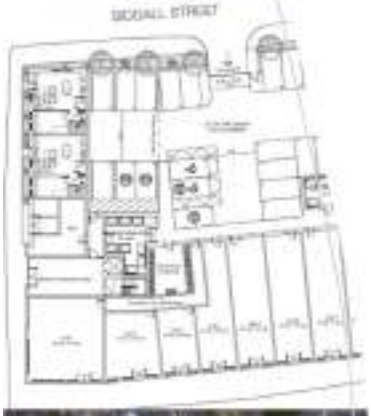








EARTH ENVIRONMENTAL & GEOTECHNICAL

Remediation Strategy

Stockport Road

Manchester

January 2025

On behalf of

VIEWS

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Tel : 0161 975 6088

Email info@earthenvironmental.co.uk
www.earthenvironmental.co.uk

REMEDIATION STRATEGY

STOCKPORT ROAD

MANCHESTER

FOR

VIEWS

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Stockport
SK5 6DA

www.earthenvironmental.co.uk

Tel 0161 9756088

Report A2951/24/RMS/V **January 2025**

Report Title:	**Remediation Strategy, Stockport Road, Manchester**	
Report Reference:	**A2951/24/RMS/V3**	
Client:	**VIEWS**	
Issue Date:	**28th January 2025**	
Drafted By:	**Lewis Waller**	
Reviewed By:	**Mark Mawson**	
Authorised By:	**Mark Mawson**	

This document has been prepared for the titled project (or named part thereof) and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authorisation being obtained from Earth Environmental & Geotechnical. Earth Environmental & Geotechnical accepts no responsibility or liability for the consequences of the use of this document, wholly or in part, for any other purpose than that for which it was commissioned. Any persons so using or relying upon this document for such other purpose do so at their own risk.

This report was prepared for the sole use of the Client and shall not be relied upon or transferred to any other party without the express written authorisation of Earth Environmental & Geotechnical. It may contain material subject to copyright or obtained subject to license; unauthorised copying of this report will be in breach of copyright/license.

The findings and opinions provided in this document are given in good faith and are subject to the limitations imposed by employing site assessment methods and techniques, appropriate to the time of investigation and within the limitations and constraints defined within this document. The findings and opinions are relevant to the dates when the assessment was undertaken but should not necessarily be relied upon to represent conditions at a substantially later date.

The findings and opinions conveyed in this report are based on information obtained from a variety of sources as detailed and which Earth Environmental & Geotechnical assumes to be dependable but have not been independently confirmed. Therefore, Earth Environmental & Geotechnical cannot and does not guarantee the authenticity or reliability of third-party information it has relied upon.

Where opinions expressed in this report are based on current available guidelines and legislation, no liability can be accepted by Earth Environmental & Geotechnical for the effects of any future changes to such guidelines and legislation.

The limitations of liability of Earth Environmental & Geotechnical for the contents of this document have been agreed with the Client, as set out in the terms and conditions of offer and related contract documentation.

CONTENTS

1.0 INTRODUCTION 1
Appointment 1
Proposed Development 1
Objective 1
Sources of Information 1
2.0 SITE LOCATION AND DESCRIPTION 3
3.0 PREVIOUS SITE INVESTIGATIONS 4
3.1 Earth Environmental & Geotechnical Ltd Phase I Desk Study A2270/17, dated November 2017) 4
3.2 BEK Environmental Consulting Engineers- Phase 1 - Preliminary Risk Assessment, Report Ref: BEK-20757-1, September 2020 4
3.3 Earth Environmental & Geotechnical Ltd, – GeoEnvironmental Site Investigation Report, Ref: A2951/19/B.0 – May 2019 5
3.4 Earth Environmental & Geotechnical Ltd, GeoEnvironmental Site Investigation A2951/22/SI/V2, August 2022 5
Scope of Works 5
Ground Conditions 8
Additional Trench Information 8
Groundwater 9
Ground gas 9
Soil Contamination Assessment 9
Remedial Recommendations 13
4.0 LICENCES & APPROVALS 14
5.0 PROPOSED WORKS 15
Aims 15
Clean Cover Capping System – Specification 15
Clean Cover Capping System & Topsoil – Verification & Validation 16
6.0 SITE WORKS 18
Site Organisation 18
Welfare Facilities/Security 18
Health & Safety 18
Site Clearance 18
Excavation of Subsurface Obstructions 18
Unexpected Contamination 19
Backfill of Excavations 19
Control of Perched Groundwater 19
7.0 ENVIRONMENTAL MONITORING & CONTROLS 20
General 20
Noise Control 20
Odour Control 20
Dust Control 21
8.0 VALIDATION REPORT 22

FIGURES

Figure 1	Proposed Development Layout Plan
Figure 2	Site Location Plan
Figure 3	Exploratory Hole Location Plan (Window Sample SI)
Figure 4	Exploratory Hole Location Plan (Trenching SI)
Figure 5	Soil Cover System

TABLES

Table 1	Summary of Ground Conditions
Table 2	Soil Results Comparison with C4SL/S4UL Values
Table 3	Imported Material Sampling Frequency

APPENDICES

Appendix 1	Earth Environmental & Geotechnical Ltd, Phase I GeoEnvironmental Desk Study Report, (A2270/17), November 2017.
Appendix 2	Earth Environmental & Geotechnical Ltd, GeoEnvironmental Site Investigation Report, A2951/22/SI/V3), January 2025
Appendix 3	BEK Environmental Consulting Engineers- Phase 1 - Preliminary Risk Assessment, Report Ref: BEK-20757-1, September 2020
Appendix 4	Stockport Road - Landscape and Garden Areas - Guide Plan
Appendix 5	Assessment Criteria for Cover Soils in Landscaping Areas
Appendix 6	Report Limitations

1.0 INTRODUCTION

Appointment

Earth Environmental & Geotechnical Ltd (EEG) has been commissioned by Views Ltd (the Client), to produce a Remediation Strategy for the proposed residential and commercial development at land off Stockport Road, Manchester.

Proposed Development

The proposed development comprises the construction of a four-storey building comprising eight ground floor Commercial, Business and Service units with a maximum floorspace of 511 sq. metres (Class E) and 39 residential apartments (Class C3) above. Parking is provided and accessible via Siddal Street, with areas of landscaping and a rooftop terrace.

The development is part of Planning Application 133792/JO/2022.

The proposed development plan can be viewed in Figure 1, overleaf.

Objective

The Remediation Strategy is intended to build on the site characterisation information and provide details on the remediation objectives necessary to protect potential receptors and render the site suitable for the proposed development.

In summary this document presents the technical detail behind the proposed remedial activities at the site and includes:

- Clean Soil Cover System in landscaped areas.

This report has been prepared for the purpose of satisfying the requirements of the Local Planning Authority, in particularly Condition 16 of the Decision Notice (10 March 2023).

The Environmental Health Officer suggested the scope of site investigation in the Phase 1 Desk Study report (September 2020) wasn't sufficient and additional site investigations should be proposed. In addition to 5no. windowless sampling boreholes and chemical testing a further extensive scope of site investigations were carried out in July 2022 consisting of 9no. machine excavated trial pits/trenches. This very extensive scope of site investigations facilitated chemical testing at 13 locations across the site.

Earth Environmental & Geotechnical Ltd reserves the right to amend this Remediation Strategy in the light of further information which may become available or future changes in contaminated land guidance, prior to site activities.

Sources of Information

The following reports have previously been prepared for the site by Earth Environmental & Geotechnical Ltd and should be read in conjunction with this Remediation Strategy:

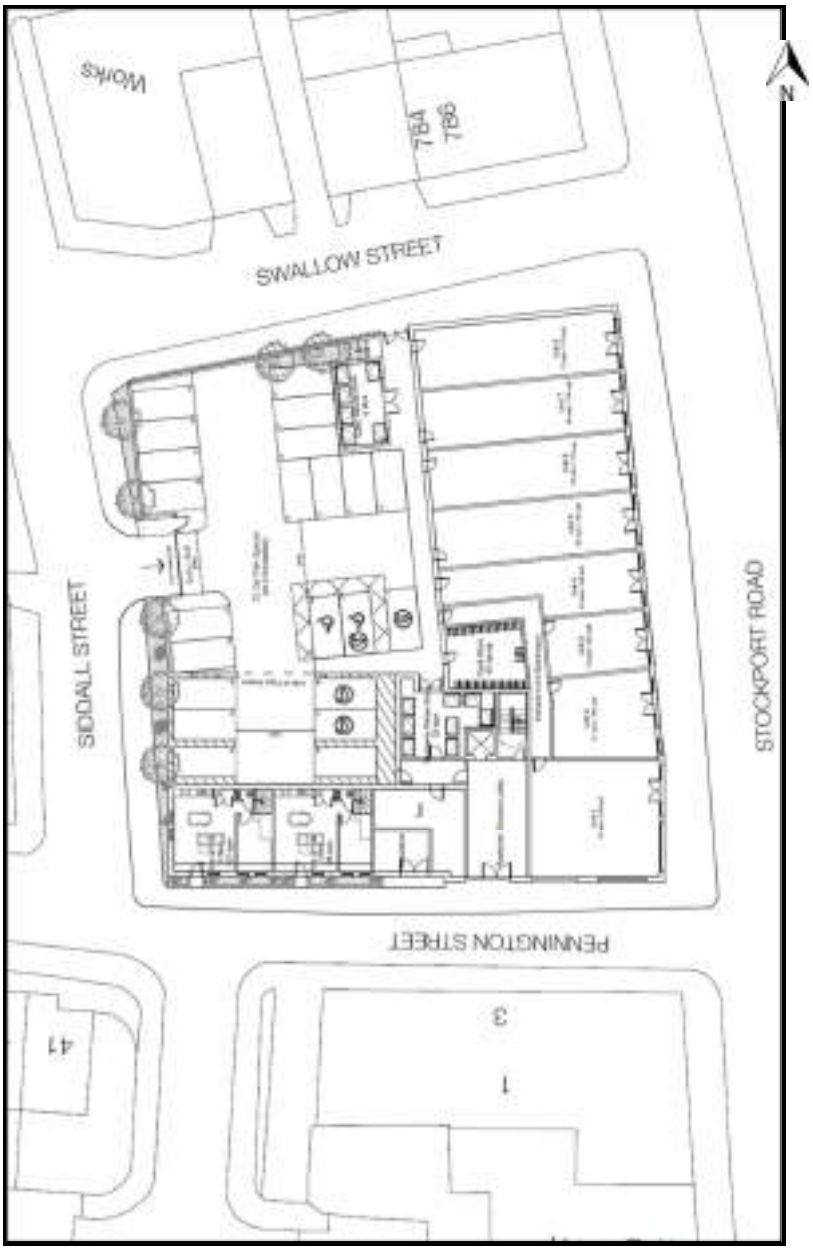
- Earth Environmental & Geotechnical Ltd, Phase I GeoEnvironmental Desk Study Report, (A2270/17), November 2017.

- Earth Environmental & Geotechnical Ltd, – GeoEnvironmental Site Investigation Report, Ref: A2951/19/B.0 – May 2019

- BEK Environmental Consulting Engineers- Phase 1 - Preliminary Risk Assessment, Report Ref: BEK-20757-1, September 2020

- Earth Environmental & Geotechnical Ltd, GeoEnvironmental Site Investigation Report, 9A2951/22/SI/V3), January 2025.

Figure 1: Proposed Development Layout Plan



2.0 SITE LOCATION AND DESCRIPTION

The site is a near square shaped parcel of land with maximum dimensions of 46m northwest-southeast by 40m northeast-southwest and occupies an area of approximately 0.17ha.

The approximate National Grid Reference for the centre of the site is SJ 87284 94776 (X: 387284, Y: 394776)) with the closest postcode being M12 4GE.

At the time of this investigation the site was a vacant plot of land that has previously been used as a police station and houses. The site was covered by vegetation in the centre and northern portion of the site with a gravelled area in the southern portion. Fencing surrounded the site with a gate leading from Siddall Street in the southwest corner. The site was primarily flat and level with adjacent roads. The area surrounding the site was used for a mix of residential and commercial purposes.

The site location is shown in Figure 2, below.

Figure 2: Site Location Plan



3.0 PREVIOUS SITE INVESTIGATIONS

As mentioned in Section 1, a Phase I Desk Study and GeoEnvironmental Site Investigation reports have been prepared for the site by Earth Environmental & Geotechnical Ltd. The recommendations in this Remediation Strategy are based primarily on the findings of the Site Investigation reports, which are summarised below.

3.1 Earth Environmental & Geotechnical Ltd Phase I Desk Study A2270/17, dated November 2017)

The desk study highlighted that, historically, the site has been developed on since the late 19th century when residential properties were constructed on primarily the eastern half of the site. These residential properties remained until the 1980's when a police station was constructed in the southern portion of the site. This remained on the mapping until 2002 when the building was demolished, and no further development has taken place. The surrounding land use has primarily been residential with a mix of commercial properties. A garage has historically been present 20m northeast of the site.

It was therefore considered possible that potentially contaminated made ground may be present beneath the site, associated with the former on-site structures and land use.

The risk to end users from potential soil contamination was concluded to be **LOW** based on the proposed mixed commercial and residential end use.

There are no former landfills or other significant source of ground gas within 250m of the site. The site is not within a Radon Affected Area. Therefore, the risk to end users from ground gas generation on the site was concluded to be **LOW** based on the proposed mixed commercial and residential end use.

The risk to groundwater was considered **LOW**.

An intrusive investigation was recommended to establish geotechnical parameters for proposed development and to provide a contamination assessment of the site to confirm whether there are any potential risks.

3.2 BEK Environmental Consulting Engineers- Phase 1 - Preliminary Risk Assessment, Report Ref: BEK-20757-1, September 2020

The desk study highlighted that, historically, the site was an open field in 1849 before development of residential housing from 1892 until approximately 1984 at which point a police station was built and remained until 2002, after which no further development has occurred. The site has been left to over grow with scrubland with relic tarmac and concrete in the south.

Although 'the use of the site for residential and subsequently as a police station is unlikely to have resulted in significant contamination being deposited at the site', this is likely to have created made ground across the site, which may be contaminated.

The report indicates that the risk to end users from potential soil contamination was concluded to be **LOW** based on the proposed mixed commercial and residential end use.

The risk to end users from ground gas generation on the site was concluded to be **LOW** based on the proposed mixed commercial and residential end use, and lack of significant sources within 250m of the site.

The risk to groundwater was considered **LOW**.

The BEK report recommended an intrusive investigation to establish geotechnical parameters for the proposed development and to provide a contamination assessment of the site to confirm whether there are any potential risks.

3.3 Earth Environmental & Geotechnical Ltd, – GeoEnvironmental Site Investigation Report, Ref: A2951/19/B.0 – May 2019

For ease of reference the resultant report from the 2019 site investigation was incorporated into the August 2022 report after extensive additional work was carried out in July 2022.

Thus, the reports are summarized together in section 3.4, below.

3.4 Earth Environmental & Geotechnical Ltd, GeoEnvironmental Site Investigation A2951/22/SI/V2, August 2022

Scope of Works

The fieldwork was carried out by EEG on the 16th April 2019 and additional trial pitting work on 18th July 2022.

- 5no. windowless sampling boreholes (designated WS01 to WS05) were advanced to depths of between 3.00 and 4.00m below existing ground level.

- 9no. Machine excavated trial pits/trenches (designated Pit A, to Pit C, and Trench 1 to Trench 5 and SA01) were conducted to maximum depth of 2.50 mbgl.

- 1no. BRE 365 Soakaway tests were conducted in trial pit SA01.

An exploratory hole location plan is presented as Figure 3 and Figure 4, overleaf.

Figure 3: Exploratory Hole Location Plan (Window Sample SI)



Figure 4: Exploratory Hole Location Plan (Trenching SI)



Ground Conditions

The recorded ground conditions are summarised as follows:

Made Ground – variable material encountered in several locations to a maximum depth of 2.20m (Trench 5C). Comprising:

- Sands and gravels of varying clay content (containing concrete, brick, glass, slate, pottery fragments, clinker, plastic, sandstone mudstone and limestone).
- Soft sandy gravelly clay (containing brick and sandstone).
- Soft silty sandy clay.

Devensian Till – comprising of clay to a depth of at least 3.80 mbgl.

- Firm to stiff clay.
- Firm to very stiff sandy gravelly clay of varying sand and gravel contents (containing sandstone and carbonaceous fragments).

Additional Trench Information

Details of the trenching carried out in the additional investigation can be found within Table 1 overleaf. Further details, where necessary, are provided below.

