

1 NQ – Tariff Street Manchester

Marco Living 2 Ltd & Axis-Re Ltd

Remediation Method Statement

143404/04

September 2023



FAIRHURST

CONTROL SHEET

CLIENT: Marco Living 2 Ltd & Axis-Re Ltd

PROJECT TITLE: 1 NQ – Tariff Street, Manchester

REPORT TITLE: Remediation Strategy Method Statement

PROJECT REFERENCE: 143404

DOCUMENT NUMBER: 04

Issue & Approval Schedule	ISSUE 1	Name	Signature	Date
	Prepared by	J L Mclaughlin		04/09/2023
	Checked by	A Simmons		04/09/2023
	Approved by	A Simmons		04/09/2023

Revision Record	Rev.	Date	Status	Description	Signature	
	1				By	
					Checked	
					Approved	
	2				By	
					Checked	
					Approved	

This document has been prepared in accordance with procedure OP/P02 of the *Fairhurst Quality and Environmental Management System*

CONTENTS

	Page No.
1.0 INTRODUCTION	1
2.0 BACKGROUND INFORMATION	1
3.0 REMEDIATION (GENERAL SITE OPERATIONS)	8
4.0 ENVIRONMENTAL SITE REMEDIATION STRATEGY	10
5.0 WASTE MANAGEMENT	14
6.0 HEALTH AND SAFETY	16
7.0 RECLAMATION AND AUDIT PROCEDURE	16
8.0 CERTIFICATION OF RECLAMATION	17

Appendices:

- A Contamination Assessment Criteria**
- B Risk Matrix**
- C General Specification for Earthworks**
- D Drawings and Historical Maps**
- E Site Investigation Data**

1.0 INTRODUCTION

Fairhurst have been appointed by Marco Living 2 Ltd & Axis-Re Ltd to prepare a Remediation Strategy Method Statement in support of the discharge of planning conditions associated with the proposed development of two residential blocks.

The site is located between Tariff Street and Port Street, c.1km east of Manchester City centre, at grid reference 384790, 398380 (postcode: M1 2FJ).

The location of the site is shown on the map appended in Appendix 1. At present the existing site is utilised as a car park which is owned by the client and managed by The Parking Space.

Fairhurst have previously produced a desk based Geo-environmental, Geotechnical Phase 1 Desk Study (Ref 1: 143404/01, dated: November 2022) and a Ground Investigation Report (Ref 2: 143404-R2-Rev 1, dated June 2023) for the site.

The purpose of the Remediation Strategy Method Statement is as follows;

- To confirm the absence of widespread and high concentration contaminants at the site which could represent a risk to receptors
- To detail the method of implementation and validation of the earthworks
- To set out the audit information required to validate the works.

2.0 BACKGROUND INFORMATION

Detailed information on the site conditions are given in the site investigation. (Ref.2).

2.1 Site Location and Layout

The site is located between Tariff Street and Port Street, in Manchester, at grid reference 384790, 398380 (postcode: M1 2FJ). The site is approximately 0.3ha (0.74 acres) in size and the location of the site is shown on the drawing which is attached to this report in Appendix 1.

The site currently comprises of hard standing associated with the clearance of former warehouse development. At present the site is utilised as a car park owned by the client and managed by The Parking Space.

Available Ordnance Survey plans and open-source LIDAR data from the Environment Agency indicates that ground level is relatively flat and situated at an elevation between 54mAOD and 56mAOD. However, a topographical survey of the site shows a number of retaining walls are present.

2.2 Historical Land Use

A review of the historical plans dating back to 1893, which are presented in Appendix B of the desk study report, indicate that the site is located in an area that has been predominantly industrial in nature and comprises of historical factory units, chimneys, a canal wharf, warehouses and garages.

The site initially consisted of various warehouse buildings and a canal as part of a wharf in 1893. The canal in the north of the site linked to the nearby Rochdale Canal. In the following years from 1922 to 1932, the canal was infilled with an unknown material and replaced with a

garage, paint works, and furniture warehouse. By 1951, the furniture warehouse was removed and between 1963 and 1981, Hills Service Garage was divided into two units. From 1983 to 1990, the site had two main buildings with a shared wall and hardstanding. These buildings were demolished between 1990 and 1992. Since then, there have been no significant changes to the site.

In 1893, the land surrounding the site consisted of residential and industrial units connected to the wharf, with a rail line to the south, with additional buildings developed around the wharf by 1908. Between 1922 and 1932, new outbuildings were constructed to the east, with additional units and chimneys to the north and south. A machine tool warehouse was recorded in 1948 to the east of the site, with some of the outbuildings having been demolished. Between 1990 and 1992, remaining structures to the east of the site were combined into one. Since 1992, no significant changes have taken place, and the structures on the eastern side remain combined.

2.3 Ground Conditions

A brief summary of the geological and hydrogeological situation of the site, based on the Desk Study, is provided below.

Made Ground

The historical plans show extensive development from the 1890's including multiple iterations of buildings and a now infilled canal basin, which linked to the adjacent Rochdale canal. As such, the presence of Made Ground associated with the historical development and the infilled canal is to be expected. BGS borehole records from the neighbouring sites suggest that the canal infill may comprise of ash, cinder and stone and, it is anticipated that in the vicinity of the backfilled canal deeper Made Ground will be present.

Superficial Geology

The BGS drift geology map (sheet 85 - Manchester) and BGS online viewer (GeoIndex Onshore) suggest that Glacial Till is present across the site and is anticipated to comprise sandy and or gravelly Clay. Local BGS borehole records suggests that stiff brownish grey clay is present to c.26m depth.

Solid Geology

The BGS drift geology map (sheet 85 - Manchester) and BGS online viewer (GeoIndex Onshore) also indicates that the entire site is underlain by deposits from the Chester Formation which typically comprises a red sandstone. Examining the nearby BGS borehole records, it is anticipated that the Chester Formation should be encountered at a depth of around 26m.

2.4 Controlled Waters

The Environment Agency classifies the superficial deposits as a Secondary undifferentiated aquifer. It is also possible that localised pockets of perched water may exist within the Made Ground deposits anticipated at the site. Furthermore perched water may be present within the infilled former canal basin.

The Chester Formation is defined as a Principal aquifer by the Environment Agency.

Groundwater vulnerability beneath the site is classified as low risk due to the protection afforded by the overlying Glacial Till, as such the site is not within a groundwater source protection zone or Nitrate Vulnerable Zone. There are three groundwater abstraction points within 1km of the site, however these are not for a potable use.

Whilst there are no onsite surface water features the Rochdale canal is present c40m southeast of the site. The Envirocheck report suggests that there are areas of controlled waters in the southern and eastern part of the site and that there are a number of discharge consents located around the site.

2.5 Contamination Issues

There are several retained level changes within the site boundary. As such, the site is expected to be underlain by a variable thickness of Made Ground deposits, likely comprising of demolition rubble and canal infill.

Whilst the Made Ground is unlikely to contain significant putrescible waste, it could still be a potential source of hazardous gas. If proven as a gas source, it is likely gas productions would be at a low concentration and emission rate.

The Envirocheck report indicates that there are infilled (water) areas on site in the location of a historical canal and that there are areas of potentially infilled land (water) located within 500m of the site.

A site conceptual model has been formulated based on the data recovered as part of the desk study and site investigation. The conceptual model presents the viable source, pathway, and receptor contamination linkage for the site and is set out in the following sections. The principles of environmental risk assessment are presented in Appendix 2. The significance of the viable linkages has been evaluated by carrying out a qualitative risk assessment.

Based on the initial conceptual site model (CSM), Phase 1 Desk Study, and site investigation the majority of identified potentially complete pollutant linkages were given a risk rating of moderate/low or low. The following potential pollution sources were identified:

- Made Ground associated with the demolition of former buildings is anticipated and whilst these materials are unlikely to represent a significant source of contamination, localised and low-level contamination may be present as organic compounds, inorganic compounds, or hazardous gas;
- The presence of the former Hill service garage has the potential to be a source for hydrocarbon, PAH, heavy metal and solvent contamination;
- The presence of the former paint works has the potential to be a source for solvent contamination;
- The presence of former warehouses has the potential to be a site for hydrocarbon, PAH, heavy metal and solvent contamination depending on the materials stored;
- The historical use as a furniture warehouse has the potential to be a source of localised and low level contamination of organic compounds, inorganic compounds or hazardous gas;
- Potential ground gases and hydrocarbons may be present at localised low concentrations associated with the current use of the development site as a car park;

- Given the age and nature of the former buildings on site, these are expected to have contained Asbestos containing materials (ACM's) and the presence of asbestos, buried on site or within the Made Ground soil fabric, cannot be discounted; and
- Potential ground gases and hydrocarbons may be present at low concentrations and emission rates associated with general made ground, canal infill material and specific historical land uses on site.

2.6 Refined Pollution Linkages

Based on the results of the site investigation and the identified site conditions the following environmental sources, pathway, receptors have been identified;

Sources of Contamination

- Contamination associated with organic odours in the made ground.
- Elevated PAH
- Asbestos within the made ground soil matrix and potentially buried on site and/or within the existing structures.
- Historical land use
- Ground gases

Pathways

- Ingestion.
- Skin contact.
- Inhalation.
- Direct contact by buried structures.
- Leaching of soluble contamination into groundwater.
- Saturated zone flow through Aquifer.
- Accumulation of potentially explosive gases within confined spaces.
- Construction pathways.

Receptors

- End Users.
- Construction Workers.
- Main Groundwater Body (Principle Aquifer).
- Buried Structures and Services.
- Landscaping.

Quantitative Risk Assessment

Based on the Conceptual Site Model (CSM) an Environmental Risk Assessment (ERA) was undertaken. The Environmental Risk Assessment was based on a simple matrix taken from CIRIA C552 (Rudland et al., 2001) 'Contaminated Land Risk Assessment – A Guide to Good Practice' which provides a consistent basis for decision-making. The probability and consequences of complete pollution pathways are defined according to parameters relevant to the situation and risk assessment.

The following Pollution Linkages Tables (Table 2 and 3) indicate the level of risk associated with the identified contaminant sources and is based on the combination of consequence and probability. Tables 5, 6, 7, and 8 in **Appendix B** provide a Risk Matrix, together with a Classification of Consequence, Probability, and Risk.

Table 2 – Refined On Site Pollution Linkages

Source	Potential Contaminants	Potential Pathway	Potential Receptors	Assessment	Potential Severity	Potential Probability	Risk Class
Historical land use as infilled Canal	Metals TPH PAH Sulphate pH Asbestos	Ingestion, inhalation, dermal contact, direct contact	Future site users	Made Ground onsite containing elevated concentrations of lead and arsenic as well as elevated B(a)P to be present on site and this contamination may present a potential risk of harm to end users. There is a potential risk to construction workers, however, this risk can be mitigated using appropriate PPE. Foundations and services (including water pipes) could be affected by aggressive ground conditions or contamination. It is considered a very low risk to the local water environment from contamination associated with the Made Ground if present.	Minor	Unlikely	Low
			Construction workers		Minor	Unlikely	Low
			Adjacent land users		Medium	Unlikely	Low
		Direct contact	Buried structures and services		Medium	Unlikely	Low
		Migration/leaching of mobile contaminants	Groundwater		Medium	Unlikely	Low
Made Ground	Metals TPH PAH Sulphate pH Asbestos	Ingestion, inhalation, dermal contact, direct contact	Future site users	It is considered a very low risk to the local water environment from contamination associated with the Made Ground if present.	Minor	Unlikely	Very Low
			Construction workers		Mild	Likely	Moderate
			Adjacent land users		Mild	Unlikely	Very Low
		Direct contact	Buried structures and services		Mild	Unlikely	Very Low
		Migration/leaching of mobile contaminants	Groundwater		Mild	Unlikely	Very Low
			Surface water		Mild	Unlikely	Very Low
Historical land uses as: Garage, Paint works, Furniture warehouse	Metals TPH PAH Sulphate pH VOCs & SVOCs Asbestos	Ingestion, inhalation, dermal contact, direct contact	Future site users	Historical land uses have the potential to be a source of contamination. The risk to future site users is Very Low and the risk to construction workers is Moderate/Low. In order to reduce this level of risk to low, construction workers must adopt appropriate health and safety measures and PPE during works.	Minor	Unlikely	Very Low
			Construction workers		Medium	Likely	Moderate /Low
			Adjacent land users		Minor	Unlikely	Very Low
		Direct contact	Buried structures and services		Minor	Unlikely	Very Low
		Migration/leaching of mobile contaminants	Groundwater		Mild	Unlikely	Very Low
			Surface water		Mild	Unlikely	Very Low
Current land use as a Car Park	TPH PAH	Ingestion, inhalation, dermal contact, direct contact	Future site users	Hydrocarbons present at low concentrations and emission rates associated with the current use of the development site as a car park. The risk to future site users and construction workers is considered to be Low. In order to reduce this level of risk to low,	Medium	Unlikely	Low
			Construction workers		Medium	Unlikely	Low
			Adjacent land users		Medium	Unlikely	Low
		Direct contact	Buried structures and services		Medium	Unlikely	Low
		Migration/leaching	Groundwater		Medium	Unlikely	Low

FAIRHURST

Source	Potential Contaminants	Potential Pathway	Potential Receptors	Assessment	Potential Severity	Potential Probability	Risk Class
		of mobile contaminants	Surface water	construction workers must adopt appropriate health and safety measures and PPE during works.	Medium	Unlikely	Low
Asbestos (buried onsite or within the Made ground soil fabric)	Asbestos	Ingestion, inhalation, dermal contact, direct contact	Future site users	Chrysotile asbestos was encountered in one sample of granular made ground. Further asbestos may be present in burial pits or Made Ground, posing a risk to future site users and construction workers. Construction workers should adhere to proper health and safety measures and personal protective equipment (PPE).	Severe	Low	Moderate
			Construction workers		Severe	High	Very High
Ground Gas (Made Ground and canal infill)	Hazardous Gas (CO ₂ , CH ₄ , VOCs, SVOCs)	Inhalation	Future site users	Based on monitoring to date the potential for ground gas is very low. The current use of the development site as a car park may also result in low concentrations and emission rates of ground gases and hydrocarbons. There is risk to future site users and construction workers. To mitigate this risk construction workers must follow appropriate health and safety measures and use personal protective equipment (PPE).	Medium	Unlikely	Low
			Construction workers		Medium	Low	High
			Adjacent land users		Medium	Unlikely	Low
Fly Tipped Material	Metals TPH PAH Asbestos	Dermal contact	Future site users	Any fly tipped material on site can be collected and disposed of. There is a potential risk to construction workers, however, this risk can be mitigated using appropriate PPE.	Minor	Unlikely	Very Low
			Construction workers		Minor	Unlikely	Very Low
			Adjacent land users		Minor	Unlikely	Very Low

After CIRIA Report C552, Contaminated Land Risk Assessment A Guide To Good Practice, 2001KEY: **Consequence:** Sv = Severe, Md = Medium, Mi = Mild, Mr = Minor**Probability:** Hi = High likelihood, Li = Likely, Lw = Low Likelihood, UI = Unlikely**Risk:** VH = Very High, H = High, M = Moderate, M/L = Moderate/Low, L = Low, VL = Very Low

Given the presence of Made Ground deposits across the site, the historical nature and development, and localised asbestos containing material and elevated heavy metals (arsenic and lead) localised contaminant hotspots may be encountered during the development works. Further, the elevated hydrocarbons, TPH and PAH's (due to the former car workshop/garage and within the former canal channel/wharf) indicates contaminant hotspots may be present associated with these sources.

The following general remedial works are expected:

- Provision of clean covers to landscape/garden areas as 150mm of topsoil over 300mm of subsoil;
- Soil gas protection measures as a solid floor slab with basic gas membrane with sealed joints and penetrations;
- Standard protection to buried water service pipes and sewer joints; and
- Concrete design in accordance with BRE digest.

Although not encountered during the works the following risks items may be present:

- Localised buried asbestos;
- Localised buried tanks;
- Localised "hotspots" of soil contaminants as hydrocarbons;
- If encountered these contaminants will require delineation, assessment through an updated risk assessment and if increased risks are identified the material may require removal.

3.0 GENERAL SITE OPERATIONS

3.1 General

The remediation strategy for this site is based on the proposed development, the ground conditions identified detailed in the site investigation reports (Ref.1, 2 & 3 and **Appendix E**) and the risk assessment is summarised in **Section 2.0**.

3.2 Security and Fencing

Prior to commencement of the works appropriate fencing and warning signs should be installed to delineate the works.

3.3 Geotechnical Constraints

The site is subject to a number of constraints. These include the following;

- Deep and variable made ground (proven to 2.50m deep).
- Potential obstructions associated with historical and existing foundations and sub structures.
- Contaminant hotspots or asbestos in the soil matrix or buried on site cannot be discounted
- Services present beneath the site.
- Boundary retention.

3.4 Earthworks

In order to facilitate the proposed final floor levels some earthworks will be required.

The following materials are likely to be generated during general earthworks and excavation for drainage and foundations;

- Made ground as cohesive and granular fill with fragments of concrete, coal/charcoal, mudstone, sandstone, limestone, brick, slate, tile, plastic, clinker and glass – suitable for reuse as low quality fill beneath car park. Due to the localised presence of asbestos and organic odours this material must be confined beneath hard covers or clean covers.
- Superficial deposits for reuse as low quality fill.
- Crushed and processed hard materials – subject to geotechnical testing material likely to be suitable as capping material.

Earthworks material may be subject to water and handling damage. The reuse of earthworks material should be undertaken in accordance with an approved specification in order to ensure materials are suitable for reuse.

An earthworks specification for the reuse of materials on site is included in **Appendix C**.

3.5 Imported Materials

Where imported materials to raise site levels or as subsoil/topsoil are required these materials should not be sourced from areas of known former contaminative use. Chemical analysis shall be undertaken to assess and validate the suitability of imported materials prior to acceptance on site.

3.6 Crushing

Hardstanding and buried artificial hard materials should be excavated and crushed for reuse as suitable fill if possible. Site won materials are to be used within the proposed development as detailed in **Appendix C**.

3.7 Stockpiling

Where earthworks stockpiles are required, these stockpiles shall be located on areas of the site which have been prepared so as to minimise mixing of both the stockpiled and the underlying materials, and to prevent run off from entering the existing surface water system. This may be achieved by the use of impermeable liners, trenches and bunds where necessary.

Made ground materials should be stockpiled separately from natural deposits.

3.8 Wheel Wash

Sweeping and cleaning of the site entrance and public highway(s) is to be carried out where necessary, depending on weather and site conditions, and as required by the Local Authority.

3.9 Pollution Control

During the works appropriate measures and precautions are to be implemented to prevent pollution of surface waters being caused by runoff and siltation.

3.10 Dust and Odour Control

Dust generation during the development of the site will arise as a result of excavation, stockpiling, loading and haulage and is not expected to be problematic except during periods of extended dry weather. Dust control by water spray shall be implemented as necessary.

3.11 Noise and Nuisance

Site plant shall be operated and site operations shall be carried out in such a manner to minimise nuisance and to limit, as far as practicable, noise emissions from the site. Noise emissions shall, as a minimum, be in accordance with local authority requirements or planning conditions.

3.12 Programme of Works

A development programme is detailed separately within the appointed contractor's Development Programme.

4.0 ENVIRONMENTAL SITE REMEDIATION STRATEGY

4.1 Environmental Site Reclamation Works

4.1.1 Site Clearance

The following site clearance shall be undertaken on the site;

- Asbestos survey and safe removal of any ACM from existing buildings.
- Demolition of selected existing buildings.
- Strip of hard and localised soft landscaping.
- Reusable materials shall be either processed on site or recycled off-site
- Surplus arisings of materials for off site disposal to landfill shall be characterised and chemically tested as required by the Hazardous Waste Directive and disposal landfill. Materials disposed of to landfill may have enhanced disposal costs.

4.1.2 General Measures

The following general measures should be implemented during construction:

- Construction workers should undertake soil gas and VOC monitoring prior to and during man entry of below ground voids.
- Construction workers should adopt appropriate health and safety measures to prevent contact with soils and waters.
- Surface water control measures should be adopted during construction to limit runoff and infiltration through exposed made ground horizons and to limit siltation of the surface drainage system and runoff entering surface drainage.
- Dust suppression measures should be adopted during all earthworks to mitigate associated risks.

