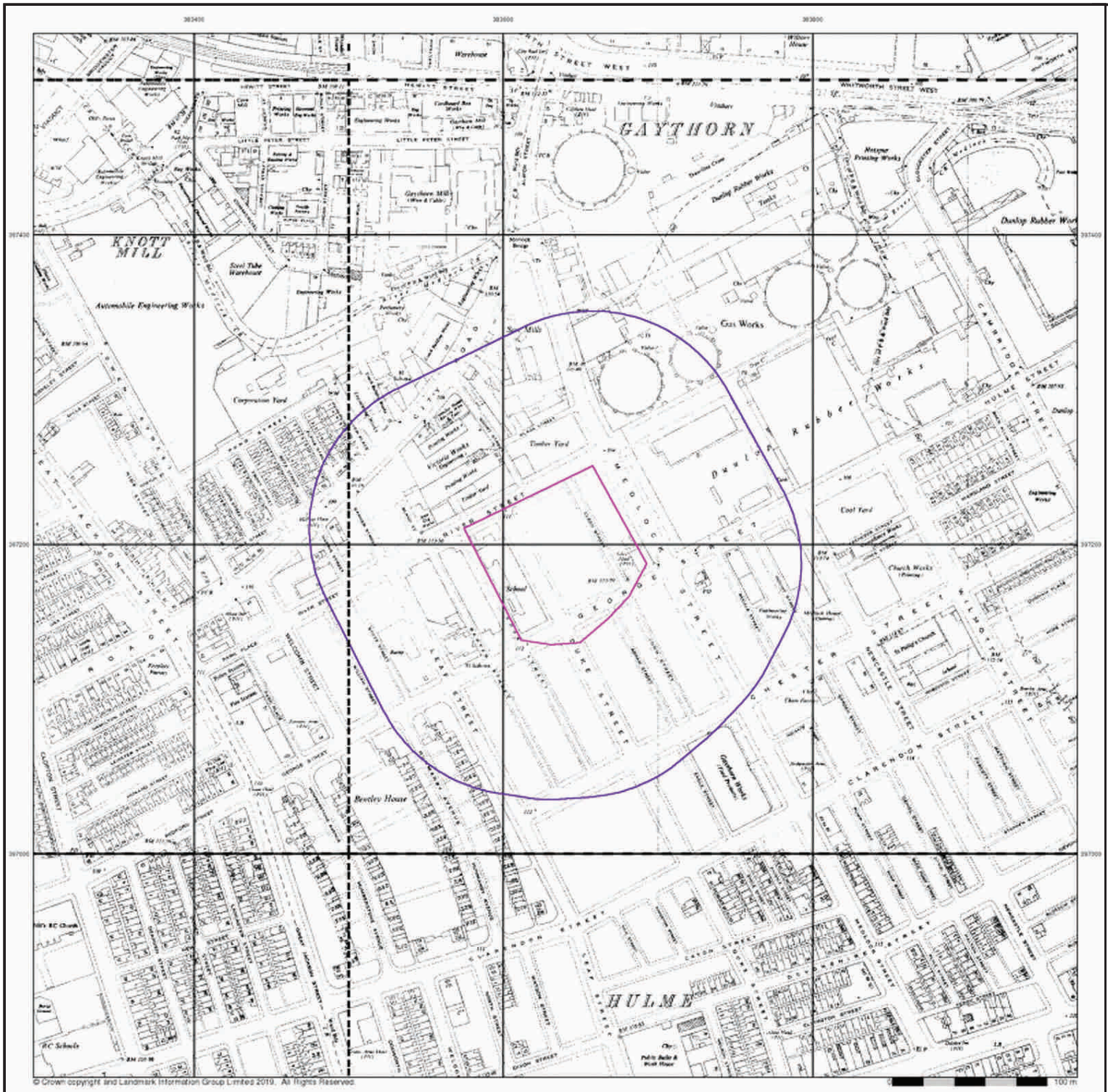
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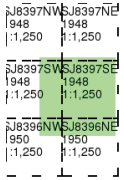
Ordnance Survey Plan

Published 1948 - 1950

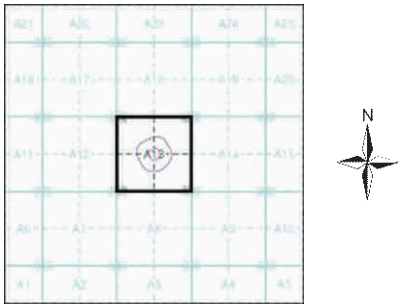
Source map scale - 1:1,250

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)



Historical Map - Segment A13



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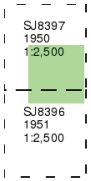
Ordnance Survey Plan

Published 1950 - 1951

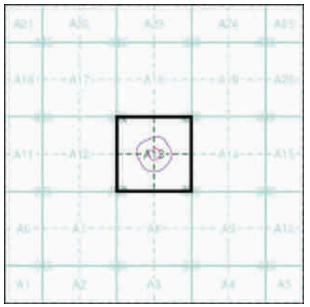
Source map scale - 1:2,500

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.

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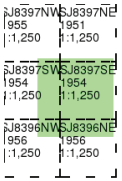
Ordnance Survey Plan

Published 1951 - 1956

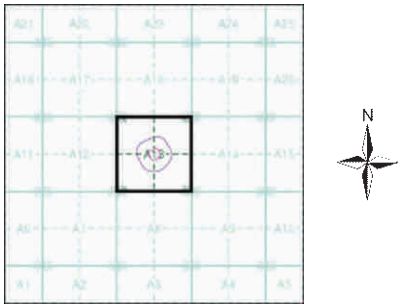
Source map scale - 1:1,250

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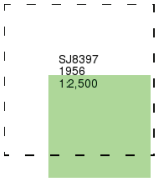
Ordnance Survey Plan

Published 1956

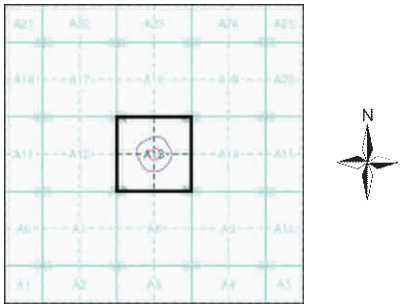
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



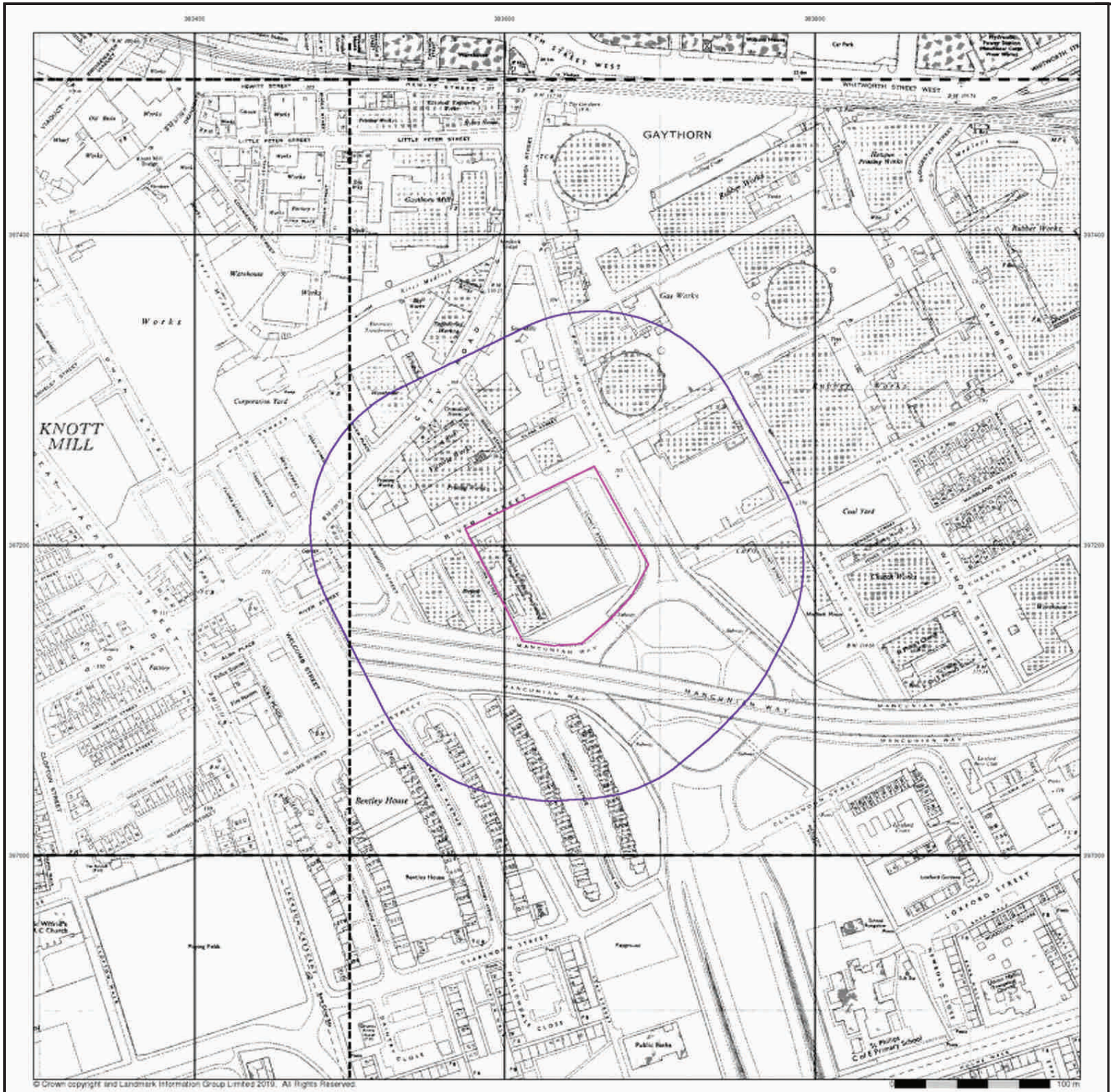
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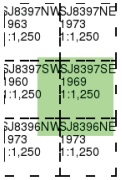
Ordnance Survey Plan

Published 1960 - 1973

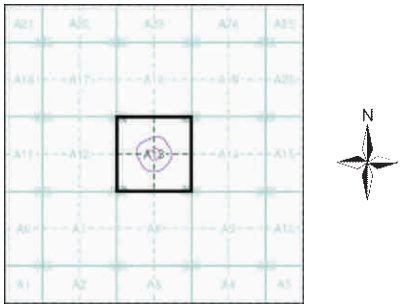
Source map scale - 1:1,250

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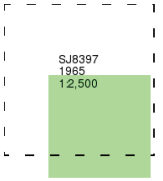
Ordnance Survey Plan

Published 1965

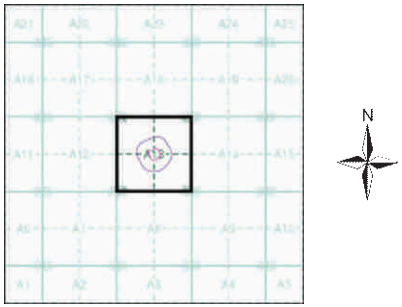
Source map scale - 1:2,500

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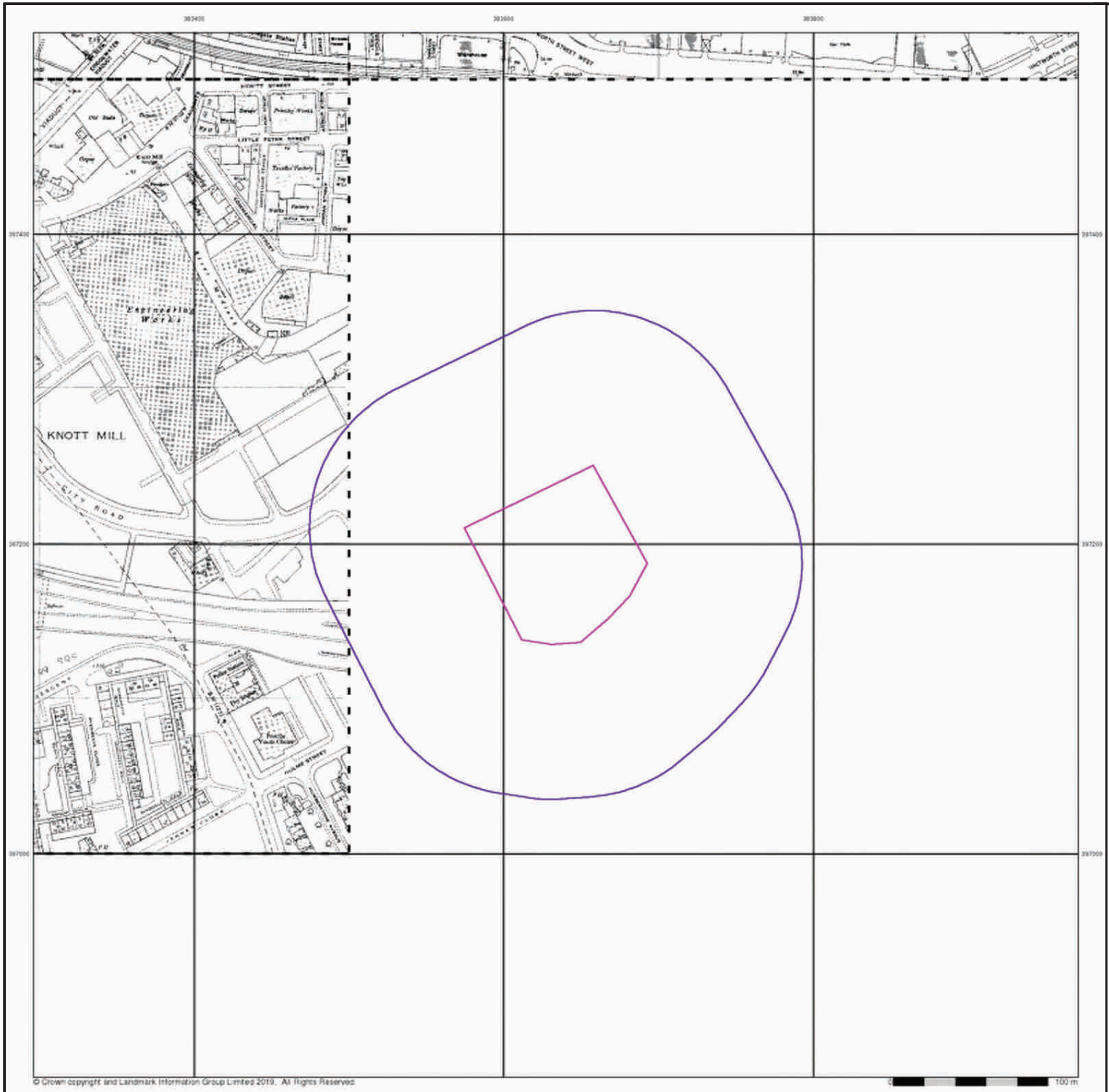
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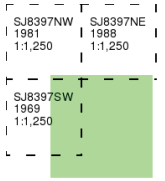
Ordnance Survey Plan

Published 1969 - 1988

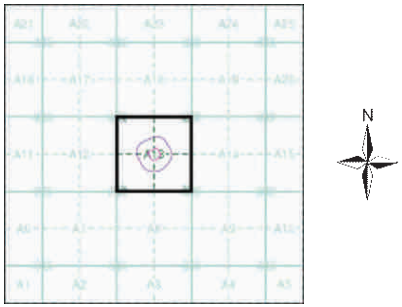
Source map scale - 1:1,250

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Historical Map - Segment A13



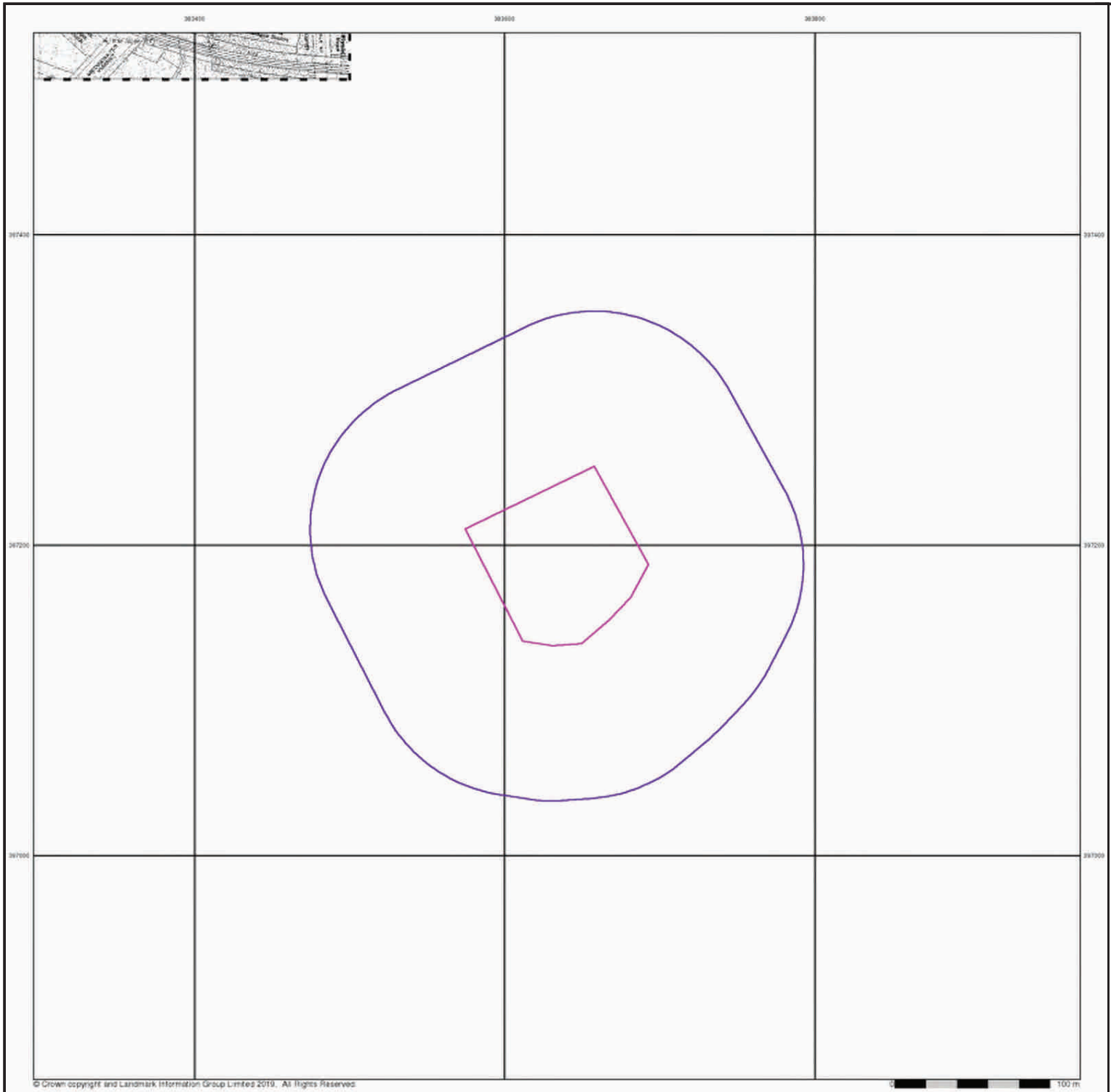
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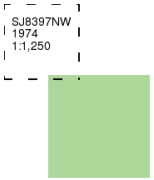
Supply of Unpublished Survey Information

Published 1974

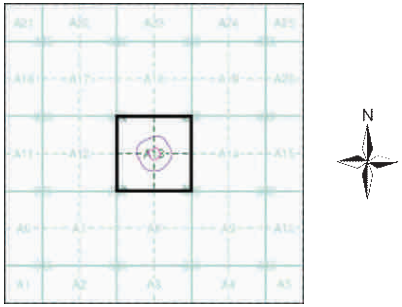
Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

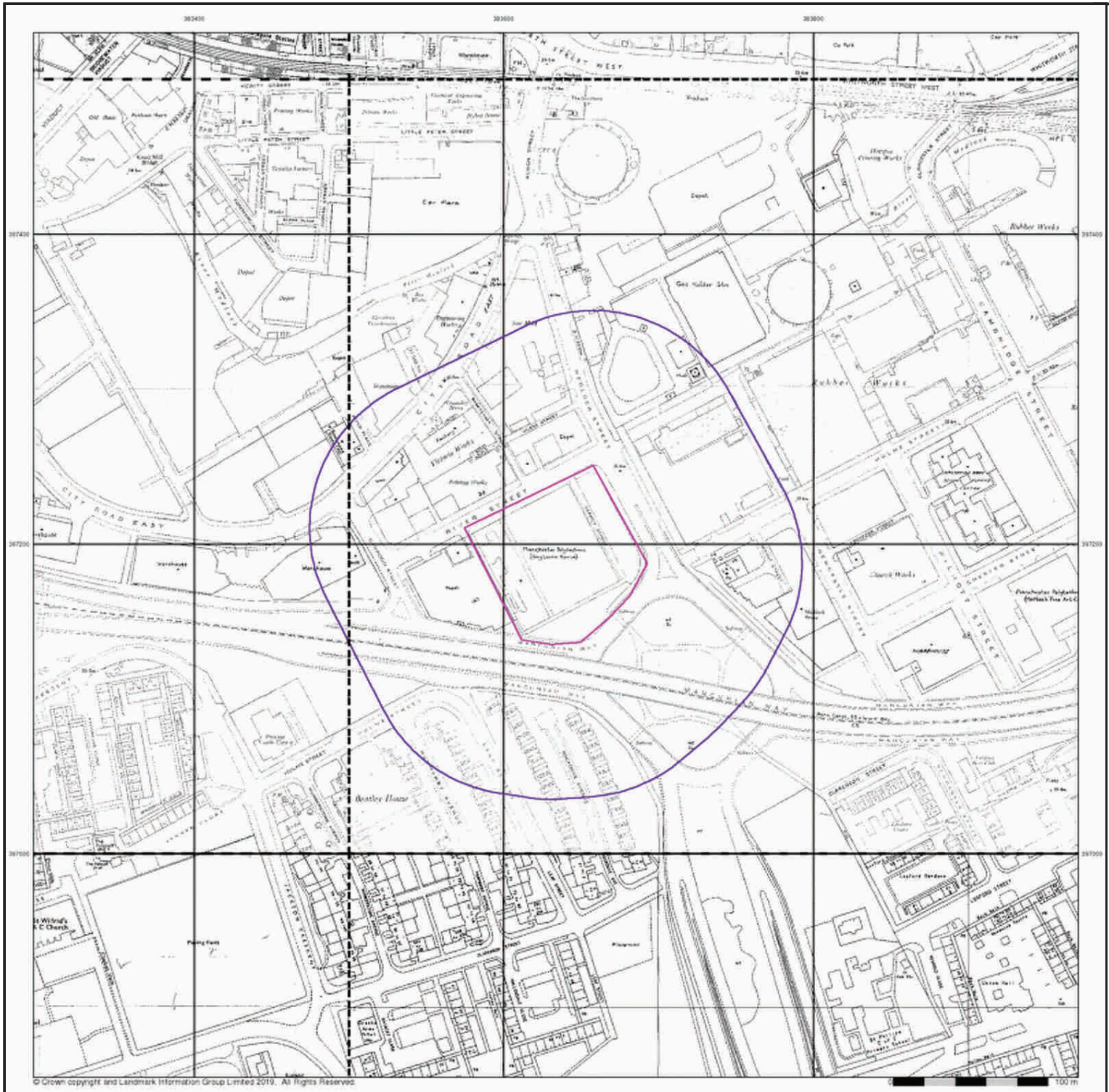
Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	100

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

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



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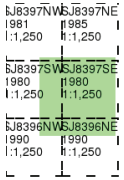
Additional SIMs

Published 1980 - 1990

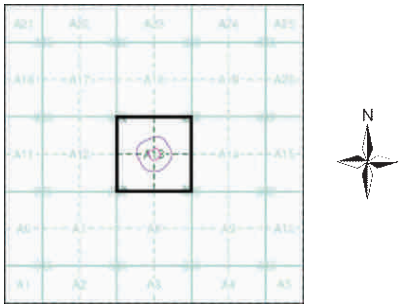
Source map scale - 1:1,250

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

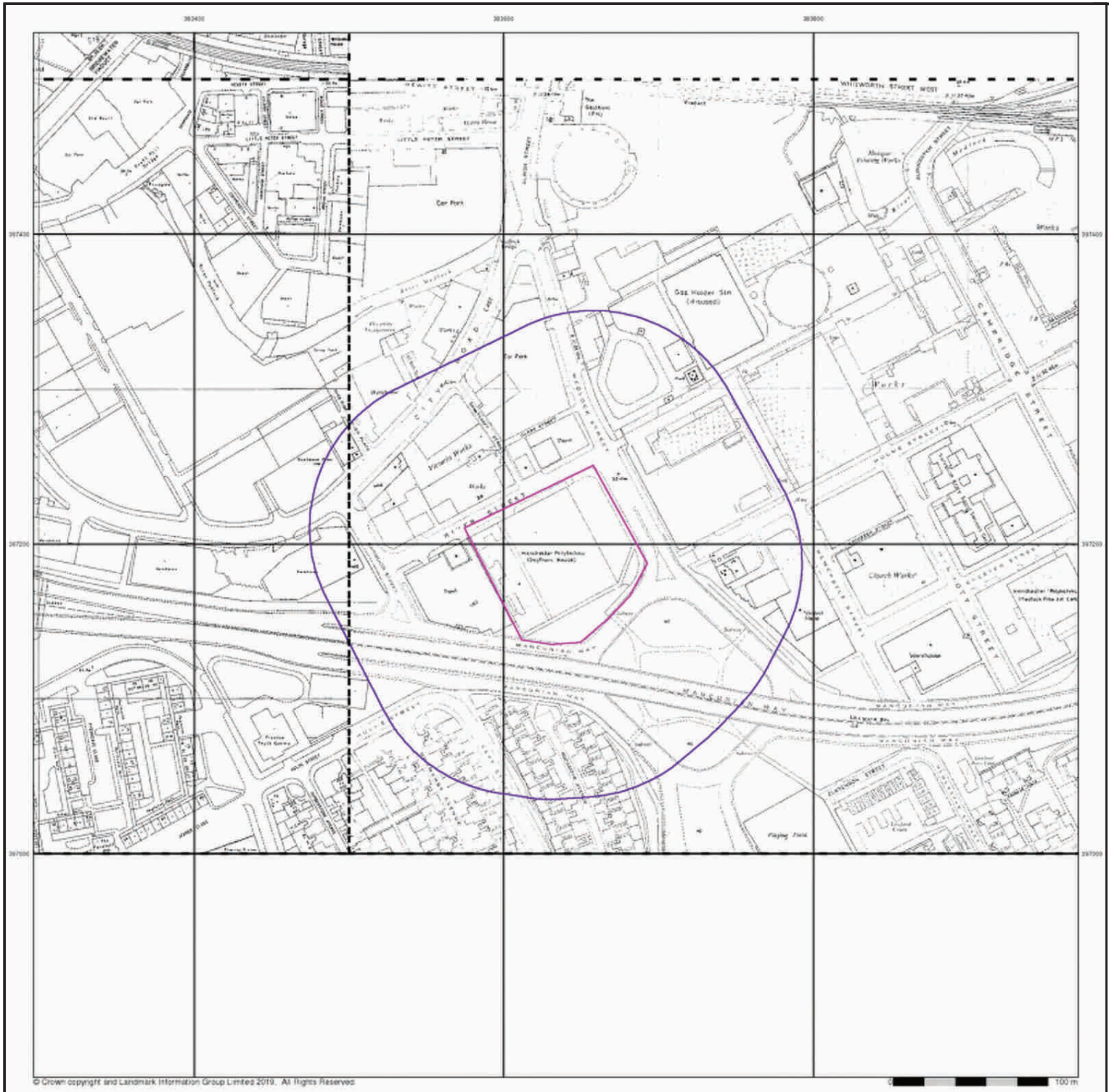


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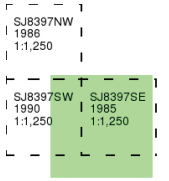
Additional SIMs

Published 1985 - 1990

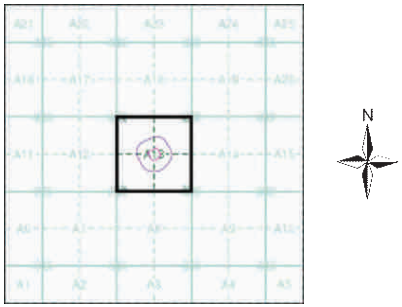
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



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Site Details

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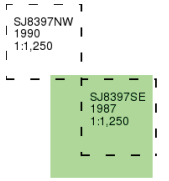
Additional SIMs

Published 1987 - 1990

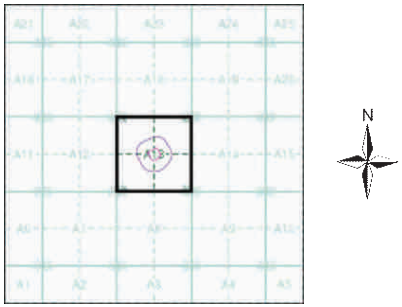
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



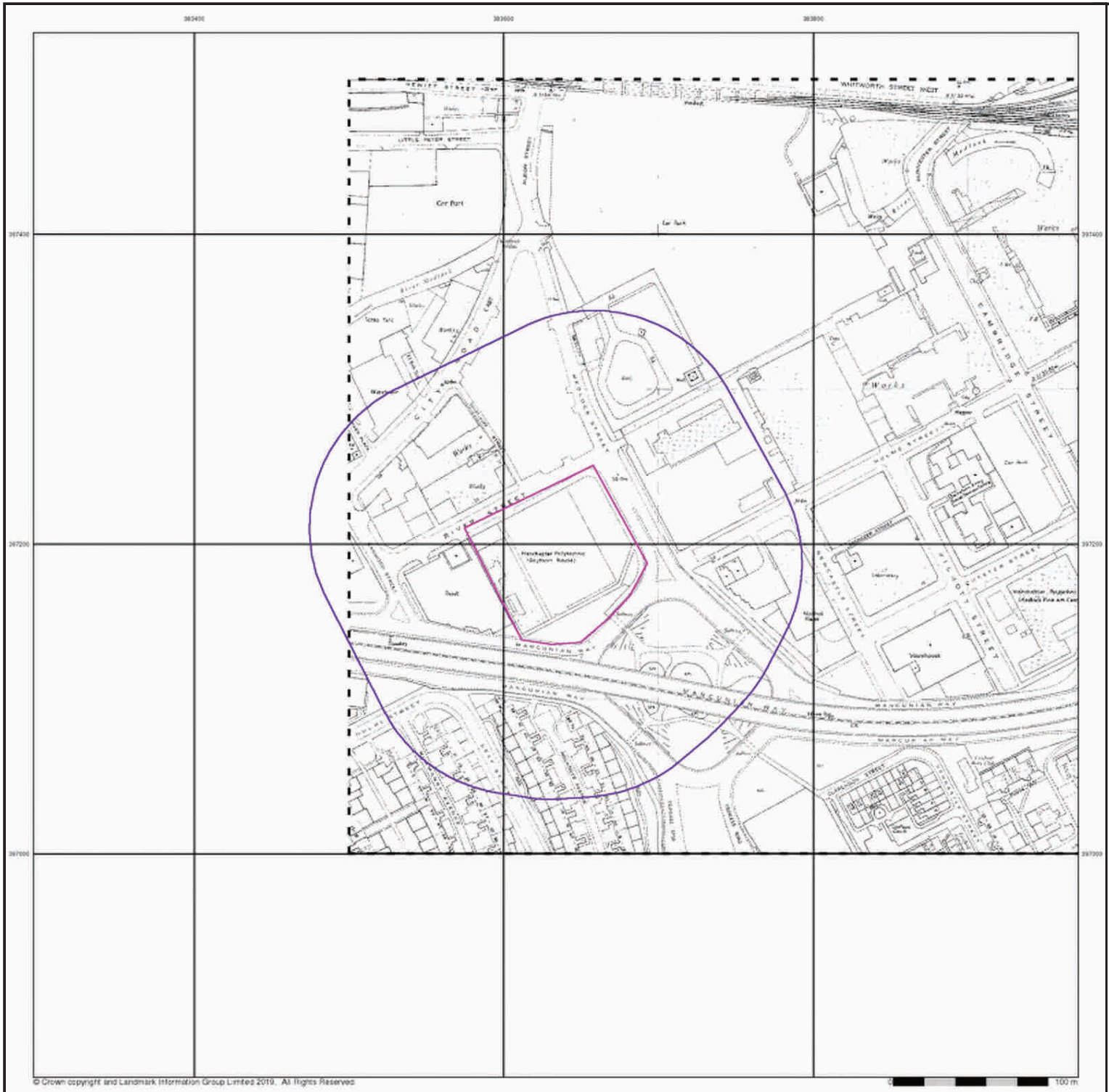
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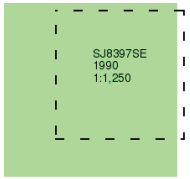
Additional SIMs

Published 1990

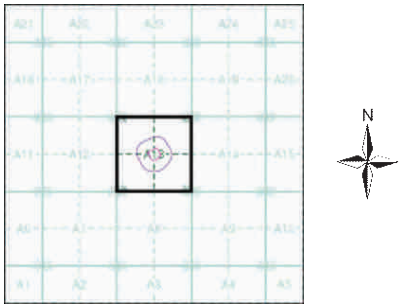
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



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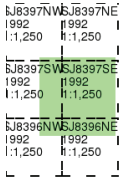
Large-Scale National Grid Data

Published 1992

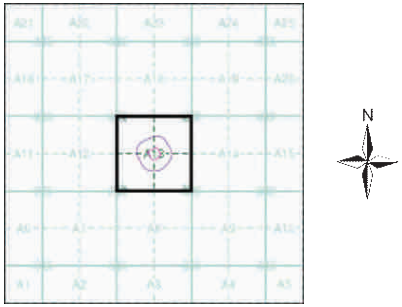
Source map scale - 1:1,250

'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)



Historical Map - Segment A13

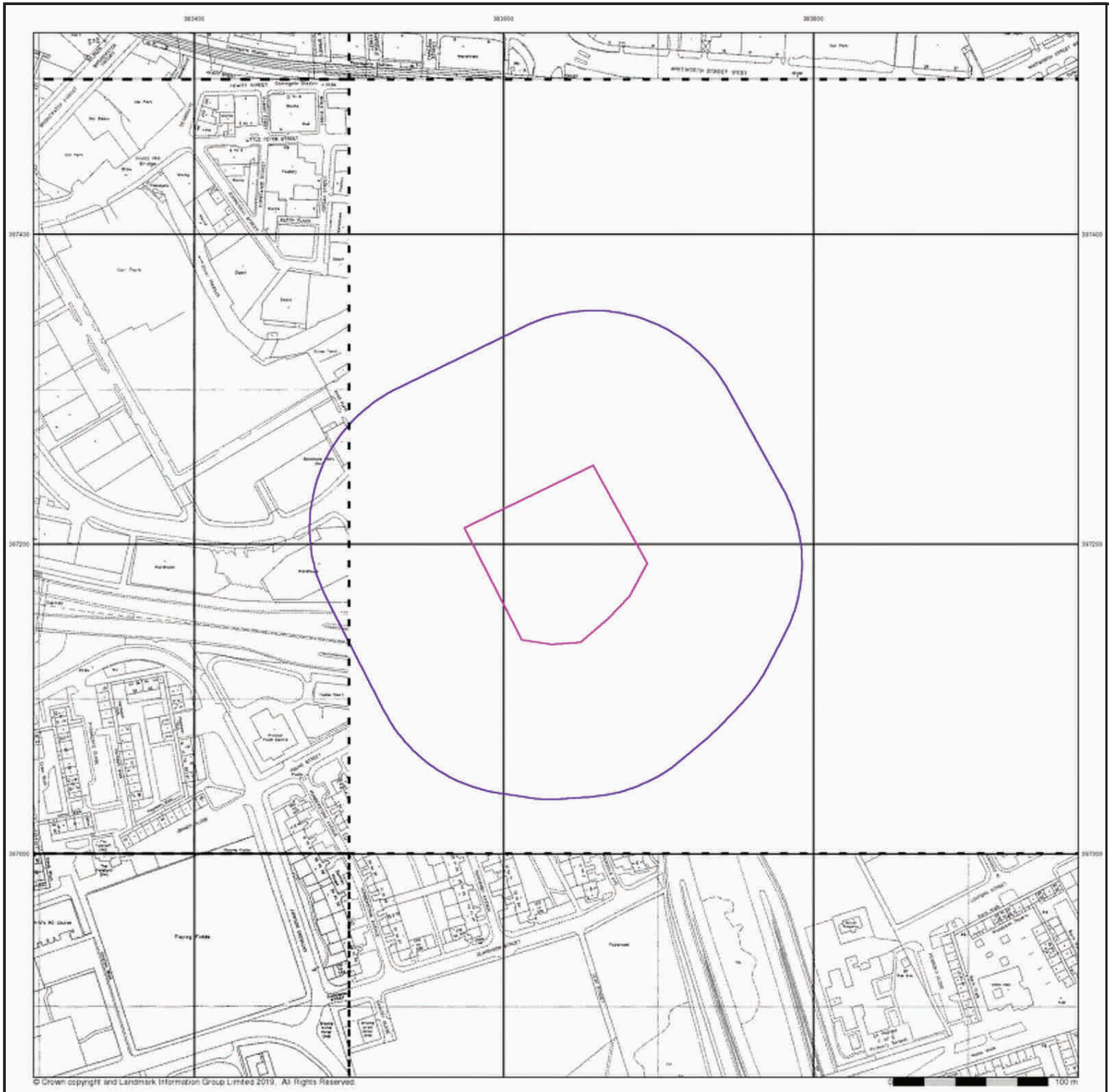


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National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	100

Site Details

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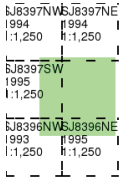
Large-Scale National Grid Data

Published 1993 - 1995

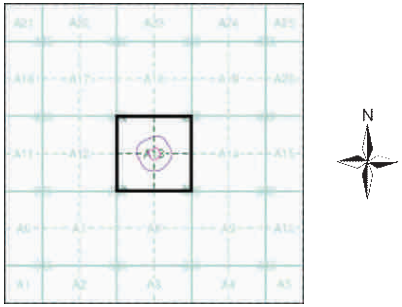
Source map scale - 1:1,250

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Map Name(s) and Date(s)



Historical Map - Segment A13



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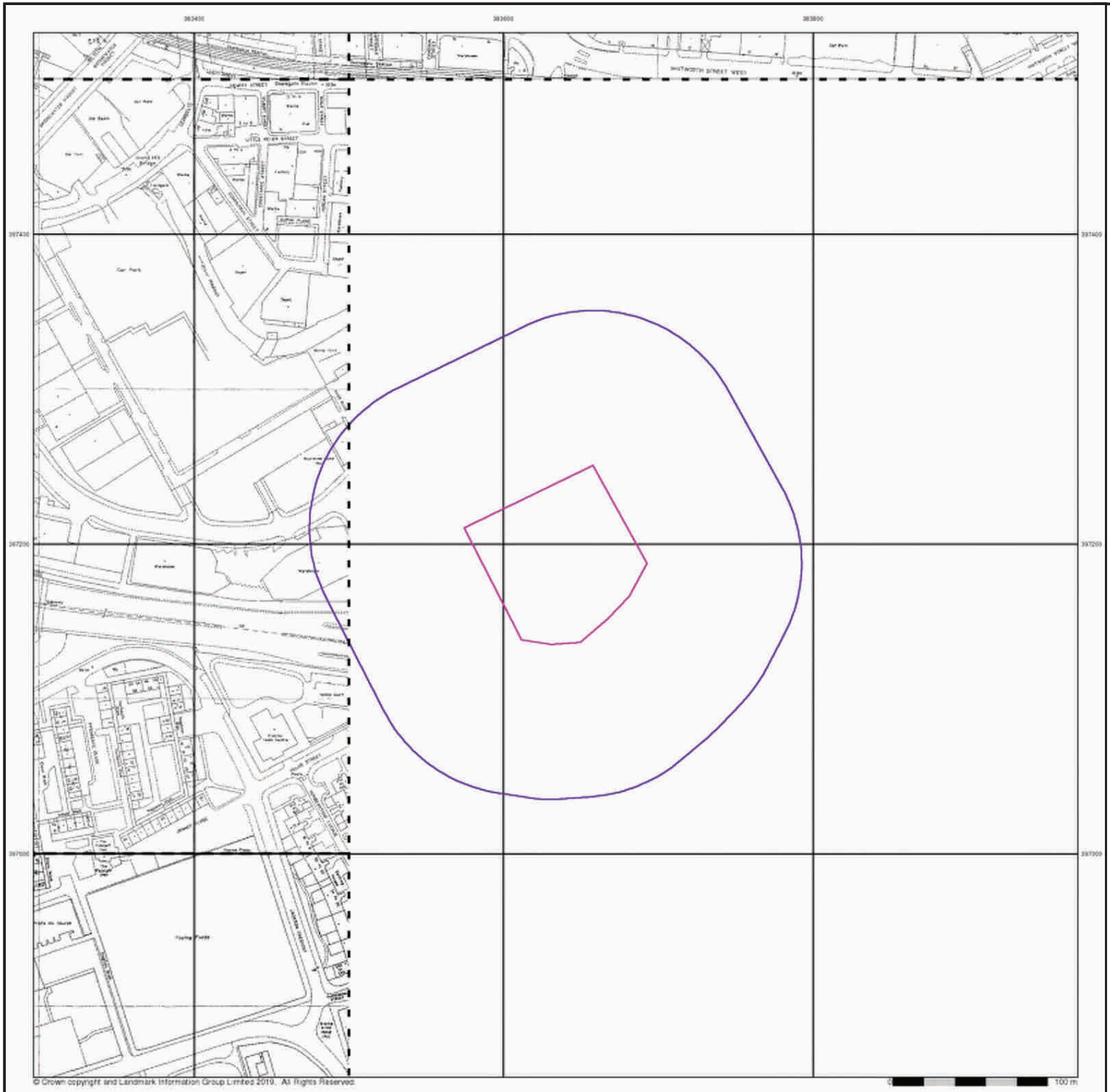
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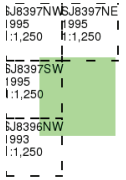
Large-Scale National Grid Data

Published 1993 - 1995

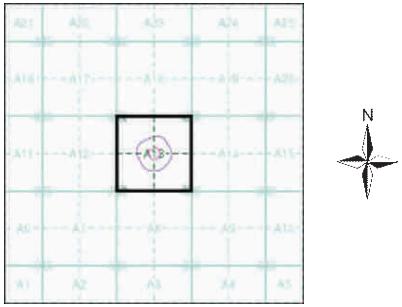
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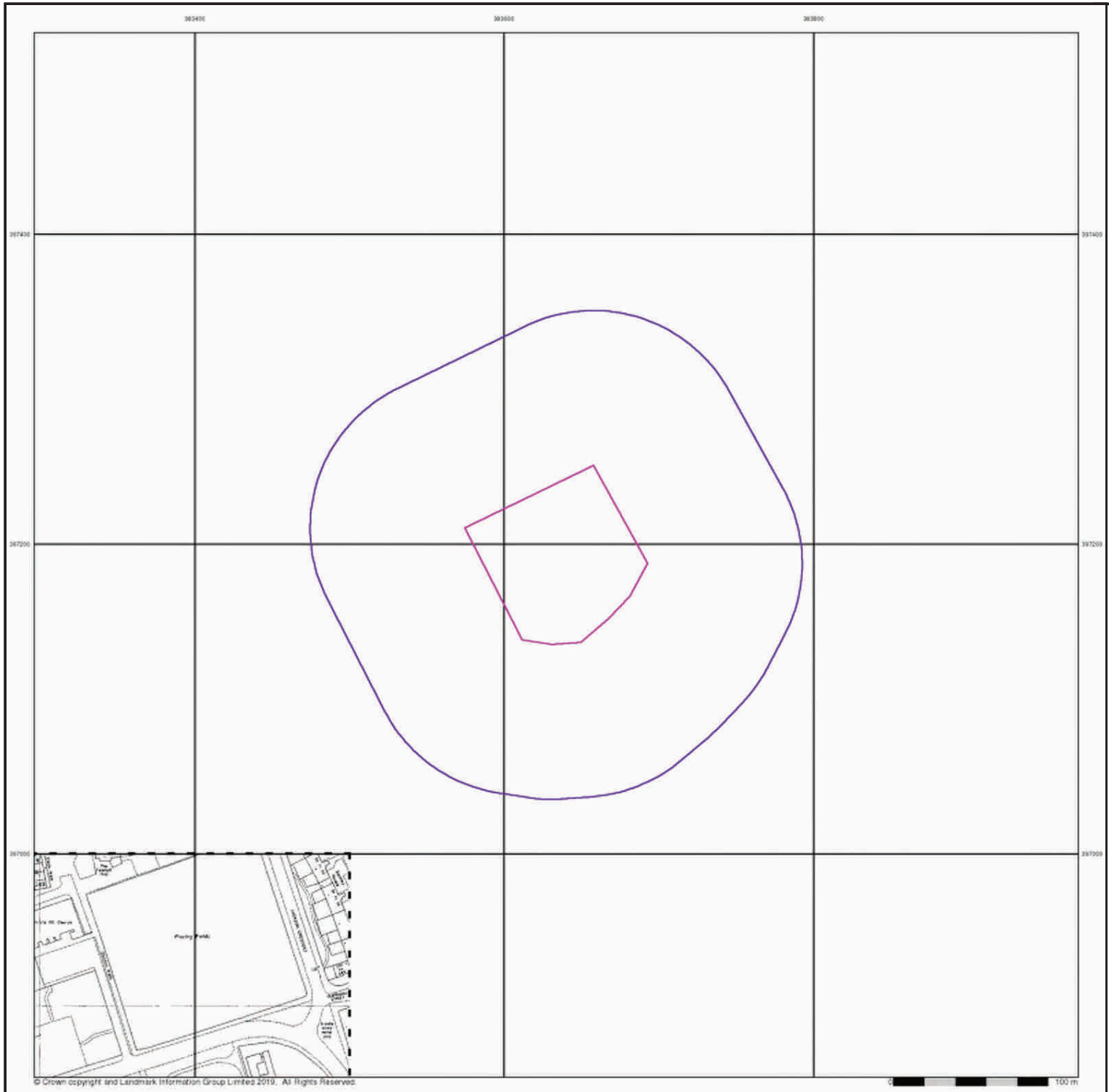
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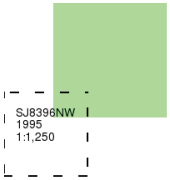
Large-Scale National Grid Data

Published 1995

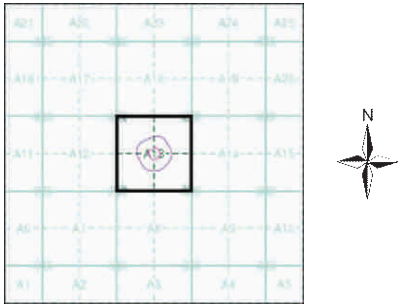
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Map Name(s) and Date(s)



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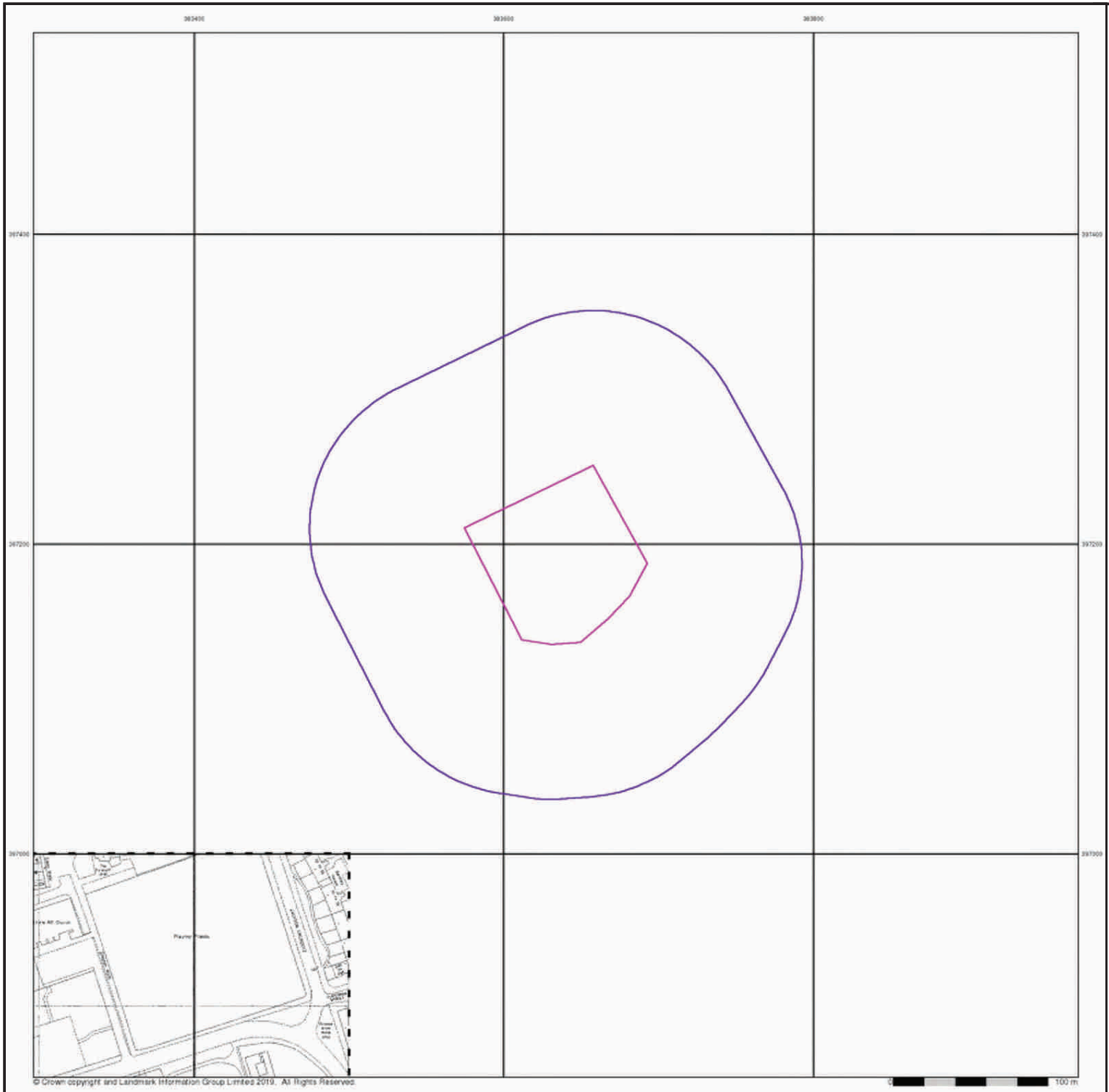
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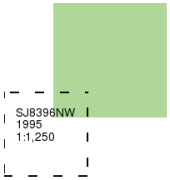
Large-Scale National Grid Data

Published 1995

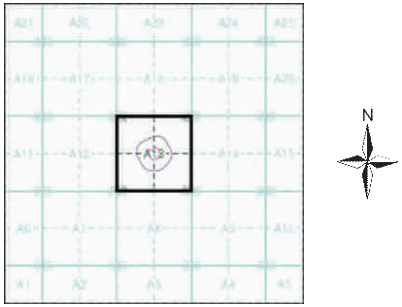
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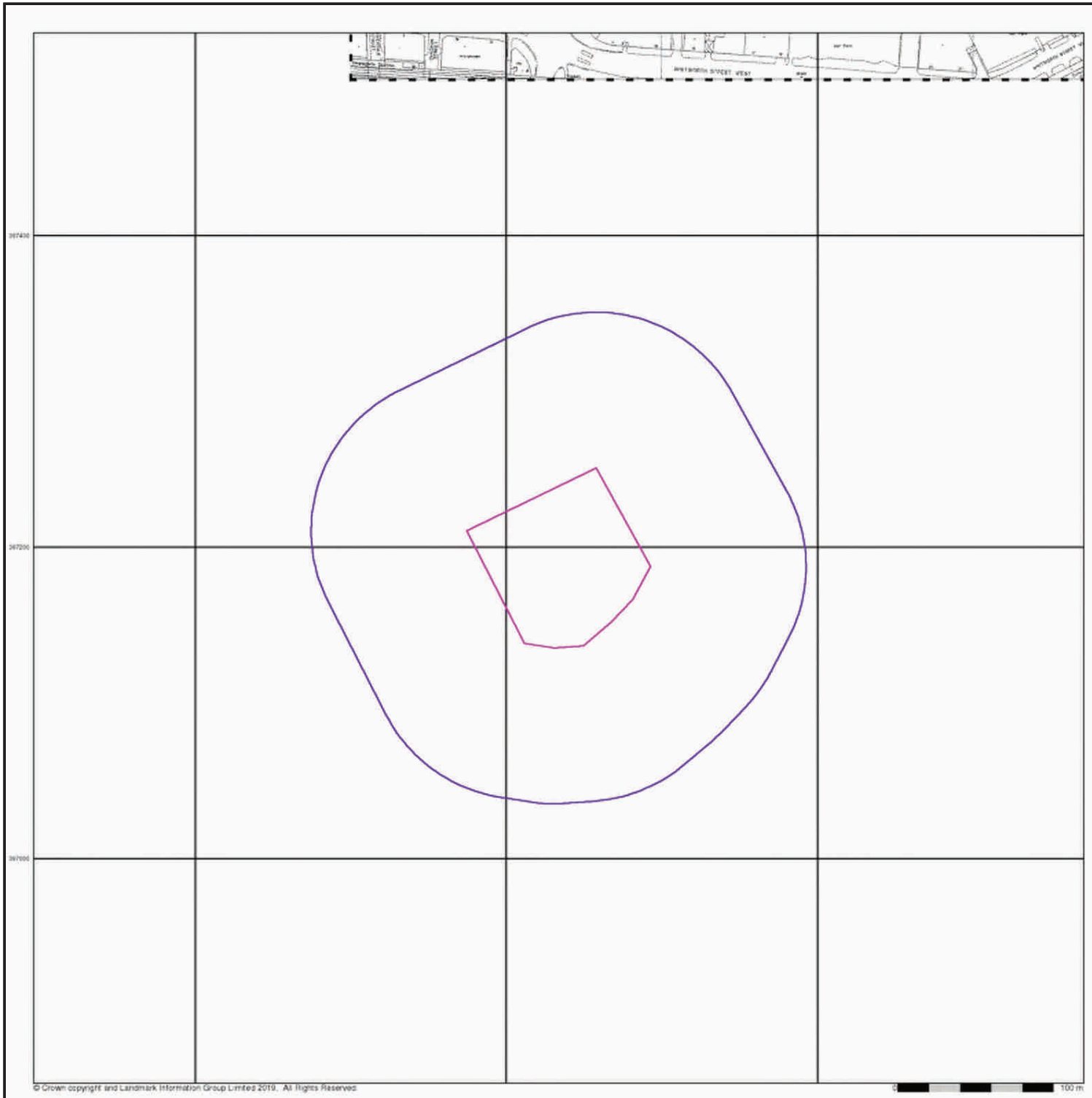


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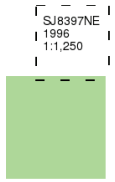
Large-Scale National Grid Data

Published 1996

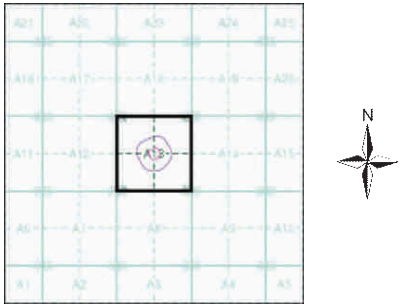
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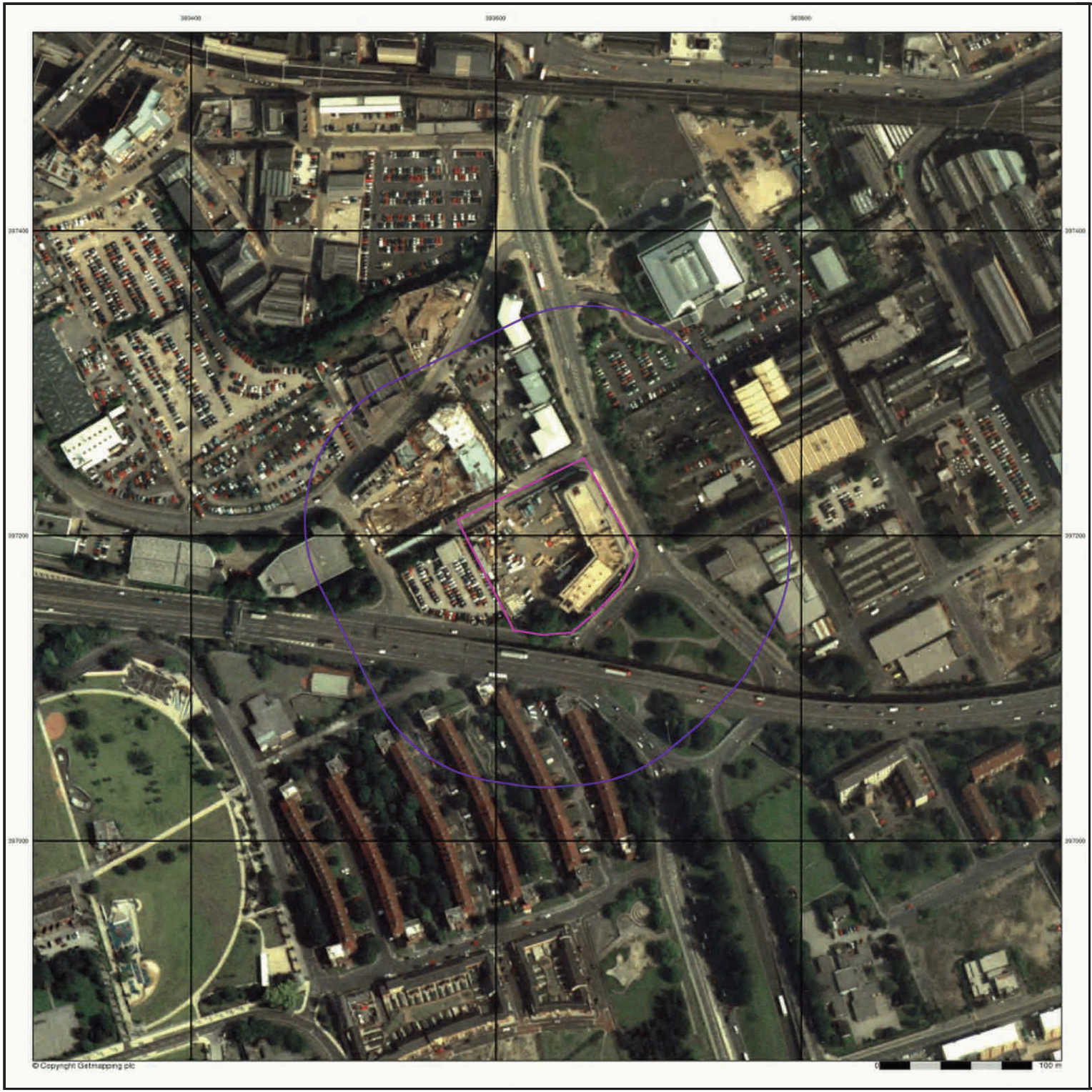


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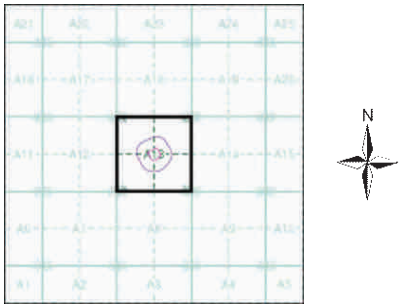
RAMBOLL

Historical Aerial Photography

Published 2000

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



Order Details

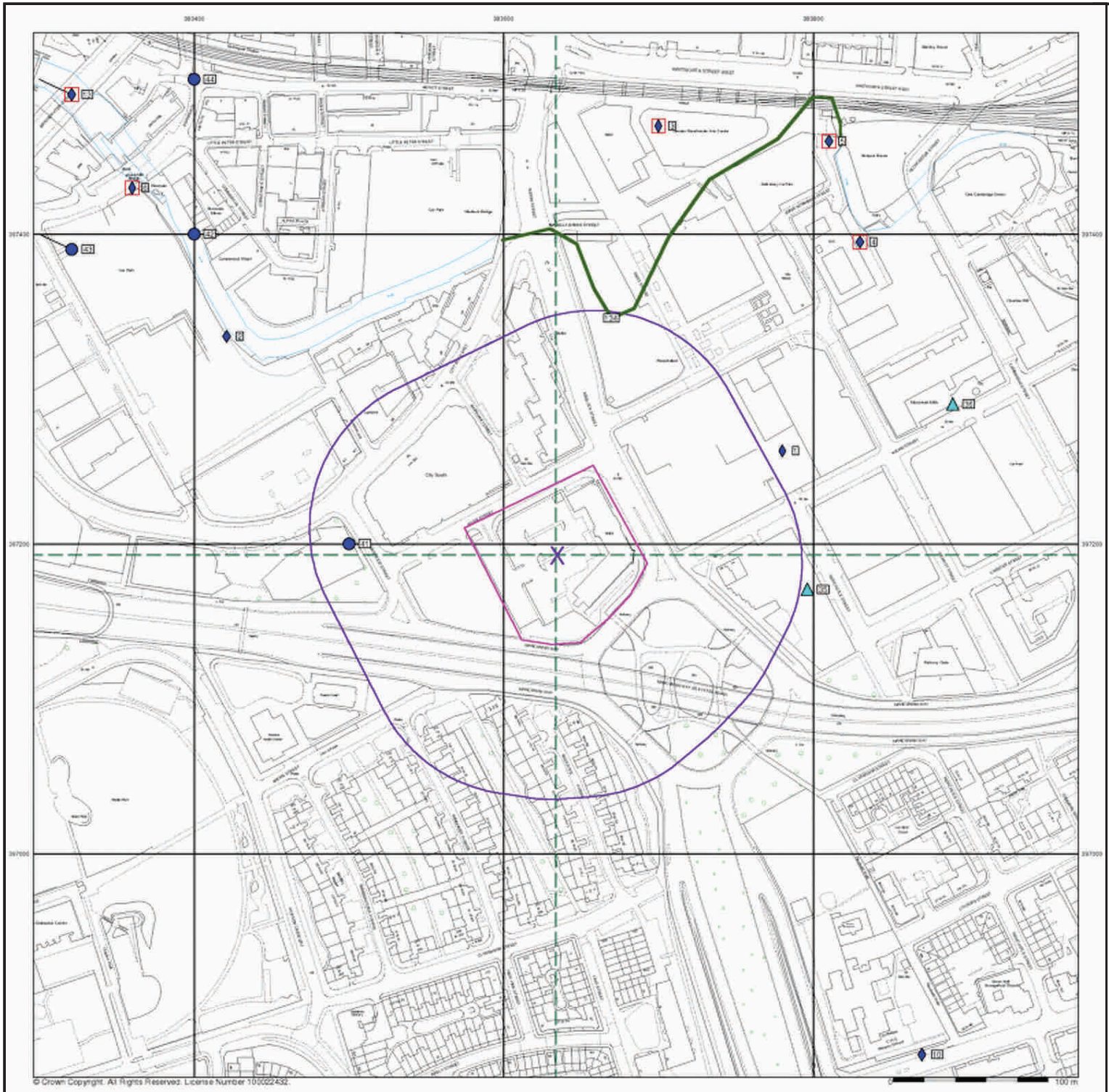
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General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location
- Pylon
- Overhead Transmission Line

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

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

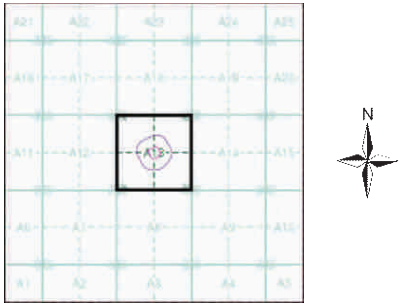
Geological

- BGS Recorded Mineral Site

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
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- 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

Site Sensitivity Map - Segment A13



Order Details

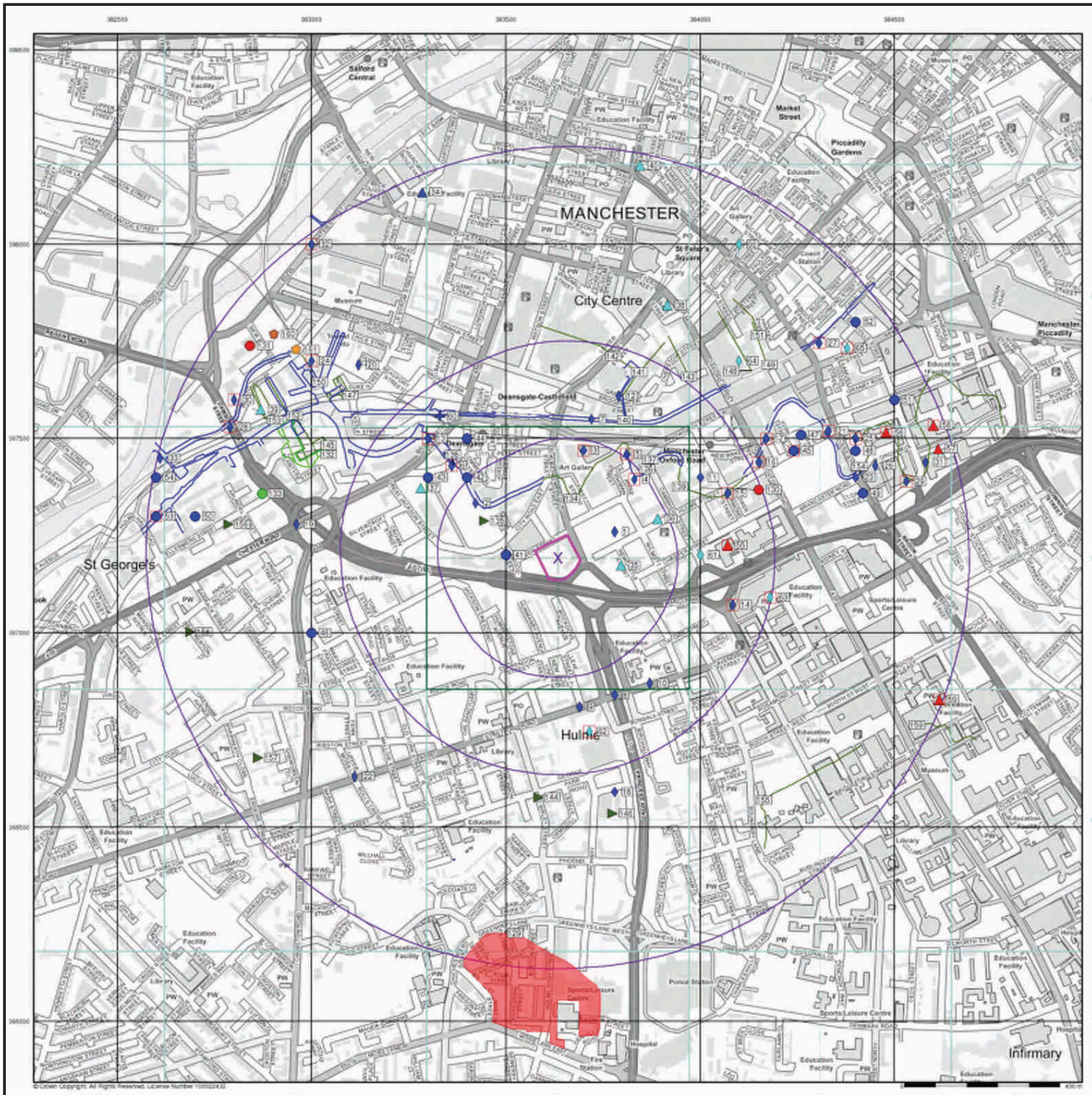
Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Plot Buffer (m):	100

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

Landmark INFORMATION GROUP

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



RAMBOLL

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

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

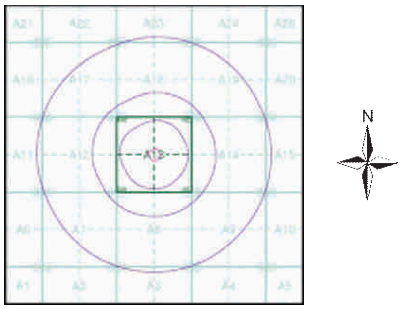
Geological

- BGS Recorded Mineral Site

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
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- 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

Site Sensitivity Map - Slice A



Order Details

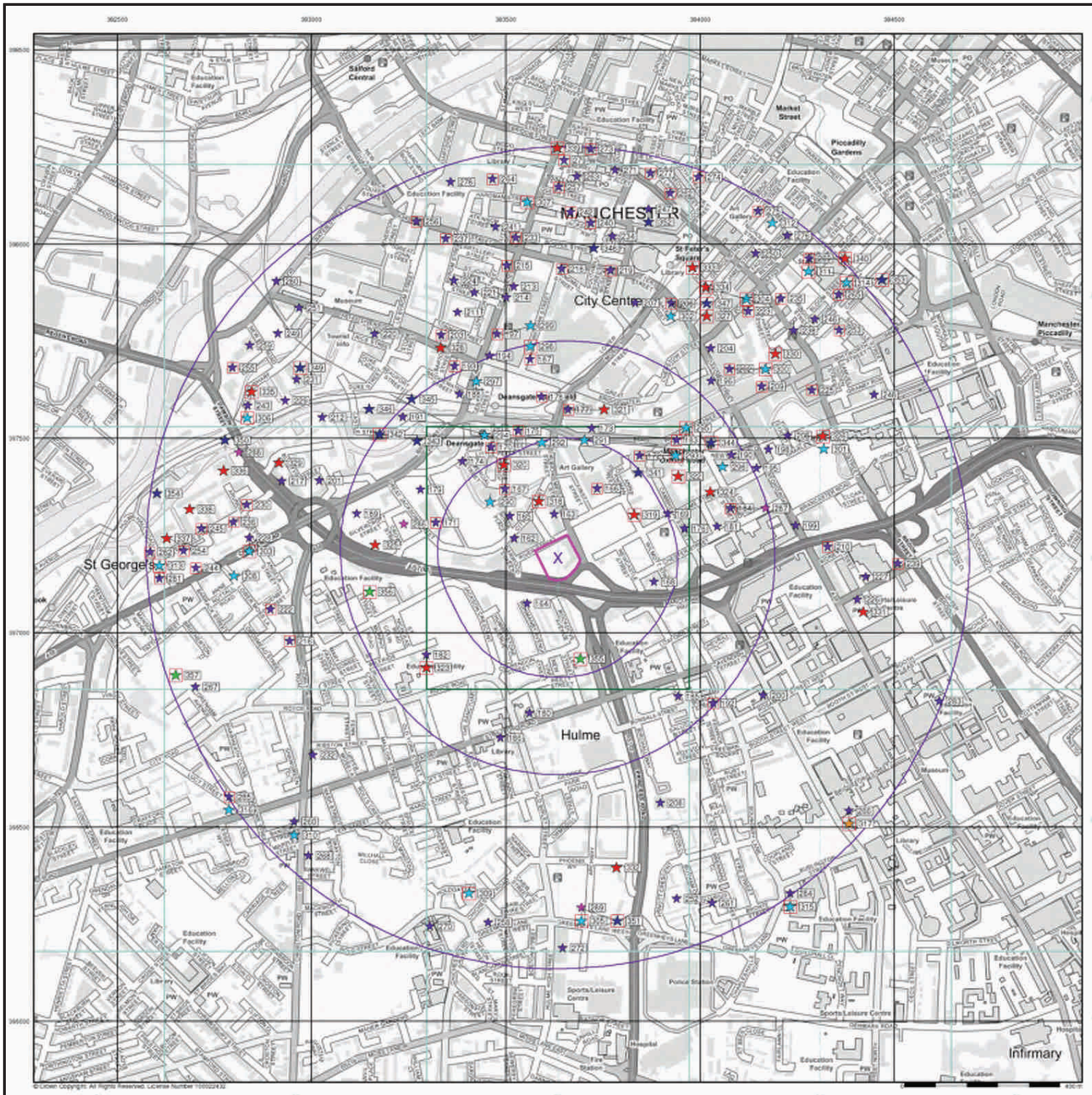
Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

Landmark INFORMATION GROUP

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RAMBOLL

Industrial Land Use Map

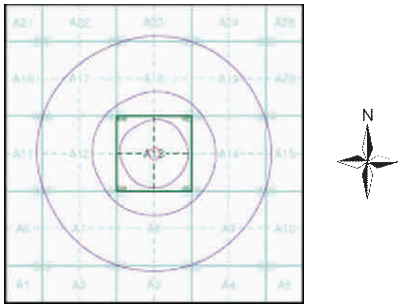
General

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

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



Order Details

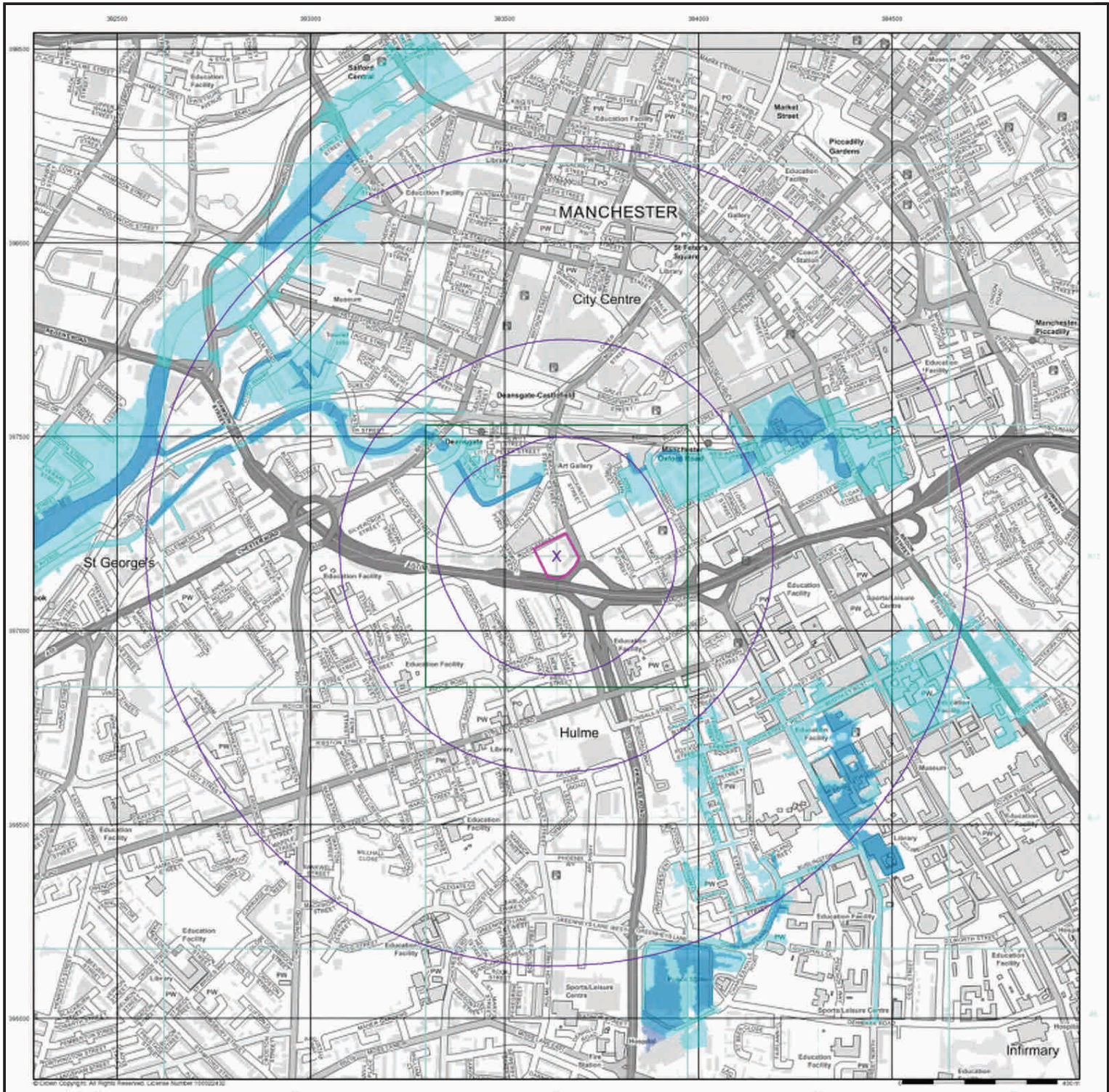
Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