Trench 1 – The top of the natural clay layer at the base of this trench was found to slope from 1.00m depth to 1.80m depth from north to south.

Trench 2 – During the excavation, some single or double width brick walls were encountered running east to west through the trench but were removed by the machine.

Trench 5 – During the excavation, natural clay was encountered at varying different depths along the trench, from depths generally fluctuating between 0.50m to 2.20m. These changes in depth followed a clear step pattern along the trench and are likely left over from historical site development.

Pit C – This pit was dug along an in-situ brick wall which existed on the western boundary of the excavation. Natural clay was not encountered at the base of this pit, but flag stones were, potentially indicating that this was the location of a relict cellar.

The depths of the various materials encountered in each of the exploratory holes are summarised in Table 1 overleaf.

Table 1: Summary of Ground Conditions Encountered

Hole	Depth to Stratum (m)		GROUND-WATER (m bgl)
	MADE GROUND	CLAY	
WS01	GL-1.20	1.20-3.80	-
WS02	GL-2.00	2.00-3.00	-
WS03	GL-0.80	0.80-3.00	-
WS04	GL-0.85	0.85-3.00	-
WS05	GL-1.60	1.60-4.00	-
SA01	GL-1.50	1.50-2.50	-
Pit A	GL-1.50	1.50-2.40	-
Pit B	GL-1.50	1.50-1.60	-
Pit C	GL-2.00	-	-
Trench 1	GL-1.00/1.80	1.00/1.80-2.40	-
Trench 2	GL-1.80	1.80-2.00	-
Trench 3	GL-0.50	0.50-1.20	-
Trench 4	GL-0.40	0.40-1.80	-
Trench 5A	GL-2.00	2.00-2.20	-
Trench 5B	GL-1.30	1.30-1.50	-
Trench 5C	GL-2.20	2.20-2.40	-
Trench 5D	GL-0.60	0.60-1.00	-

Groundwater

No groundwater seepages were encountered during the fieldwork within the natural soil.

Ground gas

As previously mentioned in the Phase 1 above there are no significant source of ground gas within 250m of the site. Additionally, the made ground across the site was of less than 3m deep and did not contain any putrescible material. Confirm that ground gas monitoring was not required at the site and that no ground gas protection measures are necessary at this site.

Soil Contamination Assessment

13no. soil samples were retrieved from the boreholes and trail pits for chemical analysis.

Samples were analysed for the following suite of contaminants: Asbestos, Arsenic, Beryllium, Boron, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Vanadium, Zinc, Cyanide, Phenol, Sulphate (SO4), Sulphide, pH, Soil Organic Matter and speciated Polyaromatic Hydrocarbons (PAH), and speciated Total Petroleum Hydrocarbons (TPH).

The results are presented overleaf in Table 2.

Table 2: Soil Results Comparison with C4SL/S4UL Values

Parameter	WS01	WS02	WS03	WS03	WS04	WS05	WS05	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2	Trench 1	Assessment Criteria (mg/kg)
	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	
	0.50m	0.60m	0.30m	0.70m	0.30m	0.30m	0.70m	1.00m	0.50m	0.30m	0.30m	0.50m	1.00m	
Arsenic	12	12	8	5	6	14	14	13	10	7	24	4	14	40
Boron	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	11000
Beryllium	0.8	0.7	< 0.5	0.6	< 0.5	0.7	0.9	0.9	0.9	0.9	1.3	0.9	1.1	1.7
Cadmium	0.3	0.3	0.4	< 0.2	0.4	0.4	3.1	2.3	0.2	< 0.2	0.5	< 0.2	0.3	150
Chromium	14	14	16	13	7	14	15	15	12	13	18	13	16	910
Hexavalent Chromium	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	21
Free Cyanide	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	41
Copper	33	42	19	12	20	41	62	136	39	30	97	31	41	7100
Lead	111	188	163	46	30	148	222	517	111	163	866	111	177	310
Inorganic Mercury	< 1	< 1	< 1	< 1	< 1	< 1	1.7	1.3	< 1	< 1	1.5	< 1	< 1	56
Nickel	15	11	8	10	4	12	18	23	13	14	22	17	19	180
Selenium	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	430
Vanadium	23	20	14	16	6	22	22	21	19	18	31	16	26	1200
Zinc	64	118	93	39	34	117	180	375	55	43	252	55	73	40000
pH	7.2	7.3	7.4	7.2	7.6	7.3	7.5	7.5	7.3	7.5	7.5	7.9	7.6	N/A
Naphthalene	0.15	0.14	< 0.1	< 0.1	< 0.1	0.17	2.14	1.76	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2.3
Acenaphthylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.18	0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2900
Acenaphthene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.32	2.65	4.66	< 0.1	< 0.1	0.15	< 0.1	< 0.1	3000
Fluorene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.22	1.83	3.22	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2800
Phenanthrene	0.45	0.98	0.28	< 0.1	0.16	2.66	18.7	35.9	0.23	0.24	1.25	< 0.1	0.72	1300
Anthracene	< 0.1	0.38	< 0.1	< 0.1	< 0.1	0.6	3.76	6.94	< 0.1	< 0.1	0.21	< 0.1	0.14	31000
Fluoranthene	0.65	2.24	0.54	< 0.1	0.43	4.35	23.9	45.7	0.54	0.4	1.92	< 0.1	0.96	1500
Pyrene	0.63	2.06	0.52	< 0.1	0.46	3.96	21.5	42.4	0.58	0.41	1.99	< 0.1	0.93	3700
Benzo(a)anthracene	0.32	1.14	0.29	< 0.1	0.25	2.18	9.3	19.4	0.32	0.19	1.08	< 0.1	0.48	11

Parameter	WS01	WS02	WS03	WS03	WS04	WS05	WS05	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2	Trench 1	Assessment Criteria (mg/kg)
	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	
	0.50m	0.60m	0.30m	0.70m	0.30m	0.30m	0.70m	1.00m	0.50m	0.30m	0.30m	0.50m	1.00m	
Chrysene	0.38	1.13	0.32	< 0.1	0.31	2.04	9	18.6	0.36	0.24	0.99	< 0.1	0.46	30
Benzo(b)fluoranthene	0.41	1.29	0.36	< 0.1	0.38	2.4	9.84	17.2	0.33	0.2	1.05	< 0.1	0.49	3.9
Benzo(k)fluoranthene	0.15	0.44	0.11	< 0.1	0.12	0.77	3.36	5.68	0.14	< 0.1	0.4	< 0.1	0.17	110
Benzo(a)pyrene	0.29	1.02	0.28	< 0.1	0.29	2.05	7.92	16.1	0.31	0.21	1.26	< 0.1	0.56	5.3
Indeno(1,2,3-cd) pyrene	0.17	0.6	0.22	< 0.1	0.2	1.18	4.19	7.23	0.18	< 0.1	0.42	< 0.1	0.21	45
Di-benz (a, h) anthracene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.24	0.73	1.59	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.31
Benzo(ghi)perylene	0.15	0.52	0.21	< 0.1	0.2	1.04	3.94	6.13	0.16	< 0.1	0.35	< 0.1	0.17	390
Benzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.38
Toluene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	880
Ethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	83
m & p-xylene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	79
o-Xylene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	88
TPH CWG - Aliphatic >C5 - C6	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	42
TPH CWG - Aliphatic >C6 - C8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	100
TPH CWG - Aliphatic >C8 - C10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	27
TPH CWG - Aliphatic >C10 - C12	< 2	< 2	< 2	< 2	< 2	< 2	< 2	5	< 2	< 2	< 2	< 2	< 2	130
TPH CWG - Aliphatic >C12 - C16	< 3	< 3	< 3	< 3	< 3	< 3	< 3	5	< 3	< 3	< 3	< 3	< 3	1100
TPH CWG - Aliphatic >C16 - C21	< 3	< 3	< 3	< 3	5	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	65000
TPH CWG - Aliphatic >C21 - C34	< 10	< 10	60	< 10	196	< 10	157	45	< 10	< 10	< 10	< 10	< 10	65000
TPH CWG - Aromatic >C5 - C7	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	370
TPH CWG - Aromatic >C7 - C8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	860

Parameter	WS01	WS02	WS03	WS03	WS04	WS05	WS05	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2	Trench 1	Assessment Criteria (mg/kg)
	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	
	0.50m	0.60m	0.30m	0.70m	0.30m	0.30m	0.70m	1.00m	0.50m	0.30m	0.30m	0.50m	1.00m	
TPH CWG - Aromatic >C8 - C10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**47**
TPH CWG - Aromatic >C10 - C12	< 2	< 2	< 2	< 2	< 2	< 2	3	3	< 2	< 2	< 2	< 2	< 2	**250**
TPH CWG - Aromatic >C12 - C16	< 2	< 2	< 2	< 2	< 2	3	31	22	< 2	< 2	< 2	< 2	< 2	**1800**
TPH CWG - Aromatic >C16 - C21	3	5	< 3	< 3	10	19	137	170	< 3	< 3	9	< 3	6	**1900**
TPH CWG - Aromatic >C21 - C35	59	11	94	< 10	256	77	355	142	< 10	< 10	< 10	< 10	< 10	**1900**
Asbestos Screen	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**<0.001%**

Notes for Table 2

Concentrations in **red** above assessment criteria
MG = Made Ground
ND = Not Detected

Based on the above table, there are several exceedances for the screening criteria relevant to a residential end use without home grown produce and soil organic matter content of 1%.

The soil contaminant exceedances include:

- **Lead** in the samples taken from Trench 5 (North) at 1.00 mbgl, and Pit B at 0.30 mbgl within the made ground.
- **Benzo(b)fluoranthene, Benzo(a)pyrene and Dibenz(a,h)anthracene** in the samples taken from WS05 at 0.70mbgl and Trench 5 (North) at 1.00 mbgl, within the made ground.
- **Benzo(a)anthracene,** in the samples taken from Trench 5 (North) at 1.00 mbgl, within the made ground.

Asbestos fibres and fragments were not identified in any of the 13no. samples tested.

Remedial Recommendations

Soil Contamination

Based on the results of the chemical testing, exceedances of the lead and polyaromatic hydrocarbons the development of a Remediation Strategy is necessary.

4.0 LICENCES & APPROVALS

Various licences, permits and approvals are required at various stages before certain works can commence. Some activities can start before all such approvals are in place.

(i) Approval of this Remediation Method Statement.

(ii) All documentation in accordance with the CDM 2015 Regulations.

(iii) A signed declaration by qualified person of the Material Management Plan (MMP) in accordance with CL: AIRE Waste Code of Practice, Version 2, March 2011. This would allow for reuse of excavated soils after demonstration of suitability for use. MMP will be created with due consideration to all proposed remediation and enabling works operations prescribed within this document and will be undertaken by a Qualified Person and a signed declaration submitted to the EA prior to re-use of materials on the site. The importation of material for use within the proposed construction of a development platform will be subject to the compliance with the EEG Protocol for the importation of materials as set out within the specification for material import included within the Appendix of this report.

(iv) A U1 Standard Rules Permit will be registered for the site which allows the re-use of up to 3000m^3 of material within construction with up to 25,000m^3 of material permissible to be re- used in the construction of roads.

(v) A T5 Standard Rules permit allows the screening and recovery of up to 3000m^3 of material for sub-sequent re-use in construction will also be registered.

The processing of recycled aggregates will be completed using LAPC Part B Licensed Plant with the appropriate deployment notification to the Local Authority prior to commencement of works. All materials that are recovered as recycled aggregate will be compliant with the requirements of the WRAP protocol and the EEG validation testing requirements and as such would not be deemed to be a waste material.

All materials that are recovered under the WRAP Protocol, U1 or T5 exemptions must be analysed to demonstrate that they are both chemically and structurally suitable for use within the context of the development.

The relevant LAPC, U1, T5 and WRAP Licenses, Exemption and Protocols provides the legislative framework for material compliance during the site remediation and enabling works to be completed by the specialist contractor under the supervision EEG.

5.0 PROPOSED WORKS

5.1 Aims

The remediation aims are to resolve contamination issues to protect human and environmental receptors and render the site suitable for the proposed end use and satisfy the requirements of the Local Planning Authority and Insurance bodies (NHBC).

The remediation strategy for the site has been developed following review and assessment of the site investigation reports previously prepared for the site.

The plan included in Appendix 4 identify the estate landscape areas and the small private front gardens areas.

Potable water supply will be installed in accordance with the Water Utility Requirements (United Utilities in the North West), typically UK Water Industry Research (UKWIR) published "Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites". Various options are available, including clean service trenches or ductile pipework etc. Details will be confirmed.

5.2 Clean Cover Capping System – Specification

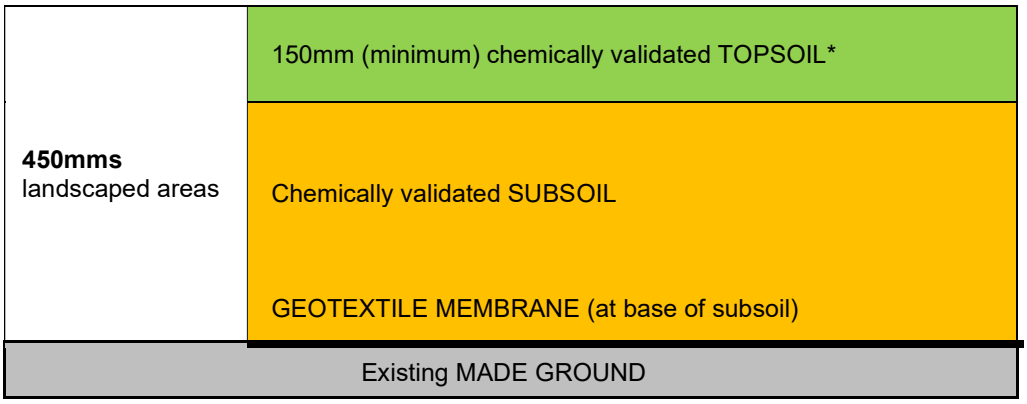
In the areas of the proposed landscaping, remediation will be required with a suitable thickness of uncontaminated cover soils to break the potential contamination linkage, as follows:

- Placement of a geotextile membrane at the base of the clean cover within affected garden areas to maintain soil separation between the inert growing medium and the residual underlying soils and to act as physical marker for future works.

- A minimum total thickness of clean imported soil of 450mm placed in all landscaping areas, this may need to be deepened if trees are to be planted. The advice of an arborist should be sort regarding the planting proposed and the measures necessary, which may include tree pits.

- Clean cover may comprise a combination of subsoil and topsoil. Topsoil is to comprise no less than the upper 150mm.

Figure 5: Soil Cover System



A soil inversion technique could also be implemented that would release clean soils and to break pollutant linkages.

Where natural strata are encountered within the depth of the proposed environmental cover system, then level reduction may cease, and geotextile may be omitted pending inspection by EEG (with suitable photographic evidence) and upfilling with suitably chemically validated soils, compared to assessment criteria in Appendix 5.

5.3 Clean Cover Capping System & Topsoil – Verification & Validation

Soils to be used in garden areas must not contain contaminant concentrations above the assessment criteria for a residential end use without plant uptake assessment criteria (see Appendix 5) and be free of deleterious components e.g., glass, plastic, wood, ash, and metal solids.

Evidence will be required to demonstrate the suitability of the imported materials to be used and that the capping has been installed in line with the specification outlined above. Validation will require:

- Chemical analysis of soils will be carried out at source to ensure suitability for use, prior to being used/imported.

Table 3 Imported Material Sampling Frequency

Material Type	Source	Suite of Analysis	Sampling Rate	Minimum Sampling Frequency
Topsoil / Subsoil	Greenfield / manufactured / site-won natural	Suite A*	1 sample per 100m^3	3no. per source
	Brownfield / unknown	Suite B**	1 sample per 50m^3	6no. per source

Notes:
Suite A - Heavy metals, pH, water soluble sulphate, speciated PAH, soil organic matter and asbestos screen.
Suite B - Heavy metals, pH, water soluble sulphate, speciated PAH, phenol, total and free cyanide, soil organic matter, asbestos screen, banded petroleum hydrocarbons (TPH CWG), BTEX, MTBE.

- Imported soils should be stockpiled on receipt and sampled from the stockpile prior to placement and undergo appropriate chemical analysis to confirm it is suitable for use.

- Following confirmation that material is suitable for use, the material is to be placed in line with the above specification.

- Following placement of topsoil, trial holes will be formed periodically across the garden areas to confirm the correct implementation. Each pit will be inspected, photographed and the depths/thicknesses of the subsoil and topsoil measured by the consultant engineer.

- A validation report will be provided for approval by the Environmental Health Contaminated Land Officer at the LA.