4.1.3 *Hardstanding and Relic Structures*

The site currently comprises former warehousing and an infilled canal with the hardstanding used for associated car parking. This existing and historical development indicates that hardstanding, foundations and potential below ground structures are likely to be present.

Where encountered during the site works, hard standing and relic structures are to be broken out to a minimum of 1.5m below the proposed ground level or completely where new foundations, drainage, service or substructures are proposed.

Metals, plastic and wood materials are to be removed from site and either recycled or disposed of to landfill.

The presence of standing and perched groundwater should be anticipated in these excavations

Asbestos

Localised asbestos fibres have been identified by the site investigations in the soil matrix. However, in view of the widespread historical and former built development on site the presence of more widespread asbestos in the soil matrix or buried on site cannot be discounted. If encountered asbestos materials will have enhanced disposal costs.

4.1.4 *Minimum Measures to Mitigate Risk to Human Health-End Users*

Localised organic odours and asbestos were identified within the made ground while Arsenic, Benzo(a)Pyrene, Indeno(123cd)pyrene and Benzo(bk)fluroanthene and elevated sulphate concentrations were identified within the groundwater during the site investigations. However, as the site will be under hard cover and clean cover, there is no direct pathway between the made ground and groundwater and the end user. As such, the risk to end-users posed by this contamination is considered to be **Low** and no active remedial measures are currently required during preparatory earthworks with respect to end users.

4.1.5 *Minimum Measures to Mitigate Risk to Controlled Waters*

Arsenic, Benzo(a)Pyrene, Indeno(123cd)pyrene and Benzo(bk)fluroanthene and elevated sulphate were recorded within the groundwater in accordance with drinking water standards and environmental quality standards (freshwater) for controlled waters in England and Wales (**Appendix A**). However, due to the absence of receptors and the presence of impermeable clay beneath the site the risk to offsite groundwaters is considered to be **Low**.

In order to adopt a precautionary approach the following minimum measures should be implemented during the preparatory earthworks to maintain a **Low** risk to controlled waters;

- On completion of the site strip, a visual inspection and validation testing on a 25m grid should be undertaken by an Environmental Engineer to identify evidence of any further areas of unknown contamination.
- Additional contaminated materials encountered during these works should be removed and disposed of to landfill. After completion of these works validation testing and auditing should be undertaken to confirm the successful removal of contaminants.
- Imported materials for bulk fill and materials generated on site during earthworks and reprocessing of hard covers shall be validated as suitable prior to reuse. The results shall be compared against the assessment criteria in **Appendix A**.

- Testing / assessment of any perched groundwater encountered below the site to determine the requirement of any treatment prior to disposal if required.

4.1.7 Validation of Materials

Validation works will be required in the following circumstances;

- To validate the absence of additional contaminants during the site strip and earthworks operations.
- Where on site earthworks materials are excavated for later reuse on site.
- Where materials are imported for use as bulk fill on site.
- Where topsoil and subsoil materials are imported for use as clean covers.
- Where contaminated materials have to be removed, it is necessary to validate the residual materials as acceptable to remain in situ.
- Where tanks or buried structures are encountered and are removed

The following method of validation for **site won** soil materials is proposed;

- Validation testing following site strip down to formation level shall be undertaken on a 25m grid pattern to confirm absence of contaminants. Where materials fail, a risk assessment will be conducted to assess the risk to human health and groundwater receptors. If a risk is identified a further 6 No. samples shall be undertaken to identify the extent of the contamination for removal.
- Where contaminants are found to still be above assessment level a risk assessment shall be undertaken to confirm the risk to human health and groundwater receptors. Additional materials may need to be removed and/or remediated should the risk be considered to be significant.
- Validation testing for the reuse of site won materials will be undertaken at a minimum rate of 1 (No.) sample per 1000m³.
- Where tanks or other hotspots of contamination area encountered and removed a minimum of 6 validation tests will be undertaken to validate the removal of any associated contaminated material

In accordance with Appendix 1a of the Verification Requirements for Cover Systems, YHPAC 2012 the following sampling frequencies are to be undertaken for imported materials;

Table 4 – Sampling and Testing Frequency (From Appendix 1a of Verification Requirements for Cover Systems).

Type	Number of Samples	Testing Schedule	Assessment Criteria
Virgin Quarried Stone.	1 or 2 depending on the type of stone utilised, to confirm the inert nature of the material.	Standard metals/metalloids (As,Cd,Cr,CRVi, Cu, Hg, Ni, Pb, Se, Zn).	Assessment Criteria in Appendix A.
Crushed Hardcore, Stone, Brick (including crushed existing hardstanding).	Minimum of 1 per 1000m ³	Standard Metals/metalloids (As above) PAH (16USEPA speciation) Asbestos.	

Greenfield/manufactured Soils.	Minimum of 3 or 1 per 250m ³ (whichever is greater).	Standard Metals/metalloids (As above) PAH (16USEPA speciation) Asbestos.	
Brownfield/Screened Soils (including site won made ground that is to be re used).	Minimum of 6 or 1 per 100m ³ (whichever is greater).	Standard Metals/metalloids (As above) PAH (16USEPA speciation) TPH (CWG banded) Asbestos.	

4.3 Landscape Clean Cover

In order to provide a rooting zone and to prevent direct contact by end users to made ground, the strata beneath the landscape strips should include the following construction;

- A minimum 300mm clean cover should be incorporated into soft landscaping areas to provide a suitable rooting zone for proposed planting and incorporating a basal geotextile separator layer.
- All materials are to be validated as clean, inert and free from man made debris in accordance with Section 4.1.7.

The topsoil clean cover will be imported topsoil/subsoil which should be from a 'Greenfield' source and will be tested at the frequency set out in Section 4.1.7.

Contaminant concentrations for imported topsoil will be reviewed in relation to Assessment Criteria in **Appendix A** to confirm that contaminants are below assessment level.

The thickness of clean cover to the area of landscaping will be validated in accordance with the Yorkshire and Humberside Pollution Advisory Council (YAHAPAC) as detailed below;

- Digital photographs to be taken of the formation level.
- Thickness of capping layer to be verified via hand dug exploratory holes. Digital photographs to be taken of excavation.
- Digital photographs of soft landscaped area post capping to be taken.
- All data to be included within the Validation Report which will include digital photographs titled with location of soft landscape area.

4.4 Gas Protection Measures for Built Development

Based on the site investigations (Ref.1 - 4) the following potential sources of soil gas have been identified;

- Made Ground as granular fill - **Low** soil gas generating potential.
- Superficial deposits – **Very Low** soil gas generating potential.
- Bedrock– **Very Low** soil gas generating potential.

The proposed development, residential, is classified as an increased sensitivity development.

The results of the soil gas monitoring are summarised below;

- Carbon dioxide of up to 6.3%.
- Methane of up to 2.0%.
- Maximum flow rate of 0.0l/h.
- The worst Case Gas Screening Value in all standpipes was 0.0l/h.

A GSV of 0.0 would classify the site as Characteristic Situation 1.

In view of the made ground beneath the site and as a precaution gas protection measures are required.

The following gas protection measures should be implemented:

- Concrete floor slab.
- An impermeable, reinforced gas barrier membrane
- All joints and penetrations sealed.

4.5 Installation of Infrastructure Services

The advice of service providers should be obtained to ensure that appropriate measures are taken to protect services from contamination and aggressive ground conditions.

Buried concrete and services should be designed in accordance with the guidance given in BRE Special publication No. 1 (Ref.6). Groundwater testing during the Earth, Environmental and Geotechnical site investigations (Ref.2 - 4) has indicated a design sulphate DS-2 and ACEC Class AC-2 within the made ground and DS-2 AC-2 within the superficial deposits.

4.6 Regulator Approval

On completion of the remedial works a Validation Report should be submitted to Manchester City Council for approval and formal discharge of the relevant planning conditions attached to the development.

5.0 WASTE DISPOSAL

5.1 Code of Practice

The Contractor and all persons employed by them shall carry out their duties under Section 34(7) of the Environmental Protection Act 1990 for the disposal of waste in accordance with the “Environmental Protection Act 1990, Waste Management, the Duty of Care, A Code of Practice, December 1991” published by HMSO.

5.2 Responsibility for Waste under the Duty of Care

Immediately upon the excavation of any solid, liquid or gaseous waste, the Contractor shall become the “PRODUCER OF THE WASTE” and “CURRENT HOLDER OF THE WASTE” under the above regulations.

5.3 Records

The Contractor shall comply with his duty to make and keep all records required under the above Act and Duty of Care regulations. The Contractor shall make all such records available to the Environment Agency (the Agency).

The Contractor shall operate a **Controlled Waste Transfer Note** documentation system as required under the above Duty of Care regulations for the transfer of all wastes out of the contractor's possession.

The Contractor shall agree the format of ALL the above records and notes with the Agency prior to commencing the Works.

5.4 Approval of Disposal Facilities

Before using any disposal facility the Contractor shall provide documentary evidence to the Environmental Engineer that the site is licensed and able to accept materials from the site. Only those licensed disposal sites approved by the Environmental Engineer shall be used.

5.5 Waste Disposal and Characterisation

The Contractor is required to use suitable licensed disposal sites for the disposal of all liquid and solid wastes from the Site. When required the contractor shall provide copies of all relevant documentation and proofs of delivery from each disposal site.

The requirements of current legislation and of the Environment Agency shall be fully complied with when exporting material from the site.

Liquid waste (should it be produced) shall not be mixed with any other material and shall be disposed off site in its original liquid state to a Licensed liquid disposal site, or foul sewer if contaminant concentrations are acceptable to the Drainage Authority.

It is the responsibility of the Waste producer (Contractor) to adequately characterise waste materials in accordance with the Hazardous Waste Directive prior to off site disposal.

Site won waste material which is designated for off site disposal must comply with the following criteria;

- Waste should be characterised prior to disposal.
- It is the waste producer's responsibility to ensure compliance with the requirements of Landfill Directive/Transfer notes.
- Note; albeit the site investigation has not identified significant ground, gas or groundwater contaminants which represent an unacceptable risk to receptors and would require off site disposal the presence of hotspot contaminants cannot be discounted. These materials and general made ground from the site are expected to attract enhanced disposal costs.

5.6 Transportation

The contractor shall only use registered carriers to transport waste off the site to the licensed disposal site. The contractor shall provide directly to the environmental engineer a copy of the registration certificate for each of the carriers that he intends to employ, certifying that the carrier is currently registered on the environment agency register of waste carriers before the carrier commences the transportation of any materials off site. No removal of wastes off site by the carrier will be authorised by the environmental engineer until a valid certificate has been received by the environmental engineer.

6.0 HEALTH AND SAFETY

The works are to be undertaken in accordance with the CDM Regulation 2007. The remediation contractor will have duties of Designer and Contractor under these regulations.

Health and safety measures and working practices shall be adopted in accordance with the Health and Safety Executive Publication "Protection of Workers and the General Public during the Development of Contaminated Land".

All site workers will be clearly informed by formal notice about the health and safety risks from potential hydrocarbon and other potential contaminated waste materials if found on site. Site workers carrying out excavation works in areas that may be expected to contain soils or liquids contaminated by such waste materials shall wear appropriate health and safety PPE, and shall be trained in the procedures to be adopted if such materials are encountered in the works.

7.0 RECLAMATION AND AUDIT PROCEDURE

The Contractor shall appoint an Environmental Engineer who will be responsible for auditing site remediation and earthworks operations. The responsibilities of the Environmental Engineer will be as detailed in the following sections.

The Environmental Engineer will be responsible for ensuring that reclamation works on site are carried out in accordance with the Method Statement.

The Environmental Engineer will liaise with the Regulatory and Statutory Authorities on environmental matters, as required, to ensure their satisfaction with the site works, and compliance with all planning consent conditions, licensing, etc requirements.

The Environmental Engineer will inspect the excavated and stockpiled material and the cut and prepared ground surfaces, as stated in the Method Statement, to provide a visual assessment of the materials encountered.

The Environmental Engineer will carry out or arrange the necessary sampling and laboratory analyses of material handled during the work in order to ensure compliance with the Method Statement.

The Environmental Engineer will co-ordinate in-situ and laboratory testing, if unknown relic underground structures and tanks are encountered.

The Environmental Engineer shall provide technical supervision of the remediation works (if required). This will comprise a visiting presence during the site strip and re-profiling works.

The Environmental Engineer will review documentary records to be provided by the contractor of the reclamation procedures carried out. This documentary evidence will include:

- Site diary of the works.

- Plans and records for all investigation and remediation associated with any relic tanks.
- Plans and records of depths, lateral extent and nature of contaminated materials encountered.
- Plans and records of in-situ and laboratory testing carried out with underground structures, tanks, or contaminated soils.
- Plans and records of the re-use of site excavated fill materials reinstated on site.
- Plans and records of any “imported” fill materials reinstated on site.
- Plans and records of the natural soil arisings reinstated on site.
- Plans and records of fly tipped or crushed concrete materials reinstated on site.
- Plans and records of lateral extent and thicknesses of the clean cover installed over site.
- Documentation for all wastes if disposed of to landfill.
- Plans and records of the fill materials reinstated on site. Plans and records of the lateral extent and thicknesses of the clean cover installed in landscaped areas.
- Plans and records of the “as built” construction details for the gas protection measures installed.
- Documentation of all licences, consents, permits etc issued by the Statutory and Regulatory Authorities, and evidence of compliance with any requirements of the above.

8.0 CERTIFICATION OF RECLAMATION

Certification of reclamation works will be produced on completion of the remediation programme. This will be based upon the information determined from the ground investigation reports, the reclamation procedures implemented and the documentary evidence provided by the Contractor and Environmental Engineer.

The certification of the reclamation works will include a summary of the following:

1. Conditions on site prior to reclamation works.
2. The proposed method of reclamation as agreed with the Statutory Authorities.
3. A review of the actual works undertaken, and a certificate that the reclamation was carried out in accordance with the method of reclamation agreed with the Statutory Authorities.

REFERENCES

1. Ground Investigation Report, 1 NQ Tariff Street, Manchester, Fairhurst Group LLP. Ref. 143404/R2-Rev 3, July 2023.
2. Phase I Desk Study Report, 1 NQ Tariff Street, Ref. 143404/01-Rev C, November 2022.
3. Factual Geo-Environmental Report, Tariff Street, Manchester, Ref. GRO-22079-4613
4. CIRIA C665 Assessing risks posed by hazardous ground gases to buildings (2007).
5. Building Research Management. Concrete in Aggressive Ground Special Digest 1 (2005).
6. Environment Agency, 'Using Soil Guideline Values', SC050021/SGV.
7. Environment Agency, 2004, Remedial Targets Methodology.
8. Surface Waters (Abstraction for Drinking Water)(Classification) Regulations (1996).
9. Ground Gas Handbook.
10. Waste Management Licensing Regulations.
11. CL:AIRE Waste Code of Practice.