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RAMBOLL

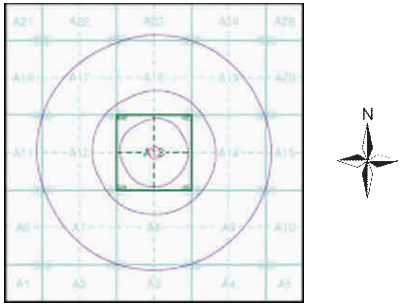
General

- Specified Site
- Specified Buffer(s)
- X 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



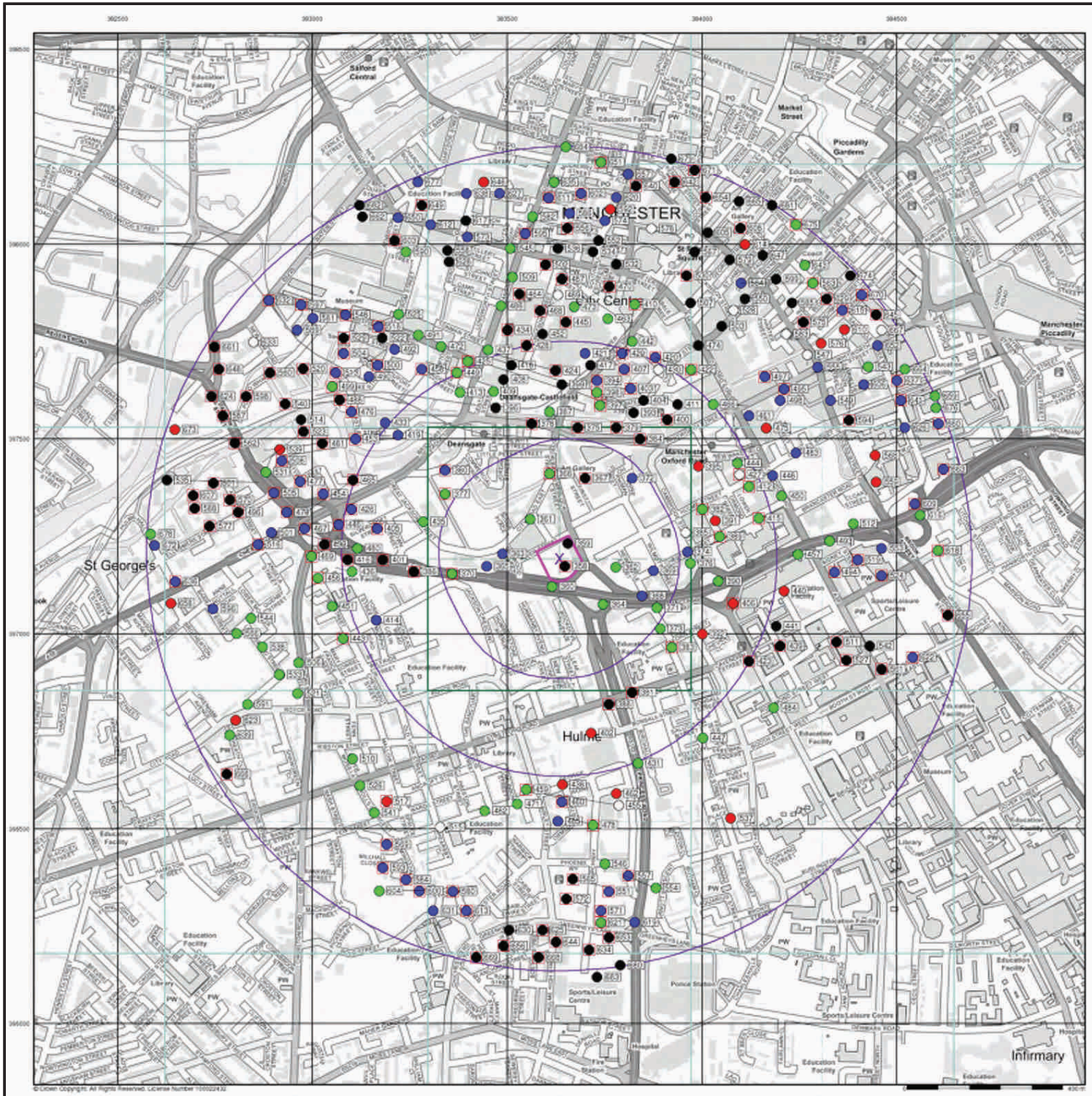
Order Details

Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

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RAMBOLL

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

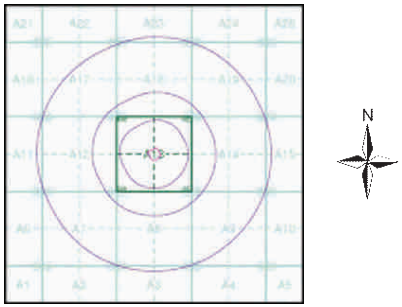
Agency and Hydrological (Boreholes)

- 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:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

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RAMBOLL

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

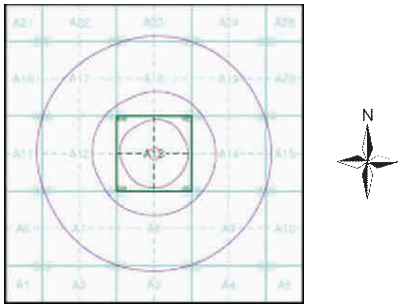
OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

Contours (height in meters)

- Standard Contour
- Master Contour
- Spot Height
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



Order Details

Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

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RAMBOLL

General

- Specified Site
- Specified Buffer(s)
- X Bearing Reference Point

Risk of Flooding from Surface Water

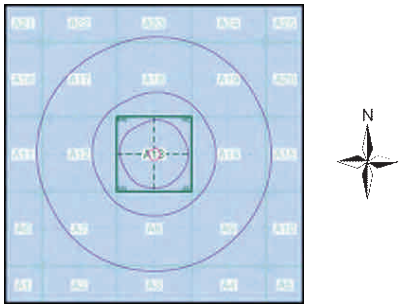
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

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

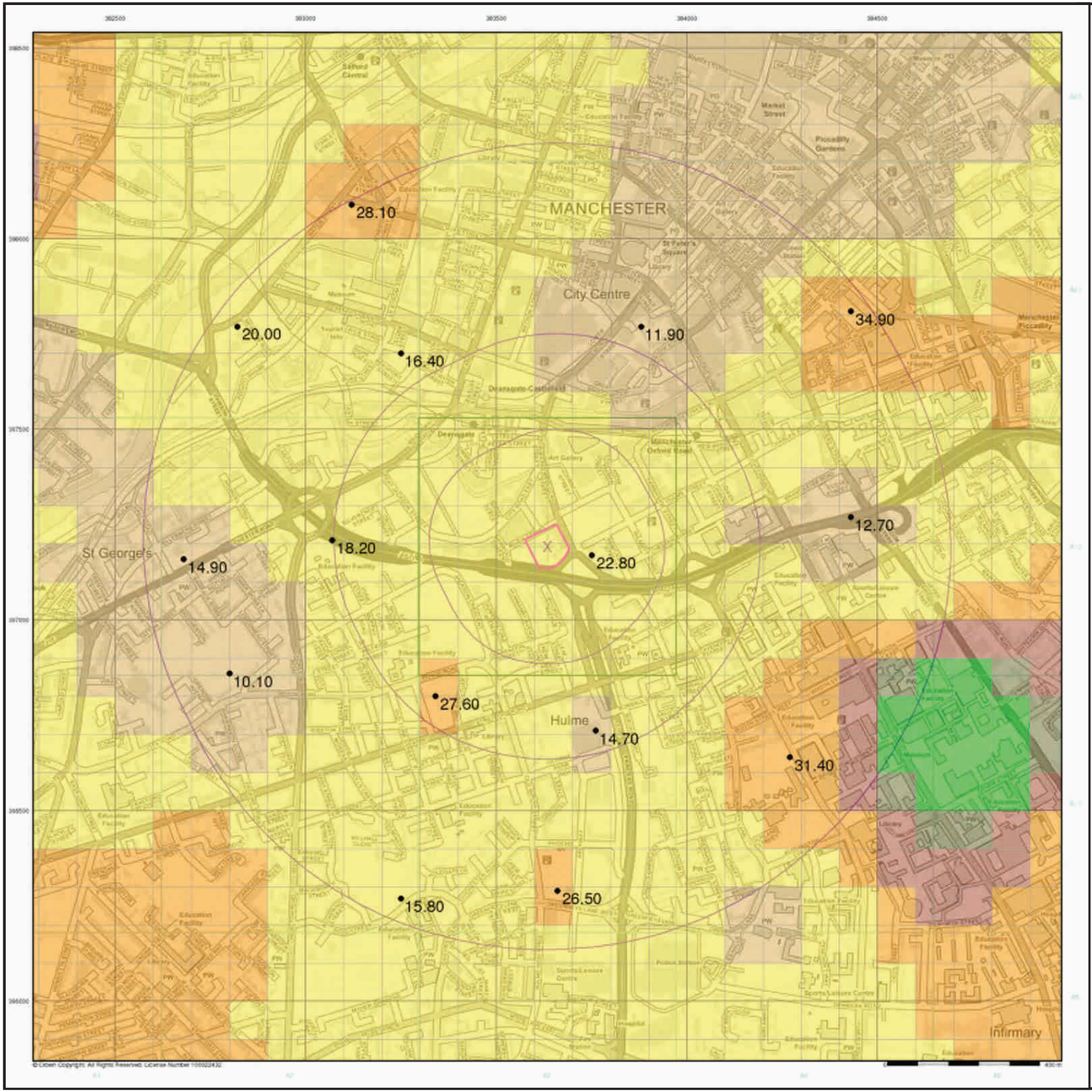
Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
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RAMBOLL

General

Specified Site | Specified Buffer(s) | X Bearing Reference Point

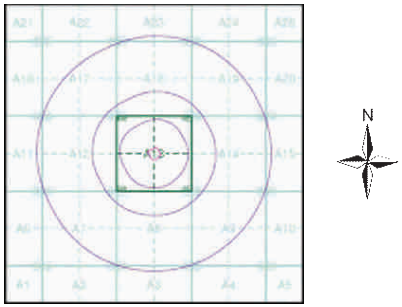
Urban Soil Chemistry Arsenic

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Urban Soil Chemistry Arsenic - Slice A



Order Details

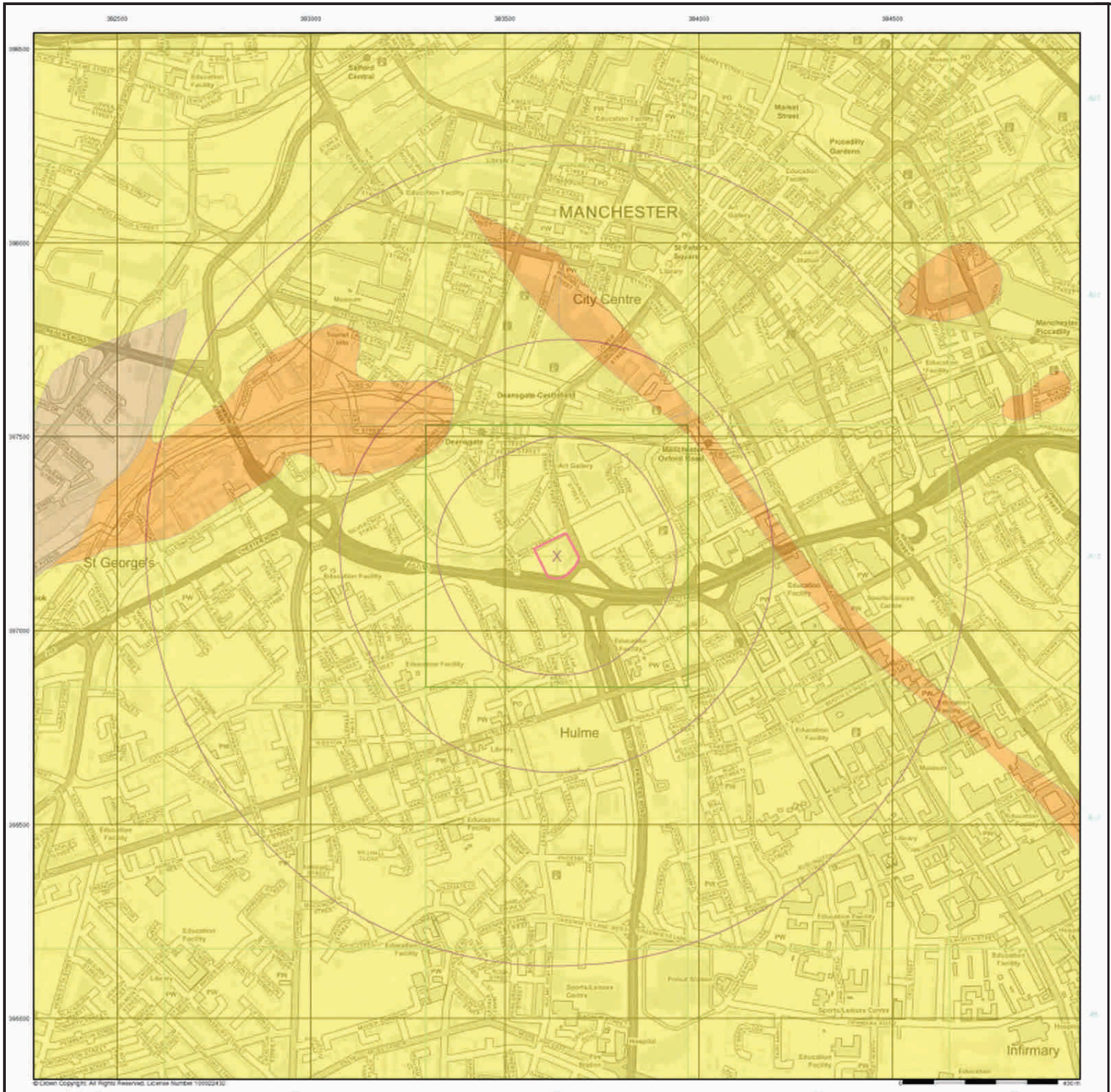
Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

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RAMBOLL

General

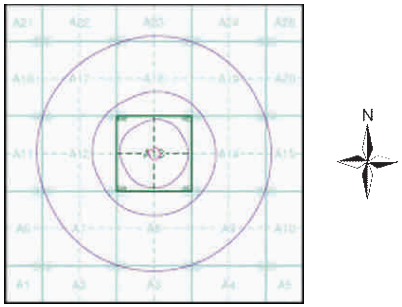
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



Order Details

Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

Landmark INFORMATION GROUP

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



RAMBOLL

General

Specified Site | Specified Buffer(s) | Bearing Reference Point

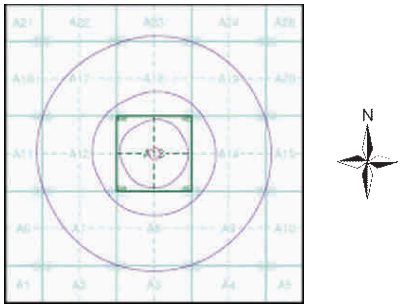
Urban Soil Chemistry Cadmium

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Urban Soil Chemistry Cadmium - Slice A



Order Details

Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

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



RAMBOLL

General

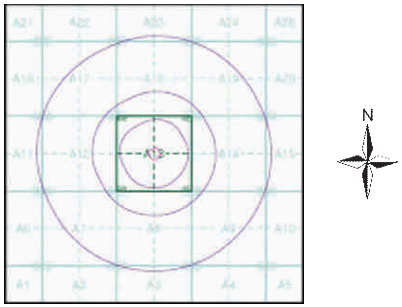
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A

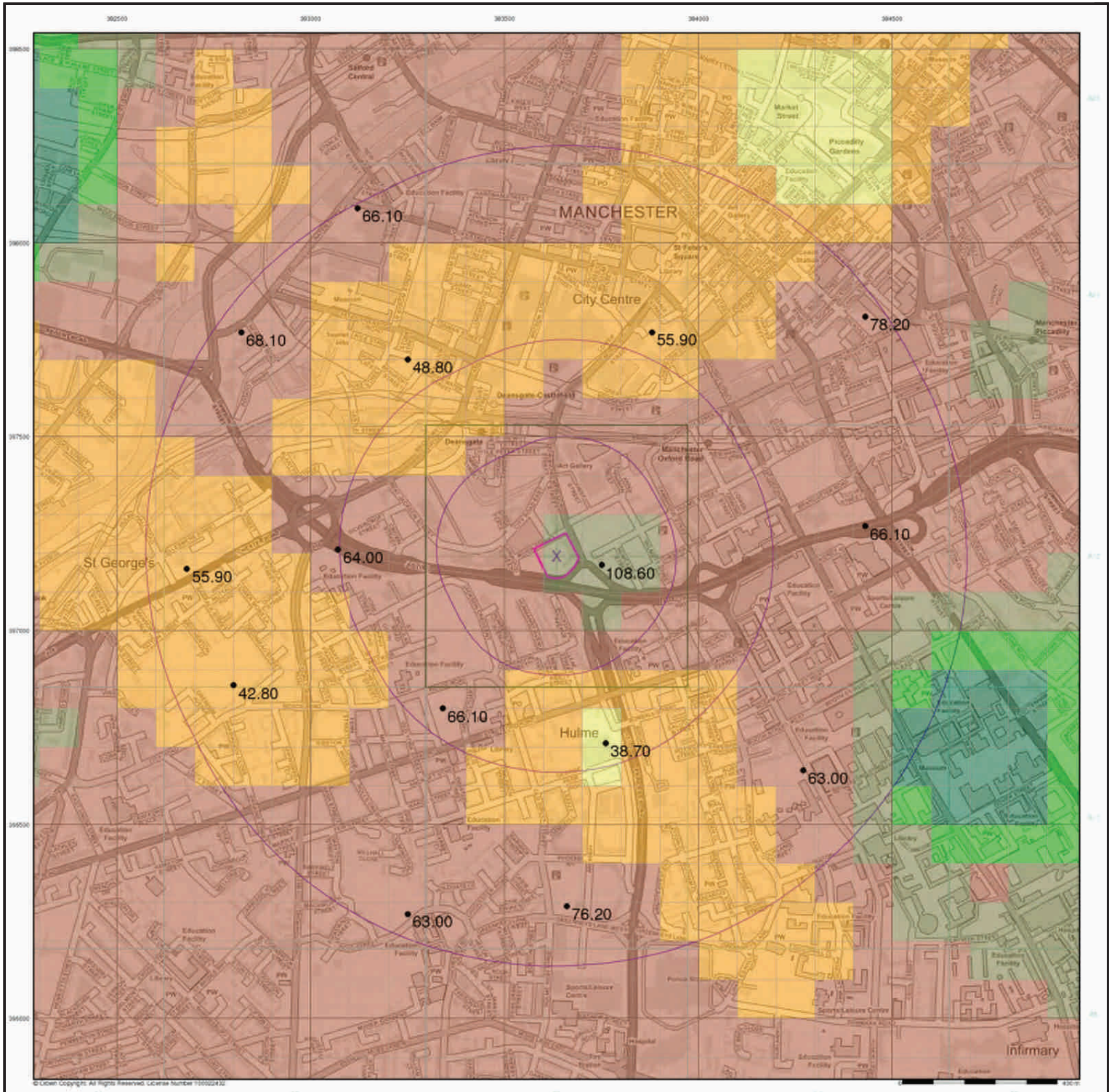


Order Details

Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



RAMBOLL

General

Specified Site | Specified Buffer(s) | Bearing Reference Point

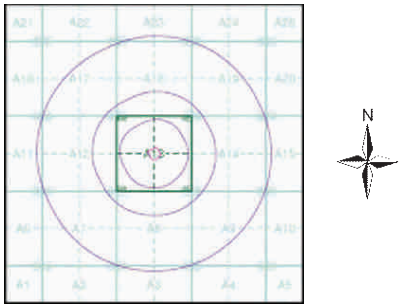
Urban Soil Chemistry Chromium

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Urban Soil Chemistry Chromium - Slice A



Order Details

Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



RAMBOLL

General

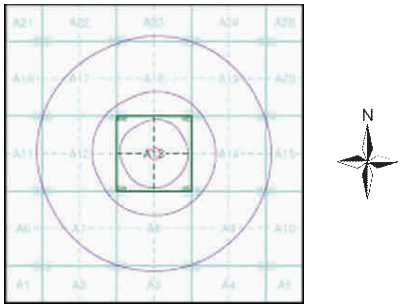
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A

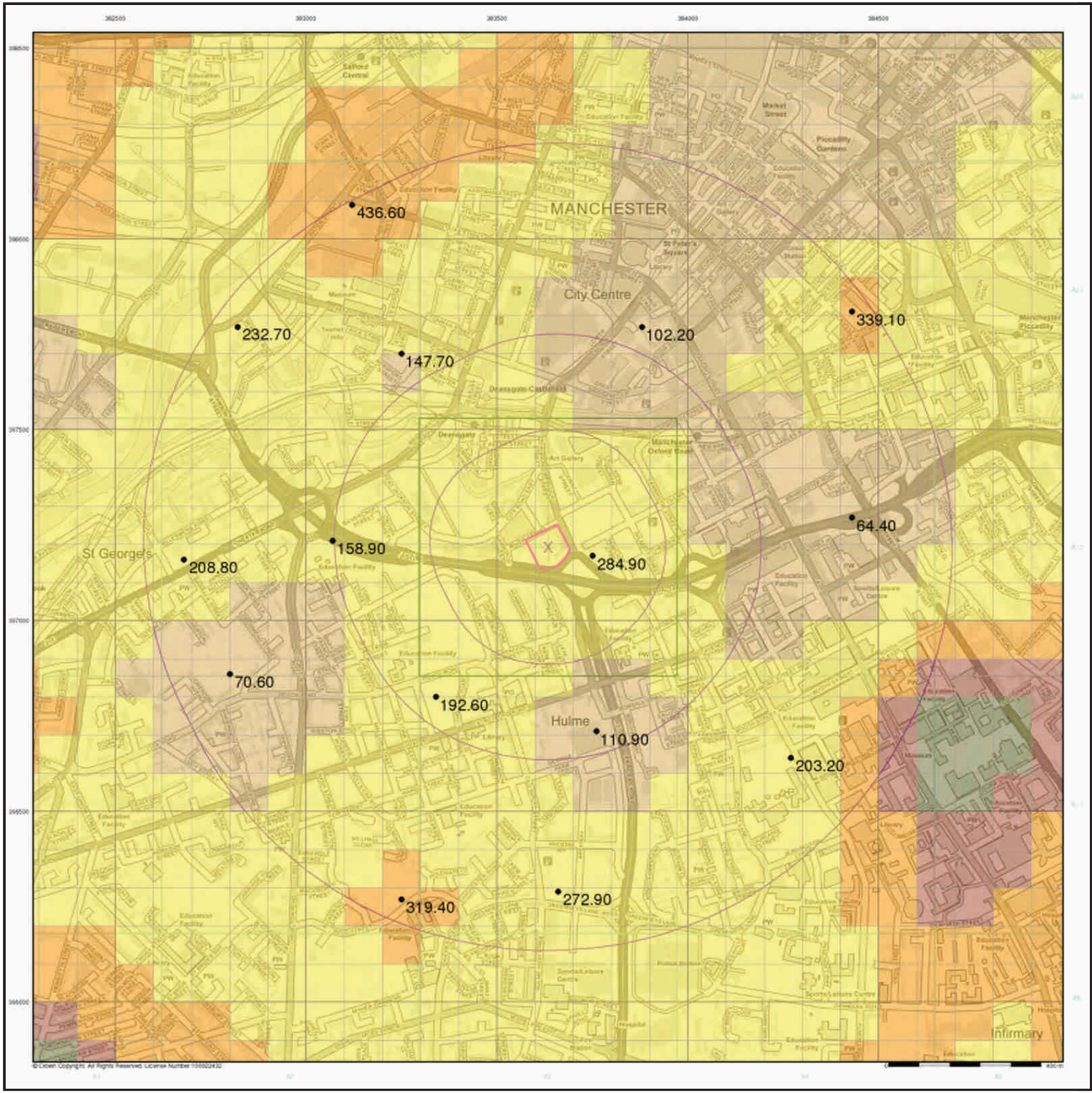


Order Details

Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



RAMBOLL

General

Specified Site | Specified Buffer(s) | X Bearing Reference Point

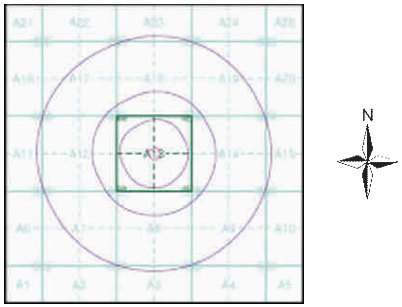
Urban Soil Chemistry Lead

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Lead Concentrations mg/kg

- < 150
- 150 - 300
- 300 - 600
- 600 - 900
- > 900

Urban Soil Chemistry Lead - Slice A



Order Details

Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



RAMBOLL

General

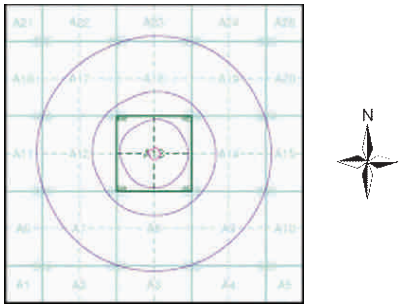
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



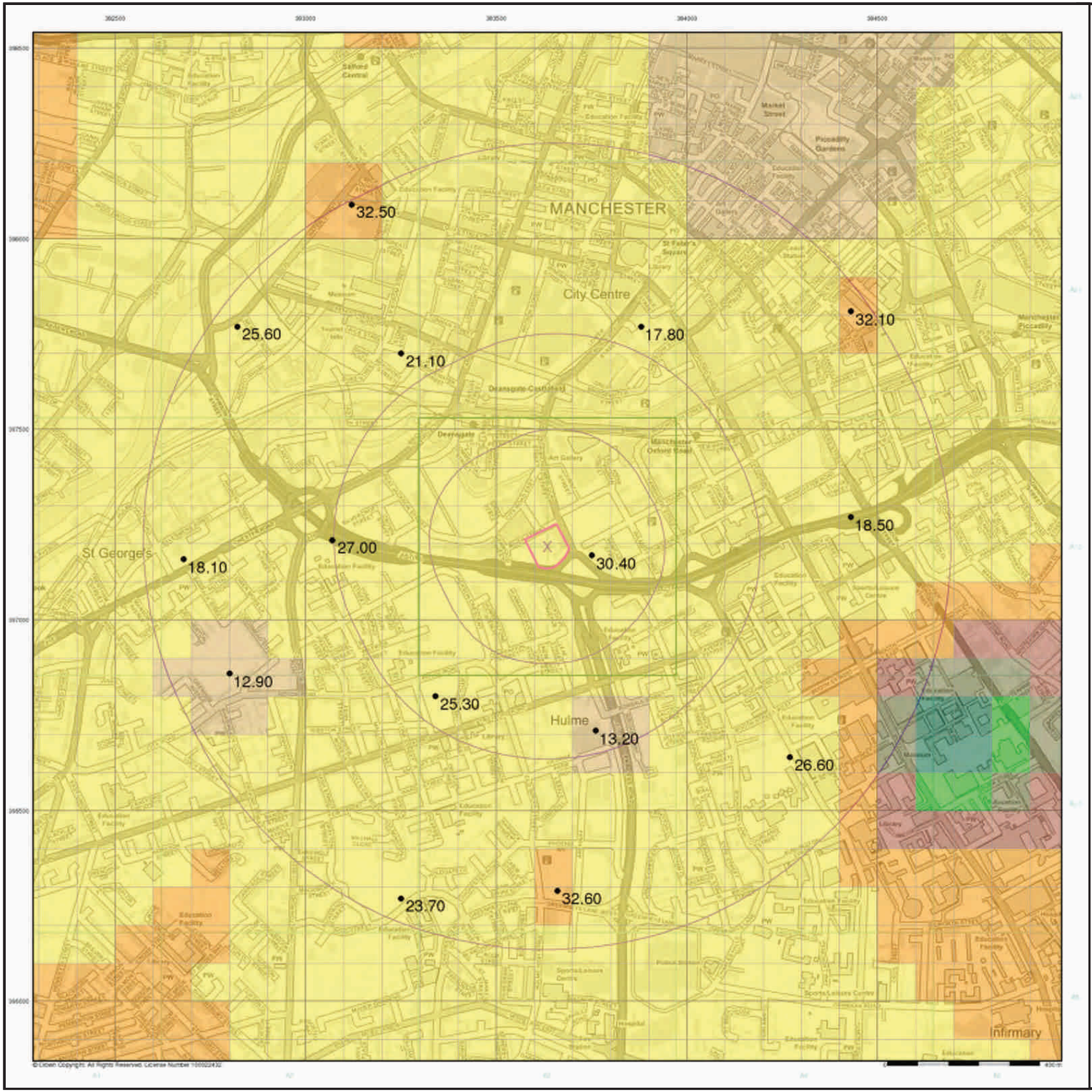
Order Details

Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

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RAMBOLL

General

Specified Site | Specified Buffer(s) | X Bearing Reference Point

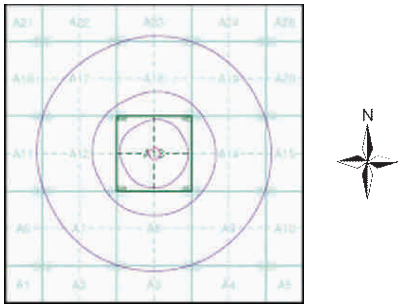
Urban Soil Chemistry Nickel

BGS Urban Soil Chemistry Measured Concentration Values (mg/kg)

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Urban Soil Chemistry Nickel - Slice A

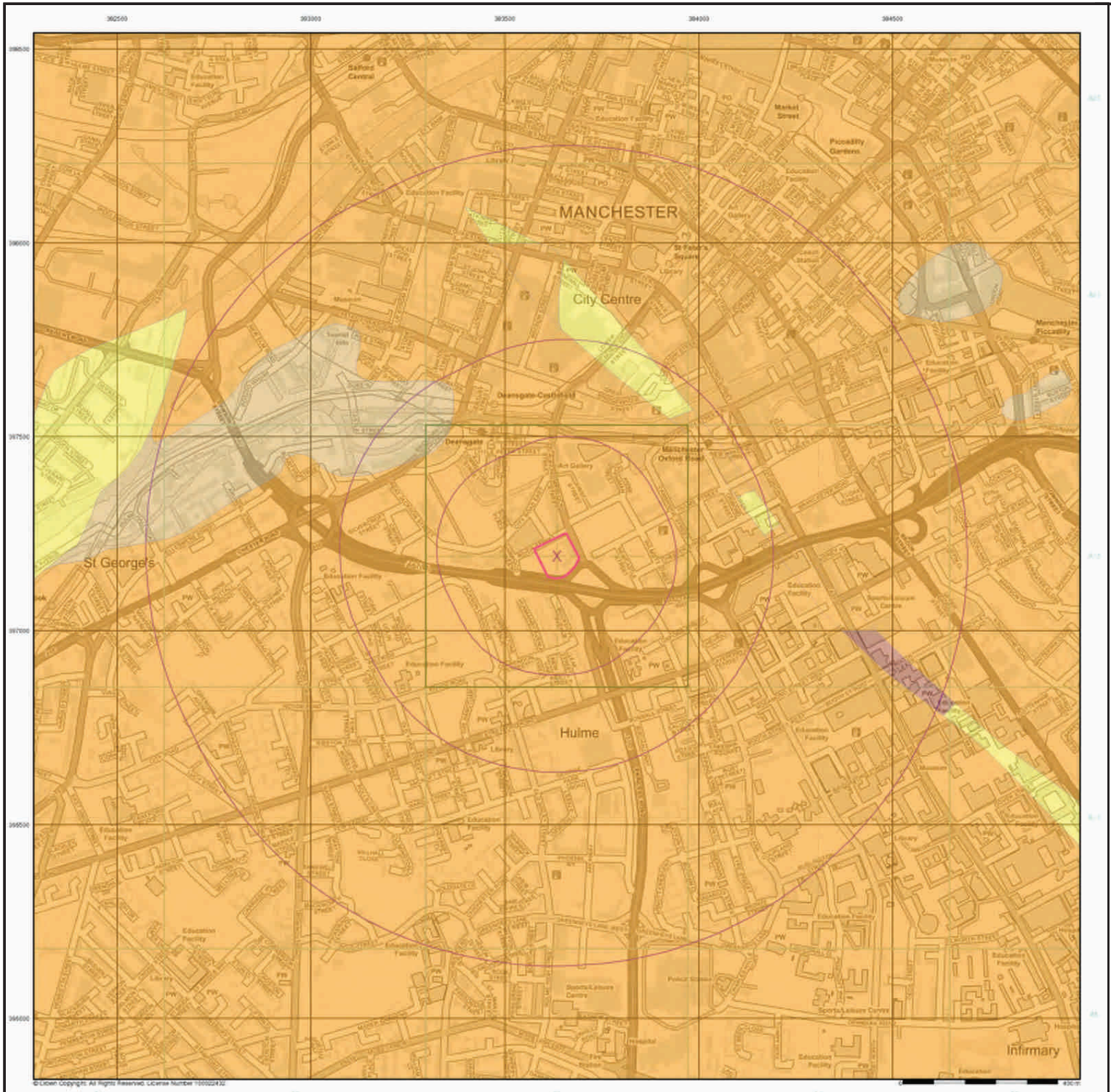


Order Details

Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ



RAMBOLL

General

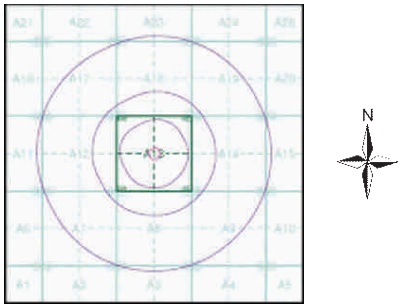
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



Order Details

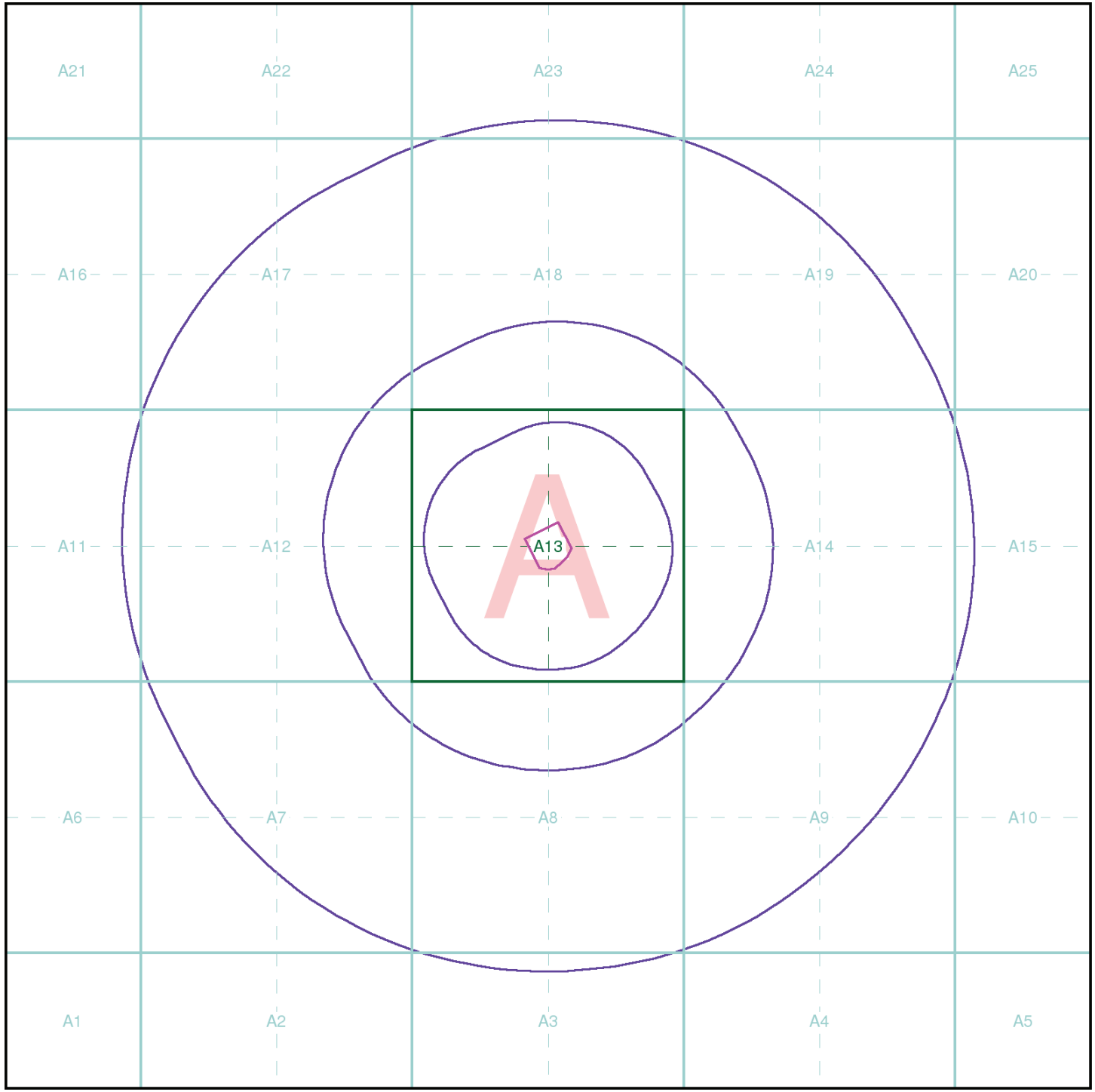
Order Details:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383630, 397190
Slice:	A
Site Area (Ha):	0.85
Search buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

Landmark INFORMATION GROUP

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RAMBOLL

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:

Map data

British Geological Survey

Environment Agency

NATURAL ENGLAND

Envirocheck reports are compiled from 136 different sources of data.

Prepared For

Caroline Clark

Client Details

Ms T Carey, Ramboll UK Ltd, Carlton House, Ringwood Road, Woodlands, Southampton, SO40 7HT

Order Details

Order Number:	199235460_1_1
Customer Ref:	Premier Inn Redevelopment
National Grid Reference:	383640, 397190
Site Area (Ha):	0.85
Search Buffer (m):	1000

Site Details

Flat 27, River Street Tower, 2, River Street, MANCHESTER, M15 5GQ

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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 this 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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Report Version v53.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes		Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		9	21	56
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices	pg 22				1
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 23		2	1	3
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 23		Yes		
Pollution Incidents to Controlled Waters	pg 23		1	3	13
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 26			7	13
River Quality	pg 29		2	2	2
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points	pg 31			1	
Substantiated Pollution Incident Register					
Water Abstractions	pg 31			7	4 (*34)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 43	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 43	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 43	Yes	n/a	n/a	n/a
Source Protection Zones	pg 43		1		
Extreme Flooding from Rivers or Sea without Defences	pg 43		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 43		Yes	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
OS Water Network Lines	pg 43		3	22	36

Summary

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 51				1
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)					
Licensed Waste Management Facilities (Locations)	pg 51			1	1
Local Authority Landfill Coverage		1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)	pg 51				2
Potentially Infilled Land (Water)	pg 51		2	7	17
Registered Landfill Sites					
Registered Waste Transfer Sites	pg 53				1
Registered Waste Treatment or Disposal Sites	pg 53				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					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 54	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 54	Yes		Yes	Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry	pg 55		Yes	Yes	Yes
BGS Urban Soil Chemistry Averages	pg 58	Yes			
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 59	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 59	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 59		Yes	n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 59	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 59	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 59		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
Industrial Land Use					
Contemporary Trade Directory Entries	pg 60		10	41	208
Fuel Station Entries	pg 82			2	2
Points of Interest - Commercial Services	pg 82		2	11	30
Points of Interest - Education and Health	pg 86				3
Points of Interest - Manufacturing and Production	pg 86		6	16	31
Points of Interest - Public Infrastructure	pg 91		1	5	16
Points of Interest - Recreational and Environmental	pg 92		2	2	4
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
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					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (NW)	0	1	383635 397193
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	385	1	383950 397500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (NE)	397	1	384000 397450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (NE)	399	1	383850 397600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (NW)	404	1	383250 397450
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	410	1	383750 397650
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A14NW (NE)	416	1	384050 397400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A14NW (E)	423	1	384100 397300
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (N)	424	1	383800 397650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A18SE (NE)	426	1	383900 397600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (E)	462	1	384150 397250
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A12NE (NW)	465	1	383150 397400
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12NE (NW)	488	1	383150 397450
1	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Unknown Receiving Water: Not Supplied **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	112	2	383780 397260
2	**Discharge Consents** Operator: Fq Developments Limited Property Type: CONSTRUCTION OF BUILDINGS Location: Owen Street, ., ., Manchester, M15 4pz Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: Eprfb3091rh Permit Version: 1 Effective Date: 4th October 2016 Issued Date: 4th October 2016 Revocation Date: 2nd July 2018 Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: The River Medlock **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	198	2	383421 397334

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River 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)	219	2	383700 397465
3	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River 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)	224	2	383700 397470
4	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	225	2	383830 397395
4	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Cambridge Street Cso 282d9 1 Cambridge Street, ., Manchester, Greater Manchester, M1 5bw Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016982721 Permit Version: 3 Effective Date: 11th April 2018 Issued Date: 11th April 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	229	2	383830 397400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
4	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Wilmott St At 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 Environment: Freshwater Stream/River 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 (NE)	229	2	383830 397400
4	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Freshwater Stream/River 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 (NE)	229	2	383830 397400
4	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Cambridge Street Cso 282d9 1 Cambridge Street, ., Manchester, Greater Manchester, M1 5bw 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: 10th April 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River 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 (NE)	250	2	383850 397410
5	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River 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)	255	2	383810 397455

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A13NE (NE)	259	2	383810 397460
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River 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	A13NW (NW)	304	2	383360 397425
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	307	2	383360 397430
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River 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	A13NW (NW)	307	2	383360 397430

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River Receiving Water: Tunnel To Medlock **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	316	2	383370 397450
6	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Into And/Or Watercourse 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	A13NW (NW)	316	2	383370 397450
7	**Discharge Consents** Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River Receiving Water: River Tib Culvert-Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A18SE (N)	306	2	383720 397550
8	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Unknown Receiving Water: Not Supplied **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A8NE (S)	325	2	383780 396840

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Unknown Receiving Water: Not Supplied **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A8NE (S)	330	2	383690 396810
10	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Unknown 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 (SE)	346	2	383870 396870
11	**Discharge Consents** Operator: Swinton Insurance Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Manually corrected supplier location	A14NW (NE)	372	2	384000 397400
12	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River Receiving Water: River Tib Culvert **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A18SE (N)	383	2	383790 397610

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	**Discharge Consents** Operator: Hanson Quarry Products Europe Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) 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 Environment: Freshwater Stream/River Receiving Water: Crowton Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	400	2	383300 397500
13	**Discharge Consents** Operator: Hanson Quarry Products Europe Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) 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 Environment: Freshwater Stream/River Receiving Water: Crowton Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	400	2	383300 397500
13	**Discharge Consents** Operator: Hanson Quarry Products Europe Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) 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 Environment: Freshwater Stream/River Receiving Water: Crowton Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	400	2	383300 397500
13	**Discharge Consents** Operator: Hanson Quarry Products Europe Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) 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: 8th March 2016 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Crowton Brook **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	400	2	383300 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**Discharge Consents** Operator: Manchester Metropolitan University Property Type: EDUCATION/NURSERY/SCHOOL/COLLEGE/UNI/TRAINING VENUE 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 Environment: Land/Soakaway Receiving Water: Groundwaters **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14SW (E)	408	2	384083 397072
14	**Discharge Consents** Operator: Manchester Metropolitan University Property Type: EDUCATION/NURSERY/SCHOOL/COLLEGE/UNI/TRAINING VENUE 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 Environment: Land/Soakaway Receiving Water: Groundwaters **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14SW (E)	411	2	384096 397114
15	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Lower Ormomd 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 Environment: Freshwater Stream/River 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 (E)	415	2	384070 397360
15	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River 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	A14NW (E)	421	2	384080 397350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Unknown 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)	523	2	384150 397440
16	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Freshwater Stream/River 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)	523	2	384150 397440
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Oxford Road/Grosvenor Street Cso Oxford Road, ., Manchester, Greater Manchester, M1 7dz Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0189 Permit Version: 3 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	533	2	384150 397460
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Oxford Road/Grosvenor Street Cso Oxford Road, ., Manchester, Greater Manchester, M1 7dz 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: 4th February 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	533	2	384150 397460

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Oxford/New Wakefild 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A14NW (NE)	533	2	384150 397460
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Oxford Road/Grosvenor Street Cso Oxford Road, ., Manchester, Greater Manchester, M1 7dz 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 Environment: Freshwater Stream/River 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)	533	2	384150 397460
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River 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)	570	2	384170 397500
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Unknown 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)	570	2	384170 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River 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)	578	2	384180 397500
18	**Discharge Consents** Operator: Manchester Metropolitan University Property Type: EDUCATION/NURSERY/SCHOOL/COLLEGE/UNI/TRAINING VENUE 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 Environment: Land/Soakaway Receiving Water: Groundwater Via A Borehole **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	561	2	383779 396591
19	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Unknown Receiving Water: Not Supplied **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A12NE (W)	619	2	382960 397280
20	**Discharge Consents** Operator: United Utilities Water Limited Property Type: PUMPING STATION ON SEWERAGE NETWORK (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 Environment: Canal Receiving Water: Bridgewater Canal **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	661	2	383120 397690

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	684	2	384300 397500
21	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	684	2	384300 397500
21	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14NW (NE)	684	2	384300 397500
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles Street Cso 7 Charles Street, ., ., Manchester, M1 7en Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0183 Permit Version: 3 Effective Date: 1st April 2018 Issued Date: 19th March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14NE (NE)	701	2	384320 397500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles Street Cso 7 Charles Street, ., ., Manchester, M1 7en 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: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14NE (NE)	701	2	384320 397500
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles Street Cso 7 Charles Street, ., ., Manchester, M1 7en 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 Environment: Freshwater Stream/River 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 (NE)	701	2	384320 397500
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles St Princess St Cso 28116 106 Princess Street, ., ., Manchester, M1 6ng 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: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14NE (NE)	715	2	384330 397510
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles St Princess St Cso 28116 106 Princess Street, ., ., Manchester, M1 6ng 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 Environment: Freshwater Stream/River 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 (NE)	715	2	384330 397510

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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: 1st January 2017 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A14NE (NE)	715	2	384330 397510
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Charles St Princess St Cso 28116 106 Princess Street, ., ., Manchester, M1 6ng Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0166 Permit Version: 3 Effective Date: 1st April 2018 Issued Date: 21st March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14NE (NE)	716	2	384330 397513
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked: Discharge ceased (Water Resources Act 1991, Schedule 10 & 6)** Positional Accuracy: Located by supplier to within 100m	A14NE (NE)	719	2	384330 397520
21	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A14NE (NE)	719	2	384330 397520

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Canal Receiving Water: Manchester Ship Canal **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	714	2	383110 396630
23	**Discharge Consents** Operator: British Broadcasting Corporation Property Type: LAND TRANSPORT + VIA PIPELINES/FREIGHT 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	739	2	384400 397400
24	**Discharge Consents** Operator: Charles Topham (Developments) Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) 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 Environment: Canal Receiving Water: Bridgewater Canal **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	755	2	383000 397700
24	**Discharge Consents** Operator: Rmc Roadstone Ltd - North West Property Type: MAKING OF GLASS/CERAMICS/CEMENT/CUTTING STONE 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 Environment: Canal Receiving Water: Bridgewater Canal **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	775	2	383000 397730

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	774	2	384400 397500
25	**Discharge Consents** Operator: Factory Communications Ltd Property Type: DOMESTIC PROPERTY (MULTIPLE) (INCL FARM HOUSES) 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	774	2	384400 397500
26	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Freshwater Stream/River 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	A14NE (E)	796	2	384450 397430
27	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or 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 Environment: Underground Water Receiving Water: Groundwater **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	797	2	384291 397734

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or 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 Environment: Underground Water 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)	797	2	384291 397734
27	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or 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 Environment: Underground Water 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)	797	2	384291 397734
27	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or 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 Environment: Underground Water Receiving Water: Groundwater **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	816	2	384306 397746
27	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or 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 Environment: Underground Water 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)	816	2	384306 397746

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	**Discharge Consents** Operator: West Contracting Limited Property Type: Undefined Or 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 Environment: Underground Water 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)	816	2	384306 397746
28	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Egerton St Worsley St Cso Egerton St And Worsley St, Cornbrook, A57 M, Manchester, M15 4lg 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: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River 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	A12NW (W)	847	2	382791 397530
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	848	2	382790 397530
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A12NW (W)	848	2	382790 397530

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	848	2	382790 397530
28	**Discharge Consents** Operator: United Utilities Water Plc (?) Property Type: WWTW/SEWAGE TREATMENT 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A12NW (W)	848	2	382790 397530
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Egerton St Worsley St Cso Egerton St And Worsley St, Cornbrook, A57 M, Manchester, M15 4lg Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 016983277 Permit Version: 2 Effective Date: 1st April 2018 Issued Date: 12th March 2018 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: The River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SW (W)	851	2	382787 397531
28	**Discharge Consents** Operator: United Utilities Water Limited Property Type: WWTW/SEWAGE TREATMENT WORKS (WATER COMPANY) Location: Egerton St/Worsley St, Manchester, Greater Manchester Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0181 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 Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent revoked or revised: New Consent issued (Section 37(1))** Positional Accuracy: Located by supplier to within 100m	A12NW (W)	857	2	382780 397530

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
29	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mount Street/Greek Street Cso Off Mancunian Way, ., Manchester, Greater Manchester, M1 7dn 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: 4th February 2016 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14NE (E)	862	2	384530 397390
29	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mount Street/Greek Street Cso Off Mancunian Way, ., Manchester, Greater Manchester, M1 7dn 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 Environment: Freshwater Stream/River 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)	862	2	384530 397390
29	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Mount Street/Greek Street Cso Off Mancunian Way, ., Manchester, Greater Manchester, M1 7dn Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0187 Permit Version: 3 Effective Date: 5th February 2016 Issued Date: 5th February 2016 Revocation Date: Not Supplied Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A14NE (E)	867	2	384541 397361
30	**Discharge Consents** Operator: Hanson Quarry Products Europe Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Potato Wharf, Off Liverpool Rd, Manchester, Greater Manchester, M3 4la Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 0175/5 Permit Version: 1 Effective Date: 20th January 1975 Issued Date: Not Supplied Revocation Date: 31st March 1991 Discharge Type: Trade Discharge - Process Water Discharge Environment: Freshwater Stream/River Receiving Water: Crowton Brook **Status: Authorisation revoked** Positional Accuracy: Manually corrected supplier location	A17SW (NW)	867	2	382800 397600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	**Discharge Consents** Operator: Hanson Quarry Products Europe Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Potato Wharf, Off Liverpool Rd, Manchester, Greater Manchester, M3 4la Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 0175/5 Permit Version: 4 Effective Date: 1st July 1995 Issued Date: Not Supplied Revocation Date: 8th March 2016 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Crowton Brook **Status: Surrendered under EPR 2010** Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	867	2	382800 397600
30	**Discharge Consents** Operator: Hanson Quarry Products Europe Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: Potato Wharf, Off Liverpool Rd, Manchester, Greater Manchester, M3 4la Authority: Environment Agency, North West Region Catchment Area: Not Given 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 Environment: Freshwater Stream/River Receiving Water: Crowton Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	867	2	382800 397600
30	**Discharge Consents** Operator: Hanson Quarry Products Europe Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) 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 Environment: Freshwater Stream/River Receiving Water: Crowton Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A17SW (NW)	867	2	382800 397600
31	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (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 Environment: Freshwater Stream/River 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)	923	2	384580 397440

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
32	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Grape Street Cso Grape Street, ., Manchester, Greater Manchester, M60 9ea Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0170 Permit Version: 3 Effective Date: 11th January 2017 Issued Date: 11th January 2017 Revocation Date: 31st March 2018 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Approximate location provided by supplier	A17NE (NW)	977	2	383000 398000
32	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Grape Street Cso Grape Street, ., Manchester, Greater Manchester, M60 9ea Authority: Environment Agency, North West Region Catchment Area: Not Supplied Reference: 01man0170 Permit Version: 2 Effective Date: 3rd September 2010 Issued Date: 3rd September 2010 Revocation Date: 10th January 2017 Discharge Type: Public Sewage: Storm Sewage Overflow Discharge Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Varied under EPR 2010** Positional Accuracy: Approximate location provided by supplier	A17NE (NW)	977	2	383000 398000
32	**Discharge Consents** Operator: United Utilities Water Limited Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY) Location: Grape Street Cso Grape Street, ., Manchester, Greater Manchester, M60 9ea Authority: Environment Agency, North West Region Catchment Area: Not Given Reference: 01MAN0170 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 Environment: Freshwater Stream/River Receiving Water: River Irwell **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A17NE (NW)	977	2	383000 398000
33	**Discharge Consents** Operator: Dandara Limited Property Type: WWTW (NOT WATER CO) (NOT STP AT A PRIVATE PREMISES) Location: St Georges Island Projects Office, Hulme Hall Road, Manchester, M15 4ly Authority: Environment Agency, North West Region Catchment Area: Irwell Reference: 016993598 Permit Version: 1 Effective Date: 14th September 2004 Issued Date: 14th September 2004 Revocation Date: 14th January 2005 Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: River Medlock **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A11NE (W)	994	2	382610 397450
34	**Enforcement and Prohibition Notices** Location: Manchester Children's Hospital, Gartside Street, MANCHESTER, M3 3FJ Permit Reference: Not Given Enforcement Date: 4th August 1995 Details: Press Release HM269, Breach of conditions relating to accumulation & disposal of radioactive wastes; under RSA93. Positional Accuracy: Unknown	A17NE (N)	955	2	383285 398129

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	**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 revoked** Positional Accuracy: Automatically positioned to the address	A13SE (E)	106	3	383796 397169
36	**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 revoked** Positional Accuracy: Manually positioned to the address or location	A13NE (E)	222	3	383890 397289
37	**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 (NW)	335	3	383280 397369
38	**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 revoked** Positional Accuracy: Located by supplier to within 10m	A18SE (NE)	643	3	383915 397839
39	**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)	814	3	382848 397577
40	**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	A18NE (N)	967	3	383845 398199
	Nearest Surface Water Feature	A13NW (N)	148	-	383566 397370
41	**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)	76	2	383500 397200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	**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	A13NW (NW)	258	2	383400 397400
43	**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	A13NW (NW)	334	2	383300 397400
44	**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	A13NW (NW)	339	2	383400 397500
45	**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)	593	2	384200 397495
45	**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)	596	2	384200 397500
46	**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	A12SE (W)	612	2	383000 397000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	**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)	684	2	384300 397500
48	**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	A14NE (E)	774	2	384400 397500
49	**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)	835	2	384500 397400
50	**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: 27th October 1992 Incident Reference: 92741897 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	A12NW (W)	880	2	382700 397300
51	**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)	907	2	384500 397600
52	**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	A19SE (NE)	924	2	384400 397800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
53	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Not Given Note: None Pollution Found Incident Date: 27th October 1992 Incident Reference: 92741898 Catchment Area: Bridgewater Canal Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A11NE (W)	974	2	382605 397295
53	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Unknown Note: Bridgewater Canal Incident Date: 20th April 1995 Incident Reference: 95650862 Catchment Area: Bridgewater 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	A11NE (W)	979	2	382600 397295
53	**Pollution Incidents to Controlled Waters** Property Type: Private Sewage: Sewage Works And Septic Tanks Location: Location Description Not Available Authority: Environment Agency, North West Region Pollutant: Unknown Sewage Note: Not Supplied Incident Date: 8th November 1992 Incident Reference: 92611933 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	A11NE (W)	979	2	382600 397300
54	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Greater Manchester Authority: Environment Agency, North West Region Pollutant: Chemicals - Detergents/Surfactant Note: Manchester Ship Canal; Detergent Incident Date: 1st February 1996 Incident Reference: 96650187 Catchment Area: Manchester Ship Canal Receiving Water: Not Given Cause of Incident: Not Given Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A11NE (W)	993	2	382600 397400
55	**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 variation** Positional Accuracy: Automatically positioned to the address	A14NW (E)	379	2	384070 397222
55	**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: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status:** **Application has been determined by the EA** Positional Accuracy: Automatically positioned to the address	A14NW (E)	379	2	384069 397222

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
55	**Registered Radioactive Substances** Name: Manchester Metropolitan University Location: John Dalton Building, Chester Street, Manchester, M1 5gd Authority: Environment Agency, North West Region Permit Reference: BI0324 Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Application has been determined by the EA** Positional Accuracy: Automatically positioned to the address	A14NW (E)	379	2	384069 397222
55	**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 variation** Positional Accuracy: Automatically positioned to the address	A14NW (E)	380	2	384070 397222
55	**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 variation** Positional Accuracy: Automatically positioned to the address	A14NW (E)	380	2	384070 397222
55	**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 variation** Positional Accuracy: Automatically positioned to the address	A14NW (E)	380	2	384070 397222
55	**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 variation** Positional Accuracy: Automatically positioned to the address	A14NW (E)	380	2	384070 397222
56	**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 variation** Positional Accuracy: Manually positioned to the address or location	A14NE (E)	849	2	384477 397512

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
56	**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 variation** Positional Accuracy: Manually positioned to the address or location	A14NE (E)	850	2	384478 397512
56	**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 variation** Positional Accuracy: Manually positioned to the address or location	A14NE (E)	850	2	384478 397512
56	**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 cancelled** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	866	2	384500 397500
56	**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 cancelled** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	866	2	384500 397500
57	**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 cancelled** Positional Accuracy: Manually positioned to the address or location	A14NE (E)	958	2	384612 397456
58	**Registered Radioactive Substances** Name: The University Of Manchester Location: North Campus, Manchester, M1 3bu Authority: Environment Agency, North West Region Permit Reference: Bx8661 Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Application has been determined by the EA** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	970	2	384600 397530
58	**Registered Radioactive Substances** Name: The University Of Manchester Location: North Campus, Manchester, M1 3bu Authority: Environment Agency, North West Region Permit Reference: Bx8645 Dated: Not Supplied Process Type: Not Supplied Description: Not Supplied **Status: Application has been determined by the EA** Positional Accuracy: Located by supplier to within 100m	A14NE (E)	970	2	384600 397530

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
59	**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 operator** Positional Accuracy: Automatically positioned to the address	A9NE (E)	992	2	384615 396824
59	**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 variation** Positional Accuracy: Automatically positioned to the address	A9NE (E)	992	2	384615 396824
59	**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 operator** Positional Accuracy: Automatically positioned to the address	A9NE (E)	992	2	384615 396824
59	**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 variation** Positional Accuracy: Automatically positioned to the address	A9NE (E)	992	2	384615 396824
59	**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 variation** Positional Accuracy: Automatically positioned to the address	A9NE (E)	992	2	384615 396824
	River Quality Name: Medlock GQA Grade: River Quality E Reach: Lords Bk To Irwell Estimated Distance (km): 9.5 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A13NW (N)	22	2	383620 397265
	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)	221	2	383602 396916

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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)	259	2	383635 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	A13NW (NW)	305	2	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	A12NE (NW)	654	2	382988 397498
	River Quality Name: Irwell (Msc) GQA Grade: River Quality E Reach: Salford University To Salford Docks Estimated Distance (km): 8.2 Flow Rate: Flow less than 40 cumecs Flow Type: River Year: 2000	A11NE (W)	975	2	382618 397398

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
60	**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	A18SW (NW)	425	2	383330 397558
61	**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	A14NW (E)	308	2	384000 397200

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: 1st January 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NE (S)	397	2	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: 1st January 2015 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NE (S)	397	2	383715 396746
63	**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)	497	2	384180 397091
63	**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)	497	2	384180 397091

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
63	**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)	497	2	384180 397091
63	**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)	497	2	384180 397091
64	**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	A19SW (NE)	631	2	384100 397700
65	**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	A19SE (NE)	867	2	384378 397733

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
65	**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	A19SE (NE)	867	2	384378 397733
66	**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	A19NW (NE)	871	2	384100 398000
	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)	1092	2	382500 397400
	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	A23SW (N)	1108	2	383335 398310

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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	A23SW (N)	1108	2	383335 398310
	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)	1247	2	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)	1247	2	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)	1262	2	383900 395900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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)	1262	2	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: 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)	1262	2	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)	1262	2	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)	1262	2	383900 395900

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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)	1262	2	383900 395900
	Water Abstractions Operator: Hydes Brewery Ltd Licence Number: 2569007009 Permit Version: 103 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: 19th July 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A2NE (S)	1347	2	383220 395850
	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 (S)	1347	2	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 (S)	1347	2	383220 395850

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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 (S)	1347	2	383220 395850
	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	A23NE (N)	1450	2	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	A23NE (N)	1450	2	383700 398700
	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)	1588	2	385240 397540

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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)	1616	2	383200 398800
	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)	1781	2	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)	1781	2	382190 398330
	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)	1781	2	382190 398330

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: 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)	1946	2	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)	1946	2	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)	1946	2	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)	1946	2	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: 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)	1946	2	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)	1946	2	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)	1977	2	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: 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)	1977	2	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: 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)	1977	2	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)	1977	2	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)	1977	2	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: 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)	1977	2	383830 399220

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: >70% Superficial Patchiness: <90% Superficial Thickness: 3-10m Superficial Recharge: High	A13SE (NW)	0	4	383635 397193
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13SE (NW)	0	4	383635 397193
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (NW)	0	4	383635 397193
67	**Source Protection Zones** Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A13NE (E)	106	2	383791 397231
	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)	120	2	383771 397302
	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 (N)	144	2	383566 397369
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (N)	145	2	383565 397369
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NE (NE)	233	2	383831 397406
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 231.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13NW (N)	153	5	383595 397393
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 295.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13NW (NW)	154	5	383559 397373

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 207.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13NE (NE)	238	5	383835 397410
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13NW (NW)	299	5	383376 397433
72	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 282.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A18SE (N)	302	5	383646 397553
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 37.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13NW (NW)	303	5	383374 397438
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 236.6 Watercourse Level: Underground Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13NE (NE)	319	5	383950 397381
75	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 594.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A18SE (NE)	332	5	383808 397546
76	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A18SE (NE)	332	5	383808 397546
77	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 4.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A18SW (N)	336	5	383528 397561
78	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 48.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A18SW (N)	338	5	383524 397561

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13NW (NW)	341	5	383351 397468
80	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 31.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A18SW (NW)	360	5	383476 397563
81	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A18SW (NW)	360	5	383476 397563
82	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 19.1 Watercourse Level: Underground Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13NW (NW)	369	5	383331 397487
83	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 147.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A18SW (NW)	373	5	383445 397562
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 47.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A13NW (NW)	387	5	383315 397496
85	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 284.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bridgewater Canal Catchment Name: Mersey Primacy: 1	A12NE (NW)	425	5	383276 397512
86	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 22.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bridgewater Canal Catchment Name: Mersey Primacy: 2	A12NE (NW)	425	5	383276 397512
87	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 31.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bridgewater Canal Catchment Name: Mersey Primacy: 2	A17SE (NW)	435	5	383281 397531

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 9.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bridgewater Canal Catchment Name: Mersey Primacy: 2	A17SE (NW)	455	5	383287 397562
89	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 21.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A18SW (NW)	455	5	383299 397572
90	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 31.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A18SW (NW)	455	5	383299 397572
91	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 209.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A17SE (NW)	463	5	383278 397565
92	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 93.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14NW (NE)	475	5	384115 397404
93	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14NW (NE)	555	5	384163 397482
94	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 264.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14NW (NE)	563	5	384167 397492
95	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 47.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bridgewater Canal Catchment Name: Mersey Primacy: 1	A17SE (NW)	612	5	383072 397559
96	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 93.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bridgewater Canal Catchment Name: Mersey Primacy: 1	A17SE (NW)	654	5	383035 397579

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
97	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 52.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A17SE (NW)	654	5	383035 397579
98	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 49.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NE (NW)	675	5	382971 397513
99	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A18NW (N)	684	5	383601 397932
100	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 74.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 2	A17SE (NW)	697	5	383017 397629
101	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 9.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A17SE (NW)	697	5	383017 397629
102	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 58.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 2	A17SE (NW)	701	5	383020 397638
103	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 70.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A17SE (NW)	701	5	383020 397638
104	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 176.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14NE (E)	705	5	384362 397407
105	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 14.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14NE (NE)	713	5	384325 397516

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
106	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1011.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A14NE (NE)	713	5	384325 397516
107	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 200.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bridgewater Canal Catchment Name: Mersey Primacy: 1	A17SW (NW)	718	5	382945 397555
108	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 113.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A17SW (NW)	718	5	382945 397555
109	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 78.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A17SE (NW)	719	5	383057 397708
110	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 78.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A17SE (NW)	722	5	383047 397703
111	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 2	A17SE (NW)	754	5	382989 397685
112	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 2	A17SE (NW)	757	5	382980 397679
113	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 48.8 Watercourse Level: Underground Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 2	A17SE (NW)	757	5	382980 397679
114	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 536.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A14NE (E)	768	5	384422 397426

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
115	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 47.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (W)	803	5	382802 397427
116	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 448.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 2	A17SW (NW)	805	5	382949 397716
117	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6195.1 Watercourse Level: Underground Permanent: True Watercourse Name: Corn Brook Catchment Name: Mersey Primacy: 1	A9NE (SE)	832	5	384319 396633
118	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 187.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bridgewater Canal Catchment Name: Mersey Primacy: 1	A12NW (W)	843	5	382770 397461
119	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 120.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 2	A12NW (W)	843	5	382770 397461
120	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A19SE (NE)	863	5	384336 397782
121	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 43.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A19SE (NE)	863	5	384336 397782
122	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 86.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (W)	901	5	382675 397260
123	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 13.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A19SE (NE)	904	5	384366 397812

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
124	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 16.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (W)	918	5	382679 397410
125	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 257.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Rochdale Canal Catchment Name: Aire and Calder Primacy: 1	A19SE (NE)	918	5	384375 397822
126	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 69.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Mersey Primacy: 1	A12NW (W)	931	5	382667 397417
127	**OS Water Network Lines** Watercourse Form: Canal Watercourse Length: 153.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Bridgewater Canal Catchment Name: Mersey Primacy: 1	A12NW (W)	950	5	382633 397334
128	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 55.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: River Medlock Catchment Name: Mersey Primacy: 1	A12NW (W)	982	5	382623 397454

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
129	**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 Type: Deposited Waste included Inert and Industrial Waste 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)	916	2	383524 396226
130	**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	A14NW (NE)	358	2	383998 397374
131	**Licensed Waste Management Facilities (Locations)** Licence Number: 50480 Location: Mobile Plant Permit Operator Name: Soil & Water Remediation Ltd Operator Location: Not Supplied Authority: Environment Agency - North West Region, South Area Site Category: Mobile Plant **Licence Status: Transferred** Issued: 12th December 2006 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	A17SW (NW)	905	2	382841 397739
	Local Authority Landfill Coverage Name: Manchester City Council - Had landfill data but passed it to the relevant environment agency		0	6	383635 397193
	Local Authority Landfill Coverage Name: Trafford Metropolitan Borough Council - Has not been able to supply Landfill data		959	7	382840 396569
132	**Potentially Infilled Land (Non-Water)** Bearing Ref: NW Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A12NE (NW)	590	-	383044 397469
133	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1994	A12NW (W)	718	-	382872 397358
134	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A13NE (N)	96	-	383670 397346
135	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A13NW (NW)	156	-	383440 397289
136	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A13NE (NE)	268	-	383864 397422

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A13NE (NE)	279	-	383872 397429
138	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A13NW (NW)	307	-	383365 397434
139	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A13NE (NE)	315	-	383948 397376
140	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A18SE (NE)	332	-	383807 397547
141	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A18SE (NE)	459	-	383844 397670
142	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A18SE (N)	476	-	383777 397711
143	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1896	A19SW (NE)	516	-	383971 397660
144	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (S)	561	-	383579 396577
145	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12NE (NW)	597	-	383044 397482
146	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NE (S)	614	-	383771 396536
147	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A17SE (NW)	621	-	383100 397610
148	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SW (NE)	636	-	384132 397674
149	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (NE)	677	-	384172 397690
150	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A17SE (NW)	705	-	383021 397645
151	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SW (NE)	713	-	384151 397766
152	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A17SW (NW)	728	-	382939 397565
153	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A17SW (NW)	748	-	382907 397547
154	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A14NE (E)	753	-	384411 397412
155	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9NW (SE)	766	-	384164 396570
156	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12NW (W)	796	-	382782 397279
157	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NW (SW)	883	-	382858 396678

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
158	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A12SW (W)	915	-	382684 397003
159	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A9NE (SE)	965	-	384559 396762
160	**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 Restrictions: No known restriction on source of waste Licence Status: Site exempt from licenceExempt Dated: 1st May 1993 Preceded By Licence: Not Given Superseded By Licence: Not Given 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)	864	2	382903 397754
161	**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 Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st May 1996 Preceded By Licence: Not Given Superseded By Licence: Not Given 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.	A17SE (NW)	799	2	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)	A13SE (NW)	0	1	383635 397193
	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: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SE (NW)	0	1	383635 397193
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: <15 mg/kg	A13NW (NW)	361	1	383337 397482
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18SE (NE)	398	1	383919 397551
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A18SE (NE)	399	1	383940 397533
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A14NW (E)	435	1	384098 397345
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A14NW (E)	481	1	384169 397246

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 Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 30 - 45 mg/kg	A18SE (N)	527	1	383646 397777
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 45 - 60 mg/kg	A14SE (E)	704	1	384370 397000
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 25 - 35 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A18NW (N)	753	1	383589 398000
	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 Concentration: 22.80 mg/kg Cadmium Measured Concentration: 1.10 mg/kg Chromium Measured Concentration: 108.60 mg/kg Lead Measured Concentration: 284.90 mg/kg Nickel Measured Concentration: 30.40 mg/kg	A13SE (E)	61	1	383750 397170
	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: 27.60 mg/kg Cadmium Measured Concentration: 1.70 mg/kg Chromium Measured Concentration: 66.10 mg/kg Lead Measured Concentration: 192.60 mg/kg Nickel Measured Concentration: 25.30 mg/kg	A8NW (SW)	434	1	383340 396800

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: 383760, 396710 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 14.70 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 38.70 mg/kg Lead Measured Concentration: 110.90 mg/kg Nickel Measured Concentration: 13.20 mg/kg	A8NE (S)	441	1	383760 396710
	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: 18.20 mg/kg Cadmium Measured Concentration: 0.70 mg/kg Chromium Measured Concentration: 64.00 mg/kg Lead Measured Concentration: 158.90 mg/kg Nickel Measured Concentration: 27.00 mg/kg	A12NE (W)	505	1	383070 397210
	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 Concentration: 11.90 mg/kg Cadmium Measured Concentration: 0.30 mg/kg Chromium Measured Concentration: 55.90 mg/kg Lead Measured Concentration: 102.20 mg/kg Nickel Measured Concentration: 17.80 mg/kg	A18SE (NE)	565	1	383880 397770
	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: 16.40 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 48.80 mg/kg Lead Measured Concentration: 147.70 mg/kg Nickel Measured Concentration: 21.10 mg/kg	A17SE (NW)	588	1	383250 397700
	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: 12.70 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 66.10 mg/kg Lead Measured Concentration: 64.40 mg/kg Nickel Measured Concentration: 18.50 mg/kg	A14NE (E)	743	1	384430 397270

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: 384270, 396640 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 31.40 mg/kg Cadmium Measured Concentration: 1.70 mg/kg Chromium Measured Concentration: 63.00 mg/kg Lead Measured Concentration: 203.20 mg/kg Nickel Measured Concentration: 26.60 mg/kg	A9NW (SE)	790	1	384270 396640
	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: 26.50 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 76.20 mg/kg Lead Measured Concentration: 272.90 mg/kg Nickel Measured Concentration: 32.60 mg/kg	A8SE (S)	846	1	383660 396290
	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: 10.10 mg/kg Cadmium Measured Concentration: 0.50 mg/kg Chromium Measured Concentration: 42.80 mg/kg Lead Measured Concentration: 70.60 mg/kg Nickel Measured Concentration: 12.90 mg/kg	A12SW (W)	851	1	382800 396860
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 382680, 397160 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 14.90 mg/kg Cadmium Measured Concentration: 0.70 mg/kg Chromium Measured Concentration: 55.90 mg/kg Lead Measured Concentration: 208.80 mg/kg Nickel Measured Concentration: 18.10 mg/kg	A12SW (W)	896	1	382680 397160
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 382820, 397770 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 20.00 mg/kg Cadmium Measured Concentration: 1.00 mg/kg Chromium Measured Concentration: 68.10 mg/kg Lead Measured Concentration: 232.70 mg/kg Nickel Measured Concentration: 25.60 mg/kg	A17SW (NW)	940	1	382820 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: 383250, 396270 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 15.80 mg/kg Cadmium Measured Concentration: 0.60 mg/kg Chromium Measured Concentration: 63.00 mg/kg Lead Measured Concentration: 319.40 mg/kg Nickel Measured Concentration: 23.70 mg/kg	A7SE (SW)	941	1	383250 396270
	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: 34.90 mg/kg Cadmium Measured Concentration: 1.90 mg/kg Chromium Measured Concentration: 78.20 mg/kg Lead Measured Concentration: 339.10 mg/kg Nickel Measured Concentration: 32.10 mg/kg	A19SE (NE)	954	1	384430 397810
	BGS Measured Urban Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Grid: 383120, 398090 Soil Sample Type: Topsoil Sample Area: Manchester Arsenic Measured Concentration: 28.10 mg/kg Cadmium Measured Concentration: 0.90 mg/kg Chromium Measured Concentration: 66.10 mg/kg Lead Measured Concentration: 436.60 mg/kg Nickel Measured Concentration: 32.50 mg/kg	A17NE (NW)	991	1	383120 398090
	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: 20.00 mg/kg Lead Average Concentration: 270.00 mg/kg Lead Maximum Concentration: 2687.00 mg/kg Nickel Minimum Concentration: 5.00 mg/kg Nickel Average Concentration: 32.00 mg/kg Nickel Maximum Concentration: 137.00 mg/kg	A13SE (NW)	0	1	383635 397193

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	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.	A13SE (NW)	0	8	383635 397193
	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	A13SE (NW)	0	1	383635 397193
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	383635 397193
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	31	1	383674 397276
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	383635 397193
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	383635 397193
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	383635 397193
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	383635 397193
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	109	1	383701 397041
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	383635 397193
	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	A13SE (NW)	0	1	383635 397193

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
162	**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 (NW)	62	-	383522 397242
163	**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 (N)	63	-	383625 397305
164	**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 (SW)	85	-	383555 397075
165	**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)	111	-	383510 397300
166	**Contemporary Trade Directory Entries** Name: Auto Trader Location: 1, Tony Wilson Place, Manchester, M15 4FN Classification: Car Customisation & Conversion Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	143	-	383735 397371
166	**Contemporary Trade Directory Entries** Name: Autotrader Location: 1, Tony Wilson Place, Manchester, M15 4FN Classification: Car Customisation & Conversion Specialists **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	150	-	383729 397382
167	**Contemporary Trade Directory Entries** Name: Pest Control Manchester Location: 14, Commercial Street, Manchester, M15 4PZ Classification: Pest & Vermin Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	177	-	383497 397369
167	**Contemporary Trade Directory Entries** Name: Everything Mirror Location: 14, Commercial Street, Manchester, M15 4PZ Classification: Mirrors & Decorative Glass **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	177	-	383497 397369
167	**Contemporary Trade Directory Entries** Name: Manchester Pest Control Location: 14, Commercial Street, Manchester, M15 4PZ Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	187	-	383460 397358
168	**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 (E)	197	-	383881 397130
169	**Contemporary Trade Directory Entries** Name: Hunters Contracts Ltd Location: MacIntosh House, 4a, Cambridge Street, Manchester, M1 5GG Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (E)	254	-	383916 397306
170	**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)	261	-	383493 397460

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
170	**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	A13NW (NW)	267	-	383457 397450
170	**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	A13NW (NW)	289	-	383462 397477
171	**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	A13NW (W)	265	-	383320 397283
171	**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	A13NW (W)	265	-	383320 397283
172	**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 (NE)	277	-	383844 397455
172	**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 (NE)	277	-	383844 397455
172	**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 (NE)	277	-	383844 397455
172	**Contemporary Trade Directory Entries** Name: 24 Design Ltd Location: Hotspur House, 2, Gloucester Street, Manchester, Lancashire, M1 5QR Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	277	-	383844 397455
173	**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	A13NE (N)	283	-	383721 397526
174	**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	A13NW (NW)	296	-	383389 397440
175	**Contemporary Trade Directory Entries** Name: Hobs Legal Docs Location: 4, Whitworth Street West, Manchester, M1 5WY Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13NW (N)	297	-	383532 397520