In accordance with the current requirements of the regulatory authorities, validation samples will be collected from all materials that are to be subject to movement under the protocols

outlined within this Remediation Strategy, or for materials to be imported onto site to facilitate the proposed residential development.

All samples will subsequently be stored in cooled boxes prior to submission to a UKAS / MCERTS accredited laboratory.

All samples will be collected using appropriate PPE and sampling equipment that will be cleaned at each sampling location.

QA procedures and laboratory chain of custody forms will be documented within the site records and presented within the final validation report for the site.

Where material is found to contain concentrations of potential contaminants at levels more than the site-specific screening criteria (as detailed within Appendix 4), EEG will undertake further assessment and recommendations on the appropriate use for the material in question, which may involve the disposal of such materials off-site to a suitable waste management facility.

6.0 SITE WORKS

Outlined below are some of the main task and activities associated with the remediation works.

6.1 Site Organisation

Site works will be supervised throughout by a suitably qualified Engineer, who will report to a Project Manager. Supervision may be part-time for certain activities but will be full-time during the removal of any contaminated soil/fill and any placement of fill to an engineering specification.

6.2 Welfare Facilities/Security

Initial mobilisation works will include the establishment of appropriate office and welfare facilities. Such facilities may include but are not restricted to; office accommodation, canteen facilities, washroom/drying room, toilets, wheel wash, car parking, stores, and security unit.

The site should be secured by fencing to prevent unauthorised access onto the site during the enabling works.

6.3 Health & Safety

All site personnel will undergo a site-specific health and safety induction prior to commencement of work on site.

The Engineer will be informed prior to any proposed entry of a confined space or deep excavation. Entry will be restricted to suitably qualified and equipped personnel.

Works will be carried out about current statutory requirements and guidance by the Health & Safety Executive “Protection of workers and the general public during the redevelopment of contaminated land.” Protective clothing, footwear and gloves will be required with hand washing and boot-washing facilities made available. Smoking will be limited to designated areas.

6.4 Site Clearance

Any trees currently under a preservation order should be identified and agreed with relevant authorities prior to the commencement of the works. All trees subject to a Tree Preservation Order should be clearly identified and protected by chestnut paling with fluorescent tape.

The site should then be cleared of all residual debris, fly tipped materials, any vegetation, shrubs, bushes, and unprotected trees as instructed by the client.

6.5 Excavation of Subsurface Obstructions

During the site investigation, multiple obstructions were encountered that could generate difficulties during excavations and construction and appropriate preparation made for these.

Any material identified as potentially contaminated should be stockpiled on a non-permeable membrane, and tested for suitability for either re-use on site, or offsite disposal.

Should the material be removed from site, waste acceptance criteria testing should be undertaken, and the material disposed of in a suitably licensed facility. The development of a

Materials Management Plan (MMP) in line with the CL: AIRE Code of Practice may be required to remove or re-use soils.

6.6 Unexpected Contamination

If during site clearance works or other excavations, material with visual or olfactory evidence of previously unrecorded contamination is encountered, the principal contractor should contact Earth Environmental & Geotechnical.

These soils should be then sampled, and chemical analysis carried out. The environmental consultant shall decide upon the chemical suitability of the material, to either remain on site or if it is likely to present a risk to receptors.

If the soils present a risk, the materials should be removed from site or remediated as per the specification in Section 5.0.

Any excavated material identified as potentially contaminated should be stockpiled on a non-permeable membrane, and tested for suitability for either re-use on site, or disposed offsite.

If prolonged stockpiling is unavoidable, these soils should be covered with a non-permeable membrane at the end of each working day, to prevent the possibility of leachate migrating from the soils due to infiltration.

Should the material be removed from site, waste acceptance criteria testing should be undertaken, and the material disposed of in a suitably licensed facility. The development of a Materials Management Plan (MMP) in line with the CL:AIRE Code of Practice may be required to remove or re-use soils.

6.7 Backfill of Excavations

All excavations shall, prior to backfilling, be surveyed to ascertain their spatial extent and depth. Excavations (to remove relict structures, contamination etc) should be backfilled with suitable materials as agreed with the Engineer and subjected to nominal compaction.

However, where an excavation conflicts with the footprint of a proposed highway, compaction in general accordance with the Specification for Highway Works Table 6/1 will be required.

6.8 Control of Perched Groundwater

The regional groundwater table is unlikely to be encountered during remediation earthworks; however, discontinuous perched groundwater may be present within Made Ground. If encountered during the excavation works, this perched water will be recovered by pumping from open excavations. Dependant on volumes recovered, some form of temporary storage may also be required.

Provision should be made for pumping from sumps and appropriate excavation support for all excavations.

7.0 ENVIRONMENTAL MONITORING & CONTROLS

7.1 General

All works should be carried out in a manner that minimises impact on the environment and generates adequate and accurate records to demonstrate remediation works have been carried out to the required standard and in accordance with all applicable legislation. All such records should be collated on contract completion (or sooner as required) and included within the contract completion report. Appropriate progress reports should be provided in a format and at a frequency as agreed with the client and project manager including on-going monitoring/validation information.

Comprehensive records should be maintained throughout the project. These should be collated on contract completion into a completion and validation report, which should be submitted to the appropriate regulators for approval. It will be presented in an appropriate manner to allow interested third parties to fully understand the whole remediation process.

The records should include correspondence with the regulators & other third parties, environmental monitoring data, validation testing, comprehensive as-built drawings, photographs, collation of all site investigation reports, operational method statements & risk assessments, construction phase health & safety plan and confirmation of post remediation considerations especially in respect of interaction with initial construction (groundwork's).

7.2 Noise Control

Earthworks will only take place during normal working hours 8.00am – 6.00pm Monday to Friday and 8.00am to 13:00pm on Saturdays with no working on Sundays or Bank Holidays. The site manager shall assess noise and its impact upon neighbours through the working day and to ensure the following mitigation measures are being utilised:

All plant and machinery will be fitted with adequate silencers and will not be operated unless in good condition.

Noise levels will be as per normal for a project of this nature. Pneumatic breakers will be used but location and hours of use controlled whenever possible.

Should residents make any complaints regarding noise associated with the works, the site manager shall investigate. Such investigation may include the use of portable monitoring equipment to record noise levels at the location of the complainant. The nature of the complaint and findings of the investigation shall be discussed with the local EHO. If the complaint is upheld appropriate remedial action shall be taken. Such action may include the adjustment of working hours or the alteration of site practices and working methods.

7.3 Odour Control

Works may produce odours, but good site practice and associated mitigation measures should ensure fugitive odours are kept to an absolute minimum. Such controls may include:

- Additional covers will be applied to stockpiles if they are contributing to fugitive odours.

- Areas of excavation i.e., area of exposed contaminated soils, will be kept to a minimum and covered/re-instated as soon as is practicably possible.

- Odour suppressing equipment shall be utilised at appropriate locations at appropriate times.

If a complaint is made regarding odours from nearby residents, the site manager shall respond by attending the complainant's property to assess the nature and level of odour nuisance including monitoring where appropriate. Appropriate mitigation measures as described herein shall than be enforced including, if necessary, suspension of excavation works until the prevailing weather conditions become more favourable.

7.4 Dust Control

Earthworks may produce dust during prolonged periods of dry weather. The site manager shall assess dust and its impact upon neighbours through the working day and ensure the following mitigation measures are being utilised to control dust:

- The use and maintenance of good quality site roads;

- Enforcing speed limits of site plant and;

- Dust suppression via water applied by towed bowser, particularly in the vicinity of locations where trace asbestos fibres have been detected in soils.

8.0 VALIDATION REPORT

A Validation Report will be issued to confirm the installation of the soil cover system in the private garden areas and estate landscape areas. In summary, any changes to the RMS will be detailed and the effective mitigation (which we will have seeked to confirm with MCC before the issue of the Validation Report).

The validation report (post completion) should include the following (in accordance with MMC Guidance: Planning and Contaminated Land Technical Guidance- Appendix A):

- Details of works carried out and contamination encountered during investigation.
- Details and justification of any changes from the original remediation strategy or proposed development plan and/or discovery of unexpected contamination as detailed in section 6.6.
- Demonstration of compliance and description of validation methods.
    - Chemical testing of imported soils (results with summary data plots and tables relating to clean up criteria)
    - Plan showing treatment areas and details of any difference form original remediation strategy
    - Thickness measurement of emplaced soil cover system thickness.
    - Trial hole logs in accordance with BS5930 Code of Practice for Site Investigations.
    - Photographs of trial holes to determine emplaced soil cover system thickness.
    - Waste Management details and records
- Confirmation that the remediation objectives have been met.

APPENDIX 1

EARTH ENVIRONMENTAL & GEOTECHNICAL LTD, PHASE I GEOENVIRONMENTAL DESK STUDY REPORT, (A2270/17), NOVEMBER 2017.









Earth Environmental
& Geotechnical

GeoEnvironmental Desk Study

786 Stockport Road

Levenshulme

October 2017

On behalf of

Easy Homes (MCR) LTD

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport, Cheshire, SK5 6DA

Tel : 0161 9758088

Email : info@earthenvironmental.co.uk
www.earthenvironmental.co.uk

STOCKPORT ROAD

LEVENSHULME

PHASE I ENVIRONMENTAL DESK STUDY

FOR

EASY HOMES (MCR) LTD

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Tel: 0161 975 6088

Report No. A2270/17 **November 2017**

Report Title:	**786 Stockport Road, Levenshulme** **Phase I Environmental Desk Study**
Report Reference:	**A2270/17**
Client:	**Easy Homes (MCR) LTD**
Issue Date:	**7/11/17**
Drafted By:	**J Cummins**
Reviewed By:	**A Czarnecki**
Authorised By:	**A Czarnecki**

This document has been prepared for the titled project (or named part thereof) and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authorisation being obtained from Earth Environmental & Geotechnical. Earth Environmental & Geotechnical accepts no responsibility or liability for the consequences of the use of this document, wholly or in part, for any other purpose than that for which it was commissioned. Any persons so using or relying upon this document for such other purpose do so at their own risk.

This report was prepared for the sole use of the Client and shall not be relied upon or transferred to any other party without the express written authorisation of Earth Environmental & Geotechnical. It may contain material subject to copyright or obtained subject to license; unauthorised copying of this report will be in breach of copyright/license.

The findings and opinions provided in this document are given in good faith and are subject to the limitations imposed by employing site assessment methods and techniques, appropriate to the time of investigation and within the limitations and constraints defined within this document. The findings and opinions are relevant to the dates when the assessment was undertaken, but should not necessarily be relied upon to represent conditions at a substantially later date.

The findings and opinions conveyed in this report are based on information obtained from a variety of sources as detailed and which Earth Environmental & Geotechnical assumes to be reliable, but have not been independently confirmed. Therefore, Earth Environmental & Geotechnical cannot and does not guarantee the authenticity or reliability of third party information it has relied upon.

Where opinions expressed in this report are based on current available guidelines and legislation, no liability can be accepted by Earth Environmental & Geotechnical for the effects of any future changes to such guidelines and legislation.

The limitations of liability of Earth Environmental & Geotechnical for the contents of this document have been agreed with the Client, as set out in the terms and conditions of offer and related contract documentation.

CONTENTS

1.0 INTRODUCTION 1
Appointment 1
Objective 3
Scope 3
2.0 SITE LOCATION AND DESCRIPTION 4
Site Location 4
Site Utility Services 6
3.0 ENVIRONMENTAL SETTING 7
Geology 7
Ground Workings 7
Mining and Other Underground Workings 8
Radon Potential 8
Hydrogeology and Hydrology 8
Landfill & Waste Management Activity 9
Industrial Land Use Information 9
Environmental Permits, Incidents and Registers 11
Environmentally Sensitive Sites 11
Ecology 11
Archaeology 11
Potential Flood Risks 12
Previous Site Investigations 12
4.0 SITE HISTORY 13
5.0 WALKOVER SURVEY 21
6.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT 22
Introduction 22
Preliminary Risk Assessment 24
7.0 CONCLUSIONS AND RECOMMENDATIONS 25
Recommendations 25

APPENDICES

Appendix 1 GroundSure Reports
Appendix 2 Site Photographs
Appendix 3 Site Walkover Notes
Appendix 4 Report Limitations

FIGURES

Figure 1 Proposed Development Layout Plan.
Figure 2 Proposed Development Layout Plan, First Floor, Second Floor, Third Floor.
Figure 3 Site Location Plan
Figure 4 Site Photograph
Figure 5 OS Map Extract: 1893
Figure 6 OS Map Extract: 1957
Figure 7 OS Map Extract: 1994
Figure 8 OS Map Extract 2014
Figure 9 Site Walkover Photo Locations

1.0 INTRODUCTION

Appointment

1.1 Earth Environmental & Geotechnical was commissioned by PHA Architects Ltd, on behalf of Easy Homes (MCR) LTD (the client) to undertake a Phase I Environmental Desk Study at a site on 786 Stockport Road, Levenshulme.

1.2 It is understood that the client wishes to construct a four storey building with the ground floor being retail, and the other three storeys being apartments. The construction also includes 25 car parking spaces at the rear of the building with an area specifically for deliveries as well as 3 yard and bin areas at the rear and a cycle storage facility also at the rear.

1.3 Access to the apartments for cars would be provided via existing site access on Siddall Street, with the addition of new sliding automatic gates, set back 4.5m from the road. Site access for apartments would be provided via a proposed point on the east border, on Stockport road as well as a rear entrance in the car park. Access for retail purposes would be provided via a proposed entrance on Stockport Road on the east border of the site.

1.4 A proposed development layout plan is shown in Figures 1 and 2 below.

Figure 1: Proposed Development Layout Plan.