APPENDIX A

Assessment Criteria for Commercial SSV's

GAC values for controlled waters in England and Wales

SOIL ASSESSMENT CRITERIA FOR HUMAN HEALTH RISK ASSESSMENT

Parameter	Residential						Commercial			Allotment			Public Open Space near Residential land (POSres)			Public Park Land (POSpark)			Source	Model			
	With Home Grown Produce			Without Home Grown Produce			1-6% SOM (mg kg ⁻¹)			1-6% SOM (mg kg ⁻¹)			1-6% SOM (mg kg ⁻¹)			1-6% SOM (mg kg ⁻¹)							
	1-6% SOM (mg kg ⁻¹)			1-6% SOM (mg kg ⁻¹)																			
Metals/Metalloids (a)																							
Antimony	Not Derived			550			7,500			Not Derived			-			170			CL-AIRE	CLEA v1.06			
Arsenic (inorganic)	37			40			640			43			79			-			LQM/CIEH S4ULS	CLEA v1.071			
Barium	Not Derived			1,300			22,000			Not Derived			-			-			CL-AIRE	CLEA v1.06			
Beryllium	1.7			1.7			12			35			2.2			63			LQM/CIEH S4ULS	CLEA v1.071			
Boron	290			11,000			240,000			45			21,000			46,000			LQM/CIEH S4ULS	CLEA v1.071			
Cadmium (d)	11			85			190			1.9			120			560			LQM/CIEH S4ULS	CLEA v1.071			
Chromium (III)	910			910			8,600			18,000			1,500			33,000			LQM/CIEH S4ULS	CLEA v1.071			
Chromium (VI) (e)	6			6			33			1.8			7.7			220			LQM/CIEH S4ULS	CLEA v1.071			
Copper	2,400			7,100			68,000			520			12,000			44,000			LQM/CIEH S4ULS	CLEA v1.071			
Lead (f)	200			310			2,330			80			630			1,300			DEFRA C4SL	CLEA			
Mercury (Methyl)	11			15			320			6			40			68			LQM/CIEH S4ULS	CLEA v1.071			
Molybdenum	Not Derived			670			17,000			Not Derived			-			-			CL-AIRE	CLEA v1.06			
Nickel	130			180			980			53			230			800			LQM/CIEH S4ULS	CLEA v1.071			
Selenium	250			430			12,000			88			1,100			1,800			LQM/CIEH S4ULS	CLEA v1.071			
Vanadium	410			1,200			9,000			91			2,000			5,000			LQM/CIEH S4ULS	CLEA v1.071			
Zinc	3,700			40,000			730,000			620			81,000			170,000			LQM/CIEH S4ULS	CLEA v1.071			
Other Inorganics																							
Asbestos	Non Detection			Non Detection			Non Detection			Non Detection			Non Detection			Non Detection			Non Detection			ATKINS ATRISK SSV	CLEA v1.04
Free Cyanide	34			34			34			34			34			34			34				
Parameter	With Home Grown Produce (mg kg ⁻¹)			Without Home Grown Produce (mg kg ⁻¹)			Commercial (mg kg ⁻¹)			Allotment (mg kg ⁻¹)			Public Open Space near Residential land (POSres) (mg kg ⁻¹)			Public Park Land (POSpark) (mg kg ⁻¹)			Source	Model			
	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM	1% SOM	2.5% SOM	6% SOM					
Organics																							
Biphenyl	66	160	360	220	500	980	18,000	33,000	48,000	14	35	83	-	-	-	-	-	-	CL-AIRE	CLEA v1.06			
Organometals																							
Tributyl tin oxide	0.25	0.59	1.3	1.4	3.1	5.7	130	180	200	0.042	0.1	0.24	-	-	-	-	-	-	CL-AIRE	CLEA v1.06			
PAHs																							
Acenaphthene	210	510	1,100	3,000	4,700	6,000	84,000	97,000	100,000	34	85	200	15,000	15,000	15,000	29,000	30,000	30,000	LQM/CIEH S4ULS	CLEA v1.071			
Acenaphthylene	170	420	920	2,900	4,600	6,000	83,000	97,000	100,000	28	69	160	15,000	15,000	15,000	29,000	30,000	30,000	LQM/CIEH S4ULS	CLEA v1.071			
Anthracene	2,400	5,400	11,000	31,000	35,000	37,000	520,000	540,000	540,000	380	950	2,200	74,000	74,000	74,000	150,000	150,000	150,000	LQM/CIEH S4ULS	CLEA v1.071			
Benzo(a)anthracene	7.2	11	13	11	14	15	170	170	180	2.9	6.5	13	29	29	29	49	56	62	LQM/CIEH S4ULS	CLEA v1.071			
Benzo(a)pyrene	2.2	2.7	3.0	3.2	3.2	3.2	35	35	36	0.97	2	3.5	5.7	5.7	5.7	11	12	13	LQM/CIEH S4ULS	CLEA v1.071			
Benzo(b)fluoranthene	2.6	3.3	3.7	3.9	4.0	4.0	44	44	45	0.99	2.1	3.9	7.1	7.2	7.2	13	15	16	LQM/CIEH S4ULS	CLEA v1.071			
Benzo(g,h,i)perylene	320	340	350	360	360	360	3,900	4,000	4,000	290	470	640	640	640	640	1,400	1,500	1,600	LQM/CIEH S4ULS	CLEA v1.071			
Benzo(k)fluoranthene	77	93	100	110	110	110	1,200	1,200	1,200	37	75	130	190	190	190	370	410	440	LQM/CIEH S4ULS	CLEA v1.071			
Chrysene	15	22	27	30	31	32	350	350	350	4.1	9.4	19	57	57	57	93	110	120	LQM/CIEH S4ULS	CLEA v1.071			
Dibenz(a,h)anthracene	0.24	0.28	0.30	0.31	0.32	0.32	3.5	3.6	3.6	0.14	0.27	0.43	0.57	0.57	0.58	1.1	1.3	1.4	LQM/CIEH S4ULS	CLEA v1.071			
Fluoranthene	280	560	890	1,500	1,600	1,600	23,000	23,000	23,000	52	130	290	3,100	3,100	3,100	6,300	6,300	6,400	LQM/CIEH S4ULS	CLEA v1.071			
Fluorene	170	400	860	2,800	3,800	4,500	63,000	68,000	71,000	27	67	160	9,900	9,900	9,900	20,000	20,000	20,000	LQM/CIEH S4ULS	CLEA v1.071			
Indeno(1,2,3-cd)pyrene	27	36	41	45	46	46	500	510	510	9.5	21	39	82	82	82	150	170	180	LQM/CIEH S4ULS	CLEA v1.071			
Naphthalene	2.3	5.6	13	2.3	5.6	13	190	460	1,100	4.1	10	24	4,900	4,900	4,900	1,200	1,900	3,000	LQM/CIEH S4ULS	CLEA v1.071			
Phenanthrene	95	220	440	1,300	1,500	1,500	22,000	22,000	23,000	15	38	90	3,100	3,100	3,100	6,200	6,200	6,300	LQM/CIEH S4ULS	CLEA v1.071			
Pyrene	620	1,200	2,000	3,700	3,800	3,800	54,000	54,000	54,000	110	270	620	7,400	7,400	7,400	15,000	15,000	15,000	LQM/CIEH S4ULS	CLEA v1.071			
Coal Tar (Bap as surrogate marker)	0.79	0.98	1.1	1.2	1.2	1.2	15	15	15	0.32	0.67	1.2	2.2	2.2	2.2	4.4	4.7	4.8	LQM/CIEH S4ULS	CLEA v1.071			
TPHs																							
Aliphatic EC 5-6	42	78	160	42	78	160	3,200	5,900	12,000	730	1,700	3,900	570,000	590,000	600,000	95,000	130,000	180,000	LQM/CIEH S4ULS	CLEA v1.071			
Aliphatic EC >6-8	100	230	530	100	230	530	7,800	17,000	40,000	2,300	5,600	13,000	600,000	610,000	620,000	150,000	220,000	320,000	LQM/CIEH S4ULS	CLEA v1.071			
Aliphatic EC >8-10	27	65	150	27	65	150	2,000	4,800	11,000	320	770	1,700	13,000	13,000	13,000	14,000	18,000	21,000	LQM/CIEH S4ULS	CLEA v1.071			
Aliphatic EC >10-12	130	330	760	130	330	770	9,700	23,000	47,000	2,200	4,400	7,300	13,000	13,000	13,000	21,000	23,000	24,000	LQM/CIEH S4ULS	CLEA v1.071			
Aliphatic EC >12-16	1100	2,400	4,300	1100	2,400	4,400	59,000	82,000	90,000	11,000	13,000	13,000	13,000	13,000	13,000	25,000	25,000	26,000	LQM/CIEH S4ULS	CLEA v1.071			
Aliphatic EC >16-35	65,000	92,000	110,000	65,000	92,000	110,000	1,600,000	1,700,000	1,800,000	260,000	270,000	270,000	250,000	250,000	250,000	450,000	480,000	490,000	LQM/CIEH S4ULS	CLEA v1.071			
Aliphatic EC >35-44	65,000	92,000	110,000	65,000	92,000	110,000	1,600,000	1,700,000	1,800,000	260,000	270,000	270,000	250,000	250,000	250,000	450,000	480,000	490,000	LQM/CIEH S4ULS	CLEA v1.071			
Aromatic EC >5-7 (benzene)	70	140	300	370	690	1400	26,000	46,000	86,000	13	27	57	56,000	56,000	56,000	76,000	84,000	92,000	LQM/CIEH S4ULS	CLEA v1.071			
Aromatic EC >7-8 (toluene)	130	290	660	860	1800	3,900	56,000	110,000	180,000	22	51	120	56,000	56,000	56,000	87,000	95,000	100,000	LQM/CIEH S4ULS	CLEA v1.071			
Aromatic EC >8-10	34	83	190	47	110	270	3,500	8,100	17,000	8.6	21	51	5,000	5,000	5,000	7,200	8,500	9,300	LQM/CIEH S4ULS	CLEA v1.071			
Aromatic EC >10-12	74	180	380	250	590	1200	16,000	28,000	34,000	13	31	74	5,000	5,000	5,000	9,200	9,700	10,000	LQM/CIEH S4ULS	CLEA v1.071			
Aromatic EC >12-16	140	330	660	1,800	2,300	2,500	36,000	37,000	38,000	23	57	130	5,100	5,100	5,000	10,000	10,000	10,000	LQM/CIEH S4ULS	CLEA v1.071			
Aromatic EC >16-21	260	540	930	1,900	1,900	1,900	28,000	28,000	28,000	46	110	260	3,800	3,800	3,800	7,600	7,700	7,800	LQM/CIEH S4ULS	CLEA v1.071			
Aromatic EC >21-35	1,100	1,500	1,700	1,900	1,900	1,900	28,000	28,000	28,000	370	820	1,600	3,800	3,800	3,800	7,800	7,800	7,900	LQM/CIEH S4ULS	CLEA v1.071			
Aromatic EC >35-44	1,100	1,500	1,700	1,900	1,900	1,900	28,000	28,000	28,000	370	820	1,600	3,800	3,800	3,800	7,800	7,800	7,900	LQM/CIEH S4ULS	CLEA v1.071			
Aliphatic + Aromatic EC >44-70	1,600	1,800	1,900	1,900	1,900	1,900	28,000	28,000	28,000	1,200	2,100	3,000	3,800	3,800	3,800	7,800	7,800	7,900	LQM/CIEH S4ULS	CLEA v1.071			
BTEX																							
Benzene	0.087	0.17	0.37	0.38	0.7	1.4	27	47	90	0.017	0.034	0.075	72	72	73	90	100	110	LQM/CIEH S4ULS	CLEA v1.071			
Toluene	130	290	660	880	1,900	3,900	56,000	110,000	180,000	22	51	120	56,000	56,000	56,000	87,000	95,000	100,000	LQM/CIEH S4ULS	CLEA v1.071			
Ethylbenzene	47	110	260	83	190	440	5,700	13,000	27,000	16	39	91	24,000	24,000	25,000	17,000	22,000	27,000	LQM/CIEH S4ULS	CLEA v1.071			
o-xylene	60	140	330	88	210	480	6,600	15,000	33,000	28	67	160	41,000	42,000	43,000	17,000	24,000	33,000	LQM/CIEH S4ULS	CLEA v1.071			
m-xylene	59	140	320	82	190	450	6,200	14,000	31,000	31	74	170	41,000	42,000	43,000	17,000	24,000	32,000	LQM/CIEH S4ULS	CLEA v1.071			
p-xylene	56	130	310	79	180	430	5,900	14,000	30,000	29	69	160	41,000	42,000	43,000	17,000	23,000	31,000	LQM/CIEH S4ULS	CLEA v1.071			
Chloroalkanes & Alkenes																							
1,1-Dichloroethane	2.4	3.9	7.4	2.5	4.1	7.7	280	450	850	9.2	17	35	-	-	-	-	-	-	CL-AIRE	CLEA v1.06			
1,2-Dichloroethane	0.0071	0.011	0.019	0.0092	0.013	0.023	0.67	0.97	1.7	0.0046	0.0083	0.016	29	29	29	21	24	2					

Determinand	Pre 2016 Acceptance Criteria						2021 Scottish Acceptance Criteria						Ref
	Surface Waters (Fresh)	Source	Surface Waters (Marine)	Source	Ground Waters	Source	Surface Waters (Fresh)	Source	Surface Waters (Marine)	Source	Ground Waters	Source	
Metals													
Aluminium	ug/l	-	-	-	200	UK DWS	15	EA/SNIFFER 1998	15	EA/SNIFFER 1998	200	UK DWS	
Antimony	ug/l	-	-	-	5.0	EU DWS	-	-	-	-	5.0	WS(WQ)(Scot)Regs 2001	
Arsenic	ug/l	50	Annex G EQS	25	Annex G EQS	10	EU DWS	50	25	SRBD Directions 2014*	10	WS(WQ)(Scot)Regs 2001	
Barium	ug/l	-	-	-	700	WHO DW	-	-	-	-	700	WHO DW	
Beryllium	ug/l	-	-	-	4.0	US EPA	-	-	-	-	4.0	US EPA	
Boron (water soluble)	ug/l	2,000	Annex G EQS	7,000	Annex G EQS	1,000	EU DWS	2,000	7,000	HMSO (1998)	1,000	WS(WQ)(Scot)Regs 2001	
Cadmium	ug/l	0.08 - 0.25	EU standard	0.20	EU standard	5.0	EU DWS	0.08-0.25 [b]	0.20	SRBD Directions 2015*	5.0	WS(WQ)(Scot)Regs 2001	
Chromium (III)	ug/l	4.7	Proposed UKTAG	-	-	50	EU DWS	4.7	-	SRBD Directions 2014*	50	WS(WQ)(Scot)Regs 2001	
Chromium (VI) - hexavalent	ug/l	3.40	Proposed UKTAG	0.60	Proposed UKTAG	-	-	-	0.60	SRBD Directions 2014*	-	-	
Cobalt	ug/l	-	-	-	-	-	-	3.0	3.0	DETR (1998)	-	-	
Copper	ug/l	1.0 - 28	Annex G EQS	5.0	Annex G EQS	2,000	EU DWS	1 (bio) [c]	3.76 [d]	SRBD Directions 2014*	2,000	WS(WQ)(Scot)Regs 2001	
Iron	ug/l	1,000	Annex G EQS	1,000	Annex G EQS	200	EU DWS	1,000	1,000	SRBD Directions 2014*	(200) [n]	WS(WQ)(Scot)Regs 2001	
Lead	ug/l	7.2	EU standard	7.2	EU standard	10	EU DWS	1.2 (bio) [c]	1.3	SRBD Directions 2015*	10	WS(WQ)(Scot)Regs 2001	
Manganese	ug/l	-	-	-	-	50	UK DWS	123 (bio) [c]	-	SRBD Directions 2014*	(50) [n]	WS(WQ)(Scot)Regs 2001	
Mercury (Elemental)	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Mercury (inorganic)	ug/l	0.05	EU standard	0.05	EU standard	1.0	EU DWS	0.07 [e]	0.07 [e]	SRBD Directions 2015*	1.0	WS(WQ)(Scot)Regs 2001	
Mercury (methyl)	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Molybdenum	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Nickel	ug/l	20	EU standard	20	EU standard	20	EU DWS	4 (bio) [c]	8.6	SRBD Directions 2015*	(20) [n]	WS(WQ)(Scot)Regs 2001	
Selenium	ug/l	-	-	-	-	10	EU DWS	-	-	-	10	WS(WQ)(Scot)Regs 2001	
Silver	ug/l	0.05	Annex G EQS	0.05	Annex G EQS	10	UK DWS	0.05	0.50	DoE (1996)	100	WHO DW	
Tin	ug/l	25	Annex G EQS	10	Annex G EQS	-	-	25	-	DoE (1989)	-	-	
Vanadium	ug/l	20	Annex G EQS	100	Annex G EQS	-	-	20 - 60 [f]	100	HMSO (1989)	-	-	
Zinc	ug/l	8.0 - 125	Annex G EQS	40	Annex G EQS	3,000	WHO taste threshold	11.9 (bio) [c]	7.9	SRBD Directions 2014*	(3000) [n]	WHO taste threshold	
Inorganics													
Ammonia	ug/l	200	Proposed UKTAG	21	Proposed UKTAG	500	UK DWS	[a]	21.00	SRBD Directions 2014*	500 (ammonium)	WS(WQ)(Scot)Regs 2001	
Bromate	ug/l	-	-	-	-	10	UK DWS	-	-	-	-	WS(WQ)(Scot)Regs 2001	
Chloride	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Chlorine	ug/l	2.0	Proposed UKTAG	1.0	Proposed UKTAG	5,000	WHO	2.00	-	SRBD Directions 2014*	(250,000) [n] [a]	WHO DW	
Cyanide Complex	ug/l	-	-	-	-	-	-	-	-	-	5,000	WHO DW	
Cyanide Free	ug/l	1.0	Annex G EQS	1.0	Annex G EQS	50	EU DWS	1.0	1.0	SRBD Directions 2014*	-	-	
Cyanide Total	ug/l	-	-	-	-	-	-	-	-	-	50 (total)	WS(WQ)(Scot)Regs 2001	
Fluoride	ug/l	-	-	-	-	-	-	1000+ [p]	-	SRBD Directions 2014*	1,500	WS(WQ)(Scot)Regs 2001	
Nitrate	ug/l	-	-	-	-	50,000	EU DWS	-	-	-	50,000	WS(WQ)(Scot)Regs 2001	
Nitrite	ug/l	-	-	-	-	-	-	-	-	-	500	WS(WQ)(Scot)Regs 2001	
Hydrogen Sulphide	ug/l	-	-	-	-	-	-	-	-	-	-	-	
pH	-	6.0 - 9.0	Annex G EQS	-	-	6.5 - 8.5	US EPA (SDWR)	0.25	DoE (1993)	-	-	-	
Sulphate Acid Soluble (SO4)	%	-	-	-	-	-	-	-	-	-	-	-	
Sulphate Total (SO4)	ug/l	-	-	-	-	-	-	400,000.00	EA (1999)	-	(500,000) n	WHO DW	
Sulphate Water Soluble (SO4)	mg/l	-	-	-	-	250	UK DWS	-	-	-	-	-	
Sulphide	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Thiocyanate	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Total Sulphur as S	mg/l	-	-	-	-	-	-	-	-	-	-	-	
TPHS													
Aliphatic EC >5-6 (benzene)	ug/l	20	Ethylbenzene EQS used as surrogate	20	Ethylbenzene EQS used as surrogate	300	WHO DWS for C8-C16	-	-	-	(15,000) [h] [a]	WHO DWS for C8-16 *	
Aliphatic EC >6-8 (toluene)	ug/l	20	Ethylbenzene EQS used as surrogate	20	Ethylbenzene EQS used as surrogate	300	WHO DWS for C8-C16	-	-	-	-	-	
Aliphatic EC >8-10	ug/l	20	Ethylbenzene EQS used as surrogate	20	Ethylbenzene EQS used as surrogate	300	WHO DWS	20.00	20.00	ethylbenzene EQS as a surrogate [i]	-	-	
Aliphatic EC >10-12	ug/l	20	Ethylbenzene EQS used as surrogate	20	Ethylbenzene EQS used as surrogate	300	WHO DWS	-	-	-	300 [h]	WHO DWS	
Aliphatic EC >12-16	ug/l	20	Ethylbenzene EQS used as surrogate	20	Ethylbenzene EQS used as surrogate	300	WHO DWS	-	-	-	-	-	
Aliphatic EC >16-21	ug/l	NV	TPHCWG	NV	TPHCWG	NV	TPHCWG	Effectively Insoluble	-	Effectively Insoluble	-	-	
Aliphatic EC >21-35	ug/l	NV	TPHCWG	NV	TPHCWG	NV	TPHCWG	Effectively Insoluble	-	Effectively Insoluble	-	-	
Aliphatic EC >35-44	ug/l	NV	TPHCWG	NV	TPHCWG	NV	TPHCWG	Effectively Insoluble	-	Effectively Insoluble	-	-	
Aliphatic EC >44-70	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Aromatic EC >5-7	ug/l	10	Benzene EQS	8.0	Benzene EQS	1.0	UK DWS for benzene	10	8.0	benzene EQS	1.0 [h]	UK DWS for benzene	
Aromatic EC >7-8	ug/l	50	Toluene EQS	40	Toluene EQS	700	WHO DWS for toluene	74	74	toluene EQS	700 [h]	WHO DWS for toluene	
Aromatic EC >8-10	ug/l	20	Ethylbenzene EQS as a surrogate	20	Ethylbenzene EQS as a surrogate	300	WHO DWS for ethylbenzene	-	-	-	300 [h]	WHO DWS for ethylbenzene	
Aromatic EC >10-12	ug/l	20	Ethylbenzene EQS as a surrogate	20	Ethylbenzene EQS as a surrogate	100	WHO DWS	-	-	-	90 [h]	WHO DWS	
Aromatic EC >12-16	ug/l	20	Ethylbenzene EQS as a surrogate	20	Ethylbenzene EQS as a surrogate	100	WHO DWS	20	20	ethylbenzene EQS as a surrogate [i]	-	-	
Aromatic EC >16-21	ug/l	20	Ethylbenzene EQS as a surrogate	20	Ethylbenzene EQS as a surrogate	90	WHO DWS	-	-	-	90 [h]	WHO DWS	
Aromatic EC >21-35	ug/l	20	Ethylbenzene EQS as a surrogate	20	Ethylbenzene EQS as a surrogate	90	WHO DWS	-	-	-	-	-	
Aromatic EC >35-44	ug/l	20	Ethylbenzene EQS as a surrogate	20	Ethylbenzene EQS as a surrogate	90	WHO DWS	Effectively Insoluble	-	Effectively Insoluble	-	-	
Aromatic EC >44-70	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Aliphatic + Aromatic EC >44-70	ug/l	-	-	-	-	-	-	-	-	-	-	-	
PAHs													
Acenaphthene	ug/l	NV	-	NV	-	-	-	-	-	-	-	-	
Acenaphthylene	ug/l	NV	-	NV	-	-	-	-	-	-	-	-	
Anthracene	ug/l	0.10	EU standard	0.10	EU standard	-	-	0.10	-	-	-	-	
Benzo(a)anthracene	ug/l	0.05	Benzo(a)pyrene threshold	0.05	Benzo(a)pyrene threshold	-	-	-	0.10	SRBD Directions 2015*	-	-	
Benzo(a)pyrene	ug/l	0.05	EU standard	0.05	EU standard	0.01	EU DWS	0.00017 [j]	0.00017 [j]	SRBD Directions 2015*	0.01	WS(WQ)(Scot)Regs 2001	
Benzo(b)fluoranthene	ug/l	0.03 sum	EU standard	0.03 sum	EU standard	-	EU DWS	-	-	-	-	-	
Benzo(k)fluoranthene	ug/l	-	EU standard	-	EU standard	-	EU DWS	-	-	-	-	-	
Benzo(a)pyrene	ug/l	0.002 sum	EU standard	0.002 sum	EU standard	0.10 sum	EU standard	-	-	-	0.10 (sum)	WS(WQ)(Scot)Regs 2001	
Indeno(1,2,3-cd)pyrene	ug/l	-	EU standard	-	EU standard	-	EU DWS	-	-	-	-	-	
Chrysene	ug/l	NV	-	NV	-	-	-	-	-	-	-	-	
Dibenz(a,h)anthracene	ug/l	0.05	Benzo(a)pyrene threshold	0.05	Benzo(a)pyrene threshold	-	-	-	-	-	-	-	
Fluoranthene	ug/l	0.10	EU standard	0.10	EU standard	-	-	0.0063	-	SRBD Directions 2015*	-	-	
Fluorene	ug/l	NV	-	NV	-	-	-	-	-	-	-	-	
Naphthalene	ug/l	2.40	EU standard	1.20	EU standard	-	-	2.0	-	SRBD Directions 2015*	-	-	
Phenanthrene	ug/l	NV	-	NV	-	-	-	-	-	-	-	-	
Pyrene	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Styrene	ug/l	-	-	-	-	-	-	50	EA (1995)	50	EA (1995)	20	WHO DW
PAH (total)	ug/l	-	-	-	-	-	-	-	-	-	-	-	
BTEX													
Benzene	ug/l	10	Annex G EQS	8	Annex G EQS	1.0	UK DWS	10	8.0	SRBD Directions 2015*	1.0	WS(WQ)(Scot)Regs 2001	
Toluene	ug/l	74	Proposed UKTAG	74	Proposed UKTAG	700.0	WHO DW	74	74	SRBD Directions 2014*	700	WHO DW	
Ethylbenzene	ug/l	20	Annex G EQS	20	Annex G EQS	300	WHO DW	20	20	EA/SNIFFER 2001	300	WHO DW	
o-xylene	ug/l	-	-	-	-	-	-	-	-	-	-	-	
m-xylene	ug/l	30	Annex G EQS	30	Annex G EQS	500	WHO DW	30	30	Annex G EQS (old)	500	WHO DW	
p-xylene	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Phenols													
Phenol	ug/l	7.7	Proposed UKTAG	7.7	Proposed UKTAG	-	-	7.7	7.7	SRBD Directions 2014*	-	-	
Chlorophenol (4 congeners)	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Pentachlorophenol	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Organometals													
Dibutyl Tin	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Monobutyl Tin	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Tributyltin (oxide)	ug/l	0.0002	EU standard	0.0002	EU standard	-	-	0.0002	0.0002	SRBD Directions 2015*	-	-	
Triphenyltin	ug/l	0.020	Annex G EQS	0.008	Annex G EQS	-	-	0.02	0.008	Annex G EQS (old)	-	-	
Other (Unchlorinated)													
Methyl-tert-butyl ether (MTBE)	ug/l	15	EA report MTBE	-	-	15	EA report MTBE	-	-	-	-	-	
Carbon disulphide	ug/l	-	-	-	-	-	-	-	-	-	-	-	
Hexachlorobutadiene	ug/l	50	Annex G EQS	50	Annex G EQS	20	WHO DW	-	-	-	-	-	
Chlorinated Hydrocarbons													
1,1,1-Trichloroethane	ug/l	-	-	-	-	-	-	100	Annex G EQS (old)	100	Annex G EQS (old)	200	US EPA
1,1,2-Trichloroethane	ug/l	-	-	-	-	-	-	400	Annex G EQS (old)	300	Annex G EQS (old)	5.0	US EPA
1,1-dichloroethene (-ethylene)	ug/l	-	-	-	-	-	-	-	-	-	7.0	US EPA	
cis-1,2-dichloroethene (-ethylene)	ug/l	-	-	-	-	-	-	-	-	-	70 [f]	US EPA	
trans-1,2-dichloroethene (-ethylene)	ug/l	-	-	-	-	-	-	-	-	-	50	WHO	
1,2-dichlorobenzene	ug/l	-	-	-	-	-	-	20	DETR (1998)	20	DETR (1998)	600	US EPA
1,4-dichlorobenzene	ug/l	-	-	-	-	-	-	-	-	-	80	US EPA	
1,2-dichloroethane	ug/l	-	-	-	-	-	-	10	SRBD Directions 2015*	10	SRBD Directions 2015*	3.0	WS(WQ)(Scot)Regs 2001
1,2-dichloropropane	ug/l	-	-	-	-	-	-	-	-	-	5.0	US EPA	
C10-C13 chloroalkanes	ug/l	-	-	-	-	-	-	0.40	SRBD Directions 2015*	0.40	SRBD Directions 2015*	-	-
Carbon tetrachloride	ug/l	-	-	-	-	-	-	12	SRBD Directions 2015*	-	3.0	WS(WQ)(Scot)Regs 2001	
Chlorobenzene	ug/l	-	-	-	-	-	-	-	-	-	100	WS(WQ)(Scot)Regs 2001	
Chloronitrobenzenes (all)	ug/l	-	-	-	-	-	-	10	Annex G EQS (old)	10	Annex G EQS (old)	-	-
Dichloromethane	ug/l												