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
175	**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 (N)	297	-	383505 397506
175	**Contemporary Trade Directory Entries** Name: Anexsys Location: 4, Whitworth Street West, Manchester, M1 5WY Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	298	-	383532 397520
176	**Contemporary Trade Directory Entries** Name: Residential Real Estate Management Location: Student Village, Lower Chatham Street, Manchester, M1 5SX Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	297	-	383973 397285
177	**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	A18SE (N)	324	-	383661 397574
177	**Contemporary Trade Directory Entries** Name: Simon & Simon Location: Lock 90,Trumpet Street, Manchester, Greater Manchester, M1 5LW Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SE (N)	325	-	383683 397574
178	**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 (N)	328	-	383608 397575
178	**Contemporary Trade Directory Entries** Name: Bauer Millett & Co Ltd Location: Lawrence House, 8, Albion Street, Manchester, M1 5NZ Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	362	-	383592 397607
179	**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 (NW)	335	-	383280 397369
180	**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: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	349	-	383561 396793
181	**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	A14NW (E)	362	-	384044 397273
182	**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: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	372	-	383296 396943
183	**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 (NE)	373	-	383939 397495

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
183	**Contemporary Trade Directory Entries** Name: Smiler Service Location: Flat 111, The Lock Building, 41, Whitworth Street West, Manchester, M1 5BD Classification: Freight Forwarders **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	398	-	383933 397538
183	**Contemporary Trade Directory Entries** Name: Bandbox Laundry Premier Outlet Location: Unit C 41 Whitworth Street, Manchester, Greater Manchester, M1 5BE Classification: Laundry & Dry Cleaning Supplies **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	398	-	383933 397538
184	**Contemporary Trade Directory Entries** Name: Easy Wheels Location: 8, Lower Ormond Street, Manchester, M1 5QJ Classification: Confectionery Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	408	-	384078 397320
184	**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	A14NW (E)	408	-	384078 397320
184	**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	A14NW (E)	408	-	384078 397320
185	**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 (SE)	419	-	383943 396837
186	**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 (S)	428	-	383486 396730
187	**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 (N)	443	-	383561 397683
187	**Contemporary Trade Directory Entries** Name: Duffy Motors Manchester Ltd Location: Arch 16-17, Watson Street, Manchester, M3 4LP Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (N)	463	-	383562 397703
188	**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	A18SW (NW)	448	-	383381 397613
189	**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	A12NE (W)	468	-	383117 397307
190	**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	A14NW (NE)	470	-	384080 397457

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
191	**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)	484	-	383235 397554
192	**Contemporary Trade Directory Entries** Name: Dolly Tub Laundry Service Location: 1a, Bonsall Street, Manchester, M15 6DR Classification: Laundries & Launderettes **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	496	-	384034 396819
192	**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	A9NW (SE)	496	-	384034 396819
193	**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	A18SW (NW)	500	-	383347 397656
193	**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	A18SW (NW)	518	-	383368 397686
194	**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	A18SW (N)	504	-	383458 397713
195	**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)	511	-	384146 397423
196	**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	A19SW (NE)	543	-	384028 397647
197	**Contemporary Trade Directory Entries** Name: Isovitality Nutriceuticals Ltd Location: Great Northern Warehouse, 275, Deansgate, Manchester, M3 4EL Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (N)	548	-	383477 397768
197	**Contemporary Trade Directory Entries** Name: Timberwise Uk Ltd Location: Great Northern Warehouse, 275, Deansgate, Manchester, M3 4EL Classification: Damp & Dry Rot Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (N)	548	-	383477 397768
197	**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 (N)	549	-	383478 397769

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
197	**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 (N)	549	-	383478 397769
197	**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 (N)	549	-	383478 397769
197	**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: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	549	-	383478 397769
197	**Contemporary Trade Directory Entries** Name: Cushy Living Location: Unit 24 275, Manchester, Lancashire, M3 4EL Classification: Textile Manufacturing **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18SW (N)	549	-	383478 397769
197	**Contemporary Trade Directory Entries** Name: Freez Drinks Location: Great Northern Warehouse, 275, Deansgate, Manchester, Lancashire, M3 4EL Classification: Soft Drinks - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	549	-	383478 397769
197	**Contemporary Trade Directory Entries** Name: Bright & Beautiful Location: Box 106,275 Deansgate, Manchester, Greater Manchester, M3 4EL Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A18SW (N)	549	-	383478 397769
197	**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 (N)	549	-	383478 397769
197	**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 (N)	549	-	383478 397769
197	**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 (N)	549	-	383478 397769
197	**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 (N)	549	-	383478 397769
197	**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 (N)	564	-	383484 397787

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
198	**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)	561	-	384176 397471
199	**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)	561	-	384246 397276
200	**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	A9NW (SE)	582	-	384162 396839
201	**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	A12NE (W)	583	-	383021 397391
202	**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	A19SW (NE)	598	-	384075 397678
202	**Contemporary Trade Directory Entries** Name: Soleheat Location: St. James Buildings, 79, Oxford Street, Manchester, M1 6HT Classification: Under Floor Heating **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	598	-	384075 397678
202	**Contemporary Trade Directory Entries** Name: C H A Technologies Group Location: St. James Buildings, 79, Oxford Street, Manchester, M1 6FQ Classification: Textile Manufacturing **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	598	-	384075 397678
202	**Contemporary Trade Directory Entries** Name: Heatrise Location: St. James Buildings, 79, Oxford Street, Manchester, M1 6HT Classification: Under Floor Heating **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	598	-	384075 397678
202	**Contemporary Trade Directory Entries** Name: Faupel 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	A19SW (NE)	598	-	384075 397678
202	**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	A19SW (NE)	598	-	384075 397678
203	**Contemporary Trade Directory Entries** Name: K2 Legal Support Location: Castlefield House, Liverpool Road, Manchester, M3 4SB Classification: Copying & Duplicating Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (NW)	605	-	383334 397766
203	**Contemporary Trade Directory Entries** Name: Nu-Oil & Gas Plc Location: Fifth Floor, Castlefield House, Liverpool Road, Manchester, M3 4SB Classification: Oil & Gas Extraction **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (NW)	606	-	383333 397766

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
204	**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	A19SW (NE)	607	-	384027 397732
205	**Contemporary Trade Directory Entries** Name: D C Motor Engineers Location: 45, York Street, Manchester, M1 7DE Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	621	-	384226 397506
206	**Contemporary Trade Directory Entries** Name: Wise Pharmaceuticals Ltd Location: Oxford House, 16, Oxford Street, Manchester, M1 5AE Classification: Pharmaceutical Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	622	-	383944 397803
206	**Contemporary Trade Directory Entries** Name: Pest Solutions Ltd Location: Peter House,Oxford Street, Manchester, Greater Manchester, M1 5AN Classification: Pest & Vermin Control **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	653	-	383924 397846
206	**Contemporary Trade Directory Entries** Name: Scrap Yard In Manchester Htt Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	653	-	383924 397846
206	**Contemporary Trade Directory Entries** Name: Douglas Fir Ltd Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Electrical Goods Sales, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	653	-	383924 397846
206	**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 (NE)	654	-	383925 397847
206	**Contemporary Trade Directory Entries** Name: Joe Scrapping In Manchester Location: Peter House, Oxford Street, Manchester, M1 5AN Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (NE)	654	-	383925 397847
206	**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 (NE)	654	-	383925 397847
206	**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 (NE)	654	-	383925 397847
207	**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)	623	-	383833 397848
208	**Contemporary Trade Directory Entries** Name: Williams Land Rover Location: Birchall Way, Manchester, M15 6DU Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	626	-	383898 396562

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
209	**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)	630	-	384158 397633
209	**Contemporary Trade Directory Entries** Name: Aecon Location: Bridgewater House 58-60, Whitworth Street, Manchester, M1 6LT Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	640	-	384165 397640
210	**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	A14NE (E)	637	-	384328 397221
210	**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	A14NE (E)	637	-	384328 397221
211	**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	A18SW (N)	639	-	383376 397824
212	**Contemporary Trade Directory Entries** Name: M G Trading Castlefield Location: Flat 1, Ship Canal House, 25, Slate Wharf, Manchester, M15 4SX Classification: Toiletries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	647	-	383027 397554
213	**Contemporary Trade Directory Entries** Name: Buildings 2 Clean Location: 237-239, Deansgate, Manchester, M3 4EN Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	655	-	383521 397891
214	**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 (N)	657	-	383469 397880
215	**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)	668	-	383524 397905
215	**Contemporary Trade Directory Entries** Name: Hobs Reprographics Plc Location: 244, Deansgate, Manchester, M3 4BQ Classification: Copying & Duplicating Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	712	-	383503 397945
215	**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)	712	-	383503 397945
216	**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)	672	-	382944 396979

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
216	**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)	672	-	382944 396979
217	**Contemporary Trade Directory Entries** Name: Spamedica Location: Unit 2 Citygate Central,Blantyre Street, Manchester, Greater Manchester, M15 4SQ Classification: Hospitals **Status:** **Active** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	675	-	382924 397390
218	**Contemporary Trade Directory Entries** Name: R M R I Ltd Location: 44, Peter Street, Manchester, Lancashire, M2 5GP Classification: Materials Handling Equipment **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	680	-	383661 397930
218	**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	A18NE (N)	686	-	383644 397937
219	**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	A18NE (N)	691	-	383770 397932
219	**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	A18NE (N)	712	-	383742 397958
220	**Contemporary Trade Directory Entries** Name: Paragon Service Point Location: Liverpool Road, Manchester, M3 4AQ Classification: Printers **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	694	-	383162 397768
221	**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	A18NW (N)	696	-	383419 397905
222	**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)	697	-	382895 397060
222	**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)	697	-	382895 397060
223	**Contemporary Trade Directory Entries** Name: Feather Brooksbank Location: 117-119, Portland Street, Manchester, M1 6ED Classification: Tungsten Tool Manufacturers & Distributors **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	705	-	384105 397794

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
223	**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	A19SW (NE)	742	-	384124 397827
223	**Contemporary Trade Directory Entries** Name: Operations Abroad Ltd Location: Gainsborough House, 109, Portland Street, Manchester, M1 6DN Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	742	-	384124 397827
224	**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	A18NW (N)	717	-	383367 397905
225	**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)	717	-	384296 397577
225	**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)	718	-	384297 397578
225	**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)	733	-	384288 397624
225	**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	A19SE (NE)	770	-	384333 397620
225	**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	A19SE (NE)	770	-	384333 397620
225	**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	A19SE (NE)	770	-	384333 397620
225	**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	A19SE (NE)	770	-	384333 397620
226	**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	A14SE (E)	719	-	384404 397085
227	**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	A14SE (E)	735	-	384426 397144

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
228	**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)	737	-	382839 397243
229	**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)	750	-	382932 397597
230	**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)	751	-	382834 397329
230	**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)	751	-	382834 397329
230	**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)	751	-	382834 397329
230	**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	A12NW (W)	796	-	382787 397327
231	**Contemporary Trade Directory Entries** Name: Great Man Beer Location: Castlefield, Manchester, Greater Manchester, M3 4BB Classification: Brewers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A17SE (NW)	755	-	382962 397651
232	**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	A7NE (SW)	759	-	383003 396685
233	**Contemporary Trade Directory Entries** Name: Call Print Location: 198, Deansgate, Manchester, M3 3NE Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	777	-	383526 398016
233	**Contemporary Trade Directory Entries** Name: Call Print Location: 198, Deansgate, MANCHESTER, M3 3NE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	777	-	383526 398016
233	**Contemporary Trade Directory Entries** Name: Proteintech Europe Location: 196, Deansgate, Manchester, M3 3WF Classification: Laboratory Equipment, Instruments & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	782	-	383525 398021
233	**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)	823	-	383520 398062

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
234	**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:** **Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18NE (N)	778	-	383774 398020
235	**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)	784	-	384170 397844
235	**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)	784	-	384170 397844
235	**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)	784	-	384170 397844
235	**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)	784	-	384170 397844
235	**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)	784	-	384170 397844
235	**Contemporary Trade Directory Entries** Name: London Global Location: 40 Princess Street, Manchester, Greater Manchester, M1 6DE Classification: Printers **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	784	-	384170 397844
235	**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	A19SW (NE)	822	-	384208 397860
236	**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)	785	-	382792 397262
236	**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)	785	-	382792 397262
237	**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	A18NW (N)	799	-	383394 398004
237	**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	A18NW (N)	824	-	383345 398013

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
238	**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)	804	-	384240 397804
239	**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	A14SE (E)	805	-	384497 397179
239	**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	A14SE (E)	814	-	384506 397177
239	**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	A14SE (E)	815	-	384507 397176
239	**Contemporary Trade Directory Entries** Name: Final Print Location: Grosvenor Street,All Saints, Manchester, Greater Manchester, M1 7HL Classification: Printers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	817	-	384509 397178
239	**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	A14SE (E)	817	-	384509 397178
239	**Contemporary Trade Directory Entries** Name: Wildwood Charcoal & Coppice Products Location: 53 Warehead Cottages, Halnaker, Chichester, West Sussex, PO18 0NF Classification: Coal & Smokeless Fuel Merchants & Distributors **Status: Active** Positional Accuracy: Manually positioned to the address or location	A14SE (E)	817	-	384509 397178
240	**Contemporary Trade Directory Entries** Name: Boda Skins Location: Lloyds House, 18-22, Lloyd Street, Manchester, M2 5WA Classification: Leather Garments & Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NE (N)	806	-	383718 398054
240	**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	A18NE (N)	806	-	383718 398054
241	**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)	810	-	383473 398039
242	**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: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A18NE (N)	824	-	383667 398074

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
242	**Contemporary Trade Directory Entries** Name: The Leaflet Company Location: Manchester, M2 5ND Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	824	-	383667 398074
243	**Contemporary Trade Directory Entries** Name: Hanson Concrete Location: Potato Wharf, Manchester, M3 4NB Classification: Concrete Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	828	-	382836 397584
244	**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	A12SW (W)	832	-	382743 397191
244	**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	A12SW (W)	832	-	382743 397191
244	**Contemporary Trade Directory Entries** Name: Jook Design Location: Unit 2, Bentinck Street Industrial Estate, MANCHESTER, M15 4LN Classification: Soft Furnishings - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	851	-	382725 397179
244	**Contemporary Trade Directory Entries** Name: Lloyd Worrall (Manchester) Ltd Location: Unit 1/2, Bentinck Street Industrial Estate, Manchester, M15 4LN Classification: Hardware **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	874	-	382702 397166
245	**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	A12NW (W)	842	-	382735 397264
245	**Contemporary Trade Directory Entries** Name: In Situ Location: Talbot Mill,44 Ellesmere St, Manchester, Lancashire, M15 4FY Classification: Salvage Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	857	-	382720 397271
245	**Contemporary Trade Directory Entries** Name: Eagle Knitwear Location: Talbot Mill, 44, Ellesmere Street, Manchester, M15 4JY Classification: Knitting Yarn Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	860	-	382717 397268
245	**Contemporary Trade Directory Entries** Name: Batian Engineering Location: Talbot Mill, 44, Ellesmere Street, Manchester, M15 4JY Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	860	-	382717 397268
245	**Contemporary Trade Directory Entries** Name: A & M Reproductions Location: Talbot Mill, 44, Ellesmere Street, Manchester, M15 4JY Classification: Furniture - Reproduction **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	860	-	382717 397268
245	**Contemporary Trade Directory Entries** Name: Advance Knitwear Location: Talbot Mill, 44, Ellesmere Street, Manchester, M15 4JY Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	860	-	382717 397268

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
245	**Contemporary Trade Directory Entries** Name: M & R Textiles Ltd Location: Talbot Mill, 44, Ellesmere Street, Manchester, Lancashire, M15 4JY Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	860	-	382717 397268
245	**Contemporary Trade Directory Entries** Name: Vacuum Scientific Services Ltd Location: Talbot Mill, 44, Ellesmere Street, Manchester, M15 4JY Classification: Scientific Apparatus & Instruments - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	860	-	382717 397268
245	**Contemporary Trade Directory Entries** Name: S Ryan Location: Talbot Mill, 44, Ellesmere Street, Manchester, M15 4JY Classification: Window Frame Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	860	-	382717 397268
245	**Contemporary Trade Directory Entries** Name: Kyran Hall Art Glass Studio Location: Talbot Mill, 44, Ellesmere Street, Manchester, Lancashire, M15 4JY Classification: Stained Glass Designers & Producers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	860	-	382717 397268
245	**Contemporary Trade Directory Entries** Name: Fast Track Upvc Location: Floor 1, Unit 2,Talbot Mill,Ellesmere St, Manchester, Lancashire, M15 4JY Classification: Window Frame Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12NW (W)	894	-	382683 397275
246	**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)	847	-	384296 397807
247	**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)	865	-	383867 398089
248	**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	A19SE (NE)	866	-	384447 397612
249	**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)	866	-	382914 397769
250	**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)	872	-	384143 397975
251	**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	A17SE (NW)	872	-	382968 397836
252	**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)	872	-	383940 396315

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
253	**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: Automatically positioned to the address	A19SE (NE)	877	-	384358 397778
253	**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	A19SE (NE)	877	-	384358 397778
253	**Contemporary Trade Directory Entries** Name: Kdp (Uk) Ltd Location: 36, Canal Street, Manchester, M1 3WD Classification: Non-Ferrous Metals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	892	-	384346 397818
254	**Contemporary Trade Directory Entries** Name: Till & Whitehead Ltd Location: Ellesmere Street, Manchester, Lancashire, M15 4JX Classification: Hardware **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	885	-	382690 397218
254	**Contemporary Trade Directory Entries** Name: Grove Galleries Ltd Location: Phoenix House, Ellesmere Street, Manchester, M15 4JY Classification: Art Restoration & Picture Cleaning **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	904	-	382671 397210
254	**Contemporary Trade Directory Entries** Name: G & M Knitwear Ltd Location: Hulme Hall Road, Manchester, M15 4LY Classification: Knitwear Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	942	-	382634 397188
255	**Contemporary Trade Directory Entries** Name: E A P International Ltd Location: Unit 6, Manchester Industrial Centre, Water Street, Manchester, Lancashire, M3 4JW Classification: Rubber & Plastic Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	889	-	382793 397634
255	**Contemporary Trade Directory Entries** Name: Robins & Day Location: Unit 6, Manchester Industrial Centre, Water Street, Manchester, M3 4JW Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	889	-	382793 397634
255	**Contemporary Trade Directory Entries** Name: Stratstone Saab Location: Unit 5, Manchester Industrial Centre, Water Street, Manchester, M3 4JW Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	910	-	382797 397682
256	**Contemporary Trade Directory Entries** Name: Gazprom Marketing & Trading Retail Ltd Location: 27, Quay Street, Manchester, M3 3GY Classification: Gas Suppliers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	893	-	383232 398036
256	**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)	893	-	383232 398036

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
256	**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)	896	-	383270 398058
257	**Contemporary Trade Directory Entries** Name: Bikybiky Ltd Location: Centurion House,129 Deansgate, Manchester, Greater Manchester, M3 3WR Classification: Cycle Accessories, Manufacturers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	898	-	383636 398148
257	**Contemporary Trade Directory Entries** Name: Premier Media Solutions Location: Centurion House,129 Deansgate, Manchester, Greater Manchester, M3 3WR Classification: Computer Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	898	-	383636 398148
258	**Contemporary Trade Directory Entries** Name: Justakajamesdesigns Location: 234, Greenheys Lane West, Manchester, M15 5AF Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	899	-	383454 396254
259	**Contemporary Trade Directory Entries** Name: Robins & Day Location: Unit 3, Manchester Industrial Centre, Water Street, Manchester, Lancashire, M3 4JW Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	904	-	382841 397739
260	**Contemporary Trade Directory Entries** Name: Global Garage Location: 52, Chorlton Road, Manchester, M15 4AU Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SW (SW)	907	-	382955 396513
261	**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	A9SW (SE)	916	-	384031 396304
262	**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)	919	-	383924 398130
262	**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)	919	-	383924 398130
262	**Contemporary Trade Directory Entries** Name: Nisbets Location: 12 Booth Street, Manchester, Greater Manchester, M2 4AW Classification: Catering Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	943	-	383971 398140
263	**Contemporary Trade Directory Entries** Name: Recycle Nw Location: Fourth Floor,Brazennose House, Brazennose Street, Manchester, Lancashire, M2 5AS Classification: Office Furniture & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	924	-	383683 398174

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
264	**Contemporary Trade Directory Entries** Name: Burofloor Location: 3, Hardman Street, Manchester, M3 3AW Classification: Carpets & Rugs - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	929	-	383454 398156
264	**Contemporary Trade Directory Entries** Name: Laserox Location: 3, Hardman Street, Manchester, M3 3HF Classification: Medical Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	929	-	383454 398156
264	**Contemporary Trade Directory Entries** Name: Merlin Repairs Specialists Ltd Location: 3, Hardman Street, Manchester, M3 3HF Classification: Bath Resurfacing **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NW (N)	936	-	383466 398167
265	**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	A19NE (NE)	934	-	384356 397870
265	**Contemporary Trade Directory Entries** Name: Sports Fashion Distribution Uk Ltd Location: 4th Floor Richmond House,15 Bloom Street, Manchester, Greater Manchester, M1 3HZ Classification: Distribution Services **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A19NE (NE)	953	-	384366 397887
266	**Contemporary Trade Directory Entries** Name: University Dental Hospital Of Manchester Location: University Dental Hospital of Manchester, Higher Cambridge Street, Manchester, M15 6FH Classification: Hospitals **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	940	-	384383 396542
267	**Contemporary Trade Directory Entries** Name: Scottys Location: 62, Grenham Avenue, Manchester, M15 4HD Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	942	-	382701 396860
268	**Contemporary Trade Directory Entries** Name: Cleos Cleaning Services Location: 131, Chorlton Road, MANCHESTER, M15 4JG Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	945	-	382992 396425
269	**Contemporary Trade Directory Entries** Name: Leaflet Distribution Manchester Location: Portland Tower,Portland Street, Manchester, Lancashire, M1 3HU Classification: Distribution Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	946	-	384280 397963
269	**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)	946	-	384280 397963
269	**Contemporary Trade Directory Entries** Name: See-Av Location: Manchester One, 53 Portland Street, Manchester, Greater Manchester, M1 3LD Classification: Cinema Equipment **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A19NW (NE)	946	-	384280 397963

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
269	**Contemporary Trade Directory Entries** Name: Best Stairlift Company Reviews Location: Suite 473,53 Portland Street, Manchester, Greater Manchester, M1 3LD Classification: Stairlifts - Manufacturers & Installers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	946	-	384280 397963
269	**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)	946	-	384280 397963
269	**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)	946	-	384280 397963
269	**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)	946	-	384280 397963
269	**Contemporary Trade Directory Entries** Name: Scrap A Car Manchester Location: Portland Tower,Portland Street, Manchester, Greater Manchester, M1 3LF Classification: Salvage Dealers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A19NW (NE)	951	-	384285 397965
270	**Contemporary Trade Directory Entries** Name: Professional Cleaners Hulme Location: 17c Chichester Road, Manchester, Greater Manchester, M15 5PJ Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	946	-	383305 396244
271	**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	A18NE (N)	947	-	383781 398190
272	**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	A8SE (S)	947	-	383646 396189
273	**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	A18NE (N)	950	-	383705 398200
273	**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	A18NE (N)	950	-	383705 398200
273	**Contemporary Trade Directory Entries** Name: Advanced Photo Location: 25, John Dalton Street, Manchester, M2 6FW Classification: Photographic Processors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A23SE (N)	996	-	383719 398245
273	**Contemporary Trade Directory Entries** Name: Scavolini Store Location: 19 John Dalton St, Manchester, Lancashire, M2 6FW Classification: Kitchen Furniture Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A23SE (N)	999	-	383713 398248

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
274	**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	A19NW (N)	950	-	383975 398145
274	**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	A19NW (N)	982	-	383995 398172
275	**Contemporary Trade Directory Entries** Name: Prontaprint Location: 71a, Mosley Street, Manchester, M2 3JN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	952	-	384105 398090
275	**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 (NE)	953	-	384140 398073
275	**Contemporary Trade Directory Entries** Name: Prontaprint Location: 71a, Mosley Street, Manchester, M2 3JN Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	956	-	384107 398094
275	**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 (NE)	968	-	384149 398085
275	**Contemporary Trade Directory Entries** Name: C F E S Location: Woolwich House, 61, Mosley Street, Manchester, M2 3HZ Classification: Ventilators & Ventilation Systems **Status: Active** Positional Accuracy: Automatically positioned to the address	A19NW (NE)	979	-	384117 398115
276	**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)	956	-	384224 398021
277	**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)	956	-	383872 398182
277	**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)	956	-	383872 398182
277	**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	A18NE (N)	962	-	383845 398194

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
277	**Contemporary Trade Directory Entries** Name: Johnsons The Cleaners Location: 59, Cross Street, Manchester, M2 4JW Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	967	-	383846 398199
278	**Contemporary Trade Directory Entries** Name: Scrap My Car Now For Money Manchester Kws Location: 4, Hardman Square, Manchester, M3 3EB Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	958	-	383358 398160
279	**Contemporary Trade Directory Entries** Name: Mbnk Ltd Location: 123, Deansgate, Manchester, M3 2BY Classification: Cookers - Sales & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A23SE (N)	959	-	383642 398209
279	**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	A23SE (N)	959	-	383642 398209
279	**Contemporary Trade Directory Entries** Name: Colloides Naturels Ltd Location: 121 Deansgate, Manchester, M3 2BW Classification: Food Colouring, Flavouring & Additive Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A23SE (N)	980	-	383650 398230
279	**Contemporary Trade Directory Entries** Name: M & M Office Cleaning Services Ltd Location: Grampian House, 144, Deansgate, Manchester, M3 3EE Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A23SW (N)	985	-	383603 398234
280	**Contemporary Trade Directory Entries** Name: Atlantis Location: 121, Water Street, Manchester, M3 4JU Classification: Dry Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NW (NW)	962	-	382909 397904
281	**Contemporary Trade Directory Entries** Name: National Tyres Chester Road Location: 25, Ellesmere Street, Manchester, M15 4LZ Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11SE (W)	969	-	382609 397140
281	**Contemporary Trade Directory Entries** Name: National Tyres & Autocare Location: 200 Chester Road, Manchester, Greater Manchester, M15 4LZ Classification: Tyre Dealers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A11SE (W)	969	-	382609 397140
282	**Contemporary Trade Directory Entries** Name: Biddle Sawyer Silks Location: Unit 109, 10, Hulme Hall Road, Manchester, M15 4LY Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	987	-	382588 397194
282	**Contemporary Trade Directory Entries** Name: F Higginbottom & Son Ltd Location: 10, Hulme Hall Road, Manchester, M15 4LY Classification: Bookbinders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	991	-	382584 397207
282	**Contemporary Trade Directory Entries** Name: Higginbottom & Son Ltd Location: 10, Hulme Hall Road, Manchester, M15 4LY Classification: Bookbinders **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A11NE (W)	991	-	382584 397207

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
283	**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 (E)	992	-	384615 396824
284	**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)	996	-	384232 396329
285	**Contemporary Trade Directory Entries** Name: T J Autos Location: 19, Lucy Street, Manchester, M15 4BX Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	997	-	382788 396577
285	**Contemporary Trade Directory Entries** Name: John Gledhill Location: 19, Lucy Street, Manchester, M15 4BX Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	997	-	382788 396577
286	**Fuel Station Entries** Name: Castlefield Service Station Location: 14, Great Jackson Street , Castlefield , Manchester, Greater Manchester, M15 4NG Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A12NE (W)	334	-	383248 397279
287	**Fuel Station Entries** Name: Ormond Street Motors Location: 2-4, Lower Ormond Street , , Manchester, Greater Manchester, M1 5QF Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Automatically positioned to the address	A14NW (E)	408	-	384078 397320
288	**Fuel Station Entries** Name: Castlefield Travellers Check Location: Dawson Street , , Manchester, Greater Manchester, M3 4JZ Brand: OBSOLETE Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Approximate location provided by supplier	A12NW (W)	803	-	382813 397463
289	**Fuel Station Entries** Name: Asda Hulme Location: Greenhays Lane West Archway, Hulme , Manchester, Greater Manchester, M15 5AQ Brand: ASDA Premises Type: Hypermarket **Status: Open** Positional Accuracy: Manually positioned to the address or location	A8SE (S)	846	-	383694 396292
290	**Points of Interest - Commercial Services** Name: Pest Control Manchester Location: 14 Commercial Street, Manchester, M15 4PZ Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A13NW (NW)	187	9	383460 397358
291	**Points of Interest - Commercial Services** Name: Kickstart Motorcycles Location: 77 Arches, Whitworth Street West, Manchester, M1 5WQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (N)	250	9	383702 397496
292	**Points of Interest - Commercial Services** Name: M G Mechanical Services Location: 82 Hewitt Street, Manchester, M15 4GB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (N)	256	9	383593 397498

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
293	**Points of Interest - Commercial Services** Name: All About Audiences Distribution Location: Hotspur House 2, Gloucester Street, Manchester, M1 5QR Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NE (NE)	276	9	383843 397455
293	**Points of Interest - Commercial Services** Name: Publicity Location: 2 Gloucester Street, Manchester, M1 5GP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NE (NE)	277	9	383844 397455
294	**Points of Interest - Commercial Services** Name: G T Autos Location: 88 Hewitt Street, Manchester, M15 4GB Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (NW)	296	9	383499 397502
295	**Points of Interest - Commercial Services** Name: Graham's Motors Location: 59 Whitworth Street West, Manchester, M1 5WW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NE (NE)	373	9	383939 397495
295	**Points of Interest - Commercial Services** Name: J E Gordon Ltd Location: 60 Whitworth Street West, Manchester, M1 5WW Category: Construction Services Class Code: Metalworkers Including Blacksmiths Positional Accuracy: Positioned to address or location	A13NE (NE)	399	9	383963 397507
295	**Points of Interest - Commercial Services** Name: Smiler Service Location: Unit 3c The Lock Building, 41 Whitworth Street West, Manchester, M1 5BD Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18SE (NE)	406	9	383932 397550
296	**Points of Interest - Commercial Services** Name: Greenbrow Motors Location: 1 Great Marlborough Street, Manchester, M1 5NJ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NE)	436	9	384058 397426
297	**Points of Interest - Commercial Services** Name: The Dash Doctor Location: 321 Deansgate, Manchester, M3 4LQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18SW (NW)	436	9	383424 397622
298	**Points of Interest - Commercial Services** Name: Duffy Motors Ltd Location: Arch 16-17, Watson Street, Manchester, M3 4LP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18SW (N)	463	9	383563 397703
298	**Points of Interest - Commercial Services** Name: Duffy Motors Manchester Ltd Location: Arch 16-17, Watson Street, Manchester, M3 4LP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18SW (N)	467	9	383567 397709
299	**Points of Interest - Commercial Services** Name: Automation Providers Location: 277 Deansgate, Manchester, M3 4EW Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A18SW (N)	545	9	383474 397763
300	**Points of Interest - Commercial Services** Name: I T True Ltd Location: St. James Building 79, Oxford Street, Manchester, M1 6FQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A19SW (NE)	598	9	384075 397678

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
300	**Points of Interest - Commercial Services** Name: Faupel Plc Location: St. James Buildings 79, Oxford Street, Manchester, M1 6FQ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A19SW (NE)	598	9	384075 397678
301	**Points of Interest - Commercial Services** Name: D C Motor Engineers Location: 45 York Street, Manchester, M1 7DE Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NE)	621	9	384225 397506
302	**Points of Interest - Commercial Services** Name: Pest Solutions Ltd Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A18SE (NE)	653	9	383924 397846
303	**Points of Interest - Commercial Services** Name: Andrew's Auto Repairs Location: Unit 6, Bentinck Street Industrial Estate, Bentinck Street Ind Est, Manchester, M15 4LN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NW (W)	737	9	382839 397243
303	**Points of Interest - Commercial Services** Name: Manchester Auto Electrical Ltd Location: 38 Ellesmere Street, Manchester, M15 4JY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12NW (W)	751	9	382834 397329
303	**Points of Interest - Commercial Services** Name: Invincible Contracts Supplies Location: Unit 4, Bentinck Street, Manchester, M15 4LN Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12NW (W)	788	9	382787 397215
304	**Points of Interest - Commercial Services** Name: London Global Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A19SW (NE)	784	9	384170 397843
304	**Points of Interest - Commercial Services** Name: Patriot Advertising Solutions Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A19SW (NE)	784	9	384170 397844
305	**Points of Interest - Commercial Services** Name: Asda Hulme Location: Greenhays Lane West, Archway, Hulme, Manchester, M15 5AQ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SE (S)	814	9	383681 396323
305	**Points of Interest - Commercial Services** Name: Car Wash Location: Greenhays Lane West, Archway, Hulme, Manchester, Lancashire, M15 5AQ Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SE (S)	846	9	383694 396292
306	**Points of Interest - Commercial Services** Name: Scrap Yard Location: Not Supplied Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	817	9	382835 397556
306	**Points of Interest - Commercial Services** Name: Scrap Yard Location: M15 Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A17SW (NW)	819	9	382833 397556

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
307	**Points of Interest - Commercial Services** Name: The Leaflet Co Location: Croxley House 14, Lloyd Street, Manchester, M2 5ND Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NE (N)	824	9	383667 398074
307	**Points of Interest - Commercial Services** Name: The Leaflet Company Location: Croxley House 14, Lloyd Street, Manchester, M2 5ND Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A18NE (N)	824	9	383667 398074
308	**Points of Interest - Commercial Services** Name: R & R Location: Unit 12, Bentinck Street Industrial Estate, Manchester, M15 4LN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (W)	832	9	382743 397190
309	**Points of Interest - Commercial Services** Name: Repair A Screen Location: 32 Holdgate Close, Manchester, M15 5EP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	835	9	383405 396330
309	**Points of Interest - Commercial Services** Name: Repair A Screen Location: 32 Holdgate Close, Manchester, M15 5EP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	836	9	383405 396329
310	**Points of Interest - Commercial Services** Name: Global Garage Location: 52 Chorlton Road, Manchester, M15 4AU Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SW (SW)	907	9	382955 396513
311	**Points of Interest - Commercial Services** Name: Scrap a Car Manchester Location: 53 Portland Street, Manchester, M1 3LD Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A19NW (NE)	946	9	384279 397963
311	**Points of Interest - Commercial Services** Name: Leaflet Distribution Manchester Location: Portland Tower, Portland Street, Manchester, M1 3HU Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A19NW (NE)	946	9	384280 397963
312	**Points of Interest - Commercial Services** Name: M1 1st Call Locksmiths Location: Cobac House 14-16, Charlotte Street, Manchester, M1 4FL Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19NW (NE)	967	9	384186 398060
313	**Points of Interest - Commercial Services** Name: National Tyres and Autocare Location: 200 Chester Road, Manchester, M15 4LZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SE (W)	969	9	382609 397140
313	**Points of Interest - Commercial Services** Name: National Tyres and Autocare Location: 25 Ellesmere Street, Manchester, M15 4LZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A11SE (W)	969	9	382609 397140
314	**Points of Interest - Commercial Services** Name: Autolocksmiths 2 U Location: Richmond House 15, Bloom Street, Manchester, M1 3HZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A19NE (NE)	970	9	384377 397901

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
314	**Points of Interest - Commercial Services** Name: Sports Fashion Distribution UK Ltd Location: Richmond House 15, Bloom Street, Manchester, M1 3HZ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A19NE (NE)	970	9	384377 397901
315	**Points of Interest - Commercial Services** Name: Cedric's Motors Location: 1-5 Greenheys Lane, Manchester, M15 6NQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SW (SE)	996	9	384232 396329
315	**Points of Interest - Commercial Services** Name: Cedric's Motors Location: 1-5 Greenheys Lane, Manchester, M15 6NQ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SW (SE)	997	9	384232 396328
316	**Points of Interest - Commercial Services** Name: T J Autos Location: 19 Lucy Street, Manchester, M15 4BX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	997	9	382788 396577
317	**Points of Interest - Education and Health** Name: University Dental Hospital of Manchester Location: University Dental Hospital of Manchester, Higher Cambridge Street, Manchester, M15 6FH Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A9NE (SE)	940	9	384383 396542
317	**Points of Interest - Education and Health** Name: University Dental Hospital Location: University Dental Hospital of Manchester, Higher Cambridge Street, Manchester, M15 6FH Category: Health Practitioners and Establishments Class Code: Accident & Emergency Department Positional Accuracy: Positioned to address or location	A9NE (SE)	940	9	384383 396542
317	**Points of Interest - Education and Health** Name: University Dental Hospital Location: University Dental Hospital of Manchester, Higher Cambridge Street, Manchester, M15 6FH Category: Health Practitioners and Establishments Class Code: Hospitals Positional Accuracy: Positioned to address or location	A9NE (SE)	940	9	384383 396542
318	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	126	9	383564 397345
318	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	142	9	383543 397353
319	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	190	9	383845 397303
319	**Points of Interest - Manufacturing and Production** Name: Tank Location: M1 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	251	9	383867 397388

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
320	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	235	9	383495 397432
320	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	240	9	383452 397416
320	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (N)	249	9	383567 397482
320	**Points of Interest - Manufacturing and Production** Name: Factory Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	254	9	383457 397435
320	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	268	9	383429 397435
320	**Points of Interest - Manufacturing and Production** Name: Works Location: M15 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	269	9	383425 397434
320	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	293	9	383464 397482
320	**Points of Interest - Manufacturing and Production** Name: Works Location: M15 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	294	9	383460 397481
321	**Points of Interest - Manufacturing and Production** Name: Locus Properties Ltd Location: 19 Albion Wharf, Manchester, M1 5LN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18SE (N)	324	9	383660 397574
322	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	324	9	383943 397403
322	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	348	9	383994 397360
322	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	396	9	384010 397430

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
322	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	401	9	384007 397447
323	**Points of Interest - Manufacturing and Production** Name: St Wilfrid's Enterprise Centre Location: M15 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	353	9	383311 396954
323	**Points of Interest - Manufacturing and Production** Name: Firmstart Ltd Location: St. Wilfrids Enterprise Centre, Birchvale Close, Manchester, M15 5BJ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12SE (SW)	372	9	383296 396943
323	**Points of Interest - Manufacturing and Production** Name: Firmstart Manchester Ltd Location: St. Wilfrids Enterprise Centre, Birchvale Close, Manchester, M15 5BJ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A12SE (SW)	372	9	383296 396943
324	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	377	9	384026 397362
325	**Points of Interest - Manufacturing and Production** Name: Factory Location: M15 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12NE (W)	412	9	383163 397226
326	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	574	9	384197 397460
326	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	578	9	384201 397461
326	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	592	9	384211 397472
326	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	596	9	384215 397473
326	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NW (NE)	656	9	384266 397506
326	**Points of Interest - Manufacturing and Production** Name: Anchester House Management Location: Manchester House 86, Princess Street, Manchester, M1 6NG Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19SW (NE)	717	9	384296 397577

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
327	**Points of Interest - Manufacturing and Production** Name: Nemesis Agency Ltd Location: 1 Oxford Court, Manchester, M2 3WQ Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18SE (NE)	591	9	383901 397789
327	**Points of Interest - Manufacturing and Production** Name: Regus Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18SE (NE)	654	9	383925 397847
327	**Points of Interest - Manufacturing and Production** Name: Regus Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18SE (NE)	654	9	383925 397847
328	**Points of Interest - Manufacturing and Production** Name: Nu-oil & Gas Plc Location: Castlefield House, Liverpool Road, Manchester, M3 4SB Category: Extractive Industries Class Code: Oil and Gas Extraction, Refinery and Product Manufacture Positional Accuracy: Positioned to address or location	A18SW (NW)	606	9	383333 397766
329	**Points of Interest - Manufacturing and Production** Name: Tank Location: M15 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	697	9	382916 397437
330	**Points of Interest - Manufacturing and Production** Name: Works Location: M1 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	707	9	384189 397717
330	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	710	9	384193 397717
331	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	738	9	384420 397067
332	**Points of Interest - Manufacturing and Production** Name: Vetter Location: 3 Archway, Manchester, M15 5QJ Category: Extractive Industries Class Code: Stone Quarrying and Preparation Positional Accuracy: Positioned to address or location	A8SE (S)	754	9	383785 396395
333	**Points of Interest - Manufacturing and Production** Name: Century House Commissionaire Location: Century Ho, 11 St Peters Sq, Manchester, M2 3DN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19NW (NE)	761	9	383980 397940
333	**Points of Interest - Manufacturing and Production** Name: Century House Commissionaire Location: Century House, 11 St Peters Square, Manchester, Greater Manchester, M2 3DN Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19NW (NE)	761	9	383980 397940
334	**Points of Interest - Manufacturing and Production** Name: Citibase Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19SW (NE)	784	9	384170 397844

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
334	**Points of Interest - Manufacturing and Production** Name: Citibase Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19SW (NE)	784	9	384170 397844
334	**Points of Interest - Manufacturing and Production** Name: Citibase Business Centres Location: Imex House 40, Princess Street, Manchester, M1 6DE Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19SW (NE)	784	9	384170 397844
335	**Points of Interest - Manufacturing and Production** Name: Works Location: Not Supplied Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	814	9	382856 397592
335	**Points of Interest - Manufacturing and Production** Name: Works Location: M15 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	817	9	382852 397591
335	**Points of Interest - Manufacturing and Production** Name: Factory Location: M3 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A17SW (NW)	848	9	382861 397668
336	**Points of Interest - Manufacturing and Production** Name: The Box Works Location: M15 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	828	9	382773 397417
337	**Points of Interest - Manufacturing and Production** Name: Works Location: M15 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to address or location	A12NW (W)	880	9	382695 397225
338	**Points of Interest - Manufacturing and Production** Name: Works Location: M15 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	895	9	382686 397317
339	**Points of Interest - Manufacturing and Production** Name: Bruntwood Business Ltd Location: Centurion House 129, Deansgate, Manchester, M3 3WR Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A18NE (N)	897	9	383645 398147
339	**Points of Interest - Manufacturing and Production** Name: Mwb Business Exchange Location: John Dalton House 121, Deansgate, Manchester, M3 2BX Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A23SE (N)	980	9	383650 398230
340	**Points of Interest - Manufacturing and Production** Name: Bruntwood Location: Portland Tower, Portland Street, Manchester, M1 3LD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19NW (NE)	946	9	384280 397963
340	**Points of Interest - Manufacturing and Production** Name: Bruntwood Business Centres Location: Portland Tower, Portland Street, Manchester, M1 3LD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19NW (NE)	946	9	384280 397963

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
340	**Points of Interest - Manufacturing and Production** Name: Bruntwood Location: 53 Portland Street, Manchester, M1 3LD Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A19NW (NE)	948	9	384280 397965
341	**Points of Interest - Public Infrastructure** Name: Weirs Location: M1 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A13NE (NE)	245	9	383841 397412
342	**Points of Interest - Public Infrastructure** Name: Deansgate Rail Station Location: Hewitt Street, M15 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A13NW (NW)	326	9	383437 397506
342	**Points of Interest - Public Infrastructure** Name: Deansgate Station Location: Hewitt Street, M3 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A13NW (NW)	326	9	383437 397506
343	**Points of Interest - Public Infrastructure** Name: Sluice Location: M3 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A12NE (NW)	415	9	383271 397493
344	**Points of Interest - Public Infrastructure** Name: Manchester Oxford Road Rail Station Location: Great Marlborough Street, M1 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A14NW (NE)	433	9	384029 397472
344	**Points of Interest - Public Infrastructure** Name: Manchester Oxford Road Station Location: Great Marlborough Street, M1 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to address or location	A14NW (NE)	433	9	384029 397472
345	**Points of Interest - Public Infrastructure** Name: Castle Field Junction Location: M3 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	504	9	383257 397601
346	**Points of Interest - Public Infrastructure** Name: Weir Location: M3 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	562	9	383148 397575
347	**Points of Interest - Public Infrastructure** Name: Tanzo Passenger Services Ltd Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A18SE (NE)	654	9	383925 397847
347	**Points of Interest - Public Infrastructure** Name: Tanzo Passenger Services Ltd Location: Peter House, Oxford Street, Manchester, M1 5AN Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A18SE (NE)	654	9	383925 397847
348	**Points of Interest - Public Infrastructure** Name: Bootle Street Police Station Location: Bootle Street, Manchester, M2 5GU Category: Central and Local Government Class Code: Police Stations Positional Accuracy: Positioned to address or location	A18NE (N)	750	9	383726 397997

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
349	**Points of Interest - Public Infrastructure** Name: Weir Location: M3 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	755	9	382986 397683
349	**Points of Interest - Public Infrastructure** Name: Weir Location: M3 Category: Water Class Code: Weirs, Sluices and Dams Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	760	9	382970 397670
350	**Points of Interest - Public Infrastructure** Name: Hulme Junction Location: M15 Category: Public Transport, Stations and Infrastructure Class Code: Railway Stations, Junctions and Halts Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	838	9	382778 397470
351	**Points of Interest - Public Infrastructure** Name: Asda Petrol Location: 100 Princess Road, Manchester, M15 5AS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SE (S)	846	9	383694 396292
351	**Points of Interest - Public Infrastructure** Name: Asda Hulme Location: Greenhays Lane West, Archway, Hulme, Manchester, M15 5AQ Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SE (S)	846	9	383694 396292
351	**Points of Interest - Public Infrastructure** Name: Hulme Location: 100 Princess Road, Manchester, M15 5AS Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SE (S)	847	9	383694 396291
352	**Points of Interest - Public Infrastructure** Name: Manchester City Council Location: Town Hall, Albert Square, Manchester, M2 5DB Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A18NE (N)	865	9	383867 398089
353	**Points of Interest - Public Infrastructure** Name: Coach Station Location: M1 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A19NE (NE)	956	9	384331 397928
353	**Points of Interest - Public Infrastructure** Name: National Express Ltd Location: Central Coach Station, Chorlton Street, Manchester, M1 3JF Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A19NE (NE)	979	9	384347 397945
353	**Points of Interest - Public Infrastructure** Name: National Express Coach Station Location: Central Coach Station, Chorlton Street, Manchester, M1 3JF Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to address or location	A19NE (NE)	979	9	384347 397945
354	**Points of Interest - Public Infrastructure** Name: Bus Depot Location: M15 Category: Public Transport, Stations and Infrastructure Class Code: Bus and Coach Stations, Depots and Companies Positional Accuracy: Positioned to an adjacent address or location	A11NE (W)	984	9	382602 397358
355	**Points of Interest - Recreational and Environmental** Name: Playground Location: Leaf Street, M15 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13SE (S)	200	9	383687 396941

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
355	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A13SE (S)	209	9	383692 396933
356	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	439	9	383149 397105
356	**Points of Interest - Recreational and Environmental** Name: Playground Location: York Street, M15 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	446	9	383142 397105
356	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SE (W)	518	9	383066 397112
356	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Linby Street, M15 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A12SE (W)	522	9	383064 397106
357	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12SW (W)	981	9	382650 396885
357	**Points of Interest - Recreational and Environmental** Name: Playground Location: Northdown Avenue, M15 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A12SW (W)	983	9	382647 396885

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Stockport Metropolitan Borough Council - Environment Team (Land & Water)	December 2014	Annual Rolling Update
Salford City Council - Environmental Health Department	November 2013	Annual Rolling Update
Trafford Metropolitan Borough Council - Renewal and Environmental Protection	November 2013	Annual Rolling Update
Bury Metropolitan Borough Council - Environmental Health Department	October 2013	Annual Rolling Update
Tameside Metropolitan Borough Council - Environmental Health Department	October 2017	Annual Rolling Update
Manchester City Council - Environmental Health Department	September 2014	Annual Rolling Update
Discharge Consents		
Environment Agency - North West Region	January 2019	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - North West Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - North West Region	January 2019	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Bury Metropolitan Borough Council - Environmental Health Department	February 2015	Variable
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Variable
Salford City Council - Environmental Health Department	March 2015	Variable
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	October 2014	Variable
Trafford Metropolitan Borough Council - Environmental Health Department	October 2014	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Local Authority Pollution Prevention and Controls		
Bury Metropolitan Borough Council - Environmental Health Department	February 2015	Annual Rolling Update
Trafford Metropolitan Borough Council - Environmental Health Department	July 2015	Annual Rolling Update
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Annual Rolling Update
Salford City Council - Environmental Health Department	March 2015	Annual Rolling Update
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	October 2014	Annual Rolling Update
Manchester City Council - Environmental Health Department	September 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Bury Metropolitan Borough Council - Environmental Health Department	February 2015	Variable
Tameside Metropolitan Borough Council - Environmental Health Department	June 2015	Variable
Salford City Council - Environmental Health Department	March 2015	Variable
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	October 2014	Variable
Trafford Metropolitan Borough Council - Environmental Health Department	October 2014	Variable
Manchester City Council - Environmental Health Department	September 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	January 2019	
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	Annual Rolling Update
Prosecutions Relating to Controlled Waters		
Environment Agency - North West Region	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Environment Agency - North West Region	June 2016	
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

Agency & Hydrological	Version	Update Cycle
Substantiated Pollution Incident Register Environment Agency - North West Region - South Area	January 2019	Quarterly
Water Abstractions Environment Agency - North West Region	January 2019	Quarterly
Water Industry Act Referrals Environment Agency - North West Region	October 2017	Quarterly
Groundwater Vulnerability Map Environment Agency - Head Office	June 2018	Annually
Groundwater Vulnerability - Soluble Rock Risk Environment Agency - Head Office	June 2018	Annually
Bedrock Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	January 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	February 2019	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	February 2019	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	February 2019	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	February 2019	Quarterly
Flood Defences Environment Agency - Head Office	February 2019	Quarterly
OS Water Network Lines Ordnance Survey	October 2018	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	July 2018	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	July 2018	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - North East Region - Ridings Area	January 2019	Quarterly
Environment Agency - North West Region - South Area	January 2019	Quarterly
Local Authority Landfill Coverage		
Bury Metropolitan Borough Council	May 2000	Not Applicable
Manchester City Council - Planning Department	May 2000	Not Applicable
Salford City Council - Environmental Health Department	May 2000	Not Applicable
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	May 2000	Not Applicable
Tameside Metropolitan Borough Council	May 2000	Not Applicable
Trafford Metropolitan Borough Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Bury Metropolitan Borough Council	May 2000	Not Applicable
Manchester City Council - Planning Department	May 2000	Not Applicable
Salford City Council - Environmental Health Department	May 2000	Not Applicable
Stockport Metropolitan Borough Council - Environmental Health Department, EEDD	May 2000	Not Applicable
Tameside Metropolitan Borough Council	May 2000	Not Applicable
Trafford Metropolitan Borough Council - Environmental Health Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	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	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Trafford Metropolitan Borough Council	April 2016	Variable
Bury Metropolitan Borough Council	February 2016	Variable
Manchester City Council - Planning Department	February 2016	Variable
Stockport Metropolitan Borough Council - Environment and Economic Development	February 2016	Variable
Tameside Metropolitan Borough Council - Planning and Building Control	February 2016	Variable
Salford City Council	June 2016	Variable
Planning Hazardous Substance Consents		
Trafford Metropolitan Borough Council	April 2016	Variable
Bury Metropolitan Borough Council	February 2016	Variable
Manchester City Council - Planning Department	February 2016	Variable
Stockport Metropolitan Borough Council - Environment and Economic Development	February 2016	Variable
Tameside Metropolitan Borough Council - Planning and Building Control	February 2016	Variable
Salford City Council	June 2016	Variable

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	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	November 2018	Bi-Annually
BGS Urban Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Urban Soil Chemistry Averages British Geological Survey - National Geoscience Information Service	October 2015	Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	January 2019	Quarterly
Fuel Station Entries Catalist Ltd - Experian	March 2019	Quarterly
Gas Pipelines National Grid	July 2014	
Points of Interest - Commercial Services PointX	November 2018	Quarterly
Points of Interest - Education and Health PointX	November 2018	Quarterly
Points of Interest - Manufacturing and Production PointX	November 2018	Quarterly
Points of Interest - Public Infrastructure PointX	November 2018	Quarterly
Points of Interest - Recreational and Environmental PointX	November 2018	Quarterly
Underground Electrical Cables National Grid	December 2015	

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural England	August 2018	Bi-Annually
Areas of Adopted Green Belt		
Bury Metropolitan Borough Council	March 2019	As notified
Manchester City Council	March 2019	As notified
Salford City Council	March 2019	As notified
Stockport Metropolitan Borough Council	March 2019	As notified
Tameside Metropolitan Borough Council	March 2019	As notified
Trafford Metropolitan Borough Council	March 2019	As notified
Areas of Unadopted Green Belt		
Bury Metropolitan Borough Council	March 2019	As notified
Manchester City Council	March 2019	As notified
Salford City Council	March 2019	As notified
Stockport Metropolitan Borough Council	March 2019	As notified
Tameside Metropolitan Borough Council	March 2019	As notified
Trafford Metropolitan Borough Council	March 2019	As notified
Areas of Outstanding Natural Beauty		
Natural England	August 2018	Bi-Annually
Environmentally Sensitive Areas		
Natural England	January 2017	
Forest Parks		
Forestry Commission	April 1997	Not Applicable
Local Nature Reserves		
Natural England	March 2019	Bi-Annually
Marine Nature Reserves		
Natural England	January 2018	Bi-Annually
National Nature Reserves		
Natural England	August 2018	Bi-Annually
National Parks		
Natural England	April 2017	Bi-Annually
Nitrate Vulnerable Zones		
Environment Agency - Head Office	December 2017	Bi-Annually
Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	
Ramsar Sites		
Natural England	August 2018	Bi-Annually
Sites of Special Scientific Interest		
Natural England	March 2019	Bi-Annually
Special Areas of Conservation		
Natural England	August 2018	Bi-Annually
Special Protection Areas		
Natural England	August 2018	Bi-Annually

Data Suppliers

A selection of organisations who provide data within this report

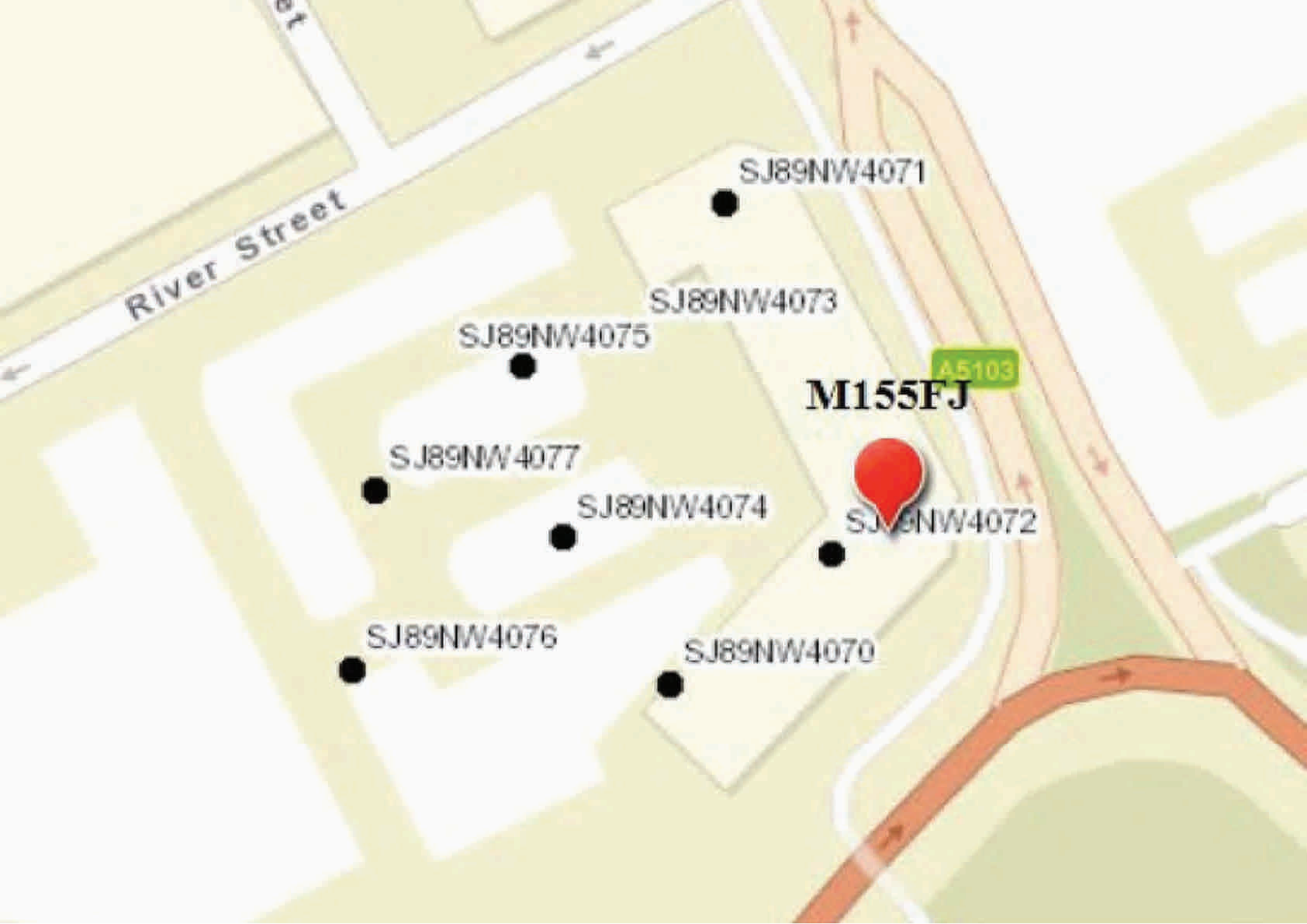
Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett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

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**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
4	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**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
7	**Trafford Metropolitan Borough Council - Environmental Health Department** P O Box 14, Trafford Town Hall, Talbot Road, Stretford, Greater Manchester, M32 0YJ	Telephone: 0161 912 4566 Fax: 0161 873 7783 Website: www.trafford.gov.uk
8	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
9	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.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.

APPENDIX C BGS BOREHOLE RECORDS


River Street
SJ89NW4071
SJ89NW4073
SJ89NW4075
A5103
M155FJ
SJ89NW4077
SJ89NW4074
SJ89NW4072
SJ89NW4076
SJ89NW4070

SECTION OF Boreholes & Shafts at Ornell Storm Relief Overflow Sewer, Cornbrook, Manchester.

Maps: One-inch 82. Six-inch 104 S.W.E County Lancs.

Height above O.D. Latitude Longitude

British Geological Survey

Wt. 5993—S.33 2000 6/22 Gp. 147 [illegible]

SJ 89 NW 116-120

SECTION OF Boreholes in B. Sewer at Manchester Corp.

Maps: One-inch Six-inch 104 S.W.E. County

Height above O.D. Latitude Longitude

Communicated by Date of sinking

Made by Dip of Strata

	Thickness.			Depth from Surface.		
	M	ft		M	ft	
No. 116 No. 13 Junction of City Road & Shot St.						
Stone, clay & sand	3·66	12	–	3·66	12	–
Sand & ballast	3·05	10	–	6·71	22	–
Sandstone.	4·57	15	–	11·28	37	–
No. 117 No. 14. South side of Medlock Bridge, City Road.						
Sand, clay, & stones	3·66	12	–	3·66	12	–
Sand & ballast.	3·35	11	–	7·01	23	–
Sandstone.	4·27	14	–	11·28	37	–
No. 118 No. 15 North side of Medlock Bridge, City Road.						
Sand, clay & stones	3·66	12	–	3·66	12	–
Sand & ballast	3·35	11	–	7·01	23	–
Sandstone.	4·27	14	–	11·28	37	–
No. 119 No. 17 Trafford Street, off Albion St.						
Clay, sand & stones	4·57	15	–	4·57	15	–
Sand & ballast	4·88	16	–	9·45	31	–
Sandstone.	4·57	15	–	14·02	46	–
No. 120 No. 19 Trafford St. off Deansgate.						
Sand, clay & stones	4·57	15	–	4·57	15	–

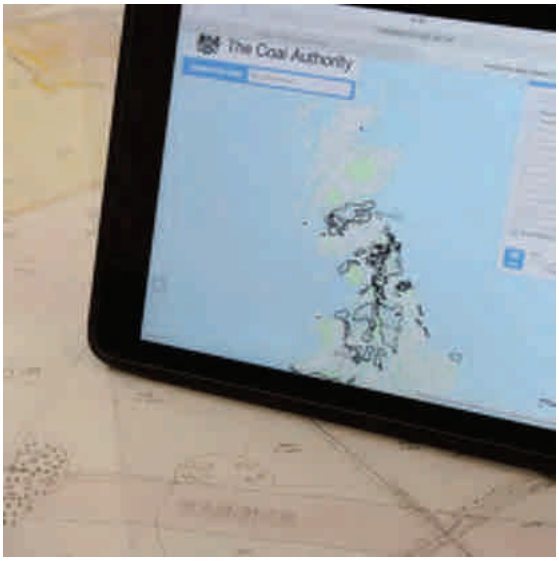
APPENDIX D COAL REPORT

The Coal Authority

CON29M Non-Residential Mining Report







FLAT 27
RIVER STREET TOWER
2,RIVER STREET
MANCHESTER
GREATER MANCHESTER
M15 5GQ

Date of enquiry:	**1 April 2019**
Date enquiry received:	**1 April 2019**
Issue date:	**1 April 2019**
Our reference:	**51002092981004**
Your reference:	**199235460_2|**

CON29M Non-Residential Mining Report

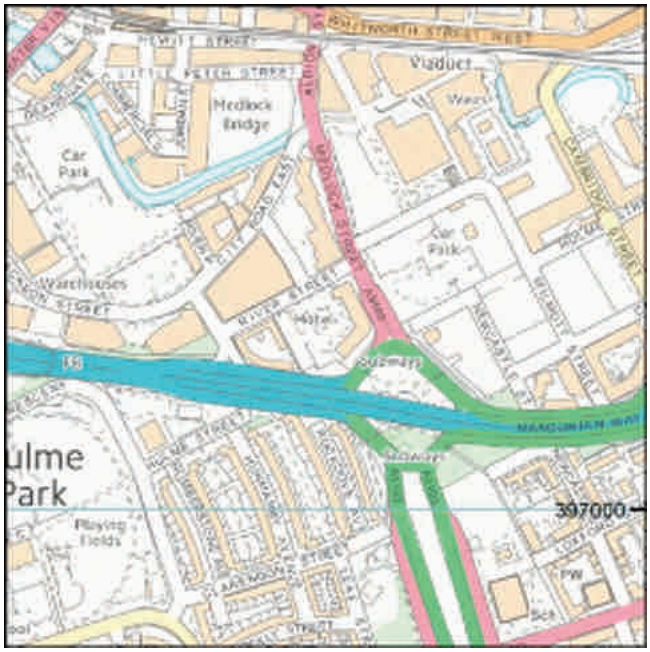
This report is based on, and limited to, the records held by the Coal Authority, at the time we answer the search.

Client name

LANDMARK INFORMATION GROUP LIMITED

Enquiry address

FLAT 27
RIVER STREET TOWER
2,RIVER STREET
MANCHESTER
GREATER MANCHESTER
M15 5GQ



Approximate position of property

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0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

@coalauthority

/company/the-coal-authority

/thecoalauthority

/thecoalauthority

Summary

Has the search report highlighted evidence or potential of		
1	Past underground coal mining	No
2	Present underground coal mining	No
3	Future underground coal mining	Yes
4	Mine entries	No
5	Coal mining geology	No
6	Past opencast coal mining	No
7	Present opencast coal mining	No
8	Future opencast coal mining	No
9	Coal mining subsidence	No
10	Mine gas	No
11	Hazards related to coal mining	No
12	Withdrawal of support	No
13	Working facilities order	No
14	Payments to owners of former copyhold land	No

For detailed findings, please go to page 4.

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Detailed findings

1. Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

2. Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3. Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4. Mine entries

There are no known coal mine entries within, or within 20 metres of, the boundary of the property.

5. Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6. Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7. Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

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8. Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9. Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10. Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11. Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12. Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13. Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14. Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

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Additional remarks

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL. This report is prepared in accordance with the Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.

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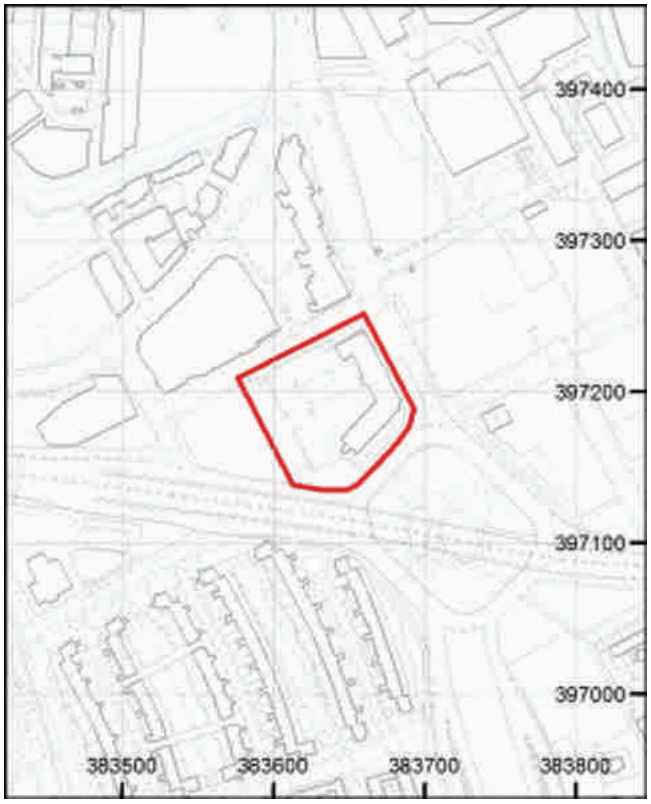
Alternative formats

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Enquiry boundary

Key

Approximate position of enquiry boundary shown



How to contact us

0345 762 6848 (UK)
+44 (0)1623 637 000 (International)

200 Lichfield Lane
Mansfield
Nottinghamshire
NG18 4RG

www.groundstability.com

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/thecoalauthority

/thecoalauthority

Map data

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APPENDIX E LEGISLATIVE CONTEXT AND GROUND CONTAMINATION ASSESSMENT METHODOLOGIES

Intended for

Project no.

Date
01 May 2016

LEGISLATIVE CONTEXT AND METHODOLOGIES

GROUND CONTAMINATION

1. LEGISLATIVE CONTEXT

1.1.1. England

The regime for contaminated land was set out in Part 2A (ss.78A-78YC) of the Environmental Protection Act 1990 (EPA), as inserted by S.57 of The Environment Act 1995 and came into effect in England on 1st April 2000 as The Contaminated Land (England) Regulations 2000 (SI 2000/227). These regulations were subsequently revoked with the provision of The Contaminated Land (England) Regulations 2006 (SI 2006/1380) (as amended), which came into force in August 2006, and consolidated the previous regulations and amendments. Revised statutory guidance ("the Guidance") for local authorities on how to implement the regime, including the decision-making process on whether land is contaminated land in the legal sense, has been published by Defra and entered into force in April 2012.

Under Part 2A of the EPA Section 78A(2), "contaminated land" is defined as "land which appears… to be in such a condition, by reason of substances in, on or under the land, that –

a) significant harm is being caused or there is a significant possibility of such harm being caused; or

b) significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused".

1.1.2. Wales

The regime for contaminated land was set out in Part 2A (ss.78A-78YC) of the Environmental Protection Act 1990 (EPA), as inserted by S.57 of The Environment Act 1995 and came into effect in Wales on 1st July 2001 as The Contaminated Land (Wales) Regulations 2001 (WSI 2001/2197, W.157). These regulations were subsequently revoked with the provision of The Contaminated Land (Wales) Regulations 2006 (SI 2006/2989 W.278), which consolidated the previous regulations and amendments and added in provisions regarding radioactive contaminated land. These regulations came into force on 10th December 2006 and were accompanied by statutory guidance published by the Welsh Assembly Government in December 2006 ('the Guidance') for local authorities on how to implement the regime. The 2006 statutory guidance was replaced by the Contaminated Land Statutory Guidance - 2012 (WG19243), issued by the Welsh Government.

Under Part 2A of the EPA Section 78A(2), "contaminated land" is defined as "land which appears… to be in such a condition, by reason of substances in, on or under the land, that –

a) significant harm is being caused or there is a significant possibility of such harm being caused; or

b) pollution of controlled waters is being, or is likely to be caused" (Section 86 of the Water Act 2003 remains only partially implemented in Wales).

1.1.3. Scotland

The regime for contaminated land was set out in Part 2A (ss.78A-78YC) of the Environmental Protection Act 1990 (EPA), as inserted by S.57 of The Environment Act 1995 and came into effect in Scotland on 14th July 2000 as The Contaminated Land (Scotland) Regulations 2000 (SSI 2000/ 178). These regulations were subsequently revoked with the provision of The Contaminated Land (Scotland) Regulations 2005 (SSI 2005 /658), which came into force in April 2006 and consolidated the previous regulations and amendments and were accompanied by statutory guidance published by

the Scottish Government in May 2006 ('the Guidance') for local authorities on how to implement the regime.

Under Part 2A of the Environmental Protection Act 1990, "contaminated land" is defined in the Contaminated Land (Scotland) Regulations 2005 (as amended) as land which appears to the local authority to be in such a condition, by reason of substances in, on or under the land, that:

a) significant harm is being caused, or there is a significant possibility of such harm being caused; or

b) significant pollution of the water environment is being caused or there is a significant possibility of such pollution being caused.

1.1.4. Northern Ireland

The regime for Contaminated Land in Northern Ireland was set out in the Waste and Contaminated Land (Northern Ireland) Order 1997 (as amended). Part 3 of the Waste and Contaminated Land (Northern Ireland) Order 1997 contains the main legal provisions for the introduction of a contaminated land regime in Northern Ireland, but the regime is not yet in operation. It is noted that the Contaminated Land (Northern Ireland) Regulations 2006 and associated statutory guidance were published in draft for consultation in 2006, but have yet to be finalised. Under Part 3 of the 1997 Order, contaminated land is defined as,

"any land which appears to a district council in whose district it is situated to be in such a condition, by reason of substances in, on or under the land, that -

(a) significant harm is being caused or there is a significant possibility of such harm being caused; or

(b) pollution of waterways or underground strata is being, or is likely to be, caused.

"Significant harm" is defined in the draft guidance on risk based criteria and must be the result of a "pollutant linkage", which may be assessed using qualitative risk assessment models. The presence of a pollutant linkage relies on the Source-Pathway-Receptor concept, where all three factors must be present and potentially or actually linked for a potential risk to exist.

1.1.5. The Channel Islands

There is no formal contaminated land regime in the Channel Islands, as they are not part of the UK, and as such they usually adopt either the English or French legislation or create their own.

1.1.6. Isle of Man

There is no formal contaminated land regime in the Isle of Man, and they usually adopt a best 'practice approach' from a European country of choice on this basis.

1.1.7. Risk assessment Framework

"Significant harm" or "significant pollution of controlled waters" is defined in the Guidance on risk based criteria and must be the result of one or more relevant 'contaminant linkages' relating to the land.

The presence of a contaminant linkage relies on the Source-Pathway-Receptor concept, where all three factors must be present and potentially or actually linked for a potential risk to exist. For a risk of pollution or environmental harm to occur as a result of ground contamination, all of the following elements must be present:

- A source - a substance that is capable of causing pollution or harm;
- A receptor - something which could be adversely affected by the contaminant; and

- A pathway - a route by which the contaminant can reach the receptor.

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

The Environment Agency Contaminated Land Report CLR 11 Model Procedures for the Management of Land Contamination provides the technical framework for structured decision making about land contamination. CLR 11 advocates a phased approach to risk assessment comprising:

- Preliminary Risk Assessment (PRA) – desk study and qualitative assessment
- Generic Quantitative Risk Assessment (GQRA) – assessment of contaminant concentrations against generic assessment criteria.
- Detailed Quantitative Risk Assessment (DQRA) – detailed site specific risk assessment and development of site-specific assessment criteria.

Each of these phases follows the same basic steps buts adds site specific details and further certainty into the assessment as the stages progress. The basic steps are:

- Hazard identification and hazard assessment – development or refinement of the source-pathway-receptor conceptual model, and identification of potential pollutant linkages.
- Risk Estimation – qualitative risk estimation predicting magnitude and probability of potential consequences that may arise as a result of a hazard.
- Risk Evaluation – deciding whether a risk is unacceptable.

2. RISK ESTIMATION

An assessment of environmental risks is made for each potential pollutant linkage identified.

Risk estimation has been completed in accordance with the guidance provided in:

- NHBC and Environment Agency 2008. Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66: 2008.

The following is taken directly from NHBC/EA 2008. The key to the classification is that the designation of risk is based upon the consideration of both:

a) the magnitude of the potential consequence (*i.e.*, severity) [takes into account both the potential severity of the hazard and the sensitivity of the receptor];

b) the magnitude of probability (*i.e.*, likelihood) [takes into account both the presence of the hazard and receptor and the integrity of the pathway].

Table 1: Classification of Consequence (after NHBC/EA 2008)

Category	Definition
Severe	Highly elevated concentrations **likely** to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA **Category 1** pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.
Medium	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to **EA Category 2** pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.
Mild	Exposure to human health **unlikely** to lead to "significant harm". Equivalent to **EA Category 3** pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population. Minor damage to crops, buildings or property.
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.

* For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.

The likelihood of an event (probability) takes into account both the presence of the hazard and target and the integrity of the pathway and has been assessed based on the categories given below.

Table 2: Classification of Probability (after NHBC/EA 2008)

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

The potential severity of the risk and the probability of the risk occurring have been combined in accordance with the following matrix in order to give a level of risk for each potential hazard.

Table 3: The Classification of Risk (after NHBC/EA 2008)

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

Very high risk

There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

High risk

Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation 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, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

Low risk

It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

Very low risk

It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.

No potential risk

There is no potential risk if no pollution linkage has been established.

3. GQRA METHODOLOGIES

In order to assess the significance of the chemical concentrations recorded, generic assessment criteria (GAC) must be selected. The GAC are screening concentrations which are used initially for direct comparison to the measured site concentrations.

The GAC are defined based on the critical receptors identified at the site. Receptors are considered in relation to:

- Human health receptors (*e.g.*, site users);
- The water environment (*e.g.*, groundwater and surface water).

Potential risks to human health are considered primarily using measured concentrations of chemicals in soil. Potential risks to the water environment are considered primarily using soil leachate and groundwater concentrations as indicative of the potentially mobile fraction of any soil impact.

Additional receptors may be relevant dependent on the site *e.g.*, flora/fauna, water supply pipes, buried concrete.

3.1. Human Health Assessment

3.1.1. Initial Screening Assessment

In accordance with current UK guidance on legislation including Part 2A of the Environmental Protection Act 1990 and based on the principles of risk assessment, Ramboll Environ (REH) has derived generic assessment criteria (GAC) for interpretation of soil and groundwater chemical analysis. The Ramboll Environ GAC are considered to be threshold based screening concentrations, at which a significant risk is not considered to be present to the relevant receptors.

The Ramboll Environ REH GAC for soil assessment are based on the generic scenarios outlined in the Contaminated Land Exposure Assessment (CLEA) methodology and guidance documents (incorporating Science Reports SC050021/SR2 (January 2009), SR3 (January 2009), SR4 (September 2009) and the SGV reports (2009)). The generic scenarios include inhalation, ingestion, dermal contact of soil and dust as pathways for commercial and residential scenarios; as well as ingestion of homegrown produce for residential with gardens scenario. In addition, REH GAC have also been derived for the two Public Open Space land uses defined in C4SL guidance (outlined below).

The GAC have been calculated by use of two proprietary risk assessment models (CLEA Version 1.071 and the American Society for Testing Materials Risk Based Corrective Action RBCA Tool Kit Version 2.6 for Chemical Releases) which have been altered, where necessary, to reflect the current UK approach to human health risk assessment as set out in the Contaminated Land Report (CLR) 11 and the CLEA guidance documents. The physiochemical data has been taken from or derived using the methodology detailed in SR7 (November 2008) and SGV reports (2009), where feasible. The toxicology data has been taken from the current published EA toxicology documents. We have referred to all current publications and guidance issued up until 1st May 2016.

Reference has been made to the Defra-funded research project (SP1010), which developed a methodology to derive Category 4 Screening Levels (C4SLs) for six contaminants (benzo-a-pyrene, cadmium, arsenic, benzene, hexavalent chromium and lead). SP1010 provides technical tools and advice to be developed to help regulators and others to conform to the requirements of revised Part 2A Statutory Guidance. The C4SLs are therefore less conservative than GAC developed in accordance with published CLEA guidance as they describe a low risk as opposed to minimal risk scenario. However,

consistent with the developed GAC, sites below the C4SLs are within Category 4 (lowest risk category) and therefore considered suitable for use.

Defra's SP1010 Policy Companion document (DEFRA, Dec 2014) states that where a C4SL value has been derived for a contaminant where a Soil Guideline Value (as published by the EA 2009) exists, it is anticipated that risk assessors will use the C4SL value in line with Part 2A Statutory Guidance. In the absence of a suitable C4SL, risk assessors should identify and select appropriate GAC in accordance with established good practice. On this basis, Ramboll Environ has adopted the use of C4SLs however minimal risk assumptions have been applied in-house REH GAC for other contaminants of concern within our screening assessments.