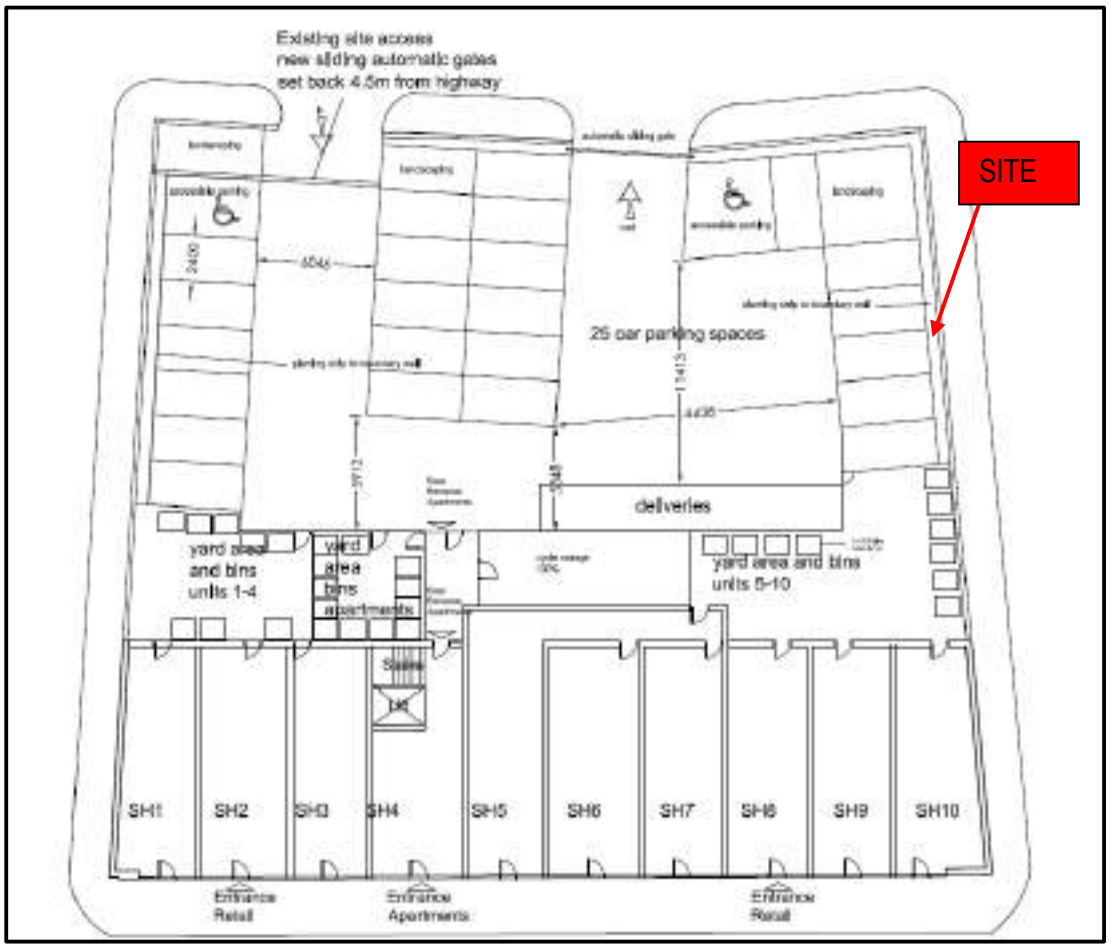
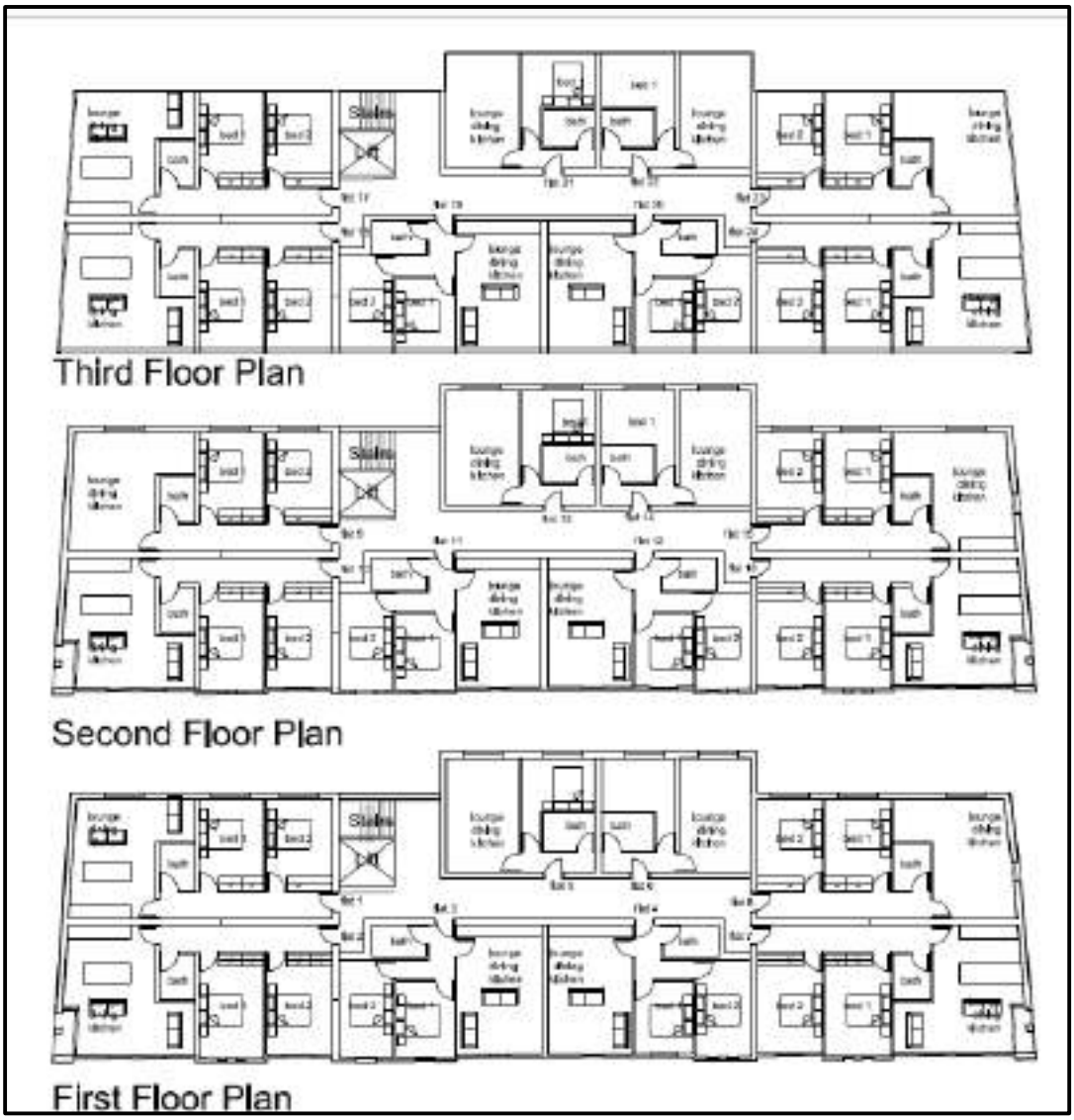


Figure 2: Proposed Development Layout Plan, First Floor, Second Floor and Third Floor.



Objective

1.5 The purpose of the Desk Study is to collate available geological and environmental data for the site (and its environment) and provide a preliminary geotechnical and geo-environmental appraisal, with a site specific conceptual model. This enables a preliminary assessment of geo-environmental risks to be undertaken and, if necessary, provides information for the design of a Phase 2 Ground Investigation.

Scope

1.6 The Phase I Environmental Desk Study comprises of a site reconnaissance visit and a review of the following information sources.

- British Geological Survey online maps.
- Google Earth imagery.
- Environment Agency online mapping data.
- Historical Ordnance Survey maps.
- The site and surrounding areas environmental, geological and mining data presented in the site specific GroundSure Reports (Appendix 1).
- Coal Authority Interactive Viewer.

2.0 SITE LOCATION AND DESCRIPTION

2.1 The site is currently undeveloped, bounded by roads to the north, east, south and west.

Site Location

2.2 The property is situated south of Swallow Street, north Pennington Street, west of Stockport Road an east of Siddall Street.

2.3 The site is located in the centre of Levenshulme, approximately 4.8km southeast of Manchester City centre with access to the site from Siddall Street to the west. The approximate National Grid Reference for the centre of the site is SJ 87284 94776 (X: 387284 Y: 394776) with the closest postcode being M12 4GE.

2.4 The site occupies approximately 0.17ha across a slightly distorted square shaped parcel of land, approximately 46m long and 38m wide.

2.5 The area surrounding the site includes an ASDA supermarket and a garage/car wash adjacent to the east boundary, residential dwellings adjacent to the south and west boundary and shops and works adjacent to the north boundary. The site is bound by Swallow Street to the north, Pennington Street to the south, Siddall Street to the west and Stockport Road to the east.

2.6 The site slopes gently to the east.

2.7 A location plan is shown overleaf as Figure 3 with a site photograph as Figure 4.

Figure 3 Site Location Plan



Figure 4 Site Photograph



Site Utility Services

2.8 A site service plan has been not provided by the client. The status of all services should be checked with the statutory providers prior to any development (including site investigation) commencing.

3.0 ENVIRONMENTAL SETTING

3.1 The geology of the site is covered by British Geological Survey (BGS) online data and the site specific GroundSure GeoInsight report (Appendix 1).

3.2 Environmental conditions are covered by Environment Agency (EA) and British Geological Survey (BGS) online data, and the site specific GroundSure EnviroInsight report (Appendix 1).

Geology

3.3 The BGS states that the site is not underlain by artificial ground.

3.4 The site is underlain by Devensian Till -Diamicton superficial deposits.

3.5 These superficial deposits are underlain by the Chester Pebble Beds Formation - Sandstone. The BGS describes the Chester Pebble Beds Formation as:

> *'Sandstone, fine- to coarse-grained, commonly pebbly, with conglomerates and sporadic siltstones; cross-stratified.'*

3.6 There are 5 records of faults within 500m of the site boundary, the closest being a normal fault inferred, 92m west of the site.

3.7 There are no records of landslips within 500m of the site boundary.

3.8 There is 1 borehole record identified within 250m of the site, with it being 91m north of the site which shows made ground to 0.91m and then brown clay to 5.33m.

3.9 The site is in an area where the hazard rating is negligible or very low with regard to shrink-swell clays, landslides, ground dissolution of rocks, compressible deposits, collapsible deposits and running sands.

3.10 The maximum hazard rating of natural subsidence within the site has been classified as very low by the BGS.

3.11 There is 1 estimated background soil chemistry record within 250m of the site, which is on site.

Ground Workings

3.12 There are no records of historical surface ground working features identified within 250m of the site boundary.

3.13 There are 2 current ground workings identified within 1km of the site, both with ceased status. The closest record is Gorton Brick Works located 737m northeast of the site.

Mining and Other Underground Workings

3.14 There are no historical mining records within 1km of the site.

3.15 The site is located 201m south of a Coal Mining area. According to the Coal Authority Interactive Viewer the site is not located within a Coal Mining Reporting Area. The site is not in close proximity to any Mine Entry and is not in a Development High Risk Area.

3.16 There are 2 non-coal mining areas within 1km of the site, the closest being for vein mineral, 425m southwest of the site.

3.17 There are no areas of gypsum extraction, brine extraction, tin mining or clay mining within 1km of the site.

3.18 There are no non-coal cavities or natural cavities identified within 1km of the site.

3.19 There are 3 historical underground working features identified within 1km of the site, with all three being a tunnel 975m south of the site, dated at 1974, 1983 and 1989.

Radon Potential

3.20 The site is not in a Radon Affected Area, as less than 1% of properties are above the Action Level.

3.21 No radon protection measures are therefore necessary.

Hydrogeology and Hydrology

3.22 The superficial Devensian Till -Diamicton deposits are classified by the Environment Agency (EA) as Secondary (undifferentiated) Aquifers with a mixed flow type and a high maximum and low minimum permeability. The BGS states the following:

> *'Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.'*

3.23 The underlying Chester Pebble Beds Formation - Sandstone is classified by the Environment Agency (EA) as a Principal Aquifer with a mixed flow type and high maximum and moderate minimum permeability. The BGS states the following:

> *'Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers.'*

3.24 The EA classifies the groundwater vulnerability and soil leaching potential on site as HU for major aquifer with high leaching potential, where the BGS states:

> *'Soil information for urban areas and restored mineral workings. These soils are therefore assumed to be highly permeable in the absence of site-specific information.'*

3.25 There are 8 groundwater abstraction licence records within 2km of the site, the closest record being a historical licence for Spray Irrigation - Direct 1.1km north of the site.

3.26 There are no surface water abstraction licenses within 2km of the site.

3.27 There are no potable water abstraction licences within 2km of the site.

3.28 There are no Source Protection Zones within 500m of the site.

3.29 The site is not within 500m of a Source Protection Zone within a confined aquifer.

3.30 There is 1 detailed river network record within 500m of the site, being a culvert on site.

3.31 There are no identified surface water features within 250m of the site.

3.32 There are no biological river quality records within 1.5km of the site.

3.33 There are no chemical river quality records within 1.5km of the site.

Landfill & Waste Management Activity

3.34 There are 10 records of historical potentially infilled land identified within 500m of the site, the closest being a pond 280m north of the site, dated 1851. Also within the vicinity are other ponds, a brick works and clay pits.

3.35 There are no Environment Agency landfill records within 1km of the site.

3.36 There are 5 records of historic Environment Agency landfill sites within 1.5km of the site, the closest record located 417m east of the site, with a waste type of inert, industrial, commercial, household, special and liquid sludge.

3.37 There is 1 record of BGS/DoE non-operational landfill sites within 1.5km of the site, located 588m northeast of the site with no risk to aquifer.

3.38 There are no records of landfills from Local Authority and Historical Mapping Records within 1.5km of the site.

3.39 There are 17 records of Environment Agency/Natural Resources Wales licensed waste sites within 1.5km of the site, with the closest being a <25000 tonnes vehicle depollution facility <5000 located 903m north of the site.

3.40 There are no other landfill records within 1.5km of the site.

Industrial Land Use Information

3.41 There are 35 records of historical potentially contaminative uses identified within 500m of the site, the closest 2 records relate to a police station on site, dated between 1983 and 1989. Other records within the vicinity include a police station, a rope walk, a nursery, a cotton mill, laundry, unspecified works, chocolate works, railway buildings, railway sidings, tramway sidings, railway stations, clay pits,

3.42 There are 21 records of current potentially contaminative uses identified within 250m of the site, the closest being an unspecified works or factories, 23m northwest of the site. Other records within the vicinity include vehicle hire and rental, vehicle parts and accessories, electrical features, vehicle repair, testing and servicing, garden goods, unspecified works or factories, electrical equipment repair and servicing and mechanical engineers.

3.43 There are no records of historical tanks identified within 500m of the site.

3.44 There are 40 records of historical energy features identified within 500m of the site, the closest 7 records referring to an electrical substation 30m east of the site, dated 1974 - 1994. Also within the vicinity are other electricity substations and an electricity transformer.

3.45 There are 2 records of petrol or fuel sites within 500m of the site, the closest being operated by Texaco, with an obsolete status, 22m northeast of the site.

3.46 There are no historical petrol or fuel sites within 500m of the site.

3.47 There are 23 historical garage and motor vehicle repair site records identified within 500m of the site, the closest 8 being associated with a garage located 20m east and northeast of the site, dated 1956 to 1994.

3.48 There are no National Grid high voltage underground electricity transmission cables, or high pressure gas transmission pipelines within 500m of the site.

3.49 There are no records for historical railways within 250m of the site, although Appendix 1 (groundsure reports) shows 4 records for railways, with the closest being 86m NW of the site dated 1893, but with no grid reference.

3.50 There are 6 historical railway lines and tunnel records within 250m of the site, with the closest being a railway west of the site, dated 1893. Other records include more railways and railway sidings.

3.51 There are 54 current active railway features within 250m of the site boundary, the closest 6 being the Manchester – Crewe line 96m west of the site. Other active features include Manchester – Crewe lines, Styal lines and unspecified multitracks.

3.52 The site is within 5km of the route of the High Speed 2 rail project.

3.53 The site is not within 500m of the route of the Crossrail 1 rail project.

3.54 There are no underground railway lines or tunnels identified within 250m of the site.

Environmental Permits, Incidents and Registers

3.55 The Groundsure Report includes records of environmental permits, incidents and registers within 500m of the site, which are summarised in Table 1 overleaf.

Table 1: Environmental Permits, Incidents and Registers within 500m of the site

Historic IPC Authorisations	None
Part A (1) and IPPC Authorised Activities	None
Red List Discharge Consents	None
List 1 Dangerous Substances Inventory Sites	None
List 2 Dangerous Substances Inventory Sites	None
Part A (2) and Part B Activities and Enforcements	2
Category 3 or 4 Radioactive Substance Authorisations	None
Licensed Discharge Consents	None
Water Industry Referrals	None
Planning Hazardous Substance Consents and Enforcements	None
Dangerous or Hazardous (COMAH and NIHHS) Sites	None
National Incidents Recording System (Pollution Incidents), List 2	None
National Incidents Recording System (Pollution Incidents), List 1	None
Sites Determined as Contaminated Land under Part 2A EPA1990	None

3.56 The records for Part A (2) and Part B Activities and Enforcements are for historical permits relating to petrol vapour recovery processes 5m east of the site (Crowcroft Service Station) and cement/lime/mortar processes 421m east of the site, both with no enforcements notified.

Environmentally Sensitive Sites

3.57 There is 1 record of Local Nature Reserves (LNR) within 2km of the study site, with it being Highfield Country Park 1.1km southeast of the site.

3.58 There are no other Designated Environmentally Sensitive Sites records within 2km of the study site.

Ecology

3.59 It should be noted that an ecological assessment of the site falls outside the brief of this report and that an ecological specialist should be consulted in this regard.

Archaeology

3.60 An archaeological assessment falls outside the brief of this report. Where considered necessary, advice should be sought from an archaeological specialist in this respect.

Potential Flood Risks

3.61 Detailed assessment of flood risks is outside the scope of this report. However, the site does not lie within 250m of an Environment Agency Zone 2 (Fluvial/Tidal Models) or a Zone 3 Fluvial Models) floodplain.

3.62 There are no records of flood defences, areas benefitting from flood defences or areas used for flood storage within 250m of the site.

3.63 According to the Environment Agency the highest risk of flooding on site is very low.

3.64 According to the BGS there are areas within 50m of the site boundary that may be susceptible to clearwater flooding. The highest susceptibility to groundwater flooding is 'limited potential' and the BGS confidence rating is low. The BGS states:

> *'The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.'*

Previous Site Investigations

3.65 Earth Environmental & Geotechnical Ltd are unaware of any previous site investigations.

4.0 SITE HISTORY

4.1 The historical development of the site has been determined by reference historical plans and Google Earth imagery. The reviewed historical plans comprise only readily available records and may be limited; however, the information available to date indicates that additional searches are unlikely to add to our understanding of the site. The earliest available historical mapping covering the site dates back to 1849.