APPENDIX B

Risk Matrix

Table 5 – Risk Classification Matrix

		Consequence			
		Severe (Sv)	Medium (Md)	Mild (Mi)	Minor (Mr)
Probability	High (Hi)	Very high risk	High Risk	Moderate Risk	Moderate/low risk
	Likely (Li)	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood (Lw)	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely (Ul)	Moderate/low risk	Low risk	Very low risk	Very low risk

After CIRIA Report C552, Contaminated Land Risk Assessment A Guide to Good Practice, 2001

Table 6 – Classification of Consequence

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

After CIRIA Report C552, Contaminated Land Risk Assessment A Guide to Good Practice, 2001

Table 7 – Classification of Probability

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

After CIRIA Report C552, Contaminated Land Risk Assessment A Guide to Good Practice, 2001

Table 8 - Classification of Risk and Likely Action Required

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

After CIRIA Report C552, Contaminated Land Risk Assessment A Guide to Good Practice, 2001

APPENDIX C

General Specification for Earthworks

1.0 GENERAL SPECIFICATION FOR EARTHWORKS DURING SITE REMEDIATION

1.1 INTRODUCTION

As part of the development earthworks will be carried out to re-profile the site to a suitable development platform and to remove foundations, and obstructions. The development platform will be reinstated with site won materials.

To ensure that a reasonable standard of backfilling is achieved it is proposed that the earthworks are undertaken in accordance with the SHW series 600 earthworks specification and all associated clauses. The use of lime and cement stabilised materials may be utilised to control moisture content and generate a suitable standard of materials for reuse beneath pavement structures.

The aim of adopting these earthworks standards is to ensure that the general reinstatement of fill materials is undertaken in a controlled manner to provide a finished surface which will be stable, will not be subject to excessive settlement or contain near surface obstructions to excavations, and will be trafficable to plant.

Excavations may encounter perched waters which may be persistent. The contractor should undertake temporary works control measures to account for this in their operations to control this water and mitigate damage to earthworks materials. This groundwater may contain silt and other water contaminants and require disposal offsite.

1.2 CLASSIFICATION OF MATERIALS

1.2.1 Earthworks materials shall be categorised into one of the following classifications.

- i. Acceptable material; material which meets with the requirements of **Table 6/1, Appendix C**.
- ii. Unacceptable material; material which either does not meet the requirements of **Table 6/1** or contains the following materials or constituents:
 - a. Peat, organic soils and organic perishable materials (e.g. wood, straw, sawdust and paper).
 - b. Materials in a frozen condition.
 - c. Clays of liquid limit >90 or plasticity index >65.
 - d. Combustible materials.
 - e. Hazardous Waste materials having hazardous chemicals (hydrocarbons) or physical properties requiring special measures for excavation, storage, transportation, deposition and disposal.
- iii. All materials placed within 450mm of finished foundation must be non frost susceptible in accordance with SHW series 600 Clause 602.19

1.3 USE OF FILL MATERIALS

- 1.3.1 The tests and rate of testing to be carried out by the Contractor in order to assess suitability shall be as detailed in **Table 6/1**.
- 1.3.2 Maximum particle size of any fill material shall be no more than two thirds of the compacted layer thickness. In addition cobbles, having an equivalent diameter of more than 150mm, shall not be placed within the engineered fill.

1.4 COMPACTION OF FILLS

The method of compaction shall be adopted as required for the Class of fill in **Table 6/1** using the plant and methods appropriate to the Class of fill and the site conditions; as detailed in **Table 6/4**.

Plant and methods not included in Table 6/4 shall only be used providing the Contractor demonstrates at site trials that the state of compaction is achieved by the alternative method equivalent to that obtained using the specified.

Table 6/1: Acceptable Earthworks Materials: Classification and Compaction Requirements (See Footnotes)

Class				General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability in Clause 601 and Testing in Clause 631				Compaction Requirements in Clause 612	Class		
							Property (See Exceptions in Previous Column)	Defined and tested in accordance with:	Acceptable limits within:					
									Lower	Upper				
GENERAL GRANULAR FILL	1	A	-	Well graded granular material	General Fill	Any material, or combination of materials, other than material designated as Class 3 in the Contract. Recycled aggregate	(i) Grading	BS 1377: Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 2	1	A	-
	(ii) Uniformity coefficient	See Note 5	10				-							
	(iii) mc	BS 1377: Part 2	App 6/1				App 6/1							
	(iv) MCV	Clause 632	App 6/1				App 6/1							

Table 6/1: Acceptable Earthworks Materials: Classification and Compaction Requirements (See Footnotes) (continued)

Class				General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class		
							Property (See Exceptions in Previous Column)	Defined and tested in accordance with:	Acceptable limits within:					
									Lower	Upper				
GENERAL COHESIVE FILL	2	A	-	Wet cohesive material	General Fill	Any material, or combination of materials, other than material designated as Class 3 in the Contract	(i) Grading	BS 1377: Part 2	Tab 6/2	Tab 6/2	Table 6/4 Method 1; except (i) for materials with liquid limit greater than 50, determined by BS 1377; Part 2, only tamping rollers or grid rollers shall be used.	2	A	-
							(ii) plastic limit (PL)	BS 1377: Part 2	-	-				
							(iii) mc	BS 1377: Part 2	PL -4%	App 6/1				
							(iv) MCV	Clause 632	App 6/1	App 6/1				
							(v) Undrained shear strength of remould material	Clause 633	App 6/1	App 6/1				
	2	B	-	Dry cohesive material	General Fill	Any material or combination of materials, other than chalk	(i) Grading	BS 1377: Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 2	2	B	-
							(ii) Plastic Limit (PL)	BS 1377: Part 2	-	-				
							(iii) mc	BS 1377: Part 2	-	PL -4%				
							(iv) MCV	Clause 632	App 6/1	App 6/1				
							(v) Undrained shear strength of remould material	Clause 633	App 6/1	App 6/1				
	2	C	-	Stony cohesive material	General Fill	Any material, or combination of materials, other than chalk	(i) Grading	BS 1377: Part 2	Tab 6/2	Tab 6/2	Tab 6/4 Method 2	2	C	-
							(ii) Plastic Limit (PL)	BS 1377: Part 2	-	-				
							(iii) mc	BS 1377: Part 2	App 6/1	App 6/1				
							(iv) MCV	Clause 632	App 6/1	-				

Table 6/1: Acceptable Earthworks Materials: Classification and Compaction Requirements (See Footnotes) (continued)

Class				General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class		
							Property (See Exceptions in Previous Column)	Defined and tested in accordance with:	Acceptable limits within:					
									Lower	Upper				
LANDSCAPE FILL	4	-	-	Various	Fill to Landscape Areas and Clean Cover Materials	Any “clean” materials	(i) Grading	BS 1377 : Part 2	App 6/1	App 6/1	See Clause 620 and App 6/1	4	-	-
	(ii) mc	BS 1377 : Part 2	-				App 6/1							
	(iii) MCV	Clause 632	App 6/1				App 6/1							
	(iv) Chemical Properties Where Used as Clean Cover	App 6/1	-				Tab 6/6							
TOPSOIL	5	A	-	Topsoil, or turf existing on site	Topsoiling	Topsoil or turf designated as Class 5A in the contract	(i) Grading	Clause 618	-	Clause 618	No requirement	5	A	-
							(i) Chemical Properties where used as Clean Cover	Appendix 6/1 (MCERTS)	-	Tab 6/6				
	5	B	-	Imported Topsoil	Topsoiling	General purpose grade complying with BS 3882	(i) Chemical Properties where used as clean cover	Appendix 6/1 (MCERTS)	-	Tab 6/8	No requirement	5	B	-

Table 6/1: Acceptable Earthworks Materials: Classification and Compaction Requirements (See Footnotes) (continued)

Class				General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class		
							Property (See Exceptions in Previous Column)	Defined and Tested in accordance with:	Acceptable limits within:					
									Lower	Upper				
SELECTED GRANULAR FILL	6	F	2	Selected Granular Material (coarse grading)	Capping	Any material or combination of materials, other than burnt colliery spoil and argillaceous rock. Recycled aggregate.	(i) Grading	BS 1377: Part 2	Tab 6/2	Tab 6/2	Tab6/4 Method 6	6	F	2
							(ii) Optimum mc	BS 1377: Part 4 (vibrating hammer method)	-	-				
							(iii) mc	BS 1377: Part 2	Optimum mc – 2%	Optimum mc				
							(ii) Los Angeles Coefficient	Clause 635	-	50				
	6	F	5	Selected Granular Material (fine grading)	Capping	Unbound mixtures complying with BS EN 13285 Any material or combination of materials – including recycled aggregate, but excluding unburnt colliery spoil, argillaceous rock, chalk, recycled bituminous planings and granulated asphalt	Size Designation and Overall Grading Category	BS EN 13285 – 0/80 and G _E	Tab 6/5	Tab 6/5	Tab6/4 Method 6	6	F	5
							Maximum Fines and Oversize Categories	BS EN 13285 – UF ₁₂ and OC ₇₅	Tab 6/5	Table 6				
							Los Angeles Coefficient	BS EN 13242 – LA ₅₀	-	50				
							Volume Stability of Blast Furnace Slag	BS EN 13242 – free from dicalcium silicate and iron disintegration	-	-				
							Volume Stability of Steel (BOF) and (EAF) Slag	BS EN 13242 – V ₅	-	-				
							Laboratory Dry Density and optimum water content	BS EN 13285 – clause 5.3 – declared values	-	-				
							Water Content	BS EN 1097 – 5	OWC – 2%	OWC				
							Chemical Properties	Appendix 6/1 (MCERTS)	-	Tab 6/7				

Table 6/1: Acceptable Earthworks Materials: Classification and Compaction Requirements (See Footnotes) (continued)

Class				General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class		
							Property Exceptions (See in Previous Column)	Defined and Tested in Accordance With:	Acceptable Limits Within:					
									Lower	Upper				
SELECTED GRANULAR FILL	6	R	-	Selected granular material	For Stabilisation with Lime and Cement to Form Capping (Class 9F)	Any material, or combination of materials other than unburnt colliery spoil and argillaceous rock	(i) Grading	BS 1377: Part 2 (On Site)	Tab 6/2	Tab 6/2	Not Applicable	6	R	-
								BS EN 933-2 (Off Site)	Tab 6/5	Tab 6/5				
							(ii) mc	BS 1377: Part 2	App 6/1	-				
							(iii) Liquid Limit	BS 1377: Part 2	-	45				
							(iv) Plasticity Index	BS 1377: Part 2	-	20				
							(v) Organic Matter	BS 1377: Part 3	-	App 6/1				
							(vi) Water soluble (WS) Sulphate Content	TRL Report 447, Test No. 1	-	3000 mg/l as SO ₄				
							(vii) Oxidisable Sulphides (OS) Content	TRL Report 447, Tests No. 2 and 4	-	0.6% as SO ₄				
							(viii) Total Potential Sulphate (TPS) Content	TRL Report 447, Test No. 4	-	1.2% as SO ₄				
SELECTED COHESIVE FILL	7	E	-	Selected Cohesive materials	For stabilisation with lime to form capping Class 9D	Any material or combination of materials, other than un burnt colliery spoil	(i) Grading	BS1377: Part 2	Tab 6/2	Tab 6/2	Not applicable	7	E	
							(ii) mc	BS1377: Part 2	-	App 6/1				
							(iii) MCV	Clause 632	App 6/1	App 6/1				
							(iv) Plasticity index	BS1377: Part 2	10					
							(v) Organic Matter	BS 1377 : Part 3	-	App 6/1				
							(vi) Water soluble (WS) Sulphate Content	TRL Report 447, Test No. 1	-	App 6/1				
							(vii) Oxidisable Sulphides (OS) Content	TRL Report 447, Tests No. 2 and 4	-	App 6/1				
							(viii) Total Potential Sulphate (TPS) Content	TRL Report 447, Test No. 4	-	App 6/1				

Table 6/1: Acceptable Earthworks Materials: Classification and Compaction Requirements (See Footnotes) (continued)

Class				General Material Description	Typical Use	Permitted Constituents (All Subject to Requirements of Clause 601 and Appendix 6/1)	Material Properties Required for Acceptability in Clause 601 and Testing in Clause 631)				Compaction Requirements in Clause 612	Class		
							Property (See Exceptions in Previous Column)	Defined and Tested in accordance with:	Acceptable limits within:					
									Lower	Upper				
STABILISED FILL	9	D		Lime Stabilised cohesive material	Capping	Class 7E with addition of lime according to Clause 615	(i) Pulverisation	BS 1924: Part 2	30%		Table 6/4 Method 7	9	D	-
							(ii) MCV immediately before compaction	Clause 632	App 6/1	App 6/1				
							(iii) bearing ratio	BS 1924: Part 2	App 6/1	App 6/1				
							(iv) mc	BS 1924: Part 2	App 6/1	App 6/1				
	9	F	-	Lime and Cement Stabilised Well Graded Granular Material	Capping	Class 6R with addition of lime and cement according to Clause 643	(i) Pulverisation	BS 1924: Part 2	60%	-	Table 6/4 Method 7			
							(ii) bearing ratio	BS 1924: Part 2	App 6/1	-				
							(iii) mc	BS 1924: Part 2	App 6/1	App 6/1				

Footnotes to Table 6/1:

1. App = Appendix
2. Tab = Table
3. Where in the Acceptable Limits column reference is made to App 6/1, only those properties having limits ascribed to them in Appendix 6/1 shall apply. Where Appendix 6/1 gives limits for other properties not listed in this Table such limits shall also apply.

4. Where BS 1377: Part 2 is specified for mc, this shall mean BS 1377: Part 2 or BS 812: Part 3 as appropriate.
5. Uniformity coefficient is defined as the ratio of the particle diameters D_{60} to D_{10} on the particle size distribution curve, where -
 D_{60} = particle diameter at which 60% of the soil weight is finer
 D_{10} = particle diameter at which 10% of the soil weight is finer.