The C4SLs for the six compounds published, are based on a sandy loam soil with 6% soil organic matter (SOM). The 6% SOM and sandy loam soil type is not considered by Ramboll Environ to be realistic of 'typical' UK soil conditions, and EA guidance ('Using Soil Guideline Values' EA, 2009) states that at 6% SOM, GAC may not be sufficiently protective (i.e. the values are too high to be sufficiently certain that they describe land where there is no risk to human health or the risk is negligible). For the Ramboll Environ GAC, all the C4SL inputs have been used apart from the SOM and soil type, which were amended to 1% and sand; thereby ensuring a suitably conservative Ramboll Environ GAC appropriate for most soils and Made Ground encountered in the UK. It is noted that none of the screening criteria used in the UK, including the C4SLs, have a statutory basis.

Ramboll Environ also attended the Land Quality Management and Chartered Institute of Environmental Health workshop for the collaborative development of 'Suitable 4 Use Levels' (S4ULs) and reference has been made to their publication 'The LQM/CIEH S4ULs for Human Health Risk Assessment, 2015'.

Review of additional UK organisation guidance including Contaminated Land: Applications in Real Environments (CL:AIRE) and partners GAC, including addendums up until 10 April 2012 has also been made. Soil Guideline Values (EA/DEFRA, 2009) may also be referred to if relevant. Finally, where necessary, other published sources of (non-UK) information, such as the RBCA V2.6 database has also been reviewed.

Contaminant concentrations below the adopted GAC are not considered to present a significant risk to identified receptors and therefore are not considered to warrant further study. Contaminants which are recorded at concentrations above their respective GAC are considered to present a potential risk to identified receptors and resultantly these determinants are subject to further assessment.

3.1.2. Contaminant Distribution Assessment

Concentrations above the GAC are considered further in relation to vertical and lateral distribution across the site and through statistical analysis, where appropriate. This analysis is used to define 'averaging areas' within which contamination concentrations and distribution are considered likely to be similar.

For each averaging area, where appropriate, statistical analysis is then used to calculate a 'representative' concentration for each contaminant within that area and identify possible outliers of the underlying distribution of contaminant concentrations. This analysis is completed in accordance with CIEH 2008 guidance.

The initial statistical tests are used to calculate the 95% probability that the true population mean falls below the critical concentration (GAC). In practise, this involves comparing the 95th Upper Confidence Limit of the true population mean with the GAC. The Maximum Value test is then used to identify whether the maximum concentration is likely to lie outside of the assumed distribution trend and as such would represent an outlier of the general population of data across the site. Outliers above the GAC may represent localised contaminant hotspots and require further consideration.

Constituent non-detects are conservatively assigned a value equal to the reported analytical laboratory limit of detection. Any identified true outliers are excluded from the datasets used in calculation of the 95%UCL value.

3.2. Assessment for the Water Environment

Assessment of risks to water resources is completed in general accordance with guidance provided in the Environment Agency 2013, Groundwater Protection Principles and Practice (GP3) for England and Wales and with reference to SEPA guidance WAT–PS-10-01 in Scotland.

Generic assessment criteria for waters must be selected to assess potential risks to the identified environmental receptors.

In the absence of relevant published water assessment criteria, the potential risk to human health from contaminated surface and groundwater and the potential risk to the aquatic environment from entry of pollutants (either directly or via a groundwater pathway) has been assessed using commonly accepted UK guidelines including the Water Supply (Water Quality) (England) Regulations 2000 (known as the Drinking Water Standards, or DWS) and the Environmental Quality Standards (EQS) defined in European legislation such as the Water Framework Directive (WFD) (2000/60/EC).

Minimum reporting values are also considered for hazardous substances for assessment of risks to groundwater resources in order to comply with the requirements of the guidance to 'prevent' input of hazardous substances to groundwater.

4. GROUND GAS RISK ASSESSMENT

Ground gas risk is characterised using guidance provided in the following:

- CIRIA C665, 2007. Assessing risks posed by hazardous ground gases to buildings. (Supersedes CIRIA 659).
- NHBC / RSK, 2007. Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present. Report Ed 4.
- BS8485: 2015 Code of practice for the characterization and remediation from ground gas in affected developments.
- BS8576:2013. Guidance on investigations for ground gas – Permanent gases and Volatile Organic Compounds (VOCs)

The risk posed by a gas regime is assessed initially by calculating a Gas Screening Value using a combination of the gas flow rate and recorded concentrations of carbon dioxide and methane. This Gas Screening Value is then used in combination with the maximum recorded gas concentrations to determine the site's Characteristic Situation (CIRIA 665 – all site uses except low rise residential) or Traffic Light Classification (NHBC/RSK 2007 low rise residential sites only). Table A below outlines the method for defining the Characteristic Situation as detailed in CIRIA 665 and Table B outlines the method for defining the Traffic Light classification as detailed in NHBC/RSK 2007.

Table A: Proposed method for classifying gassing sites (after CIRIA C665 2007)

Characteristic Situation	Risk classification	Gas screening value of CH_4 or CO_2 (l/hr)[a]	Additional limiting factors	Typical source of generation
1	Very low risk	<0.07	Typically methane ≤ 1% and/or carbon dioxide ≤ 5%. Otherwise consider increase to Situation 2	Natural soils with low organic content. "Typical" Made Ground
2	Low risk	<0.7	Borehole air flow rate not to exceed 70l/hr. Otherwise consider increase to Characteristic Situation 3	Natural soil, high peat/organic content. "Typical" Made Ground
3	Moderate risk	<3.5	-	Old landfill, inert waste, mineworking flooded
4	Moderate to high risk	<15	Quantitative risk assessment required to evaluate scope of protective measures	Mineworking -susceptible to flooding, completed landfill, inert waste (WMP 26B criteria)
5	High risk	<70	-	Mineworking unflooded inactive with shallow workings near surface
6	Very high risk	>70	-	Recent landfill site

[a] Gas screening value = gas concentration (%) x measured borehole flow rate (l/hr)

Table B: Proposed method for classifying gassing sites (after NHBC/RSK 2007)

Traffic Light	Methane1		Carbon Dioxide1	
	Typical Maximum Concentration5 (%v/v)	Gas Screening Value (GSV)2,4,6 litres per hour	Typical Maximum Concentration5	Gas Screening Value (GSV)2,3,4,5

			(%v/v)	litres per hour
Green				
	1	0.16	5	0.78
Amber 1				
	5	0.63	10	1.56
Amber 2				
	20	1.56	30	3.13
Red				

The CIRIA, NHBC and BS8485 guidance documents are then used to determine requirements for gas protection measures based on the site classification.

5. WATER SUPPLY PIPES

The assessment has been completed in accordance with the current UK guidance:

- Water UK. Jan 2014. Contaminated Land Assessment Guidance.
- UKWIR UK Water Industry Research Ltd, 2010. Guidance for Selection of Water Supply Pipes to be used in Brownfield Sites.

This guidance provides threshold concentrations for different pipe material for various chemical groups.

The pipeline materials considered by the guidance are PE, PVC, wrapped steel, wrapped ductile iron or copper pipe and barrier pipe. PE and PVC are assessed using threshold concentrations for various chemical groups including volatile organic compounds (VOC) with tentatively identified compounds (TICs), semi-volatile organic compounds (SVOC) with TICs, and mineral oils. Wrapped steel, wrapped ductile iron and copper pipe are assessed using corrosive properties.

Regional water companies may have adopted additional more stringent thresholds which they apply locally, thus consultation with the water authority must always be completed prior to final determination of water supply pipe materials.

6. WASTE CLASSIFICATION

The main steps in classifying waste are:

1. Is it really a waste or can it be reused, recycled or recovered?
2. If the material is not to be utilised in some way and it is waste then classify to ascertain if hazardous or non-hazardous. In order to do this, guidance regarding the definition and classification of hazardous waste is utilised, the two main documents being EA, 2015 'Technical Guidance WM3: Waste Classification - Guidance on the classification and assessment of waste' and the European Waste Catalogue (EWC 2002).
3. Use the results of this initial waste classification to follow one of the following routes:

<table>
<tr><th colspan="3">Hazardous</th><th colspan="2">Non-Hazardous</th><th></th></tr>
<tr><td colspan="3">Pre-treat the waste.</td><td colspan="2">Thought likely to be inert:
(e.g. insoluble and inorganic in nature)</td><td>Thought unlikely to be inert:
(e.g. may contain peat or other high organic content material)</td></tr>
<tr><td colspan="3">Complete WAC (Waste Acceptance Criteria) testing to determine class of landfill it can go to or any requirement for further pre-treatment if WAC fails.</td><td colspan="2">Complete WAC test to determine class of landfill it can be disposed to</td><td>-</td></tr>
<tr><td>Pass stable non-reactive hazardous WAC: dispose of at SNRHW landfill.</td><td>Pass hazardous WAC: dispose of at hazardous landfill.</td><td>Fail: further remedial action required</td><td>Pass: dispose of at inert landfill</td><td>Fail: dispose of at non-hazardous landfill</td><td>Dispose to non-hazardous landfill (no WAC testing required by WM3).</td></tr>
</table>

The landfill regulations (Environment Agency, 2011 Treatment of Waste for Landfill) prescribe that hazardous waste requires pre-treatment prior to disposal to landfill. This may include physical sorting at the point of production on site, by sorting of waste soils into separate stockpiles of eg topsoil, made ground and natural gravels.

6.1. Methodology

In terms of the EWC, the soil to be excavated from this site for disposal is classed as 'Soil and Stones containing Dangerous Substances' (EWC Code 170503) or 'Soil and Stones other than those mentioned in EWC Code 170503' (EWC Code 170504). As such it is what is known as a 'Mirror Entry waste' and needs to be assessed against Threshold Levels for certain dangerous substances in order to confirm whether it needs to be classified as hazardous (170503) or non-hazardous (170504).

Data from site soil chemical testing have been assessed to classify the site soils. The assessment has been undertaken using HazWasteOnline ™, a web-based tool for classifying waste. The software utilises Environment Agency guidance and European regulations to classify samples in line with current requirements.

The assessment provided in this report fulfils the requirement of step 2 above, and allows classification of the site soils and hazardous or non-hazardous.

Asbestos: The Hazardous Waste (England and Wales) Regulations 2005 requires that any waste having an asbestos content greater than 0.1% weight/weight (w/w) be classified as Hazardous Waste. Any waste with an asbestos content of less than 0.1% w/w can be classified as non-hazardous waste, unless there are other contaminants present which would make the waste hazardous.

Where fibrous asbestos is present at concentrations greater than 0.001%, these can be considered to pose a risk to human health and must be dealt with as hazardous soils for disposal purposes.

Where the asbestos is deemed to be of a fibrous nature the Health and Safety Executive (HSE) require that the handling of the material is undertaken by a suitably licensed company. The Carriage of Dangerous Goods (etc.) Regulations 2009 (CDG2009) applies in this instance.

Appendix B: Contaminated Land Interpretative Report

Intended for
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Report

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ONE MEDLOCK STREET, MANCHESTER
GEOTECHNICAL INTERPRETATIVE REPORT



RAMBOLL

ONE MEDLOCK STREET, MANCHESTER
GEOTECHNICAL INTERPRETATIVE REPORT

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APPENDICES

Appendix 1

GEO-ENVIRONMENTAL FACTUAL REPORT FOR PREMIER INN, DEANSGATE, MANCHESTER. REPORT REF. MAN.260.001.GE.R.001.A, ENZYGO, AUGUST 2019.

Appendix 2

GROUNDWATER MONITORING RESULTS NOVEMBER 2020 TO JANUARY 2021

1. EXECUTIVE SUMMARY

Scope

Purpose of the report	This report summarises the findings of the ground investigation carried out at the Premier Inn site, Manchester. It provides an interpretation of the factual data obtained from the investigation in relation to the proposed redevelopment. Characteristic geotechnical parameters have been derived for foundation design and are presented in Table 6-11. A preliminary geotechnical assessment is presented in Section 7. This report was first issued (Rev 01) in September 2019. This current version (Rev P02) has been updated based on further groundwater monitoring data, revised project proposals and increased pile capacity requirements.
Proposed development	The development proposal includes construction of three blocks of multistoried buildings.

Site Information

National Grid Reference	383630E, 397160N
Current Site Description	The site is located approximately 1.3 km southwest of Manchester city centre and is approximately 0.85 Ha in area. The postcode of the site is M15 5FJ. The site is currently occupied by a Premier Inn building and a car park, pavements and hard landscaped areas and the current ground level ranges from 33.6 m AOD to 34.5 m AOD.
Site History	Historic maps show that earlier buildings at the site were demolished prior to construction of the existing Premier Inn.

Ground Investigation

Scope of Works	In May 2019 Enzygo Ltd were instructed by Whitbread PLC to carry out a ground investigation (GI) to inform the proposed development works within the site.

Ground Conditions

Geology	The geology of the site, as identified during the GI, comprises Made Ground, overlying superficial glaciofluvial deposits. The superficial deposits are underlain by the Chester Formation of Sandstone.
Groundwater	Monitoring indicates that groundwater is present within the bedrock and within the overlying glaciofluvial deposits. For the current proposals a design groundwater level of 29.2 mAOD (the highest water level monitored in the winter season) has provisionally been adopted.
Ground Aggressivity	For cast in-situ concrete the following are recommended: Design Sulphate Class of DS-1 and Aggressive Chemical Environment for Concrete (ACEC) AC-1.

Foundation Design

Pavement Foundations	A design CBR value of 15% is recommended for the design of pavement foundations and external areas except where soft Made Ground is encountered. It is recommended that at the formation level, if soft or uncharacteristic material is encountered, it should be replaced by suitably compacted acceptable granular material.

Shallow Foundations	For ground bearing structures (i.e. ground bearing floor slabs) the bearing capacity of the soil has been assessed to be suitable for use across the site, subject to removal of areas of soft or loose material and replacement with compacted structural fill.
Building Foundations	Piles founded within the Sandstone would be suitable to carry the anticipated structural column loads and to reduce settlements to within acceptable limits.

Material Re-Use

In-situ Material	It is unlikely that any in-situ material excavated as part of the works will be reused.

2. INTRODUCTION

Ramboll UK Ltd (Ramboll) has been appointed by Whitbread PLC as multidisciplinary Engineer for the Premier Inn redevelopment in Manchester. The proposed development location is shown in Figure 2-1.

As part of this work, an intrusive ground investigation was undertaken by Enzygo (Enzygo Ltd, August, 2019) in order to obtain information required to make an assessment of the underlying ground conditions. Further goundwater monitoring was carried out by Enzygo in winter 2020-21.

This report discusses the findings of the ground investigation and provides recommendations for foundation design and construction and assesses the potential risks and constraints on development at the site.

2.1 Scope and objective of the report

The purpose of the report is to summarise the nature and extent of ground and groundwater within the site boundaries, together with a geotechnical characterisation of the ground. The characterisation is to inform foundation design, design of pavements, infrastructure works and ground remedial works such that the development can be safely designed and constructed.

2.2 Description of the project

The proposal comprises the demolition of the existing building and erection of two buildings: a part 11, part 41 storey residential development; and a 13 storey commercial development (c.36,500 sqm GIA). The development includes a high quality landscaping scheme and public realm pocket park, along with service space at ground level, amenity space, car parking, cycle parking, and works to the junction of Medlock Street and River Street.



Figure 2-1 Site Plan

3. EXISTING INFORMATION

3.1 Site History

Historical Ordnance Survey maps, historical building plans and aerial imagery for the site were examined as part of the Desk Study and are presented in Section 3.0 of the Desk Study report (Ramboll, May, 2019).

The site was historically occupied by terraced housing and two public houses with later a school in the west of the site. The houses and one of the public houses were cleared around 1938. The site remained the same until around 2000 when the site was redeveloped as a hotel and car park which are still present today.

3.2 Published Geology

The BGS GeoIndex (online) [https://www.bgs.ac.uk/GeoIndex/] indicates that bedrock underlying the majority of the site is the Chester Formation of Sandstone.

Superficial Glaciofluvial Sheet Deposits (i.e. sand and gravel) are shown to be present underlying the site.

3.3 Hydrogeology and Hydrology

Groundwater vulnerability maps presented within the Envirocheck Report indicate that the glaciofluvial deposits are classified as a Secondary A aquifer. The underlying Chester Formation of Sandstone (bedrock) is classified as a Principal Aquifer, which has a high groundwater vulnerability.

The site is approx. 110 m east from a Zone 3 of a groundwater source protection zone (SPZ) defined to protect water supply abstractions. The Envirocheck report has records of four groundwater abstractions within 1 km of the site, the closest being 400 m south for Manchester Metropolitan University for heat pump and general use.

The nearest surface water feature is the River Medlock which is culverted approximately 180 m north of the site. The Envirocheck report states that Corn Brook is approx. 220 m S of the site.

3.4 Existing Ground Investigation

A site investigation was previously undertaken for the existing Premier Inn. However, this has not been made available to date. From BGS records there are 8 boreholes, which are shown to be confidential.

4. FIELD AND LABORATORY STUDIES

4.1 Ground Investigation

In order to provide information on ground conditions and material parameters to inform the design, a ground investigation was scoped and supervised by Ramboll and the field works were carried out by Enzygo (Enzygo Ltd, August, 2019).

The Ground Investigation comprised the following items of fieldwork:

- Six dynamic sampling boreholes (BH01 to BH05) followed by rotary coring to depths ranging from 9.3 m bgl (BH06) to 24.6 m bgl (BH03);
- Nine windowless sampling boreholes (WS01 to WS06B) by dynamic sampling methods to depths from 0.45 m bgl (WS04 & WS06B) to 5.0 m bgl (WS01, WS04A & WS05);
- Five Plate (600 mm diameter) Load Testing (PLT01 to PLT05) for in situ CBR determination in trial pits at approximately 600 mm below existing ground level;
- Three soakaway tests (SA) in accordance with BRE 365 at shallow depth within the top 2.0 m bgl;
- Soil sampling for geotechnical laboratory testing;
- In-situ geotechnical testing;
- Groundwater monitoring well installations;
- Surveying of all exploratory hole locations and elevations.

The data from the ground investigation is contained in the Factual Report prepared by Enzygo Ltd which is provided in Appendix 1. The exploratory hole locations are shown on Figure 4-1 Exploratory Hole Location Plan.

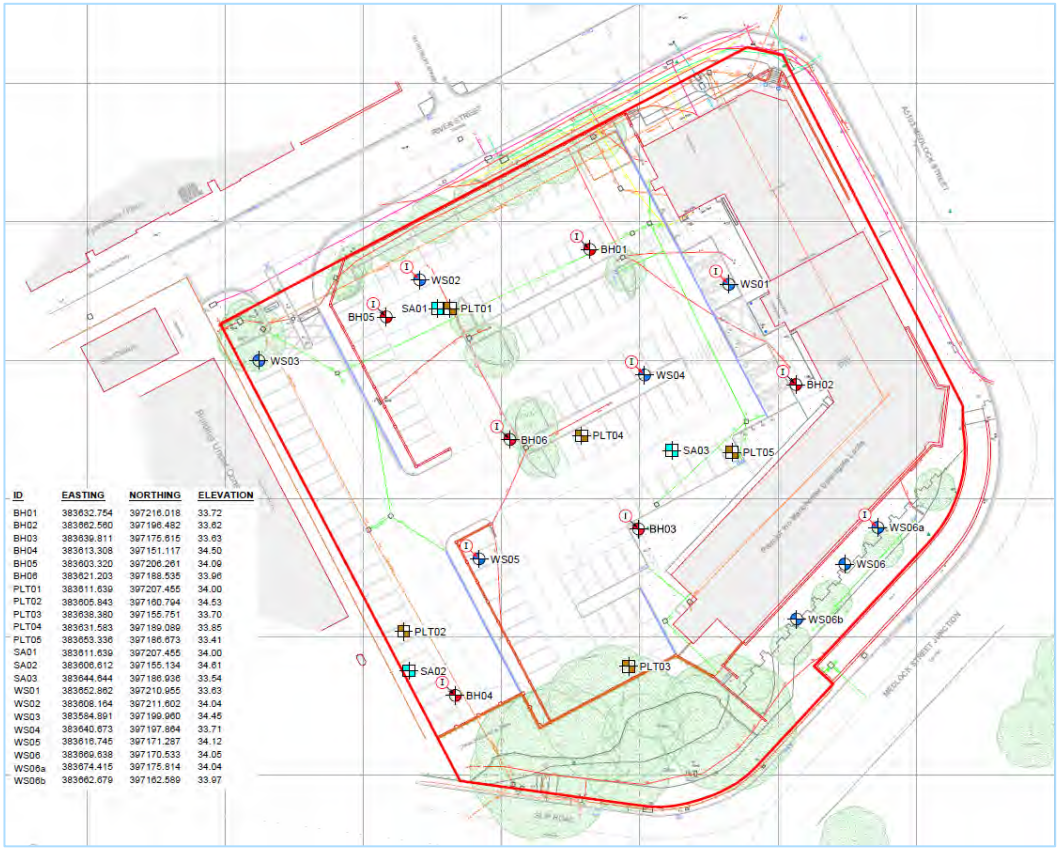


Figure 4-1 Exploratory Hole Location Plan

4.2 Laboratory Testing

Geotechnical laboratory testing was undertaken by Professional Soils Laboratory (PSL) UKAS accredited testing laboratory and chemical laboratory testing was undertaken by Envirolab UKAS accredited testing laboratory.

Copies of the laboratory test certificates are contained within the Factual report (Enzygo Ltd, August, 2019) presented in Appendix 1.

5. GROUND SUMMARY

5.1 Geology and Ground Conditions

A summary of the geological strata encountered during the ground investigation is presented in Table 5-1.

Table 5-1 Summary of Geology Encountered

Stratum		Level of Top of Stratum (m AOD)	Thickness (m)	Reference Exploratory Hole
Made Ground		33.6 to 34.5	0.4 to 5.2	BH02, BH03, WS01, BH05, BH04 & WS03 for levels, BH03 & BH04 for thicknesses
Glacial Sand and Gravel		31.0 to 33.7	1.6 to 4.6	BH06 & BH05 for both levels and thicknesses
Glacial Clay		28.9 to 29.5	3.0 to 5.8	BH03 & BH05 for levels and BH06 & BH03 for thicknesses
Sandstone	Completely Weathered Zone	23.1 to 26.5	1.0 to 3.0	BH03 & BH06 for levels
	Intact Rock	21.1 to 25.0	>13.5	

The summary of the geology encountered during the ground investigation has been used to derive the ground profile. A ground profile for design purposes is presented in Table 5-2.

Table 5-2 Design Ground Profile

Stratum		Level of Top of Stratum (m AOD)	Thickness (m)
Made Ground		34.0	1.0
Glacial Sand and Gravel		33.0	4.0
Glacial Clay		29.0	4.2
Sandstone	Weathered Zone	24.8	2.3
	Intact Rock	23.0	>13.5 (proven)

6. GROUND CONDITIONS AND MATERIAL PROPERTIES

The data presented in this section is based upon the results of the ground investigation.

The derivation of characteristic geotechnical parameters is described for the soils that are expected to be encountered. Where direct measurement of parameters has not been carried out, established correlations with measured properties have been used to derive values. Characteristic values were determined by considering derived values, directly measured values, soil descriptions and bearing in mind associated risk/consequences for design.

Characteristic values are defined as a cautious estimate of the value affecting the occurrence of a limit state based on Clause 2.4.5.2, from BS EN 1997-1: 2004 (Eurocode 7). Characteristic values will be used with appropriate partial factors in design to ensure appropriate overdesign ratios, as required.

The following plots are shown in Section 10.

Figure 10-1 SPT N60 with Level for Granular Made Ground
Figure 10-2 PSD for Granular Made Ground
Figure 10-3 SPT N60 with Level for Sand & Gravel
Figure 10-4 PSD for Sand & Gravel
Figure 10-5 SPT N60 with Level for Glacial Clay
Figure 10-6 Plasticity Index for Glacial Clay
Figure 10-7 Undrained Shear Strength with Level for Glacial Clay
Figure 10-8 UCS with Level for Sandstone

Strength
Cohesive Soils – Total Stress Parameters (Undrained)

Characteristic undrained shear strength for normally and over-consolidated cohesive soils has been assessed from the following information:

- Correlation to SPT N values using Stroud and Butler (MA & Butler, 1975), with factor f1 derived from Figure 31 CIRIA 143 (Clayton, 1995) using the Plasticity Index (PI), (f1 increases with reducing PI and generally an upper bound PI value should be selected to derive f1);
- Laboratory Unconsolidated Undrained (UU) Triaxial shear strength tests;
- Material descriptions from boreholes and windowless sampler holes, based on British Standard (BS) 5930: 2015 (BSI Global, 2015) and EC7 (BSI Global, Feb 2009)

The characteristic value for undrained strength vs. reduced level plot will be a value (or line) giving a cautious estimate of the strength, excluding any extreme values. Extreme values were reviewed, as appropriate, as they could have indicated a different soil type or other anomaly that needs to be accounted for in design.

Cohesive Soils - Effective Stress Parameters (Drained)

Effective stress (drained) strength parameters for predominantly fine grained (cohesive) soils have been derived from guidance in BS 8004:2015 (BSI Global, 2015)

$$\Phi' = 42^{\circ} - 12.5 \times \log_{10}(I_p)$$

Granular Soils
For soils described as sands and/or gravels, and assessed as well-graded, SPT N_{60} values have been used to interpret the effective angle of shearing resistance (φ') using the relationship of Peck, Hanson and Thorburn (Peck, Hanson, & Thornburn, 1974).

The results obtained have been checked as appropriate against the method described in BS 8004:2015 (BSI Global, 2015).

For sands and gravels, a characteristic value of c' = 0 kN/m² has been recommended for design in accordance with BS8004:2015 (BSI Global, 2015).

Rock
A combination of the point load index test results and the unconfined compressive strength (UCS) results have been used to derive characteristic strength values for the bedrock. Bowden et al (AJ Bowden, 1998) suggest that the correlation between UCS and point load $Is_{(50)}$ can be described using the following equation:

$$UCS = k \times Is_{(50)}$$

Stiffness and Compressibility
Cohesive Soils
Where determination of settlement of foundations on cohesive soils is required then stiffness has been assessed from SPT N values using the relationship described in CIRIA Report 143 (Clayton, 1995).

Stiffness based on Young's Modulus (E_u) has been assessed using correlations between the undrained shear strength, plasticity index and over-consolidation ratio as expressed in Tomlinson (Tomlinson, 1994). The relationship between E_u and E' has been described using the following relationship:

$$E' = \{0.66 \text{ to } 0.8\} \times E_u$$

The relationship between the undrained shear strength (C_u) and stiffness (E_u) is considered from the chart suggested by Jamiolkowski *et. al*. (1979) (Jamiolkowski, 1979).

The settlements calculated from soil modulus values interpreted following the guidance in CIRIA Report 143 are likely to represent worst case settlements.

Granular Soils
Where settlement calculations for foundations in granular soils are required, settlement of granular soils has been determined using the following relationship between SPT N values and E' as stated in CIRIA Report 143 (Clayton, 1995).

$$E' \approx 1 \times N_{60}$$

Aggressivity

The soil chemistry has been assessed in accordance with BRE Special Digest 1 (BRE Construction Divison, 2005) to provide guidance on the concrete class required for embedded structures.

6.1 Made Ground

Made Ground (granular) was encountered in all exploratory boreholes with thickness ranging from 0.4 m (BH03) to 5.2 m (BH04). Made Ground comprised red brown slightly clayey sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, macadam, concrete and sandstone. Sand is fine to coarse.

6.1.1 *Material Testing*

The in-situ and geotechnical laboratory tests listed in Table 6-1 were undertaken on Made Ground materials.

Table 6-1 Geotechnical Soil Testing of Made Ground

Geotechnical Test	Number	Limits		
		Upper	Lower	Average
Particle Size Distribution – Cobbles (%)	6	15	0	4
Particle Size Distribution – Gravel (%)	6	67	20	40
Particle Size Distribution – Sand (%)	6	66	27	39
Particle Size Distribution – Silt / Clay (%)	6	46	5	17
Standard Penetration Test (SPT), N_{60}	9	21	1	12
Plate Load Test – CBR (%)	5	12	17	15
Aggressivity – pH	8	7.7	11.1	-
Aggressivity – WS Sulphate (mg/L)	8	370	18	-

6.1.2 *Geotechnical Interpretation*

The Standard Penetration Test (SPT) results indicate that the Made Ground is medium dense to dense. The results are plotted in Figure 10-1. A characteristic SPT N_{60} value of 10 has been selected for design, which corresponds to an angle of internal friction of Ø'= 30°.

Based on information from the borehole log descriptions and Table 1 in BS 8002: 2015 Earth Retaining Structures, the characteristic unit weight has been estimated as 18 KN/m^3.

A characteristic stiffness (E') of 10 MPa has been adopted, based on the SPT results.

Five Plate Load Tests (PLT) were undertaken at depths ranging from 0.45 mbgl to 0.6 mbgl, using a 600mm diameter plate. CBR values were calculated from a range from 12% to 17% with an average of 15%. Considering the soil description and PLT test results a characteristic CBR value of 15% is considered appropriate for the site.

6.1.3 *Geotechnical Characteristic Design Parameters for Made Ground*

The Made Ground was encountered in all exploratory hole locations across the site.

The soil descriptions, in-situ testing and laboratory testing have been used to derive the geotechnical characteristic parameters in Table 6-2.

Table 6-2 Geotechnical Characteristic Parameters for Made Ground

Made Ground Characteristic Values	
Unit Weight – ɣ (kN/m3)	18
CBR (%)	15
Effective Stress – c' (kPa)	0
Effective Stress – φ' (deg)	30
Effective Stress – E' (MPa)	10
Design Sulphate Class	DS-1
Aggressive Chemical Environment Class	AC-1

6.2 Sand and Gravel (Glaciofluvial Sheet Deposits)

Medium dense brown Sand and Gravel was encountered beneath the Made Ground. Sands are described as orange brown slightly gravelly fine to coarse and gravels are described as subangular to subrounded fine to coarse of quartz, sandstone and granite.

The thickness of the Sand and Gravel layer ranged from 1.6 m (BH06) to 4.6 m (BH05).

Table 6-3 summarises the tests which were undertaken on the Sand and Gravel.

Table 6-3 Geotechnical Soil Testing of Sand and Gravel

Geotechnical Test	Number	Limits		
		Upper	Lower	Average
Particle Size Distribution – Cobbles (%)	10	0	0	0
Particle Size Distribution – Gravel (%)	10	74	6	43
Particle Size Distribution – Sand (%)	10	79	23	45
Particle Size Distribution – Silt / Clay (%)	10	55	3	12
Standard Penetration Test (SPT)	34	59	4	22
Soakaway Test, Infiltration f (m/s)	3	6.14E-05	1.31E-05	3.86E-05
Aggressivity – pH	15	7.1	8.3	-
Aggressivity – WS Sulphate (mg/L)	15	90	12	-

6.2.1 *In-Situ Testing*

Thirty-four SPTs were carried out in the Sand and Gravel layer which showed SPT N_{60} values ranging from 4 (WS04) to 59 (BH06).

The relationship between the reduced level and the SPT N_{60} value is plotted on Figure 10-3 and an SPT N_{60} of 14 is considered appropriate.

6.2.2 *Soakaway Testing*

Three trial pit soakaway tests were carried out as part of the ground investigation in accordance with BRE 365 at shallow depth.

Copies of the soakaway test results are contained within the Factual report (Enzygo Ltd, August, 2019) presented in Appendix 1 and a summary of the testing is given in Table 6-4.

Table 6-4 Summary of Soakaway Tests

Test Location	Depth (m bgl)	Effective Depth, m	Soil Descriptions / Strata	Infiltration Rate, f (m/s)
SA01	2.5	1.5	Made Ground and Glaciofluvial Sheet Deposits	4.13E-05
SA02	2.3	1.3	Glacial Till and Glaciofluvial Sheet Deposits	1.31E-05
SA03	2.0	1.4	Glaciofluvial Sheet Deposits	6.14E-05

6.2.3 *Strength Parameters*

Based on an SPT N_{60} value of 14, the corresponding angle of internal friction, Ø'= 32°.

Value for unit weight , taken from the borehole log descriptions and Table 1 in BS 8002: 2015 Earth Retaining Structures, as conservatively estimated to be 19 kN/m^3.

For the Sand and Gravel, a value for drained Young's Modulus, E', for shallow foundations has been approximated as 14 MPa.

6.2.4 *Geotechnical Characteristic Parameters for Sand and Gravel*

The soil descriptions and in-situ and laboratory test results have been used to derive the geotechnical characteristic parameters in Table 6-5.

Table 6-5 Geotechnical Characteristic Parameters for Sand and Gravel

Sand and Gravel Characteristic Values	
Unit Weight – ɣ (kN/m3)	19
Effective Stress – c' (kPa)	0
Effective Stress – φ' (deg)	32
Effective Stress – E (MPa)	14
Design Sulphate Class	DS-1
Aggressive Chemical Environment Class	AC-1

6.3 Glacial Clay (Glacial Till)

The Glacial Clay was described as stiff consistency grey brown slightly sandy gravelly Clay. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. The Glacial Clay was encountered with a range of thickness from 3.0 m (BH06) to 5.8 m (BH03) with an average of 4.4 m. The in-situ and geotechnical laboratory tests listed in Table 6-6 were undertaken on Glacial Clay.

Table 6-6 Geotechnical Soil Testing of Glacial Clay

Geotechnical Test	Number	Limits		
		Upper	Lower	Average
Liquid Limit (%)	10	40	31	35
Plastic Limit (%)	10	21	16	18
Plasticity Index (%)	10	20	15	18
Standard Penetration Test (SPT)	13	59	12	30
Undrained Triaxial Test, Cu (kPa)	2	160	131	145
Aggressivity – pH	4	8.3	8.1	-
Aggressivity – WS Sulphate (mg/L)	4	93	58	-

Plasticity Index and Liquid Limit results indicate that the Glacial Clay is a low to intermediate plasticity clay.

Values for unit weight , taken from the borehole log descriptions and Table 1 in BS 8002: 2015 Earth Retaining Structures, are conservatively estimated to be 19 KN/m^3.

6.3.1 In-Situ Testing

Thirteen SPTs were carried out in the Glacial Clay layer which showed SPT N_{60} values ranging from 12 to 59; however, there is no appreciable increase with depth. The relationship between the reduced level and the SPT N_{60} value is plotted on Figure 10-5 a characteristic design SPT N of 20 is considered appropriate for the Glacial Clay.

6.3.2 Strength Parameters

The characteristic undrained shear strength has been derived considering the correlation between the SPT N_{60} and plasticity index using an f_1=5.0. When undrained strength derived from SPT N_{60} and triaxial (UU) test results are plotted on a chart (Figure 10-7) there is no appreciable increase in depth. An undrained shear strength value of 100 kN/m^2 is considered appropriate.

Based on a Plasticity Index of 18 (average) for the material, the following correlation is adopted:

$$E_u = 300 \times c_u$$

Therefore, E_u can be taken as 30 MPa.

6.3.3 Geotechnical Characteristic Parameters for Glacial Clay

Table 6-7 presents the recommended geotechnical characteristic values for the Glacial Clay.

Table 6-7 Geotechnical Characteristic Parameters for Glacial Clay

Glacial Clay Characteristic Values	
Unit Weight – ɣ (kN/m3)	19
Effective Stress – c’ (kPa)	1
Effective Stress – φ’ (deg)	27
Effective Stress – E’ (MPa)	18

Total Stress – C_u (kPa)	100
Total Stress – E_u (MPa)	30
Design Sulphate Class	DS-1
Aggressive Chemical Environment Class	AC-1

6.4 Weathered Sandstone

The upper horizon of the Sandstone is completely weathered and has been considered as very dense sand. Weathered sandstone was encountered in all six exploratory holes (BH01 – BH06) and comprises very dense red brown slightly gravelly fine to coarse Sand. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite (Weathered Chester Formation of Sandstone).

The top of the weathered sandstone ranges from 23.0 m AOD (i.e. 10.5 m bgl) in BH03 to 25.5 m AOD (i.e. 7.5 m bgl) in BH06. The thickness of the layer was proven to a range from 1.0 m to 3.0 m.

The value for unit weight, taken from the borehole log descriptions and considering granular residual soil Table 1 in BS 8002: 2015 Earth Retaining Structures, is conservatively estimated to be 19 KN/m^3.

6.4.1 In-Situ Testing

Nine SPTs were carried out in the weathered sandstone; one test recorded an SPT N_{60} value of 21 (discounted as it appears to be erroneous and is not representative), and the others all refused (i.e. an N_{60} value of greater than 50 was recorded).

A characteristic SPT N_{60} value of 50 is considered appropriate for the weathered rock.

6.4.2 Strength Parameters

Based on the SPT results a friction angle (angle of internal friction) of 40° is recommended for the weathered sandstone.

Using the correlation given in 6.2.2 above, a drained Young's Modulus in the order of 50 MPa can be taken for the weathered sandstone.

6.4.3 Geotechnical Characteristic Parameters for Weathered Sandstone

Table 6-8 presents the recommended geotechnical characteristic values for the weathered Sandstone.

Table 6-8 Geotechnical Characteristic Parameters for Weathered Sandstone

Weathered sandstone Characteristic Values	
Unit Weight – ɣ (kN/m3)	19
Effective Stress – c’ (kPa)	0
Effective Stress – φ’ (deg)	40
Effective Stress – E’ (MPa)	50

6.5 Intact Sandstone

Intact Sandstone was encountered in five deep exploratory hole investigations. Intact Sandstone was typically described as weak to medium strong red brown slightly gravelly fine to coarse Sandstone. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. The bedrock fractures are subhorizontal (0-25°), very close to closely spaced.

The depth of the top of the sandstone ranged from 9.0 m bgl (i.e. 25.0 m AOD) in BH06 to 12.5 m bgl (i.e. 21.1 m AOD) in BH02. The full extent of this stratum was not explored, but it was proven to a thickness of 13.5 m.

The geotechnical laboratory tests listed in Table 6-9 were undertaken on intact Sandstone.

Table 6-9 Geotechnical Soil Testing of Intact Sandstone

Geotechnical Test	Number	Limits		
		Upper	Lower	Average
Moisture Content (%)	13	15	10	13
Bulk Density (Mg/m^3)	13	2.59	2.14	2.32
Unconfined Compressive Strength, UCS (MPa)	13	15.2	4.1	7.5
Point Load Index, Is50 (MPa)	30	0.59	0.06	0.24

The bulk densities of the Sandstone were found to range from 2.14 Mg/m^3 to 2.59 Mg/m^3 and a characteristic value of 2.32 Mg/m^3 has been taken for the stratum.

6.5.1 Strength Parameters

Thirteen Unconfined Compressive Strength (UCS) tests and thirty Point Load Index (PLI) were conducted on the sandstone. The PLI tests results were converted to UCS using k of 20 as suggested by Tomlinson (Tomlinson, 1994). This conversion results in a lower design UCS value than the UCS test data suggests. The lower value is considered appropriate, because PLI tests are typically carried out on smaller pieces of rock, whereas UCS tests require larger specimens so can give an unconservative impression of the intact strength of the material. The data are shown in (Figure 10-8), along with a design line showing the characteristic UCS value of 3.0 MPa which has been adopted.

6.5.2 Geotechnical Characteristic Parameters for Intact Sandstone

Table 6-10 presents the recommended geotechnical characteristic values for the Intact Sandstone.

Table 6-10 Geotechnical Characteristic Parameters for Intact Sandstone

Intact Sandstone Characteristic Values	
Unit Weight – ɣ (kN/m3)	22
Unconfined Compressive Strength UCS – σc (MPa)	3.0

6.6 Summary of Material Parameters

A summary of recommended characteristic parameters is presented in Table 6-11.

Table 6-11 Summary of Soil Parameters

Strata Type	Unit Weight (kN/m^3)	Effective Stress		Total Stress		Aggressivity	
		ϕ′ (deg)	E′ (MPa)	c_u (kPa) / UCS (MPa)	E_u (MPa)	DS Class	ACEC
Made Ground	18	30	10	-	-	DS-1	AC-1
Sand and Gravel	19	32	14	-	-	DS-1	AC-1
Glacial Clay	19	27	18	100	30	DS-1	AC-1
Weathered Sandstone	19	40	50	-	-	-	-
Intact Sandstone	22	-	-	UCS=3.0	-	-	-

6.7 Groundwater

Groundwater strikes were not observed during the ground investigation. BH04 recorded that soil at 0.7 m bgl within Made Ground was damp.

The following discussion excludes isolated readings which appear to be spurious.

Twelve groundwater monitoring wells were installed within the exploratory holes, and groundwater monitoring was undertaken in two phases: Summer 2019 and Winter 2020/21. The winter monitoring was carriedout to ensure that the data picked up any seasonal variation which may occur. The average increase in water level between the two periods, per well, was 0.2m.

The summer results are included in the Enzygo factual report in Appendix 1, and the winter results are included as Appendix 2.

The results from the boreholes with monitoring response zones in bedrock indicate that the groundwater table in the sandstone aquifer is at a depth in the range 24.2 to 25.0 mAOD, which corresponds approximately to the top of the bedrock, or towards he base of the glacial deposits. The depths at which water was encountered are relatively consistent throughout both periods of monitoring, and between boreholes with varying depths of monitoring installation response zone.

Window sample boreholes were installed with 'shallow' response zones (i.e. at various depths within the superficial material above bedrock). The deepest response zone of these wells extended to 29.1mOD, in WS05. None of these wells recorded groundwater during the monitoring visits.

Borehole BH06 was installed with a response zone from 27.0 to 30.0 mAOD (4.0 to 7.0m bgl), i.e. entirely within the glacial deposits which at this location comprised bands of sand and clay. Water was recorded at a depth in the range 29.1 to 29.2 mAOD throughout the monitoring periods. The glaciofluvial deposits in which the water was encountered are classified as a Secondary Aquifer.

Based on the current design proposals, the formation level for the majority of the site will be within the glacial materials. Therefore the data from BH06 should be provisionally adopted as the design groundwater level (29.2 mAOD). It is unclear whether this represents a large body of water or a localised pocket; but the level is consistent throughout the monitoring periods so it must be assumed that the water is being recharged. A sensibly conservative assumption therefore is that perched water will remain at this level during and post-construction and so it must be accounted for in the design. Should the design involve excavation to greater depth, thereby puncturing the glacial till layer and effectively providing a permanent drainage pathway for the perched water, a re-assessment of the design water level would be recommended.

7. PRELIMINARY GEOTECHNICAL ASSESSMENT

The proposed buildings are medium and high rise structures which will impart large loads onto the foundations. Conventional shallow pad foundations are unlikely to be suitable for transferring structural loads without the risk of excessive settlement or bearing failure, due to the variability in composition and thicknesses of superficial materials. A raft foundation has not been ruled out at this stage, particularly for the central area of the office building. However, raft foundations for the whole structure are unlikely to be appropriate because of:

- Practical constraints associated with excavation near the boundaries of the site;
- Proposed basement levels are for the majority of the footprint insufficiently deep to facilitate founding on bedrock without significant additional excavation and temporary works, as well as additional disposal of material off-site;
- The orientation of the buildings is such that a combined raft would be long compared to its width and may not offer sufficient support.

Piled foundations have therefore been considered as the most likely foundation solution for supporting structural column loads.

7.1 Piled Foundation Assessment

To provide suitable resistance to the design loads, it will be necessary to found piles within the sandstone bedrock. The pile design will derive resistance primarily from shaft friction and end-bearing within the bedrock, with some contribution to shaft friction from the superficial deposits (i.e. made ground/glacial sand & gravel/glacial clay).

The intact bedrock (sandstone) at the site is encountered typically at depth of 9.0 to 12.5 m bgl (i.e. 25.0 m AOD to 21.1 m AOD) with an average depth of 11.5 m bgl (23.0 m AOD).

Appropriate Eurocode material, action, and resistance factors have been used to calculate indicative pile capacities, which are presented in Table 7-1. The ground model has conservatively assumed that the rock strength remains constant with depth. The capacities assume that piles commence at existing ground level.

Verification of the design concrete strength should be made to ensure that the structural strength of the pile is appropriate to achieve the design loads. Higher strength concrete may be required for longer/higher capacity piles, or conversely the concrete strength may be a limiting factor on available pile capacities.

Continuous Flight Auger (CFA) piles are likely to represent the most economical and practical solution for pile diameters up to 900mm, and pile lengths up to 6m. Beyond this, conventional bored piles are likely to be more feasible. The advice of a piling specialist should be sought with regard to the optimal method of piling, and pile capacities for the ground conditions identified.

Table 7-1 Indicative Pile Capacity

Pile Diameter (mm)	Intact Rock Socket Length (m)	Ultimate Bearing Resistance Compression, Unfactored (kN/Pile)	EC7 Bearing resistance Compression (kN/Pile)		EC7 Tension Resistance (kN/Pile)
			ULS Set B	ULS Set C	
600	2	3690	2635	1495	710
	3	4370	3120	1795	955
	4	5045	3605	2100	1195
750	2	5140	3675	2060	890
	3	5990	4280	2435	1190
	4	6840	4885	2815	1495
900	2	6810	4860	2695	1065
	3	7825	5590	3150	1430
	4	8845	6315	3605	1795
1050	2	10418	7442	4033	1247
	3	11606	8290	4563	1671
	4	12793	9138	5093	2095
	5	13981	9986	5623	2519
	6	15169	10835	6153	2943
	7	16356	11683	6683	3367
	8	17544	12531	7213	3792
	9	18731	13379	7744	4216
	10	19919	14228	8274	4640
1200	2	13038	9313	5013	1425
	3	14395	10282	5618	1910
	4	15752	11252	6224	2394
	5	17109	12221	6830	2879
	6	18466	13190	7436	3364
	7	19824	14160	8042	3849
	8	21181	15129	8648	4333
	9	22358	16099	9254	4818
	10	23895	17068	9860	5303

7.2 Excavations

During shallow excavations (i.e. excavation within the made ground) if groundwater is present within the surrounding soils this is likely to be a localised perched water body and based on the findings of the ground investigation, any such water flows at shallow depth would not be persistent.

Excavations into the glaciofluvial sands are likely to encounter groundwater at depths of approximately 4.75m (29.2 mAOD) and greater. This could result in significant and persistent flows into excavations. Dewatering control methods would need to be developed during detailed design and this could involve the need for further monitoring or investigation.

7.3 Pavement Foundation Design

The presence of, and nature of Made Ground (i.e. CBR values ranging from 12% to greater than 17%) suggests that a pavement foundation might be achieved in this material without ground improvement such as excavation/replacement or appropriate compaction of the made ground. A design CBR value of 15% is recommended.

The pavement foundation material and thickness are dependent on the foundation design class. It is recommended that this is determined by the highways/pavement engineer for the scheme.

The subgrade CBR should be verified at representative locations by in-situ testing during construction. If the CBR attained from this testing is less than the design CBR, the guidance of the engineer should be sought.

7.4 Shallow Foundation Design

The made ground is typically medium dense granular material and as such might be suitable for supporting loads from conventional shallow foundations, subject to inspection and assessment.

Because of the uncertainties associated with founding in made ground, and the likely scale of the proposed structures, piled foundations are recommended as described in Section 7.1. It may be appropriate to construct small, ancillary structures on shallow foundations providing the formation is suitably prepared prior to construction.

For light structures which will require shallow foundations, the bearing capacity of the soil has been assessed based on guidelines provided in EC7 Annex D.

The bearing resistance for the Made Ground at 1.0 m below existing ground level is approximately 150 kN/m^2 [EC7 Design Approach 1 Combination 2]. Settlements at this loading intensity are anticipated to be less than 20 mm.

Based on this assessment, shallow foundations for lightly loaded structures are assessed to be suitable for use across the site, subject to suitably prepared the formation prior to construction.

The site is likely to be suitable for ground-bearing floor slabs, subject to inspection and proof-rolling of the formation.

7.5 Working Platform

A working platform will be required for all piling works that are to take place across the site as well as any other works requiring tall/heavy plant. The working platform should be designed, installed, maintained and repaired in accordance with appropriate standards such as BRE document BR470 'Working platforms for tracked plant' (2004), (BRE Construction Division, 2004), and comply with FPS requirements for certification.

8. GEOTECHNICAL RISK REGISTER

This section considers the geotechnical risks associated with the project. This register should be updated in subsequent phases of the project and be carried through design and construction. An assessment of geotechnical risks is presented in Table 8-1.

Table 8-1 Geotechnical Risk Register

Geotechnical Hazard Description	Current Risk Rating (Prior to Risk Control Measures being Applied)	Description of Current Risk	Risk Control Measures
Unexpected/ unfavourable ground conditions	Medium	In-situ tests show loose to medium dense strength of Made Ground hence potential for excessive/ differential settlement.	Consider a foundation solution that will found on suitable strength soil or structural fill. Appropriate design parameters adopted.
Distortion of Pavement	Low-medium	Poor subgrade materials yield under traffic loading and cause surfacing to crack or deform.	Pavement foundation to be designed based on CBR of subgrade. Soft areas to be removed and replaced and recompacted.
Excessive settlement of foundations	Low-medium	Minor structures on shallow foundations may settle excessively or experience differential settlement.	Design using appropriate partial factors to minimise serviceability issues.
Ground aggressivity	Low	Water soluble sulphate concentrations in the Made Ground, Concrete classification of DS-1 AC-1 for the site.	Use the appropriate concrete classification for cast in-situ concrete.
Groundwater	Medium	Perched groundwater may ingress to shallow excavations. destabilisation of deep excavations works.	Use appropriate water barriers or water pump during excavation. Further investigation if necessary for temporary works design.
Encountering uncharted buried services	Low	Risk of delay and health & safety issues where uncharted services are encountered.	Ensure all services information is provided to contractor. Carry out underground services / utilities survey prior to starting ground works. Be vigilant during all excavations during construction.
Buried obstructions	Low – Medium	Risk of delay where unknown existing sub-structures or obstructions are encountered and require breaking out. Note that obstructions were not encountered during the ground investigation.	Contractor to develop and implement necessary measures to minimise the impact of buried obstructions.

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10. FIGURES

Figure 10-1 SPT N60 with Level for Granular Made Ground

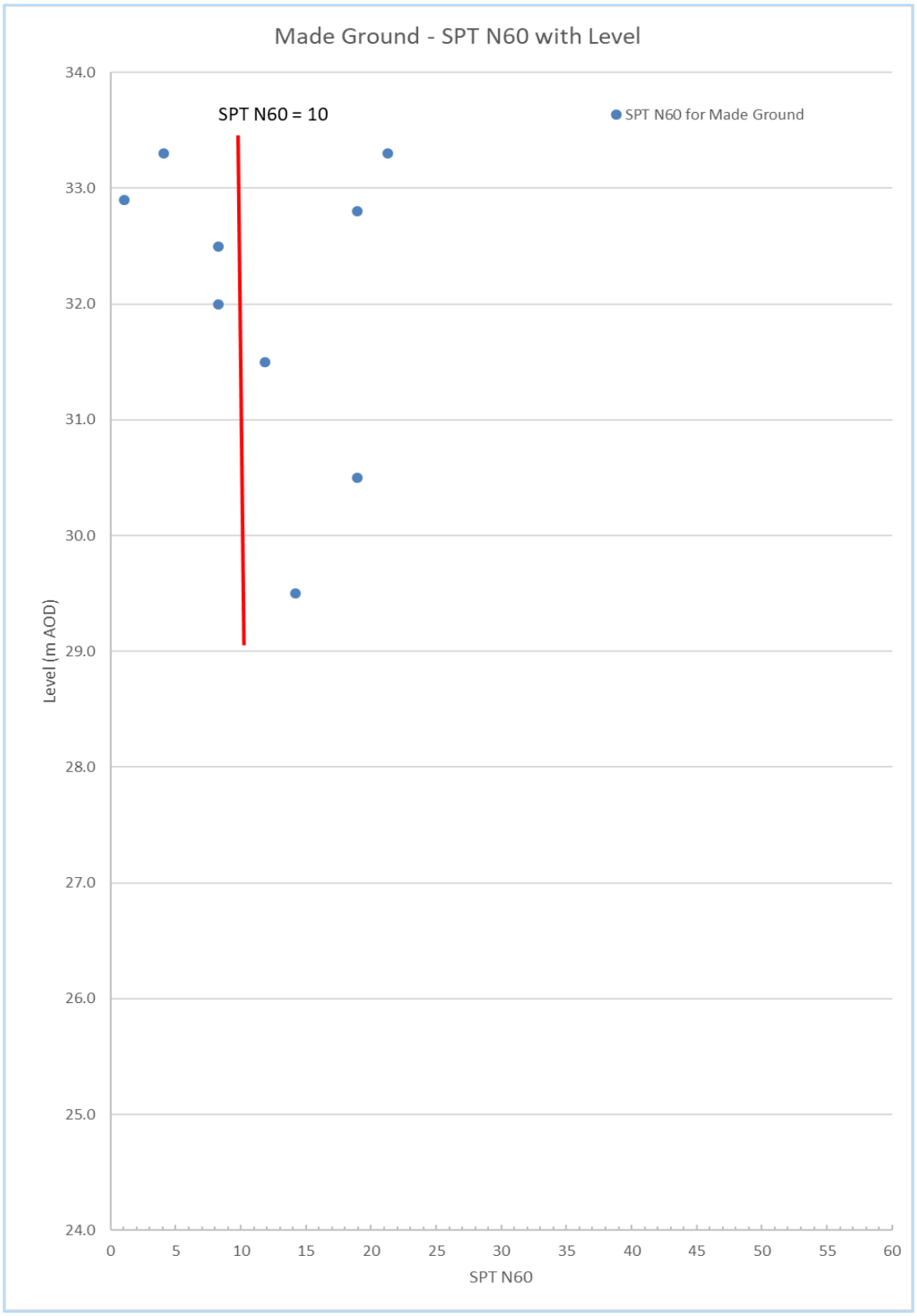


Figure 10-2 PSD for Granular Made Ground

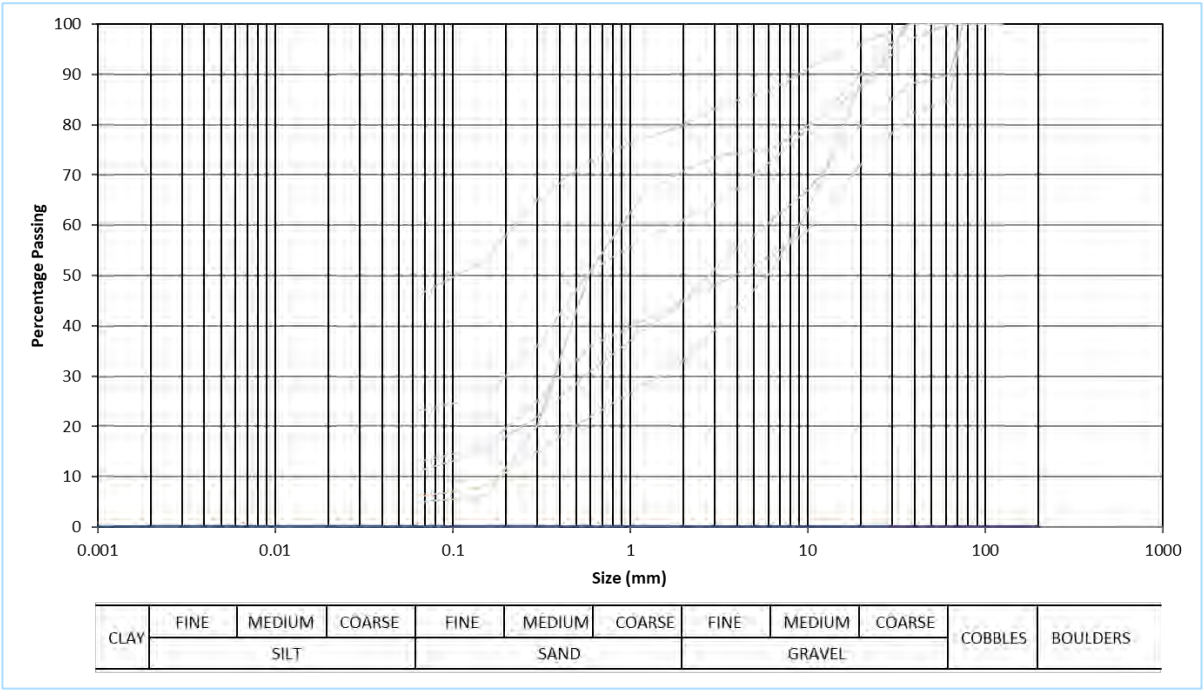


Figure 10-3 SPT N60 with Level for Sand & Gravel

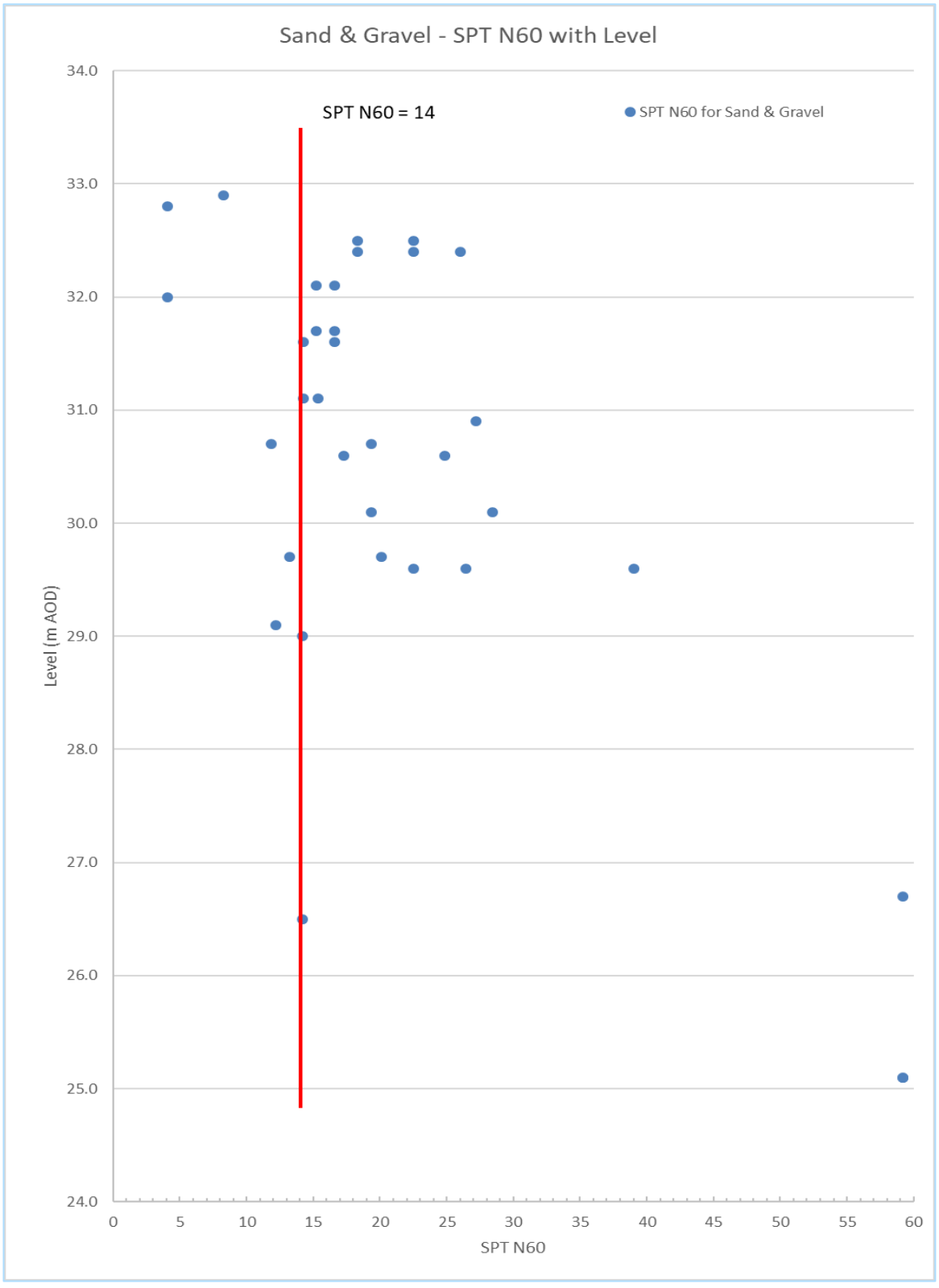


Figure 10-4 PSD for Sand & Gravel

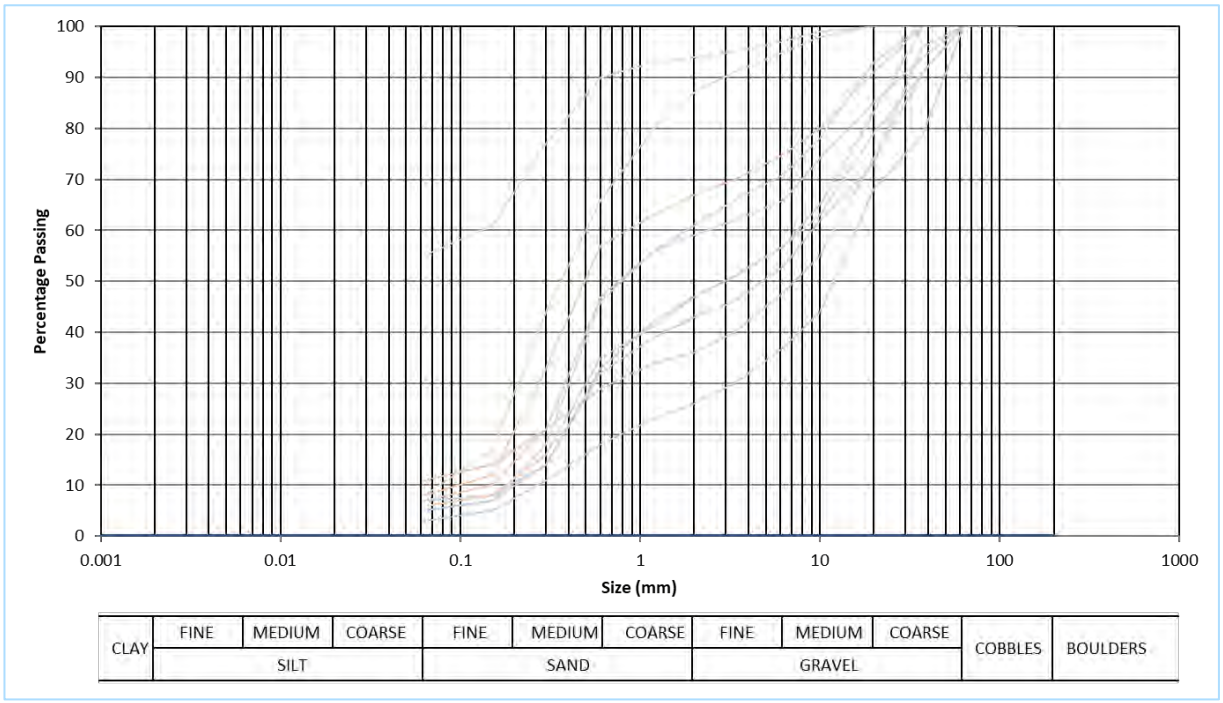


Figure 10-5 SPT N60 with Level for Glacial Clay

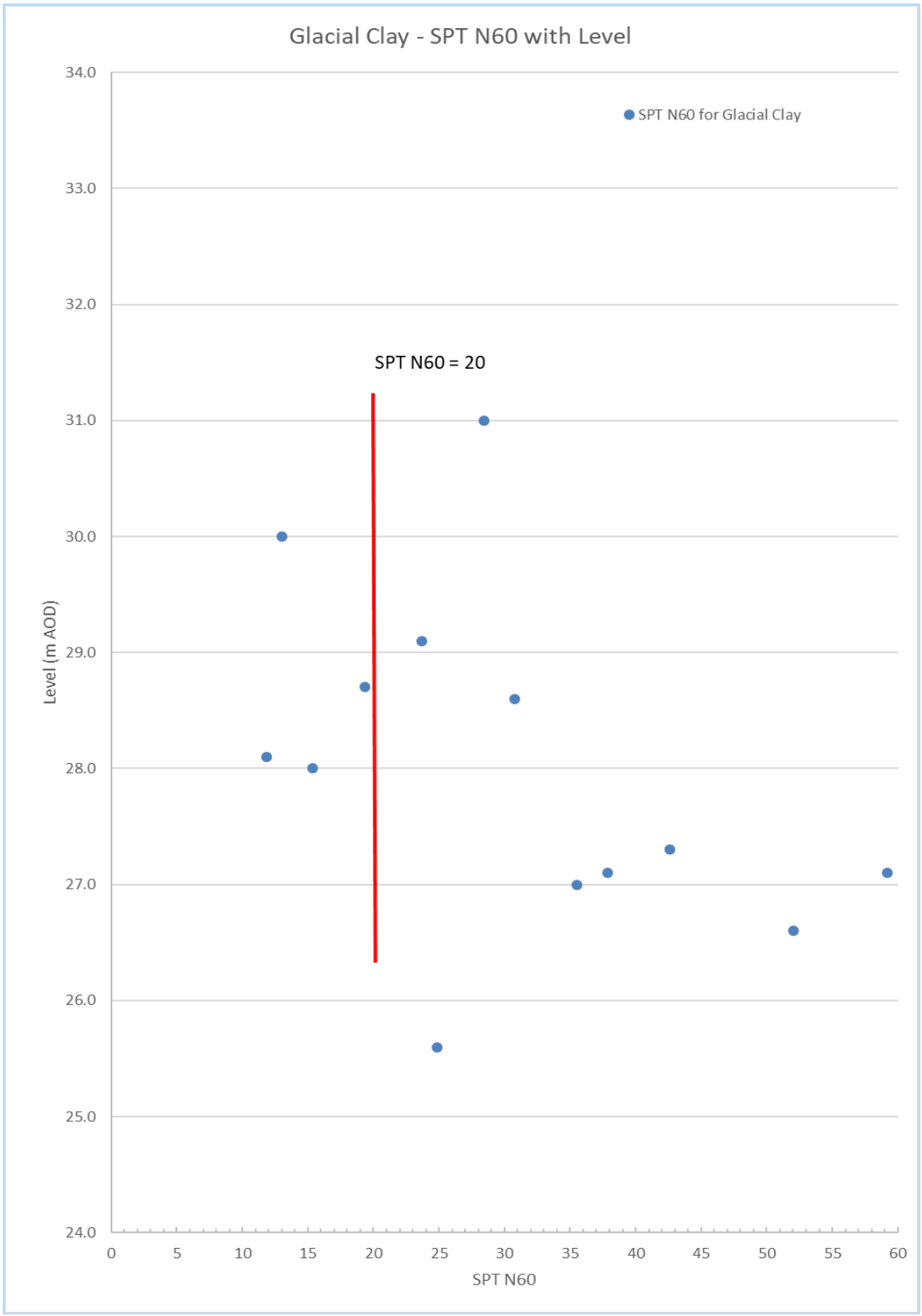


Figure 10-6 Plasticity Index for Glacial Clay

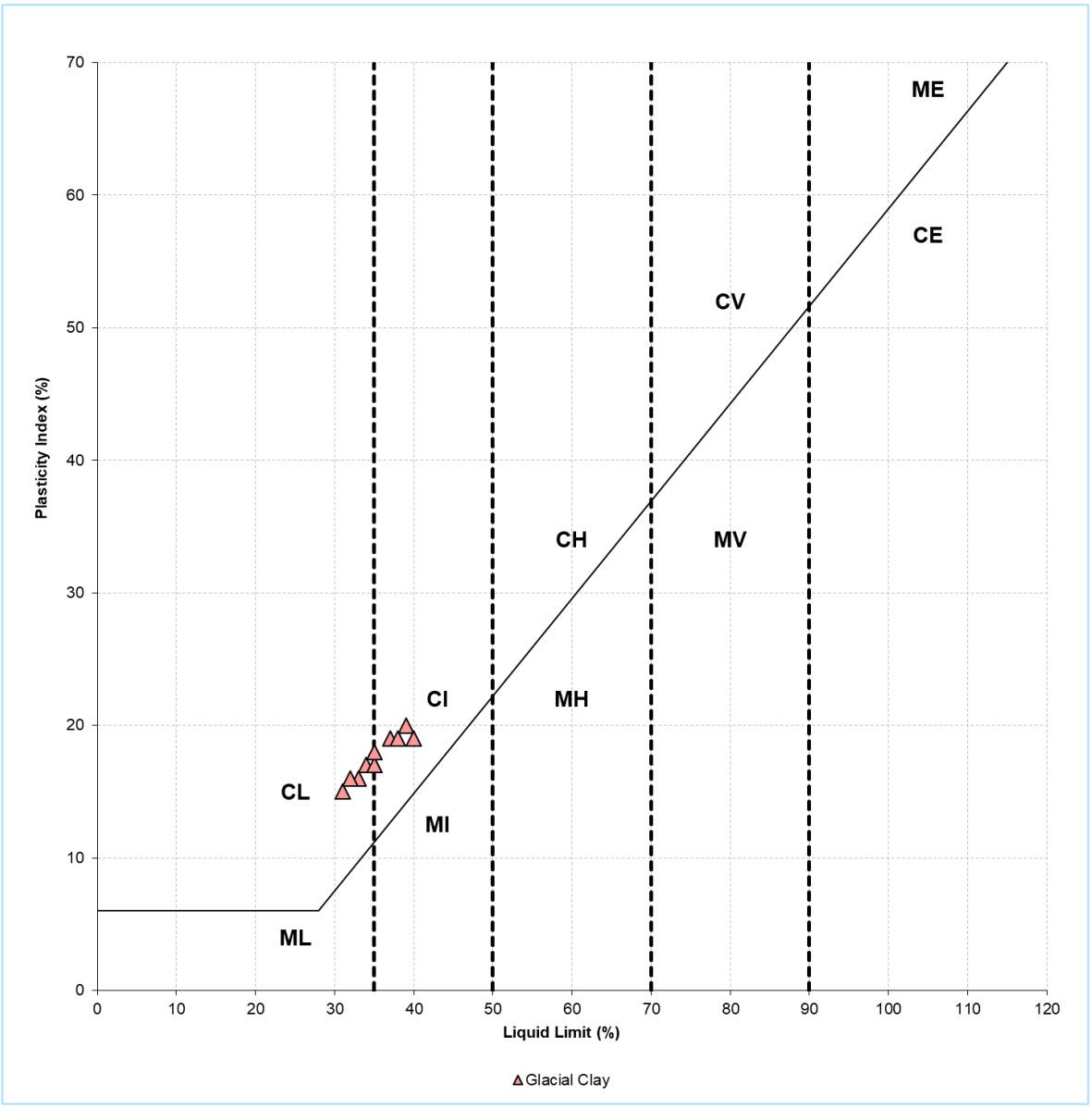


Figure 10-7 Undrained Shear Strength with Level for Glacial Clay

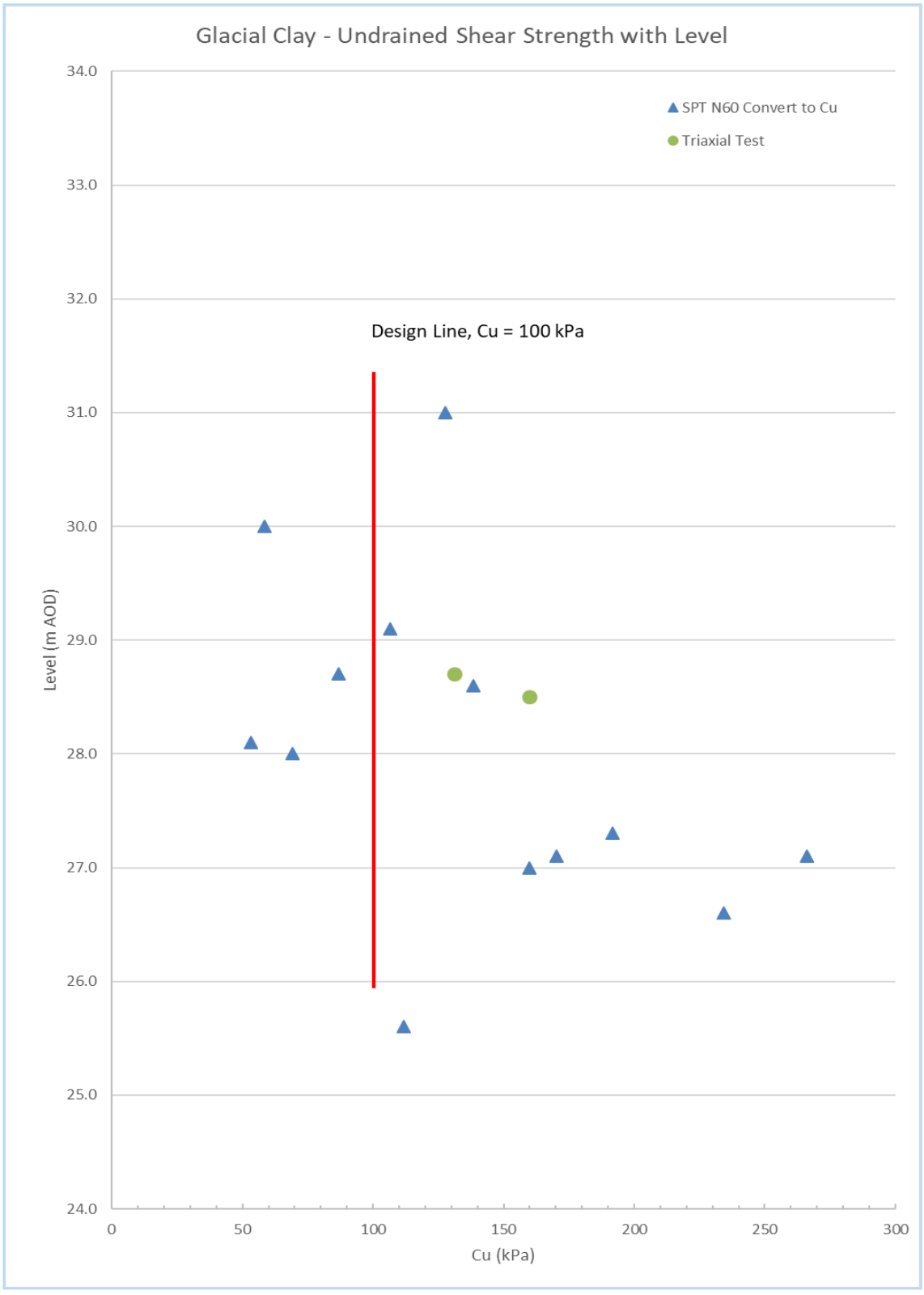
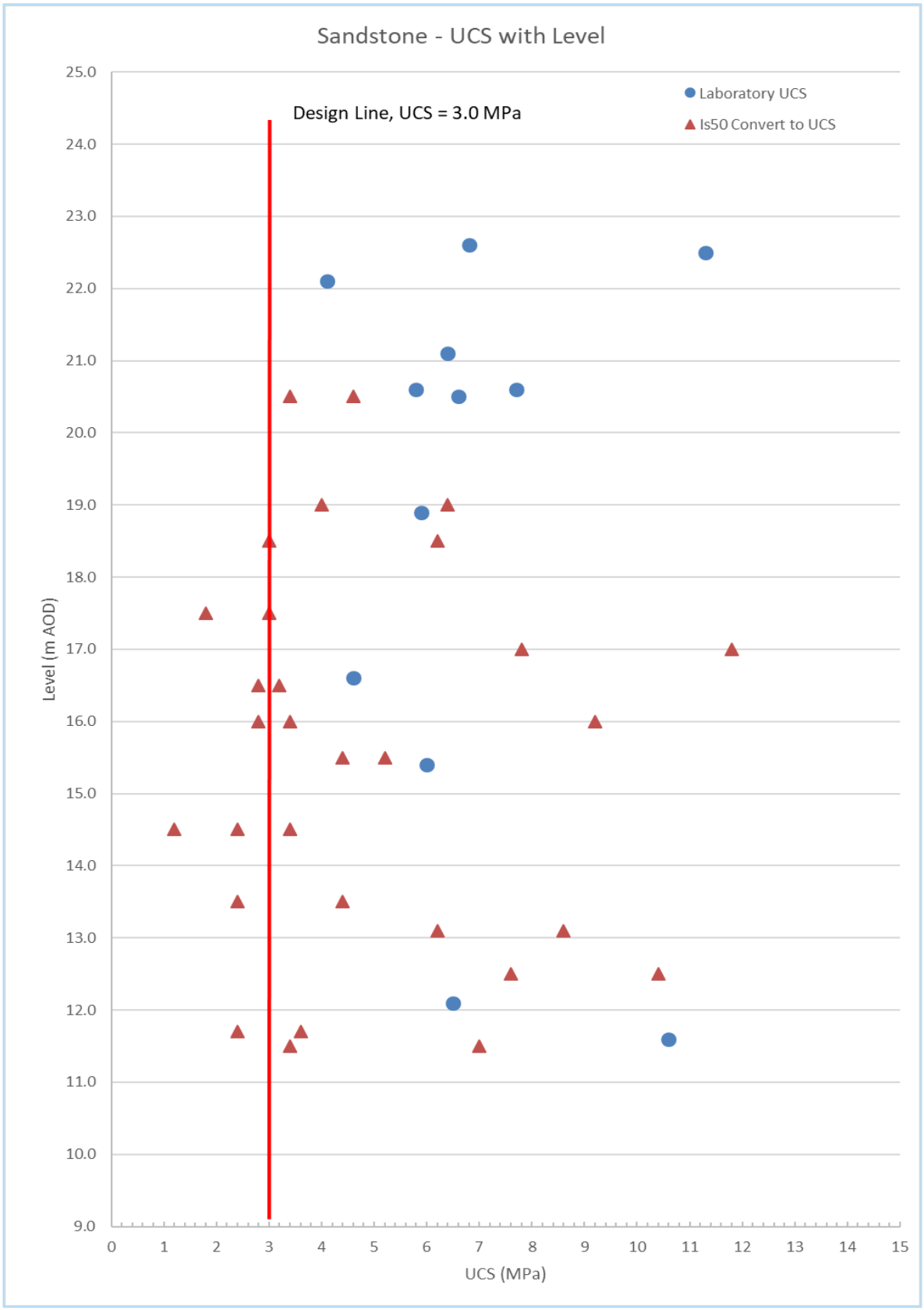


Figure 10-8 UCS with Level for Sandstone



Appendix 1

GEO-ENVIRONMENTAL FACTUAL REPORT FOR PREMIER INN, DEANSGATE, MANCHESTER. REPORT REF. MAN.260.001.GE.R.001.A, ENZYGO, AUGUST 2019.

enzygo
geo environmental



Geo-Environmental Factual Report

Premier Inn, Deansgate

Whitbread PLC

MAN.160.001.GE.R.001.A

'Experience and expertise working in union'

enzygo.com

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Geo-Environmental Factual Report for Premier Inn, Deansgate

Project:	Premier Inn, Deansgate
For:	Whitbread PLC.
Ref:	MAN.260.001.GE.R.001.A
Status:	Final
Date:	August 2019
Author:	Nigel Ramsumair MGeo (Hons.), **Senior Geo-Environmental Engineer**
Approver:	David Oliver Frayne BSc (Hons.), C.Geol, FGS, UKRoGEP, **Associate Director**

Disclaimer:

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This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

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Registered Office Stag House Chipping Wotton-Under-Edge Gloucestershire GL12 7AD

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1.0 INTRODUCTION

1.1 Background

1.1.1 Enzygo Geo-Environmental Limited [Enzygo] has been commissioned by Ramboll Ltd [the Consultant] on behalf of Whitbread PLC [client] to prepare a Geo-Environmental Factual Report for a proposed new development on an existing Premier Inn site located off Medlock Street, Deansgate, M15 5FJ.