4.2 The site history is summarised in Table 2, below, followed by selected extracts from maps and aerial photographs.

Table 2: Summary of Site History

Date	Site	Surrounding Land Use
1848 - 1849 1:10560	Site is part of a larger partly developed plot.	Stockport Road ~27m E of the site running NW to SE. Midway Houses ~62m SE of the site. Midway Ho. Inn ~71m SE of the site. 3 small buildings labelled Belmount ~110m SE of the site. Railway line ~118m W of the site, running NW to SE. Rope walk ~179m SE of the site. Culvert present ~212m N of the site. Rushford park ~247m SW of the site. Slade Hall ~282m NW of the site. Crowcroft House ~ 341m NE of the site. Crowcroft Cottom Mill ~359m N of the site. Yew Tree house ~391m S of the site. Yew Tree cottage ~430m E of the site. Brewster Tenement ~494m SE of the site. Hawthorn Cottage ~552m SW of the site. Dye works ~564m SE of the site. Levenshulme station present ~603m S of the site. School and other buildings present ~635m S of the site. 'Big' cotton mill ~700m SE of the site. 'Little' cotton mill ~722m SE of the site. Rushford farm present ~724m NW of the site. Slade house and cottage ~740m SW of the site. Knutsford Vale Print & Bleach works ~824m NE of the site. Rope walk ~875m NE of the site. Culvert present ~895m SE of the site.

1890 - 1892 1:10560 1893 1:2500	The site now contains several residential dwellings.	Large residential development in the surrounding areas of the site, starting ~59m S extending to ~260m S of the site. ~28m N extending N along Stockport road. Bowling green with pavilion ~123m E of the site. Mechanics Institute ~174m SE of the site. Residential development ~175m SE of the site. Residential development ~142m NE of the site. Cricket ground ~208m W of the site. Residential development ~247m SW of the site. Brick field present ~617m N of the site. Botany Bay cottage ~662m SE of the site. Wire mattress works ~683m SE of the site. Residential development ~250m to ~750m S and SW of the site. Green Bank Farm ~765m SE of the site. Chemical works ~961m NE of the site. Manchester Central Station railway line 1km S of the site running E to W.
1905 1:10560 1907 - 1908 1:2500	No significant change.	Residential development ~62m W of the site. Residential development ~116m NW of the site. Residential development ~163m E extending ~432m E of the site. Residential development ~228m SE of the site. Railway in course of construction ~230m NW of the site. Residential development ~264m NW of the site extending to ~1km NW of the site. Barnfield cottage ~512m N of the site. Residential development ~579m N of the site. Tool works ~730m SE of the site. Brick works ~745m NE of the site. Iron works ~750m NE of the site. Tarpaulin works ~834m NE of the site. Print works farm ~931m E of the site. Levenshulme print works ~1km SE of the site. Highfield Iron works ~1.1km SE of the site. Carpet works ~1.1km SE of the site. Sewage works ~1.1km NE of the site. Brick works ~1.2km SE of the site. Refuse destructor 1.2km SE of the site.

1922 1:2500 1923 1:10560	No significant change.	Wilmslow and Levenshulme railway line ~230m NW of the site now constructed. Residential development ~250m to ~500m NE of the site. Residential development ~500m NW of the site. Residential development ~500m to ~750m N of the site. Residential development ~800m to ~1km SE of the site.
1933 1:2500 1934 1:10560 1938 1:10560	No significant change.	Wilmslow and Levenshulme railway line now called London Midland and Scottish Railway. Residential development ~250m NE of the site. Residential development ~260m NW of the site. Laundry present ~413m E of the site. Residential development ~750m W of the site. Residential development ~600m to ~750m SW of the site. Clay pit ~750m NE of the site.
1955 – 1956 1:10560 1951 – 1956 1:1250 1956 1:2500 1957 1:1250	No significant change.	Garage present ~79m NE of the site. Coal yard present ~106m SE of the site. Garage present ~250m NW of the site.
1965 - 1968 1:10560	No significant change	Chocolate works ~480m SE of the site. Tramway present ~500m NE of the site. Drain present ~500m NE of the site running E to W. Clay pit ~625m NE of the site. North road brick works now labelled ~750m NE of the site. Works present ~760m NW of the site.
1974 - 1978 1:1250 1976 – 1981 1:10000	No significant change.	Electrical substation ~50m E of the site. Electrical substation at ~240m NW of the site. Electrical works ~260m NW of the site. Brick works ~750m NE of the site.
1983 – 1985 1:10000 1983 – 1984 1:1250	The site now contains a police station.	Works present ~90m S of the site. Residential buildings removed ~134m SW of the site, ~76m NW of the site, ~149m NW of the site, ~161m NW of the site and ~97m NE of the site. Residential development ~689m NE of the site.
1979 – 1988 1:1250 1986 1:1250 1988 1:1250 1988 – 1992 1:1250	No significant change.	No significant change.

1989 – 1991 1:10000 1992 1:1250		
1994 1:1250 1995 1:1250 Google Earth 2000 2002 1:10000 Google Earth 2003	No significant change.	Large building ~50m E of the site. Residential development ~75m SW of the site.
Google Earth 2005 Google Earth 2009 2010 1:10000 Google Earth 2013 2014:1:10000 Google Earth 2016 Google Earth 2017	Police station no longer present on site, no buildings present on site.	No significant change.

Figure 5 OS Map Extract 1893

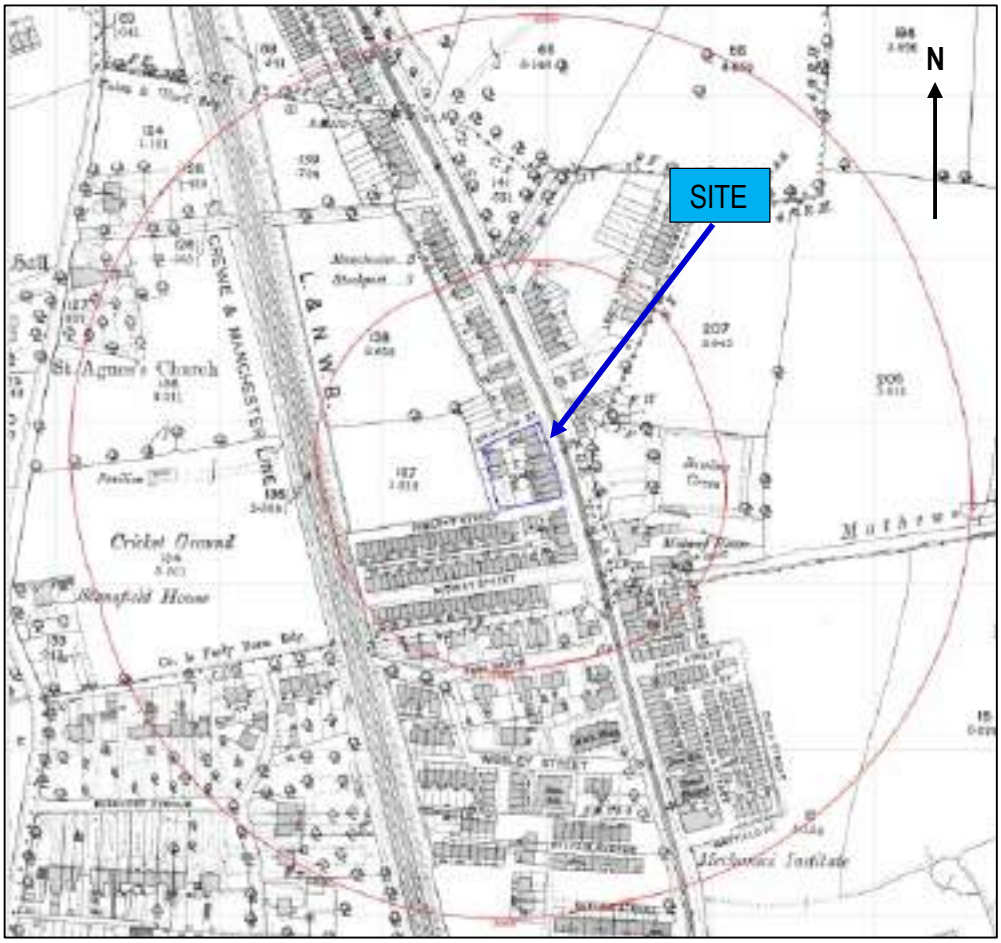


Figure 6 OS Map Extract 1957

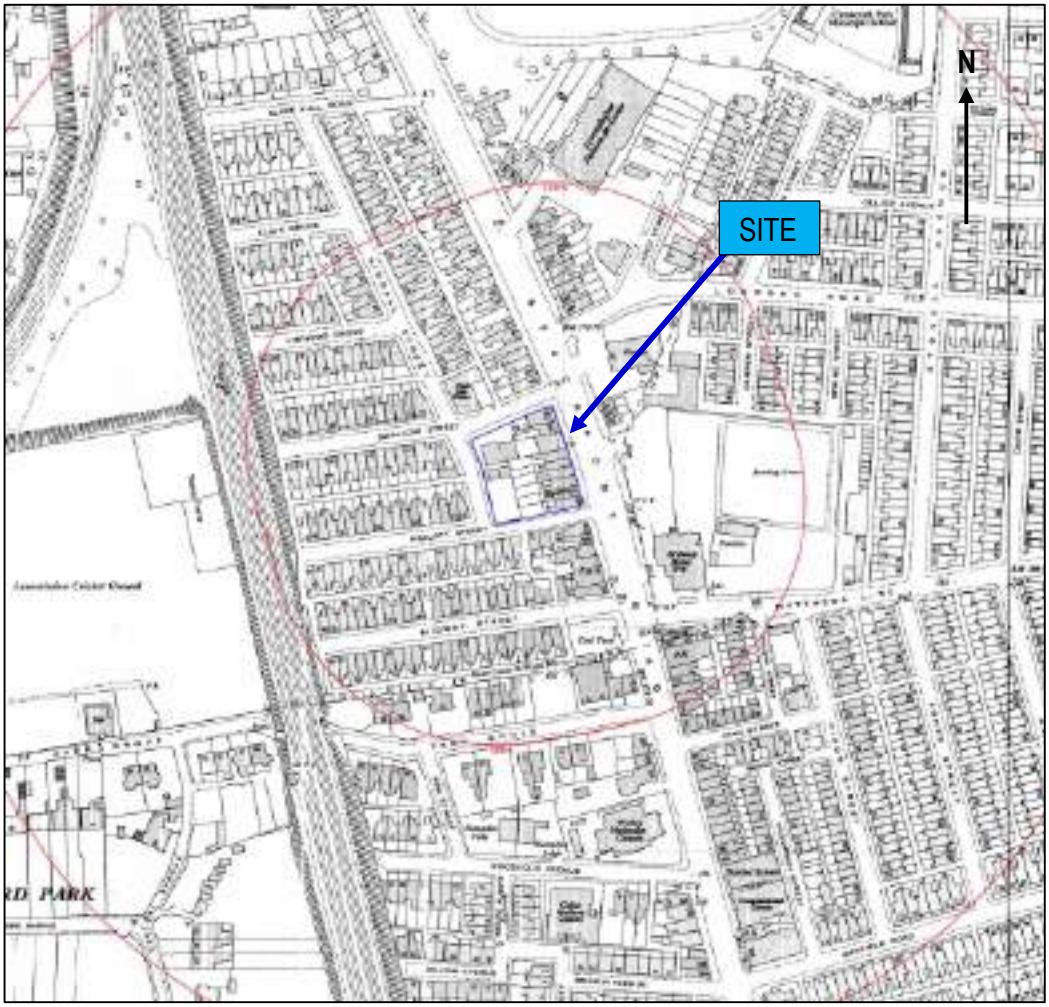


Figure 7 OS Map Extract 1994

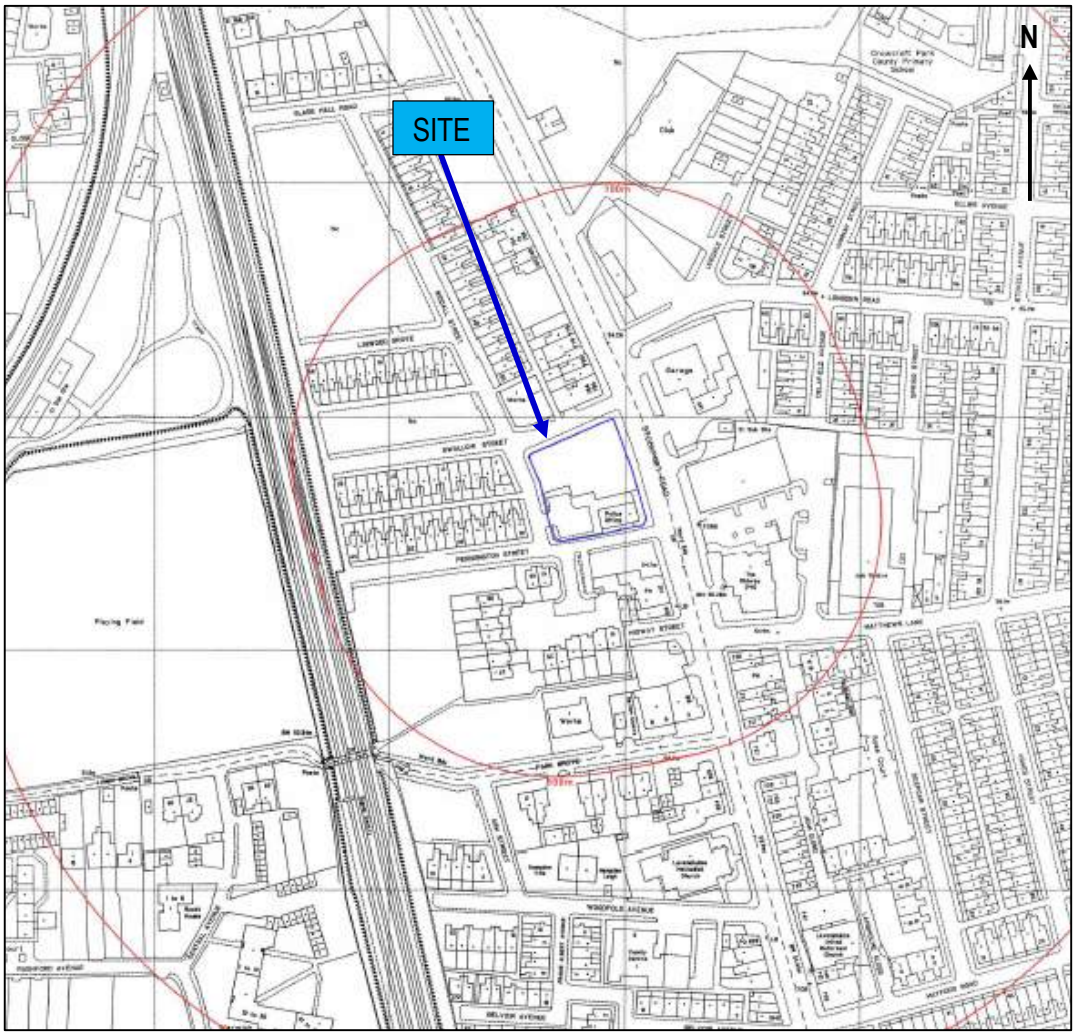
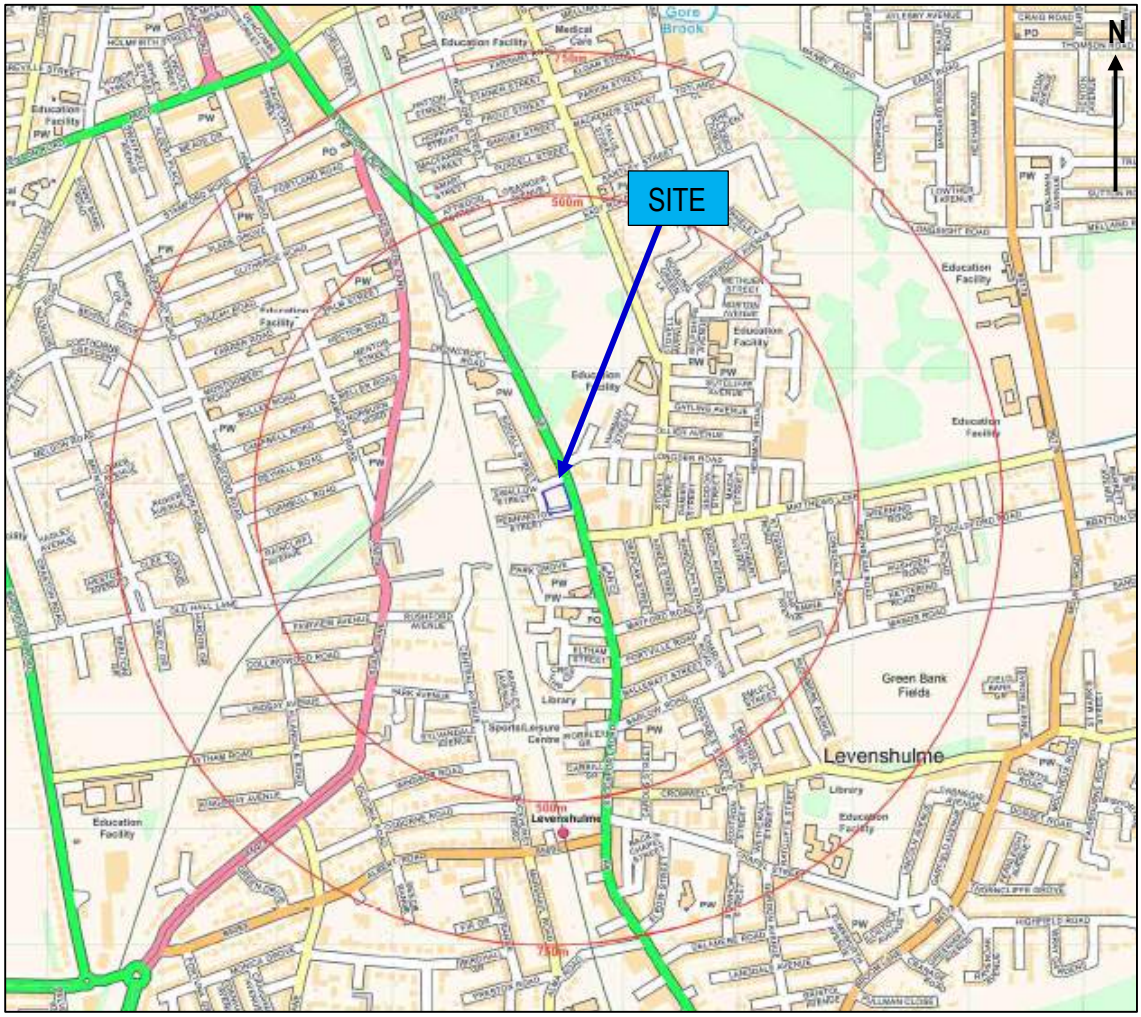


Figure 8 OS Map Extract 2014



5.0 WALKOVER SURVEY

5.1 A walkover survey was completed on the 23rd October 2017. The photographs and notes from this survey are appended to this report as Appendix 2 and Appendix 3 respectively.