Table 6/2: Grading Requirements for Acceptable Site-Won Earthworks Materials

Percentage by Mass Passing the Test Sieve Shown																						
Class	Size (mm)		Size (mm) BS Series													Size (microns) BS Series					Class	
	500	300	125	90	75	37.5	28	20	14	10	6.3	5	3.35	2	1.18	600	300	150	63	2		
1A		100	95-100																<15		1A	
1B			100																<15		1B	
2A-B			100											80-100					15-100		2A-B	
2C			100											15-80					15-80		2C	
4A-B			100																		4A-B	
6 E and R			100	85-100						25-100							10-100		<15		6E and 6R	
6F2			100	80-100	65-100	45-100				15-60		10-45					0-25			0-12		6F2
7A					100														15-100		7A	
7E					100		95-100												15-100		7E	

Table 6: Grading Requirements for Acceptable Imported Earthworks Materials for Class 6F5

Percentage by Mass Passing the Test Sieve Shown																
Class	Size (mm) BS EN Series												Size (microns) BS EN Series			Class
	125	80	63	40	31.5	20	16	10	8	4	2	1	500	125	63	
6F5	100	75-99		50-90		30-75		15-60			0-35				0-12	6F5

TABLE 6/4: Method Compaction for Earthworks Materials: Plant and Methods (Method 1 to Method 6) (This Table is to be read in conjunction with sub-Clause 612.10)

Type of Compaction Plant	Ref No.	Category	Method 1		Method 2		Method 3		Method 4		Method 5		Method 6		
			D	N#	D	N#	D	N#	D	N#	D	N#	N for D=110mm	N for D=150mm	N for D=250mm
Vibratory Roller		Mass per metre width of vibratory roll:													
	1	over 270kg up to 450kg	unsuitable		75	16	150	16	unsuitable		unsuitable		unsuitable	unsuitable	unsuitable
	2	over 450kg up to 700kg	unsuitable		75	12	150	12	unsuitable		unsuitable		unsuitable	unsuitable	unsuitable
	3	over 700kg up to 1300kg	100	12	125	10	150	6	125	10	unsuitable		16	unsuitable	unsuitable
	4	over 1300kg up to 1800kg	125	8	150	8	200	10*	175	4	unsuitable		6	16	unsuitable
	5	over 1800kg up to 2300kg	150	4	150	4	225	12*	unsuitable		unsuitable		4	6	12
	6	over 2300kg up to 2900kg	175	4	175	4	250	10*	unsuitable		400	5	3	5	11
	7	over 2900kg up to 3600kg	200	4	200	4	275	8*	unsuitable		500	5	3	5	10
	8	over 3600kg up to 4300kg	225	4	225	4	300	8*	unsuitable		600	5	2	4	8
	9	over 4300kg up to 5000kg	250	4	250	4	300	6*	unsuitable		700	5	2	4	7
	10	over 5000kg	275	4	275	4	300	4*	unsuitable		800	5	2	3	6
Vibrating Plate Compactor		Mass per m² of base plate:													
	1	over 880 kg up to 1100 kg	unsuitable		unsuitable		75	6	unsuitable		unsuitable		unsuitable	unsuitable	unsuitable
	2	over 1100 kg up to 1200 kg	unsuitable		75	10	100	6	75	10	unsuitable		unsuitable	unsuitable	unsuitable
	3	over 1200 kg up to 1400 kg	unsuitable		75	6	150	6	150	8	unsuitable		unsuitable	unsuitable	unsuitable
	4	over 1400 kg up to 1800 kg	100	6	125	6	150	4	unsuitable		unsuitable		8	unsuitable	unsuitable
	5	over 1800 kg up to 2100 kg	150	6	150	5	200	4	unsuitable		unsuitable		5	8	unsuitable
	6	over 2100 kg	200	6	200	5	250	4	unsuitable		unsuitable		3	6	12
Vibro-tamper		Mass:													
	1	over 50 kg up to 65 kg	100	3	100	3	150	3	125	3	unsuitable		4	8	unsuitable
	2	over 65 kg up to 75 kg	125	3	125	3	200	3	150	3	unsuitable		3	6	12
	3	over 75 kg up to 100 kg	150	3	150	3	225	3	175	3	unsuitable		2	4	10
	4	over 100 kg	225	3	200	3	225	3	250	3	unsuitable		2	4	10
Power Rammer		Mass:													
	1	100 kg up to 500 kg	150	4	150	6	unsuitable		200	4	unsuitable		5	8	unsuitable
	2	over 500 kg	275	8	275	12	unsuitable		400	4	unsuitable		5	8	14
Dropping-weight Compactor		Mass of rammer over 500kg weight drop:													
	1	over 1 m up to 2 m	600	4	600	8	450	8	unsuitable		unsuitable		unsuitable	unsuitable	unsuitable
	2	over 2 m	600	2	600	8	unsuitable		unsuitable		unsuitable		unsuitable	unsuitable	unsuitable

TABLE 6/4: Method Compaction for Earthworks Materials: Plant and Method (Method 7)
(This Table is to be read in conjunction with sub-Clause 612.10)

Type of Compaction Plant	Ref No.	Category	Method 7	
			N for D=150mm	N for D = 250mm
Smooth Wheeled Roller (or vibratory roller operating without vibration)	1	Mass per metre width of roll:	unsuitable	unsuitable
	2	over 2100 kg up to 2700 kg	unsuitable	unsuitable
	3	over 2700 kg up to 5400 kg over 5400 kg	12	unsuitable
Grid Roller	1	Mass per meter width of roll:	unsuitable	unsuitable
	2	over 2700 kg up to 5400 kg	16	unsuitable
	3	over 5400 kg up to 8000 kg over 8000 kg	8	unsuitable
Deadweight tamping roller	1	Mass per metre width of roll:	4	8
	2	over 4000 kg up to 6000 kg over 6000 kg	3	6
Pneumatic-tyred roller	1	Mass per wheel:	unsuitable	unsuitable
	2	over 1000 kg up to 1500 kg	12	unsuitable
	3	over 1500 kg up to 2000 kg	6	unsuitable
	4	over 2000 kg up to 2500 kg	5	unsuitable
	5	over 2500 kg up to 4000 kg	16	unsuitable
	6	over 4000 kg up to 6000 kg	8	unsuitable
	7	over 6000 kg up to 8000 kg	4	unsuitable
	8	over 8000 kg up to 12000 kg over 12000 kg	4	4
Vibratory tamping roller	1	Mass per metre width of vibrating roll:	unsuitable	unsuitable
	2	over 700 kg up to 1300 kg	unsuitable	unsuitable
	3	over 1300 kg up to 1800 kg	16	unsuitable
	4	over 1800 kg up to 2300 kg	12	unsuitable
	5	over 2300 kg up to 2900 kg	10	unsuitable
	6	over 2900 kg up to 3600 kg	8	16
	7	over 3600 kg up to 4300 kg	7	14
	8	over 4300 kg up to 5000 kg over 5000 kg	6	12
Vibratory roller	1	Mass per metre width of vibrating roll:	unsuitable	unsuitable
	2	over 270 kg up to 450 kg	unsuitable	unsuitable
	3	over 450 kg up to 700 kg	unsuitable	unsuitable
	4	over 700 kg up to 1300 kg	unsuitable	unsuitable
	5	over 1300 kg up to 1800 kg	12	unsuitable
	6	over 1800 kg up to 2300 kg	10	unsuitable
	7	over 2300 kg up to 2900 kg	10	unsuitable
	8	over 2900 kg up to 3600 kg	8	unsuitable
	9	over 3600 kg up to 4300 kg	8	unsuitable
	10	over 4300 kg up to 5000 kg over 5000 kg	6	12
Vibratory Plate compactor	1	Mass per m² of base plate:	unsuitable	unsuitable
	2	over 880 kg up to 1100 kg	unsuitable	unsuitable
	3	over 1100 kg up to 1200 kg	unsuitable	unsuitable
	4	over 1200 kg up to 1400 kg	10	unsuitable
	5	over 1400 kg up to 1800 kg	8	unsuitable
	6	over 1800 kg up to 2100 kg over 2100 kg	6	unsuitable
Vibro-tamper	1	Mass:	unsuitable	unsuitable
	2	over 50 kg up to 65 kg	unsuitable	unsuitable
	3	over 65 kg up to 75 kg	unsuitable	unsuitable
	4	over 75 kg up to 100 kg over 100 kg	8	unsuitable
Power rammer	1	Mass:	8	unsuitable
	2	100 kg up to 500 kg over 500 kg	6	10
Dropping weight compactor	1	Mass of rammer over 500kg height drop:	unsuitable	unsuitable
	2	over 1 m up to 2 m over 2 m	unsuitable	unsuitable

APPENDIX D

Drawings and Historical Maps

Architects Proposed Site Plan

Historical Maps

Car Park



GENERAL NOTES:

ALL DIMENSIONS ARE TO BE CHECKED ON SITE WITH ANY DISCREPANCIES REPORTED TO THE ARCHITECT PRIOR TO THE WORKS BEING CARRIED OUT.

ALL WORKS ARE TO BE IN ACCORDANCE WITH THE PLANNING APPROVAL AND ANY SUBSEQUENT APPROVED LOCAL AUTHORITY PLANNING CORRESPONDENCE INCLUDING DRAWINGS, DOCUMENTS AND REPORTS.

ALL WORKS ARE TO COMPLY WITH THE BUILDING REGULATIONS, BRITISH STANDARDS, CODE OF PRACTICE, AND ANY LOCAL STATUTORY REQUIREMENTS.

ALL WORKS ARE TO COMPLY WITH CURRENT HEALTH AND SAFETY LEGISLATION, H.S.E. RECOMMENDATIONS/GUIDANCE AND THE CURRENT C.D.M. REGULATIONS.

THIS DRAWING IS TO BE READ IN CONJUNCTION WITH LEACH RHODES WALKER ARCHITECTS GENERAL ARRANGEMENT DRAWINGS, TOGETHER WITH RELEVANT DETAILED DRAWINGS AND SPECIFICATIONS.

FOR ALL STRUCTURAL WORKS REFER TO THE STRUCTURAL ENGINEERS INFORMATION.

FOR ALL MECHANICAL AND ELECTRICAL WORKS REFER TO THE MECHANICAL AND ELECTRICAL ENGINEERS INFORMATION.

FOR ALL ABOVE GROUND DRAINAGE WORKS REFER TO THE PUBLIC HEALTH ENGINEERS INFORMATION.

ALL PRODUCTS SPECIFIED ARE TO BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS, SPECIFICATION AND DETAILS.

POST STAGE 3+ GA AMENDMENTS	TG	TG	14.08.23
P01 FIRST ISSUE	TG	TG	29.06.23
Rev. Description	Drawn	Info	Scale

DO NOT SCALE OFF THIS DRAWING

LeachRhodesWalker Architects

info@lrw.co.uk	www.lrw.co.uk
H.Q. 50 Deans Place	Manchester M3 3LH
Manchester	London
+44 (0)161 933 1211	+44 (0)207 993 1363

PROJECT	AXIS-RE
PROJECT	BLOCK 1NQ AND CLEMENTS MANCHESTER
DOCUMENT NO.	8198-LRW-ZZ-00-DR-A-90-101
DESCRIPTION	PROPOSED SITE SETTING OUT

REGION	P02	SCALE	1:100@ A0
LRW PROJECT NO.	8198	DATE CREATED	29/06/23
CREATED BY	TG	AUTHORISED BY	TG

Envirocheck[®] Report:

Historical Data Report Datasheet

Order Details:

Order Number:

302490219_1_1

Customer Reference:

143404

National Grid Reference:

384790, 398380

Slice:

A

Site Area (Ha):

0.47

Search Buffer (m):

1000

Site Details:

Flat 1, Burlington House

22

Tariff Street

MANCHESTER

M1 2DN

Client Details:

Mr J Blacker

Fairhurst Group LLP

51a St Pauls Street

Leeds

LS1 2TE

Report Section	Page Number
Summary	-
Historical Building Plans Information	1
Historical Land Use Information	7
Historical Tanks and Energy Facilities	13
Historical Map List	14
Useful Contacts and Further Information	16

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 and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.

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

Copyright Notice

© Landmark Information Group Limited 2022. The Copyright on the information and data and its format as contained in this Envirocheck® Report ("Report") is the property of Landmark Information Group Limited ("Landmark") and several other Data Providers, including (but not limited to) Ordnance Survey, British Geological Survey, the Environment Agency and Natural England, and must not be reproduced in whole or in part by photocopying or any other method. The Report is supplied under Landmark's Terms and Conditions accepted by the Customer. A copy of Landmark's Terms and Conditions can be found with the Index Map for this report. Additional copies of the Report may be obtained from Landmark, subject to Landmark's charges in force from time to time. The Copyright, design rights and any other intellectual rights shall remain the exclusive property of Landmark and /or other Data providers, whose Copyright material has been included in this Report.

Report Version v53.0

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Building Plans Information					
Areas Cleared Due To Enemy Action	pg 1			1	18
Above Ground Fuel Tanks (100m)	pg 1		2	n/a	n/a
Asbestos (100m)	pg 2	9	36	n/a	n/a
Benzene/Benzole/Naphtha, Naphthalene/Kerosene (100m)				n/a	n/a
Electricity Generation (100m)				n/a	n/a
Electricity Sub-Station (100m)	pg 4		3	n/a	n/a
Gas Industry (100m)				n/a	n/a
Gas Storage (100m)				n/a	n/a
Gas Use (100m)	pg 4	1	9	n/a	n/a
Oil Industry (100m)				n/a	n/a
Oil Storage (100m)				n/a	n/a
Oil Use (100m)	pg 4		3	n/a	n/a
Paint based Oils (100m)				n/a	n/a
Paraffin (100m)				n/a	n/a
Petrol and Diesel Industry (100m)				n/a	n/a
Petrol and Diesel Storage (100m)				n/a	n/a
Petrol and Diesel Use (100m)				n/a	n/a
Potential Fuel Gas (100m)				n/a	n/a
Potential Fuel Oil (100m)				n/a	n/a
Potential Fuel Use (100m)				n/a	n/a
Potential Petrol and Diesel (100m)				n/a	n/a
Potential Tanks (100m)				n/a	n/a
Potentially Fuel-related Tanks (100m)	pg 4		2	n/a	n/a
Underground Fuel Tanks (100m)	pg 5	9	13	n/a	n/a
Historical Land Use Information					
Former Marshes					
Historical Flood Liabilities					
Potentially Contaminative Industrial Uses (Past Land Use)	pg 7		11	16	63
Potentially Infilled Land (Non-Water)	pg 11				1
Potentially Infilled Land (Water)	pg 11	1	5	12	14

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m
Historical Tanks and Energy Facilities					
Electrical Sub Station Facilities (100m)				n/a	n/a
Electricity Industry Facilities (100m)				n/a	n/a
Gas Industry Facilities (100m)				n/a	n/a
Gas Monitoring Facilities (100m)				n/a	n/a
Miscellaneous Power Facilities (100m)				n/a	n/a
Oil Industry Facilities (100m)				n/a	n/a
Petroleum Storage Facilities (100m)				n/a	n/a
Potential Tanks (100m)	pg 13	2	6	n/a	n/a
Tanks (100m)	pg 13		2	n/a	n/a

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_233_1962_geo1	A18SW (N)	429	1	384661 398836
2	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_232_1962_geo1	A17SE (NW)	580	1	384444 398896
3	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_232_1962_geo1	A18SW (NW)	592	1	384466 398923
4	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_232_1962_geo1	A17SE (NW)	596	1	384379 398874
5	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_232_1962_geo1	A17SE (NW)	624	1	384332 398873
6	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_232_1962_geo1	A17SE (NW)	642	1	384401 398943
7	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_232_1962_geo1	A18SW (N)	653	1	384563 399039
8	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_228_1962_geo1	A17SE (NW)	655	1	384355 398930
9	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_232_1962_geo1	A18SW (N)	664	1	384545 399044
10	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 084_346_1968_geo1	A8SE (S)	670	1	384921 397699
11	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 084_346_1962_geo1	A8SE (S)	670	1	384921 397699
12	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 083_232_1962_geo1	A17SE (NW)	684	1	384446 399018
13	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 082_018_1970_geo1	A7NE (SW)	776	1	384132 397880
14	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 082_018_1962_geo1	A7NE (SW)	776	1	384132 397880
15	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 084_344_1962_geo1	A8SW (S)	812	1	384717 397536
16	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 084_344_1962_geo1	A8SW (S)	823	1	384698 397526
17	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 084_344_1962_geo1	A8SW (S)	831	1	384685 397519
18	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 084_343_1962_geo1	A8SW (S)	872	1	384625 397484
19	Areas Cleared Due To Enemy Action Use: Areas Cleared Due To Enemy Action Plan Name: 082_002_1962_geo1	A12NW (W)	907	1	383835 398550
20	Above Ground Fuel Tanks Map Text: Oil Tank Plan Name: 082_007_1970_geo1	A13SW (SW)	74	1	384683 398319
20	Above Ground Fuel Tanks Map Text: Oil Tank Plan Name: 082_007_1962_geo1	A13SW (SW)	75	1	384683 398318

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	Asbestos Map Text: ASB Plan Name: 083_223_1928_geo1	A13NE (E)	0	1	384822 398393
21	Asbestos Map Text: ASB Plan Name: 083_223_1928_geo1	A13NE (NE)	0	1	384799 398405
21	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13NE (E)	0	1	384822 398392
21	Asbestos Map Text: ASB Clad Plan Name: 083_223_1962_geo1	A13NW (NW)	0	1	384782 398387
21	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13SW (SW)	0	1	384787 398382
21	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13SE (SE)	0	1	384795 398369
21	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13SE (E)	7	1	384853 398370
21	Asbestos Map Text: ASB Clad Plan Name: 083_223_1962_geo1	A13NE (NE)	12	1	384840 398408
21	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13NE (NE)	15	1	384808 398426
21	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13NE (NE)	29	1	384854 398418
21	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13NE (NE)	33	1	384854 398424
21	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13NE (NE)	34	1	384849 398427
21	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13NE (NE)	37	1	384832 398438
22	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13NW (NW)	0	1	384756 398399
22	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13SW (W)	0	1	384761 398379
22	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13SW (S)	0	1	384779 398361
22	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NW (NW)	34	1	384745 398440
22	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NW (NW)	41	1	384737 398443
23	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13SE (E)	27	1	384877 398371
23	Asbestos Map Text: Wd & ASB Lined Plan Name: 083_223_1962_geo1	A13SE (E)	28	1	384873 398361
23	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13SE (SE)	31	1	384867 398350

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13SE (SE)	33	1	384866 398346
24	Asbestos Map Text: ASB Plan Name: 082_007_1962_geo1	A13SW (W)	31	1	384712 398356
24	Asbestos Map Text: ASB Plan Name: 082_007_1962_geo1	A13SW (SW)	31	1	384715 398351
24	Asbestos Map Text: ASB Plan Name: 082_007_1970_geo1	A13SW (SW)	31	1	384715 398351
24	Asbestos Map Text: ASB Plan Name: 082_007_1970_geo1	A13SW (W)	31	1	384712 398356
24	Asbestos Map Text: ASB Plan Name: 082_007_1970_geo1	A13SW (W)	36	1	384709 398352
25	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NW (NW)	42	1	384738 398446
25	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NW (NW)	48	1	384737 398451
25	Asbestos Map Text: ASB Lined Ceiling Plan Name: 083_231_1962_geo1	A13NW (NW)	64	1	384743 398473
25	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NW (NW)	64	1	384728 398465
26	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NW (N)	48	1	384788 398474
26	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NE (N)	51	1	384791 398476
26	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NE (N)	91	1	384813 398513
26	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NE (N)	93	1	384811 398516
27	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NE (N)	49	1	384815 398466
27	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13NE (NE)	52	1	384847 398447
27	Asbestos Map Text: ASB Plan Name: 083_231_1962_geo1	A13NE (N)	56	1	384820 398471
28	Asbestos Map Text: ASB Plan Name: 082_007_1970_geo1	A13SW (S)	83	1	384740 398265
29	Asbestos Map Text: ASB Clad Plan Name: 083_223_1962_geo1	A13NE (E)	87	1	384935 398405
29	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13SE (E)	89	1	384940 398383
29	Asbestos Map Text: ASB Plan Name: 083_223_1962_geo1	A13NE (E)	99	1	384950 398391

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	Asbestos Map Text: ASB Plan Name: 082_007_1970_geo1	A13SE (S)	90	1	384804 398273
30	Asbestos Map Text: ASB Plan Name: 082_007_1970_geo1	A13SE (S)	93	1	384806 398270
31	Asbestos Map Text: ASB Ceil Plan Name: 082_007_1970_geo1	A13SW (SW)	100	1	384682 398276
32	Electricity Sub-Stations Map Text: Elec Sub Statn Plan Name: 082_007_1970_geo1	A13SW (SW)	27	1	384749 398320
33	Electricity Sub-Stations Map Text: Elec Sub Statn Plan Name: 082_007_1970_geo1	A13SW (SW)	77	1	384679 398319
33	Electricity Sub-Stations Map Text: Elec Sub Statn Plan Name: 082_007_1962_geo1	A13SW (SW)	78	1	384679 398319
34	Gas Use Map Text: (G.E.) Plan Name: 083_223_1928_geo1	A13SE (SE)	0	1	384802 398374
35	Gas Use Map Text: (Gas Eng) Plan Name: 082_007_1917_geo1	A13SW (SW)	61	1	384691 398332
35	Gas Use Map Text: Gas Eng Plan Name: 082_007_1917_geo1	A13SW (SW)	87	1	384681 398297
35	Gas Use Map Text: Gas Eng Plan Name: 082_007_1917_geo1	A13SW (SW)	95	1	384681 398284
36	Gas Use Map Text: Gas Heater Plan Name: 082_006_1970_geo1	A13NW (W)	86	1	384650 398426
36	Gas Use Map Text: Gas Heater Plan Name: 082_006_1960_geo1	A13NW (W)	87	1	384649 398428
36	Gas Use Map Text: Gas Heater Plan Name: 082_006_1962_geo1	A13NW (W)	87	1	384649 398427
37	Gas Use Map Text: (G.E.) Plan Name: 083_223_1928_geo1	A13NE (E)	92	1	384938 398411
37	Gas Use Map Text: (G.E.) Plan Name: 083_223_1928_geo1	A13SE (E)	93	1	384944 398385
37	Gas Use Map Text: (G.E.) Plan Name: 083_223_1928_geo1	A13SE (E)	94	1	384946 398378
38	Oil Use Map Text: Oil Fuel Heater Plan Name: 083_231_1962_geo1	A13NW (NW)	41	1	384700 398421
39	Oil Use Map Text: Oil Fuel Heaters Plan Name: 082_007_1970_geo1	A13SW (SW)	69	1	384685 398326
39	Oil Use Map Text: Oil Fuel Heaters Plan Name: 082_007_1962_geo1	A13SW (SW)	70	1	384685 398326
40	Potentially Fuel-related Tanks Map Text: Tank Plan Name: 083_223_1928_geo1	A13NE (NE)	35	1	384857 398423
41	Potentially Fuel-related Tanks Map Text: Tank Plan Name: 083_223_1928_geo1	A13SE (E)	76	1	384916 398340