1.2 Proposed Development

1.2.1 The project consists of the re-development of the Premier Inn Deansgate Locks Hotel site comprising of two large-scale residential buildings (24 and 34-storeys high) and a 13-storey office building.

1.3 Objectives

1.3.1 The objectives of the study are to:

- Undertake a targeted ground investigation;
- Assess ground conditions for foundation design purposes and potential contaminants;
- Determine CBR's for pavement design;
- Determine the permeability of the natural soils onsite;
- Determine ground water and gas levels for a ground gas assessment;
- Provide a full factual report relating to the ground investigation.

2.0 SITE SETTING

Table 2.0 Site Description

Item	Description
Site Address	Medlock Street, Manchester, M15 5FJ
National Grid Reference	E: 383630 N: 397190N

2.1 Current Site Description

2.1.1 The site currently comprises of an existing building [Premier Inn Hotel], associated outbuildings and car park which are bounded by commercial buildings to the north, west and east. The Mancunian Way is located directly south followed by residential dwellings. The site boundary is bounded with wooden fence panels with vehicular access to the west and pedestrian access to the north.

2.1.2 Access is off Medlock Street located to the northeast of site.

2.1.3 The site topography is generally level, with an elevation of approximately between 33-35m above Ordnance Datum (m aOD).

2.2 Surrounding Area

2.2.1 Land uses surrounding the site are summarised as follows:

Table 2.2 Land Use Surrounding the Area

Direction	Land Use
North	Bounded by commercial with commercial and commercial beyond.
East	Bounded by commercial with commercial and commercial beyond.
South	Bounded by the Mancunian Way with residential beyond.
West	Bounded by commercial with commercial beyond.

3.0 SITE INVESTIGATION

3.1 Investigation Rational

3.1.1 The Ground investigation was carried out in accordance to the specification provided by RAMBOLL Ltd (*Document ref: Premier Inn Redevelopment, Manchester, 1620005811-RAM-00-00-SPE-GE-0001, April 2019*).

3.2 General

3.2.1 A site investigation was undertaken by Enzygo from the 28th May until 10th June 2019 comprising six rotary boreholes (BH01 to BH06), nine windowless sampler boreholes (WS01 to WS06B), five plate load tests (PLT01-PLT05) and three machine excavated trial pits for the use of soakaway testing (SA01-SA03).

3.2.2 Locations of exploratory holes advanced by Enzygo are presented on Drawing MAN.260.001.GE.D.001 (Appendix 1); Exploratory holes were generally located in accordance with the Ramboll Specification however alterations were made due to the presence of services. The site works are summarised in the table below.

Table 3.2 Exploratory Holes

Hole	Type*	Depth (m)	Date Started	Date Finished	Backfill Details **	SPT Calibration Certificate Ref
BH01	BH	20.50	05/06/2019	06/06/2019	SP	G2
BH02	BH	23.50	04/06/2019	06/06/2019	SP	G1
BH03	BH	25.00	06/06/2019	07/06/2019	SP	G1
BH04	BH	20.00	28/05/2019	28/05/2019	SP	G1
BH05	BH	19.00	28/05/2019	28/05/2019	SP	G1
BH06	BH	10.50	06/06/2019	07/06/2019	SP	G2
WS01	WS	5.00	30/05/2019	30/05/2019	SP	DART435
WS02	WS	3.00	30/05/2019	30/05/2019	SP	DART435
WS03	WS	2.00	30/05/2019	30/05/2019	SP	DART435
WS04	WS	0.45	30/05/2019	30/05/2019	B	DART435
WS04A	WS	5.00	30/05/2019	30/05/2019	SP	DART435
WS05	WS	5.00	30/05/2019	30/05/2019	A	DART435
WS06	WS	1.20	30/05/2019	30/05/2019	A	DART435
WS06A	WS	1.35	30/05/2019	30/05/2019	SP	DART435
WS06B	WS	0.45	30/05/2019	30/05/2019	B	DART435
PLT01	PLT	0.60	31/05/2019	31/05/2019	A	N/A
PLT02	PLT	0.45	31/05/2019	31/05/2019	A	N/A
PLT03	PLT	0.60	31/05/2019	31/05/2019	A	N/A
PLT04	PLT	0.60	31/05/2019	31/05/2019	A	N/A
PLT05	PLT	0.60	31/05/2019	31/05/2019	A	N/A
SA01	SA	2.50	03/06/2019	03/06/2019	A	N/A
SA02	SA	2.30	03/06/2019	03/06/2019	A	N/A
SA03	SA	2.00	03/06/2019	03/06/2019	A	N/A

*BH= Rotary Borehole, WS= Windowless Sampler, SA= Soakaway, PLT= Plate Load Tests, SA= Soakaway Testing
**SP= Standpipe, B= Bentonite, A= Arisings

3.3 Site Works

3.3.1 Six boreholes (designated BH01-BH06) were sunk to depths between 10.50 and 23.50m begl, using a track-mounted rotary coring rig (Appendix 3). The boreholes were initially drilled through overburden by means of dynamic sampling until refusal. This was followed by a rock roller down the hole hammer, producing a 112mm nominal diameter hole, until material suitable for rotary coring was encountered. For coring, a 412 PWF triple-tube core barrel and Wireline Geobore S were used, recovering cores of 76 & 102mm nominal diameter, in a semi rigid plastic liner. Air was used as the flushing medium. The cores were stored in boxes immediately on extraction. Standard penetration tests (SPT's) were conducted in suitable materials. Boreholes were installed with 50mm diameter standpipes and reinstated on completion.

3.3.2 Nine windowless (percussive) sampling boreholes (designated WS01 to WS06 including WS04A, WS06A and WS06B) were each sunk to depths between 0.45 to 5.00m begl (Appendix 3). Windowless sampler boring is carried out with a small, track-mounted rig, which uses a chain driven trip hammer to drive sampling tubes or penetrometers into the ground. These tools are coupled to the anvil of the hammer by solid drill rods. Sampling tubes comprise "windowless samplers", which are plain sampler tubes in which a continuous disturbed sample is recovered within a semi-rigid plastic liner. In order to reduce friction within the borehole, sampling tubes of progressively smaller diameter are used as the borehole depth increases. Sampler diameters generally range from between 101mm to 47mm. Boreholes were installed with a 50mm standpipe or backfilled with bentonite and reinstated on completion. Windowless sample locations WS04, WS06 and WS6A were relocated due to early refusal in well compacted fill material.

3.3.3 Three trial pits (designated SA01 to SA03) were excavated to a depth between 2.00m and 2.50m begl, using a wheeled excavator (Appendix 3). In situ soakaway testing was carried out in the base of all trial pits, in accordance with the methods described in BRE Digest 365(2007) (Appendix 4). Due the nature of the natural underlying strata, all trial pits with installed with a standpipe and infilled with 20mm gravel in order to ensure the pit sides do not collapse during testing. The trial pits were backfilled immediately and reinstated on completion of testing.

3.3.4 Five plate bearing tests (PLT01-PLT05) were carried out at depths between 0.45m and 0.60m begl using a 610mm diameter plate. Testing was carried out in accordance with BS 1377: Part 9 1990 for the aid of pavement design (Appendix 4).

3.3.5 All exploratory hole locations were scanned by a MACC International Ltd (MACC) Unexploded Ordinance (UXO) Engineer. All locations were scanned from ground level until a suitably safe depth, as determined by the MACC Engineer.

3.3.6 In addition to the review of service plans each exploratory location was scanned using a Cable Avoidance Tool (CAT) in order to locate unrecorded underground services, and the exploratory locations were repositioned if necessary.

3.3.7 Representative soil samples were collected for chemical and geotechnical testing. Soil samples destined for chemical analysis were collected in appropriate containers provided by the analytical laboratory. Samples were stored in cool boxes prior to dispatch to the laboratory for analysis. All samples were collected using appropriate sampling equipment that was cleaned at each sampling location.

3.3.8 The fieldwork was carried out generally in accordance with BS 5930:2015 Code of Practice for Site Investigations, Eurocode 7, unless otherwise stated.

3.4 Monitoring

3.4.1 Enzygo carried out groundwater/gas monitoring in standpipes after the fieldwork period (commencing 1st July 2019), the results of which are presented in the Appendix 5 of this report. The groundwater/gas monitoring was completed on the 31st July 2019 (6 of 6 visits completed in total).

3.4.2 On completion of the site works all rotary boreholes were developed by means of surging to prepare the wells for water sampling. During a return visit all wells with water were purged three times the well volume before water samples were collected for chemical testing.

3.5 Laboratory Testing

3.5.1 Samples for geotechnical testing were sent to the Envirolab Ltd, which is UKAS accredited, for the following analysis:

- Moisture Content;
- Particle Size Distributions;
- UCS Testing;
- Point Loads;
- Atterberg Limits;
- Consolidation testing; and
- Soluble sulphate and pH.

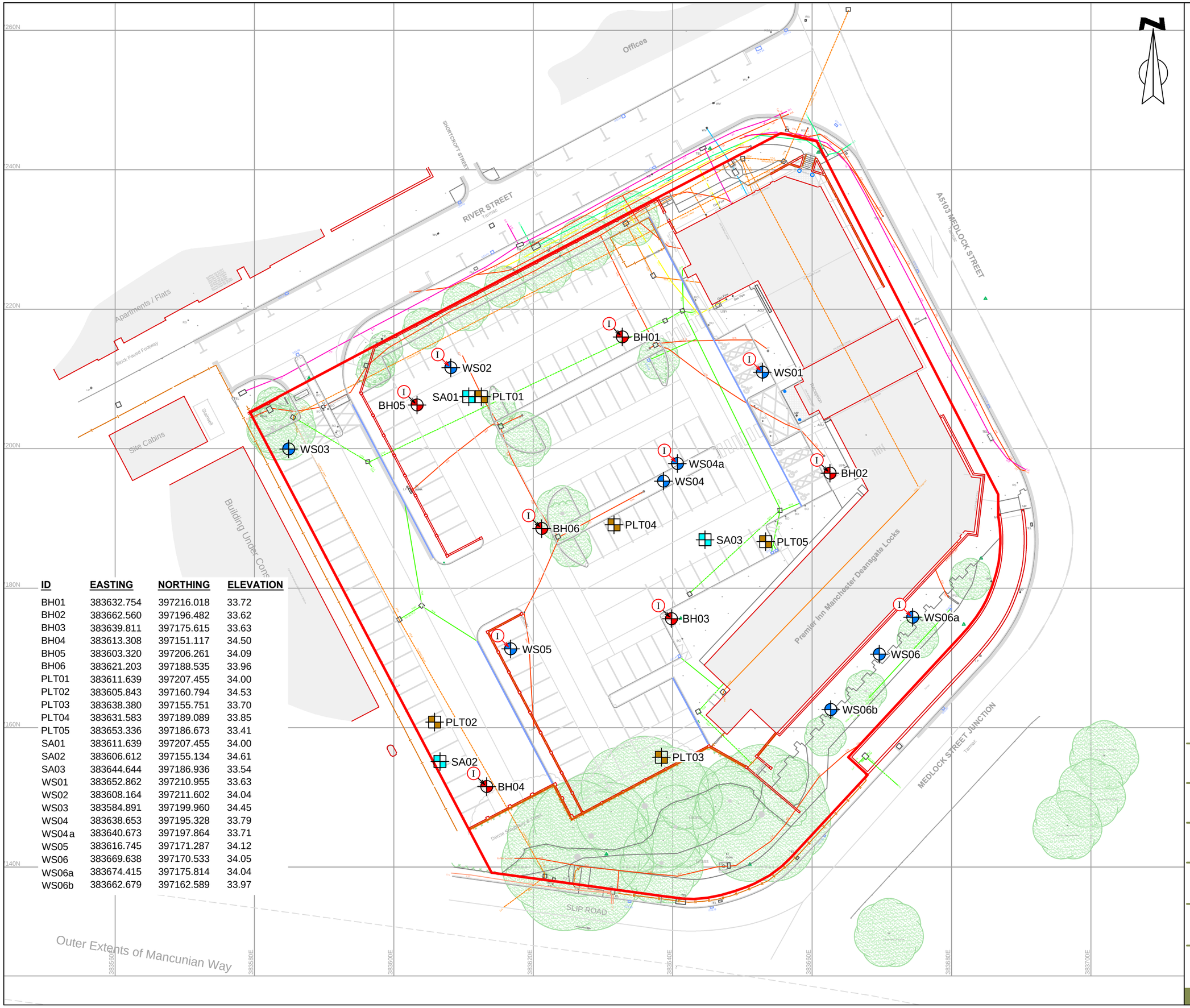
3.5.2 All geotechnical testing results are included within Appendix 6.

3.5.3 Soil samples were recovered for chemical analysis and were sent to Envirolab Ltd who are NAMAS and MCERTS accredited. Samples were tested for the CLEA metal suite, pH, sulphate, sulphide, cyanide, phenols, speciated Polycyclic Aromatic Hydrocarbons (PAH) and Total Petroleum Hydrocarbon (TPH) and asbestos screen.

3.5.4 Groundwater samples were recovered for chemical analysis and were sent to Envirolab Ltd who are NAMAS and MCERTS accredited. Samples were tested for the CLEA metal suite, pH, sulphate, sulphide, Speciated Polycyclic Aromatic Hydrocarbons (PAH) and Total Petroleum Hydrocarbon (TPH), Ammoniacal Nitrogen and Hardness.

3.5.5 All Chemical testing results are included within Appendix 7.

Appendix 1 – Drawings



ID	EASTING	NORTHING	ELEVATION
BH01	383632.754	397216.018	33.72
BH02	383662.560	397196.482	33.62
BH03	383639.811	397175.615	33.63
BH04	383613.308	397151.117	34.50
BH05	383603.320	397206.261	34.09
BH06	383621.203	397188.535	33.96
PLT01	383611.639	397207.455	34.00
PLT02	383605.843	397160.794	34.53
PLT03	383638.380	397155.751	33.70
PLT04	383631.583	397189.089	33.85
PLT05	383653.336	397186.673	33.41
SA01	383611.639	397207.455	34.00
SA02	383606.612	397155.134	34.61
SA03	383644.644	397186.936	33.54
WS01	383652.862	397210.955	33.63
WS02	383608.164	397211.602	34.04
WS03	383584.891	397199.960	34.45
WS04	383638.653	397195.328	33.79
WS04a	383640.673	397197.864	33.71
WS05	383616.745	397171.287	34.12
WS06	383669.638	397170.533	34.05
WS06a	383674.415	397175.814	34.04
WS06b	383662.679	397162.589	33.97

Key

- Site Boundary
- Dynamic (Windowless) Sampling Exploratory Holes
- Rotary Borehole Locations
- Plate Load Testing
- Soakaway Testing
- Borehole Installation (I)

Notes

- Do not scale from this drawing.
- All dimensions are in meters unless stated otherwise.
- This drawing is to be read in conjunction with all relevant drawings and documents associated with this project.
- All existing and proposed dimensions, levels and locations to be checked and verified by the main contractor on site prior to the commencement of the works and any anomalies reported to the engineer.

Samuel House, 5 Fox Valley Way, Stocksbridge, Sheffield, S36 2AA

CLIENT: Whitbread PLC

SCALE: NTS

PROJECT REF: MAN.260.001

DRAWN: MG

CHECKED: NR

DATE: July 2019

PROJECT: Deansgate, Premier Inn

TITLE: Exploratory Hole Location Plan

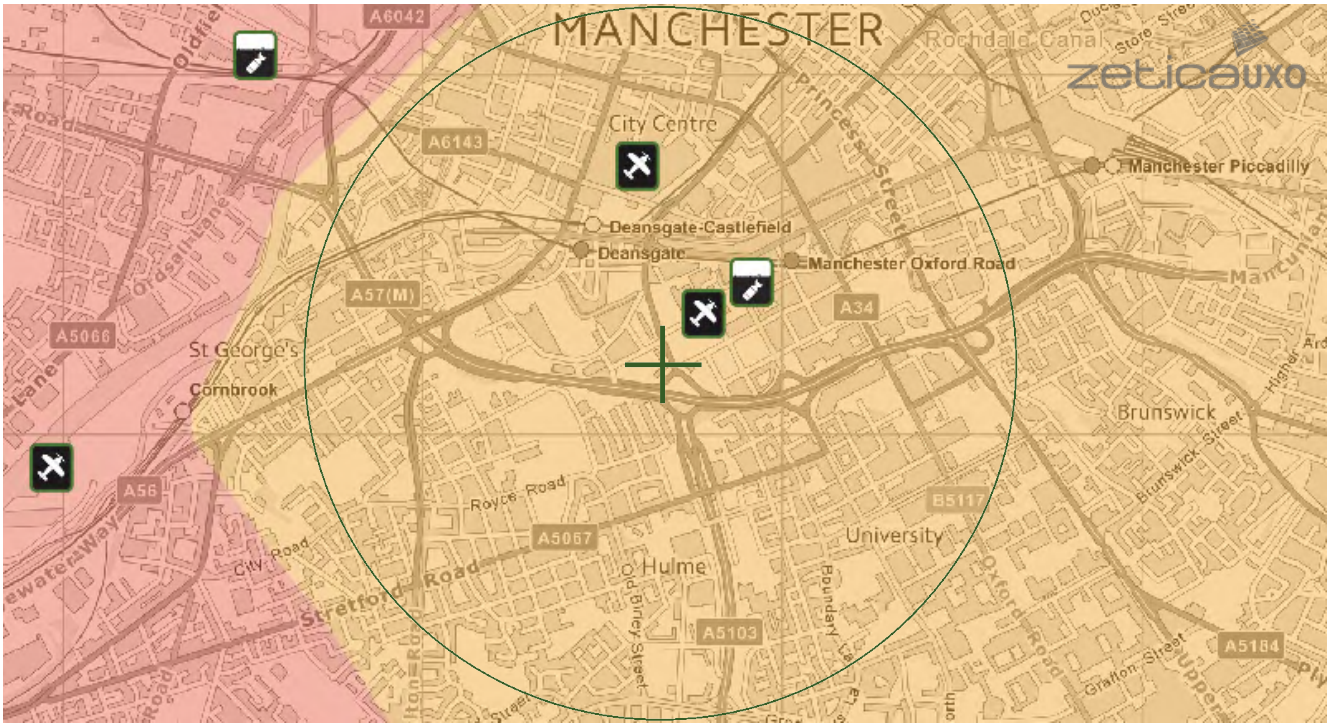
FIGURE NO: MAN.260.001.GE.D.001

Appendix 2 – UXO Risk Map

UNEXPLODED BOMB RISK MAP

SITE LOCATION

Location: M15 5FJ,
Map Centre: 383673,397198



LEGEND

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

miltary | **industry** | **UXO find**
transport | **dock** | **Luftwaffe targets**
utilities | **other**

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

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

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

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

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

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

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

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

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

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

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

If I have any questions, who do I contact?

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

email: **uxo@zetica.com**

web: **www.zeticauxo.com**

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

Zetica cannot guarantee the accuracy or completeness of the information or data used and cannot accept any liability for any use of the maps. These maps can be used as part of a technical report or similar publication, subject to acknowledgment. The copyright remains with Zetica Ltd.

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

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

Appendix 3 – Exploratory Hole Logs

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

BH01

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 05-06-19 Finish 06-06-19		

Client: Whitbread PLC

Sheet: 1 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.20	1ES					0.15	33.57		MADE GROUND: Black macadam.
		0.20 - 0.40	2B					0.50	33.22		
		0.50	3ES								MADE GROUND: Brown grey slightly clayey sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, macadam, concrete and sandstone. Sand is fine to coarse.
		0.80 - 1.00	4B	N=19				1.10	32.62		
		1.00	5ES								0.50 Landscaping membrane.
		1.20	SPT								Orange brown gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. (Glaciofluvial Sheet Deposits)
		1.20 - 1.65	6B	N=14							
		1.20 - 1.70	7B								
		2.00	SPT								
		2.00 - 2.45	8ES								Medium dense yellow brown gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. (Glaciofluvial Sheet Deposits)
		2.00 - 2.50	9D	N=10							
		3.00	10B								
		3.00 - 3.45	SPT								
		3.00 - 3.50	11D	N=17							
		4.00	12B								3.50 - 3.60 Black sandy gravel of coal.
		4.00 - 4.45	SPT								
		4.80	13D					4.70	29.02		
		5.00 - 5.45	14D								Stiff grey brown slightly sandy gravelly CLAY with a low cobble content of subangular to subrounded quartz, sandstone and granite. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glacial Till)
			15U								
		5.60	16D								
		6.00	17D								
		6.40	SPT	N=36							
		6.40 - 6.85	18D								
		7.00	SPT	N=50				7.00	26.72		
			19D					7.30	26.42		Very dense red brown slightly gravelly silty fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. (Glaciofluvial Sheet Deposits)
		8.00	20D								
											Very stiff grey brown slightly sandy gravelly CLAY with a low cobble content of subangular to subrounded quartz, sandstone and granite. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glacial Till)
		9.10	21ES					9.10	24.62		
		9.50 - 10.00	22D								
		10.00	SPT	N=50							Very dense red brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of sandstone quartz and granite. (Residual Chester Formation)
		10.00 - 11.50	C			TCR 33 SCR 40 RQD 0	NI 60 200				
								11.00	22.72		10.00 - 11.00 Assumed zone of core loss.
								11.30	22.42		
		11.50	SPT	N=50							Extremely weak red brown residual SANDSTONE recovered as dense red brown slightly gravelly silty fine to coarse sand. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. (Chester Formation)
		11.50 - 13.00	C			TCR 87 SCR 77 RQD 10					11.00 - 11.30 Non intact recovered as red brown sand.
		13.00 - 14.50	C			TCR 93 SCR 100 RQD 51					Medium strong red brown slightly gravelly distinctly weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced planar sandy silty. (Chester Formation)
		14.50 - 17.50	C			TCR 90 SCR 9	NI NI	14.80	18.92		11.50 - 11.70 Assumed zone of core loss. 12.50 - 12.80 Non intact recovered as red brown sand.
								{15.00}			Continued next sheet

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 17.00m begl; 50mm slotted pipe with gravel between 17.00m begl to 20.00m begl; Bentonite seal from 20.00m begl to 20.50m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

1.1 ENZYGO RC LOG MAN.260.001 LOGS NEW.GPJ CRM.1660.001 SITE 1 MILTON ROAD.GPJ 2/8/19

Enzygo Ltd
Tel: 01454 269237
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Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

BH01

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 05-06-19 Finish 06-06-19		

Client: Whitbread PLC

Sheet: 2 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	Samples & In Situ Testing: No/Type	Samples & In Situ Testing: Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
						RQD 42	100				13.00 - 13.10 Assumed zone of core loss. 14.50 - 14.80 Assumed zone of core loss. Extremely weak red brown destructed fine to coarse SANDSTONE. Recovered as red brown gravelly fine to coarse sand. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced, rough sand
		17.50 - 20.50	C					17.26	16.46		
						TCR 92 SCR 88 RQD 47	NI 80 190				Medium strong red brown gravelly partially weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced planar sandy. (Chester Formation) 17.50 - 17.75 Assumed zone of core loss.
								20.50	13.22		Borehole completed at 20.50m.
								{30.00}			

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 17.00m begl; 50mm slotted pipe with gravel between 17.00m begl to 20.00m begl; Bentonite seal from 20.00m begl to 20.50m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

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Site: Premier Inn Deansgate, Manchester

BH02

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 04-06-19 Finish 06-06-19		

Client: Whitbread PLC

Sheet: 1 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.20	1ES					0.05	33.57		MADE GROUND: Yellow paving slab.
		0.50	2ES					0.45	33.17		MADE GROUND: Brown grey slightly clayey gravelly fine to coarse sand. Gravel is subangular to subrounded fine to coarse of brick, concrete and sandstone.
		0.50 - 1.00	3B								
		1.00	4ES	N=22							
		1.20	SPT								Medium dense orange brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. (Glaciofluvial Sheet Deposits)
		1.20 - 1.65	5D								
		1.20 - 1.90	6B								
		2.00	7ES								
		2.70	SPT	N=23							
		2.70 - 3.15	8D								
		2.70 - 3.20	9B								
		4.00	SPT	N=19							
		4.00 - 4.45	10D								
		4.60	11D					4.60	29.02		
		5.00 - 5.45	12U								Stiff grey brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glaciofluvial Sheet Deposits)
		5.60	13D								
		6.60	14D								
		7.00	SPT	N=44							
		7.00 - 7.45	15D								
		8.00	16D								
		8.20	17ES					8.20	25.42		
		8.50	SPT	N=50							Very dense red brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. (Glaciofluvial Sheet Deposits)
		8.50 - 8.95	18D					8.80	24.82		
		9.00	19D								
		9.50	20ES					9.50	24.12		
		10.00	SPT	N=50				10.00	23.62		Very stiff grey brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glacial Till)
			21D			TCR 53 SCR 79 RQD 27		10.70	22.92		
							NI 80 170				Very dense red brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of sandstone quartz and granite. (Residual Chester Formation)
		11.50	22D			TCR 66 SCR 8 RQD 0	NI NI 110				
								12.50	21.12		Extremely weak red brown residual SANDSTONE recovered as dense red brown slightly gravelly silty fine to coarse sand. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. (Chester Formation)
		13.00	SPT	N=50		TCR 0 SCR 0 RQD 0					10.00 - 10.70 Assumed zone of core loss.
		14.50	SPT	N=50		TCR 73 SCR 41					Weak to medium strong red brown slightly gravelly distinctly weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close
								{15.00}			Continued next sheet

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 18.00m begl; 50mm slotted pipe with gravel between 18.00m begl and 21.00m begl; Bentonite seal between 21.00m begl to 23.50m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

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Site: Premier Inn Deansgate, Manchester

BH02

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 04-06-19 Finish 06-06-19		

Client: Whitbread PLC

Sheet: 2 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	Samples & In Situ Testing: No/Type	Samples & In Situ Testing: Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
						RQD 24					to closely spaced planar sandy. (Chester Formation) 11.23 - 11.40 Non intact recovered as red brown sand. 11.50 - 12.00 Assumed zone of core loss.
						TCR 100 SCR 43 RQD 26	NI 110 180	16.85	16.77		Extremely weak red brown gravelly destructed SANDSTONE recovered as red brown slightly gravelly silty fine to coarse sand. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced planar. (Chester Formation) 13.00 - 14.50 Non intact recovered as subrounded cobbles of granite. 14.90 - 15.30 Non intact recovered as red brown gravelly sand. 15.45 - 15.70 Non intact recovered as red brown gravelly sand. 16.00 - 16.85 Non intact recovered as red brown gravelly sand.
						TCR 93 SCR 93 RQD 37		19.85	13.77		
						TCR 100 SCR 93 RQD 69	NI 110 340	20.75	12.87		Medium strong red brown slightly gravelly partially weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced planar sandy. (Chester Formation) 17.50 - 17.70 Assumed zone of core loss. 18.10 - 18.50 Non intact recovered as red brown sandy gravel. 19.52 - 19.57 Non intact recovered as red brown sandy gravel.
								23.50	10.12		Weak to medium strong red brown gravelly distinctly weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced rough sandy. (Chester Formation)
											Medium strong to strong red brown partially weathered slightly fine to coarse SANDSTONE. Fractures are subhorizontal (0-25°) close to medium spaced planar sandy. (Chester Formation)
								{30.00}			Borehole completed at 23.50m.

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 18.00m begl; 50mm slotted pipe with gravel between 18.00m begl and 21.00m begl; Bentonite seal between 21.00m begl to 23.50m.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

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Site: Premier Inn Deansgate, Manchester

BH03

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 06-06-19 Finish 07-06-19		

Client: Whitbread PLC

Sheet: 1 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.20	1ES					0.05	33.58		MADE GROUND: Grey concrete paving slab.
		0.50	2ES					0.40	33.23		MADE GROUND: Brown grey slightly clayey sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, concrete and sandstone. Sand is fine to coarse.
		0.50 - 1.00	3B								
		1.00	4ES	N=19							
		1.20	SPT								Medium dense to dense orange brown/yellow slightly clayey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. (Glaciofluvial Sheet Deposits)
		1.20 - 1.65	5D								
		1.20 - 1.70	6B	N=14							
		2.00	SPT								
		2.00 - 2.45	7ES								
		2.00 - 2.50	8D								
		3.00	9B	N=21							
		3.00 - 3.45	SPT								
		3.00 - 3.50	10D								3.50 Black gravelly fine to coarse sand. Gravel is subangular fine to coarse of coal.
		4.00	11B	N=33							
		4.00 - 4.45	SPT								
		4.00 - 4.50	12D								
		4.70	13B					4.70	28.93		
		5.00	14D	N=26							Firm to stiff brown grey slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glacial Till)
		5.00 - 5.45	SPT								
			15D								
		6.00	16D								
		6.50	SPT	N=32							
		6.50 - 6.95	17D								
		7.50	18D								
		8.50	SPT	N=50				8.50	25.13		
		8.50 - 8.95	19D								
		9.00	20D					9.00	24.63		Very dense red brown slightly clayey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. (Glaciofluvial Sheet Deposits)
						TCR 27 SCR 0 RQD 0	NI NI NI	10.50	23.13		Very stiff grey brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glacial Till)
						TCR 17 SCR 52 RQD 100	180 NI NI	11.50	22.13		Very dense red brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of sandstone quartz and granite. (Residual Chester Formation)
								12.80	20.83		11.50 - 12.75 Assumed zone of core loss. Extremely weak red brown residual SANDSTONE recovered as dense red brown slightly gravelly silty fine to coarse sand. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced planar. (Chester Formation) 12.75 - 12.80 Non intact recovered as red brown sandy gravel.
						TCR 47 SCR 70 RQD 47					
						TCR 67 SCR 40					
								{15.00}			Continued next sheet

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 19.00m begl; 50mm slotted pipe with gravel between 19.00m begl and 25.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

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Site: Premier Inn Deansgate, Manchester

BH03

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 06-06-19 Finish 07-06-19		

Client: Whitbread PLC

Sheet: 2 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	Samples & In Situ Testing: No/Type	Samples & In Situ Testing: Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
						RQD 45					Weak to medium strong red brown slightly gravelly distinctly weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced planar sandy. (Chester Formation) 13.00 - 13.80 Assumed zone of core loss. 13.80 - 14.01 Non intact recovered as red brown sandy gravel. 14.50 - 15.00 Assumed zone of core loss.
						TCR 93 SCR 91 RQD 58	10 180 340	15.80	17.83		
							NI 90 130	17.60	16.03		Medium strong red brown slightly gravelly partially weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) close to medium spaced planar sandy. (Chester Formation) 16.00 - 16.20 Assumed zone of core loss.
						TCR 100 SCR 83 RQD 70	NI 170 410	19.00	14.63		Weak to medium strong red brown gravelly distinctly weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced rough sandy. (Chester Formation)
						TCR 100 SCR 93 RQD 79					Medium strong red brown slightly gravelly partially weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) close to widely spaced planar sandy. (Chester Formation) 19.10 - 19.30 Subvertical fracture 80-90° stepped sandy. 20.35 - 20.45 Band of weak red brown mudstone. 20.70 - 21.00 Non intact recovered as red brown sandy gravel.
								23.50	10.13		Weak to medium strong red brown gravelly distinctly weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) close to medium spaced planar sandy. (Chester Formation) 23.80 - 23.89 Band of yellow coarse sandstone.
								24.60	9.03		
								25.00	8.63		Medium strong red brown slightly gravelly partially weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) close to medium spaced planar sandy. (Chester Formation)
								{30.00}			Borehole completed at 25.00m.

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 19.00m begl; 50mm slotted pipe with gravel between 19.00m begl and 25.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

1.1 ENZYGO RC LOG MAN.260.001 LOGS NEW.GPJ CRM.1660.001 SITE 1 MILTON ROAD.GPJ 2/8/19

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Site: Premier Inn Deansgate, Manchester

BH04

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 28-05-19 Finish 28-05-19		

Client: Whitbread PLC

Sheet: 1 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.35	1ES					0.25	34.25		MADE GROUND: Black grey macadam.
		0.80 - 1.20	3B					0.80	33.70		MADE GROUND: Red brown slightly clayey sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, macadam, concrete and sandstone. Sand is fine to coarse. 0.70 Strata is damp.
		1.00	2ES	N=18							
		1.20	SPT					1.30	33.20		
		1.20 - 1.65	4D								
		1.20 - 1.70	5B	N=7							
		1.50	6ES								
		2.00	SPT					2.50	32.00		MADE GROUND: Red brown slightly clayey sandy gravel with a low cobble content of quartz and brick. Gravel is subangular to subrounded fine to coarse of brick, macadam, concrete and sandstone. Sand is fine to coarse.
		2.00 - 2.45	7D								
		2.00 - 2.50	8B	N=10							
		2.50 - 3.00	9B								
		3.00	SPT								
		3.00 - 3.45	10ES	N=16							MADE GROUND: Loose to medium dense brown red slightly clayey gravelly fine to coarse sand. Gravel is subangular to subrounded fine to coarse of brick, concrete and sandstone.
		3.00 - 3.50	11D								
		4.00	12B								
		4.00 - 4.45	SPT								
		4.00	13D	N=12							
		4.00 - 4.50	14ES					5.20	29.30		MADE GROUND: Medium dense orange brown slightly silty gravelly fine to coarse sand. Gravel is subangular to subrounded fine to coarse of brick, concrete and sandstone. 2.60 - 2.70 Band of soft brown slightly gravelly sandy clay. 4.00 - 4.50 Sand and gravel.
		4.70	15B								
		5.00	16ES								
		5.00 - 5.45	SPT								
		5.50	17D	N=13				6.50	28.00		
		6.00	18D					6.70	27.80		4.60 - 4.90 Locally black.
		6.50	19D								
		6.50 - 6.95	SPT								Firm brown mottled orange slightly gravelly slightly sandy CLAY. Gravel is subangular fine to medium of quartz. Sand is medium. (Glacial Till)
		6.50 - 6.70	20D	N=30							
		7.10	21B								
		7.50	22D								Dense orange brown SAND and GRAVEL. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glaciofluvial Sheet Deposits)
		7.50 - 7.95	SPT								
		8.50	23D								
		9.00	24D								
			25D								
		9.50	SPT	N=50				9.40	25.10		Very stiff brown slightly gravelly slightly sandy CLAY. Gravel is subangular fine to coarse of sandstone and coal. Sand is fine to coarse. (Glacial Till)
		9.50 - 9.95	26D			TCR 75 SCR 44 RQD 64					
		9.50 - 10.00	27B					10.40	24.10		Very dense red brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of sandstone quartz and granite. (Residual Chester Formation) 9.50 - 9.87 Assumed zone of core loss. 9.87 - 10.32 Non intact recovered as red brown gravelly sand.
							NI 120 280				
		11.00	SPT	N=50		TCR 100 SCR 90 RQD 59					
		11.00 - 11.45	28D								
						TCR 77 SCR 43 RQD 80					Medium strong red brown slightly gravelly partially weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) close to medium spaced planar sandy. (Chester Formation) 11.00 - 11.10 Non intact recovered as red brown gravelly sand. 12.07 - 12.12 Non intact recovered as red brown gravelly sand.
							NI NI				
						TCR 100 SCR 100	NI 120 280				
								{15.00}			Continued next sheet

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 10.00m begl; 50mm slotted pipe with gravel between 10.00m begl and 13.00m begl; Bentonite seal between 13.00m begl and 20.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

1.1 ENZYGO RC LOG MAN.260.001 LOGS NEW.GPJ CRM.1660.001 SITE 1 MILTON ROAD.GPJ 2/8/19

Enzygo Ltd
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Site: Premier Inn Deansgate, Manchester

BH04

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 28-05-19 Finish 28-05-19		

Client: Whitbread PLC

Sheet: 2 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	Samples & In Situ Testing: No/Type	Samples & In Situ Testing: Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
						RQD 79 TCR 100 SCR 100 RQD 47					12.50 - 12.85 Assumed zone of core loss. 13.24 - 13.85 Non intact recovered as red brown gravelly sand.
								17.00	17.50		
						TCR 100 SCR 87 RQD 54	NI 60 140				Weak to medium strong red brown gravelly partially weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-35°) very close to closely spaced rough sandy. (Chester Formation)
								18.40	16.10		
						TCR 100 SCR 93 RQD 86	NI 110 240				Medium strong red brown slightly gravelly unweathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) close to medium spaced planar sandy. (Chester Formation) 18.50 - 18.60 Non intact recovered as red brown gravelly sand.
								20.00	14.50		Borehole completed at 20.00m.
								{30.00}			

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 10.00m begl; 50mm slotted pipe with gravel between 10.00m begl and 13.00m begl; Bentonite seal between 13.00m begl and 20.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

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Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

BH05

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 28-05-19 Finish 28-05-19		

Client: Whitbread PLC

Sheet: 1 of 2

Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Stratum Description
0.20	1ES		0.15	33.94	MADE GROUND: Black grey macadam.
0.50 - 1.00	2B		0.45	33.64	MADE GROUND: Brown grey sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, macadam, concrete and sandstone. Sand is fine to coarse.
0.50	3ES				
1.00	4ES	N=7			
1.20	SPT				0.45 Landscaping membrane.
1.20 - 1.65	5D				Loose to medium dense orange brown slightly clayey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. (Glaciofluvial Sheet Deposits)
1.20 - 1.70	6B	N=14			2.60 - 2.70 Black slightly gravelly fine to medium sand. Gravel is subangular fine to medium of coal.
2.00	SPT				
2.00 - 2.45	7ES				
2.00 - 2.50	8D	N=13			
3.00	9B				
3.00 - 3.45	SPT				
3.00 - 3.50	10D				
4.00	11B	N=24			
4.00 - 4.45	SPT				
4.00 - 4.50	12D				
5.00	13B SPT	N=20	5.00	29.09	
5.00 - 5.45	14D				Firm to stiff grey brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glacial Till)
6.00	SPT	N=10			
6.00 - 6.45	15D				
7.00	SPT	N=50			
7.00 - 7.45	16D				
8.50	SPT 17D	N=21			
			9.00	25.09	
			9.40	24.69	Very dense red brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of sandstone quartz and granite. (Residual Chester Formation)
10.00	SPT	N=18			
10.00 - 10.45	18D				Weak to medium strong red brown slightly gravelly distinctly weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced planar sandy. (Chester Formation)
			11.50	22.59	9.46 - 9.51 Non intact recovered as red brown gravelly sand.
					9.82 - 9.91 Non intact recovered as red brown gravelly sand.
					10.00 - 10.50 Assumed zone of core loss.
					10.50 - 11.50 Non intact recovered as red brown gravelly sand.
					Medium strong red brown slightly gravelly partially weathered fine to coarse SANDSTONE. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) medium to
			{15.00}		Continued next sheet

Core	I_f
TCR 100 SCR 40 RQD 55	NI NI 120
TCR 83 SCR 42 RQD 88	
	NI 120 330
TCR 100 SCR 92 RQD 55	

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 12.00m begl; 50mm slotted pipe with gravel between 12.00m begl and 15.00m begl; Bentonite seal between 15.00m begl and 19.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

1.1 ENZYGO RC LOG MAN.260.001 LOGS NEW.GPJ CRM.1660.001 SITE 1 MILTON ROAD.GPJ 2/8/19

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

BH05

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 28-05-19 Finish 28-05-19		

Client: Whitbread PLC

Sheet: 2 of 2

Well	Water Levels	Samples & In Situ Testing: Depth (m)	Samples & In Situ Testing: No/Type	Samples & In Situ Testing: Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
						TCR 90 SCR 81 RQD 75					close spaced planar sandy. (Chester Formation) 11.76 - 11.96 Non intact recovered as red brown gravelly sand. 12.10 - 12.18 Non intact recovered as red brown gravel. 13.12 - 13.22 Non intact recovered as red brown gravelly sand. 15.50 - 15.56 Non intact recovered as red brown gravelly sand. 15.56 - 16.00 Locally red brown coarse SANDSTONE. 16.00 - 16.30 Assumed zone of core loss. 16.30 - 16.55 Non intact recovered as red brown gravel. 17.50 - 17.65 Non intact recovered as red brown sandy gravel. 18.00 - 18.05 Non intact recovered as red brown sandy gravel. 18.65 - 18.70 Non intact recovered as red brown sandy gravel.
								19.00	15.09		Borehole completed at 19.00m.
								{30.00}			

15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 12.00m begl; 50mm slotted pipe with gravel between 12.00m begl and 15.00m begl; Bentonite seal between 15.00m begl and 19.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

1.1 ENZYGO RC LOG MAN.260.001 LOGS NEW.GPJ CRM.1660.001 SITE 1 MILTON ROAD.GPJ 2/8/19

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

BH06

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 06-06-19 Finish 07-06-19		

Client: Whitbread PLC

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Casing (m)	Core	I_f	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.20	1ES					0.15	33.81		MADE GROUND: Black grey macadam.
		0.20 - 0.40	2B					0.45	33.51		MADE GROUND: Grey brown sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, macadam, concrete and sandstone. Sand is fine to coarse.
		0.50	3ES								
		0.50 - 1.00	4B	N=16							
		1.00	5ES								
		1.20	SPT								
		1.20 - 1.65	6D	N=7				2.10	31.86		MADE GROUND: Loose to medium dense orange brown slightly clayey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of brick, concrete and sandstone.
		1.20 - 1.70	7B								
		1.80	8ES								
		2.00	SPT								
		2.00 - 2.45	9D	N=24				3.00	30.96		MADE GROUND: Medium dense orange brown slightly clayey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of brick, quartz and sandstone.
		2.10	10ES								
		2.10 - 2.50	11B								
		3.00	SPT	N=11							
		3.00 - 3.45	12D								
		3.00 - 3.50	13B					4.55	29.41		Medium dense orange brown slightly clayey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. (Glaciofluvial Sheet Deposits)
		3.10	14ES								
		4.00	SPT	N=12				5.00	28.96		
		4.00 - 4.45	15D								
		4.00 - 4.50	16B					5.60	28.36		Stiff grey brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glacial TIII)
		4.10	19ES								
		4.60	17D								
		5.00	SPT	N=12							
		5.00 - 5.45	18D								
		5.00 - 5.50	21B								Brown slightly clayey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. (Glaciofluvial Sheet Deposits)
		5.10	20ES								
		6.00	22D					7.50	26.46		
		6.40	SPT								
		7.00	23D								
		7.50 - 9.00	24B								Firm to stiff grey brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of quartz, sandstone and granite. Sand is fine to coarse. (Glacial Till)
								9.00	24.96		
		9.20	SPT	N=50							Very dense red brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of sandstone quartz and granite. (Residual Chester Formation)
		9.20 - 9.30	25D								
								10.50	23.46		Weak red brown SANDSTONE recovered as dense red brown slightly gravelly silty fine to coarse sand. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Fractures are subhorizontal (0-25°) very close to closely spaced planar. (Chester Formation)
											Borehole completed at 10.50m.
								{15.00}			

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample; U - U100.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 4.00m begl; 50mm slotted pipe with gravel between 4.00m begl and 7.00m begl; Bentonite seal between 7.00m begl and 10.50m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:93.75

Logged By: NB

1.1 ENZYGO RC LOG MAN.260.001 LOGS NEW.GPJ CRM.1660.001 SITE 1 MILTON ROAD.GPJ 2/8/19

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	G1
Test Date:	14/02/2019
Report Date:	14/02/2019
File Name:	G1.spt
Test Operator:	CM

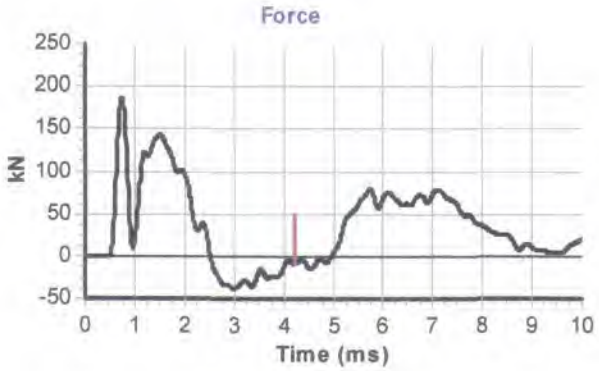
Instrumented Rod Data

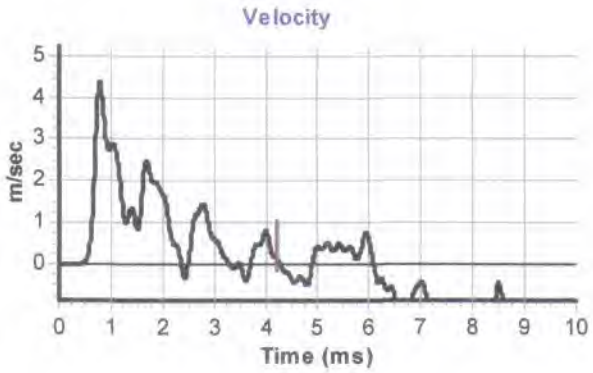
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.0
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	7080
Accelerometer No.2:	11609

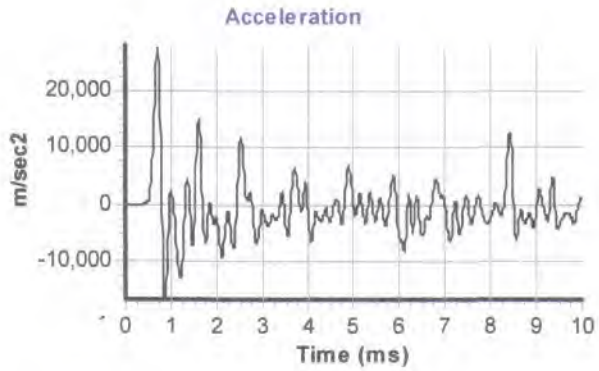
SPT Hammer Information

Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

Comments / Location









Calculations

Area of Rod A (mm2):	905
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	337

Energy Ratio E_r (%): 71

Signed: C.MCCLUSKEY
Title: FITTER

The recommended calibration interval is 12 months

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SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	G2
Test Date:	18/04/2018
Report Date:	18/04/2018
File Name:	G2.spt
Test Operator:	SH

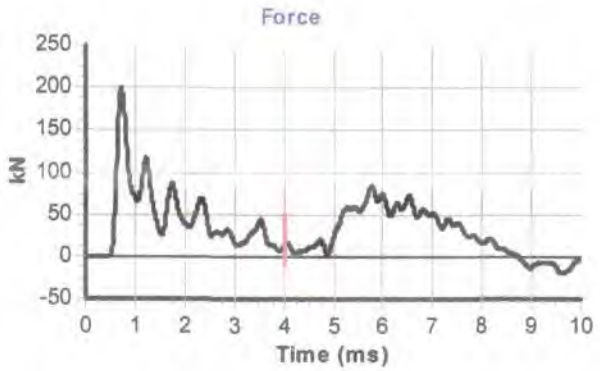
Instrumented Rod Data

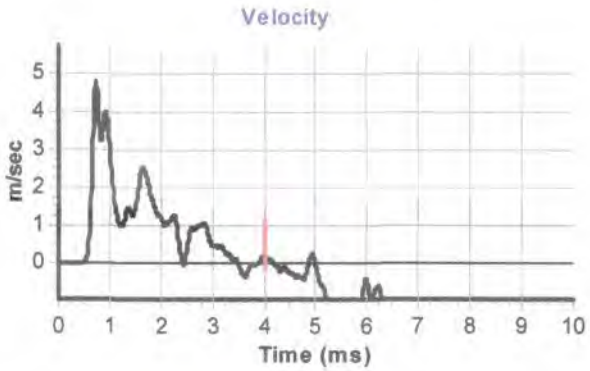
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.3
Assumed Modulus E_a (GPa):	200
Accelerometer No.1:	7080
Accelerometer No.2:	11609

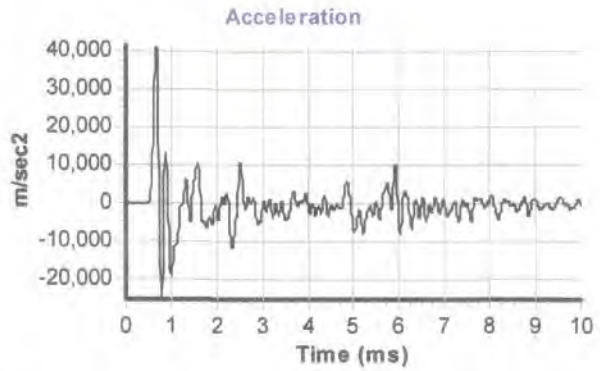
SPT Hammer Information

Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

Comments / Location









Calculations

Area of Rod A (mm2):	944
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	338

Energy Ratio E_r (%): **71**

Signed: M.GARDNER
Title: FITTER

The recommended calibration interval is 12 months

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Enzygo Ltd
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Site: Premier Inn Deansgate, Manchester

WS01

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 30-05-19 Finish 30-05-19		

Client: Whitbread PLC

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.20	1ES		0.15	33.48		MADE GROUND: Black macadam.
					0.40	33.23		MADE GROUND: Grey brown slightly clayey sandy gravel. Gravel is subangular to subrounded fine to coarse of brick. Sand is fine to coarse.
		0.50	2ES					
		0.50 - 0.80	3B					MADE GROUND: Red brown slightly silty sandy gravel. Gravel is subangular to subrounded fine to coarse of brick. Sand is fine to coarse.
					0.80	32.83		
		1.00	4ES					MADE GROUND: Orange brown sandy gravel. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Sand is fine to coarse.
					1.10	32.53		
		1.20	SPT	N=18				Medium dense orange brown slightly silty gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. (Glaciofluvial Sheet Deposits)
		1.20 - 1.70	5ES 6B					
					1.80	31.83		
		2.00	SPT	N=14				Medium dense orange brown slightly clayey SAND and GRAVEL. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Sand is fine to coarse. (Glaciofluvial Sheet Deposits)
		2.20	7ES					
		2.20 - 2.70	8B					
		3.00	SPT	N=17				
		3.00 - 4.00	9B					
		4.00	SPT	N=26				
					4.40	29.23		
		4.50	10D					Stiff grey brown slightly gravelly CLAY with a low cobble content of subangular to subrounded sandstone and granite. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. (Glacial Till)
		5.00	11D		5.00	28.63		Borehole completed at 5.00m.
					{6.00}			

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 1.30m begl; 50mm slotted pipe with gravel between 1.30m begl to 4.30m begl; Borehole collapse between 4.30m begl to 5.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:37.5

Logged By: NB

1.0 ENZYGO BH LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

Enzygo Ltd
Tel: 01454 269237
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Web: www.enzygo.com

Site
Premier Inn Deansgate, Manchester

WS02

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 30-05-19 Finish 30-05-19		

Client
Whitbread PLC

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.20	1ES		0.10	33.94		MADE GROUND: Black macadam.
		0.50	2ES		0.45	33.59		MADE GROUND: Brown grey sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, macadam and concrete. Sand is fine to coarse.
		0.70 - 1.00	3B					0.45 Landscaping membrane. Loose orange brown slightly clayey gravelly fine to coarse SAND with a low cobble content of subangular to subrounded granite and sandstone. Gravel is subangular to subrounded fine to coarse of granite, quartz and sandstone. (Glaciofluvial Sheet Deposits)
		1.00	4ES					
		1.20	SPT	N=4				
		1.20 - 1.65	5B					
		2.00	SPT	N=4				
		2.00 - 2.50	6ES					
			7B					
					3.00	31.04		Borehole completed at 3.00m.
					{6.00}			

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 1.00m begl; 50mm slotted pipe with gravel between 1.00m begl to 3.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:37.5

Logged By
NB

1.0 ENZYGO BH LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

WS03

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 30-05-19 Finish 30-05-19		

Client: Whitbread PLC

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.20	1ES		0.15	34.30		MADE GROUND: Black macadam.
					0.30	34.15		MADE GROUND: Brown grey sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, macadam and concrete. Sand is fine to coarse.
		0.50	2ES					
		0.50 - 1.00	3B					MADE GROUND: Loose red brown slightly clayey sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, macadam and concrete. Sand is fine to coarse.
		1.00	4ES					
		1.20	SPT	N=4				
					1.40	33.05		
		1.50	5ES					Loose orange brown slightly clayey gravelly fine to coarse SAND with a low cobble content of subangular to subrounded granite and sandstone. Gravel is subangular to subrounded fine to coarse of granite, quartz and sandstone. (Glaciofluvial Sheet Deposits)
		1.50 - 2.00	6B					
					2.00	32.45		Borehole completed at 2.00m.
					{6.00}			

0 1 2 3 4 5 6

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 1.00m begl; 50mm slotted pipe with gravel between 1.00m begl to 2.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:37.5

Logged By: NB

1.0 ENZYGO BH LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

Enzygo Ltd
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Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

WS04

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 30-05-19 Finish 30-05-19		

Client: Whitbread PLC

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	Samples & In Situ Testing: No/Type	Samples & In Situ Testing: Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.20	1ES		0.05	33.66		MADE GROUND: Yellow paving slab.
					0.45	33.26		MADE GROUND: Brown grey gravelly fine to coarse sand. Gravel is is subangular to subrounded fine to coarse of brick.
					{6.00}			Borehole completed at 0.45m.

0 1 2 3 4 5 6

General Remarks

1. Hand excavated inspection pit from ground level to 0.45m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Backfilled with arisings and reinstated.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:37.5

Logged By: NB

1.0 ENZYGO BH LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

WS04A

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 30-05-19 Finish 30-05-19		

Client: Whitbread PLC

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
								MADE GROUND: Black macadam.
		0.50	1ES		0.45	33.26		
		0.50 - 0.70	2B					0.45 Landscaping membrane. Medium dense orange brown slightly silty gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. (Glaciofluvial Sheet Deposits)
		1.00	3ES					
		1.20	SPT	N=18				
		1.20 - 1.70	4B					
					1.50	32.21		
								Medium dense orange brown slightly clayey sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Sand is fine to coarse. (Glaciofluvial Sheet Deposits)
		2.00	SPT	N=15				
		2.20 - 2.70	5ES 6B					
		3.00	SPT	N=19				
		3.00 - 3.40	7ES 8B					
		4.00	SPT	N=13				
					4.50	29.21		
		4.80 - 5.00	9D					Firm grey brown slightly sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. Sand is fine to coarse. (Glacial Till)
		5.00	SPT	N=19	5.00	28.71		
								Borehole completed at 5.00m.
					{6.00}			

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 1.50m begl; 50mm slotted pipe with gravel between 1.50m begl to 4.50m begl; Borehole collapse between 4.50m begl to 5.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:37.5

Logged By: NB

1.0 ENZYGO BH LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

WS05

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 30-05-19 Finish 30-05-19		

Client: Whitbread PLC

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.25	1ES		0.20	33.92		MADE GROUND: Black macadam.
		0.25 - 0.40	2B		0.40	33.72		MADE GROUND: Brown grey slightly silty sandy gravel. Gravel is subangular to subrounded fine to coarse of brick, macadam and concrete. Sand is fine to coarse.
		0.50	3ES					
		0.50 - 1.00	4B					MADE GROUND: Loose orange brown gravelly fine to coarse sand with a low cobble content of subangular to subrounded brick. Gravel is subangular to subrounded fine to coarse of brick, quartz and sandstone.
		1.00	5ES					
		1.20	SPT	N=1				
		1.20 - 1.65	6D					1.20 - 1.50 Strata becomes clayey.
		1.70	7ES		1.75	32.37		
		2.00	SPT	N=15				Medium dense orange brown slightly silty gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartz and sandstone. (Glaciofluvial Sheet Deposits)
		2.00 - 2.50	8B					
		2.70	9ES					
		3.00	SPT	N=14				
		3.00 - 3.50	10B					
		3.90 - 4.50	11B					3.70 - 3.80 Black gravelly fine to coarse sand. Gravel is subangular fine to medium of coal.
		4.00	SPT	N=19				
		5.00	SPT	N=12	5.00	29.12		Borehole completed at 5.00m.
			12D					
					{6.00}			

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.50m begl; Bentonite seal between 0.50m begl to 2.00m begl; 50mm slotted pipe with gravel between 2.00mbegl to 5.00m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:37.5

Logged By: NB

1.0 ENZYGO BH LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

Enzygo Ltd
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Fax: 01454 269760
Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

WS06

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 30-05-19 Finish 30-05-19		

Client: Whitbread PLC

Sheet: 1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	Samples & In Situ Testing: No/Type	Samples & In Situ Testing: Results	Depth (m)	Level (mAD)	Legend	Stratum Description
		0.20	1ES					MADE GROUND: Brown grey slightly clayey gravelly fine to coarse sand with a high cobble content brick. Gravel is subangular to subrounded fine to coarse of brick, macadam, concrete and sandstone. Sand is ash.
		0.50 0.60 - 0.80	2ES 3B					
					0.80	33.25		
		1.00	4ES					MADE GROUND: Brown grey gravelly fine to coarse sand. Gravel is subangular to subrounded fine to coarse of brick, sandstone and quartz.
					1.20	32.85		Borehole completed at 1.20m.
					{6.00}			

0 1 2 3 4 5 6

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Backfilled with arisings and reinstated.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:37.5

Logged By: NB

1.0 ENZYGO BH LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

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Fax: 01454 269760
Web: www.enzygo.com

Site
Premier Inn Deansgate, Manchester

WS06A

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 30-05-19 Finish 30-05-19		

Client
Whitbread PLC

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing: Depth (m)	Samples & In Situ Testing: No/Type	Samples & In Situ Testing: Results	Depth (m)	Level (mAD)	Legend	Stratum Description
					0.05	33.99		MADE GROUND: Grey concrete paving slab.
								MADE GROUND: Brown grey slightly clayey gravelly fine to coarse sand with a high cobble content brick. Gravel is subangular to subrounded fine to coarse of brick, macadam, concrete and sandstone. Sand is ash.
					0.80	33.24		MADE GROUND: Brown gravelly fine to coarse sand. Gravel is subangular to subrounded fine to coarse of brick, sandstone and quartz.
					1.35	32.69		Borehole completed at 1.35m.
					{6.00}			

0 1 2 3 4 5 6

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Install details: 50mm plain pipe concrete flush cover from 0.00m begl to 0.20m begl; Bentonite seal between 0.20m begl to 0.80m begl; 50mm slotted pipe with gravel between 0.80mbegl to 1.35m begl.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:37.5

Logged By
NB

1.0 ENZYGO BH LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

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Web: www.enzygo.com

Site
Premier Inn Deansgate, Manchester

WS06B

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 30-05-19 Finish 30-05-19		

Client
Whitbread PLC

Sheet
1 of 1

Well	Water Levels	Samples & In Situ Testing			Depth (m)	Level (mAD)	Legend	Stratum Description
		Depth (m)	No/Type	Results				
					0.45	33.52		MADE GROUND: Brown grey slightly clayey gravelly fine to coarse sand with a high cobble content brick. Gravel is subangular to subrounded fine to coarse of brick, macadam, concrete and sandstone. Sand is fine to coarse.
					{6.00}			Borehole completed at 0.45m.

0 1 2 3 4 5 6

General Remarks

1. Hand excavated inspection pit from ground level to 1.20m begl.
2. D - Disturbed Sample; ES - Environmental Sample; B - Bulk Sample.
3. Densities and soil consistencies are based on insitu tests.
4. No visual or olfactory evidence of contamination observed.
5. Groundwater was not observed.
6. SPT - Standard Penetration Test; N - Number of blows.
7. Backfilled with arisings and reinstated.

Groundwater

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

All dimensions in metres
Scale 1:37.5

Logged By
NB

1.0 ENZYGO BH LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

ARCHWAY ENGINEERING (UK) LTD
AINLEYS INDUSTRIAL ESTATE
ELLAND
WEST YORKSHIRE
HX5 9JP

SPT Hammer Ref:	DART435
Test Date:	02/05/2019
Report Date:	02/05/2019
File Name:	DART435.spt
Test Operator:	CM

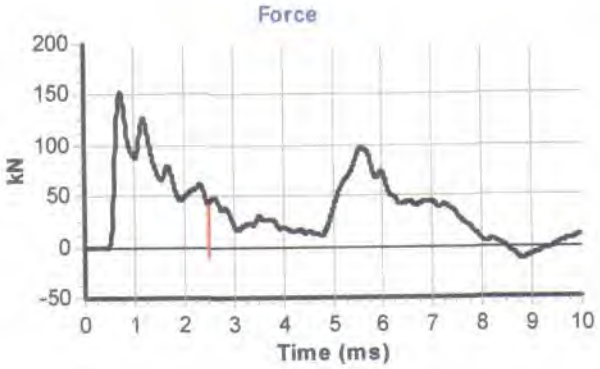
Instrumented Rod Data

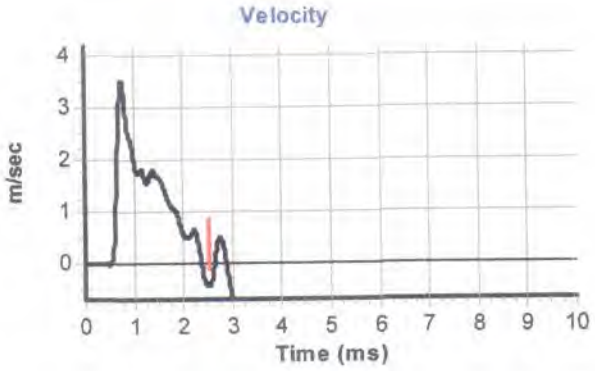
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.5
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	7080
Accelerometer No.2:	11609

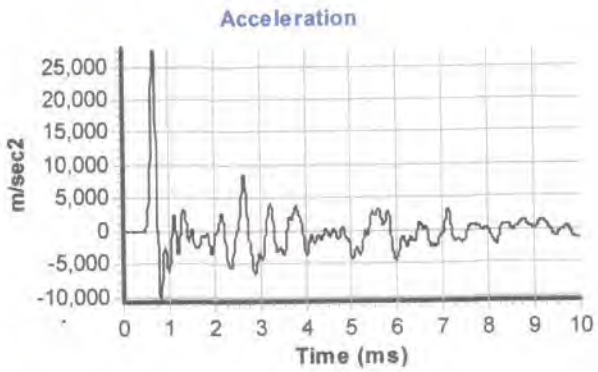
SPT Hammer Information

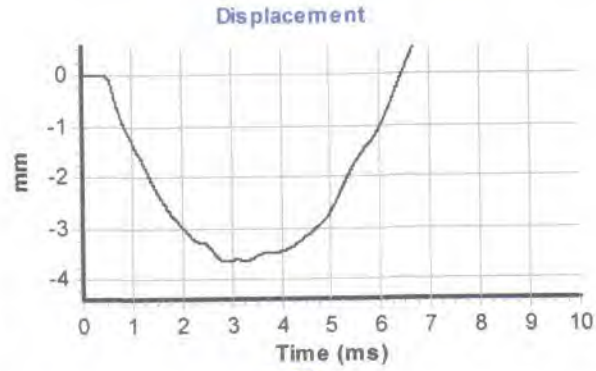
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	10.0

Comments / Location









Calculations

Area of Rod A (mm2):	970
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	287

Energy Ratio E_r (%): **61**

Signed: S. HOWARTH
Title: FITTER

The recommended calibration interval is 12 months

SPTMAN ver.1.93 All rights reserved, Testconsult ©2010

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site				
Premier Inn Deansgate, Manchester				**SA01 NF**
Job No: MAN.260.001	Dates: Start 03-06-19, Finish 03-06-19	Ground Level (m)	Co-Ordinates	
Client: Whitbread PLC				Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
				0.08	33.92		MADE GROUND: Tarmac.
				0.35	33.65		MADE GROUND: Dark grey slightly clayey sandy angular fine to coarse gravel of sandstone, concrete, brick, clinker and coal with a moderate cobble content. Cobbles are angular of brick. Sand is fine to coarse.
				0.50	33.50		MADE GROUND: Yellow brown slightly sandy angular fine to coarse gravel of dolomite. Sand is fine to coarse.
				0.75	33.25		Firm consistency orange brown mottled grey sandy CLAY with some orange brown silty sandy bands. Sand is fine to coarse. (Glacial Till)
				1.35	32.65		Light brown very gravelly coarse SAND. Gravel is subangular to rounded of quartz and sandstone. (Glaciofluvial Sheet Deposits)
				2.50 {2.50}	31.50		Light brown slightly gravelly slightly silty medium SAND. Gravel is subangular to rounded of quartz and sandstone. (Glaciofluvial Sheet Deposits) Trial Pit completed at 2.50m.

0
1
2

General Remarks

Dimensions: 1.55x0.50x2.50
1. Machine excavated inspection pit from ground level to 2.50m begl.
2. No visual or olfactory evidence of contamination observed.
3. Groundwater was not observed.
4. Trial pit was backfilled with arisings after testing.

All dimensions in metres Scale 1:15.625		Logged By EL

1.1 ENZYGO TP LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

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Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

SA01 SF

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 03-06-19 Finish 03-06-19		

Client: Whitbread PLC

Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
				0.08	33.92		MADE GROUND: Tarmac.
				0.25	33.75		MADE GROUND: Dark grey slightly clayey sandy angular fine to coarse gravel of sandstone, concrete, brick, clinker and coal with a low cobble content. Cobbles are angular of brick. Sand is fine to coarse.
				1.40	32.60		MADE GROUND: Dark grey cobbles with some slightly clayey gravelly coarse sand. Cobbles are angular of brick. Gravel is angular fine to coarse of sandstone, concrete, brick, clinker and coal.
				2.50 {2.50}	31.50		Light brown slightly gravelly slightly silty medium SAND. Gravel is subangular to rounded of quartz and sandstone. (Glaciofluvial Sheet Deposits) Trial Pit completed at 2.50m.

0
1
2

General Remarks

Dimensions: 1.55x0.50x2.50
1. Machine excavated inspection pit from ground level to 2.50m begl.
2. No visual or olfactory evidence of contamination observed.
3. Groundwater was not observed.
4. Trial pit was backfilled with arisings after testing.

All dimensions in metres
Scale 1:15.625

Logged By: EL

1.1 ENZYGO TP LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

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Fax: 01454 269760
Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

SA02

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 03-06-19 Finish 03-06-19		

Client: Whitbread PLC

Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
				0.18	34.43		MADE GROUND: Tarmac.
				0.55	34.06		MADE GROUND: Brown slightly clayey very gravelly coarse sand with a medium cobble content. Cobbles are angular of brick and concrete. Gravel is angular fine to coarse of sandstone, concrete, brick and limestone.
				1.05	33.56		MADE GROUND: Relicted brick structure (possible old foundation).
				1.40	33.21		Firm consistency orange brown mottled grey slightly sandy CLAY with some orange brown silty sandy bands. Sand is fine to coarse. (Glacial Till)
				2.30	32.31		Orange brown very gravelly medium SAND with a medium cobble content. Cobbles are subrounded of quartz. Gravel is subangular fine to coarse of quartz and sandstone. (Glaciofluvial Sheet Deposits)
				{2.50}			Trial Pit completed at 2.30m.

0
1
2

General Remarks

Dimensions: 1.55x0.50x2.30
1. Machine excavated inspection pit from ground level to 2.30m begl.
2. No visual or olfactory evidence of contamination observed.
3. Groundwater was not observed.
4. Trial pit was backfilled with arisings after testing.

All dimensions in metres
Scale 1:15.625

Logged By: EL

1.1 ENZYGO TP LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

Enzygo Ltd
Tel: 01454 269237
Fax: 01454 269760
Web: www.enzygo.com

Site: Premier Inn Deansgate, Manchester

SA03

Job No	Dates	Ground Level (m)	Co-Ordinates
MAN.260.001	Start 03-06-19 Finish 03-06-19		

Client: Whitbread PLC

Sheet: 1 of 1

Water Levels	Samples & In Situ Testing: Depth (m)	No/Type	Results	Depth (m)	Level (mAD)	Legend	Stratum Description
				0.14	33.40		MADE GROUND: Tarmac.
				0.40	33.14		MADE GROUND: Light grey slightly sandy gravel. Gravel is angular fine to coarse of limestone.
				0.95	32.59		Orange brown very sandy subangular fine to coarse GRAVEL of quartz and sandstone with a low cobble content. Cobbles are subrounded of quartz. Sand is fine to coarse. (Glaciofluvial Sheet Deposits)
				1.80	31.74		Red brown slightly silty gravelly medium SAND. Gravel is subangular fine to coarse of quartz and sandstone. (Glaciofluvial Sheet Deposits)
				2.00	31.54		Red brown very sandy subangular fine to coarse GRAVEL of quartz and sandstone. Sand is fine to coarse. (Glaciofluvial Sheet Deposits)
				{2.50}			Trial Pit completed at 2.00m.

0
1
2

General Remarks

Dimensions: 1.60x0.55x2.00
1. Machine excavated inspection pit from ground level to 2.00m begl.
2. No visual or olfactory evidence of contamination observed.
3. Groundwater was not observed.
4. Trial pit was backfilled with arisings after testing.

All dimensions in metres
Scale 1:15.625

Logged By: EL

1.1 ENZYGO TP LOG MAN.260.001 LOGS NEW.GPJ GINT STD AGS 3_1 ENZYGO.GPJ 2/8/19

Appendix 4 – In-Situ Testing Results

LABORATORY REPORT

4043

Contract Number: PSL19/3377

Report Date: 03 June 2019

Client's Reference: 63524

Client Name: Geocore Site Investigations Ltd
Tralee Close
Kirkleatham Business Park
Redcar
Cleveland
TS10 5SG

For the attention of: Michelle Woodhead

Contract Title: Manchester, M15 5FJ

Date Received: 31/5/2019
Date Commenced: 31/5/2019
Date Completed: 03/6/2019

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

R Gunson (Director)	A Watkins (Director)	R Berriman (Quality Manager)
L Knight (Senior Technician)	S Eyre (Senior Technician)	R Cowles (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: rgunson@prosoils.co.uk
awatkins@prosoils.co.uk

VERTICAL DEFORMATION TESTS.

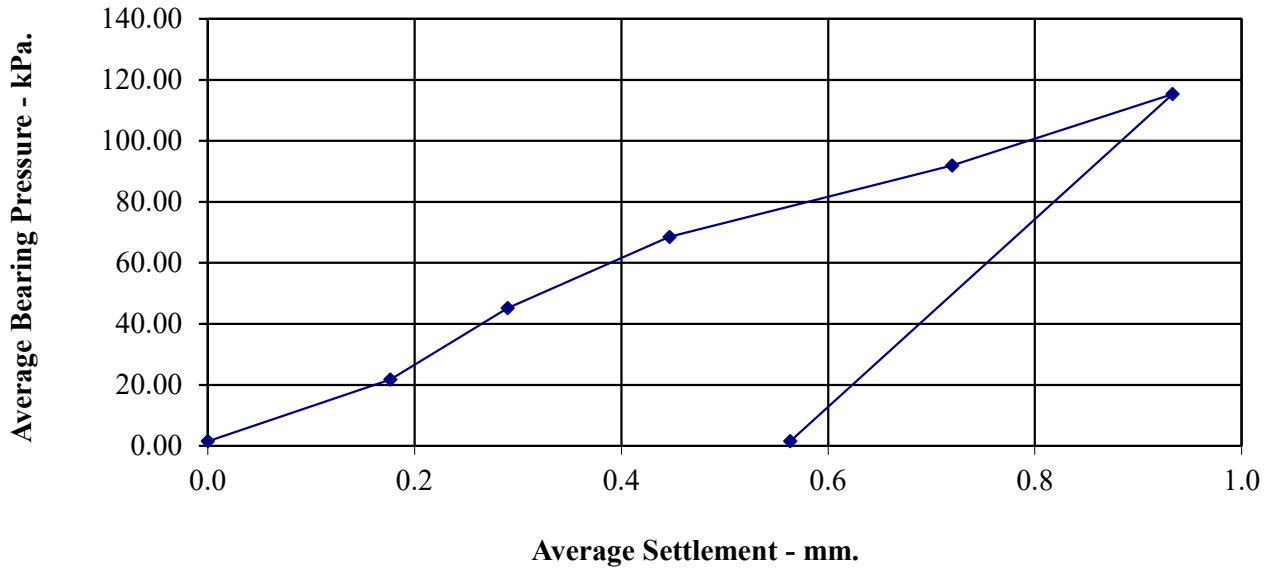
BS 1377 : Part 9 : 1990.

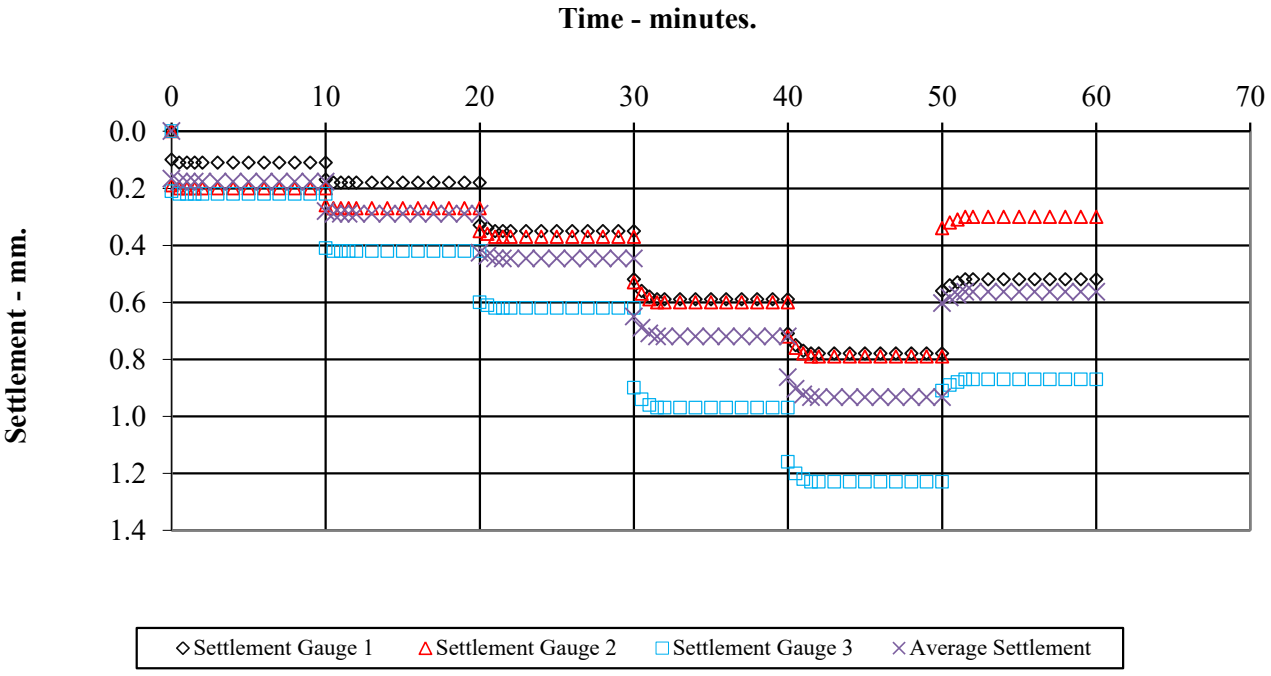
Date of Test: 31-May-19

Test Position: PLT 01 **Depth (m):** 0.60

Plate Area (m2): 0.2922467 **Type of Kentledge:** Wheeled

Maximum Applied Pressure (kPa): 115.35
Maximum Deformation (mm): 0.93
Description: Brown slightly gravelly very sandy CLAY.





Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4
Incorporating IAN 73/06

Date of Test	**31-May-19**	
Test Position	**PLT 01**	
Depth (m)	**0.60**	
Description	**Brown slightly gravelly very sandy CLAY.**	
Maximum Deflection	**0.93**	**mm**
Deflection required for CBR value	**1.25**	**mm**
Load at 0.93mm	**115**	**kN/m^2**
Plate diameter	**610**	**mm**
Conversion factor for plate diameter	**0.816**	
K_{762}(modulus of subgrade reaction)	**75.3**	**$kN/m^2/mm$**
CBR Value	**> 17.3**	**%**

VERTICAL DEFORMATION TESTS.

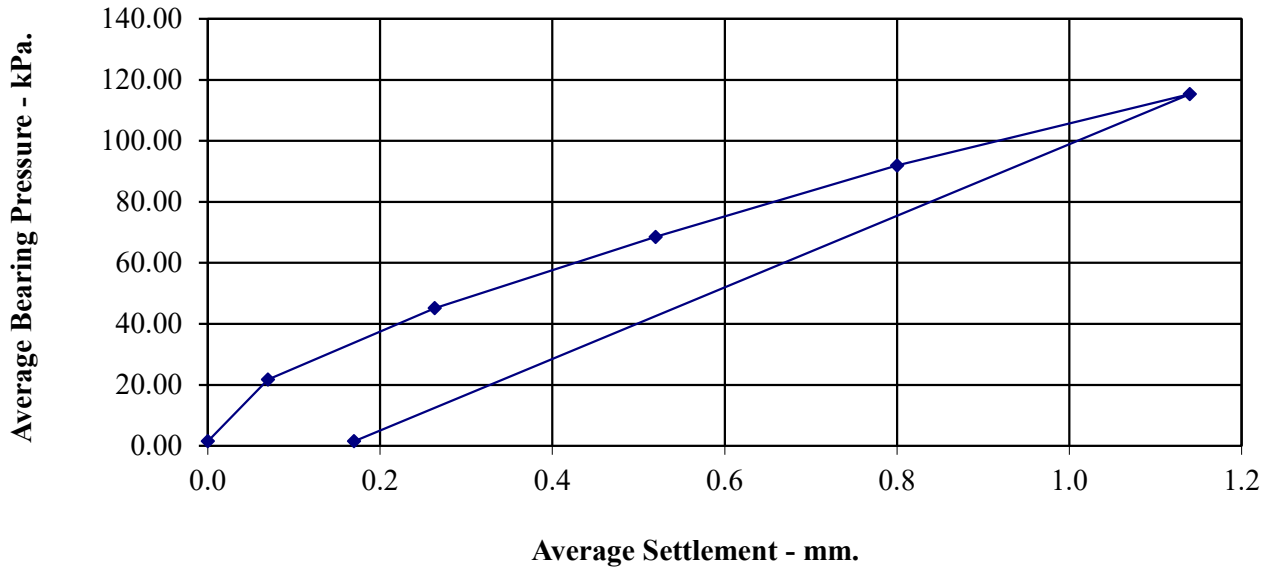
BS 1377 : Part 9 : 1990.

Date of Test: 31-May-19

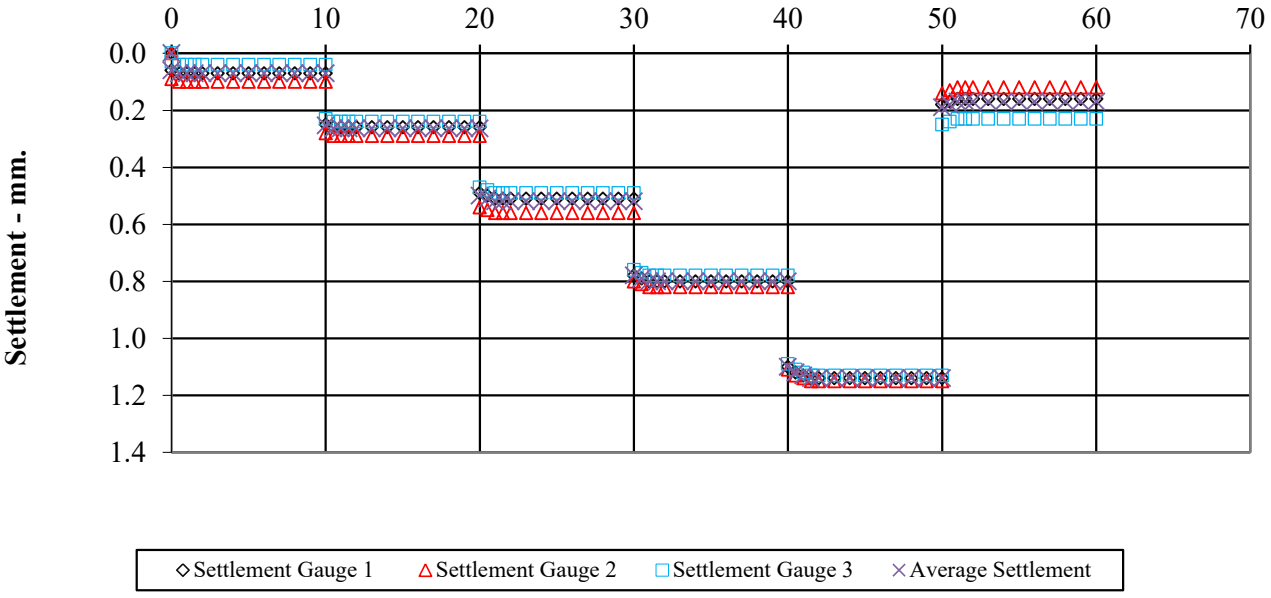
Test Position: PLT 02 **Depth (m):** 0.45

Plate Area (m2): 0.2922467 **Type of Kentledge:** Wheeled

Maximum Applied Pressure (kPa): 115.35
Maximum Deformation (mm): 1.14
Description: Brown gravelly Fill (MADE GROUND)



Time - minutes.



Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4
Incorporating IAN 73/06

Date of Test	**31-May-19**	
Test Position	**PLT 02**	
Depth (m)	**0.45**	
Description	**Brown gravelly Fill (MADE GROUND)**	
Maximum Deflection	**1.14**	**mm**
Deflection required for CBR value	**1.25**	**mm**
Load at 1.14mm	**115**	**kN/m^2**
Plate diameter	**610**	**mm**
Conversion factor for plate diameter	**0.816**	
K_{762}(modulus of subgrade reaction)	**75.3**	**$kN/m^2/mm$**
CBR Value	**> 17.3**	**%**

VERTICAL DEFORMATION TESTS.

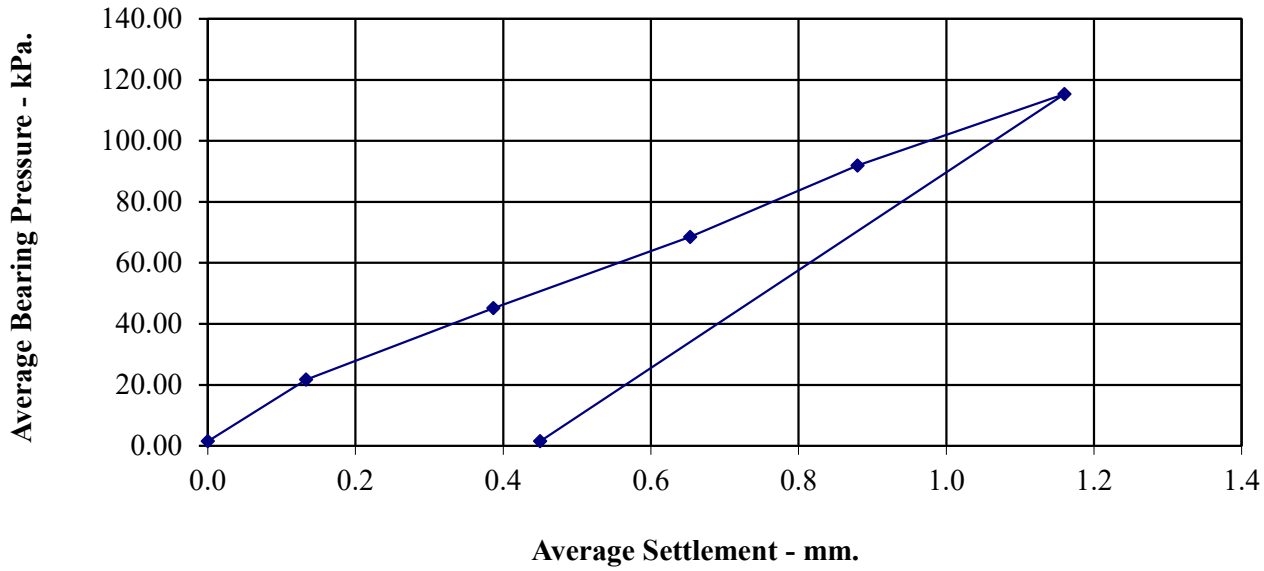
BS 1377 : Part 9 : 1990.

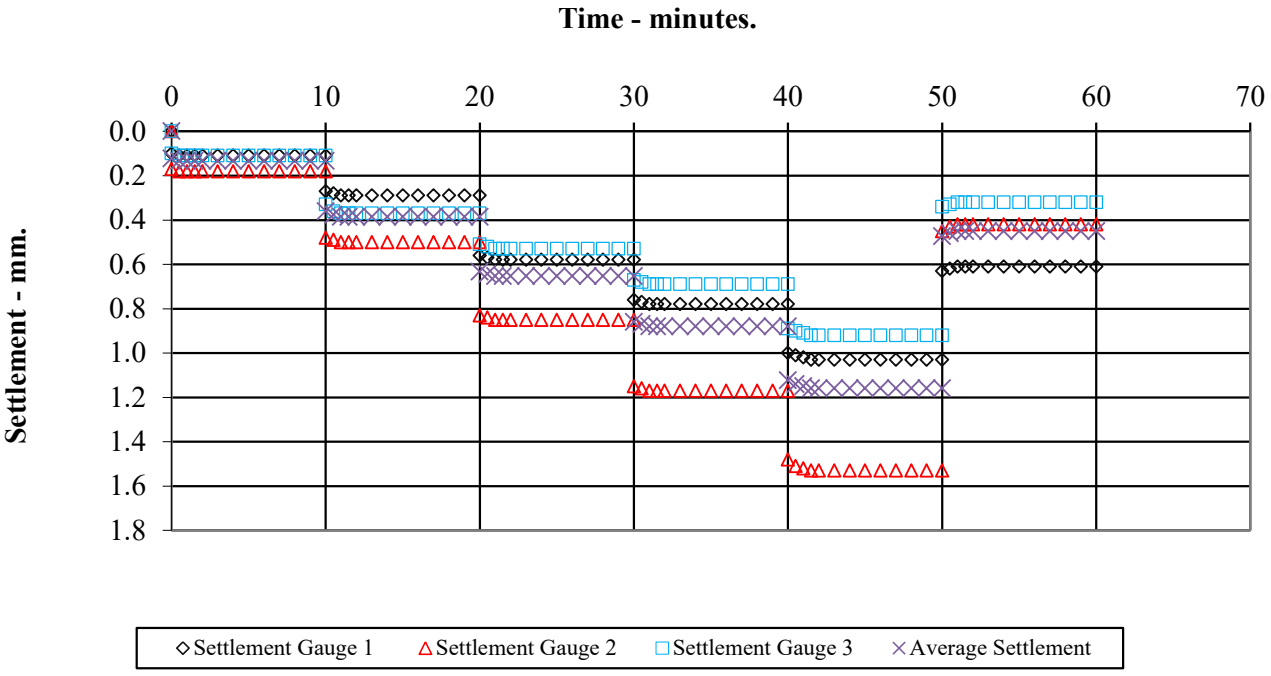
Date of Test: 31-May-19

Test Position: PLT 03 **Depth (m):** 0.60

Plate Area (m2): 0.2922467 **Type of Kentledge:** Wheeled

Maximum Applied Pressure (kPa): 115.35
Maximum Deformation (mm): 1.16
Description: Brown very sandy CLAY.





UKAS TESTING 4043

PSL Professional Soils Laboratory

Manchester, M15 5FJ.

Contract No:
PSL19/3377
Client Ref:
63524

Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4
Incorporating IAN 73/06

Date of Test	**31-May-19**	
Test Position	**PLT 03**	
Depth (m)	**0.60**	
Description	**Brown very sandy CLAY.**	
Maximum Deflection	**1.16**	**mm**
Deflection required for CBR value	**1.25**	**mm**
Load at 1.16mm	**115**	**kN/m^2**
Plate diameter	**610**	**mm**
Conversion factor for plate diameter	**0.816**	
K_{762}(modulus of subgrade reaction)	**75.3**	**$kN/m^2/mm$**
CBR Value	**> 17.3**	**%**

VERTICAL DEFORMATION TESTS.

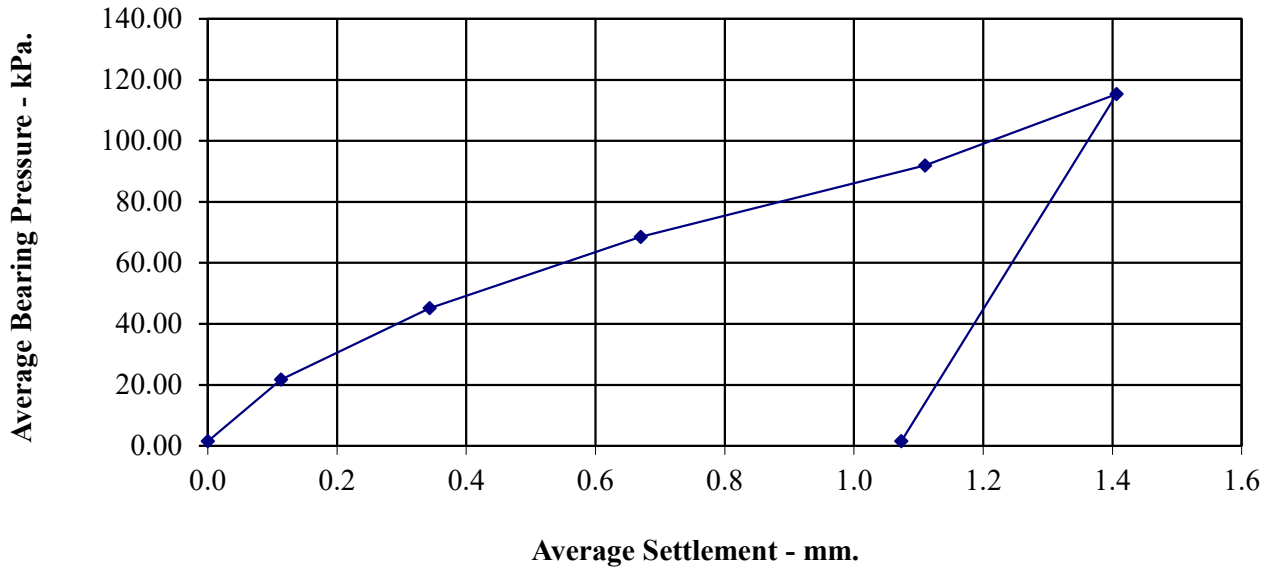
BS 1377 : Part 9 : 1990.

Date of Test: 31-May-19

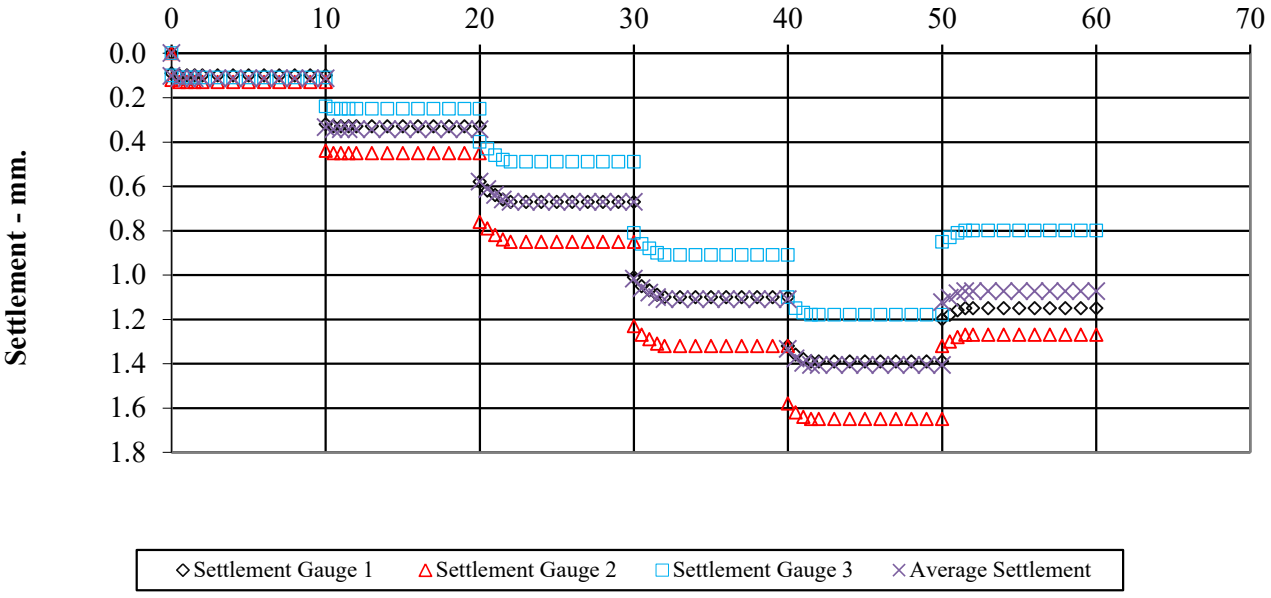
Test Position: PLT 04 **Depth (m):** 0.60

Plate Area (m2): 0.2922467 **Type of Kentledge:** Wheeled

Maximum Applied Pressure (kPa): 115.35
Maximum Deformation (mm): 1.41
Description: Brown slightly gravelly very sandy CLAY.



Time - minutes.



UKAS TESTING 4043

PSL Professional Soils Laboratory

Manchester, M15 5FJ.

Contract No:
PSL19/3377
Client Ref:
63524

Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4
Incorporating IAN 73/06

Date of Test	**31-May-19**	
Test Position	**PLT 04**	
Depth (m)	**0.60**	
Description	**Brown slightly gravelly very sandy CLAY.**	
Maximum Deflection	**1.41**	**mm**
Deflection required for CBR value	**1.25**	**mm**
Load at 1.25mm	**103**	**kN/m^2**
Plate diameter	**610**	**mm**
Conversion factor for plate diameter	**0.816**	
K_{762}(modulus of subgrade reaction)	**67.3**	**$kN/m^2/mm$**
CBR Value	**14.2**	**%**

VERTICAL DEFORMATION TESTS.

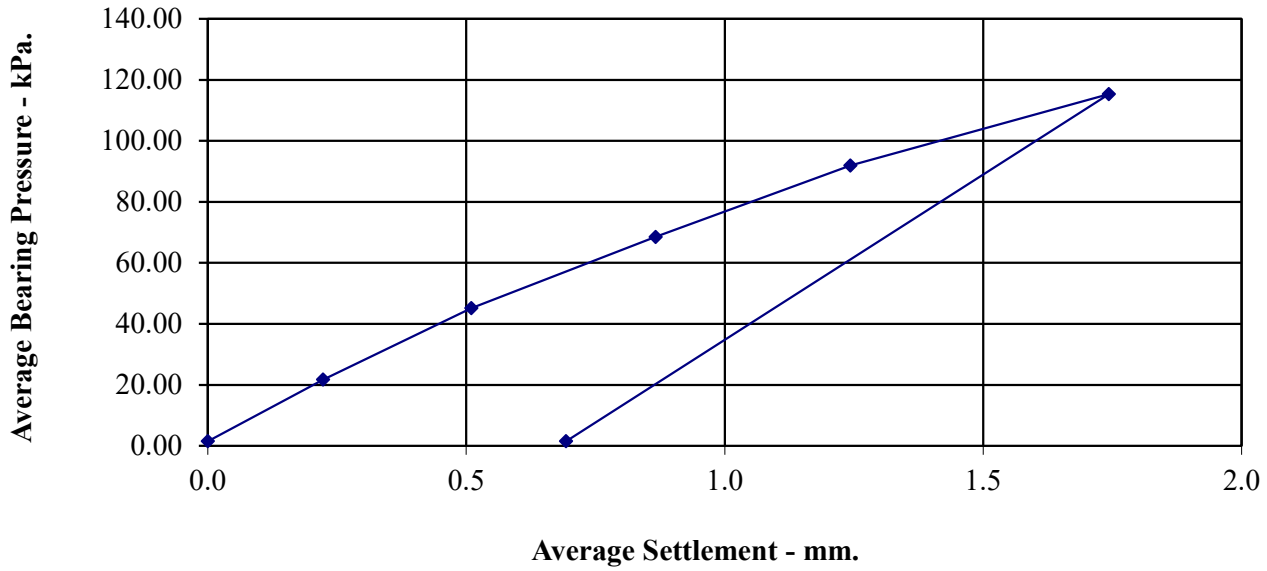
BS 1377 : Part 9 : 1990.

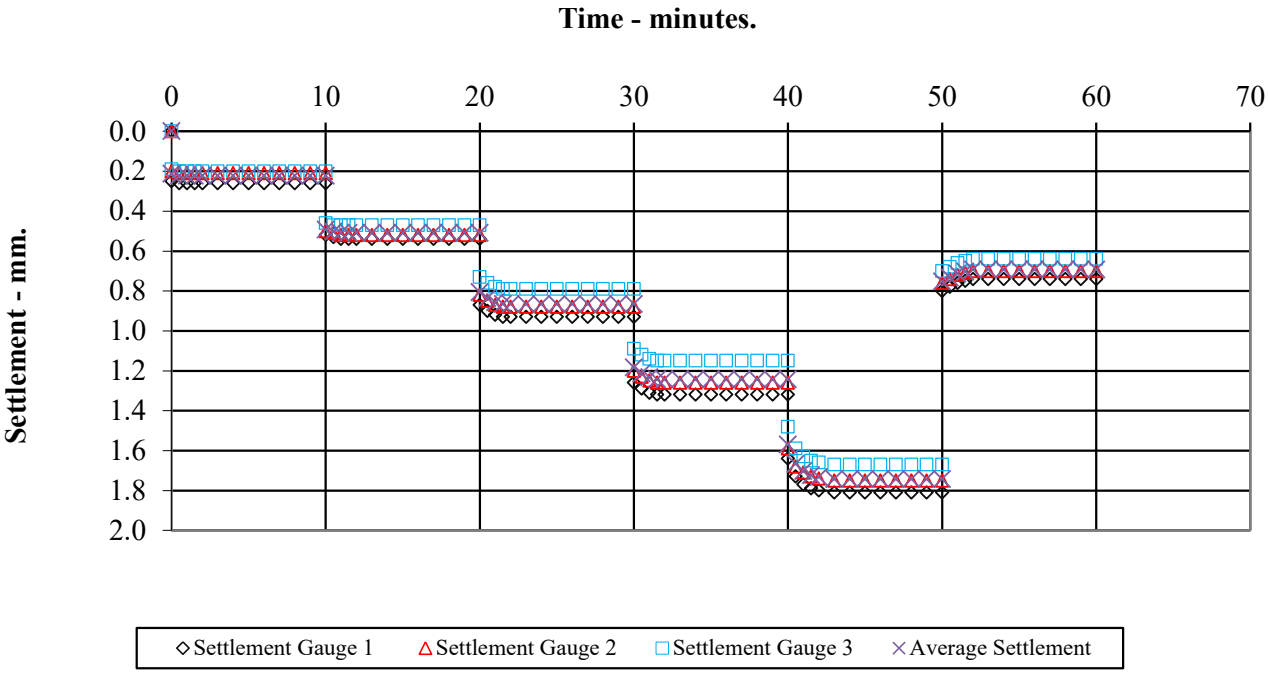
Date of Test: 31-May-19

Test Position: PLT 05 **Depth (m):** 0.60

Plate Area (m2): 0.2922467 **Type of Kentledge:** Wheeled

Maximum Applied Pressure (kPa): 115.35
Maximum Deformation (mm): 1.74
Description: Brown slightly gravelly very sandy CLAY.





UKAS TESTING 4043 / PSL Professional Soils Laboratory	**Manchester, M15 5FJ.**	**Contract No:** PSL19/3377 **Client Ref:** 63524

Calculation of Equivalent CBR Value from Plate Bearing Test

Design Manual for Roads and Bridges Volume 7 Section 2 Chapter 4
Incorporating IAN 73/06

Date of Test	**31-May-19**	
Test Position	**PLT 05**	
Depth (m)	**0.60**	
Description	**Brown slightly gravelly very sandy CLAY.**	
Maximum Deflection	**1.74**	**mm**
Deflection required for CBR value	**1.25**	**mm**
Load at 1.25mm	**92**	**kN/m^2**
Plate diameter	**610**	**mm**
Conversion factor for plate diameter	**0.816**	
K_{762}(modulus of subgrade reaction)	**60.3**	**$kN/m^2/mm$**
CBR Value	**11.7**	**%**

	Site: **Premier Inn, Deansgate**	Soakaway Number..... SA01
	Job Number : **MAN.260.001**	Pit Length..... 1.55 m
	Date: **03/06/2019**	Pit Width..... 0.50 m
		Pit Depth..... 2.50 m
	SOIL INFILTRATION RATE TEST	Gravel Void Ratio..... 0.30
	BRE Digest 365, DG365, February 2016	*(Gravel used = 0.30, No Gravel = 1.00)*

Remarks: -

Encountered Geology

Refer to SA01 Log for encountered ground condition.

Groundwater

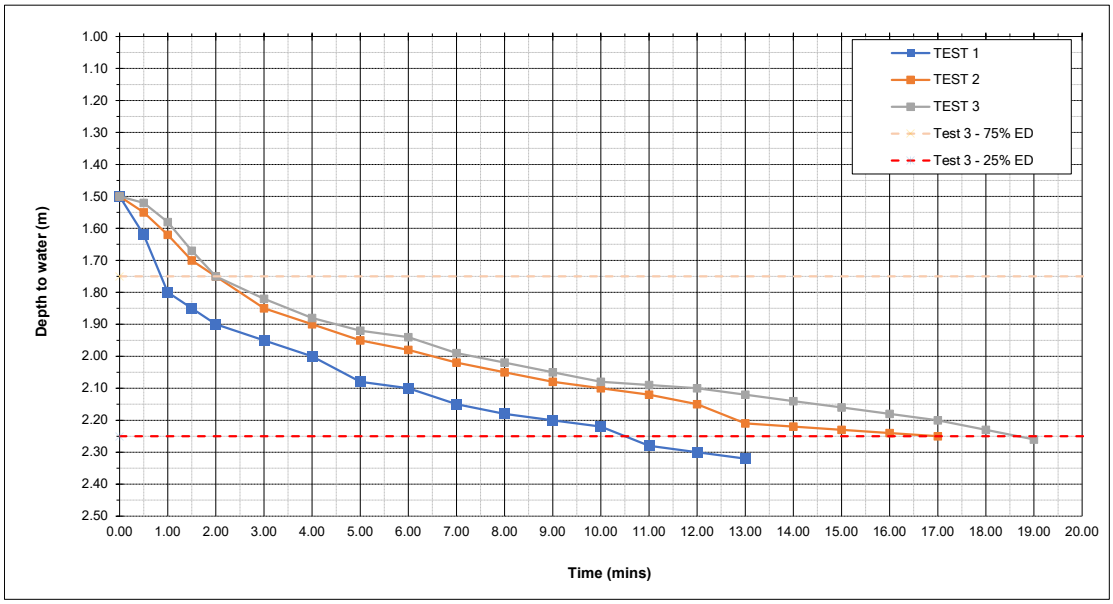
None encountered

TEST 1		TEST 2		TEST 3	
Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)
0.00	1.50	0.00	1.50	0.00	1.50
0.50	1.62	0.50	1.55	0.50	1.52
1.00	1.80	1.00	1.62	1.00	1.58
1.50	1.85	1.50	1.70	1.50	1.67
2.00	1.90	2.00	1.75	2.00	1.75
3.00	1.95	3.00	1.85	3.00	1.82
4.00	2.00	4.00	1.90	4.00	1.88
5.00	2.08	5.00	1.95	5.00	1.92
6.00	2.10	6.00	1.98	6.00	1.94
7.00	2.15	7.00	2.02	7.00	1.99
8.00	2.18	8.00	2.05	8.00	2.02
9.00	2.20	9.00	2.08	9.00	2.05
10.00	2.22	10.00	2.10	10.00	2.08
11.00	2.28	11.00	2.12	11.00	2.09
12.00	2.30	12.00	2.15	12.00	2.10
13.00	2.32	13.00	2.21	13.00	2.12
		14.00	2.22	14.00	2.14
		15.00	2.23	15.00	2.16
		16.00	2.24	16.00	2.18
		17.00	2.25	17.00	2.20
				18.00	2.23
				19.00	2.26

Effective Depth	m	1.00	1.00	1.00
75% Effective Depth	m	0.75	0.75	0.75
(i.e. depth below GL)	m	**1.75**	**1.75**	**1.75**
50% Effective depth	m	0.50	0.50	0.50
(i.e. depth below GL)	m	**2.00**	**2.00**	**2.00**
25% Effective Depth	m	0.25	0.25	0.25
(i.e. depth below GL)	m	**2.25**	**2.25**	**2.25**
Effective Storage Depth 75%-25%	m	0.50	0.50	0.50
Time to fall to 75% effective depth	mins	1.80	2.00	2.00
Time to fall to 25% effective depth	mins	10.50	17.00	18.60
Vp (75%-25%)	m^3	0.12	0.12	0.12
ap50 (50%)	m^2	2.83	2.83	2.83
tp(75%-25%)	mins	8.70	15.00	16.60
SOIL INFILTRATION RATE	m/s	**7.9E-05**	**4.6E-05**	**4.1E-05**

DESIGN SOIL INFILTRATION RATE, f m/s **4.13E-05**

SA01



Compiled By:	Date:	Approved By:	Date
N Ramsumair	11/07/2019		

	Site: **Premier Inn, Deansgate** **Job Number :** **MAN.260.001** **Date:** **03/06/2019**	Soakaway Number..... SA02 Pit Length..... 1.55 m Pit Width..... 0.50 m Pit Depth..... 2.30 m Gravel Void Ratio..... 0.30 *(Gravel used = 0.30, No Gravel = 1.00)*
	SOIL INFILTRATION RATE TEST BRE Digest 365, DG365, February 2016	

Remarks: -

Encountered Geology

Refer to SA02 Log for encountered ground condition.

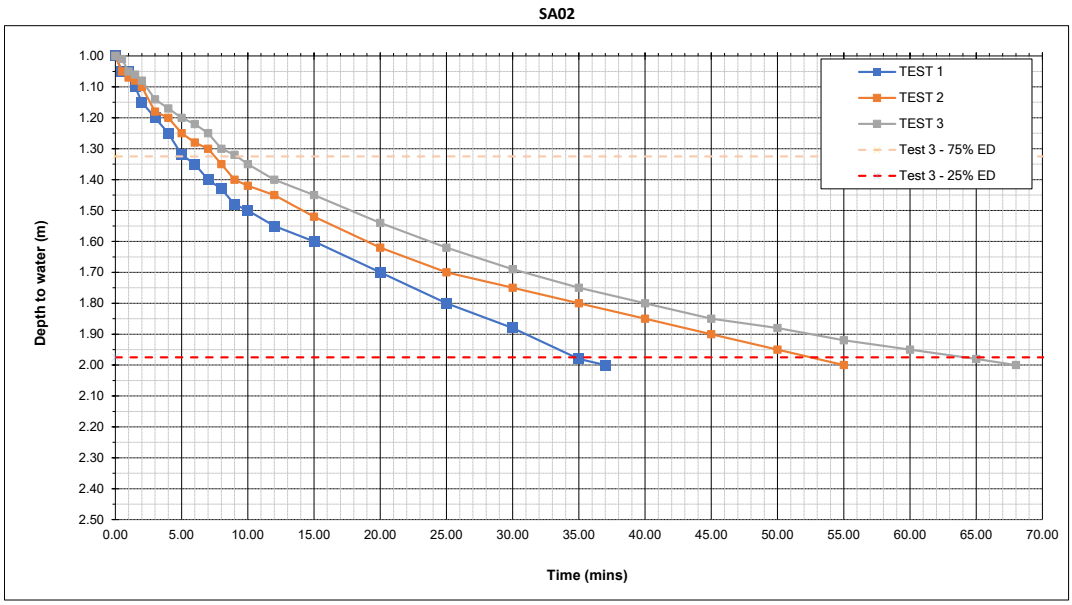
Groundwater

None encountered

TEST 1		TEST 2		TEST 3	
Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)
0.00	1.00	0.00	1.00	0.00	1.00
0.50	1.05	0.50	1.05	0.50	1.01
1.00	1.05	1.00	1.07	1.00	1.05
1.50	1.10	1.50	1.08	1.50	1.06
2.00	1.15	2.00	1.10	2.00	1.08
3.00	1.20	3.00	1.18	3.00	1.14
4.00	1.25	4.00	1.20	4.00	1.17
5.00	1.32	5.00	1.25	5.00	1.20
6.00	1.35	6.00	1.28	6.00	1.22
7.00	1.40	7.00	1.30	7.00	1.25
8.00	1.43	8.00	1.35	8.00	1.30
9.00	1.48	9.00	1.40	9.00	1.32
10.00	1.50	10.00	1.42	10.00	1.35
12.00	1.55	12.00	1.45	12.00	1.40
15.00	1.60	15.00	1.52	15.00	1.45
20.00	1.70	20.00	1.62	20.00	1.54
25.00	1.80	25.00	1.70	25.00	1.62
30.00	1.88	30.00	1.75	30.00	1.69
35.00	1.98	35.00	1.80	35.00	1.75
37.00	2.00	40.00	1.85	40.00	1.80
		45.00	1.90	45.00	1.85
		50.00	1.95	50.00	1.88
		55.00	2.00	55.00	1.92
				60.00	1.95
				65.00	1.98
				68.00	2.00

Effective Depth	m	1.30	1.30	1.30
75% Effective Depth	m	0.98	0.98	0.98
(i.e. depth below GL)	m	**1.33**	**1.33**	**1.33**
50% Effective depth	m	0.65	0.65	0.65
(i.e. depth below GL)	m	**1.65**	**1.65**	**1.65**
25% Effective Depth	m	0.33	0.33	0.33
(i.e. depth below GL)	m	**1.98**	**1.98**	**1.98**
Effective Storage Depth 75%-25%	m	0.65	0.65	0.65
Time to fall to 75% effective depth	mins	5.00	7.50	9.00
Time to fall to 25% effective depth	mins	35.00	53.00	65.00
Vp (75%-25%)	m^3	0.15	0.15	0.15
ap50 (50%)	m^2	3.44	3.44	3.44
tp(75%-25%)	mins	30.00	45.50	56.00
SOIL INFILTRATION RATE	m/s	**2.4E-05**	**1.6E-05**	**1.3E-05**

DESIGN SOIL INFILTRATION RATE, f m/s **1.31E-05**



Compiled By:	Date:	Approved By:	Date
N Ramsumair	11/07/2019		

	Site: **Premier Inn, Deansgate** **Job Number :** **MAN.260.001** **Date:** **03/06/2019**	Soakaway Number..... SA03 Pit Length..... 1.60 m Pit Width..... 0.55 m Pit Depth..... 2.00 m Gravel Void Ratio..... 0.30 *(Gravel used = 0.30, No Gravel = 1.00)*
	SOIL INFILTRATION RATE TEST BRE Digest 365, DG365, February 2016	

Remarks: -

Encountered Geology

Refer to SA03 Log for encountered ground condition.

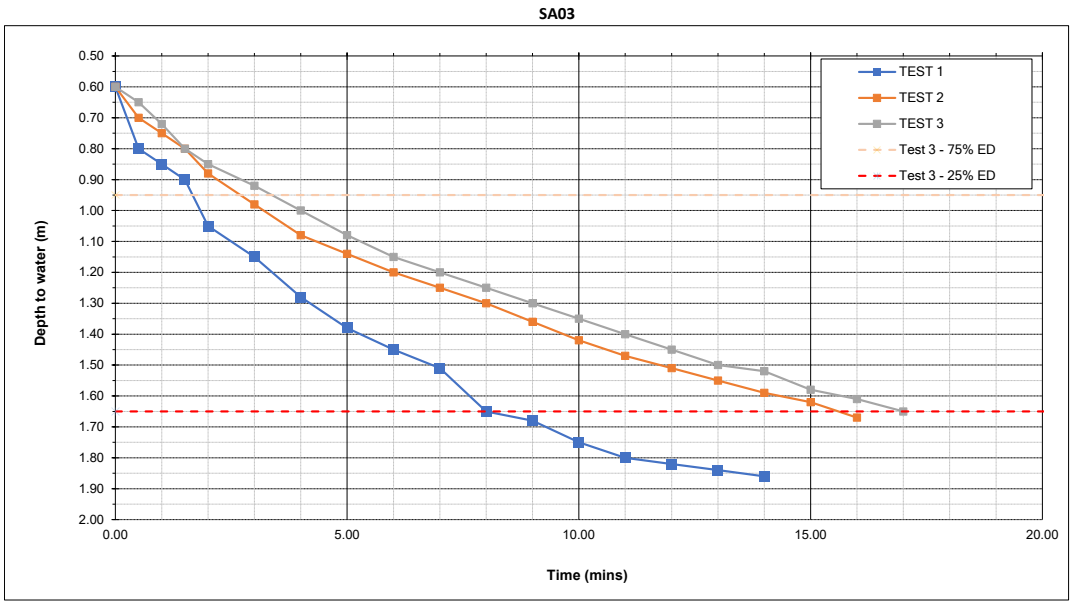
Groundwater

None encountered

TEST 1		TEST 2		TEST 3	
Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)	Time(min)	Depth to Water (m)
0.00	0.60	0.00	0.60	0.00	0.60
0.50	0.80	0.50	0.70	0.50	0.65
1.00	0.85	1.00	0.75	1.00	0.72
1.50	0.90	1.50	0.80	1.50	0.80
2.00	1.05	2.00	0.88	2.00	0.85
3.00	1.15	3.00	0.98	3.00	0.92
4.00	1.28	4.00	1.08	4.00	1.00
5.00	1.38	5.00	1.14	5.00	1.08
6.00	1.45	6.00	1.20	6.00	1.15
7.00	1.51	7.00	1.25	7.00	1.20
8.00	1.65	8.00	1.30	8.00	1.25
9.00	1.68	9.00	1.36	9.00	1.30
10.00	1.75	10.00	1.42	10.00	1.35
11.00	1.80	11.00	1.47	11.00	1.40
12.00	1.82	12.00	1.51	12.00	1.45
13.00	1.84	13.00	1.55	13.00	1.50
14.00	1.86	14.00	1.59	14.00	1.52
		15.00	1.62	15.00	1.58
		16.00	1.67	16.00	1.61
				17.00	1.65

Effective Depth	m	1.40	1.40	1.40
75% Effective Depth	m	1.05	1.05	1.05
(i.e. depth below GL)	m	**0.95**	**0.95**	**0.95**
50% Effective depth	m	0.70	0.70	0.70
(i.e. depth below GL)	m	**1.30**	**1.30**	**1.30**
25% Effective Depth	m	0.35	0.35	0.35
(i.e. depth below GL)	m	**1.65**	**1.65**	**1.65**
Effective Storage Depth 75%-25%	m	0.70	0.70	0.70
Time to fall to 75% effective depth	mins	1.60	2.60	4.50
Time to fall to 25% effective depth	mins	8.00	15.50	17.00
Vp (75%-25%)	m^3	0.18	0.18	0.18
ap50 (50%)	m^2	3.89	3.89	3.89
tp(75%-25%)	mins	6.40	12.90	12.50
SOIL INFILTRATION RATE	m/s	**1.2E-04**	**6.1E-05**	**6.3E-05**

DESIGN SOIL INFILTRATION RATE, f m/s **6.14E-05**



Compiled By:	Date:	Approved By:	Date
N Ramsumair	11/07/2019		

Appendix 5 –Monitoring Results

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Whitbread PLC
Site: Deansgate Pl
Date: 01/07/2019
Job No: MAN.260.001
Visit No: 1 **of** 6
Operator: DL
Project Manager: Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Free phase Hydrocarbons (LNAPL's or DNAPL's)	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH1	N/A										N/A		N/A	N/A	N/A	N/A	9.17	20.08	33.72	24.55	ND	Missing Bung.
BH2	0.1	0.1	0.3	0.3	>500	>500	1.0	1.0	20.2	20.2	ND	ND	0.7	0.6	ND	ND	9.00	20.12	33.62	24.62	ND	Silty.
BH3	0.1	0.1	0.4	0.4	13.4	13.4	ND	ND	17.6	17.7	ND	ND	0.9	0.7	ND	ND	7.88	20.50	33.63	25.75	ND	Silty.
BH4	0.1	0.1	3.0	3.0	11.0	11.0	ND	ND	15.3	15.6	ND	ND	0.9	0.8	ND	ND	5.53	11.73	34.50	28.97	ND	Silty.
BH5	4.2	4.2	2.0	2.0	9.0	9.0	ND	ND	9.5	9.5	ND	ND	0.6	0.5	ND	ND	9.90	15.10	34.09	24.19	ND	Silty.
BH6	0.1	0.1	3.4	2.1	1.0	1.0	ND	ND	18.0	18.6	ND	ND	0.7	0.5	ND	ND	10.13	7.25	33.96	23.83	ND	Silty.
WS1	0.1	0.0	0.3	0.1	8.0	8.0	ND	ND	19.8	20.9	ND	ND	0.1	0.1	ND	ND	N/A	N/A	33.63	N/A	ND	Bung stuck.
WS2	0.4	0.0	4.1	4.0	1.0	1.0	ND	ND	11.5	12.4	ND	ND	0.3	0.3	ND	ND	Dry	3.10	34.04	N/A	ND	Silty.
WS3	ND	ND	1.9	1.9	2.0	2.0	ND	ND	19.5	19.5	ND	ND	0.8	0.7	ND	ND	Dry	2.06	34.45	N/A	ND	Silty.
WS4A	ND	ND	3.0	3.0	3.0	3.0	ND	ND	16.7	17.3	ND	ND	0.9	0.8	ND	ND	Dry	4.58	33.71	N/A	ND	Silty.
WS5	ND	ND	3.4	3.2	3.0	3.0	ND	ND	17.4	18.6	ND	ND	0.3	0.2	ND	ND	Dry	4.93	34.12	N/A	ND	
WS6A	0.1	ND	1.8	1.7	6.0	6.0	ND	ND	16.2	20.4	ND	ND	0.3	0.2	ND	ND	Dry	1.35	34.04	N/A	ND	
Max	**4.2**	**4.2**	**4.1**	**4.0**	**13.4**	**13.4**	**1.0**	**1.0**	**20.2**	**20.9**	**0.0**	**0.0**	**0.9**	**0.8**	**0.0**	**0.0**	**10.13**	**20.5**	**34.5**	**28.97**		
Min	**0.1**	**0.0**	**0.3**	**0.1**	**1.0**	**1.0**	**1.0**	**1.0**	**9.5**	**9.5**	**0.0**	**0.0**	**0.1**	**0.1**	**0.0**	**0.0**	**5.53**	**1.35**	**33.62**	**23.83**		
GSV (l/hr)	**0.0378**		**0.032**																			

METEOROLOGICAL AND SITE INFORMATION:

(Select correct box with X or enter data, as applicable)

State of ground:	Dry	X	Moist		Wet		Snow		
Wind:	Calm		Light	X	Moderate		Strong		
Cloud cover:	None		Slight		Cloudy		Overcast	X	
Preciptation:	None		Slight	X	Moderate		Heavy		
Barometric pressure (mbar):			Before	1015			After	1016	
Pressure trend:			Falling		Steady		Rising	X	
Air Temperature (Deg. C):			Before	18			After	18	

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Whitbread PLC
Site: Deansgate Pl
Date: 09/07/2019
Job No: MAN.260.001
Visit No: 2 **of** 6
Operator: DL
Project Manager: Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Free phase Hydrocarbons (LNAPL's or DNAPL's)	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH1	ND	ND	0.3	ND	2.0	2.0	ND	ND	20.1	21.0	ND	ND	0.9	1.0	ND	ND	9.25	20.08	33.72	24.47	ND	Car parked over well.
BH2	ND	ND	0.1	ND	18.0	18.0	ND	ND	19.6	20.9	ND	ND	1.2	1.3	ND	ND	9.03	20.12	33.62	24.59	ND	Rapid recharge.
BH3	ND	ND	0.1	ND	3.0	3.0	ND	ND	19.8	20.7	ND	ND	1.2	1.3	ND	ND	9.26	20.50	33.63	24.37	ND	Rapid recharge.
BH4	0.1	0.1	3.4	3.4	2.0	2.0	ND	ND	15.3	17.8	ND	ND	0.8	1.0	ND	ND	10.15	11.73	34.50	24.35	ND	Rapid recharge.
BH5	ND	ND	0.2	ND	ND	ND	ND	ND	20.8	21.0	ND	ND	1.0	1.1	ND	ND	9.94	15.10	34.09	24.15	ND	Rapid recharge.
BH6	ND	ND	1.3	0.9	3.0	4.0	ND	ND	19.5	19.8	ND	ND	0.8	0.9	ND	ND	4.80	7.25	33.96	29.16	ND	Rapid recharge.
WS1	ND	ND	0.9	0.6	ND	ND	ND	ND	19.3	20.7	ND	ND	0.9	1.2	ND	ND	4.31	4.41	33.63	29.32	ND	Silty.
WS2	ND	ND	1.2	0.9	ND	ND	ND	ND	19.6	20.6	ND	ND	0.9	1.1	ND	ND	Dry	3.10	34.04	N/A	ND	
WS3	ND	ND	1.1	0.5	ND	ND	ND	ND	19.8	20.6	ND	ND	1.0	1.1	ND	ND	Dry	2.06	34.45	N/A	ND	
WS4A	ND	ND	1.1	1.1	ND	ND	ND	ND	19.6	19.6	ND	ND	1.3	1.4	ND	ND	Dry	4.58	33.71	N/A	ND	
WS5	ND	ND	3.1	3.0	ND	ND	ND	ND	18.6	18.6	ND	ND	1.1	1.1	ND	ND	Dry	4.93	34.12	N/A	ND	
WS6A	ND	ND	2.3	2.2	ND	ND	ND	ND	17.3	17.3	ND	ND	0.9	1.1	ND	ND	Dry	1.35	34.04	N/A	ND	
Max	**0.1**	**0.1**	**3.4**	**3.4**	**18.0**	**18.0**	**0.0**	**0.0**	**20.8**	**21.0**	**0.0**	**0.0**	**1.3**	**1.4**	**0.0**	**0.0**	**10.15**	**20.50**	**34.50**	**29.32**		
Min	**0.1**	**0.1**	**0.1**	**0.5**	**2.0**	**2.0**	**0.0**	**0.0**	**15.3**	**17.3**	**0.0**	**0.0**	**0.8**	**0.9**	**0.0**	**0.0**	**4.31**	**1.35**	**33.62**	**24.15**		
GSV (l/hr)	**0.0013**		**0.0476**																			

METEOROLOGICAL AND SITE INFORMATION:

(Select correct box with X or enter data, as applicable)

State of ground:	Dry	X	Moist		Wet		Snow	
Wind:	Calm	X	Light		Moderate		Strong	
Cloud cover:	None		Slight		Cloudy		Overcast	X
Preciptation:	None	X	Slight		Moderate		Heavy	
Barometric pressure (mbar):			Before	1017			After	1017
Pressure trend:			Falling		Steady		Rising	X
Air Temperature (Deg. C):			Before	14			After	14

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Whitbread PLC
Site: Deansgate Pl
Date: 12/07/2019
Job No: MAN.260.001
Visit No: 3 **of** 6
Operator: NB
Project Manager: Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Free phase Hydrocarbons (LNAPL's or DNAPL's)	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH1	ND	ND	0.2	ND	1.0	1.0	ND	ND	20.0	20.0	ND	ND	0.9	0.9	ND	ND	9.35	20.05	33.72	24.37	ND	
BH2	ND	ND	ND	ND	33.0	33.0	ND	ND	20.8	20.8	ND	ND	0.6	0.6	ND	ND	9.03	20.12	33.62	24.59	ND	Install damaged.
BH3	ND	ND	ND	ND	2.0	2.0	ND	ND	20.6	20.6	ND	ND	0.5	0.5	ND	ND	9.25	20.50	33.63	24.38	ND	Install damaged.
BH4	0.1	0.1	2.5	2.1	4.0	4.0	ND	ND	17.1	17.1	ND	ND	0.5	0.5	ND	ND	10.01	11.73	34.50	24.49	ND	
BH5	ND	ND	0.6	0.6	1.0	1.0	ND	ND	18.7	18.7	ND	ND	1.3	1.2	ND	ND	9.44	15.10	34.09	24.65	ND	
BH6	ND	ND	1.2	1.2	4.0	4.0	ND	ND	19.7	19.7	ND	ND	1.1	1.0	ND	ND	4.85	7.25	33.96	29.11	ND	
WS1	ND	ND	1.0	1.0	4.0	4.0	ND	ND	18.9	18.9	ND	ND	0.7	0.7	ND	ND	Dry	4.41	33.63	N/A	ND	
WS2	16	16	2.3	2.1	ND	ND	ND	ND	18.1	18.1	ND	ND	0.8	0.8	ND	ND	Dry	3.10	34.04	N/A	ND	
WS3	0.1	0.1	1.5	1.5	2.0	2.0	ND	ND	19.3	19.3	ND	ND	0.5	0.4	ND	ND	Dry	2.06	34.45	N/A	ND	
WS4A	ND	ND	0.7	0.7	1.0	1.0	ND	ND	20.0	20.0	ND	ND	1.2	1.2	ND	ND	Dry	4.58	33.71	N/A	ND	
WS5	ND	ND	2.3	2.3	ND	ND	ND	ND	17.3	17.3	ND	ND	1.0	0.9	ND	ND	Dry	4.93	34.12	N/A	ND	
WS6A	ND	ND	2.5	2.3	1.0	1.0	ND	ND	15.3	15.3	ND	ND	0.8	0.8	ND	ND	Dry	1.35	34.04	N/A	ND	
Max	**16.0**	**16.0**	**2.5**	**2.3**	**33.0**	**33.0**	**0.0**	**0.0**	**20.8**	**20.8**	**0.0**	**0.0**	**1.3**	**1.2**	**0.0**	**0.0**	**10.01**	**20.5**	**34.5**	**29.11**		
Min	**0.1**	**0.1**	**0.2**	**0.6**	**1.0**	**1.0**	**0.0**	**0.0**	**15.3**	**15.3**	**0.0**	**0.0**	**0.5**	**0.4**	**0.0**	**0.0**	**4.85**	**1.35**	**33.62**	**24.37**		
GSV (l/hr)	**0.208**		**0.0276**																			

METEOROLOGICAL AND SITE INFORMATION:

(Select correct box with X or enter data, as applicable)

State of ground:	Dry		Moist		Wet	X	Snow	
Wind:	Calm		Light	X	Moderate		Strong	
Cloud cover:	None		Slight		Cloudy	X	Overcast	X
Preciptation:	None		Slight		Moderate	X	Heavy	
Barometric pressure (mbar):			Before	1011			After	1011
Pressure trend:			Falling		Steady		Rising	X
Air Temperature (Deg. C):			Before	18			After	20

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Whitbread PLC
Site: Deansgate Pl
Date: 16/07/2019
Job No: MAN.260.001
Visit No: 4 **of** 6
Operator: NB
Project Manager: Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Free phase Hydrocarbons (LNAPL's or DNAPL's)	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH1	0.8	ND	ND	ND	1.0	ND	ND	ND	20.2	20.2	ND	ND	0.3	0.3	ND	ND	9.22	20.05	33.72	24.5	ND	
BH2	0.1	ND	0.1	0.1	125.0	125.0	ND	ND	20.0	20.0	ND	ND	1.8	1.7	ND	ND	8.89	20.12	33.62	24.73	ND	
BH3	0.1	ND	ND	ND	1.0	1.0	ND	ND	20.6	20.6	ND	ND	0.4	0.4	ND	ND	9.26	20.50	33.63	24.37	ND	
BH4	0.1	0.1	2.4	2.4	8.0	8.0	ND	ND	16.1	16.1	ND	ND	0.4	0.4	ND	ND	10.15	11.73	34.50	24.35	ND	
BH5	0.8	0.8	1.4	1.4	4.0	3.0	ND	ND	16.5	16.5	ND	ND	0.9	0.8	ND	ND	9.93	15.10	34.09	24.16	ND	
BH6	ND	ND	3.1	3.1	1.0	1.0	ND	ND	17.4	17.4	ND	ND	0.4	0.3	ND	ND	4.82	7.25	33.96	29.14	ND	
WS1	0.1	ND	0.9	0.8	4.0	1.0	ND	ND	18.7	18.7	ND	ND	0.2	0.2	ND	ND	Dry	4.41	33.63	N/A	ND	
WS2	0.8	ND	3.0	2.8	ND	ND	ND	ND	16.5	16.5	ND	ND	0.5	0.5	ND	ND	Dry	3.10	34.04	N/A	ND	
WS3	0.1	0.1	1.7	1.7	2.0	1.0	ND	ND	19.0	19.0	ND	ND	0.6	0.6	ND	ND	Dry	2.06	34.45	N/A	ND	
WS4A																						Car parked over position >2 hours.
WS5	ND	ND	3.1	3.1	1.0	1.0	ND	ND	16.5	16.5	ND	ND	0.3	0.3	ND	ND	Dry	4.93	34.12	N/A	ND	
WS6A	0.1	ND	2.5	2.4	2.0	ND	ND	ND	15.3	15.3	ND	ND	ND	ND	ND	ND	Dry	1.35	34.04	N/A	ND	
Max	**0.8**	**0.8**	**3.1**	**3.1**	**125.0**	**125.0**	**0.0**	**0.0**	**20.6**	**20.6**	**0.0**	**0.0**	**1.8**	**1.7**	**0.0**	**0.0**	**10.15**	**20.5**	**34.5**	**29.14**		
Min	**0.1**	**0.1**	**0.1**	**0.1**	**1.0**	**1.0**	**0.0**	**0.0**	**15.3**	**15.3**	**0.0**	**0.0**	**0.2**	**0.2**	**0.0**	**0.0**	**4.82**	**1.35**	**33.62**	**24.16**		
GSV (l/hr)	**0.0144**		**0.0527**																			

METEOROLOGICAL AND SITE INFORMATION:

(Select correct box with X or enter data, as applicable)

State of ground:	Dry	X	Moist		Wet		Snow	
Wind:	Calm	X	Light		Moderate		Strong	
Cloud cover:	None		Slight	X	Cloudy		Overcast	
Preciptation:	None	X	Slight		Moderate		Heavy	
Barometric pressure (mbar):			Before	1015			After	1015
Pressure trend:			Falling	X	Steady		Rising	
Air Temperature (Deg. C):			Before	23			After	23

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Whitbread PLC
Site: Deansgate Pl
Date: 25/07/2019
Job No: MAN.260.001
Visit No: 5 **of** 6
Operator: NR
Project Manager: Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Free phase Hydrocarbons (LNAPL's or DNAPL's)	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH1	0.2	ND	0.3	0.1	3.0	2.0	ND	ND	20.8	20.8	ND	ND	0.8	0.4	ND	ND	9.20	20.05	33.72	24.52	ND	
BH2	0.1	0.1	0.2	0.2	32.0	20.0	ND	ND	19.7	19.7	ND	ND	1.8	1.2	ND	ND	9.00	20.12	33.62	24.62	ND	
BH3	0.1	0.1	0.4	0.2	10.0	9.0	ND	ND	18.0	18.2	ND	ND	0.3	0.3	ND	ND	9.22	20.50	33.63	24.41	ND	
BH4	0.1	ND	0.3	0.2	7.0	7.0	ND	ND	15.1	15.1	ND	ND	0.7	0.4	ND	ND	10.14	11.73	34.50	24.36	ND	
BH5	4.0	3.3	2.5	2.4	4.0	3.0	ND	ND	9.0	9.0	ND	ND	0.8	0.2	ND	ND	9.58	15.10	34.09	24.51	ND	
BH6																						Access unavailable.
WS1	0.1	0.1	1.0	1.0	2.0	1.0	ND	ND	18.6	18.6	ND	ND	0.3	0.2	ND	ND	Dry	4.41	33.63	N/A	ND	
WS2	ND	ND	5.4	5.4	3.0	1.0	ND	ND	10.3	10.8	ND	ND	0.5	0.4	ND	ND	Dry	3.10	34.04	N/A	ND	
WS3	ND	ND	ND	ND	1.0	1.0	ND	ND	20.5	20.5	ND	ND	0.5	0.1	ND	ND	Dry	2.06	34.45	N/A	ND	
WS4A	ND	ND	2.8	2.6	2.0	1.0	ND	ND	17.0	17.3	ND	ND	0.4	0.2	ND	ND	Dry	4.58	33.71	N/A	ND	
WS5	ND	ND	3.2	3.2	3.0	1.0	ND	ND	16.0	16.0	ND	ND	0.2	0.1	ND	ND	Dry	4.93	34.12	N/A	ND	
WS6A	0.1	0.1	3.2	3.2	3.0	3.0	ND	ND	12.8	13.4	ND	ND	0.2	0.1	ND	ND	Dry	1.35	34.04	N/A	ND	
Max	**4.0**	**3.3**	**5.4**	**5.4**	**32.0**	**20.0**	**0.0**	**0.0**	**20.8**	**20.8**	**0.0**	**0.0**	**1.8**	**1.2**	**0.0**	**0.0**	**10.14**	**20.5**	**34.5**	**24.62**		
Min	**0.1**	**0.1**	**0.2**	**0.1**	**1.0**	**1.0**	**0.0**	**0.0**	**9.0**	**9.0**	**0.0**	**0.0**	**0.2**	**0.1**	**0.0**	**0.0**	**9**	**1.35**	**33.62**	**24.36**		
GSV (l/hr)	**0.072**		**0.0648**																			

METEOROLOGICAL AND SITE INFORMATION:

(Select correct box with X or enter data, as applicable)

State of ground:	Dry	X	Moist		Wet		Snow	
Wind:	Calm	X	Light		Moderate		Strong	
Cloud cover:	None	X	Slight		Cloudy		Overcast	
Preciptation:	None	X	Slight		Moderate		Heavy	
Barometric pressure (mbar):			Before	1007			After	1007
Pressure trend:			Falling		Steady	X	Rising	
Air Temperature (Deg. C):			Before	24			After	25

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Whitbread PLC
Site: Deansgate Pl
Date: 30/07/2019
Job No: MAN.260.001
Visit No: 6 **of** 6
Operator: NR
Project Manager: Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Free phase Hydrocarbons (LNAPL's or DNAPL's)	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH1	ND	ND	0.3	0.1	20.0	12.0	ND	ND	20.0	20.1	ND	ND	0.9	0.6	ND	ND	9.14	20.05	33.72	24.58	ND	
BH2	ND	ND	0.2	0.2	14.0	5.0	ND	ND	19.7	20.2	ND	ND	0.5	0.4	ND	ND	8.92	20.12	33.62	24.7	ND	
BH3	0.2	0.1	0.3	0.2	3.0	8.0	ND	ND	18.3	18.4	ND	ND	0.7	0.4	ND	ND	9.15	20.50	33.63	24.48	ND	
BH4	ND	ND	3.6	3.2	7.0	5.0	ND	ND	16.1	16.1	ND	ND	0.8	0.7	ND	ND	10.1	11.73	34.50	24.4	ND	
BH5	3.1	2.1	1.9	1.9	4.0	3.0	ND	ND	9.9	10.1	ND	ND	0.4	0.2	ND	ND	9.55	15.10	34.09	24.54	ND	
BH6	0.1	ND	2.5	2.0	5.0	5.0	ND	ND	18.9	19.9	ND	ND	0.5	0.3	ND	ND	4.80	7.25	33.96	29.16	ND	
WS1	0.2	ND	1.1	1.1	ND	ND	ND	ND	19.0	19.0	ND	ND	0.2	0.1	ND	ND	Dry	4.41	33.63	N/A	ND	
WS2	0.1	ND	0.8	0.8	ND	ND	ND	ND	20.2	20.2	ND	ND	0.5	0.4	ND	ND	Dry	3.10	34.04	N/A	ND	
WS3	ND	ND	2.1	1.6	ND	ND	ND	ND	20.0	20.1	ND	ND	0.7	0.5	ND	ND	Dry	2.06	34.45	N/A	ND	
WS4A	0.2	ND	1.5	0.9	3.0	1.0	ND	ND	19.6	19.9	ND	ND	0.7	0.4	ND	ND	Dry	4.58	33.71	N/A	ND	
WS5	ND	ND	3.1	2.5	ND	ND	ND	ND	17.1	17.1	ND	ND	0.3	0.1	ND	ND	Dry	4.93	34.12	N/A	ND	
WS6A	ND	ND	2.3	2.3	5.0	2.0	ND	ND	16.1	16.2	ND	ND	0.5	0.1	ND	ND	Dry	1.35	34.04	N/A	ND	
Max	**3.1**	**2.1**	**3.6**	**3.2**	**20.0**	**12.0**	**0.0**	**0.0**	**20.2**	**20.2**	**0.0**	**0.0**	**0.9**	**0.7**	**0.0**	**0.0**	**10.1**	**20.5**	**34.5**	**29.16**		
Min	**0.1**	**0.1**	**0.2**	**0.1**	**3.0**	**1.0**	**0.0**	**0.0**	**9.9**	**10.1**	**0.0**	**0.0**	**0.2**	**0.1**	**0.0**	**0.0**	**4.8**	**1.35**	**33.62**	**24.40**		
GSV (l/hr)	**0.0279**		**0.0224**																			

METEOROLOGICAL AND SITE INFORMATION:

(Select correct box with X or enter data, as applicable)

State of ground:	Dry		Moist		Wet	X	Snow	
Wind:	Calm		Light	X	Moderate		Strong	
Cloud cover:	None		Slight		Cloudy		Overcast	X
Preciptation:	None		Slight	X	Moderate		Heavy	
Barometric pressure (mbar):			Before	1005			After	1005
Pressure trend:			Falling		Steady		Rising	X
Air Temperature (Deg. C):			Before	20			After	21

Appendix 6 – Geotechnical Laboratory Results

LABORATORY REPORT

4043

Contract Number: PSL19/3802

Report Date: 03 July 2019

Client's Reference: 63524

Client Name: Geocore Site Investigations Ltd
Tralee Close
Kirkleatham Business Park
Redcar
Cleveland
TS10 5SG

For the attention of: Eddie Lodge

Contract Title: Premier Inn Deansgate

Date Received: 21/6/2019
Date Commenced: 21/6/2019
Date Completed: 3/7/2019

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

R Gunson (Director)	A Watkins (Director)	R Berriman (Quality Manager)
S Royle (Laboratory Manager)	S Eyre (Senior Technician)	L Knight (Senior Technician)

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SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH01	6	B	1.20		Brown gravelly silty SAND.
BH01	9	D	2.00		Brown gravelly silty SAND.
BH01	15	U	5.00		Stiff brown gravelly very sandy CLAY.
BH01	20	D	8.00		Brown gravelly very sandy CLAY.
BH01	22	D	9.50		Reddish brown very gravelly silty SAND.
BH02	6	B	1.20		Brown very gravelly silty SAND.
BH02	8	D	2.70		Brown very gravelly silty SAND.
BH02	12	U	5.00		Very stiff brown gravelly very sandy CLAY.
BH02	15	D	7.00		Brown very sandy CLAY.
BH03	3	B	0.50		Brown very sandy silty GRAVEL.
BH03	5	D	1.20		Brown very gravelly silty SAND.
BH03	16	D	6.00		Brown slightly gravelly sandy CLAY.
BH03	20	D	9.00		Brown slightly gravelly sandy CLAY.
BH04	5	B	1.20		MADE GROUND brown clayey silty sand & gravel.
BH04	12	B	3.00		Brown very gravelly silty SAND.
BH04	19	D	6.00		Brown slightly gravelly sandy CLAY.
BH04	24	D	8.50		Brown slightly gravelly sandy CLAY.
BH04	27	B	9.50		Reddish brown very sandy slightly silty GRAVEL with many cobbles.
BH05	8	D	2.00		Brown very gravelly silty SAND.