5.2 The site is unused, with overgrown vegetation and a gravel area of a former building.

5.3 The site slopes gradually from west to east.

5.1 There are no buildings on site.

5.2 The site is accessed from Siddall Street to the southwest of the site.

5.3 The site perimeter is bound by pavement to the north, west, south and east with Stockport Road beyond to the east, Pennington Street to the South, Siddall Street to the west and Swallow Street to the North.

5.4 Grass, bushes and other small vegetation covers the majority of the site, with a gravel area ranging from the southeast corner to the southwest corner or the site, where the break in pavement is for site access.

5.5 The site is bordered with a metal fence to prevent access.

6.0 PRELIMINARY CONTAMINATION RISK ASSESSMENT

Introduction

6.1 The following paragraphs outline a Preliminary Risk Assessment (PRA) for the site as defined by DEFRA and the EA Model Procedures for the Management of Land Contamination, CLR11 (2004).

6.2 Table 3 provides a Preliminary Conceptual Model (PCM) which defines the site in terms of a potential pollution linkage, that is, whether a pathway exists between a contamination source and a sensitive environmental receptor (Source-Pathway-Receptor relationship).

6.3 Table 3 considers whether a pollution linkage is potentially present and provides a preliminary qualitative assessment of risk based on the information currently available. Where a possible linkage is identified, it does not necessarily mean that a significant risk exists, but indicates that further information is required through appropriate site investigation to substantiate the conceptual model.

Table 3: Preliminary Conceptual Model

6.4 The PCM/PRA is based on a proposed residential end use.

Source	Pathway	Receptor	Linkage	Comment
Due to the historical use of the site, the likelihood of significant ground contamination sources being present at the site, associated with historical land use, is considered **LOW**.	Direct contact, ingestion of soil, dermal contact, dust exposure pathways.	Current Site Users	Unlikely	The site is currently unoccupied and undeveloped, the risk associated with current site users via direct exposure is considered to be **LOW.**
		Adjacent land users	Unlikely	The neighbouring properties are retail, residential and industrial. The current risk is considered **LOW.**
		Construction Workers	Possible	Standard industry working practices for working on sites will be sufficient to manage any potential risks. Therefore, the risk associated with construction workers via direct exposure is considered to be **LOW.**
		Future land users	Unlikely	The site has been used historically as a police station and then unused. If the site is used for retail and residential purposes the risk associated with future site users via direct exposure is considered to be **LOW.**

Due to the covering of vegetation and the historical use of the site, as well as the presence of a garage 79m NE of the site, the likelihood of soluble and/or liquid and therefore mobile contaminants occurring at the site due to its past use is considered **LOW to MEDIUM.**	Direct downward migration through leaching and/or mobile liquids.	Groundwater	Unlikely	The site lies upon Secondary (Undifferentiated) and Principal aquifers. The perceived risk to groundwater is considered **LOW.**
	Off-site migration in groundwater or surface water flow.	Surface water	Possible	Considering the absence of surface water in the immediate vicinity, the perceived risk to surface water is considered **LOW.**
		Groundwater / surface water abstractions	Unlikely	The site is not within a groundwater source protection zone or a groundwater source protection zone within a confined aquifer. There is not active groundwater abstraction license. The risk to water abstractions is therefore considered **LOW**.
		Adjacent Properties	Unlikely	No significant sources of mobile contamination are identified on the site. The preliminary risk to adjacent properties is considered **LOW.**
		Ecology	Possible	There site is in a developed area and partially covered in vegetation. The risk to ecology is therefore considered **LOW.**
Considering the sites history, the likelihood of volatile contaminants occurring at the site is considered **LOW.**	Inhalation of harmful vapours (indoor and outdoor airspaces)	Current Site Users	Unlikely	Volatile contaminants are not likely to be present, so the risk associated with current site users is considered to be **LOW.**
		Adjacent Properties	Unlikely	The potential risk to adjoining site users is therefore considered **LOW.**

Due to the sites history, the likelihood of degradable materials with the potential to generate hazardous ground gas is **LOW**.	Emissions from the ground collecting in confined spaces and excavations	Construction/ services maintenance workers	Unlikely	The preliminary risk is therefore considered **LOW**.
	Migration of gases on/off site and collecting in confined spaces on/off site.	Adjoining site users	Unlikely	Commercial and residential properties surround the site. The potential risk to adjoining site users is considered **LOW.**
		Current/future site users	Unlikely	The potential of commercial and residential end use reduces the risk to any sensitive receptors. The potential risk is considered **LOW**.
Chemicals which could prove aggressive to construction materials may be present on site.	Direct contact	Construction concrete, plastic water pipes.	Unlikely	Risks to construction materials can be identified via site investigation prior to the proposed construction works. The perceived risk is considered **LOW.**

Preliminary Risk Assessment

6.5 The site is currently unused and undeveloped. The area surrounding the site comprised of roads, residential dwellings as well as several retail establishments and industrial premises.

6.6 The majority of the potential pollution linkages are considered unlikely and the preliminary risks are assessed as **LOW**.

6.7 The site has contained residential dwellings from 1890 up until they were replaced with a police station in 1983, which was then removed around 2005. The site has since been undeveloped and unused. The area around the site has been mostly residential with a railway to the west and other works, farms and commercial properties in the surrounding area. Residential buildings were present as early as 1890 with development increasing through the years.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 The likelihood of contamination on the site is low.

7.2 The site has historically contained residential dwellings and a police station. A fuel retailing station is located adjacent to the north eastern site boundary.

7.3 The site is currently undeveloped and unused.

7.4 The site is underlain by Devensian Till -Diamicton superficial deposits and the Chester Pebble Beds Formation - Sandstone.

7.5 The site is underlain by Secondary (Undifferentiated) and Principal aquifers.

7.6 The site is located 201m south of a Coal Mining area. According to the Coal Authority Interactive Viewer the site is not located within a Coal Mining Reporting Area. The site is not in close proximity to any Mine Entry and is not in a Development High Risk Area.

Recommendations

7.7 An intrusive investigation should be undertaken to establish geotechnical parameters for the design of foundations, floor slabs and pavement construction for the proposed new structures and surrounding area.

7.8 As part of the geotechnical investigation, it is recommended that samples of soil are recovered for analysis for contamination testing and to confirm whether there are any potential risks, particularly for demolition activities and a former nearby fuel retailing station.

APPENDIX 1

GROUNDSURE REPORTS

APPENDIX 2

SITE PHOTOGRAPHS

Earth Environmental & Geotechnical Ltd

Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

SITE PHOTOGRAPHS

Job No.: A2270/17

Site: 786 Stockport Road, Levenshulme.

Plate 1 View of E boundary, looking E.



Date: 23rd October 2017

Plate 2 View of N boundary and NE corner, looking NE.



Date: 23rd October 2017

Plate 3 view of SE corner, looking SE.



Date: 23rd October 2017

Plate 4 view of SW corner and W boundary, looking S.



Date: 23rd October 2017

Earth Environmental & Geotechnical Ltd

Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

SITE PHOTOGRAPHS

Job No.: A2270/17

Site: 786 Stockport Road, Levenshulme.

Plate 5 NW corner, looking N.



Date: 23rd October 2017

Plate 6 N boundary and SE corner, looking SE.



Date: 23rd October 2017

Plate 7 S boundary, looking S.



Date: 23rd October 2017

Plate 8 SW corner, looking S.



Date: 23rd October 2017

Earth Environmental & Geotechnical Ltd

Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

SITE PHOTOGRAPHS

Job No.: A2270/17

Site: 786 Stockport Road, Levenshulme.

Plate 9 View of SE corner, looking SE.



Date: 23rd October 2017

Plate 10 View of SW corner, looking SW.



Date: 23rd October 2017

Plate 11 View of E boundary and SE corner, looking S.



Date: 23rd October 2017

Plate 12 View of W boundary, looking W.



Date: 23rd October 2017

Earth Environmental & Geotechnical Ltd

Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

SITE PHOTOGRAPHS

Job No.: A2270/17

Site: 786 Stockport Road, Levenshulme.

Plate 13 View of S boundary and SW corner, looking W.



Date: 23rd October 2017

Plate 14 View of NW corner, looking NW.



Date: 23rd October 2017

Plate 15 View of SE corner, looking S.



Date: 23rd October 2017

Plate 16 View of S boundary, looking W.



Date: 23rd October 2017

Earth Environmental & Geotechnical Ltd

Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

SITE PHOTOGRAPHS

Job No.: A2270/17

Site: 786 Stockport Road, Levenshulme.

Plate 17 View of N boundary, looking N.



Date: 23rd October 2017

Plate 18 View of SE corner, looking NE.



Date: 23rd October 2017

Plate 19 View of gravel area at S boundary, looking N.



Date: 23rd October 2017

Plate 20 View of gravel area at S boundary with N boundary beyond, looking N.



Date: 23rd October 2017

Earth Environmental & Geotechnical Ltd

Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

SITE PHOTOGRAPHS

Job No.: A2270/17

Site: 786 Stockport Road, Levenshulme.

Plate 21 View of S boundary, W boundary and SW corner, looking W.



Date: 23rd October 2017

Plate 22 View of N boundary , looking N.



Date: 23rd October 2017

Plate 23 View of N boundary and NW corner, looking N.



Date: 23rd October 2017

Plate 24 View of E boundary, looking E.



Date: 23rd October 2017

Earth Environmental & Geotechnical Ltd

Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

SITE PHOTOGRAPHS

Job No.: A2270/17

Site: 786 Stockport Road, Levenshulme.

Plate 25 View from E boundary and SE corner, looking E.



Date: 23rd October 2017

Plate 26 View of N boundary and NE corner, looking NE.



Date: 23rd October 2017

Plate 27 View of W boundary, looking S.



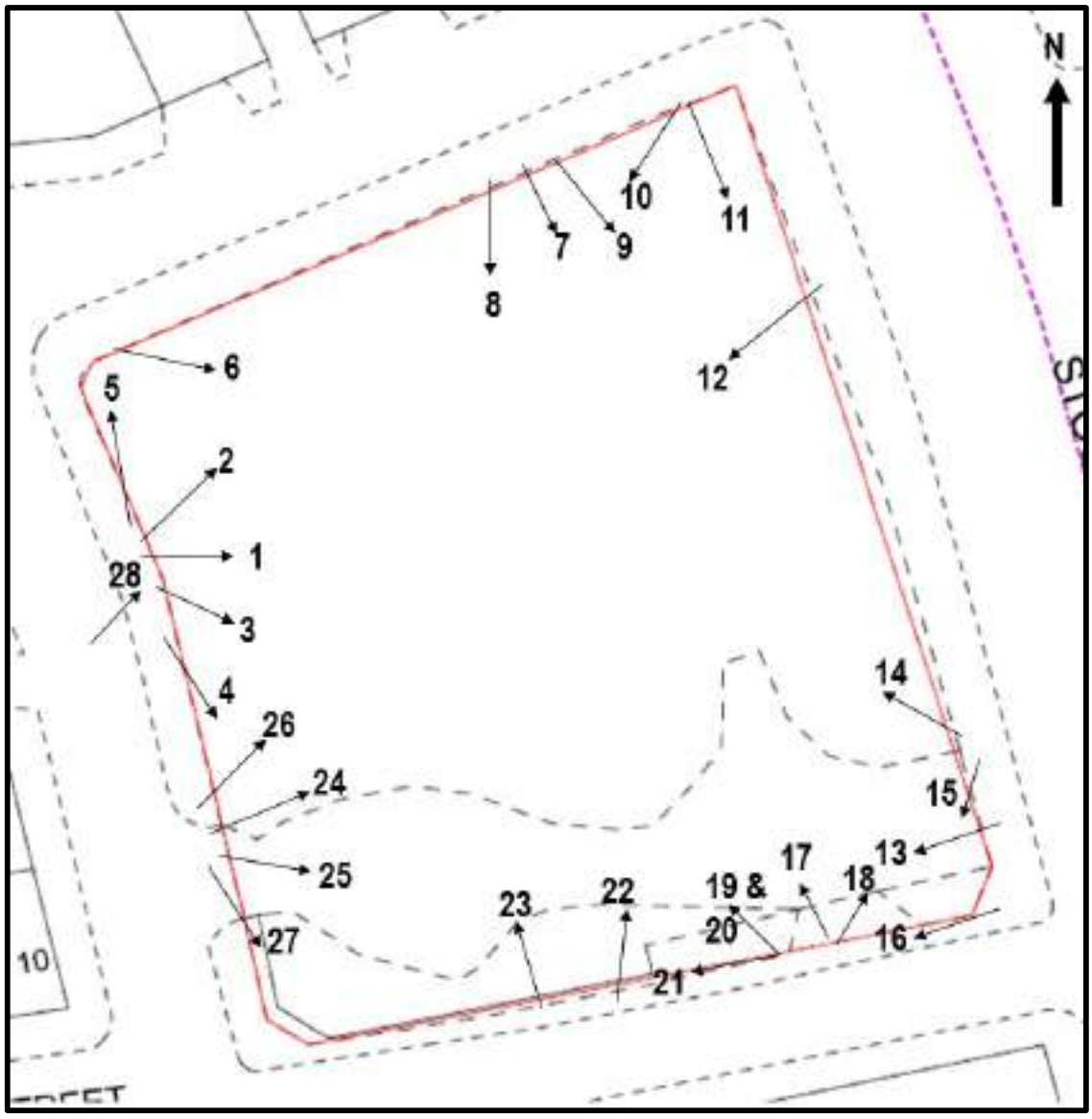
Date: 23rd October 2017

Plate 28 View of N boundary, looking NE.



Date: 23rd October 2017

Figure 9 Site Walkover Photo Locations



APPENDIX 3

SITE WALKOVER NOTES

WALK OVER SURVEY REPORT

Site: 786 Stockport Road, Levenshulme **Date:** 23rd October 2017

Job No: A2270 **Undertaken By:** J Cummins

Purpose of Site Walkover:
1) Provide further information for the Desk Study Report;
2) Identify potential contamination sources, pathways and receptors;
3) Identify geotechnical features and potential geohazards;
4) Determine locations for exploratory boreholes.