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 083_223_1928_geo1	A13NW (N)	0	1	384777 398417
42	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 083_223_1962_geo1	A13NW (N)	0	1	384777 398416
42	Underground Fuel Tanks Map Text: Sunk Petrol Tanks Plan Name: 083_223_1962_geo1	A13NW (NW)	0	1	384766 398398
42	Underground Fuel Tanks Map Text: Sunk Petrol Tanks Plan Name: 083_223_1962_geo1	A13NW (W)	0	1	384760 398395
42	Underground Fuel Tanks Map Text: Sunk Petrol Tanks Plan Name: 083_223_1962_geo1	A13SW (SW)	0	1	384783 398370
42	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 083_223_1962_geo1	A13SW (W)	0	1	384762 398381
42	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 083_231_1931_geo1	A13NW (NW)	14	1	384754 398422
42	Underground Fuel Tanks Map Text: Sunk Petrol Tanks Plan Name: 083_231_1962_geo1	A13NE (N)	24	1	384797 398448
42	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 083_231_1931_geo1	A13NE (N)	29	1	384794 398454
43	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 083_223_1928_geo1	A13SE (E)	0	1	384816 398386
43	Underground Fuel Tanks Map Text: Sunk Petrol Tanks Plan Name: 083_223_1962_geo1	A13NE (E)	0	1	384814 398387
43	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 083_223_1962_geo1	A13NE (NE)	9	1	384827 398403
43	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 083_223_1928_geo1	A13NE (NE)	11	1	384827 398406
44	Underground Fuel Tanks Map Text: Sunk Petrol Tanks Plan Name: 083_223_1962_geo1	A13SW (SW)	0	1	384777 398366
45	Underground Fuel Tanks Map Text: Sunk Oil Tank Plan Name: 083_231_1962_geo1	A13NW (NW)	47	1	384694 398424
46	Underground Fuel Tanks Map Text: Sunk Petrol & Oil Tanks Plan Name: 083_223_1962_geo1	A13NE (NE)	55	1	384842 398453
46	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 083_223_1928_geo1	A13NE (NE)	62	1	384848 398458
47	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 082_007_1962_geo1	A13SW (S)	71	1	384780 398281
47	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 082_007_1936_geo1	A13SW (S)	72	1	384782 398281
48	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 082_007_1970_geo1	A13SW (W)	91	1	384656 398333
48	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 082_007_1936_geo1	A13SW (W)	92	1	384655 398332

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	Underground Fuel Tanks Map Text: Sunk Petrol Tank Plan Name: 082_007_1962_geo1	A13SW (W)	92	1	384655 398332

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
49	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1923	A13SE (S)	84	1	384809 398282
49	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1923	A13SE (S)	129	1	384821 398237
50	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A13SE (SE)	90	1	384848 398274
51	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1895 - 1956	A13SW (S)	142	1	384749 398205
52	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1993	A13NE (E)	167	1	385002 398454
53	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A13NE (NE)	177	1	384941 398540
54	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1923	A13SE (SE)	209	1	384895 398164
55	Potentially Contaminative Industrial Uses (Past Land Use) Use: Natural and man-made textile manufacture and products Date of Mapping: 1909 - 1923	A13SE (SE)	210	1	384984 398214
56	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848 - 1993	A13SE (S)	211	1	384837 398154
57	Potentially Contaminative Industrial Uses (Past Land Use) Use: Sawmilling, planing & impregnation [i.e. treatment of timber] Date of Mapping: 1923	A13NE (NE)	212	1	385020 398508
58	Potentially Contaminative Industrial Uses (Past Land Use) Use: Metal casting/foundries Date of Mapping: 1895	A13SE (SE)	225	1	384982 398192
59	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A13NE (NE)	263	1	385046 398556
60	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A13SE (SE)	324	1	385066 398136
61	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A13NE (NE)	339	1	385106 398602
62	Potentially Contaminative Industrial Uses (Past Land Use) Use: Hospitals Date of Mapping: 1923	A13SW (SW)	341	1	384533 398085
63	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A13SE (SE)	352	1	385068 398099
64	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8NW (SW)	398	1	384573 397992
65	Potentially Contaminative Industrial Uses (Past Land Use) Use: Coal storage and depot Date of Mapping: 1848	A14NW (NE)	399	1	385199 398576
66	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1923	A14SW (SE)	403	1	385166 398127
67	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848 - 1956	A18SE (N)	433	1	384845 398855
68	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8NW (S)	438	1	384607 397934

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
69	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A14NW (E)	469	1	385319 398414
70	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1993	A8NE (SE)	474	1	384996 397917
71	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1923	A8NW (SW)	478	1	384527 397925
72	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1923	A14SW (SE)	483	1	385281 398157
73	Potentially Contaminative Industrial Uses (Past Land Use) Use: Glass & glass products exc. flat glass [manufacture] Date of Mapping: 1848	A19SW (NE)	488	1	385190 398731
74	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A14SW (E)	497	1	385336 398267
75	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A18SE (N)	502	1	384932 398907
76	Potentially Contaminative Industrial Uses (Past Land Use) Use: Glass & glass products exc. flat glass [manufacture] Date of Mapping: 1923	A14NW (E)	518	1	385359 398480
77	Potentially Contaminative Industrial Uses (Past Land Use) Use: Hospitals Date of Mapping: 1894 - 1993	A14SW (E)	526	1	385378 398382
78	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1895	A8NW (SW)	555	1	384517 397844
79	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1994	A7NE (SW)	557	1	384375 397937
80	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8NW (S)	561	1	384590 397809
81	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A19SW (NE)	573	1	385130 398888
82	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A14SW (E)	577	1	385403 398209
83	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1895 - 1993	A14SW (SE)	587	1	385382 398126
84	Potentially Contaminative Industrial Uses (Past Land Use) Use: Transport support & cargo handling Date of Mapping: 1909 - 1923	A14SW (E)	601	1	385451 398332
85	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1895 - 1993	A8NE (S)	604	1	384941 397770
86	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1895 - 1956	A9NW (SE)	609	1	385265 397931
87	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848	A8NE (S)	617	1	385038 397781
88	Potentially Contaminative Industrial Uses (Past Land Use) Use: Machinery: engines, building and general industrial [manufacture] Date of Mapping: 1923	A14NE (E)	623	1	385472 398442
89	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1993	A19SW (NE)	626	1	385264 398852

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848 - 1956	A18SE (N)	629	1	384958 399031
91	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1994	A12NE (W)	642	1	384119 398595
92	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A19SW (NE)	644	1	385361 398773
93	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1993	A14SE (E)	647	1	385483 398234
94	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923 - 1993	A14SE (E)	670	1	385521 398353
95	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8SW (S)	671	1	384706 397677
96	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8SW (S)	709	1	384629 397649
97	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1993	A9NW (SE)	714	1	385295 397817
98	Potentially Contaminative Industrial Uses (Past Land Use) Use: Metal casting/foundries Date of Mapping: 1895	A8SW (S)	729	1	384594 397636
99	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A19SW (NE)	733	1	385424 398836
100	Potentially Contaminative Industrial Uses (Past Land Use) Use: Road haulage Date of Mapping: 1994	A18NW (N)	739	1	384669 399155
101	Potentially Contaminative Industrial Uses (Past Land Use) Use: Glass & glass products exc. flat glass [manufacture] Date of Mapping: 1848	A18NE (NE)	744	1	385119 399092
102	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923 - 1993	A8SE (S)	767	1	385055 397629
103	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A14NE (E)	786	1	385625 398524
104	Potentially Contaminative Industrial Uses (Past Land Use) Use: Gas manufacture & distribution Date of Mapping: 1848 - 1956	A18NW (N)	790	1	384603 399194
105	Potentially Contaminative Industrial Uses (Past Land Use) Use: Natural and man-made textile manufacture and products Date of Mapping: 1848	A8SE (S)	803	1	384953 397570
105	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1895 - 1923	A8SE (S)	819	1	384937 397550
106	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8SW (S)	805	1	384614 397554
107	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848 - 1993	A9SW (SE)	817	1	385246 397658
108	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8SE (S)	827	1	384892 397531
109	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848 - 1994	A17SW (NW)	832	1	384095 398930

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
110	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1895 - 1956	A9NE (SE)	844	1	385493 397830
111	Potentially Contaminative Industrial Uses (Past Land Use) Use: Dyes & pigments [manufacture] Date of Mapping: 1848	A8SE (S)	855	1	385010 397528
111	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8SE (S)	862	1	385004 397519
112	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923 - 1956	A9NE (SE)	859	1	385517 397835
113	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848 - 1993	A19NW (N)	871	1	385135 399224
114	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8SW (S)	886	1	384602 397473
115	Potentially Contaminative Industrial Uses (Past Land Use) Use: Dyes & pigments [manufacture] Date of Mapping: 1848	A9SW (SE)	894	1	385158 397530
116	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1895 - 1956	A9NE (SE)	898	1	385605 397889
117	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1938	A7SE (SW)	909	1	384247 397592
118	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A14NE (E)	918	1	385733 398635
119	Potentially Contaminative Industrial Uses (Past Land Use) Use: Brewing & malting Date of Mapping: 1923	A9SW (SE)	918	1	385241 397540
120	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1895	A8SW (S)	925	1	384539 397446
121	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848 - 1994	A17NE (N)	928	1	384446 399289
122	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848 - 1990	A17NE (N)	930	1	384447 399291
123	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1894 - 1993	A19SE (NE)	937	1	385544 399011
124	Potentially Contaminative Industrial Uses (Past Land Use) Use: Metal casting/foundries Date of Mapping: 1909 - 1956	A17NE (N)	938	1	384427 399292
125	Potentially Contaminative Industrial Uses (Past Land Use) Use: Hospitals Date of Mapping: 1956	A14NE (E)	938	1	385788 398439
126	Potentially Contaminative Industrial Uses (Past Land Use) Use: Cemetery or Graveyard Date of Mapping: 1848	A17SW (NW)	939	1	384035 399025
127	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1923	A8SW (S)	942	1	384480 397445
128	Potentially Contaminative Industrial Uses (Past Land Use) Use: Factory or works - use not specified Date of Mapping: 1956 - 1994	A18NW (N)	948	1	384570 399349
129	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1894 - 1956	A18NW (N)	949	1	384684 399369

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
130	Potentially Contaminative Industrial Uses (Past Land Use) Use: Rubber natural products manufacture Date of Mapping: 1923	A18NW (N)	950	1	384572 399351
131	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1895 - 1994	A17NE (NW)	961	1	384192 399188
132	Potentially Contaminative Industrial Uses (Past Land Use) Use: Natural and man-made textile manufacture and products Date of Mapping: 1848	A19SE (NE)	963	1	385572 399018
133	Potentially Contaminative Industrial Uses (Past Land Use) Use: Clay bricks & tiles [manufacture] Date of Mapping: 1848	A14NE (E)	971	1	385793 398617
134	Potentially Contaminative Industrial Uses (Past Land Use) Use: Railways Date of Mapping: 1848	A17NW (NW)	972	1	384101 399133
135	Potentially Contaminative Industrial Uses (Past Land Use) Use: Rubber natural products manufacture Date of Mapping: 1923	A9NE (SE)	992	1	385702 397868
136	Potentially Infilled Land (Non-Water) Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A14NE (E)	971	1	385793 398617
137	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A13NW (NW)	0	1	384784 398392
138	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13NE (NE)	29	1	384851 398421
139	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A13SE (SE)	63	1	384826 398301
140	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A13NE (E)	63	1	384915 398387
141	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A13SE (E)	117	1	384966 398354
142	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A13SE (E)	120	1	384965 398341
143	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1909	A13NE (E)	281	1	385121 398460
144	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A14NW (E)	301	1	385135 398482
145	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A14NW (E)	307	1	385139 398485
146	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13NE (NE)	319	1	385100 398580
147	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A13SE (SE)	360	1	385063 398085
148	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A14NW (NE)	361	1	385173 398545
149	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A13SE (SE)	364	1	385116 398129
150	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A14SW (SE)	383	1	385172 398168

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
151	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A18SE (NE)	386	1	385039 398724
152	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A8NW (SW)	399	1	384499 398038
153	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A14SW (E)	418	1	385269 398351
154	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8NW (SW)	493	1	384489 397930
155	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A14SW (E)	530	1	385381 398361
156	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A14SW (E)	535	1	385357 398203
157	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (NE)	558	1	385208 398812
158	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A14SW (E)	569	1	385419 398336
159	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A19SW (NE)	586	1	385288 398769
160	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A19SW (NE)	628	1	385207 398902
161	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8SW (S)	696	1	384624 397663
162	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1894	A18NW (N)	743	1	384558 399132
163	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NE (SW)	816	1	384136 397812
164	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A7NE (SW)	827	1	384134 397798
165	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A19SE (NE)	830	1	385497 398902
166	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1923	A8SW (S)	833	1	384779 397515
167	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1956	A8SE (S)	858	1	384836 397493
168	Potentially Infilled Land (Water) Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1848	A7NW (SW)	877	1	384046 397827

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
169	Potential Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1948	A13NE (NE)	0	1	384810 398401
169	Potential Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1971	A13NE (NE)	0	1	384793 398389
169	Potential Tanks Scale of Mapping: 1:2,500 Date of Mapping: 1955 - 1965	A13NE (NE)	2	1	384816 398406
169	Potential Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1954	A13NE (NE)	2	1	384816 398406
169	Potential Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1971	A13NE (NE)	18	1	384830 398414
170	Potential Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1971	A13NW (N)	30	1	384787 398456
171	Potential Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1971	A13NE (NE)	51	1	384862 398439
172	Potential Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1971	A13SE (E)	82	1	384930 398356
173	Tanks Scale of Mapping: 1:2,500 Date of Mapping: 1955 - 1965	A13NE (NE)	37	1	384857 398426
173	Tanks Scale of Mapping: 1:1,250 Date of Mapping: 1954	A13NE (NE)	37	1	384857 398426

The following plans have been analysed for Historical Building Plans Information:

Plan Name:	Town:	Published Date:	Last Pasted Date:
083_223_1928_geo1	Manchester Vol 2	1928	1928
083_223_1962_geo1	Manchester Vol 2	1928	1962
083_231_1931_geo1	Manchester Vol 2	1931	1931
083_231_1962_geo1	Manchester Vol 2	1931	1962
082_007_1917_geo1	Manchester Vol 1	1886	1917
082_007_1936_geo1	Manchester Vol 1	1936	1936
082_007_1962_geo1	Manchester Vol 1	1936	1962
082_007_1970_geo1	Manchester Vol 1	1936	1970
081_206_1889_geo1	Manchester Carriers	1889	1889
082_006_1962_geo1	Manchester Vol 1	1960	1962
082_006_1917_geo1	Manchester Vol 1	1886	1917
082_006_1970_geo1	Manchester Vol 1	1960	1970
082_006_1960_geo1	Manchester Vol 1	1960	1960
083_220_1928_geo1	Manchester Vol 2	1928	1928
083_220_1962_geo1	Manchester Vol 2	1928	1962
083_235_1927_geo1	Manchester Vol 2	1927	1927
083_235_1962_geo1	Manchester Vol 2	1927	1962

The following mapping has been analysed for Historical Land Use Information:

1:10,560	Mapsheet	Published Date
Lancashire And Furness	104_00	1848
Cheshire	003A_00	1882
Lancashire And Furness	104_NE	1894
Lancashire And Furness	104_NW	1895
Lancashire And Furness	104_SE	1895
Lancashire And Furness	104_SW	1896
Lancashire And Furness	104_NE	1909
Lancashire And Furness	104_NW	1909
Lancashire And Furness	104_SE	1909
Lancashire And Furness	104_SW	1909
Lancashire And Furness	104_NE	1923
Lancashire And Furness	104_NW	1923
Lancashire And Furness	104_SE	1923
Lancashire And Furness	104_SW	1938
Ordnance Survey Plan	SJ89NE	1956
Ordnance Survey Plan	SJ89NW	1956
1:10,000	Mapsheet	Published Date
Ordnance Survey Plan	SJ89NE	1993
Ordnance Survey Plan	SJ89NW	1994

The following mapping has been analysed for Historical Tanks and Energy Facilities:

1:2,500	Mapsheet	Published Date
Ordnance Survey Plan	SJ8498	1951
Ordnance Survey Plan	SJ8598	1951
Ordnance Survey Plan	SJ8598	1953
Ordnance Survey Plan	SJ8498	1955
Ordnance Survey Plan	SJ8498	1965
Ordnance Survey Plan	SJ8598	1965
Ordnance Survey Plan	SJ8498	1969
Ordnance Survey Plan	SJ8598	1969
1:1,250	Mapsheet	Published Date
Ordnance Survey Plan	SJ8498NE	1948
Ordnance Survey Plan	SJ8498SE	1948
Ordnance Survey Plan	SJ8498SW	1948
Ordnance Survey Plan	SJ8598NW	1948
Ordnance Survey Plan	SJ8498SW	1951
Ordnance Survey Plan	SJ8598NW	1952
Ordnance Survey Plan	SJ8498NE	1953
Ordnance Survey Plan	SJ8498SE	1954
Ordnance Survey Plan	SJ8598SW	1955
Ordnance Survey Plan	SJ8498NE	1963
Ordnance Survey Plan	SJ8498NW	1963
Ordnance Survey Plan	SJ8598NW	1963
Ordnance Survey Plan	SJ8498SW	1968
Ordnance Survey Plan	SJ8598NW	1968
Ordnance Survey Plan	SJ8498SE	1971
Ordnance Survey Plan	SJ8598SW	1981
Ordnance Survey Plan	SJ8498NE	1986
Ordnance Survey Plan	SJ8498NW	1986
Ordnance Survey Plan	SJ8498SW	1986
Ordnance Survey Plan	SJ8598NW	1988
Ordnance Survey Plan	SJ8598SW	1989

Contact	Name and Address	Contact Details
1	Landmark Information Group Limited Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9966 Fax: 0844 844 9951 Email: helpdesk@landmark.co.uk Website: www.landmark.co.uk

Historical Building Plans Information

This data set contains potentially contaminative features such as asbestos, petrol, oil and tanks captured from Historical Building Plans. The Historical Building Plans were produced by the London-based firm Charles E. Goad Ltd. as fire insurance plans, dating back to 1885. The firm ceased production of fire insurance plans in 1970. Most of the important towns and cities of the British Isles are covered. Historical Building Plans are usually at the scales of 1:480 (1 inch to 40 feet) for the British Isles. They were updated every 5-6 years by means of revision sheets designed to be pasted on to the original plans.

It should be noted that Historical Building Plans are only available for certain major towns and cities and in some cases there may only be partial coverage of the search area. It cannot therefore be assumed that the absence of responses under the Historical Building Plans section of this report indicates that no hazards exist. Please check the Historical Building Plans Map List table in the Historical Map List section of this report to establish if Historical Building Plans are available for this search area.

Historical Land Use Information

Landmark's Historical Land Use Data is the result of combined analysis of historical map data captured at 1:10,560 and 1:10,000. A unique comprehensive database of Historic Land Use from the 1840's to 1996 it includes 67 different types of potentially contaminated past industrial land use. This entailed analysing over 60,000 maps and is drawn from at least four, and up to six historical map editions. In addition a seventh layer was also created, known as the land use layer, containing areas of infilled land which are plotted via comparison between two or more map editions.

Historical Tanks and Energy Facilities

In addition to HLU, additional analysis uncovered some of the most dangerous sources of contamination (past and present tanks, petrol storage, oil, gas, electricity, miscellaneous facilities). This data set covers over 390,000 Historical Tanks and Energy facilities in Great Britain and was captured from post war 1:2500 and 1:1250 Ordnance Survey historical mapping covering a period from 1943 to 1996.