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
BH05	11	B	3.00		Brown very sandy silty GRAVEL.
BH05	15	D	6.00		Brown gravelly very sandy CLAY.
BH06	4	B	0.50		MADE GROWN brown very gravelly very sandy clay.
BH06	13	B	3.00		Brown very gravelly silty SAND.
BH06	22	D	6.00		Brown slightly gravelly very sandy CLAY.
BH06	24	B	7.50		Reddish brown slightly gravelly clayey very silty SAND.
WS01	3	B	0.50		MADE GROUND brown very sandy silty gravel.
WS01	6	B	1.20		Brown very sandy silty GRAVEL.
WS01	8	B	2.20		Brown very sandy silty GRAVEL.
WS02	3	B	0.70		Brown slightly gravelly very sandy CLAY.
WS02	7	B	2.00		Brown slightly gravelly sandy CLAY.
WS03	3	B	0.50		MADE GROUND brown very sandy clayey silty gravel with cobbles.
WS03	6	B	1.50		Brown gravelly silty SAND.
WS04A	4	B	1.20		Brown very sandy slightly clayey silty GRAVEL.
WS04A	6	B	2.20		Brown very sandy slightly silty GRAVEL.
WS05	4	B	0.50		Brown very sandy slightly silty GRAVEL.
WS05	8	B	2.00		Brown very gravelly silty SAND.
WS06	3	B	0.60		MADE GROUND brown very sandy slightly clayey silty gravel with cobbles.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
BH01	9	D	2.00		4.4							
BH01	15	U	5.00		12			31	16	15	77	Low plasticity CL.
BH01	20	D	8.00		19			34	17	17	81	Low plasticity CL.
BH01	22	D	9.50		15							
BH02	8	D	2.70		7.5							
BH02	12	U	5.00		12			33	17	16	81	Low plasticity CL.
BH02	15	D	7.00		13			35	18	17	100	Intermediate plasticity CI.
BH03	5	D	1.20		6.1							
BH03	16	D	6.00		11			39	19	20	94	Intermediate plasticity CI.
BH03	20	D	9.00		12			37	18	19	90	Intermediate plasticity CI.
BH04	19	D	6.00		12			38	19	19	91	Intermediate plasticity CI.
BH04	24	D	8.50		13			40	21	19	94	Intermediate plasticity CI.
BH05	8	D	2.00		7.8							
BH05	15	D	6.00		7.6			32	16	16	81	Low plasticity CL.
BH06	4	B	0.50		9.8							
BH06	13	B	3.00		4.1							
BH06	22	D	6.00		12			35	17	18	85	Intermediate plasticity CI.
BH06	24	B	7.50		9.1							
WS01	3	B	0.50		16							

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

Premier Inn Deansgate

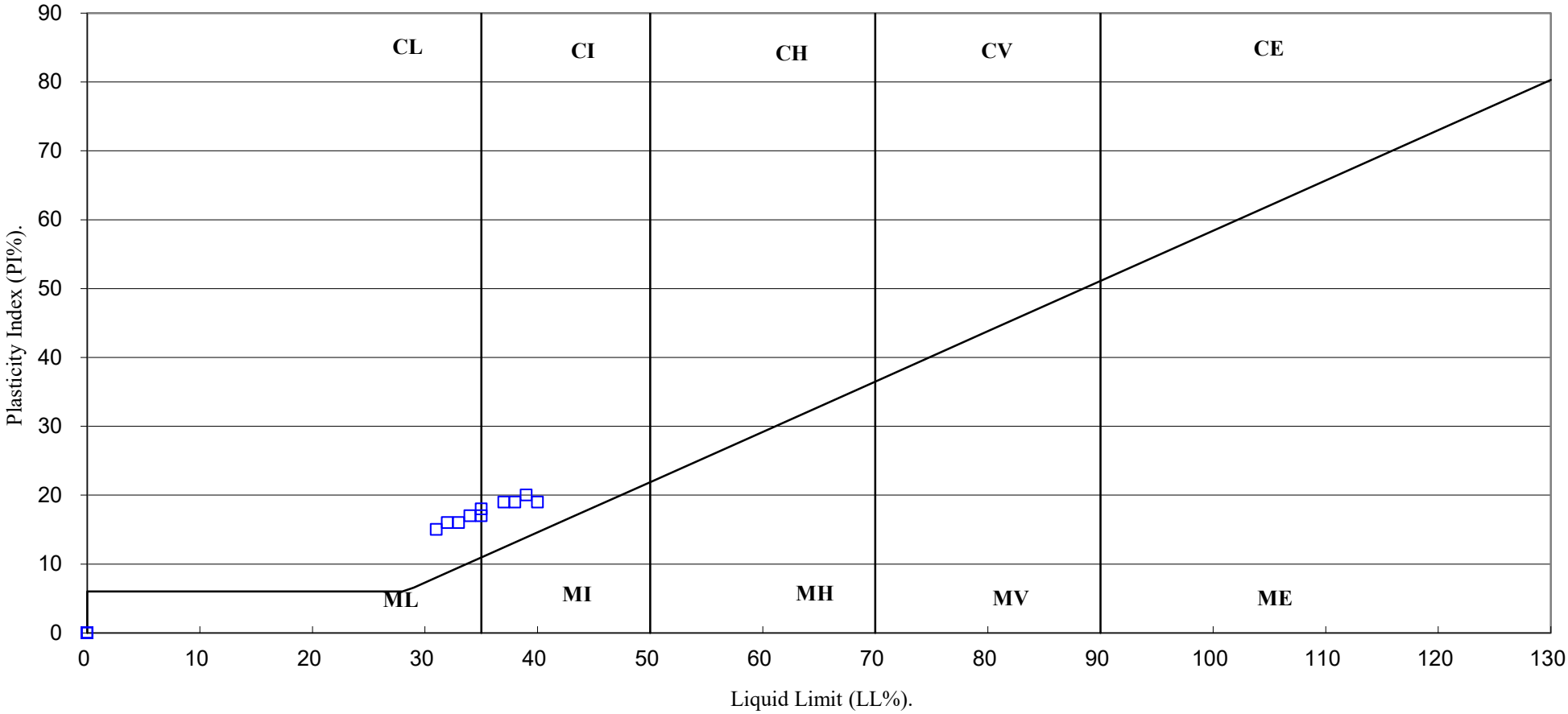
Contract No:

PSL19/3802

Client Ref:

63524

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	Premier Inn Deansgate	Contract No: PSL19/3802 Client Ref: 63524

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
WS01	6	B	1.20		12							
WS01	8	B	2.20		12							
WS02	3	B	0.70		16							
WS02	7	B	2.00		21							
WS03	3	B	0.50		12							
WS03	6	B	1.50		6.1							
WS04A	4	B	1.20		12							
WS04A	6	B	2.20		8.8							
WS05	4	B	0.50		9.4							
WS05	8	B	2.00		7.0							
WS06	3	B	0.60		13							

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

Premier Inn Deansgate

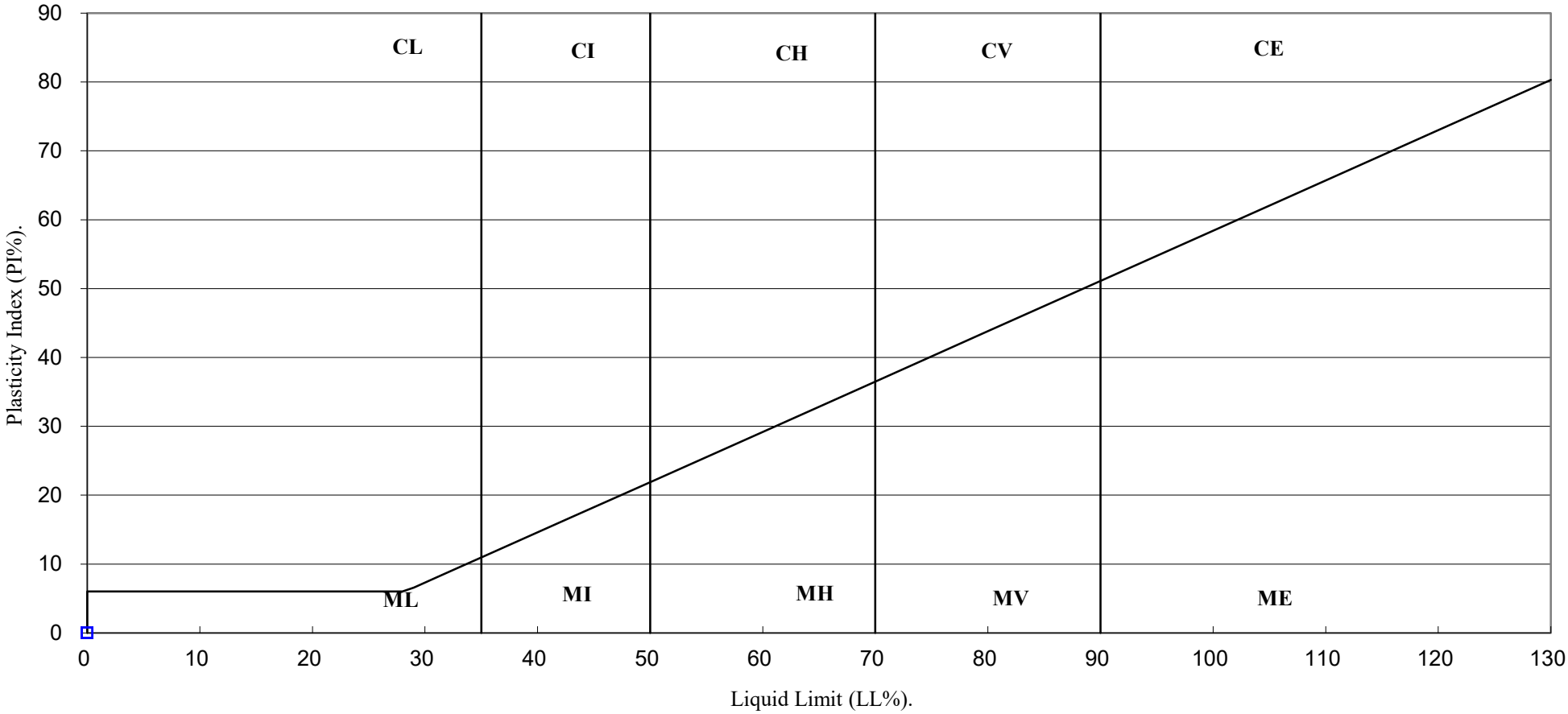
Contract No:

PSL19/3802

Client Ref:

63524

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	**Premier Inn Deansgate**	**Contract No:** PSL19/3802 **Client Ref:** 63524

PARTICLE SIZE DISTRIBUTION TEST

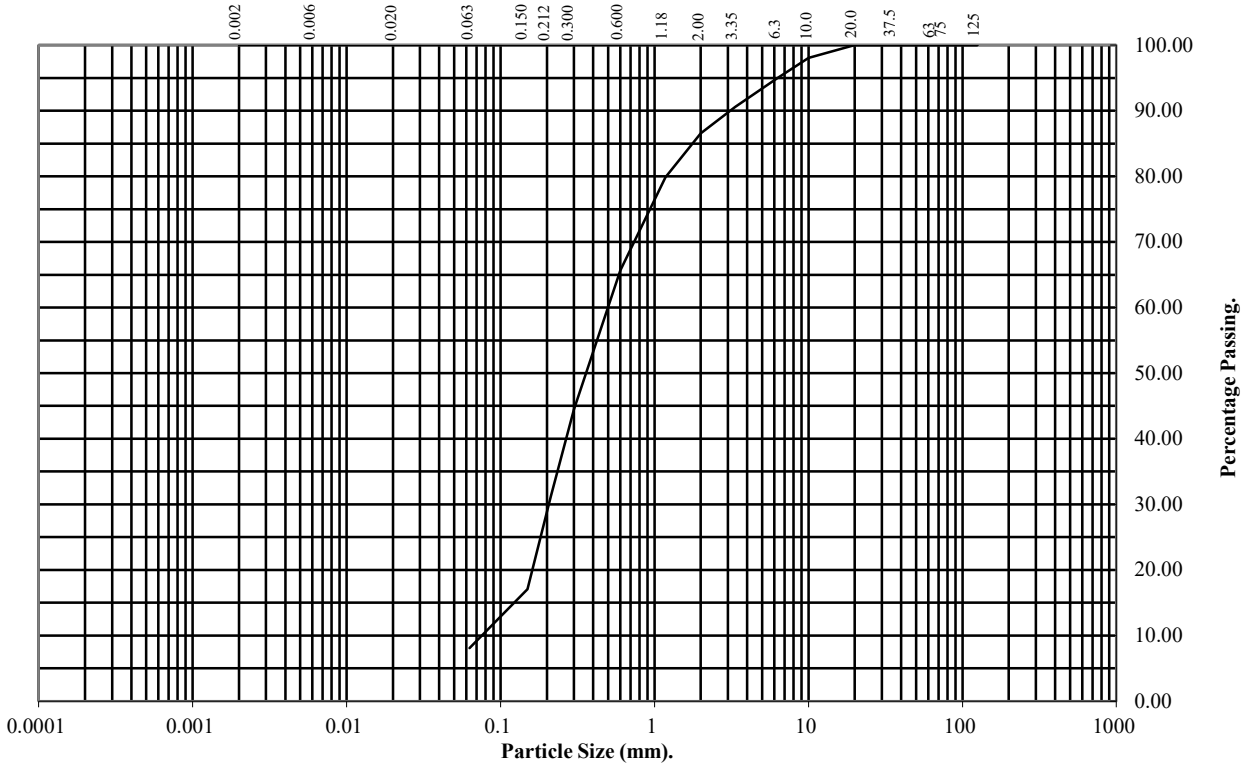
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **BH01** **Top Depth (m):** **1.20**

Sample Number: **6** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	98
6.3	95
3.35	91
2	87
1.18	80
0.6	66
0.3	44
0.212	31
0.15	17
0.063	8

Soil Fraction	Total Percentage
Cobbles	0
Gravel	13
Sand	79
Silt/Clay	8

Remarks:

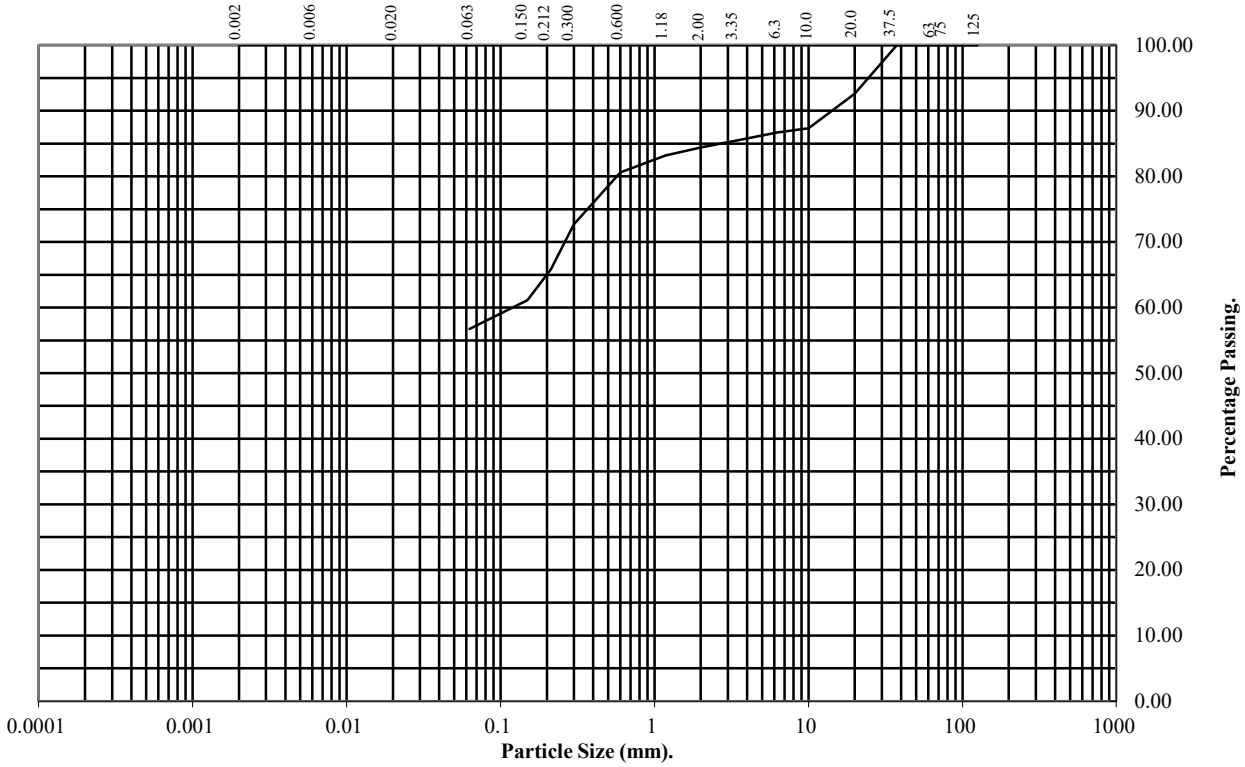
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**BH01**	**Top Depth (m):**	**5.00**
Sample Number:	**15**	**Base Depth(m):**	
Sample Type:	**U**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	93
10	87
6.3	87
3.35	85
2	84
1.18	83
0.6	81
0.3	73
0.212	66
0.15	61
0.063	57

Soil Fraction	Total Percentage
Cobbles	0
Gravel	16
Sand	27
Silt/Clay	57

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

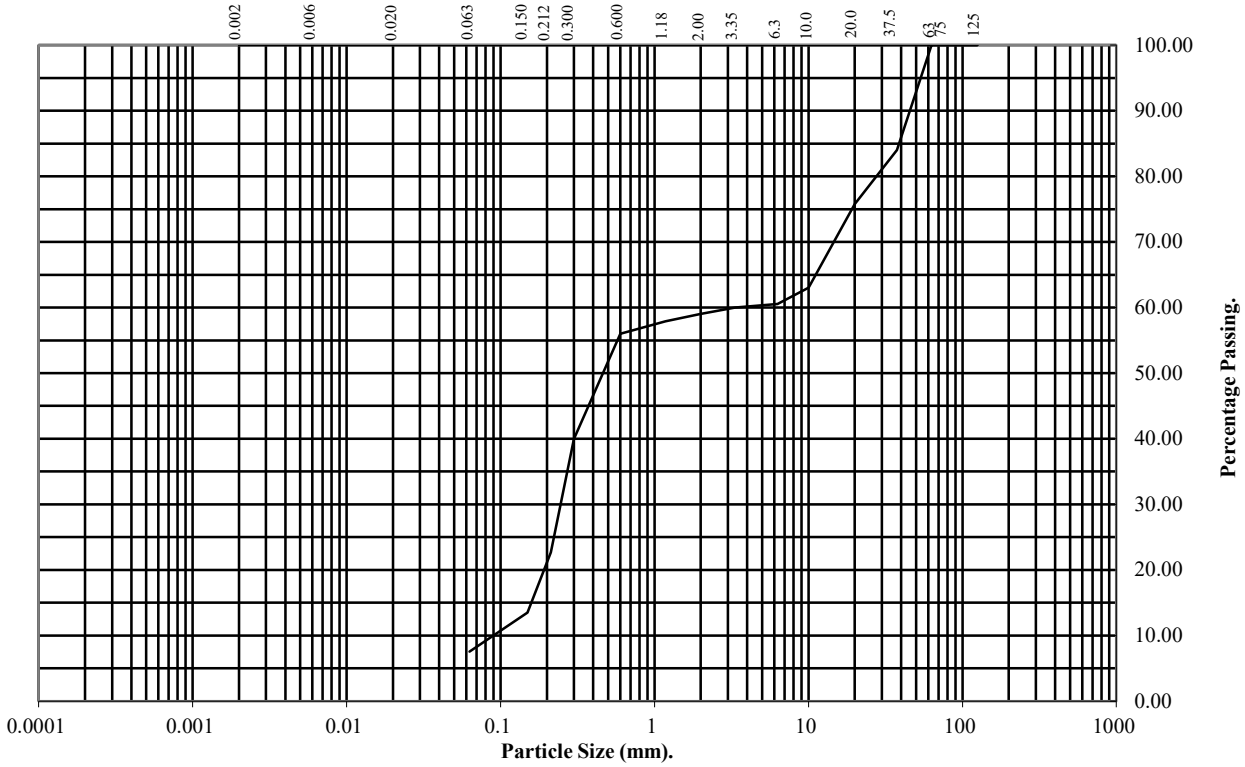
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH01 **Top Depth (m):** 9.50

Sample Number: 22 **Base Depth(m):**

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	84
20	76
10	63
6.3	61
3.35	60
2	59
1.18	58
0.6	56
0.3	40
0.212	23
0.15	14
0.063	8

Soil Fraction	Total Percentage
Cobbles	0
Gravel	41
Sand	51
Silt/Clay	8

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

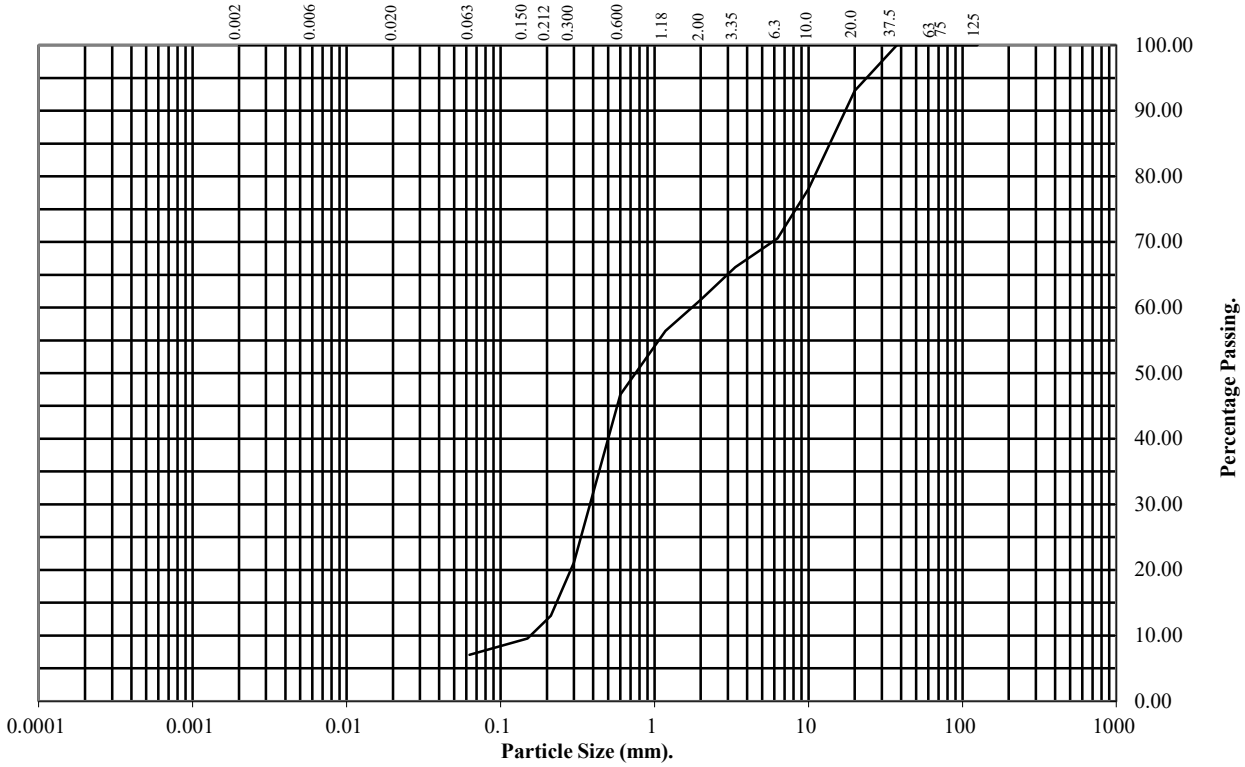
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **BH02** **Top Depth (m):** **1.20**

Sample Number: **6** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	93
10	78
6.3	71
3.35	66
2	61
1.18	56
0.6	47
0.3	21
0.212	13
0.15	10
0.063	7

Soil Fraction	Total Percentage
Cobbles	0
Gravel	39
Sand	54
Silt/Clay	7

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

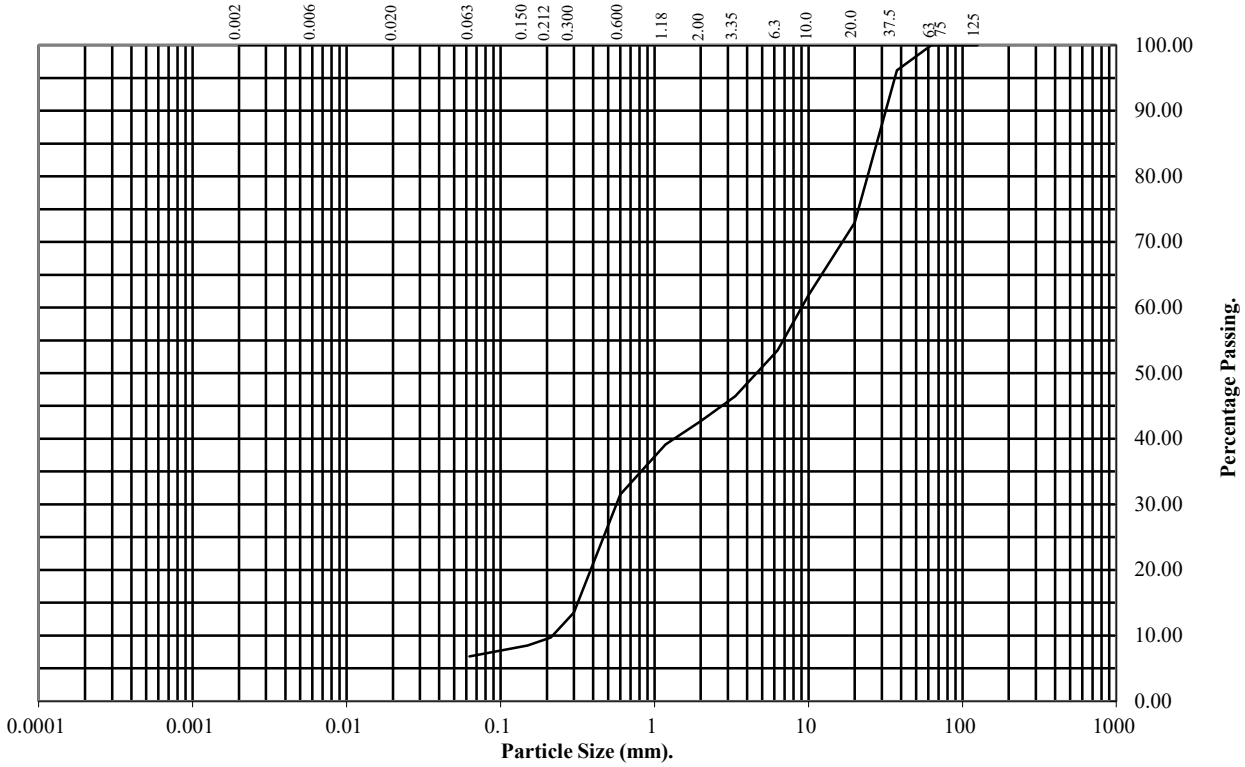
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH03 **Top Depth (m):** 0.50

Sample Number: 3 **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	96
20	73
10	62
6.3	53
3.35	46
2	43
1.18	39
0.6	32
0.3	14
0.212	10
0.15	8
0.063	7

Soil Fraction	Total Percentage
Cobbles	0
Gravel	57
Sand	36
Silt/Clay	7

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

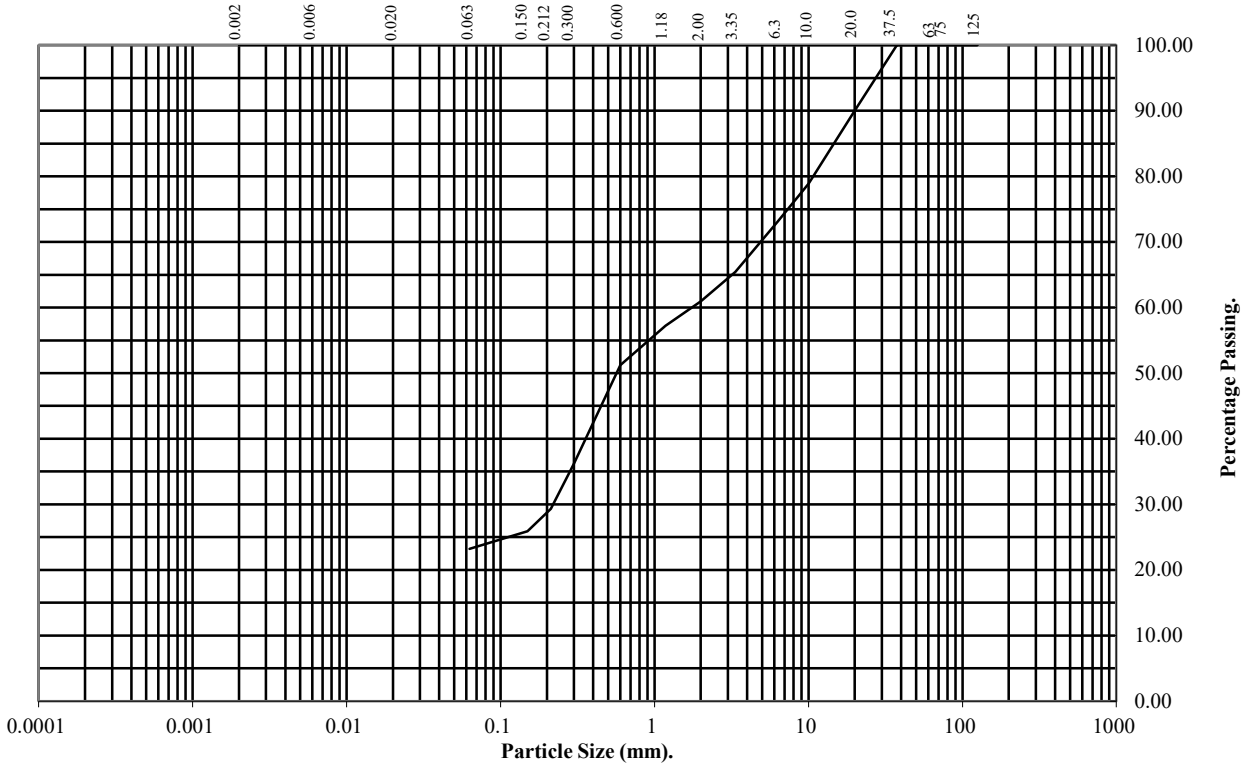
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **BH04** **Top Depth (m):** **1.20**

Sample Number: **5** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	90
10	79
6.3	73
3.35	65
2	61
1.18	57
0.6	51
0.3	36
0.212	29
0.15	26
0.063	23

Soil Fraction	Total Percentage
Cobbles	0
Gravel	39
Sand	38
Silt/Clay	23

Remarks:

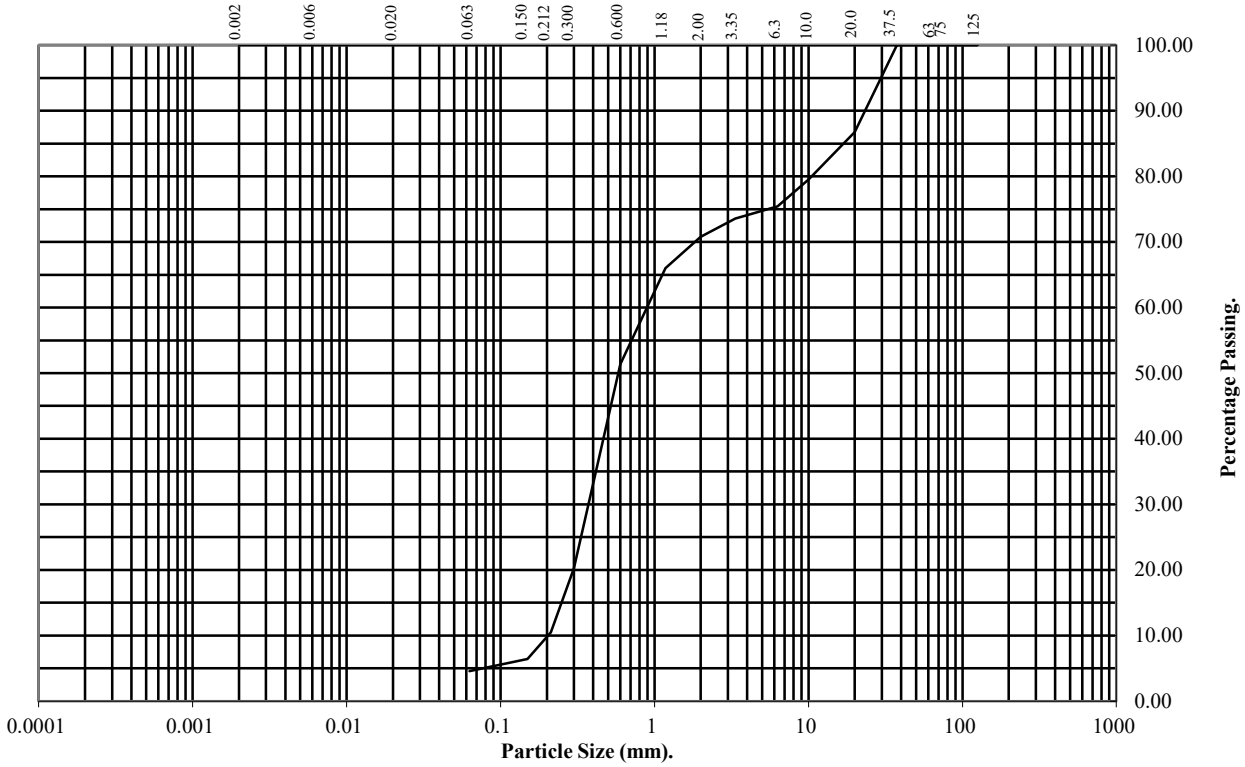
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**BH04**	**Top Depth (m):**	**3.00**
Sample Number:	**12**	**Base Depth(m):**	
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	87
10	80
6.3	75
3.35	74
2	71
1.18	66
0.6	51
0.3	20
0.212	10
0.15	6
0.063	5

Soil Fraction	Total Percentage
Cobbles	0
Gravel	29
Sand	66
Silt/Clay	5

Remarks:

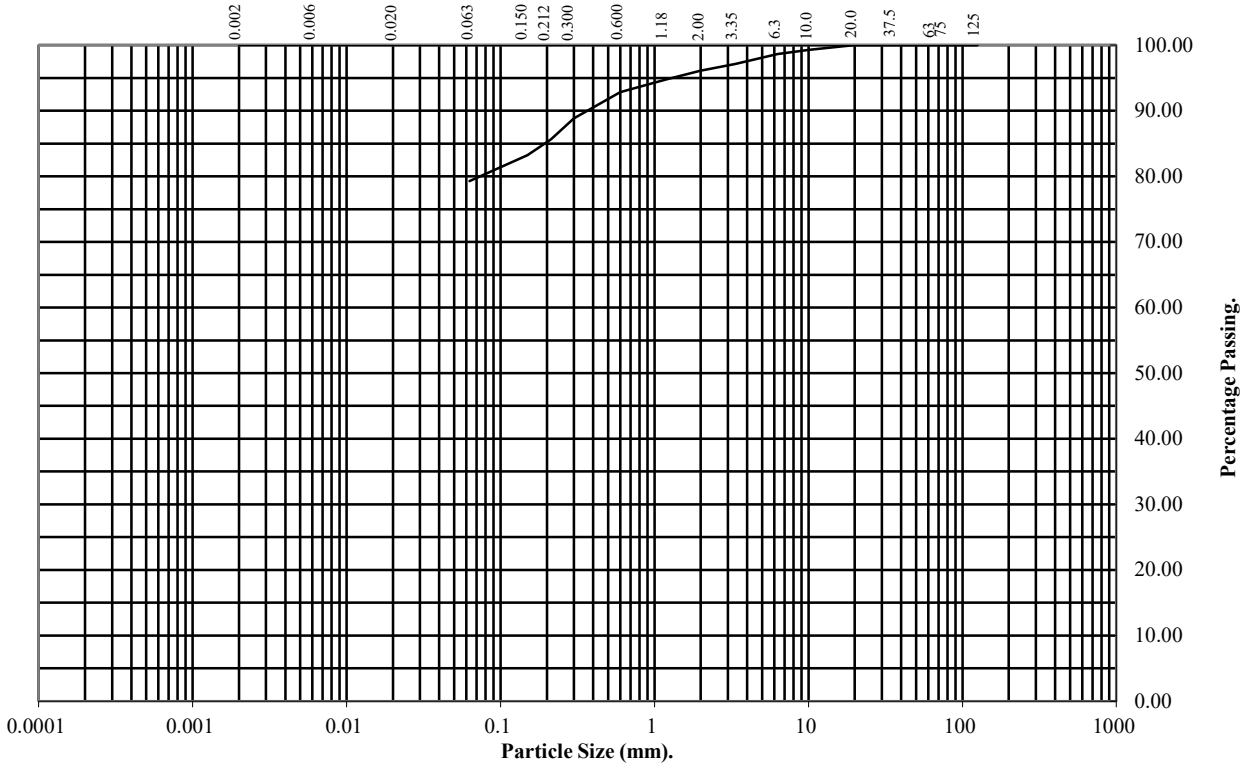
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**BH04**	**Top Depth (m):**	**6.00**
Sample Number:	**19**	**Base Depth(m):**	
Sample Type:	**D**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	99
3.35	97
2	96
1.18	95
0.6	93
0.3	89
0.212	86
0.15	83
0.063	79

Soil Fraction	Total Percentage
Cobbles	0
Gravel	4
Sand	17
Silt/Clay	79

Remarks:

See Summary of Soil Descriptions

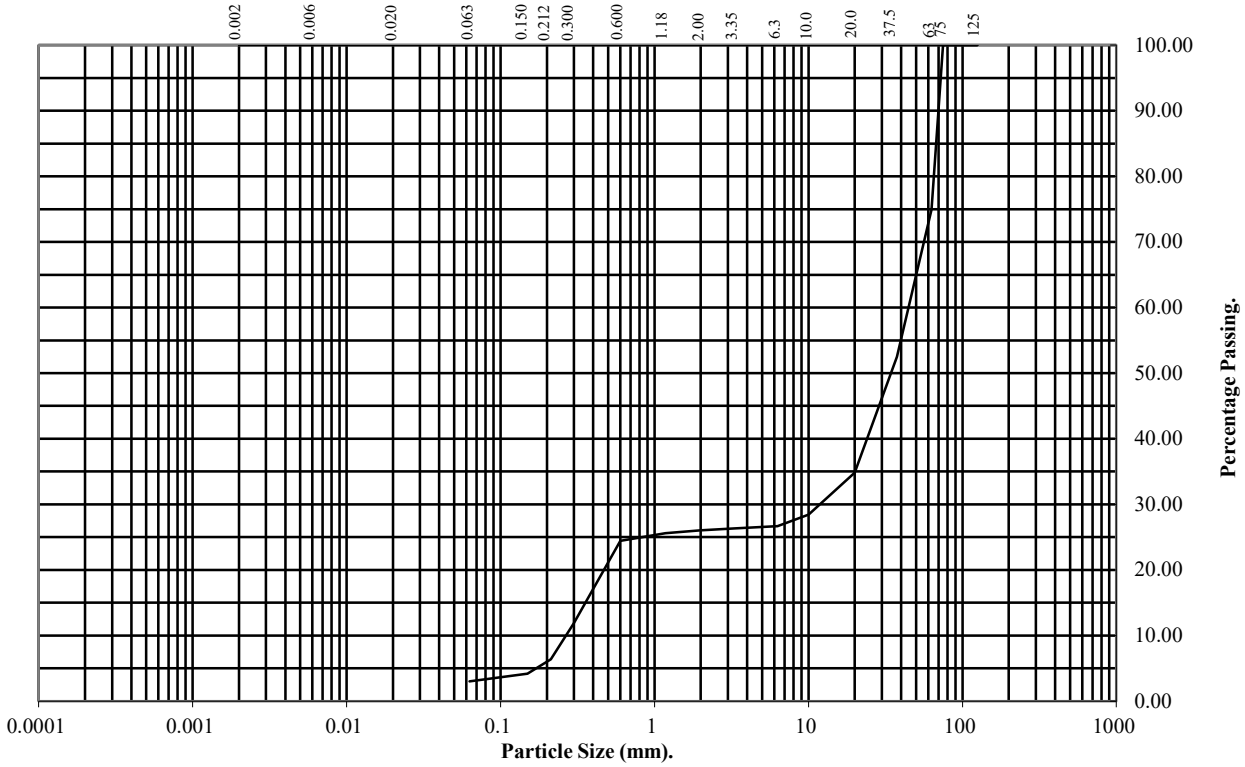
UKAS TESTING 4043	PSL Professional Soils Laboratory	**Premier Inn Deansgate**	**Contract No:** PSL19/3802 **Client Ref:** 63524

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**BH04**	**Top Depth (m):**	**9.50**
Sample Number:	**27**	**Base Depth(m):**	
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	75
37.5	53
20	35
10	28
6.3	27
3.35	26
2	26
1.18	26
0.6	24
0.3	12
0.212	6
0.15	4
0.063	3

Soil Fraction	Total Percentage
Cobbles	25
Gravel	49
Sand	23
Silt/Clay	3

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

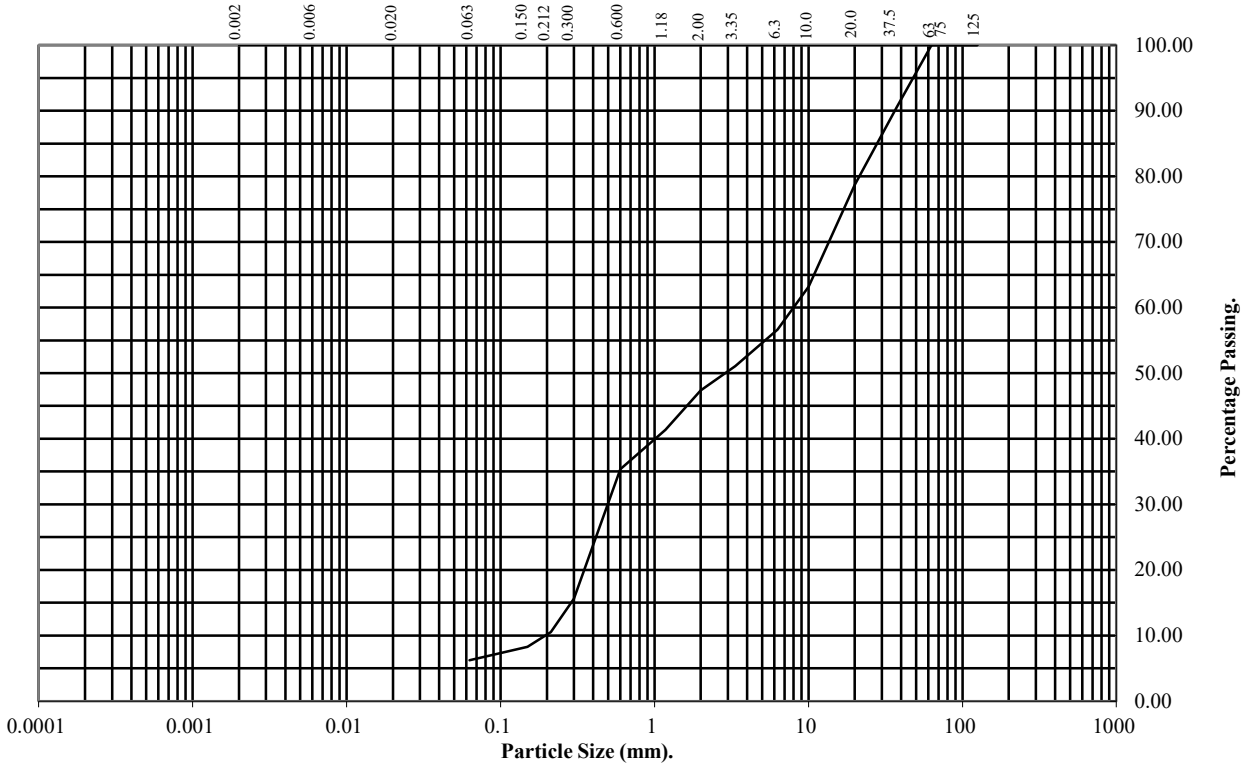
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH05 **Top Depth (m):** 3.00

Sample Number: 11 **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	91
20	79
10	63
6.3	57
3.35	51
2	47
1.18	41
0.6	35
0.3	16
0.212	11
0.15	8
0.063	6

Soil Fraction	Total Percentage
Cobbles	0
Gravel	53
Sand	41
Silt/Clay	6

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

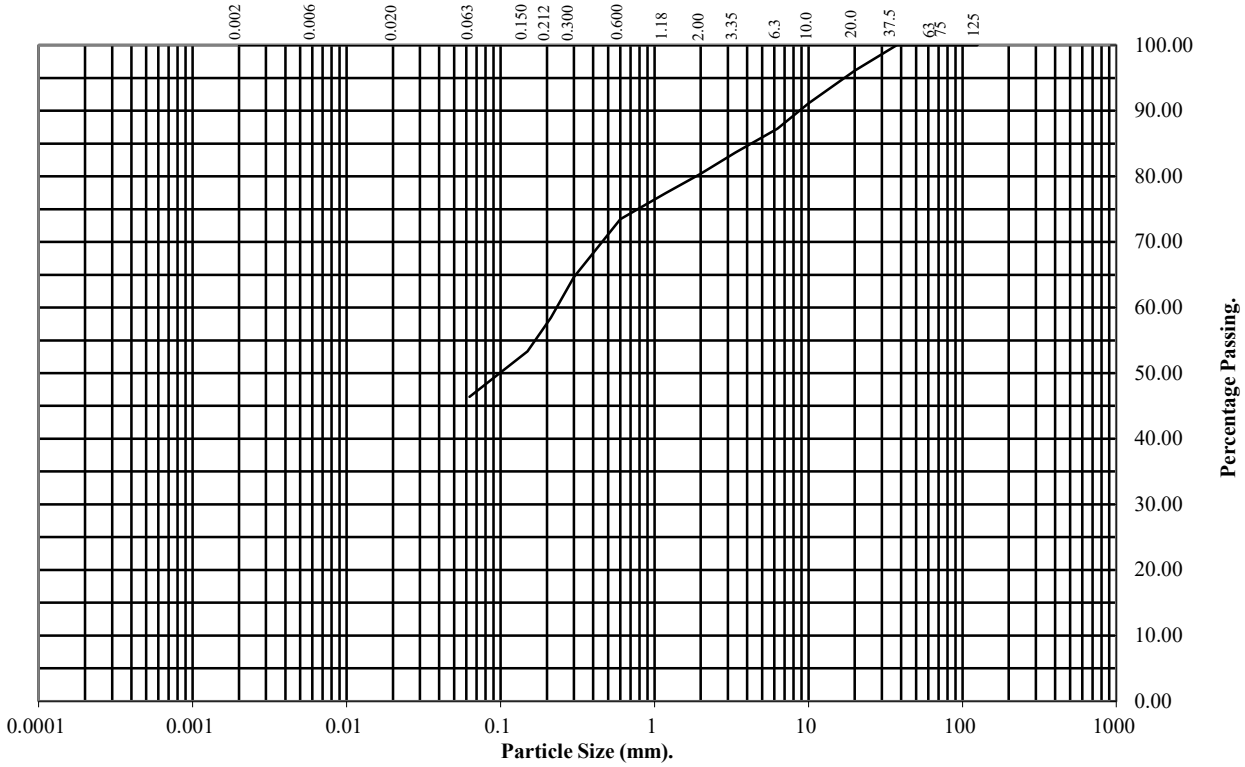
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH06 **Top Depth (m):** 0.50

Sample Number: 4 **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	96
10	91
6.3	87
3.35	84
2	80
1.18	77
0.6	73
0.3	65
0.212	58
0.15	53
0.063	46

Soil Fraction	Total Percentage
Cobbles	0
Gravel	20
Sand	34
Silt/Clay	46

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

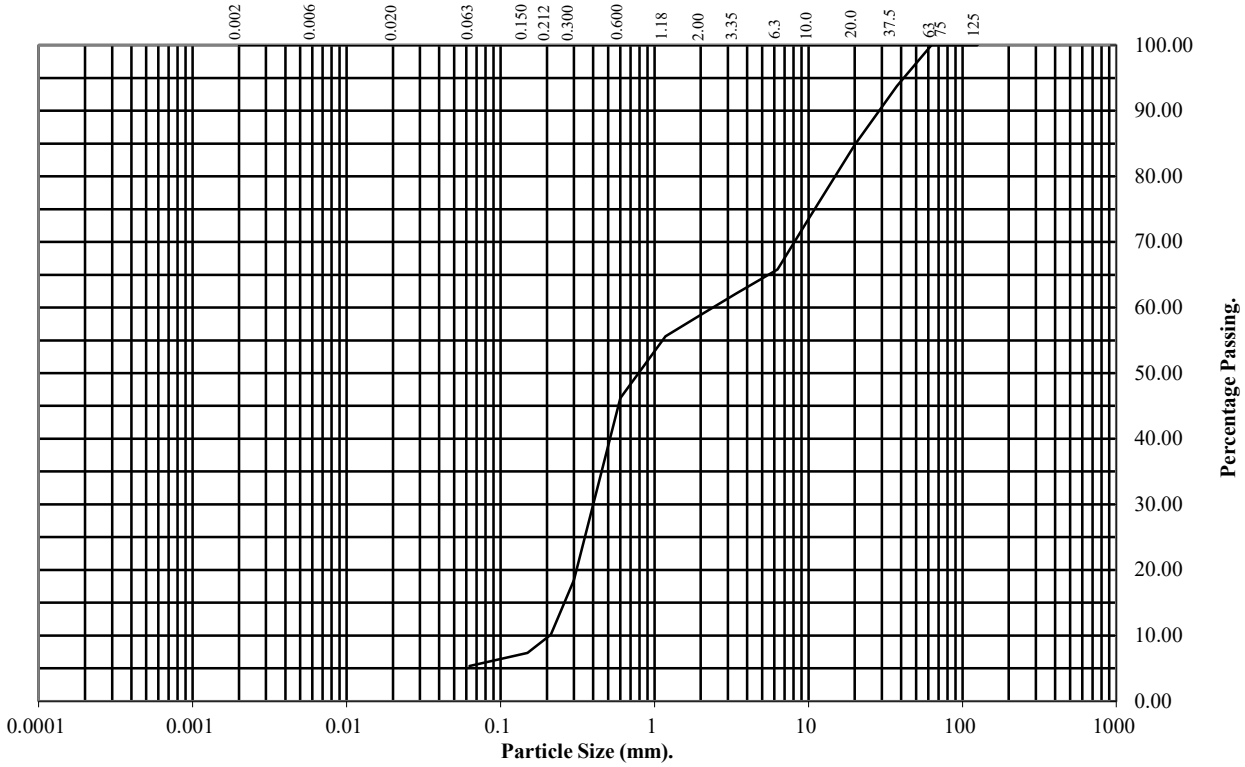
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH06 **Top Depth (m):** 3.00

Sample Number: 13 **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	94
20	85
10	74
6.3	66
3.35	62
2	59
1.18	56
0.6	46
0.3	18
0.212	10
0.15	7
0.063	5

Soil Fraction	Total Percentage
Cobbles	0
Gravel	41
Sand	54
Silt/Clay	5

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

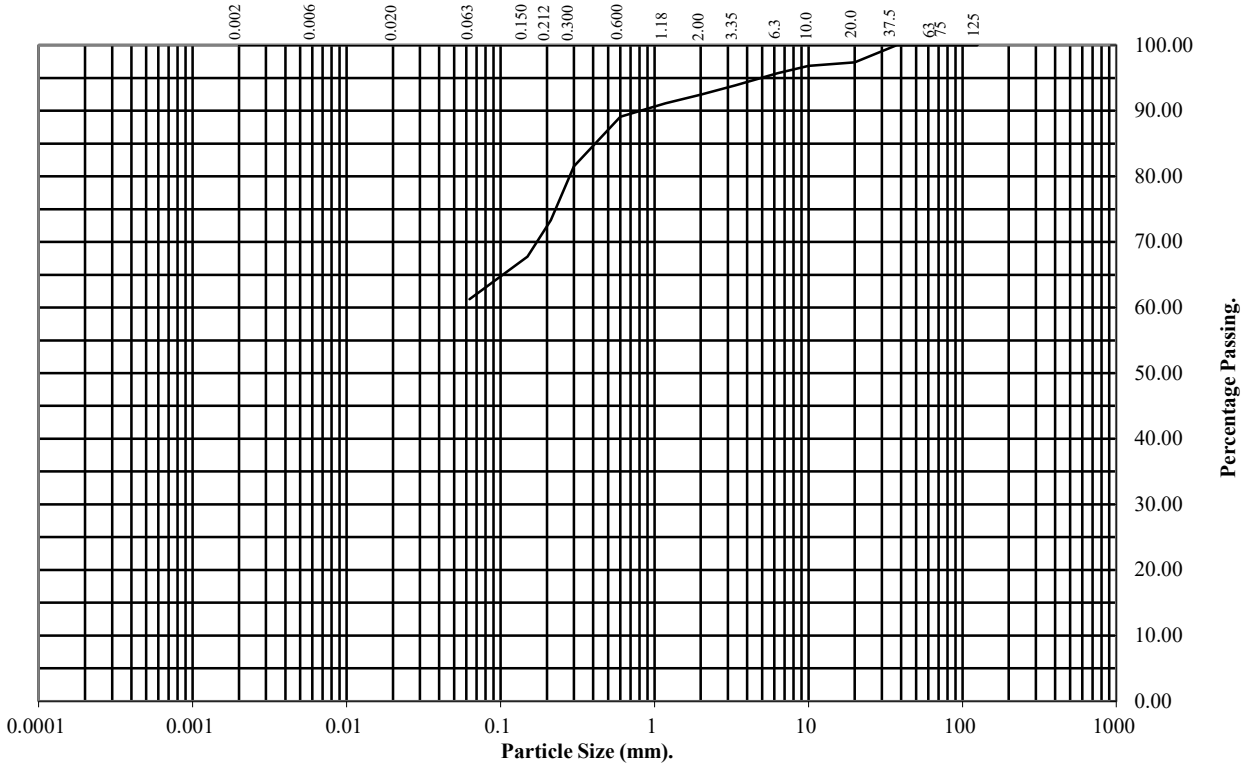
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH06 **Top Depth (m):** 6.00

Sample Number: 22 **Base Depth(m):**

Sample Type: D



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	97
10	97
6.3	96
3.35	94
2	92
1.18	91
0.6	89
0.3	82
0.212	73
0.15	68
0.063	61

Soil Fraction	Total Percentage
Cobbles	0
Gravel	8
Sand	31
Silt/Clay	61

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

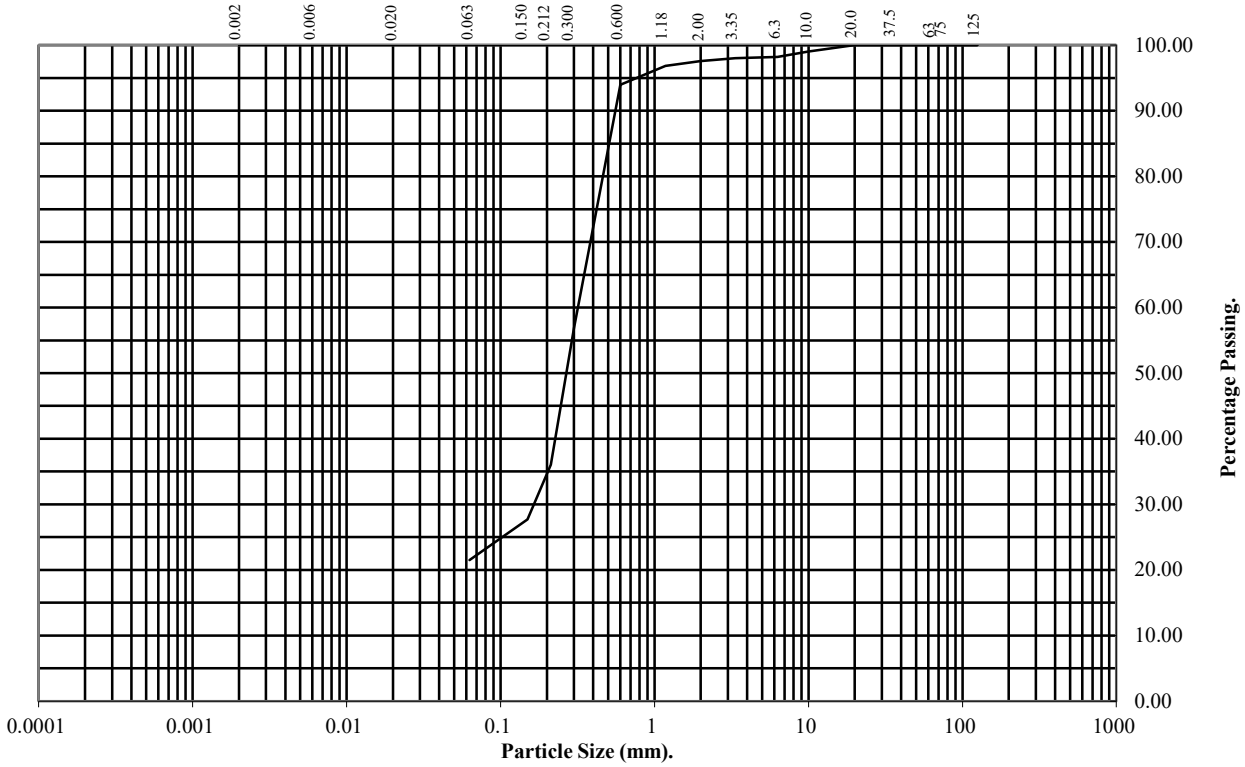
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH06 **Top Depth (m):** 7.50

Sample Number: 24 **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	98
3.35	98
2	98
1.18	97
0.6	94
0.3	57
0.212	36
0.15	28
0.063	22

Soil Fraction	Total Percentage
Cobbles	0
Gravel	2
Sand	76
Silt/Clay	22

Remarks:

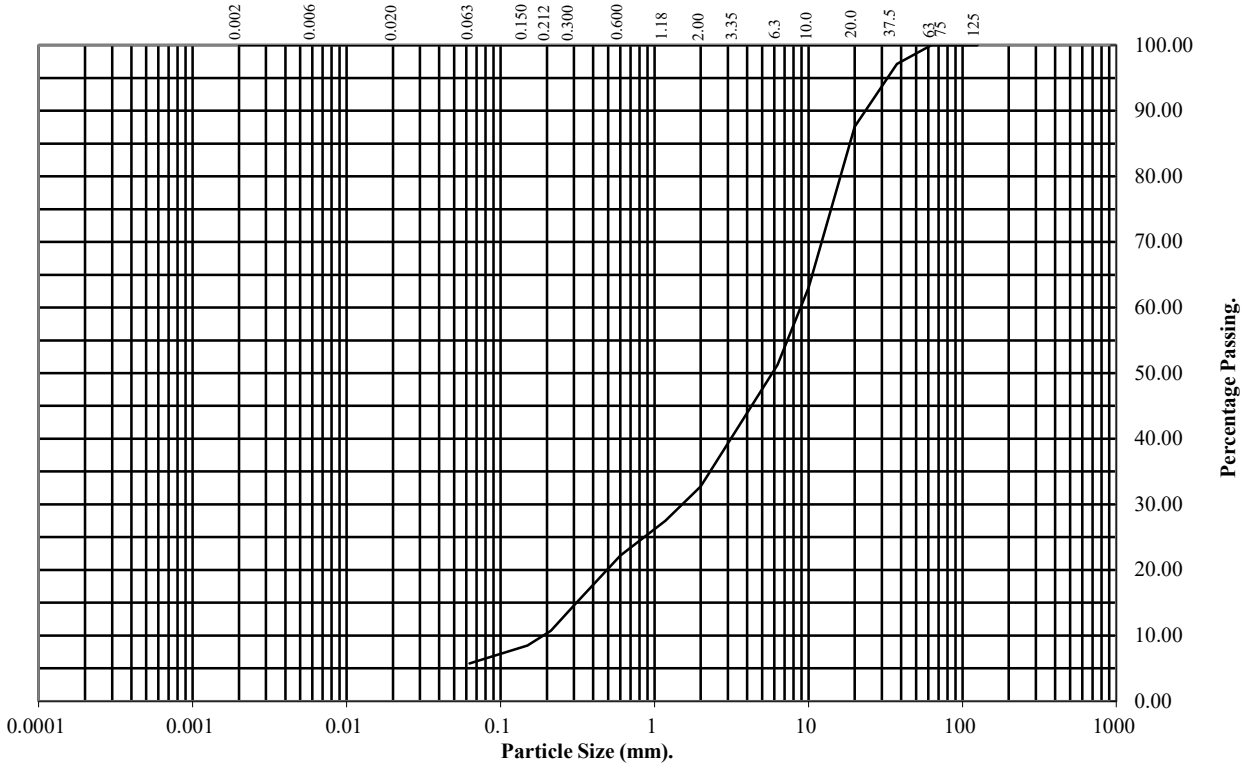
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**WS01**	**Top Depth (m):**	**0.50**
Sample Number:	**3**	**Base Depth(m):**	
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	97
20	88
10	63
6.3	51
3.35	41
2	33
1.18	28
0.6	22
0.3	15
0.212	11
0.15	8
0.063	6

Soil Fraction	Total Percentage
Cobbles	0
Gravel	67
Sand	27
Silt/Clay	6

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

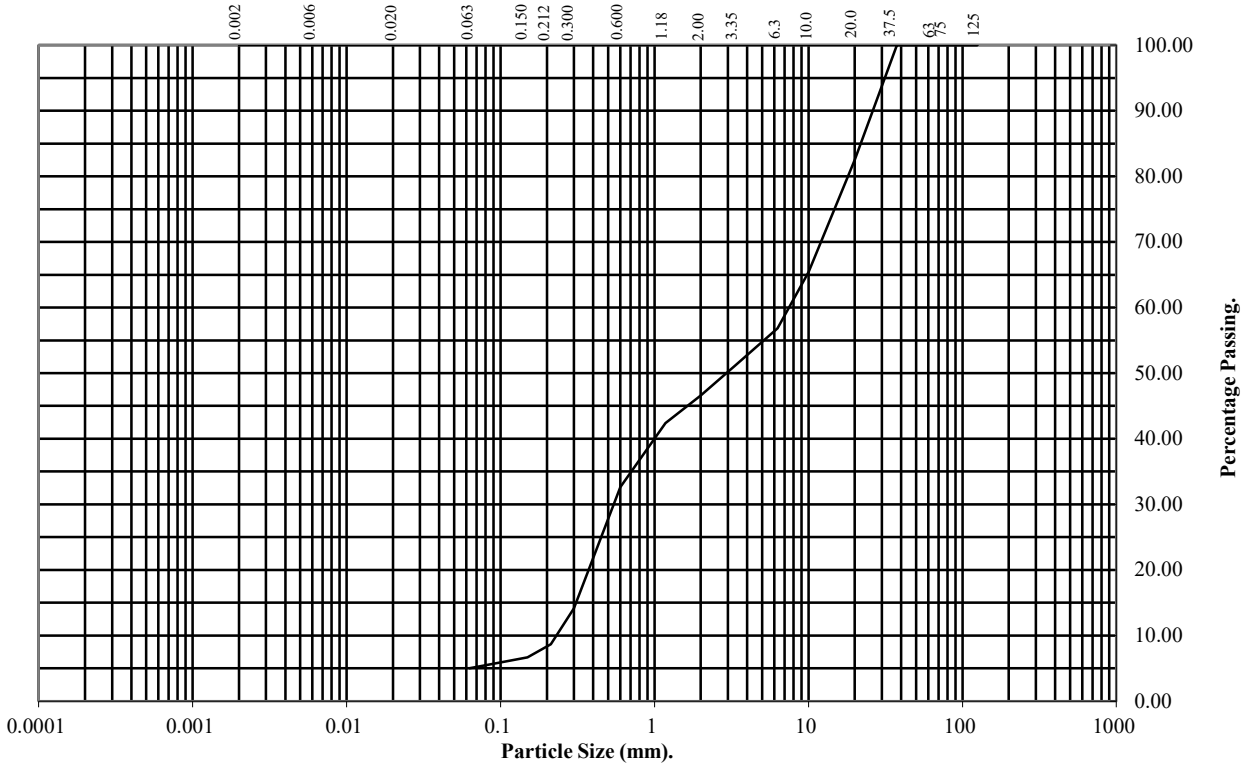
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS01** **Top Depth (m):** **2.20**

Sample Number: **8** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	83
10	65
6.3	57
3.35	51
2	47
1.18	42
0.6	33
0.3	14
0.212	9
0.15	7
0.063	5

Soil Fraction	Total Percentage
Cobbles	0
Gravel	53
Sand	42
Silt/Clay	5

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

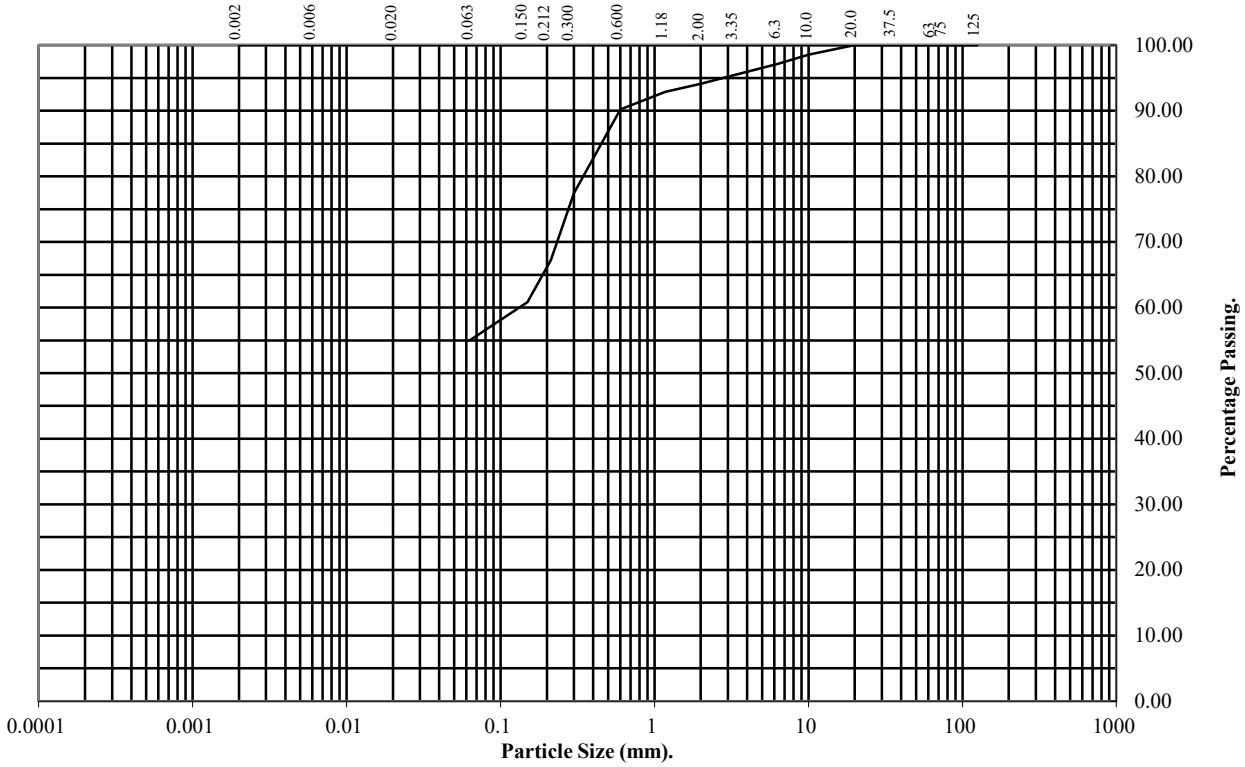
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS02** **Top Depth (m):** **0.70**

Sample Number: **3** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	97
3.35	95
2	94
1.18	93
0.6	90
0.3	77
0.212	67
0.15	61
0.063	55

Soil Fraction	Total Percentage
Cobbles	0
Gravel	6
Sand	39
Silt/Clay	55

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

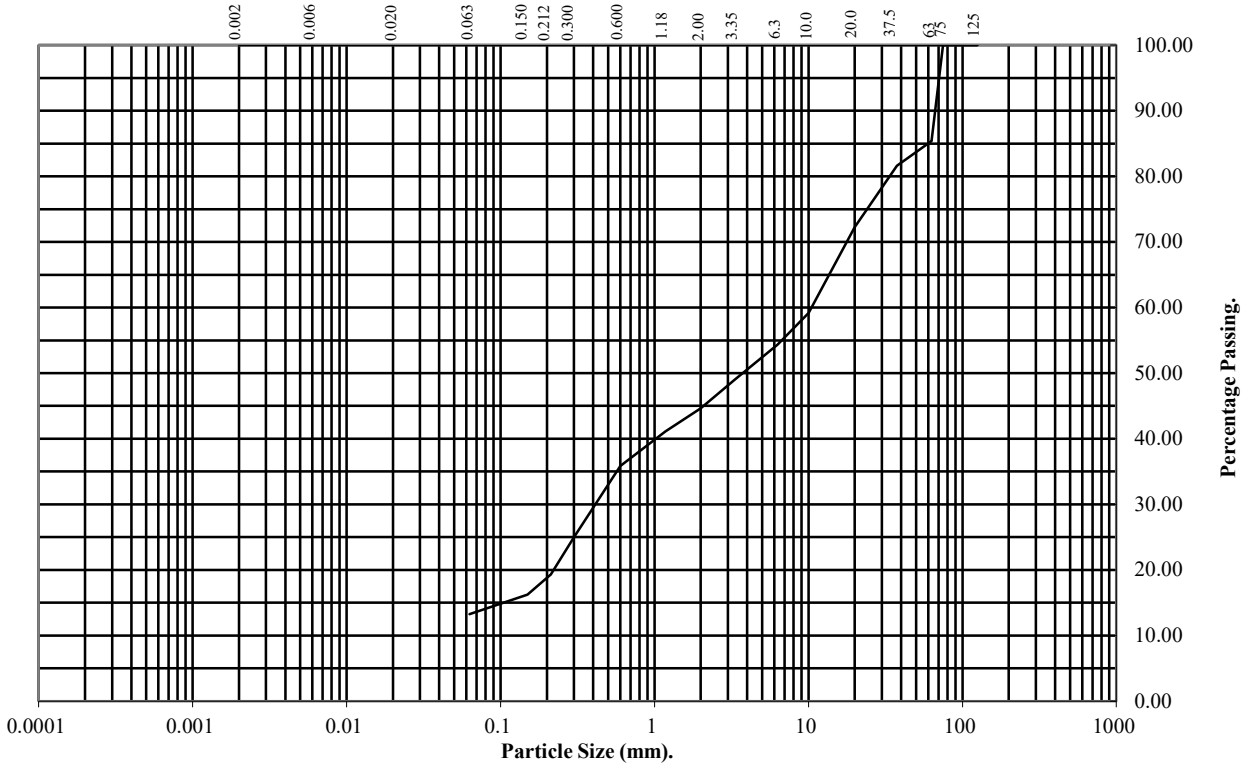
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS03** **Top Depth (m):** **0.50**

Sample Number: **3** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	85
37.5	82
20	72
10	59
6.3	54
3.35	49
2	45
1.18	41
0.6	36
0.3	25
0.212	19
0.15	16
0.063	13

Soil Fraction	Total Percentage
Cobbles	15
Gravel	40
Sand	32
Silt/Clay	13

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

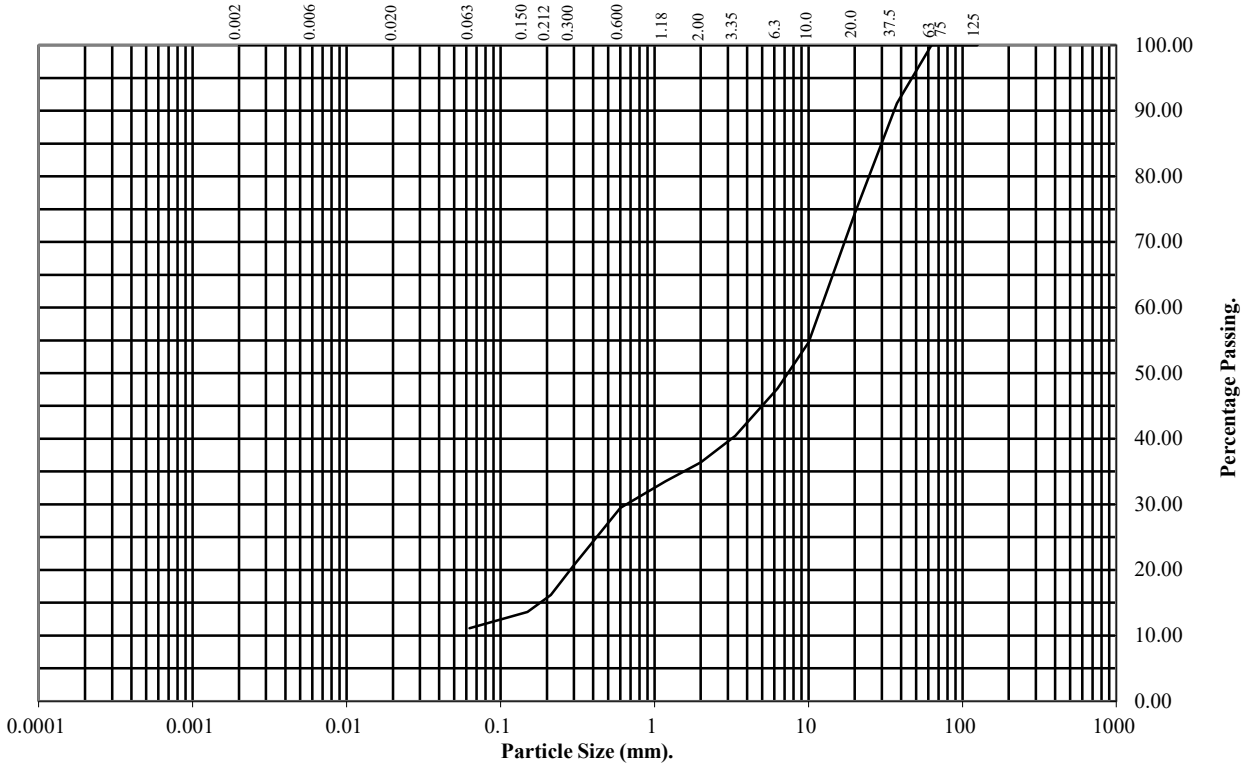
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS04A** **Top Depth (m):** **1.20**

Sample Number: **4** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	91
20	74
10	55
6.3	48
3.35	40
2	36
1.18	34
0.6	29
0.3	21
0.212	16
0.15	14
0.063	11

Soil Fraction	Total Percentage
Cobbles	0
Gravel	64
Sand	25
Silt/Clay	11

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

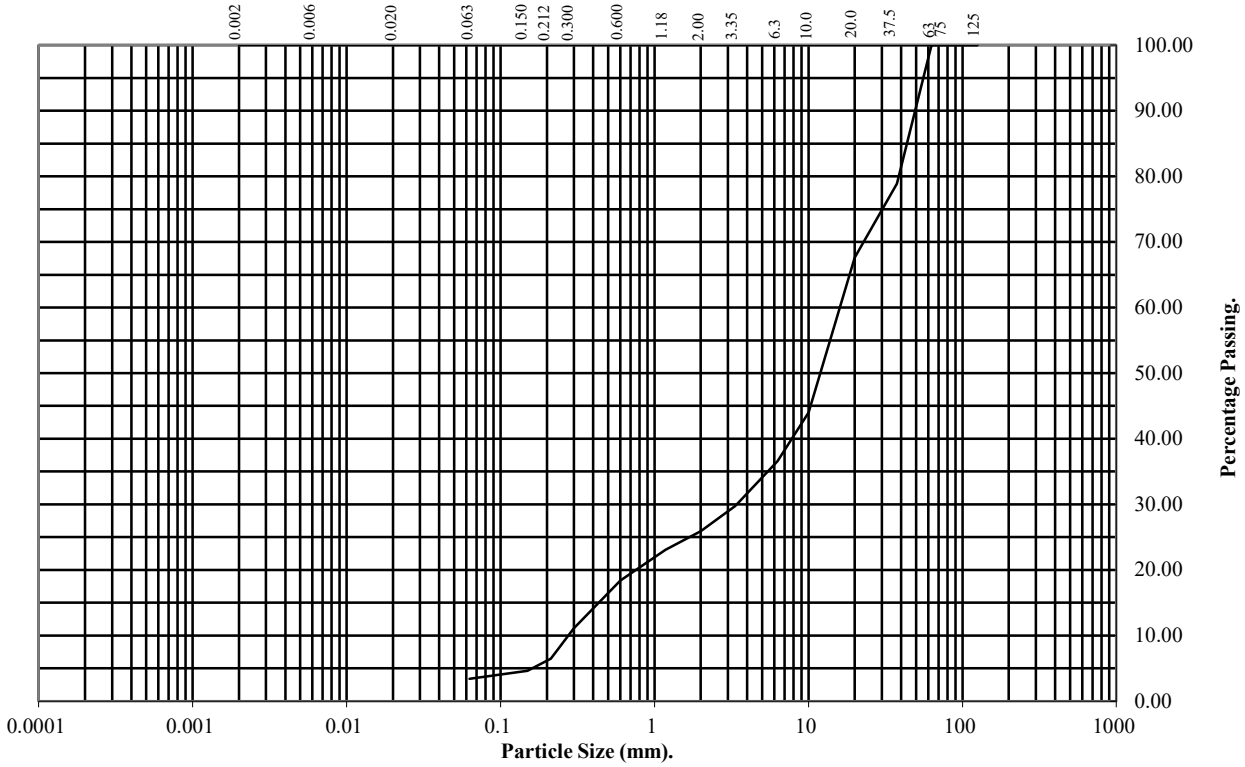
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS04A** **Top Depth (m):** **2.20**

Sample Number: **6** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	79
20	68
10	44
6.3	37
3.35	30
2	26
1.18	23
0.6	18
0.3	11
0.212	6
0.15	5
0.063	3

Soil Fraction	Total Percentage
Cobbles	0
Gravel	74
Sand	23
Silt/Clay	3

Remarks:

See Summary of Soil Descriptions

UKAS TESTING 4043	PSL Professional Soils Laboratory	**Premier Inn Deansgate**	**Contract No:** PSL19/3802 **Client Ref:** 63524

PARTICLE SIZE DISTRIBUTION TEST

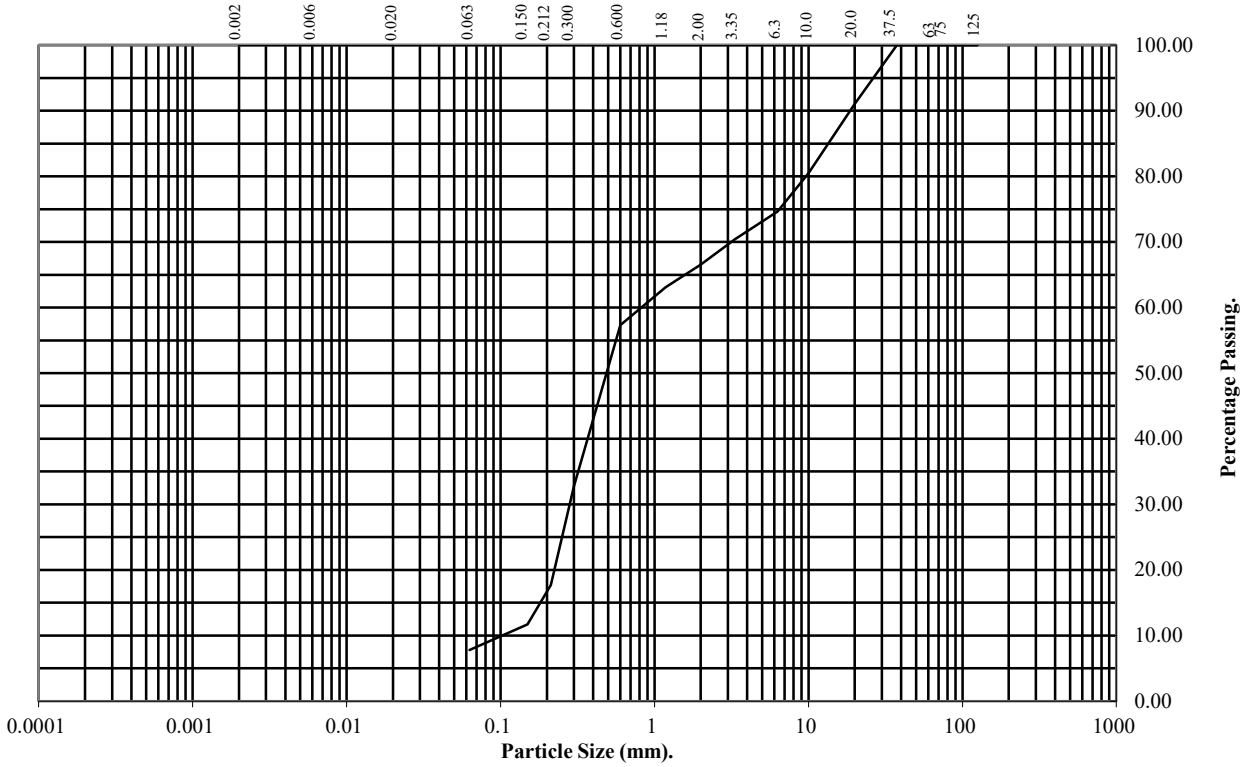
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS05** **Top Depth (m):** **2.00**

Sample Number: **8** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	91
10	80
6.3	75
3.35	70
2	67
1.18	63
0.6	57
0.3	33
0.212	18
0.15	12
0.063	8

Soil Fraction	Total Percentage
Cobbles	0
Gravel	33
Sand	59
Silt/Clay	8

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

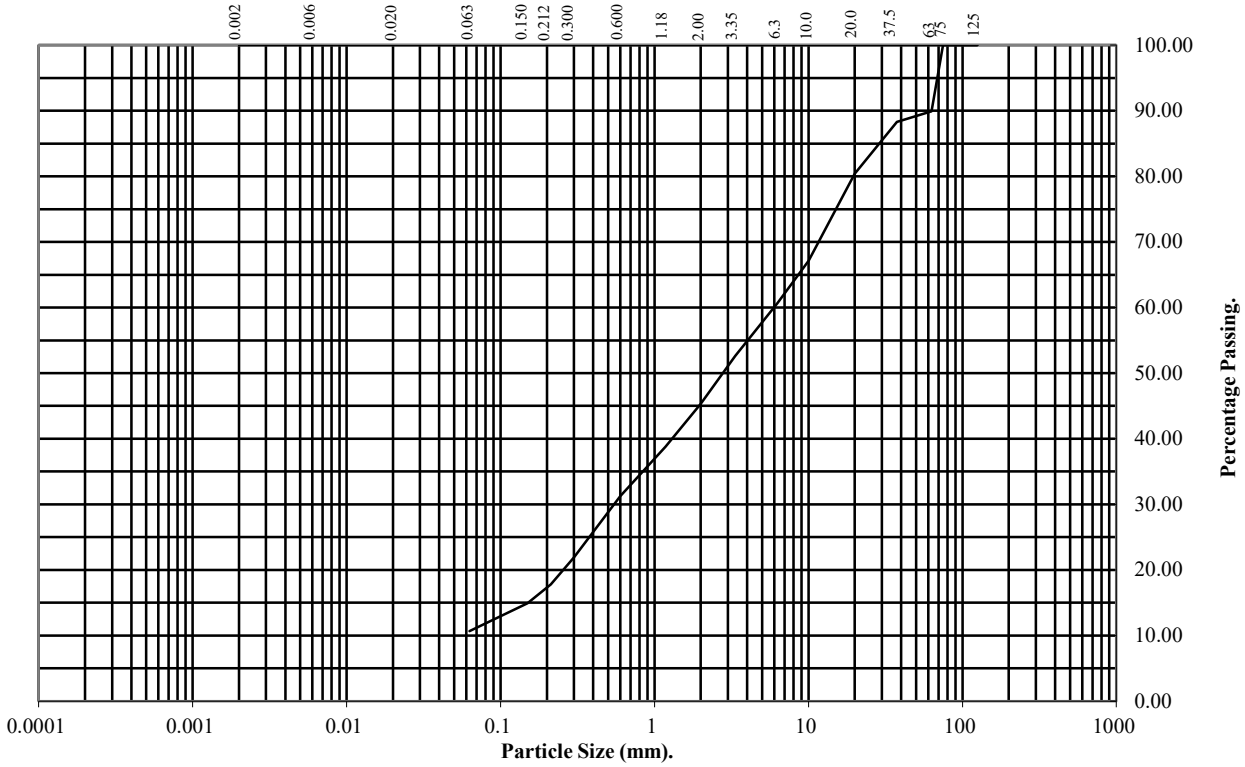
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **WS06** **Top Depth (m):** **0.60**

Sample Number: **3** **Base Depth(m):**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	90
37.5	88
20	80
10	67
6.3	61
3.35	53
2	45
1.18	39
0.6	31
0.3	22
0.212	18
0.15	15
0.063	11

Soil Fraction	Total Percentage
Cobbles	10
Gravel	45
Sand	34
Silt/Clay	11

Remarks:

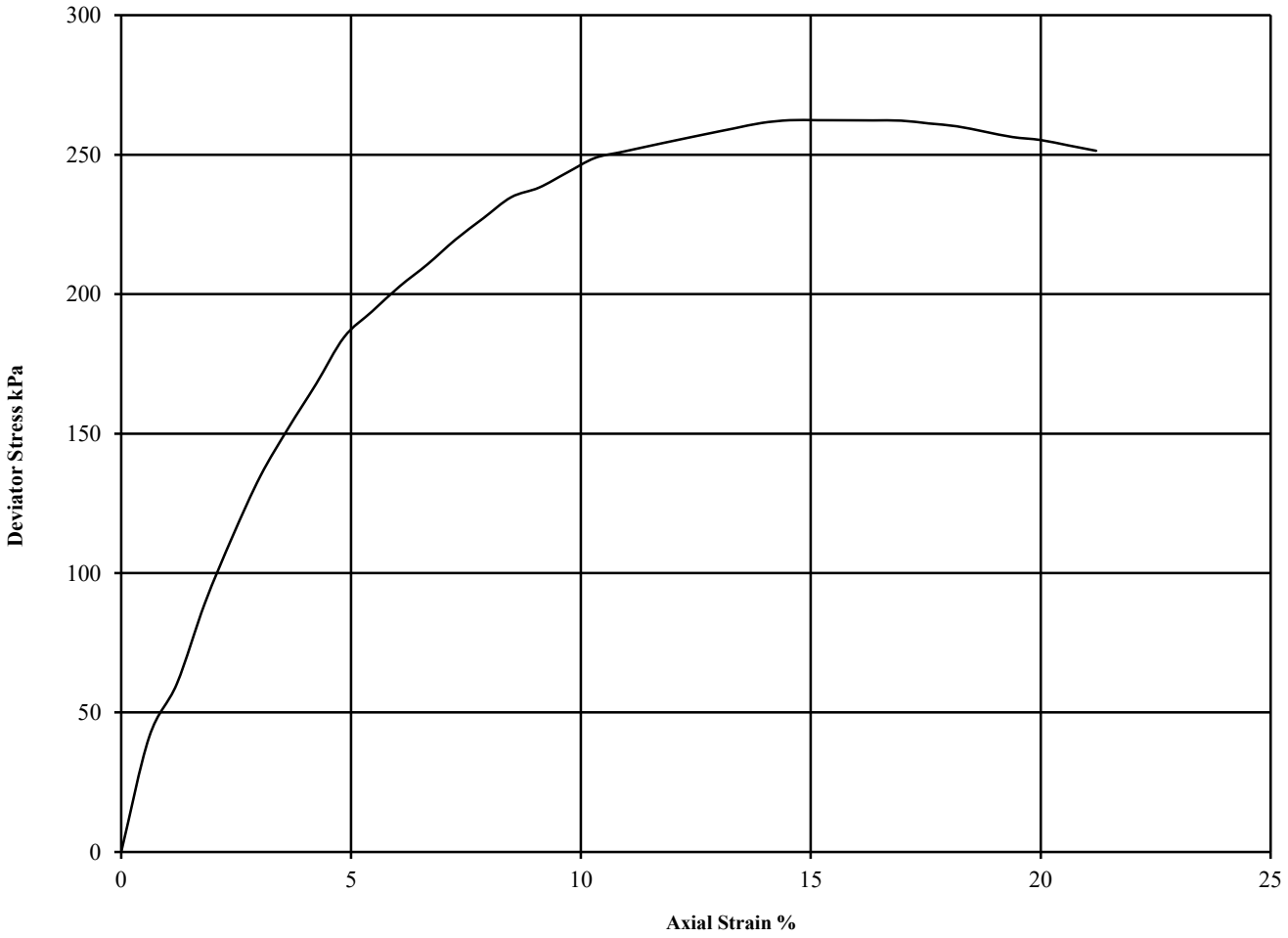
See Summary of Soil Descriptions

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH01**	**Top Depth (m):**	**5.00**
Sample Number:	**15**	**Base Depth (m):**	
Sample Type	**U**		