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Site Setting	Description required for: Town/Country/Suburb Setting Industrial/Residential/Retail Usage Current Site use (if undertaking security and access to the site)		Town setting, within Levenshulme. Residential and retail with some industrial usage. Site is currently unused and undeveloped.
Evidence of Past Activities	Are there: Any relevant street names in area? Features or relics which indicate past history?	~~Yes~~/No Yes/~~No~~	Gravel/asphalt area on site where former building once stood.
Geographic Setting	Description required for: Low lying flood plain/dry valley/rolling hills etc.		Site slopes gently W to E. Generally flat terrain.
Ground Conditions	Is there any evidence of: Mining, Mine entries Subsidence Landslip/slope erosion Former investigation works	 ~~Yes~~/No ~~Yes~~/No ~~Yes~~/No	

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Topography	Description required for: Are there apparent differences between site and surrounding area? (If yes describe the presence of retaining walls, and slopes). Is there evidence of Made Ground / Fill on site?	~~Yes~~/No Yes/~~No~~	Gravel/Asphalt area on the south of the site.
Site Boundaries and Neighbours	Description required for: Type of boundary demarcation (if any) on each side of site, usage of adjacent land and name of industrial/commercial occupiers. Note any adjacent features such as water course and other potentially environmentally sensitive uses (residential, school, infirmary, SSSI etc)		Site bordered with a fence N, E, W and S. N – Bounds onto pavement with Swallow street beyond. E – Bounds onto pavement with Stockport Road beyond. S – Bounds onto pavement with Pennington Street beyond. W – Bounds onto pavement with Siddall Street beyond.
Vegetation	Are there any vegetation/trees on or close to site (if yes describe locations, type, maturity, etc) Is there any evidence of poor health / distress?	Yes/~~No~~ ~~Yes~~/No	No trees but vegetation present on most of the site, containing small bushes, nettles, bramble and overgrown grass.
Ground Surface	Are there areas of hardstanding and estimate the split between hard and soft cover? (If yes describe locations, types and conditions). Is the any evidence of any spillages or staining?	Yes/~~No~~ ~~Yes~~/No	Approximately 70% soft cover and 30% hard cover, the hard cover being the asphalt/gravel area on the S of the site.

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Site Drainage	Are there any drain covers / soakaways (if yes describe locations)	Yes~~/No~~	Drain covers outside of site to the S.
	Are there any outfalls/water courses on site (note the condition of water courses in open water courses. discolouration, odour, eutrophication, oily sheen, gas bubbling water, clear or cloudy)	~~Yes~~/No	
	Where a watercourse runs alongside or crosses a site are there any differences in visible water quality upstream and downstream of the site?	~~Yes~~/No	
Electrical Equipment	Are there any electricity sub stations on or adjacent to the site? Are there any electrical transformers, capacitors, pylons etc on site?	Yes/~~No~~	Electrical pylon on the N boundary.
Buildings	Is there any evidence of asbestos construction materials e.g. roofing, insulation materials.	~~Yes~~/No	
	Do any buildings have basements?		No buildings on site.
	Do any buildings have a boiler room (if yes, describe fuel type and storage arrangements)?		No buildings on site.

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Landfilling	Is there any evidence of gas protection measures (gas membrane, gravel-filled trenches, venting pipes, etc)?	~~Yes~~/No	N/A
Process Air Emissions	Point Source: Are there any stacks / vents / cooling towers / abatement equipment?	~~Yes~~/No	N/A
	Fugitive Source: is there any stockpiled material / windblown dust / vapour process?	~~Yes~~/No	N/A
Storage of fuels & Chemicals	Are there any drums / containers (if yes, describe quantity, full /empty, stored on hard standing / soft landscaping, bunding)?	~~Yes~~/No	N/A
	Are there any above ground fuel tanks (if yes, describe locations, volumes, how many, bunding, used / disused, condition?)	~~Yes~~/No	N/A
	Is there any evidence of underground fuel tanks (fuel pumps, covers, vent pipes, how many and how large, fill point, used / disused, and condition)?	~~Yes~~/No	N/A
Accidents	In the event of a large spillage would runoff affect any vulnerable watercourse/culverts?	~~Yes~~/No	N/A
	Are emergency procedures / equipment in place?	~~Yes~~/No	

Desk Study features checked during site visit	Feature and Information required	Present	Description / Comments
Waste	Are there any waste skips present on site? Are waste storage facilities adequate? Is there any litter/fly tipped material?	~~Yes~~/No ~~Yes~~/No Yes/~~No~~	Large amounts of litter of food and drink packaging as well as tyres, wood and various other pieces.
Atmospheric	Are there any fumes, odours originating from site or affecting site from neighbouring sites?	~~Yes~~/No	
Access / Further Investigations	If a Phase 2 Investigation is likely to be required, describe any access problems including headroom where relevant, services, overhead cables, restricted access areas, confined spaces, trafficked areas, etc that are likely to affect investigation scope/techniques. Identify possible site office and storage locations. Identify possible water supply	 ~~Yes~~/No	Site is publicly accessed. Overhead electricity cables. Small entry roads.
Site Environs	Are there any local features that could have a harmful influence e.g. landfill, industrial processes, railway land? Are there any sensitive water features/courses near to the site?	Yes/~~No~~ ~~Yes~~/No	Railway land to the W of the site and a garage to the E.
Local Knowledge / Anecdotal Evidence			
Site Dimensions	Describe shape of Site in plan and measure dimensions.		The site occupies ~0.17ha across a slightly distorted square shaped parcel of land, ~46m long and ~38m wide.

APPENDIX 4

REPORT LIMITATIONS

LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget and staff resources allocated to the project.

Other than that expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd provides no other representation or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important factor in determining the scope and level of the services. Should the purpose for which the report is used, or the proposed use of the site change, this report will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2017 and should be read in light of any subsequent changes in legislation, statutory requirements and industry best practices. Ground conditions can also change over time and further investigations or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd and the client.

The observations and conclusions described in this report are based solely upon the services that were provided pursuant to the agreement between the client and Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified.

No responsibility can be accepted for errors within third party items presented in this report. Further Earth Environmental & Geotechnical Ltd was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan, but is (are) used to present the general relative locations of features on, and surrounding, the site.

APPENDIX 2

EARTH ENVIRONMENTAL & GEOTECHNICAL LTD, GEOENVIRONMENTAL SITE INVESTIGATION REPORT, A2951/22/SI/V3), JANUARY 2025







EARTH ENVIRONMENTAL & GEOTECHNICAL

GeoEnvironmental Investigation

Stockport Road

Manchester

January 2025

On behalf of

VIEWS

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Tel: 0161 975 8080

Email: info@earthenvironmental.co.uk
www.earthenvironmental.co.uk

GEOENVIRONMENTAL INVESTIGATION

STOCKPORT ROAD

MANCHESTER

Report Ref: A2951/22/SI/V3

JANUARY 2025

Prepared on Behalf of:

VIEWS (HOLDINGS) LTD

By:

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

www.earthenvironmental.co.uk

DISTRIBUTION:

1 electronic copy VIEWS (HOLDINGS) LTD

GEOENVIRONMENTAL INVESTIGATION

STOCKPORT ROAD, MANCHESTER

Report Reference: A2951/22/SI/V2

Version B.0

Date: 24th January 2025

Prepared for: VIEWS

Prepared by: Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Definition of Version Code:
D. Applied during initial drafting of the report before it has been reviewed.
C. Applied after the report has been reviewed but before it has been approved by the Project Manager.
B. Applied after the Project Manager has approved the report ready for issue to the client.
A. Applied to reports after external/internal review.

The version number starts at "0" and is raised by "1" at each re-type.

Written by:

Luke Glover
Principal GeoEnvironmental Consultant

Approved by:

Adam Czarnecki
Managing Director

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 BACKGROUND 1
1.2 PREVIOUS INVESTIGATIONS 1
1.3 TERMS OF REFERENCE 1
1.4 LIMITATIONS OF THE STUDY 2

2.0 SITE LOCATION & DESCRIPTION 3

2.1 PROPOSED DEVELOPMENT 6

3.0 SITE INVESTIGATION 7

3.1 EXPLORATORY FIELDWORK 7
3.2 LABORATORY TESTING PROGRAMME 10
3.2.1 Geotechnical Testing 10
3.2.2 Environmental Testing 11

4.0 GROUND CONDITIONS ENCOUNTERED 12

4.1 SOIL PROFILE ENCOUNTERED 12
4.2 ADDITIONAL TRENCH INFORMATION 13
4.3 OBSERVABLE INDICATIONS OF CONTAMINATION 13
4.4 OBSTRUCTIONS 13
4.5 GROUNDWATER 13

5.0 ENGINEERING PROPERTIES OF SOILS ENCOUNTERED 14

5.1 MADE GROUND 14
5.2 DEVENSIAN TILL – CLAY 14

6.0 GEOTECHNICAL ASSESSMENT 18

6.1 PROPOSED DEVELOPMENT 18
6.2 GROUND CONDITIONS 18
6.3 FOUNDATION CONSIDERATIONS 18
6.3.1 Piled Foundations 18
6.4 GROUND FLOOR SLABS 18
6.5 PAVEMENT DESIGN 19
6.6 CHEMICAL ATTACK ON BURIED CONCRETE 19
6.7 SUITABILITY OF EXCAVATED MATERIALS 19
6.8 TEMPORARY WORKS 19

7.0 SOIL CONTAMINATION RISK ASSESSMENT 21

7.1 TIER I HUMAN HEALTH SOIL RISK ASSESSMENT – GROUNDWORKERS DURING DEVELOPMENT 21
7.2 TIER I HUMAN HEALTH SOIL RISK ASSESSMENT – FUTURE SITE USERS 22
7.3 SOIL WASTE ASSESSMENT 26

8.0 REVIEW OF CONCEPTUAL MODEL 27

8.1 SOURCES OF CONTAMINATION 28
8.2 RECEPTORS 28
8.3 POLLUTANT PATHWAYS 28

9.0 CONCLUSIONS AND RECOMMENDATIONS 31

9.1 SOIL CONTAMINATION 31
9.2 ASBESTOS 31
9.3 SOIL WASTE ASSESSMENT 31
9.4 FOUNDATION RECOMMENDATIONS 31
9.5 SURFACE WATER DRAINAGE 31
9.6 SITE PERSONNEL 32

LIST OF FIGURES

Figure 1 Site Location Plan
Figure 2 View along eastern boundary, looking north
Figure 3 View along southern site boundary, looking west
Figure 4 View along northern boundary, looking northeast
Figure 5 Site access from Siddall Street
Figure 6 Development Layout Plan
Figure 7 Exploratory Hole Location Plan (Window Sampling SI)
Figure 8 Exploratory Hole Location Plan (Trenching SI)
Figure 9 SPT vs Depth Plot
Figure 10 Plasticity Chart

TABLES

Table 1 Summary of Exploratory Holes Undertaken
Table 2 Summary of Ground Conditions Encountered
Table 3 Summary of Design Parameters (Sandy Gravelly Clay)
Table 4 Summary of Guideline Values for Protection of Workers and the General Public During Development of Contaminated Land
Table 5 Assessment of Soil Chemical Data
Table 6 Waste Classification of Soils
Table 7 Consequence, Probability and Risk
Table 8 Estimation of Level of Risk
Table 9 Revised Conceptual Model

APPENDICES

Appendix 1 Exploratory Hole Logs
Appendix 2 Chemical Testing Results
Appendix 3 Geotechnical Testing Results
Appendix 4 Soil Waste Assessment
Appendix 5 Soakaway Testing Results
Appendix 6 Report Limitations

1.0 INTRODUCTION

1.1 Background

A Geo-Environmental Site Investigation has been commissioned by VIEWS (Holdings) Ltd (the Client), to examine ground conditions and retrieve soil samples for chemical and geotechnical testing, for a proposed mixed commercial and residential development on Stockport Road, Wigan.

1.2 Previous Investigations

1.2.1 Earth Environmental & Geotechnical Ltd Phase I Desk Study A2270/17, dated November 2017)

The desk study highlighted that, historically, the site has been developed on since the late 19th century when residential properties were constructed on primarily the eastern half of the site. These residential properties remained until the 1980's when a police station was constructed in the southern portion of the site. This remained on the mapping until 2002 when the building was demolished, and no further development has taken place. The surrounding land use has primarily been residential with a mix of commercial properties. A garage has historically been present 20m northeast of the site.

It was therefore considered possible that potentially contaminated made ground may be present beneath the site, associated with the former on-site structures and land use.

The risk to end users from potential soil contamination and ground gas generation on the site was concluded to be **LOW** based on the proposed mixed commercial and residential end use. The risk to groundwater was considered **LOW**.

An intrusive investigation was recommended to establish geotechnical parameters for proposed development and to provide a contamination assessment of the site to confirm whether there are any potential risks.

1.3 Terms of Reference

Earth Environmental and Geotechnical Ltd (EEG) was commissioned by the Client to undertake a Geo-Environmental Investigation of the site in accordance with a proposal A2951 dated 7th March 2019 and again in A2951/22 dated 17th June 2022.

The objectives of the investigations are as follows:

- *Factual information of the work undertaken including sampling location plan, trial pit logs and soil infiltration testing.*
- *Assess the presence and likely extent of any potential environmental hazards, including soil contamination, associated within the areas of the site investigated.*
- *Assess the ground conditions for design of foundations and soakaways*
- *Classify the soils for offsite disposal purposes.*

1.4 Limitations of the Study

The report is written in the context of an agreed scope of work and budget and should not be used in a different context. New information, improved practices or changes in legislation may require a reinterpretation of the report in whole or in part. EEG reserve the right to amend either conclusions or recommendations in light of any further information that may become available. The report is provided for the sole use by the client and is confidential to them.

Recommendations within this report are also based on exploratory records and examination of samples and, where applicable, laboratory tests. No liability can be accepted for conditions not revealed by the boreholes and trial pits, particularly at intervening locations. Whilst every effort is made to ensure accuracy of data supplied, all opinions expressed as to the spatial distribution of strata between sampling locations is for guidance only and no responsibility is accepted as to its accuracy.

2.0 SITE LOCATION & DESCRIPTION

At the time of this investigation the site was a vacant plot of land that has previously been used as a police station and houses. The site was covered by vegetation in the centre and northern portion of the site with a gravelled area in the southern portion. Fencing surrounded the site with a gate leading from Siddall Street in the southwest corner. The site was primarily flat and level with adjacent roads. The area surrounding the site was used for a mix of residential and commercial purposes.

The site is a near square shaped parcel of land with maximum dimensions of 46m northwest-southeast by 40m northeast-southwest and occupies an area of approximately 0.17ha. The approximate National Grid Reference for the centre of the site is SJ 87284 94776 (X: 387284, Y: 394776)) with the closest postcode being M12 4GE.

The site location is shown in Figure 1, below.

Figure 1: Site Location Plan



Site photographs are presented in Figures 2 to 5 overleaf.

Figure 2: View along eastern boundary, looking north



Figure 3: View along southern site boundary, looking west



Figure 4: View along northern boundary, looking northeast



Figure 5: Site access from Siddall Street

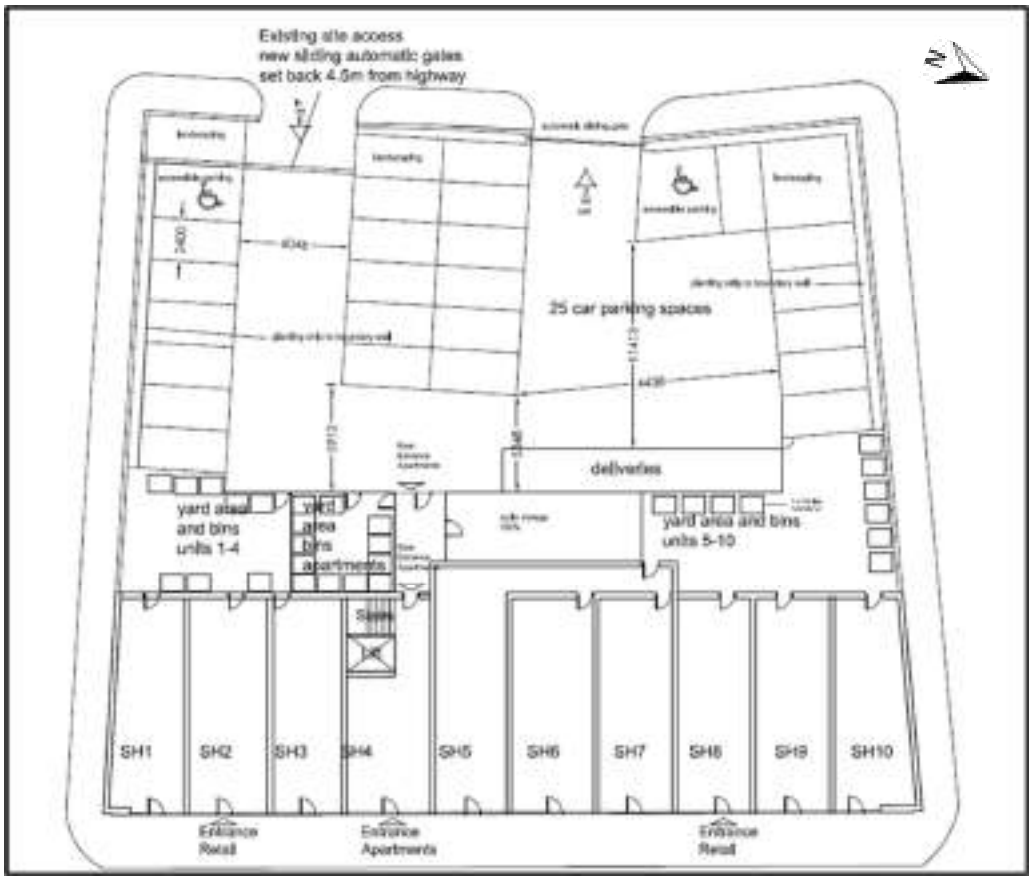


2.1 Proposed Development

It is understood that the client intends to construct a four-storey property with ground floor retail units and three-storeys of residential flats. Off street parking and minor amounts of landscaping are also proposed. The site access will remain from Siddall Street to the west.