FAIRHURST

General

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

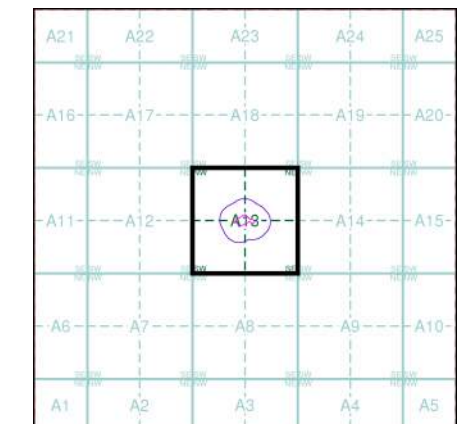
Historical Building Plans

- Area Cleared due to Enemy Action
- Asbestos
- Above Ground Fuel Tanks
- Benzene/Benzole/Naphtha, Naphthalene/Kerosene
- Electricity Generation
- Electricity Sub-Stations
- Gas Industry
- Gas Storage
- Gas Use
- Oil Industry
- Oil Storage
- Oil Use
- Paint based Oils
- Paraffin
- Petrol and Diesel Industry
- Petrol and Diesel Storage
- Petrol and Diesel Use
- Potential Fuel Gas
- Potential Fuel Oil
- Potential Fuel Use
- Potential Petrol and Diesel
- Potential Tanks
- Potentially Fuel-related Tanks
- Underground Fuel Tanks

Historical Tanks and Energy Facilities

- Electrical Sub Station Facility
- Electricity Industry Facility
- Gas Industry Facility
- Gas Monitoring Facility
- Miscellaneous Power Facility
- Oil Industry Facility
- Petroleum Storage Facility
- Potential Tank
- Tank

Historical Data Report - Segment A13



Order Details

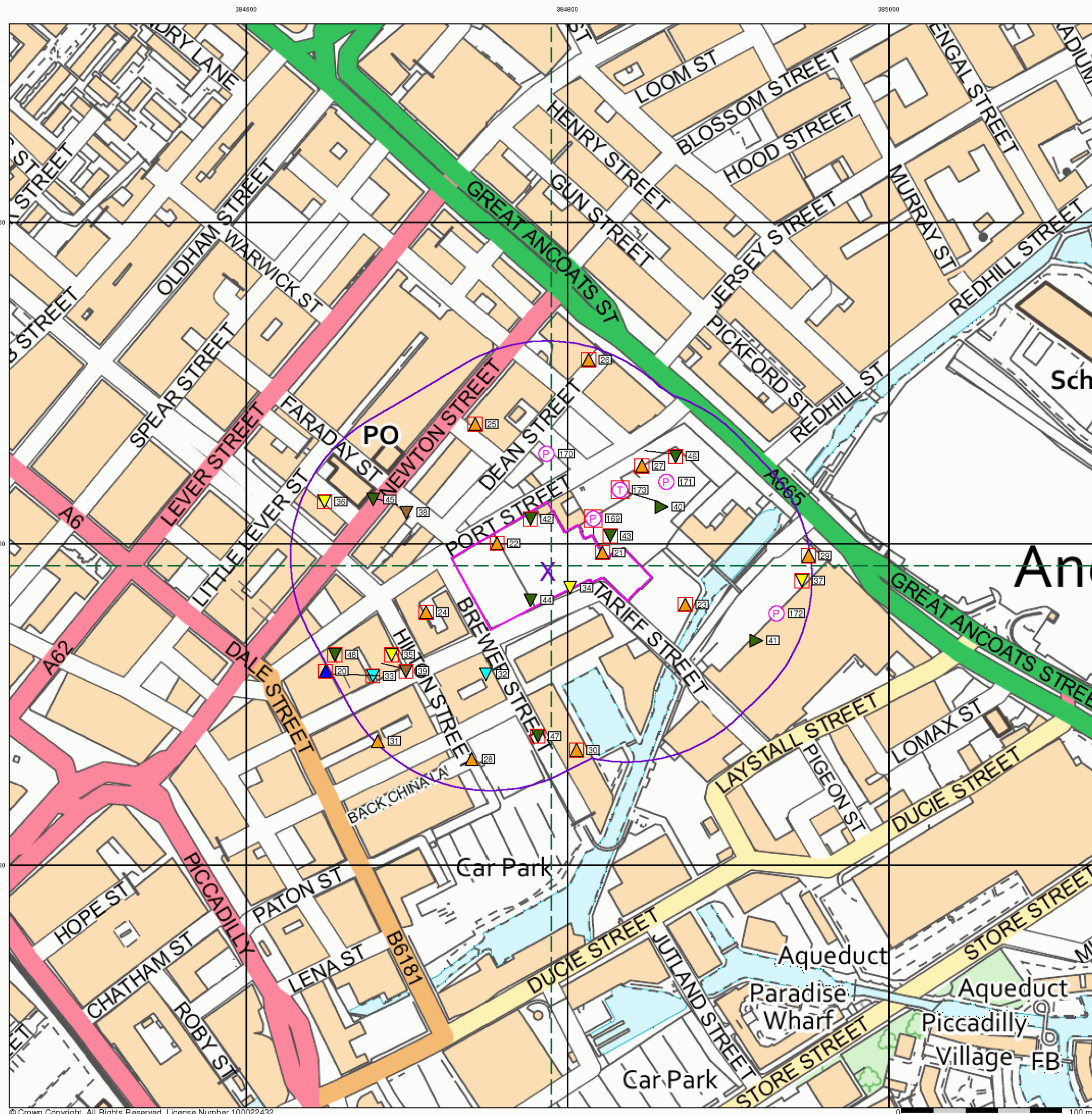
Order Number: 302490219_1_1
Customer Ref: 143404
National Grid Reference: 384790, 398380
Slice: A
Site Area (Ha): 0.47
Plot Buffer (m): 100

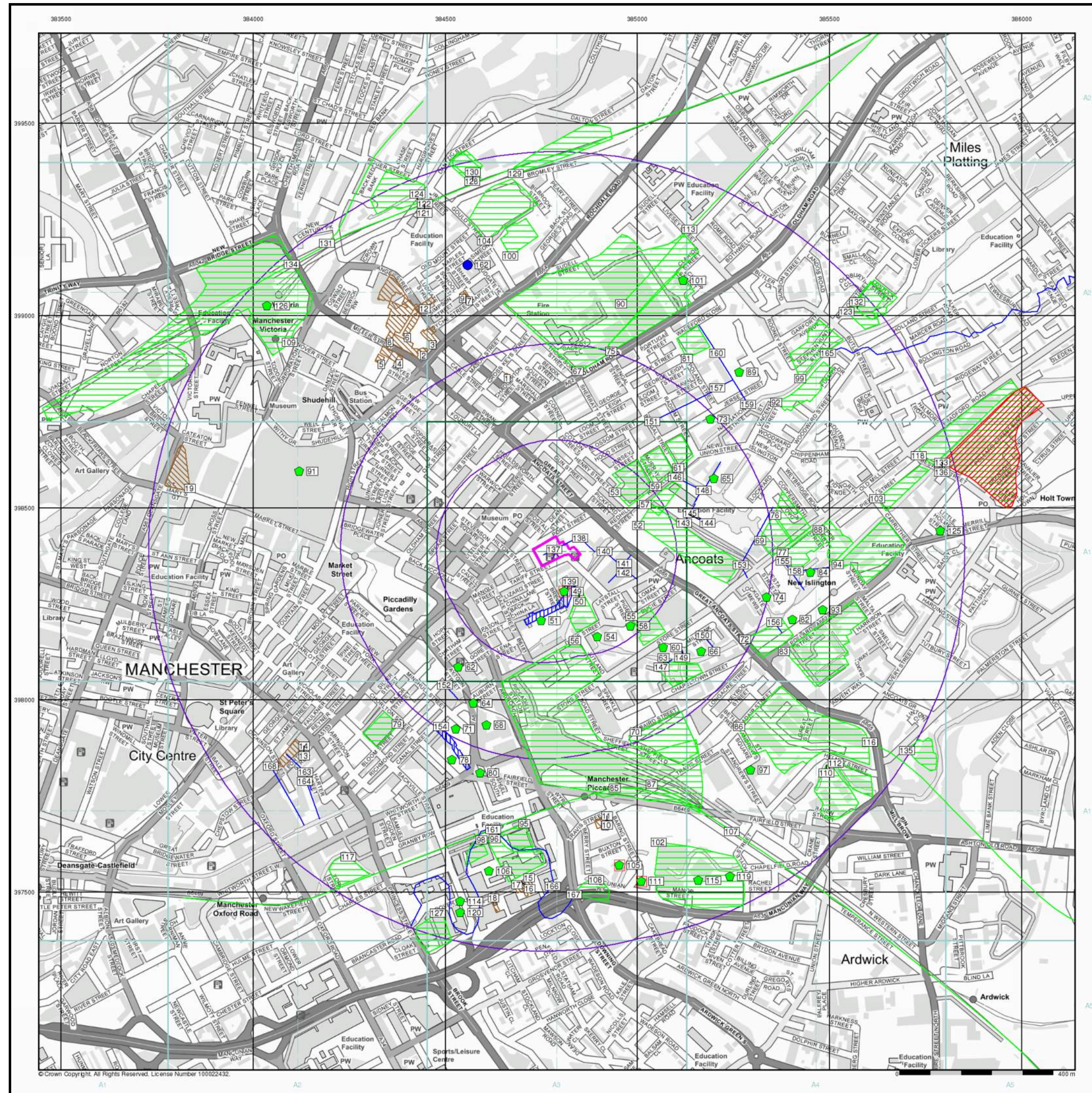
Site Details

Flat 1, Burlington House, 22, Tariff Street, MANCHESTER, M1 2DN

Landmark
INFORMATION GROUP

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

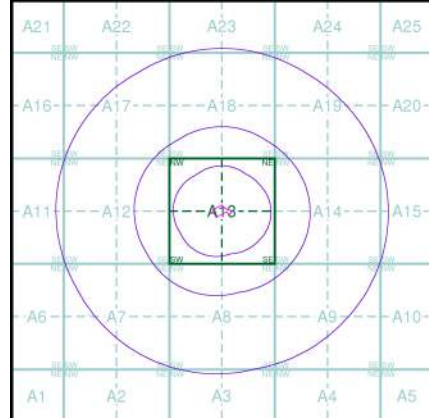




FAIRHURST

- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Map ID
- Historical Building Plans**
- Area Cleared due to Enemy Action
- Historical Land Use**
- Former Marsh
 - Historical Flood Liability
 - Historical Flood Liability (Location)
 - Potentially Contaminative Industrial Use (Past Land Use)
 - Potentially Contaminative Industrial Use (Past Land Use) (Linear)
 - Potentially Contaminative Industrial Use (Past Land Use) (Location)
 - Potentially Infilled Land (Non-Water)
 - Potentially Infilled Land (Non-Water) (Linear)
 - Potentially Infilled Land (Non-Water) (Location)
 - Potentially Infilled Land (Water)
 - Potentially Infilled Land (Water) (Linear)
 - Potentially Infilled Land (Water) (Location)

Historical Data Report - Slice Map A



Order Details

Order Number: 302490219_1_1
Customer Ref: 143404
National Grid Reference: 384790, 398380
Slice: A
Site Area (Ha): 0.47
Search Buffer (m): 1000

Site Details

Flat 1, Burlington House, 22, Tariff Street, MANCHESTER, M1 2DN

Landmark
INFORMATION GROUP

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

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

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

Ordnance Survey Plan 1:10,000

	Chalk Pit, Clay Pit or Quarry		Gravel Pit
	Sand Pit		Disused Pit or Quarry
	Refuse or Slag Heap		Lake, Loch or Pond
	Dunes		Boulders
	Coniferous Trees		Non-Coniferous Trees
	Orchard		Scrub
	Bracken		Heath
	Marsh		Reeds
	Building		Glasshouse
	Sloping Masonry		Pylon
	Cutting		Embankment
	Road Under		Road Over
	Level Crossing		Foot Bridge
	Standard Gauge Multiple Track		Standard Gauge Single Track
	Siding, Tramway or Mineral Line		Narrow Gauge
	Geographical County		Administrative County, County Borough or County of City
	Municipal Borough, Urban or Rural District, Burgh or District Council		Borough, Burgh or County Constituency
	Civil Parish		
	BP, BS Boundary Post or Stone		Police Station
	Church		Post Office
	Club House		Public Convenience
	Fire Engine Station		Public House
	Foot Bridge		Signal Box
	Fountain		Spring
	Guide Post		Telephone Call Box
	Mile Post		Telephone Call Post
	Mile Stone		Well

1:10,000 Raster Mapping

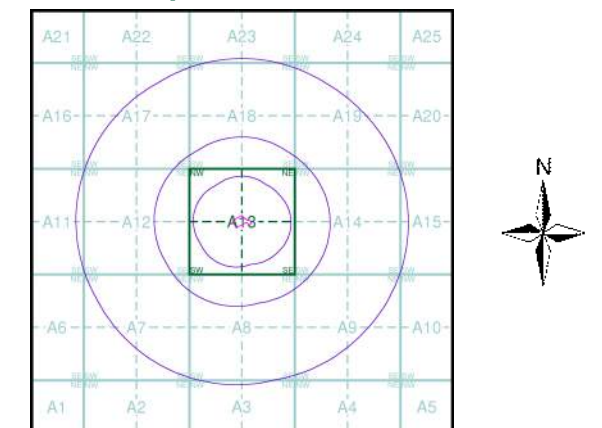
	Gravel Pit		Refuse tip or slag heap
	Rock		Rock (scattered)
	Boulders		Boulders (scattered)
	Shingle		Mud
	Sand		Sand Pit
	Slopes		Top of cliff
	General detail		Underground detail
	Overhead detail		Narrow gauge railway
	Multi-track railway		Single track railway
	County boundary (England only)		Civil,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

FAIRHURST

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
Lancashire And Furness	1:10,560	1909	6
Lancashire And Furness	1:10,560	1923	7
Lancashire And Furness	1:10,560	1931 - 1933	8
Lancashire And Furness	1:10,560	1938	9
Ordnance Survey Plan	1:10,000	1956	10
Ordnance Survey Plan	1:10,000	1968	11
Ordnance Survey Plan	1:10,000	1972	12
Manchester	1:25,000	1975	13
Ordnance Survey Plan	1:10,000	1980 - 1981	14
Ordnance Survey Plan	1:10,000	1985 - 1987	15
Ordnance Survey Plan	1:10,000	1989	16
Ordnance Survey Plan	1:10,000	1993 - 1994	17
10K Raster Mapping	1:10,000	1999	18
10K Raster Mapping	1:10,000	2006	19
VectorMap Local	1:10,000	2021	20

Historical Map - Slice A



Order Details

Order Number: 302490219_1_1
Customer Ref: 143404
National Grid Reference: 384790, 398380
Slice: A
Site Area (Ha): 0.47
Search Buffer (m): 1000

Site Details

Flat 1, Burlington House, 22, Tariff Street, MANCHESTER, M1 2DN

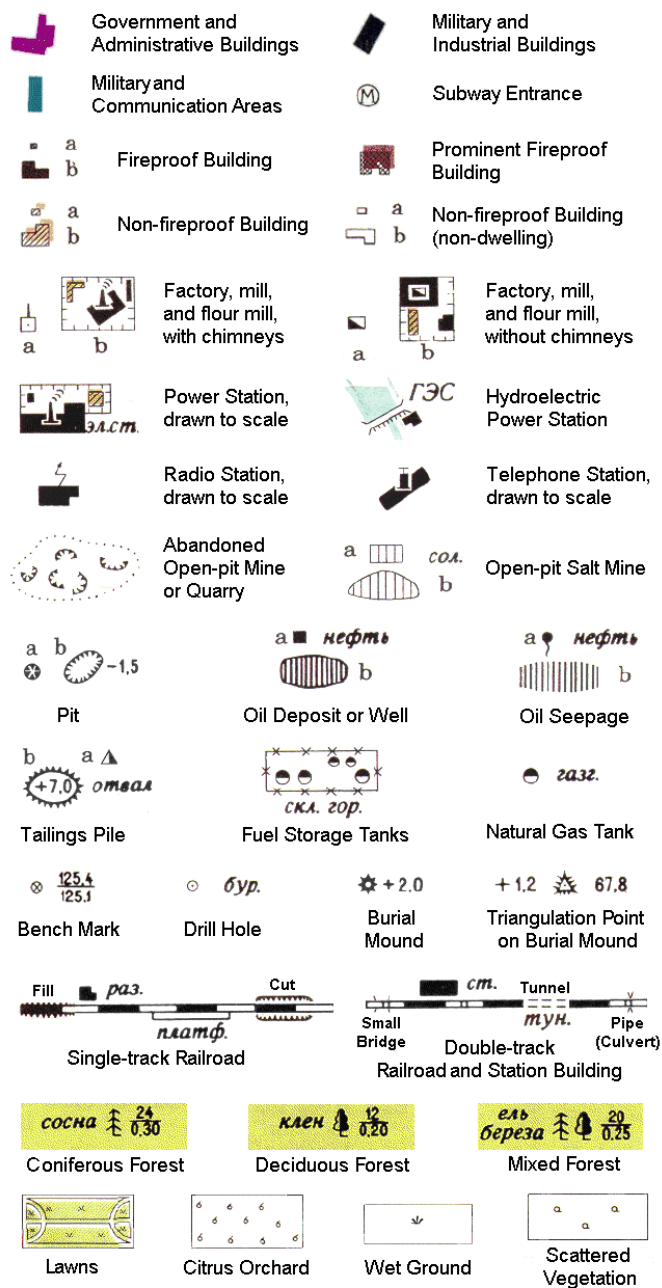
Landmark
INFORMATION GROUP

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

Russian Military Mapping Legends

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

a. Not drawn to scale b. Drawn to scale



243.8 Values for prominent elevations

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

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

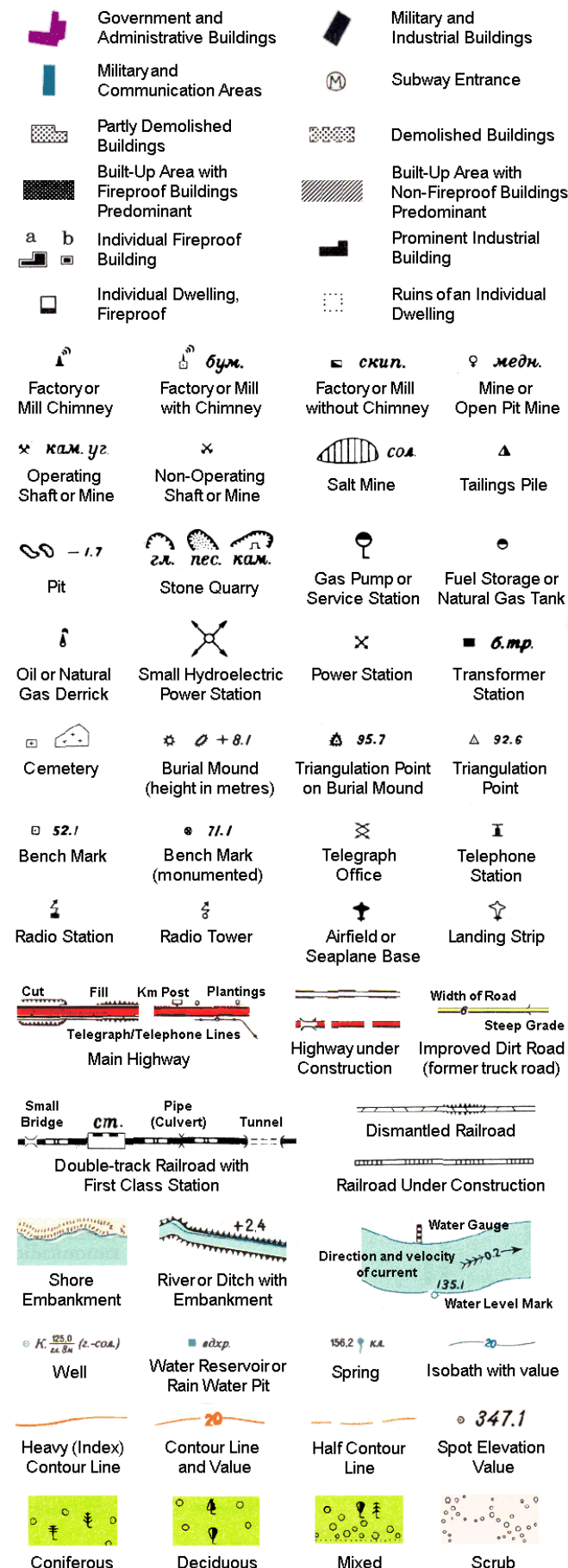
180/12 Fractional terms: length and capacity of bridges; depth of fords and condition of the river bottom; height of forest and the diameter of trees