Diameter (mm):		103	Height (mm):		170	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	12	2.20	1.96	100	262	131	15.1	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Premier Inn Deansgate

Contract No: PSL19/3802

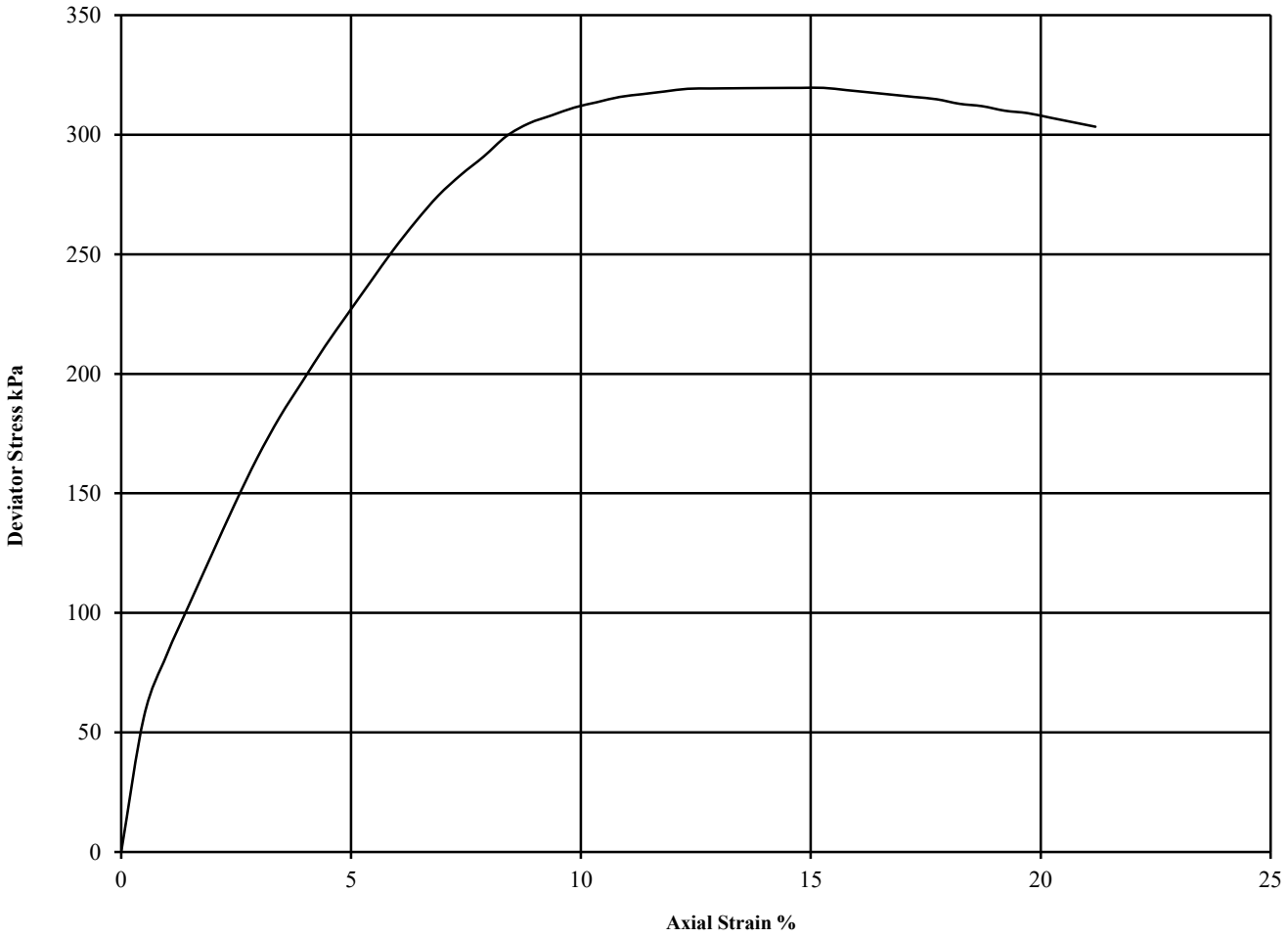
Client Ref: 63524

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number:	**BH02**	**Top Depth (m):**	**5.00**
Sample Number:	**12**	**Base Depth (m):**	
Sample Type	**U**		



Diameter (mm):		103	Height (mm):		209	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34
1	12	2.20	1.98	100	320	160	15.3	Plastic	See summary of soil descriptions

UKAS TESTING 4043

PSL Professional Soils Laboratory

Premier Inn Deansgate

Contract No: PSL19/3802

Client Ref: 63524

ONE DIMENSIONAL CONSOLIDATION TEST

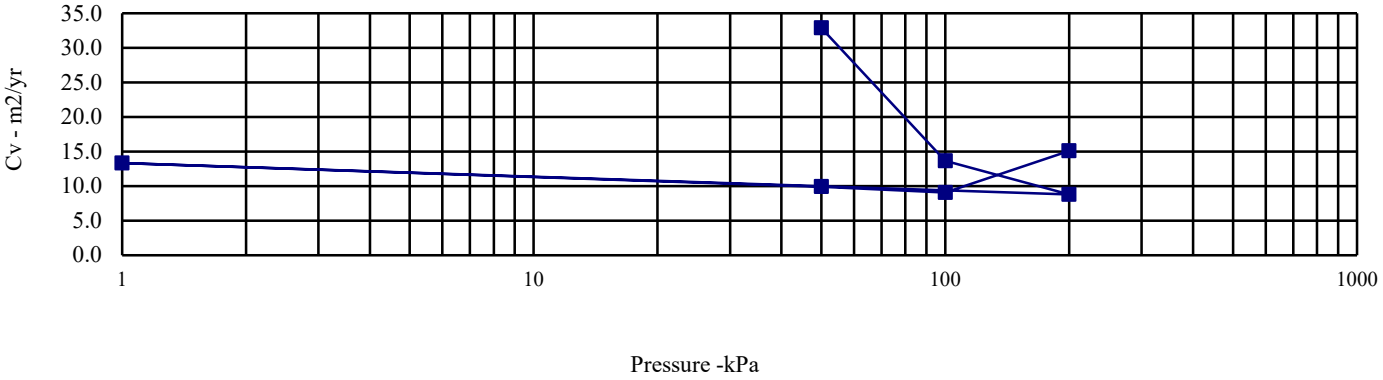
BS 1377: Part 5: 1990: Clause 3

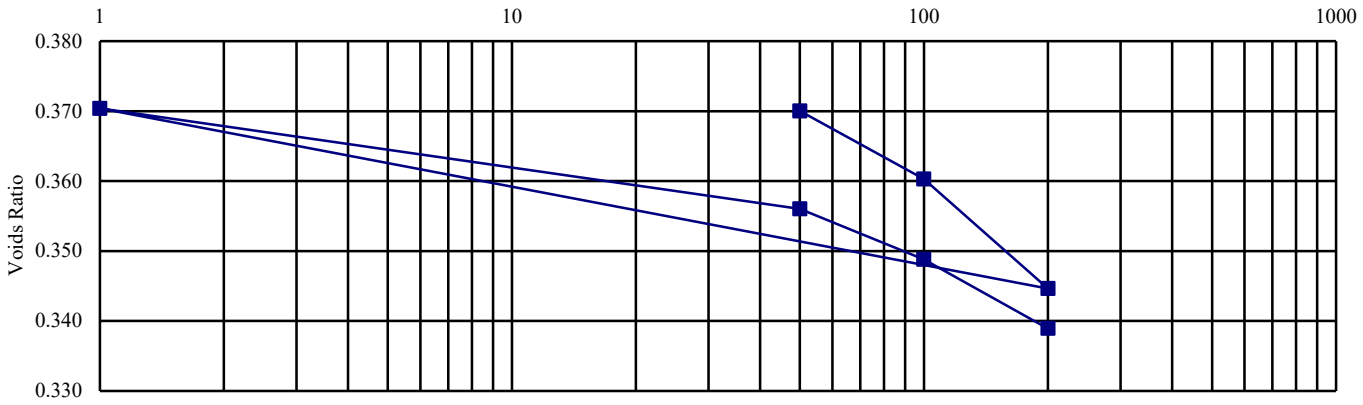
Hole Number: **BH01** **Top Depth (m):** **5.00**

Sample Number: **15** **Base Depth (m) :**

Sample Type: **U**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	14						
Bulk Density (Mg/m3):	2.17	0	50	0.249	32.871	Method used to	
Dry Density (Mg/m3):	1.91	50	100	0.142	13.650	determine CV:	T90
Voids Ratio:	0.387	100	200	0.115	8.796	Nominal temperature	
Degree of saturation:	93.9	200	1	0.096	13.302	during test ' C:	20
Height (mm):	19.94	1	50	0.213	9.915	Remarks:	
Diameter (mm)	75.033	50	100	0.107	9.061	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	100	200	0.073	15.093		





UKAS TESTING 4043	PSL Professional Soils Laboratory	**Premier Inn Deansgate**	**Contract No:** PSL19/3802 **Client Ref:** 63524

ONE DIMENSIONAL CONSOLIDATION TEST

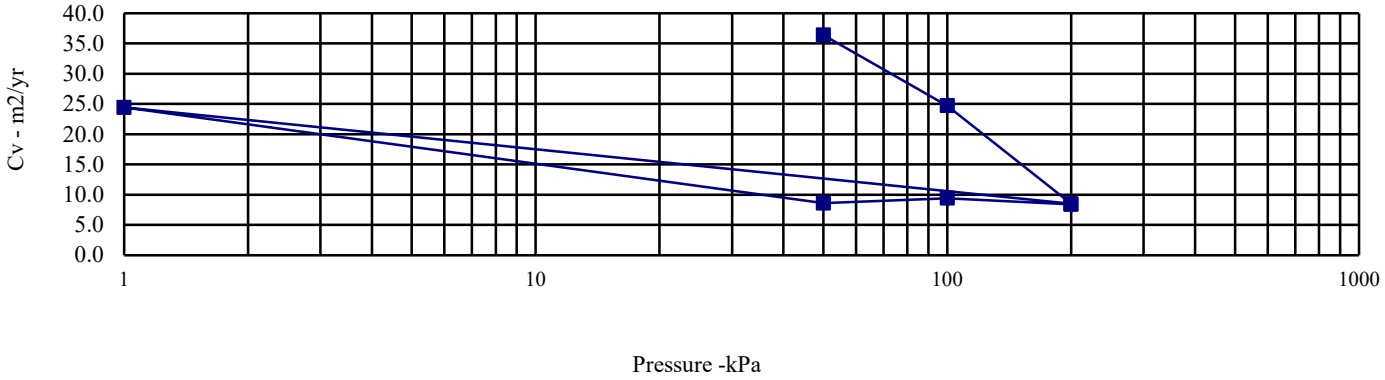
BS 1377: Part 5: 1990: Clause 3

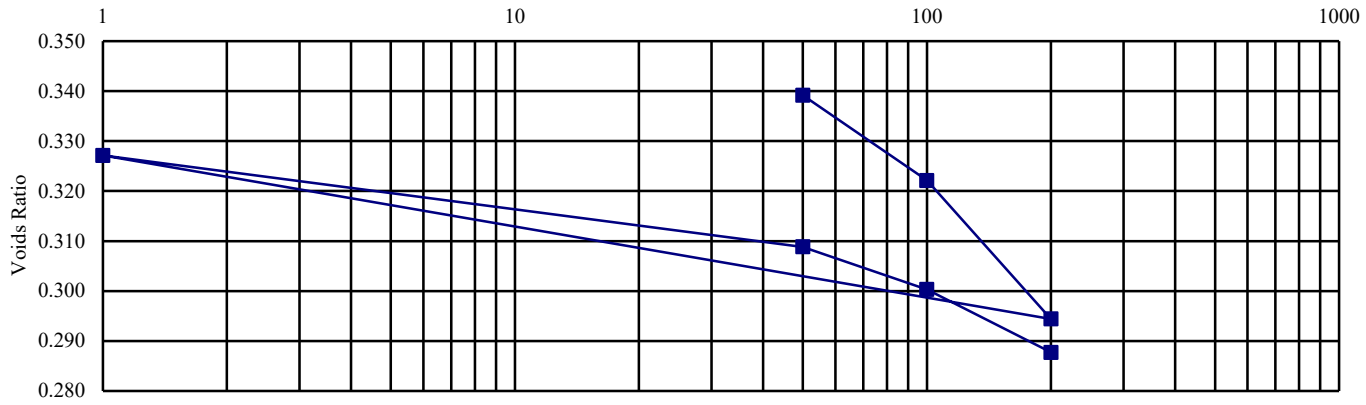
Hole Number: **BH02** **Top Depth (m):** **5.00**

Sample Number: **12** **Base Depth (m) :**

Sample Type: **U**

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	14						
Bulk Density (Mg/m3):	2.21	0	50	0.411	36.396	Method used to	
Dry Density (Mg/m3):	1.94	50	100	0.255	24.701	determine CV:	T90
Voids Ratio:	0.367	100	200	0.209	8.487	Nominal temperature	
Degree of saturation:	99.5	200	1	0.127	24.430	during test ' C:	20
Height (mm):	19.95	1	50	0.281	8.595	Remarks:	
Diameter (mm)	75.035	50	100	0.130	9.406	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65	100	200	0.097	8.378		





UKAS TESTING 4043	PSL Professional Soils Laboratory	**Premier Inn Deansgate**	**Contract No:** PSL19/3802 **Client Ref:** 63524

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		Area	D_e^2	D_e	Failure Load (P)		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	W	D	(mm2)		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
BH01	11.70		A	U	85	29	2465	3138.54	56.02	-	0.53	0.17	1.053	0.18	Valid	
BH01	13.10		A	U	85	41	3485	4437.24	66.61	-	1.66	0.37	1.138	0.43	Valid	
BH02	14.50		A	U	80	35	2800	3565.07	59.71	-	0.55	0.15	1.083	0.17	Valid	
BH02	16.00		I	U	74	37	2738	3486.13	59.04	-	0.45	0.13	1.078	0.14	Valid	
BH02	17.50		A	U	85	53	4505	5735.94	75.74	-	0.69	0.12	1.205	0.15	Valid	
BH02	20.50		A	U	85	48	4080	5194.82	72.08	-	1.01	0.19	1.179	0.23	Valid	
BH03	14.50		I	U	68	60	4080	5194.82	72.08	-	0.51	0.10	1.179	0.12	Valid	
BH03	16.00		A	U	85	32	2720	3463.21	58.85	-	1.47	0.42	1.076	0.46	Valid	
BH03	19.00		A	U	85	44	3740	4761.92	69.01	-	1.30	0.27	1.156	0.32	Valid	
BH04	12.50		A	U	100	40	4000	5092.96	71.36	-	2.27	0.45	1.174	0.52	Valid	
BH04	15.50		A	U	100	47	4700	5984.23	77.36	-	1.28	0.21	1.217	0.26	Valid	
BH04	17.00		A	U	100	64	6400	8148.73	90.27	-	3.69	0.45	1.305	0.59	Valid	
BH04	18.50		A	U	100	41	4100	5220.28	72.25	-	1.39	0.27	1.180	0.31	Valid	
BH05	11.50		A	U	85	38	3230	4112.56	64.13	-	1.28	0.31	1.119	0.35	Valid	
BH05	13.50		A	U	85	41	3485	4437.24	66.61	-	0.87	0.20	1.138	0.22	Valid	
BH05	16.50		A	U	80	36	2880	3666.93	60.56	-	0.55	0.15	1.090	0.16	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

A = Axial, D = Diametral, I = Irregular

UKAS TESTING 4043

PSL Professional Soils Laboratory

Premier Inn Deansgate

Contract No:

PSL19/3802

Client Ref:

63524

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		D_e^2	D_e	Failure Load		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	L	D		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
BH01	11.70		D	U	-	85	7225	85.00	-	0.69	0.096	1.270	0.12	Valid	
BH01	13.10		D	U	-	85	7225	85.00	-	1.78	0.246	1.270	0.31	Valid	
BH02	14.50		D	U	-	80	6400	80.00	-	0.30	0.047	1.236	0.06	Valid	
BH02	17.50		D	U	-	85	7225	85.00	-	0.52	0.072	1.270	0.09	Valid	
BH02	20.50		D	U	-	85	7225	85.00	-	0.98	0.136	1.270	0.17	Valid	
BH03	16.00		D	U	-	85	7225	85.00	-	0.96	0.133	1.270	0.17	Valid	
BH03	19.00		D	U	-	85	7225	85.00	-	1.11	0.154	1.270	0.20	Valid	
BH04	12.50		D	U	-	100	10000	100.00	-	2.77	0.277	1.366	0.38	Valid	
BH04	15.50		D	U	-	100	10000	100.00	-	1.60	0.160	1.366	0.22	Valid	
BH04	17.00		D	U	-	100	10000	100.00	-	2.89	0.289	1.366	0.39	Valid	
BH04	18.50		D	U	-	100	10000	100.00	-	1.07	0.107	1.366	0.15	Valid	
BH05	11.50		D	U	-	85	7225	85.00	-	0.98	0.136	1.270	0.17	Valid	
BH05	13.50		D	U	-	85	7225	85.00	-	0.69	0.096	1.270	0.12	Valid	
BH05	16.50		D	U	-	80	6400	80.00	-	0.70	0.109	1.236	0.14	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

UKAS TESTING 4043

PSL Professional Soils Laboratory

Premier Inn Deansgate

Contract No:

PSL19/3802

Client Ref:

63524

DETERMINATION OF UNCONFINED COMPRESSIVE STRENGTH

ISRM Suggested Methods, pp 111 –116, 1981.

Hole Number	Sample Number	Sample Type	Top Depth (m)	Base Depth (m)	Sample Diameter (mm)	Sample Length (mm)	Height Ratio	Initial Mass (g)	Bulk Density (Mg/m)	Moisture Content (%)	Dry Density (Mg/m)	Load Failure (kN)	UCS (MPa)	Failure Mode	Date Tested	Remarks
BH01		C	13.10		85	127	1.5	1622	2.25	14	1.98	43.8	7.7	Brittle	02/07/19	
BH01		C	14.80		75	150	2.0	1615	2.44	14	2.13	26.2	5.9	Brittle	02/07/19	
BH02		C	17.00		80	160	2.0	1946	2.42	13	2.15	22.9	4.6	Brittle	02/07/19	
BH02		C	21.50		85	170	2.0	2156	2.23	10	2.03	36.9	6.5	Brittle	02/07/19	
BH03		C	11.50		80	120	1.5	1424	2.36	15	2.06	20.8	4.1	Brittle	02/07/19	
BH03		C	13.00		80	120	1.5	1471	2.44	15	2.13	29.2	5.8	Brittle	02/07/19	
BH03		C	22.00		85	170	2.0	2254	2.34	13	2.07	60.2	10.6	Brittle	02/07/19	
BH04		C	12.50		100	200	2.0	3524	2.24	12	2.01	88.5	11.3	Brittle	02/07/19	
BH04		C	14.00		100	200	2.0	3456	2.20	11	1.98	51.8	6.6	Brittle	02/07/19	
BH04		C	19.10		100	150	1.5	2521	2.14	10	1.94	47.2	6.0	Brittle	02/07/19	
BH05		C	11.50		85	170	2.0	2132	2.21	13	1.96	38.5	6.8	Brittle	02/07/19	
BH05		C	13.00		85	170	2.0	2222	2.30	13	2.04	36.3	6.4	Brittle	02/07/19	
BH05		C	16.00		80	160	2.0	2080	2.59	10	2.35	76.2	15.2	Brittle	02/07/19	

PSL
Professional Soils Laboratory

Premier Inn Deansgate

Contract No:
PSL19/3802
Client Ref:
63524

Certificate of Analysis

Certificate Number 19-12412

08-Jul-19

Client Professional Soils Laboratory Ltd
5/7 Hexthorpe Road
Hexthorpe
DN4 0AR

Our Reference 19-12412

Client Reference PSL19/3802

Order No (not supplied)

Contract Title Premier Inn Deansgate

Description 30 Soil samples.

Date Received 02-Jul-19

Date Started 02-Jul-19

Date Completed 08-Jul-19

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Adam Fenwick
Contracts Manager

UKAS TESTING
2139

Summary of Chemical Analysis
Soil Samples

Our Ref 19-12412
Client Ref PSL19/3802
Contract Title Premier Inn Deansgate

			Lab No	1525203	1525204	1525205	1525206	1525207	1525208	1525209	1525210	1525211	1525212	1525213
			Sample ID	BH01	BH01	BH01	BH01	BH02	BH02	BH02	BH02	BH03	BH03	BH03
			Depth	0.20	1.20	3.00	9.50	0.50	2.70	5.60	11.50	0.50	2.00	6.00
			Other ID	2	6	12	22	3	9	13	22	3	9	16
			Sample Type	B	B	B	D	B	B	D	D	B	B	D
			Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Metals														
Magnesium Aqueous Extract	DETSC 2076*	10	mg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Inorganics														
pH	DETSC 2008#			11.1	8.0	8.0	8.2	7.5	7.1	8.1	7.8	7.7	7.4	8.3
Chloride Aqueous Extract	DETSC 2055	1	mg/l	13	9.7	5.3	11	2.7	3.7	6.5	8.7	3.7	4.9	4.5
Nitrate Aqueous Extract as NO3	DETSC 2055	1	mg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	130	36	41	19	27	77	93	29	18	50	73
Sulphur as S, Total	DETSC 2320	0.01	%	0.07	0.02	0.01	< 0.01	< 0.01	0.01	0.23	0.01	< 0.01	0.02	0.09
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.14	0.02	0.02	0.01	0.01	0.04	0.02	0.02	0.01	0.02	0.04

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 19-12412
Client Ref PSL19/3802
Contract Title Premier Inn Deansgate

			Lab No	1525214	1525215	1525216	1525217	1525218	1525219	1525220	1525221	1525222	1525223	1525224
			Sample ID	BH04	BH04	BH04	BH04	BH05	BH05	BH05	BH06	BH06	BH06	WS01
			Depth	1.20	3.00	6.50	9.50	1.20	3.00	6.00	0.50	3.00	6.00	0.50
			Other ID	5	12	21	27	6	11	15	4	13	22	3
			Sample Type	B	B	B	B	B	B	D	B	B	D	B
			Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
			Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**											
Metals														
Magnesium Aqueous Extract	DETSC 2076*	10	mg/l	10	10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Inorganics														
pH	DETSC 2008#			8.1	7.7	8.2	8.5	8.2	7.3	8.3	8.3	7.7	8.2	8.2
Chloride Aqueous Extract	DETSC 2055	1	mg/l	6.4	4.3	11	5.3	5.8	5.7	6.1	9.8	8.8	4.8	12
Nitrate Aqueous Extract as NO3	DETSC 2055	1	mg/l	< 1.0	2.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.7	< 1.0	< 1.0	1.6
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	220	130	90	17	29	20	76	150	31	58	370
Sulphur as S, Total	DETSC 2320	0.01	%	0.03	0.02	0.01	< 0.01	0.02	< 0.01	0.09	0.02	0.01	0.15	0.09
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.07	0.04	0.03	0.01	0.05	0.01	0.04	0.04	0.05	0.05	0.03

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Summary of Chemical Analysis
Soil Samples

Our Ref 19-12412
Client Ref PSL19/3802
Contract Title Premier Inn Deansgate

				Lab No	1525225	1525226	1525227	1525228	1525229	1525230	1525231	1525232
				Sample ID	WS01	WS01	WS02	WS03	WS04A	WS05	WS05	WS06
				Depth	1.20	2.20	0.70	0.50	1.20	0.50	2.00	0.60
				Other ID	6	8	3	3	4	4	8	3
				Sample Type	B	B	B	B	B	B	B	B
				Sampling Date	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
				Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**									
Metals												
Magnesium Aqueous Extract	DETSC 2076*	10	mg/l	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Inorganics												
pH	DETSC 2008#			8.2	8.3	7.1	8.4	7.9	8.1	8.2	9.2
Chloride Aqueous Extract	DETSC 2055	1	mg/l	3.4	5.3	4.2	6.8	4.1	7.0	3.3	6.4
Nitrate Aqueous Extract as NO3	DETSC 2055	1	mg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	43	52	38	40	12	18	18	110
Sulphur as S, Total	DETSC 2320	0.01	%	< 0.01	< 0.01	< 0.01	0.02	< 0.01	0.02	< 0.01	0.14
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.18	0.02	0.02	0.04	0.02	0.02	0.01	0.07

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 19-12412
Client Ref PSL19/3802
Contract Premier Inn Deansgate

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1525203	BH01 0.20 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525204	BH01 1.20 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525205	BH01 3.00 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525206	BH01 9.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525207	BH02 0.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525208	BH02 2.70 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525209	BH02 5.60 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525210	BH02 11.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525211	BH03 0.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525212	BH03 2.00 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525213	BH03 6.00 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525214	BH04 1.20 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	

Information in Support of the Analytical Results

Our Ref 19-12412
Client Ref PSL19/3802
Contract Premier Inn Deansgate

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1525215	BH04 3.00 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525216	BH04 6.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525217	BH04 9.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525218	BH05 1.20 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525219	BH05 3.00 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525220	BH05 6.00 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525221	BH06 0.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525222	BH06 3.00 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525223	BH06 6.00 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525224	WS01 0.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525225	WS01 1.20 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525226	WS01 2.20 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	

Information in Support of the Analytical Results

Our Ref 19-12412
Client Ref PSL19/3802
Contract Premier Inn Deansgate

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
1525227	WS02 0.70 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525228	WS03 0.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525229	WS04A 1.20 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525230	WS05 0.50 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525231	WS05 2.00 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	
1525232	WS06 0.60 SOIL		PT 500ml	Sample date not supplied, Anions 2:1 (365 days), Total Sulphur ICP (365 days), Total Sulphate ICP (730 days), Metals ICP Prep (365 days), pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.

Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.

The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-

Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

Appendix 7 – Chemical Laboratory Results

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 19/05585
Issue Number: 1 **Date:** 21 June, 2019

Client: Enzygo Ltd (Manchester)
First Floor,
3 Hardman Square,
Manchester,
M3 3EB

Project Manager: Nick Brook
Project Name: Not specified
Project Ref: MAN.260.001
Order No: MAN.260.001
Date Samples Received: 05/06/19
Date Instructions Received: 11/06/19
Date Analysis Completed: 21/06/19

Prepared by:



Melanie Marshall
Laboratory Coordinator

Approved by:



Richard Wong
Client Manager

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
% Stones >10mm$_A$	20.8	13.0	2.1	41.6	12.3	0.1	26.3	% w/w	0.1	A-T-044
pH$_D$[M#]	8.63	7.87	7.79	8.16	8.41	8.30	9.74	pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$[M#]	<0.01	0.02	0.13	0.02	0.04	<0.01	0.16	g/l	0.01	A-T-026s
Cyanide (total)$_A$[M#]	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Sulphide$_A$	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-S2-s
Arsenic$_D$[M#]	3	3	4	2	3	3	4	mg/kg	1	A-T-024s
Boron (water soluble)$_D$[M#]	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$[M#]	0.6	0.6	0.9	<0.5	1.0	<0.5	<0.5	mg/kg	0.5	A-T-024s
Copper$_D$[M#]	12	8	23	6	25	3	23	mg/kg	1	A-T-024s
Chromium$_D$[M#]	10	10	21	6	12	5	9	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	10	10	21	6	12	5	9	mg/kg	1	Calc
Lead$_D$[M#]	7	6	20	5	26	4	21	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$[M#]	10	10	19	10	13	7	9	mg/kg	1	A-T-024s
Selenium$_D$[M#]	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Zinc$_D$[M#]	24	25	66	21	68	13	35	mg/kg	5	A-T-024s
EPH Total (>C10-C40)$_A$[#]	28	13	1580	20	1880	14	354	mg/kg	10	A-T-007s
Leachate Prep BS EN 12457-2 (10:1)$_A$	*	-	-	-	-	*	*			A-T-001
pH (leachable)$_A$[#]	7.52	-	-	-	-	7.39	8.99	pH	0.01	A-T-031w
Hardness Total (leachable)$_A$	20	-	-	-	-	50	83	mg/l Ca CO3	2	A-T-049w
Ammoniacal nitrogen as N (leachable)$_A$	<0.02	-	-	-	-	<0.02	<0.02	mg/l	0.02	A-T-033w
Sulphate (leachable)$_A$[#]	7.15	-	-	-	-	5.11	32.08	mg/l	1	A-T-026w
Sulphide (leachable)$_A$	<0.1	-	-	-	-	<0.1	<0.1	mg/l	0.1	A-T-S2-w
DOC (leachable)$_A$[#]	7.7	-	-	-	-	1.9	1.8	mg/l	0.2	A-T-032w
Arsenic (leachable)$_A$[#]	1	-	-	-	-	1	5	µg/l	1	A-T-025w
Boron (leachable)$_A$[#]	20	-	-	-	-	37	47	µg/l	10	A-T-025w
Cadmium (leachable)$_A$[#]	<1	-	-	-	-	<1	<1	µg/l	1	A-T-025w
Copper (leachable)$_A$[#]	6	-	-	-	-	2	3	µg/l	1	A-T-025w
Chromium (leachable)$_A$[#]	<1	-	-	-	-	<1	7	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	<0.05	-	-	-	-	<0.05	<0.05	mg/l	0.05	A-T-040w
Chromium (trivalent) (leachable)	<0.05	-	-	-	-	<0.05	<0.05	mg/l	0.05	Calc

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
Lead (leachable)$_{A}^{\#}$	4	-	-	-	-	9	<1	µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	<0.1	-	-	-	-	<0.1	<0.1	µg/l	0.1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	2	-	-	-	-	<1	<1	µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	<1	-	-	-	-	<1	<1	µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	6	-	-	-	-	2	2	µg/l	1	A-T-025w
EPH Total (>C10-C40) (leachable)$_{A}$	<80	-	-	-	-	<80	89	µg/l	80	A-T-007w

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_D$#	NAD	-	NAD	-	NAD	-	NAD			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	-	N/A	-	N/A	-	N/A			

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	<0.01	3.42	<0.01	0.78	<0.01	0.12	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	0.20	<0.01	0.10	<0.01	0.03	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02	3.59	<0.02	1.37	<0.02	0.23	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	<0.04	5.12	<0.04	4.55	<0.04	0.64	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	<0.04	5.17	<0.04	5.24	<0.04	0.70	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	<0.05	6.44	<0.05	6.44	<0.05	0.84	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.05	2.23	<0.05	2.55	<0.05	0.32	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	2.21	<0.07	2.30	<0.07	0.31	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	<0.06	5.43	<0.06	4.83	<0.06	0.72	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04	0.58	<0.04	0.61	<0.04	0.08	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	<0.08	15.3	<0.08	10.5	<0.08	1.38	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	2.16	<0.01	0.56	<0.01	0.13	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	<0.03	2.70	<0.03	2.92	<0.03	0.38	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	4.52	<0.03	0.15	<0.03	0.10	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	<0.03	14.7	<0.03	5.36	<0.03	1.07	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	<0.07	13	<0.07	10.6	<0.07	1.31	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	<0.08	<0.08	86.8	<0.08	58.9	<0.08	8.36	mg/kg	0.01	A-T-019s

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	0.18	-	-	-	-	0.25	1.22	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	<0.02	-	-	-	-	<0.02	0.02	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	0.05	-	-	-	-	0.05	0.16	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	<0.02	-	-	-	-	<0.02	0.04	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	<0.02	-	-	-	-	<0.02	0.04	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	<0.02	-	-	-	-	<0.02	0.04	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	<0.02	-	-	-	-	<0.02	<0.02	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	<0.02	-	-	-	-	<0.02	<0.02	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	<0.02	-	-	-	-	<0.02	0.05	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	<0.02	-	-	-	-	<0.02	<0.02	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	0.11	-	-	-	-	0.09	0.18	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	0.12	-	-	-	-	0.11	0.40	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	<0.02	-	-	-	-	<0.02	0.02	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	0.38	-	-	-	-	0.20	4.15	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	0.22	-	-	-	-	0.19	0.49	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	0.08	-	-	-	-	0.06	0.14	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	1.14	-	-	-	-	0.95	6.95	µg/l	0.02	A-T-019w

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
SVOC										
Hexachlorobenzene$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	-	1390	-	285	-	<100	µg/kg	100	A-T-052s
Carbazole$_A$	<100	-	880	-	375	-	<100	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	-	<500	-	<500	-	<500	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	-	1480	-	111	-	<100	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Phenol$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Pentachlorophenol (SVOC)$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
n-Dioctylphthalate$_A$	<500	-	<500	-	<500	-	<500	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Isophorone$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
Hexachlorocyclopentadiene$_A$	<100	-	<100	-	<100	-	<100	µg/kg	100	A-T-052s
Perylene$_A$	<100	-	918	-	2010	-	153	µg/kg	100	A-T-052s

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
VOC										
Dichlorodifluoromethane$_{A}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	-	<10	-	<10	-	<10	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	-	<5	-	<5	-	<5	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	-	<5	-	<5	-	<5	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	-	<2	-	<2	-	<2	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	-	<10	-	<10	-	<10	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	-	1	-	<1	-	<1	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	-	<3	-	<3	-	<3	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s

Envirolab Job Number: 19/05585 **Client Project Name: Not specified**

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
Chlorobenzene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_A$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Ethylbenzene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
m & p Xylene$_A^\#$	<1	-	2	-	<1	-	<1	µg/kg	1	A-T-006s
o-Xylene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Styrene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Bromoform$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Isopropylbenzene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_A$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
Bromobenzene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
n-Propylbenzene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
2-Chlorotoluene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_A^\#$	<1	-	2	-	<1	-	<1	µg/kg	1	A-T-006s
4-Chlorotoluene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
tert-Butylbenzene$_A^\#$	<2	-	<2	-	<2	-	<2	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_A^\#$	<1	-	3	-	<1	-	<1	µg/kg	1	A-T-006s
sec-Butylbenzene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
4-Isopropyltoluene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_A$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
n-Butylbenzene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_A$	<2	-	<2	-	<2	-	<2	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_A$	<3	-	<3	-	<3	-	<3	µg/kg	3	A-T-006s
Hexachlorobutadiene$_A^\#$	<1	-	<1	-	<1	-	<1	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_A$	<3	-	<3	-	<3	-	<3	µg/kg	3	A-T-006s

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/4	19/05585/6	19/05585/8	19/05585/14	19/05585/15	19/05585/16	19/05585/17	Units	Limit of Detection	Method ref
Client Sample No	2									
Client Sample ID	BH03	BH03	BH06	BH06	BH01	BH01	BH02			
Depth to Top	0.50	2.00	0.50	5.10	0.50	1.00	0.20			
Depth To Bottom										
Date Sampled	06-Jun-19	06-Jun-19	06-Jun-19	07-Jun-19	05-Jun-19	04-Jun-19	04-Jun-19			
Sample Type	Soil - ES	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	6AE	4AE	4AE	4A	4AE			
TPH CWG										
Ali >C5-C6$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	-	-	<1	-	<1	-	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	-	-	3	-	2	-	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	-	-	15	-	9	-	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	-	-	18	-	11	-	3	mg/kg	1	A-T-055s
Ali >C21-C35$_A$	-	-	116	-	124	-	40	mg/kg	1	A-T-055s
Total Aliphatics$_A$	-	-	152	-	146	-	44	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	-	-	3	-	2	-	2	mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	-	-	21	-	3	-	3	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	-	-	78	-	20	-	6	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	-	-	186	-	79	-	16	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	-	-	530	-	426	-	72	mg/kg	1	A-T-055s
Total Aromatics$_A$	-	-	818	-	530	-	99	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	-	-	970	-	676	-	143	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	-	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/18							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH02									
Depth to Top	8.20									
Depth To Bottom										
Date Sampled	04-Jun-19									
Sample Type	Soil									
Sample Matrix Code	4A									
% Stones >10mm$_A$	22.8							% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.49							pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	0.02							g/l	0.01	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1							mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2							mg/kg	0.2	A-T-050s
Sulphide$_A$	<5							mg/kg	5	A-T-S2-s
Arsenic$_D$$^{M\#}$	<1							mg/kg	1	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0							mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5							mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	3							mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	5							mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1							mg/kg	1	A-T-040s
Chromium (trivalent)	5							mg/kg	1	Calc
Lead$_D$$^{M\#}$	5							mg/kg	1	A-T-024s
Mercury$_D$	<0.17							mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	7							mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1							mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	11							mg/kg	5	A-T-024s
EPH Total (>C10-C40)$_A$$^{\#}$	14							mg/kg	10	A-T-007s

Envirolab Job Number: 19/05585

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05585/18							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH02									
Depth to Top	8.20									
Depth To Bottom										
Date Sampled	04-Jun-19									
Sample Type	Soil									
Sample Matrix Code	4A									
PAH-16MS										
Acenaphthene$_{A}^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Acenaphthylene$_{A}^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Anthracene$_{A}^{M\#}$	<0.02							mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_{A}^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_{A}^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_{A}^{M\#}$	<0.05							mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_{A}^{M\#}$	<0.05							mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_{A}^{M\#}$	<0.07							mg/kg	0.07	A-T-019s
Chrysene$_{A}^{M\#}$	<0.06							mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_{A}^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Fluoranthene$_{A}^{M\#}$	<0.08							mg/kg	0.08	A-T-019s
Fluorene$_{A}^{M\#}$	<0.01							mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_{A}^{M\#}$	<0.03							mg/kg	0.03	A-T-019s
Naphthalene $_{A}^{M\#}$	<0.03							mg/kg	0.03	A-T-019s
Phenanthrene$_{A}^{M\#}$	<0.03							mg/kg	0.03	A-T-019s
Pyrene$_{A}^{M\#}$	<0.07							mg/kg	0.07	A-T-019s
Total PAH-16MS$_{A}^{M\#}$	<0.08							mg/kg	0.01	A-T-019s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Enzygo Ltd (Manchester) , First Floor, 3 Hardman Square, Manchester, M3 3EB

Project No: 19/05585

Date Received: 11/06/2019 (am)

Cool Box Temperatures (°C): 6.7 - 14.8

Project:

Clients Project No: MAN.260.001

Lab Sample ID	19/05585/15	19/05585/16	19/05585/17	19/05585/18
Client Sample No				
Client Sample ID/Depth	BH01 0.50m	BH01 1.00m	BH02 0.20m	BH02 8.20m
Date Sampled	05/06/19	04/06/19	04/06/19	04/06/19
Deviation Code				
F	✓	✓	✓	✓

Key
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	19/05585/15	19/05585/16	19/05585/17	19/05585/18
Client Sample No				
Client Sample ID/Depth	BH01 0.50m	BH01 1.00m	BH02 0.20m	BH02 8.20m
Date Sampled	05/06/19	04/06/19	04/06/19	04/06/19
Sulphide	✓	✓	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 19/05398
Issue Number: 1 **Date:** 21 June, 2019

Client: Enzygo Ltd (Manchester)
First Floor,
3 Hardman Square,
Manchester,
M3 3EB

Project Manager: Nick Brook
Project Name: Not specified
Project Ref: MAN.260.001
Order No: MAN.260.001
Date Samples Received: 29/05/19
Date Instructions Received: 05/06/19
Date Analysis Completed: 21/06/19

Prepared by:



Melanie Marshall
Laboratory Coordinator

Approved by:



Georgia King
Admin & Client Services Supervisor

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/2	19/05398/4	19/05398/6	19/05398/9	19/05398/10	19/05398/12	19/05398/16	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH05	BH05	WS01	WS01	WS02	WS02	WS03			
Depth to Top	0.50	2.00	0.50	2.20	0.20	1.00	1.00			
Depth To Bottom										
Date Sampled	30-May-19	31-May-19	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	4AB	4A	4AB	4A	4AB			
% Stones >10mm$_A$	28.7	32.6	24.1	27.3	35.7	11.5	40.3	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.91	8.03	8.81	7.67	9.24	8.11	8.22	pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	<0.01	0.01	0.15	0.04	0.08	0.02	0.01	g/l	0.01	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Sulphide$_A$	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-S2-s
Arsenic$_D$$^{M\#}$	4	1	4	2	1	2	4	mg/kg	1	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	<0.5	0.5	<0.5	0.6	<0.5	<0.5	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	6	6	34	5	17	10	13	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	7	7	17	7	9	14	11	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	7	7	17	7	9	14	11	mg/kg	1	Calc
Lead$_D$$^{M\#}$	5	4	101	4	35	9	33	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	0.28	<0.17	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	7	7	12	9	7	11	11	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	21	19	133	21	71	28	30	mg/kg	5	A-T-024s
EPH Total (>C10-C40)$_A$$^{\#}$	18	11	959	17	1320	248	185	mg/kg	10	A-T-007s
Leachate Prep BS EN 12457-2 (10:1)$_A$	-	*	-	-	-	-	*			A-T-001
pH (leachable)$_A$$^{\#}$	-	7.44	-	-	-	-	7.51	pH	0.01	A-T-031w
Hardness Total (leachable)$_A$	-	35	-	-	-	-	16	mg/l Ca CO3	2	A-T-049w
Ammoniacal nitrogen as N (leachable)$_A$	-	<0.02	-	-	-	-	<0.02	mg/l	0.02	A-T-033w
Sulphate (leachable)$_A$$^{\#}$	-	<1.00	-	-	-	-	<1.00	mg/l	1	A-T-026w
Sulphide (leachable)$_A$	-	<0.1	-	-	-	-	<0.1	mg/l	0.1	A-T-S2-w
DOC (leachable)$_A$$^{\#}$	-	2.9	-	-	-	-	3.8	mg/l	0.2	A-T-032w
Arsenic (leachable)$_A$$^{\#}$	-	<1	-	-	-	-	<1	µg/l	1	A-T-025w
Boron (leachable)$_A$$^{\#}$	-	14	-	-	-	-	11	µg/l	10	A-T-025w
Cadmium (leachable)$_A$$^{\#}$	-	<1	-	-	-	-	<1	µg/l	1	A-T-025w
Copper (leachable)$_A$$^{\#}$	-	1	-	-	-	-	3	µg/l	1	A-T-025w
Chromium (leachable)$_A$$^{\#}$	-	<1	-	-	-	-	<1	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	<0.05	-	-	-	-	<0.05	mg/l	0.05	A-T-040w
Chromium (trivalent) (leachable)	-	<0.05	-	-	-	-	<0.05	mg/l	0.05	Calc

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/2	19/05398/4	19/05398/6	19/05398/9	19/05398/10	19/05398/12	19/05398/16	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH05	BH05	WS01	WS01	WS02	WS02	WS03			
Depth to Top	0.50	2.00	0.50	2.20	0.20	1.00	1.00			
Depth To Bottom										
Date Sampled	30-May-19	31-May-19	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	4AB	4A	4AB	4A	4AB			
Lead (leachable)$_{A}^{\#}$	-	<1	-	-	-	-	2	µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	-	<0.1	-	-	-	-	<0.1	µg/l	0.1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	-	<1	-	-	-	-	2	µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	-	<1	-	-	-	-	<1	µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	-	4	-	-	-	-	5	µg/l	1	A-T-025w
EPH Total (>C10-C40) (leachable)$_{A}$	-	<80	-	-	-	-	<80	µg/l	80	A-T-007w

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/2	19/05398/4	19/05398/6	19/05398/9	19/05398/10	19/05398/12	19/05398/16	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH05	BH05	WS01	WS01	WS02	WS02	WS03			
Depth to Top	0.50	2.00	0.50	2.20	0.20	1.00	1.00			
Depth To Bottom										
Date Sampled	30-May-19	31-May-19	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	4AB	4A	4AB	4A	4AB			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_D$#	NAD	-	NAD	-	NAD	-	NAD			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	-	N/A	-	N/A	-	N/A			

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/2	19/05398/4	19/05398/6	19/05398/9	19/05398/10	19/05398/12	19/05398/16	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH05	BH05	WS01	WS01	WS02	WS02	WS03			
Depth to Top	0.50	2.00	0.50	2.20	0.20	1.00	1.00			
Depth To Bottom										
Date Sampled	30-May-19	31-May-19	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	4AB	4A	4AB	4A	4AB			
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	<0.01	0.10	<0.01	0.26	0.01	0.19	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	0.02	<0.01	0.08	<0.01	0.03	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02	0.18	<0.02	0.71	0.03	0.26	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	<0.04	0.70	<0.04	1.76	0.06	1.25	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	<0.04	0.80	<0.04	1.69	0.04	1.25	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	<0.05	0.92	<0.05	1.89	<0.05	1.48	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.05	0.46	<0.05	0.82	<0.05	0.61	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	0.33	<0.07	0.70	<0.07	0.52	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	<0.06	0.76	<0.06	1.85	0.06	1.31	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04	0.10	<0.04	0.22	<0.04	0.16	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	<0.08	1.56	<0.08	4.10	0.15	2.70	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	0.07	<0.01	0.42	0.02	0.13	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	<0.03	0.50	<0.03	0.90	<0.03	0.67	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	0.24	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.04	<0.03	0.77	<0.03	3.22	0.16	1.23	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	<0.07	1.44	<0.07	4.16	0.13	2.66	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	<0.08	<0.08	8.71	<0.08	23	0.66	14.4	mg/kg	0.01	A-T-019s

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/2	19/05398/4	19/05398/6	19/05398/9	19/05398/10	19/05398/12	19/05398/16	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH05	BH05	WS01	WS01	WS02	WS02	WS03			
Depth to Top	0.50	2.00	0.50	2.20	0.20	1.00	1.00			
Depth To Bottom										
Date Sampled	30-May-19	31-May-19	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	4AB	4A	4AB	4A	4AB			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	-	0.20	-	-	-	-	0.60	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	-	<0.02	-	-	-	-	0.04	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	-	0.06	-	-	-	-	0.23	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	-	0.06	-	-	-	-	0.22	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	-	0.12	-	-	-	-	0.43	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	-	<0.02	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	-	0.29	-	-	-	-	0.23	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	-	0.23	-	-	-	-	0.94	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	-	0.04	-	-	-	-	0.20	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	1.00	-	-	-	-	2.89	µg/l	0.02	A-T-019w

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/2	19/05398/4	19/05398/6	19/05398/9	19/05398/10	19/05398/12	19/05398/16	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH05	BH05	WS01	WS01	WS02	WS02	WS03			
Depth to Top	0.50	2.00	0.50	2.20	0.20	1.00	1.00			
Depth To Bottom										
Date Sampled	30-May-19	31-May-19	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4A	4A	4AB	4A	4AB	4A	4AB			
TPH CWG										
Ali >C5-C6$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	-	<1	-	<5	-	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	-	<1	-	<5	-	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	-	<1	-	<5	-	1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	-	<1	-	<5	-	3	mg/kg	1	A-T-055s
Ali >C21-C35$_A$	2	-	19	-	349	-	23	mg/kg	1	A-T-055s
Total Aliphatics$_A$	2	-	19	-	354	-	27	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	-	<1	-	6	-	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	<1	-	<1	-	<5	-	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	-	<1	-	8	-	16	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	-	<1	-	21	-	125	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	5	-	10	-	290	-	260	mg/kg	1	A-T-055s
Total Aromatics$_A$	5	-	14	-	324	-	401	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	8	-	33	-	678	-	428	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	-	<0.01	-	<0.01	-	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/17	19/05398/18	19/05398/22	19/05398/23	19/05398/27	19/05398/29	19/05398/33	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS03	WS04	WS04A	WS05	WS05	BH04	BH04			
Depth to Top	1.50	0.20	3.00	0.25	2.70	1.00	4.70			
Depth To Bottom										
Date Sampled	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19	28-May-19	28-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4E	4AB	4A	4AB	4AB	4AB	4			
% Stones >10mm$_A$	<0.1	47.1	10.8	<0.1	21.8	20.5	24.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.33	10.63	8.77	8.89	8.34	8.42	8.27	pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	<0.01	0.04	<0.01	0.02	0.02	0.08	0.07	g/l	0.01	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Sulphide$_A$	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-S2-s
Arsenic$_D$$^{M\#}$	<1	2	2	1	2	3	<1	mg/kg	1	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.8	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	2	14	4	12	5	17	5	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	3	12	5	9	5	10	8	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	3	12	5	9	5	10	8	mg/kg	1	Calc
Lead$_D$$^{M\#}$	6	44	4	26	5	53	5	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	0.20	<0.17	0.33	<0.17	0.27	<0.17	mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	2	10	6	9	7	11	13	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1	2	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	9	42	18	36	20	56	22	mg/kg	5	A-T-024s
EPH Total (>C10-C40)$_A$$^{\#}$	<10	946	143	14	<10	192	4370	mg/kg	10	A-T-007s
Leachate Prep BS EN 12457-2 (10:1)$_A$	-	-	-	-	-	-	*			A-T-001
pH (leachable)$_A$$^{\#}$	-	-	-	-	-	-	7.40	pH	0.01	A-T-031w
Hardness Total (leachable)$_A$	-	-	-	-	-	-	22	mg/l Ca CO3	2	A-T-049w
Ammoniacal nitrogen as N (leachable)$_A$	-	-	-	-	-	-	<0.02	mg/l	0.02	A-T-033w
Sulphate (leachable)$_A$$^{\#}$	-	-	-	-	-	-	25.73	mg/l	1	A-T-026w
Sulphide (leachable)$_A$	-	-	-	-	-	-	<0.1	mg/l	0.1	A-T-S2-w
DOC (leachable)$_A$$^{\#}$	-	-	-	-	-	-	1.3	mg/l	0.2	A-T-032w
Arsenic (leachable)$_A$$^{\#}$	-	-	-	-	-	-	<1	µg/l	1	A-T-025w
Boron (leachable)$_A$$^{\#}$	-	-	-	-	-	-	41	µg/l	10	A-T-025w
Cadmium (leachable)$_A$$^{\#}$	-	-	-	-	-	-	<1	µg/l	1	A-T-025w
Copper (leachable)$_A$$^{\#}$	-	-	-	-	-	-	<1	µg/l	1	A-T-025w
Chromium (leachable)$_A$$^{\#}$	-	-	-	-	-	-	<1	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	-	-	-	-	-	<0.05	mg/l	0.05	A-T-040w
Chromium (trivalent) (leachable)	-	-	-	-	-	-	<0.05	mg/l	0.05	Calc

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/17	19/05398/18	19/05398/22	19/05398/23	19/05398/27	19/05398/29	19/05398/33	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS03	WS04	WS04A	WS05	WS05	BH04	BH04			
Depth to Top	1.50	0.20	3.00	0.25	2.70	1.00	4.70			
Depth To Bottom										
Date Sampled	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19	28-May-19	28-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4E	4AB	4A	4AB	4AB	4AB	4			
Lead (leachable)$_{A}^{\#}$	-	-	-	-	-	-	<1	µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	-	-	-	-	-	-	<0.1	µg/l	0.1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	-	-	-	-	-	-	<1	µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	-	-	-	-	-	-	<1	µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	-	-	-	-	-	-	2	µg/l	1	A-T-025w
EPH Total (>C10-C40) (leachable)$_{A}$	-	-	-	-	-	-	<80	µg/l	80	A-T-007w

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/17	19/05398/18	19/05398/22	19/05398/23	19/05398/27	19/05398/29	19/05398/33	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS03	WS04	WS04A	WS05	WS05	BH04	BH04			
Depth to Top	1.50	0.20	3.00	0.25	2.70	1.00	4.70			
Depth To Bottom										
Date Sampled	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19	28-May-19	28-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4E	4AB	4A	4AB	4AB	4AB	4			
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_{D}^{\#}$	-	NAD	-	Amosite	-	NAD	NAD			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	Loose Fibres	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	-	N/A	-	N/A	-	N/A	N/A			
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	-	-	<0.001	-	-	-	% w/w	0.001	A-T-054

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/17	19/05398/18	19/05398/22	19/05398/23	19/05398/27	19/05398/29	19/05398/33	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS03	WS04	WS04A	WS05	WS05	BH04	BH04			
Depth to Top	1.50	0.20	3.00	0.25	2.70	1.00	4.70			
Depth To Bottom										
Date Sampled	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19	28-May-19	28-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4E	4AB	4A	4AB	4AB	4AB	4			
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	0.15	<0.01	0.36	<0.01	0.12	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	0.05	<0.01	0.05	<0.01	0.02	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	0.40	<0.02	0.67	<0.02	0.18	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	2.41	<0.04	2.92	<0.04	0.54	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	2.79	<0.04	3.50	<0.04	0.51	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	3.22	<0.05	4.09	<0.05	0.63	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	1.66	<0.05	2.18	<0.05	0.27	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	1.23	<0.07	1.49	<0.07	0.21	<0.07	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	2.45	<0.06	3.01	<0.06	0.59	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	0.41	<0.04	0.48	<0.04	0.07	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	4.66	<0.08	6.07	<0.08	1.35	<0.08	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	0.10	<0.01	0.30	<0.01	0.10	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	1.83	<0.03	2.40	<0.03	0.29	<0.03	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	<0.03	0.21	<0.03	0.10	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	1.35	<0.03	2.67	<0.03	1.05	<0.03	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	4.61	<0.07	5.72	<0.07	1.23	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	<0.08	27.3	<0.08	36.1	<0.08	7.26	<0.08	mg/kg	0.01	A-T-019s

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/17	19/05398/18	19/05398/22	19/05398/23	19/05398/27	19/05398/29	19/05398/33	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS03	WS04	WS04A	WS05	WS05	BH04	BH04			
Depth to Top	1.50	0.20	3.00	0.25	2.70	1.00	4.70			
Depth To Bottom										
Date Sampled	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19	28-May-19	28-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4E	4AB	4A	4AB	4AB	4AB	4			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	-	-	-	-	-	<0.02	µg/l	0.02	A-T-019w

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/17	19/05398/18	19/05398/22	19/05398/23	19/05398/27	19/05398/29	19/05398/33	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS03	WS04	WS04A	WS05	WS05	BH04	BH04			
Depth to Top	1.50	0.20	3.00	0.25	2.70	1.00	4.70			
Depth To Bottom										
Date Sampled	30-May-19	30-May-19	30-May-19	30-May-19	30-May-19	28-May-19	28-May-19			
Sample Type	Soil	Soil	Soil	Soil	Soil	Soil	Soil			
Sample Matrix Code	4E	4AB	4A	4AB	4AB	4AB	4			
TPH CWG										
Ali >C5-C6$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	-	<1	-	<5	-	-	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	-	<1	-	<5	-	-	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	-	2	-	<5	-	-	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	-	6	-	10	-	-	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A$	-	143	-	756	-	-	2	mg/kg	1	A-T-055s
Total Aliphatics$_A$	-	152	-	766	-	-	2	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	-	<1	-	<5	-	-	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	-	<1	-	<5	-	-	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	-	5	-	12	-	-	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	-	35	-	47	-	-	<1	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	-	312	-	674	-	-	4	mg/kg	1	A-T-055s
Total Aromatics$_A$	-	353	-	732	-	-	4	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	-	505	-	1500	-	-	6	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	-	<0.01	-	<0.01	-	-	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/34	19/05398/36						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS06	WS06								
Depth to Top	0.20	1.00								
Depth To Bottom										
Date Sampled	30-May-19	30-May-19								
Sample Type	Soil	Soil								
Sample Matrix Code	4A	4AB								
% Stones >10mm$_A$	15.2	22.3						% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.40	8.23						pH	0.01	A-T-031s
Sulphate (water sol 2:1)$_D$$^{M\#}$	0.04	0.02						g/l	0.01	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1						mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2						mg/kg	0.2	A-T-050s
Sulphide$_A$	<5	<5						mg/kg	5	A-T-S2-s
Arsenic$_D$$^{M\#}$	4	5						mg/kg	1	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0						mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	0.7	<0.5						mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	28	27						mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	20	9						mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1						mg/kg	1	A-T-040s
Chromium (trivalent)	20	9						mg/kg	1	Calc
Lead$_D$$^{M\#}$	124	186						mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17						mg/kg	0.17	A-T-024s
Nickel$_D$$^{M\#}$	19	12						mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1						mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	92	38						mg/kg	5	A-T-024s
EPH Total (>C10-C40)$_A$$^{\#}$	2210	30						mg/kg	10	A-T-007s
Leachate Prep BS EN 12457-2 (10:1)$_A$	-	*								A-T-001
pH (leachable)$_A$$^{\#}$	-	7.42						pH	0.01	A-T-031w
Hardness Total (leachable)$_A$	-	40						mg/l Ca CO3	2	A-T-049w
Ammoniacal nitrogen as N (leachable)$_A$	-	<0.02						mg/l	0.02	A-T-033w
Sulphate (leachable)$_A$$^{\#}$	-	4.01						mg/l	1	A-T-026w
Sulphide (leachable)$_A$	-	<0.1						mg/l	0.1	A-T-S2-w
DOC (leachable)$_A$$^{\#}$	-	1.5						mg/l	0.2	A-T-032w
Arsenic (leachable)$_A$$^{\#}$	-	2						µg/l	1	A-T-025w
Boron (leachable)$_A$$^{\#}$	-	18						µg/l	10	A-T-025w
Cadmium (leachable)$_A$$^{\#}$	-	<1						µg/l	1	A-T-025w
Copper (leachable)$_A$$^{\#}$	-	3						µg/l	1	A-T-025w
Chromium (leachable)$_A$$^{\#}$	-	2						µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	<0.05						mg/l	0.05	A-T-040w
Chromium (trivalent) (leachable)	-	<0.05						mg/l	0.05	Calc

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/34	19/05398/36						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS06	WS06								
Depth to Top	0.20	1.00								
Depth To Bottom										
Date Sampled	30-May-19	30-May-19								
Sample Type	Soil	Soil								
Sample Matrix Code	4A	4AB								
Lead (leachable)$_{A}^{\#}$	-	3						µg/l	1	A-T-025w
Mercury (leachable)$_{A}^{\#}$	-	<0.1						µg/l	0.1	A-T-025w
Nickel (leachable)$_{A}^{\#}$	-	<1						µg/l	1	A-T-025w
Selenium (leachable)$_{A}^{\#}$	-	<1						µg/l	1	A-T-025w
Zinc (leachable)$_{A}^{\#}$	-	2						µg/l	1	A-T-025w
EPH Total (>C10-C40) (leachable)$_{A}$	-	112						µg/l	80	A-T-007w

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/34	19/05398/36						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS06	WS06								
Depth to Top	0.20	1.00								
Depth To Bottom										
Date Sampled	30-May-19	30-May-19								
Sample Type	Soil	Soil								
Sample Matrix Code	4A	4AB								
Asbestos in Soil (inc. matrix) ^										
Asbestos in soil$_D$ #	NAD	NAD								A-T-045
Asbestos ACM - Suitable for Water Absorption Test?	N/A	N/A								

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/34	19/05398/36						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS06	WS06								
Depth to Top	0.20	1.00								
Depth To Bottom										
Date Sampled	30-May-19	30-May-19								
Sample Type	Soil	Soil								
Sample Matrix Code	4A	4AB								
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.22	0.03						mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.03	<0.01						mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.56	0.05						mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	1.81	0.18						mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	1.76	0.19						mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	2.24	0.24						mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	1.02	0.10						mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.78	0.09						mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.84	0.20						mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.23	<0.04						mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	4.65	0.38						mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.15	0.03						mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	1.09	0.11						mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.05	<0.03						mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	2.04	0.26						mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	4.00	0.34						mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	22.5	2.20						mg/kg	0.01	A-T-019s

Envirolab Job Number: 19/05398

Client Project Name: Not specified

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/34	19/05398/36						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS06	WS06								
Depth to Top	0.20	1.00								
Depth To Bottom										
Date Sampled	30-May-19	30-May-19								
Sample Type	Soil	Soil								
Sample Matrix Code	4A	4AB								
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	-	0.38						µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	-	0.03						µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	-	0.11						µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	-	<0.02						µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	-	<0.02						µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	-	<0.02						µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	-	<0.02						µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	-	<0.02						µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	-	<0.02						µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	-	<0.02						µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	-	0.15						µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	-	0.27						µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	-	<0.02						µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	-	0.24						µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	-	0.60						µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	-	0.11						µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	1.89						µg/l	0.02	A-T-019w

Envirolab Job Number: 19/05398 **Client Project Name: Not specified**

Client Project Ref: MAN.260.001

Lab Sample ID	19/05398/34	19/05398/36						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS06	WS06								
Depth to Top	0.20	1.00								
Depth To Bottom										
Date Sampled	30-May-19	30-May-19								
Sample Type	Soil	Soil								
Sample Matrix Code	4A	4AB								
TPH CWG										
Ali >C5-C6$_A^{\#}$	0.03	-						mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<5	-						mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<5	-						mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<5	-						mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	9	-						mg/kg	1	A-T-055s
Ali >C21-C35$_A$	401	-						mg/kg	1	A-T-055s
Total Aliphatics$_A$	416	-						mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<5	-						mg/kg	1	A-T-055s
Aro >C10-C12$_A^{M\#}$	<5	-						mg/kg	1	A-T-055s
Aro >C12-C16$_A$	17	-						mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	68	-						mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	451	-						mg/kg	1	A-T-055s
Total Aromatics$_A$	536	-						mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_A$	952	-						mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s

REPORT NOTES

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Enzygo Ltd (Manchester) , First Floor, 3 Hardman Square, Manchester, M3 3EB

Project No: 19/05398

Date Received: 05/06/2019 (am)

Cool Box Temperatures (°C): 23.6, 22.9, 23.4, 14.6

Project:

Clients Project No: MAN.260.001

Lab Sample ID	19/05398/29	19/05398/33
Client Sample No		
Client Sample ID/Depth	BH04 1.00m	BH04 4.70m
Date Sampled	28/05/19	28/05/19
Deviation Code		
F	✓	✓

Key
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	19/05398/29	19/05398/33
Client Sample No		
Client Sample ID/Depth	BH04 1.00m	BH04 4.70m
Date Sampled	28/05/19	28/05/19
Sulphide	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 19/06662
Issue Number: 1 **Date:** 22 July, 2019

Client:
Enzygo Ltd (Manchester)
First Floor,
3 Hardman Square,
Manchester,
M3 3EB

Project Manager: Nigel Ramsumair
Project Name: Deansgate
Project Ref: MAN.260.001
Order No: P002703
Date Samples Received: 11/07/19
Date Instructions Received: 12/07/19
Date Analysis Completed: 22/07/19

Prepared by:

Melanie Marshall
Laboratory Coordinator

Approved by:

Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 19/06662

Client Project Name: Deansgate

Client Project Ref: MAN.260.001

Lab Sample ID	19/06662/1	19/06662/3	19/06662/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH2	BH4	BH5							
Depth to Top										
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19							
Sample Type	Water - EW	Water - EW	Water - EW							
Sample Matrix Code	N/A	N/A	N/A							
pH (w)$_{A}^{\#}$	8.01	7.73	8.02					pH	0.01	A-T-031w
Hardness Total$_{A}^{\#}$	713	583	636					mg/l Ca CO3	2	A-T-049w
Ammoniacal nitrogen as N (w)$_{A}^{\#}$	1.34	0.27	0.10					mg/l	0.02	A-T-033w
Sulphate (w)$_{A}^{\#}$	481	235	334					mg/l	1	A-T-026w
Sulphide (w)$_{A}$	<0.1	<0.1	<0.1					mg/l	0.1	A-T-S2-w
Arsenic (dissolved)$_{A}^{\#}$	<1	2	<1					µg/l	1	A-T-025w
Boron (dissolved)$_{A}^{\#}$	85	148	127					µg/l	10	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2	<0.2					µg/l	0.2	A-T-025w
Copper (dissolved)$_{A}^{\#}$	2	3	5					µg/l	1	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	<1	<1	<1					µg/l	1	A-T-025w
Chromium (hexavalent) (w)$_{A}^{\#}$	<0.01	<0.01	<0.01					mg/l	0.01	A-T-040w
Chromium (trivalent) (w)	<0.01	<0.01	<0.01					mg/l	0.01	Calc
Lead (dissolved)$_{A}^{\#}$	<1	<1	<1					µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1					µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	2	8	10					µg/l	1	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	<1	<1					µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	3	3	3					µg/l	1	A-T-025w
EPH Total (>C10-C40) (w)$_{A}$	<40	<40	<40					µg/l	40	A-T-007w

Envirolab Job Number: 19/06662

Client Project Name: Deansgate

Client Project Ref: MAN.260.001

Lab Sample ID	19/06662/1	19/06662/3	19/06662/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH2	BH4	BH5							
Depth to Top										
Depth To Bottom										
Date Sampled	09-Jul-19	09-Jul-19	09-Jul-19							
Sample Type	Water - EW	Water - EW	Water - EW							
Sample Matrix Code	N/A	N/A	N/A							
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	<0.01	0.06	<0.01					µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	<0.01	0.02	<0.01					µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01	0.02	<0.01					µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	0.02	<0.01					µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01	0.02	<0.01					µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01	0.02	<0.01					µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01	0.03	<0.01					µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	<0.01	0.07	<0.01					µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	<0.01	0.03	<0.01					µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01	0.02	<0.01					µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	<0.01	0.17	<0.01					µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	<0.01	0.11	<0.01					µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	<0.01	0.07	<0.01					µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	<0.01	0.66	<0.01					µg/l	0.01	A-T-019w

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Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve

Please contact us if you need any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Enzygo Ltd (Manchester) , First Floor, 3 Hardman Square, Manchester, M3 3EB

Project No: 19/06662

Date Received: 12/07/2019 (am)

Project: Deansgate

Cool Box Temperatures (°C): 20.0

Clients Project No: MAN.260.001

Lab Sample ID	19/06662/1	19/06662/3	19/06662/4
Client Sample No			
Client Sample ID/Depth	BH2	BH4	BH5
Date Sampled	09/07/19	09/07/19	09/07/19
Deviation Code			
A7 (no HNO3)	✓	✓	✓
A8 (no NaOH)	✓	✓	✓
A9 (no H2SO4)	✓	✓	✓

Key

A7 (no HNO3) *No HNO3 preserved bottle provided (dissolved metals will be deviating)*

A8 (no NaOH) *No NaOH preserved bottle provided (cyanides, sulphide will be deviating)*

A9 (no H2SO4) *No H2SO4 preserved bottle provided (phenols, ammonia, DOC, COD will be deviating)*

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Appendix 8 – Core Photos





enzygo environmental consultants **Enzygo GeoEnvironmental Ltd** **Manchester** **3 Hardman Square** **Tel: 0161 413 6444**	**Project** **Premier Inn, Deansgate**	**Drawing Title** **Rotary Core Photos**
	Client **Whitbread PLC**	**Project No.** **MAN.260.001**





enzygo environmental consultants **Enzygo GeoEnvironmental Ltd** **Manchester** **3 Hardman Square** **Tel: 0161 413 6444**	**Project** **Premier Inn, Deansgate**	**Drawing Title** **Rotary Core Photos**
	Client **Whitbread PLC**	**Project No.** **MAN.260.001**





enzygo environmental consultants **Enzygo GeoEnvironmental Ltd** **Manchester** **3 Hardman Square** **Tel: 0161 413 6444**	**Project** **Premier Inn, Deansgate**	**Drawing Title** **Rotary Core Photos**
	Client **Whitbread PLC**	**Project No.** **MAN.260.001**





enzygo
environmental consultants

Enzygo GeoEnvironmental Ltd
Manchester
3 Hardman Square
Tel: 0161 413 6444

Project	Drawing Title
Premier Inn, Deansgate	**Rotary Core Photos**
Client	**Project No.**
Whitbread PLC	**MAN.260.001**





enzygo environmental consultants **Enzygo GeoEnvironmental Ltd** **Manchester** **3 Hardman Square** **Tel: 0161 413 6444**	**Project** **Premier Inn, Deansgate**	**Drawing Title** **Rotary Core Photos**
	Client **Whitbread PLC**	**Project No.** **MAN.260.001**





enzygo environmental consultants **Enzygo GeoEnvironmental Ltd** **Manchester** **3 Hardman Square** **Tel: 0161 413 6444**	**Project** **Premier Inn, Deansgate**	**Drawing Title** **Rotary Core Photos**
	Client **Whitbread PLC**	**Project No.** **MAN.260.001**





enzygo environmental consultants **Enzygo GeoEnvironmental Ltd** **Manchester** **3 Hardman Square** **Tel: 0161 413 6444**	**Project** **Premier Inn, Deansgate**	**Drawing Title** **Rotary Core Photos**
	Client **Whitbread PLC**	**Project No.** **MAN.260.001**





enzygo environmental consultants **Enzygo GeoEnvironmental Ltd** **Manchester** **3 Hardman Square** **Tel: 0161 413 6444**	**Project** **Premier Inn, Deansgate**	**Drawing Title** **Rotary Core Photos**
	Client **Whitbread PLC**	**Project No.** **MAN.260.001**





enzygo environmental consultants **Enzygo GeoEnvironmental Ltd** **Manchester** **3 Hardman Square** **Tel: 0161 413 6444**	**Project** **Premier Inn, Deansgate**	**Drawing Title** **Rotary Core Photos**
	Client **Whitbread PLC**	**Project No.** **MAN.260.001**



enzygo environmental consultants **Enzygo GeoEnvironmental Ltd** **Manchester** **3 Hardman Square** **Tel: 0161 413 6444**	**Project** **Premier Inn, Deansgate**	**Drawing Title** **Rotary Core Photos**
	Client **Whitbread PLC**	**Project No.** **MAN.260.001**

Appendix 2

GROUNDWATER MONITORING RESULTS NOVEMBER 2020 TO JANUARY 2021

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Whitbread PLC
Site: Deansgate PI
Date: 10/11/2020
Job No: MAN.260.003
Visit No: 1 **of** 3
Operator: NR
Project Manager: Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Free phase Hydrocarbons (LNAPL's or DNAPL's)	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH1																	9.00	20.08	33.72	24.72	ND	
BH2																	8.80	20.12	33.62	24.82	ND	
BH3																	9.05	20.50	33.63	24.58	ND	
BH4																	9.71	11.73	34.50	24.79	ND	
BH5																	9.76	15.10	34.09	24.33	ND	
BH6																	4.75	7.25	33.96	29.21	ND	
WS1																	Dry	4.39	33.63	N/A	ND	
WS2																	Dry	3.10	34.04	N/A	ND	
WS3																	Dry	2.06	34.45	N/A	ND	
WS4A																	Dry	4.58	33.71	N/A	ND	
WS5																	Dry	4.93	34.12	N/A	ND	
WS6A																	Dry	1.35	34.04	N/A	ND	
Max	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**9.76**	**20.5**	**34.5**	**29.21**		
Min	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.75**	**1.35**	**33.62**	**24.33**		
GSV (l/hr)	**0**		**0**																			

METEOROLOGICAL AND SITE INFORMATION:

(Select correct box with X or enter data, as applicable)

State of ground:	Dry		Moist		Wet	X	Snow	
Wind:	Calm		Light	X	Moderate		Strong	
Cloud cover:	None		Slight		Cloudy		Overcast	X
Preciptation:	None		Slight	X	Moderate		Heavy	
Barometric pressure (mbar):			Before	1015			After	1015
Pressure trend:			Falling		Steady		Rising	X
Air Temperature (Deg. C):			Before				After	

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Whitbread PLC
Site: Deansgate PI
Date: 18/12/2020
Job No: MAN.260.003
Visit No: 2 **of** 3
Operator: NR
Project Manager: Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Free phase Hydrocarbons (LNAPL's or DNAPL's)	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH1																	8.80	20.05	33.72	24.92	ND	
BH2																	8.67	20.12	33.62	24.95	ND	
BH3																	9.02	20.50	33.63	24.61	ND	
BH4																	9.75	11.73	34.50	24.75	ND	
BH5																	9.56	15.10	34.09	24.53	ND	
BH6																	4.75	7.25	33.96	29.21	ND	
WS1																	Dry	4.41	33.63	N/A	ND	
WS2																	Dry	3.10	34.04	N/A	ND	
WS3																	Dry	2.06	34.45	N/A	ND	
WS4A																	Dry	4.58	33.71	N/A	ND	
WS5																	Dry	4.93	34.12	N/A	ND	
WS6A																	Dry	1.35	34.04	N/A	ND	
Max	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**9.75**	**20.5**	**34.5**	**29.21**		
Min	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.75**	**1.35**	**33.62**	**24.53**		
GSV (l/hr)	**0**		**0**																			

METEOROLOGICAL AND SITE INFORMATION:

(Select correct box with X or enter data, as applicable)

State of ground:	Dry		Moist		Wet	X	Snow	
Wind:	Calm		Light	X	Moderate		Strong	
Cloud cover:	None		Slight	X	Cloudy		Overcast	
Preciptation:	None		Slight	X	Moderate		Heavy	
Barometric pressure (mbar):			Before	1001			After	1001
Pressure trend:			Falling	X	Steady		Rising	
Air Temperature (Deg. C):			Before	11			After	11

Ground Gas and Groundwater Monitoring Record Sheet

JOB DETAILS:

Client: Whitbread PLC
Site: Deansgate PI
Date: 13/01/2021
Job No: MAN.260.001
Visit No: 3 **of** 3
Operator: NR
Project Manager: Nigel Ramsumair

Monitoring Point	GAS CONCENTRATIONS										VOLATILES		FLOW DATA				WELL AND WATER DATA					Comments
	Methane (%v/v)		Carbon dioxide (%v/v)		Carbon Monoxide (ppm)		Hydrogen sulphide (ppm)		Oxygen (%v/v)		PID Peak (ppm)	Product thickness (mm)	Flow rate (l/hr)		Differential borehole Pressure (Pa)	Time for flow to equalise (secs)	Water level (mbgl)	Depth of well (m)	Reduced level (mAOD)	Water level (mAOD)	Free phase Hydrocarbons (LNAPL's or DNAPL's)	
	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady	Min.	Steady			Peak	Steady								
BH1																	8.81	20.05	33.72	24.91	ND	
BH2																	8.76	20.12	33.62	24.86	ND	
BH3																	9.30	20.50	33.63	24.33	ND	
BH4																	9.73	11.73	34.50	24.77	ND	
BH5																	9.57	15.10	34.09	24.52	ND	
BH6																	4.75	7.25	33.96	29.21	ND	
WS1																	Dry	4.41	33.63	N/A	ND	
WS2																	Dry	3.10	34.04	N/A	ND	
WS3																	Dry	2.06	34.45	N/A	ND	
WS4A																	Dry	4.58	33.71	N/A	ND	
WS5																	Dry	4.93	34.12	N/A	ND	
WS6A																	Dry	1.35	34.04	N/A	ND	
Max	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**9.73**	**20.5**	**34.5**	**29.21**		
Min	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**4.75**	**1.35**	**33.62**	**24.33**		
GSV (l/hr)	**0**		**0**																			

METEOROLOGICAL AND SITE INFORMATION:

(Select correct box with X or enter data, as applicable)

State of ground:	Dry		Moist		Wet	X	Snow	
Wind:	Calm		Light	X	Moderate		Strong	
Cloud cover:	None		Slight		Cloudy	X	Overcast	
Preciptation:	None		Slight		Cloudy	X	Heavy	
Barometric pressure (mbar):			Before	1016			After	1016
Pressure trend:			Falling		Steady		Rising	X
Air Temperature (Deg. C):			Before	3			After	3

temple

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