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

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

1:25,000 mapping

a. Not drawn to scale b. Drawn to scale



Key to Numbers on Mapping

SJ89_Manchester

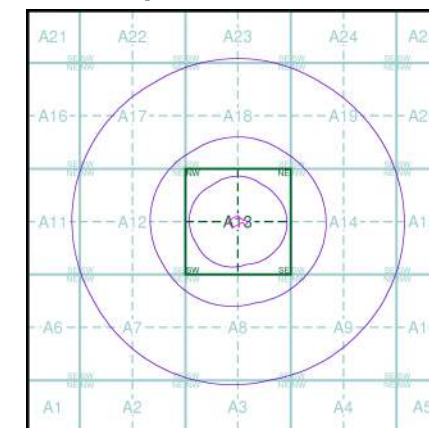
No.	Description
63	Factory (Gas)
168	Post Office
169	Post Office
194	Railway Station (Freight)

FAIRHURST

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
Lancashire And Furness	1:10,560	1909	6
Lancashire And Furness	1:10,560	1923	7
Lancashire And Furness	1:10,560	1931 - 1933	8
Lancashire And Furness	1:10,560	1938	9
Ordnance Survey Plan	1:10,000	1956	10
Ordnance Survey Plan	1:10,000	1968	11
Ordnance Survey Plan	1:10,000	1972	12
Manchester	1:25,000	1975	13
Ordnance Survey Plan	1:10,000	1980 - 1981	14
Ordnance Survey Plan	1:10,000	1985 - 1987	15
Ordnance Survey Plan	1:10,000	1989	16
Ordnance Survey Plan	1:10,000	1993 - 1994	17
10K Raster Mapping	1:10,000	1999	18
10K Raster Mapping	1:10,000	2006	19
VectorMap Local	1:10,000	2021	20

Russian Map - Slice A



Order Details

Order Number: 302490219_1_1
Customer Ref: 143404
National Grid Reference: 384790, 398380
Slice: A
Site Area (Ha): 0.47
Search Buffer (m): 1000

Site Details

Flat 1, Burlington House, 22, Tariff Street, MANCHESTER, M1 2DN

Landmark
INFORMATION GROUP

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

FAIRHURST

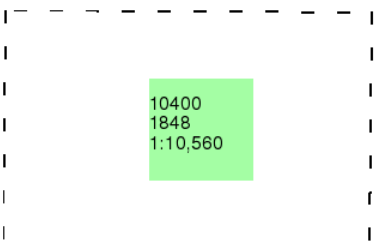
Lancashire And Furness

Published 1848

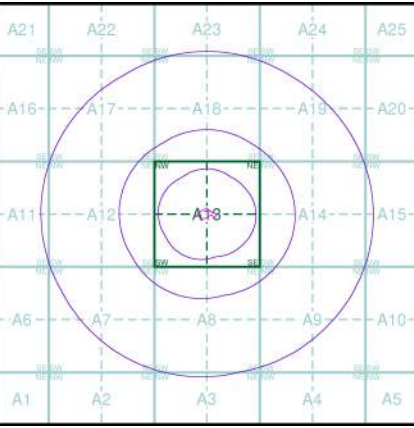
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number: 302490219_1_1
Customer Ref: 143404
National Grid Reference: 384790, 398380
Slice: A
Site Area (Ha): 0.47
Search Buffer (m): 1000

Site Details

Flat 1, Burlington House, 22, Tariff Street, MANCHESTER, M1 2DN

Landmark
INFORMATION GROUP

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

FAIRHURST

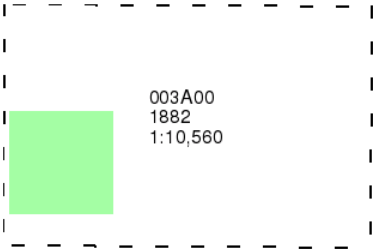
Cheshire

Published 1882

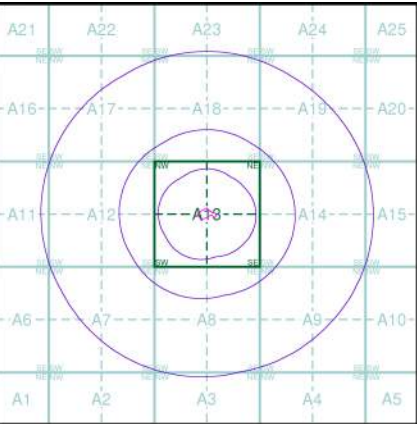
Source map scale - 1:10,560

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

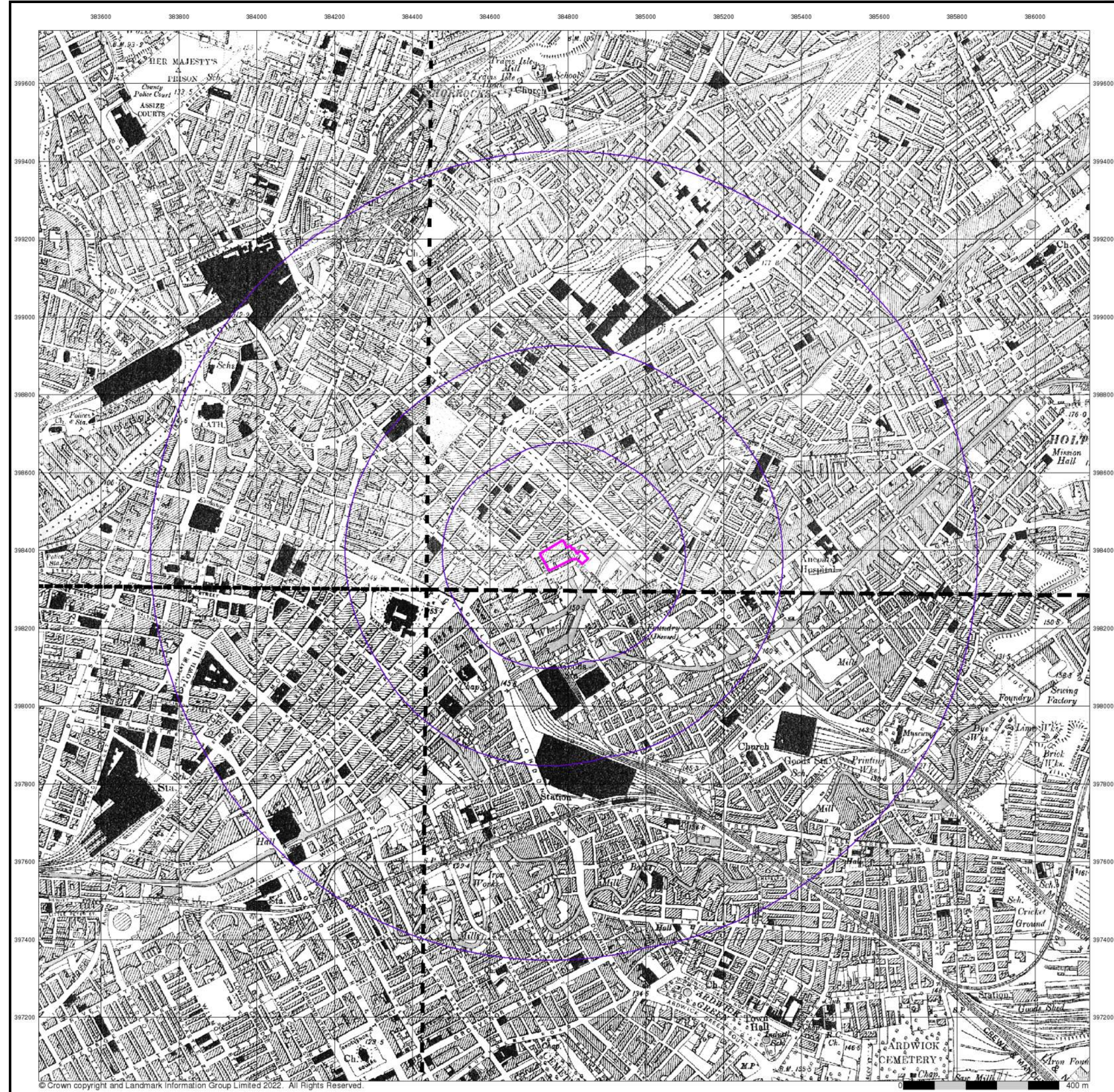
Order Number: 302490219_1_1
Customer Ref: 143404
National Grid Reference: 384790, 398380
Slice: A
Site Area (Ha): 0.47
Search Buffer (m): 1000

Site Details

Flat 1, Burlington House, 22, Tariff Street, MANCHESTER, M1 2DN

Landmark
INFORMATION GROUP

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



FAIRHURST

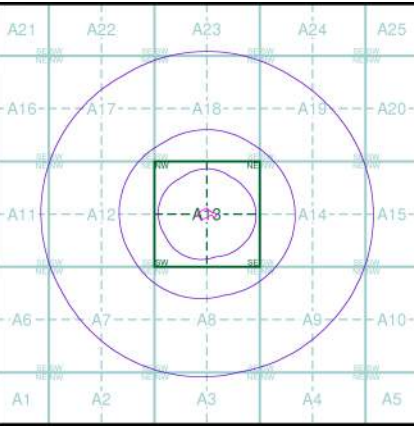
Lancashire And Furness
Published 1894 - 1896
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

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

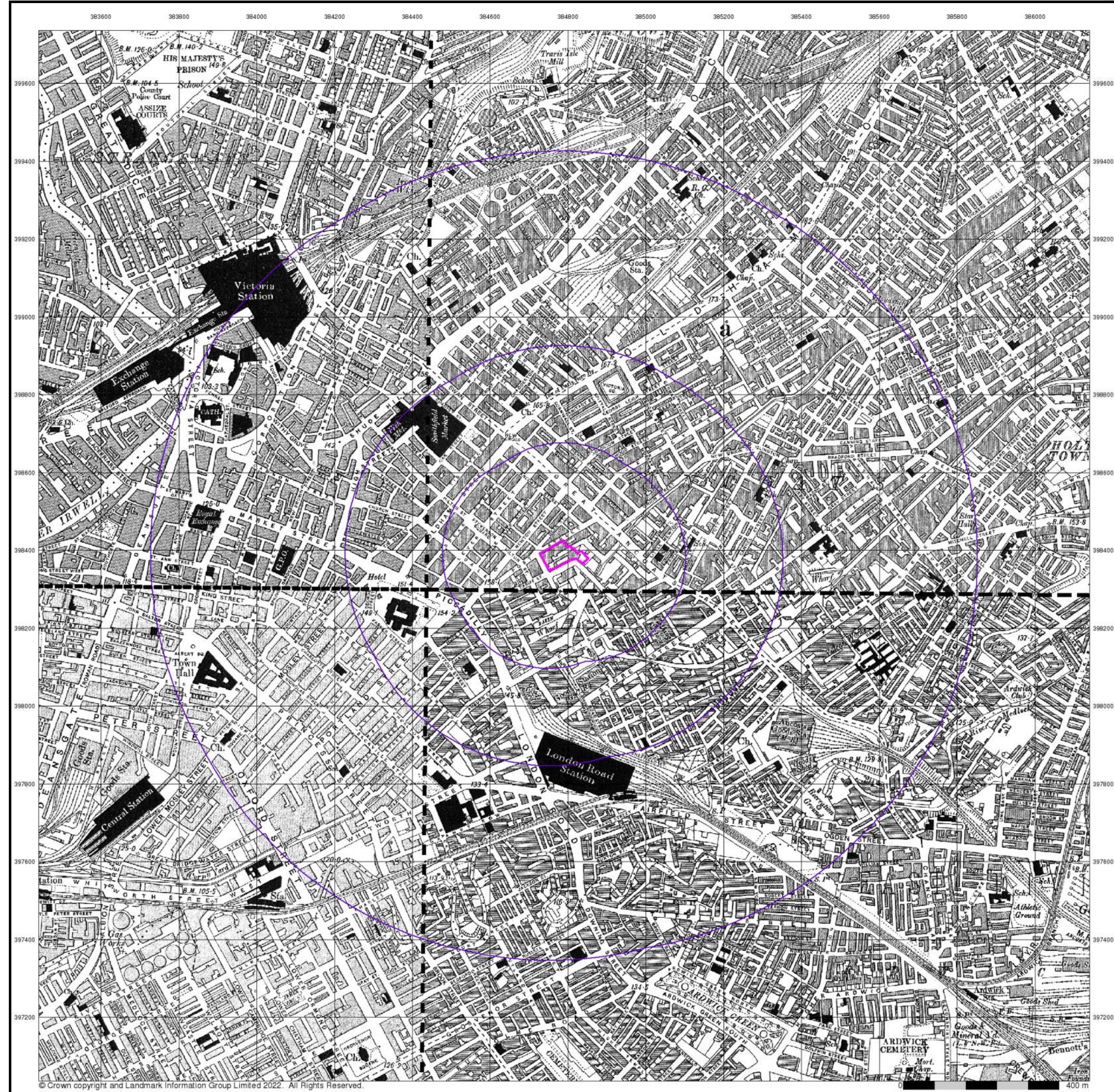
Historical Map - Slice A



Order Details
Order Number: 302490219_1_1
Customer Ref: 143404
National Grid Reference: 384790, 398380
Slice: A
Site Area (Ha): 0.47
Search Buffer (m): 1000

Site Details
Flat 1, Burlington House, 22, Tariff Street, MANCHESTER, M1 2DN

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



FAIRHURST

Lancashire And Furness

Published 1909

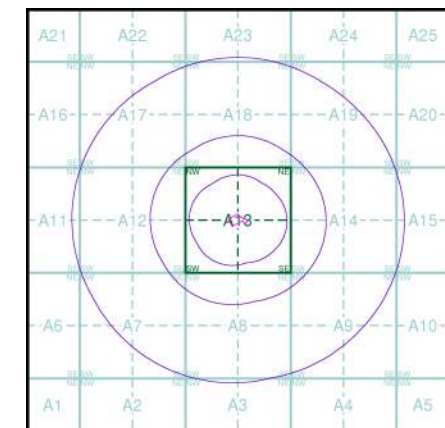
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

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

Historical Map - Slice A



Order Details

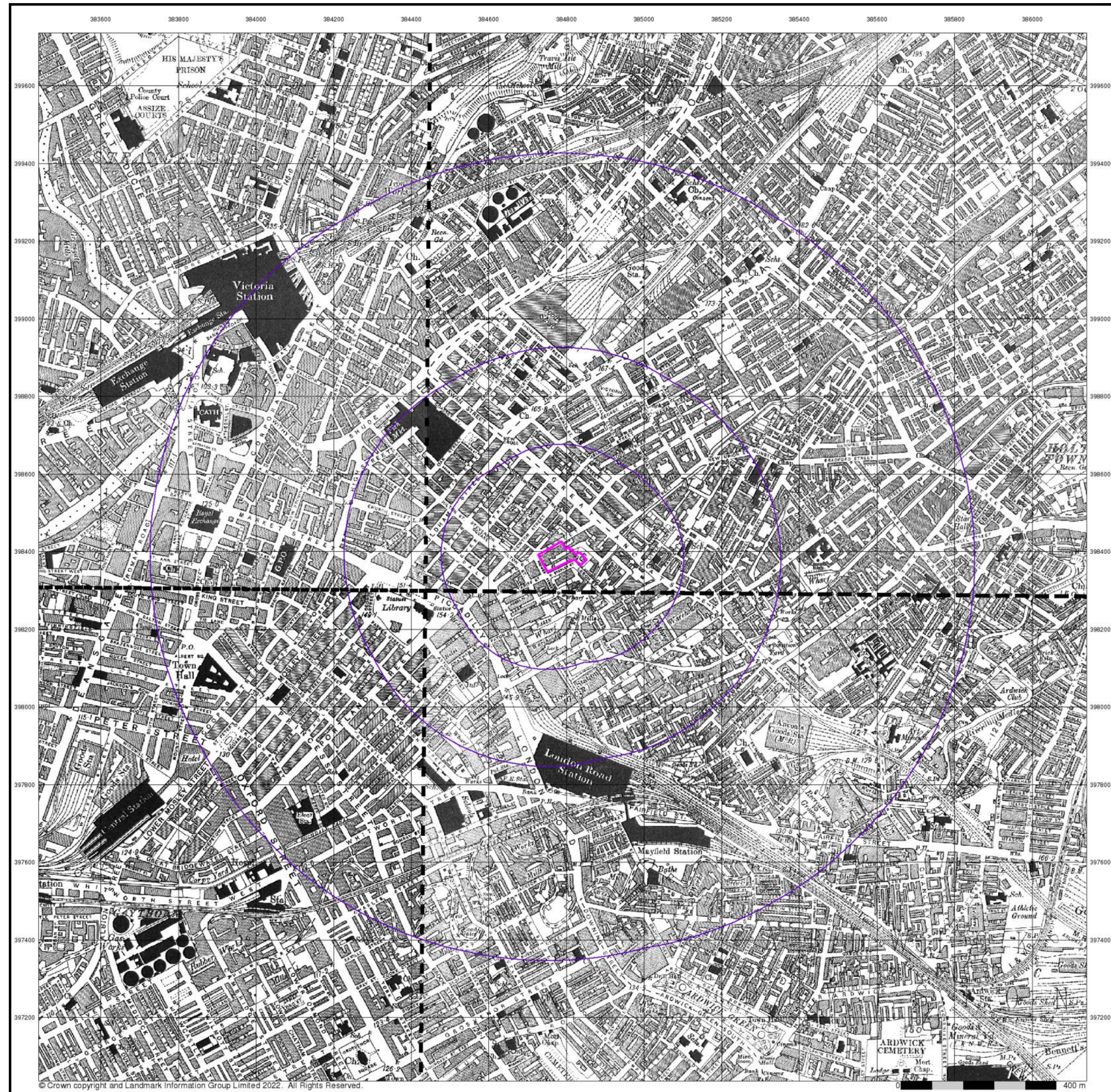
Order Number: 302490219_1_1
Customer Ref: 143404
National Grid Reference: 384790, 398380
Slice: A
Site Area (Ha): 0.47
Search Buffer (m): 1000

Site Details

Flat 1, Burlington House, 22, Tariff Street, MANCHESTER, M1 2DN

Landmark
INFORMATION GROUP

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



FAIRHURST

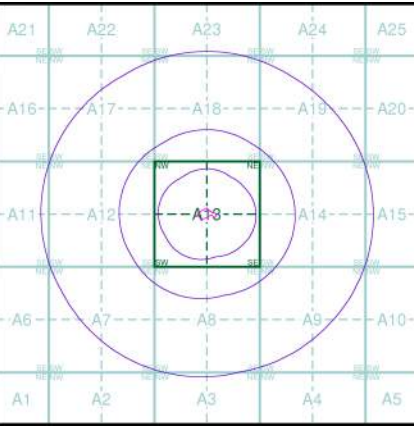
Lancashire And Furness
Published 1923
Source map scale - 1:10,560

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

Map Name(s) and Date(s)

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

Historical Map - Slice A



Order Details
Order Number: 302490219_1_1
Customer Ref: 143404
National Grid Reference: 384790, 398380
Slice: A
Site Area (Ha): 0.47
Search Buffer (m): 1000

Site Details
Flat 1, Burlington House, 22, Tariff Street, MANCHESTER, M1 2DN

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