Figure 6, below, shows an extract from the proposed development plan.

Figure 6: Development Layout Plan



3.0 SITE INVESTIGATION

3.1 Exploratory Fieldwork

The fieldwork was carried out by EEG on the 16th April 2019, then again on 18th July 2022 and comprised:

- Five window sample boreholes (designated WS01 to WS05 inclusive) were each sunk to depths of between 3.0m and 4.0m below existing ground level. Window sampler boring is carried out with a small, track-mounted rig, which uses a chain-driven trip hammer to drive sampling tubes or penetrometers into the ground. These tools are coupled to the anvil of the hammer by solid drill rods. Sampling tubes comprise “windowless samplers”, which are plain sampler tubes in which a continuous disturbed sample is recovered within a semi-rigid plastic liner. In order to reduce friction within the borehole, sampling tubes of progressively smaller diameter are used as the borehole depth increases. Sampler diameters generally range from between approximately 90mm to 50mm. Standard Penetration Tests (SPTs) were undertaken in the boreholes in accordance with accordance with BS EN ISO 22476-3. Exploratory hole logs for the boreholes are available in Appendix 1.
- Nine trial pits/trenches (designated Pit A to Pit C, Trench 1 to Trench 5 and SA01) were excavated to a maximum depth of 2.50m, using a tracked excavator. Representative disturbed samples were recovered from the excavated material as pitting proceeded. Trial pits were backfilled immediately on completion of sampling. Exploratory hole logs for the trial pits are available in Appendix 1.
- Soakaway testing was conducted in one of the excavated trial pits (SA01). Soakaway tests were carried out in this pit in accordance with BRE Digest 365(2016), the results of which are included in the Appendix 5. The soakaway pit was backfilled on completion of the testing.

The fieldwork was carried out in accordance with BS5930:2015 Code of Practice for Site Investigations, Eurocode 7, unless otherwise stated.

The borehole locations were determined on site by EEG based on the proposed development plan and to target potential sources of contamination identified in the Phase I Desk Study report (Reference A2270, dated November 2017) and are shown on the Exploratory Hole Location Plan (Figure 7) overleaf. Additional trenching locations were provided by the client and shown in Figure 8.

Figure 7: Exploratory Hole Location Plan (Window Sampling SI)



Figure 8: Exploratory Hole Location Plan (Trenching SI)



Each exploratory location was scanned using a Cable Avoidance Tool (CAT) in order to locate unrecorded underground services, and the exploratory locations were repositioned if necessary.

On completion, all samples recovered from the site were taken to a specialist laboratory for testing.

All site investigation work was supervised full time by a representative of EEG. The logging of soils and rocks has been carried out in accordance with BS5930(2015) except where superseded by the soil and rock description methodology in BS EN14688-1(2002), BS EN 14688-2(2004) and BS EN 14689-1(2003).

All locations and elevations were surveyed by use of a hand-held Trimble GPS with antennae, capable of achieving an accuracy of less than 10cm, depending on the prevailing satellite coverage and obscuring by trees and structures.

A summary of exploratory holes undertaken during the investigation is presented in Table 1, below.

Table 1: Summary of Exploratory Holes Undertaken

Hole	Type	Depth (m)	Date Started	Date Finished	Backfill Details
WS01	WS	3.80	16/04/2019	16/04/2019	A
WS02	WS	3.00	16/04/2019	16/04/2019	A
WS03	WS	3.00	16/04/2019	16/04/2019	A
WS04	WS	3.00	16/04/2019	16/04/2019	A
WS05	WS	4.00	16/04/2019	16/04/2019	A
SA01	TP	2.50	18/07/2022	18/07/2022	A
Pit A	TP	2.40	18/07/2022	18/07/2022	A
Pit B	TP	1.60	18/07/2022	18/07/2022	A
Pit C	TP	2.00	18/07/2022	18/07/2022	A
Trench 1	TP	2.40	18/07/2022	18/07/2022	A
Trench 2	TP	2.00	18/07/2022	18/07/2022	A
Trench 3	TP	1.20	18/07/2022	18/07/2022	A
Trench 4	TP	1.80	18/07/2022	18/07/2022	A
Trench 5	TP	2.40	18/07/2022	18/07/2022	A
WS=Window Sample Borehole, TP=Trial Pit, A=Arisings					

3.2 Laboratory Testing Programme

3.2.1 *Geotechnical Testing*

A programme of laboratory testing was carried out on samples taken from the various strata to assist in classification and determine the engineering properties of the materials underlying the site. The test procedures used were generally in accordance with the methods described in BS1377:1990. Details of the specific tests used in each case are given below.

TEST	STANDARD (BS1377:1990)	No.
Liquid Limit, Plastic Limit, Plasticity Index	Part 2, Clause 4 / 5	4
Particle Size Distribution	Part 2, Clause 9	4

Undrained Triaxial	Part 7, Clause 9	4
Sulphate content of 2:1 soil: water extract	Part 3,	4
pH value	Part 3,	4

The results of the laboratory geotechnical tests are discussed in Section 5 and included in Appendix 3.

3.2.2 *Environmental Testing*

The environmental chemistry of the ground was investigated by specialist chemical analysis of selected samples, scheduled by EEG, and carried out by QTSE/DETS.

Chemical analyses were carried out on thirteen soil samples and were submitted for the following suite of determinants:

Asbestos Screen, Arsenic, Beryllium, Boron, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Vanadium, Zinc, Cyanide, Thiocyanate, Phenol, Sulphate (SO_4), Sulphide, pH, Sulphur, Soil Organic Matter and speciated Polyaromatic Hydrocarbons (PAH) and speciated Total Petroleum Hydrocarbons (TPH).

The results of the laboratory contamination tests are discussed in Section 7 and included in Appendix 2.

4.0 GROUND CONDITIONS ENCOUNTERED

4.1 Soil Profile Encountered

The BGS mapping for the area indicates the site to be underlain by superficial deposits of Devensian Till (Diamicton) and solid geology of the Chester Pebble Beds Formation (Sandstone).

The sequence of strata encountered beneath the site was:

- **Made Ground –** variable material encountered in several locations to a maximum depth of 2.20m (Trench 5C). Comprising:
  - Sands and gravels of varying clay content (containing concrete, brick, glass, slate, pottery fragments, clinker, plastic sandstone mudstone and limestone);
  - Soft sandy gravelly clay (containing brick and sandstone);
  - Soft silty sandy clay.
- **Devensian Till –**
  - Firm to stiff clay.
  - Firm to very stiff sandy gravelly clay of varying sand and gravel contents (containing sandstone and carbonaceous fragments).

The depths of the various materials encountered in each of the exploratory holes are summarised in Table 2 below.

Table 2: Summary of Ground Conditions Encountered

Hole	Depth to Stratum (m)		GROUND-WATER (m bgl)
	MADE GROUND	CLAY	
WS01	GL-1.20	1.20-3.80	-
WS02	GL-2.00	2.00-3.00	-
WS03	GL-0.80	0.80-3.00	-
WS04	GL-0.85	0.85-3.00	-
WS05	GL-1.60	1.60-4.00	-
SA01	GL-1.50	1.50-2.50	-
Pit A	GL-1.50	1.50-2.40	-
Pit B	GL-1.50	1.50-1.60	-
Pit C	GL-2.00	-	-
Trench 1	GL-1.00/1.80	1.00/1.80-2.40	-
Trench 2	GL-1.80	1.80-2.00	-
Trench 3	GL-0.50	0.50-1.20	-
Trench 4	GL-0.40	0.40-1.80	-
Trench 5A	GL-2.00	2.00-2.20	-
Trench 5B	GL-1.30	1.30-1.50	-
Trench 5C	GL-2.20	2.20-2.40	-
Trench 5D	GL-0.60	0.60-1.00	-

4.2 Additional Trench Information

Details of the trenching carried out in the additional investigation can be found within Table 2 above and the exploratory hole logs in Appendix 1. Further details, where necessary, are provided below.

Trench 1 – The top of the natural clay layer at the base of this trench was found to slope from 1.00m depth to 1.80m depth from north to south.

Trench 2 – During the excavation, some single or double width brick walls were encountered running east to west through the trench but were removed by the machine.

Trench 5 – During the excavation, natural clay was encountered at varying different depths along the trench, from depths generally fluctuating between 0.50m to 2.20m. These changes in depth followed a clear step pattern along the trench and are likely left over from historical site development.

Pit C – This pit was dug along an in-situ brick wall which existed on the western boundary of the excavation. Natural clay was not encountered at the base of this pit, but flag stones were, potentially indicating that this was the location of a relict cellar.

4.3 Observable Indications of Contamination

During the ground investigation, made ground materials were encountered incorporated into the made ground sands, gravels and clays. This included concrete, brick, pottery, clinker, plastic, and glass.

No other visual or olfactory evidence of contamination was observed.

4.4 Obstructions

Multiple obstructions were observed during the trenching investigation. The features encountered are listed below and included within the exploratory hole logs in Appendix 1.

Relict brick walls were frequently encountered within the ground across the site; however, these were more concentrated in the east. These structures are thought to be remnants of the historical housing that was previously on site. The structures were easily excavated. Pit C encountered a relict brick wall that ran along the length of its western pit face. This structure was not easily excavated, and the pit was continued alongside it.

Sandstone slabs were encountered at 2.00m in Pit C which could not be excavated. These are potentially associated with the cellar floor of the historical housing.

4.5 Groundwater

No groundwater seepages were encountered during the fieldwork within the natural soils

5.0 ENGINEERING PROPERTIES OF SOILS ENCOUNTERED

The following sections discuss the engineering properties of the strata encountered, based on results of in situ testing and laboratory testing obtained during this investigation.

5.1 Made Ground

Variable Made Ground was encountered across the site to depths of between 0.80m and 2.00m. Made Ground is not typically considered to be a suitable founding material, and as such, no geotechnical testing was carried out on the material.

Given the depth of the Made Ground, only two Standard Penetration Tests (SPTs) were carried out in the material resulting in **SPT N values** of 3 to 6, as shown on the SPT vs Depth Plot overleaf (Figure 9). These results suggest the Made Ground is very loose granular material or soft cohesive material.

Sulphate content and pH value determination tests were carried out on seven samples of the Made Ground by the chemical laboratory. The **water-soluble sulphate** content of the samples ranged between <10 mg/l SO_4 to 245 mg/l SO_4 with **pH values** of 7.2 to 7.9.

5.2 Devensian Till – Clay

The Clay was encountered below the Made Ground. This lithology was encountered to a maximum depth of 4.00m.

SPT tests carried out in the Clay resulted in **SPT N values** of between 5 and 50, as shown on the SPT vs Depth Plot overleaf (Figure 9). These results suggest the Clay is typically firm to very stiff with its stiffness increasing with depth.

Atterberg Limit tests were carried out on four samples of the Clay. Results of the tests reported **liquid limit** values between 35% and 36%, and **plastic limit** values between 11% and 13%, resulting in **plasticity index** values of 22% to 25%. These results suggest the Clay to be of **intermediate plasticity**.

Results are shown on the Plasticity Chart overleaf. Full test results are included in Appendix 3.

For design purposes, a value of plasticity index = 23% is recommended, based on the average of the results.

In accordance with NHBC Chapter 4.2 Building Near Trees (2003) soils can be classified in terms of volume change potential, using the relationship:

$$Ip' = Ip \times \frac{\%\ \text{less than } 425\mu m}{100\%}$$

Ip' = modified plasticity index
Ip = plasticity index.

Based on the laboratory test results, the above relationship and Table 1 of NHBC Chapter 4.2, the samples of Clay have a **low to medium volume change potential**.

Figure 9: SPT vs Depth Plot

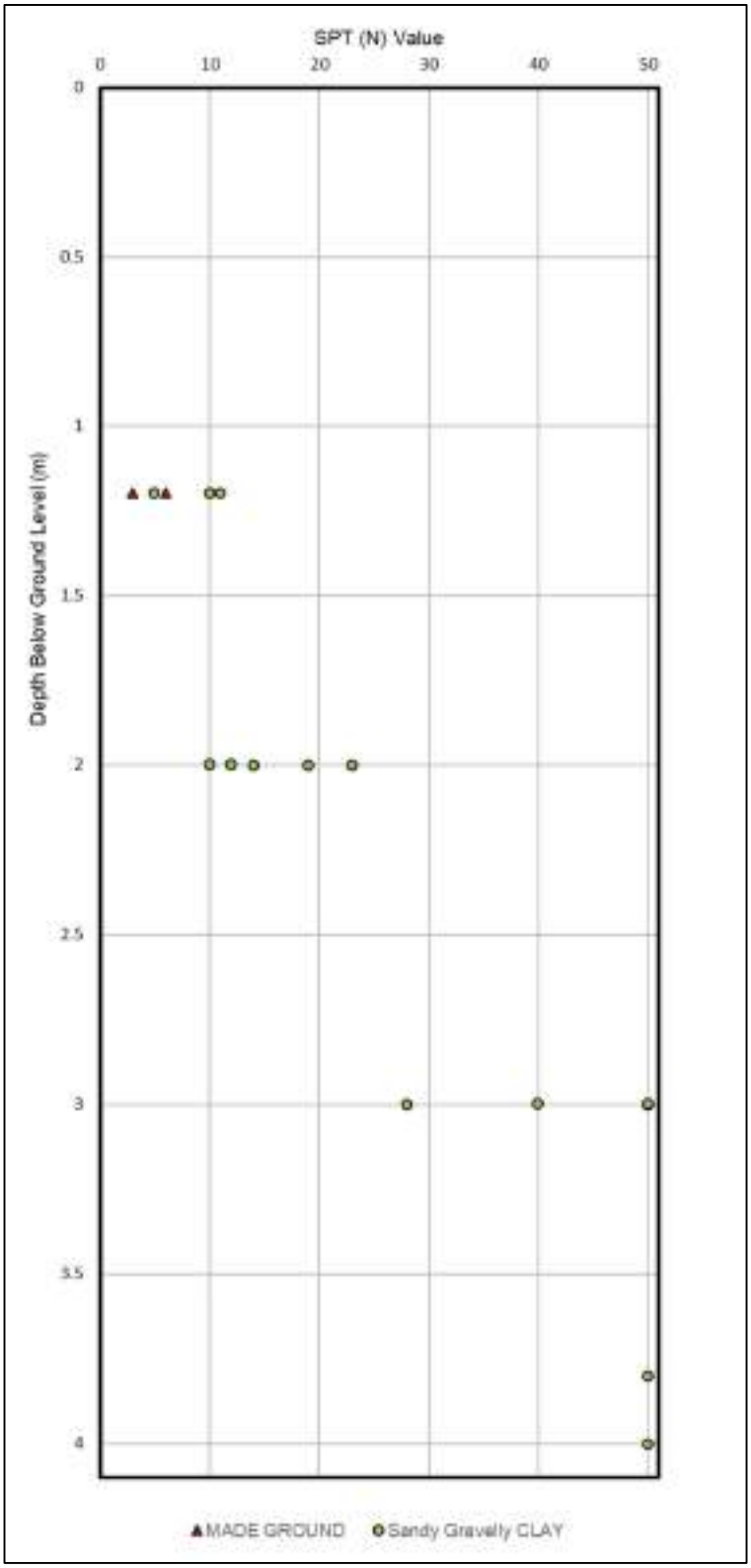
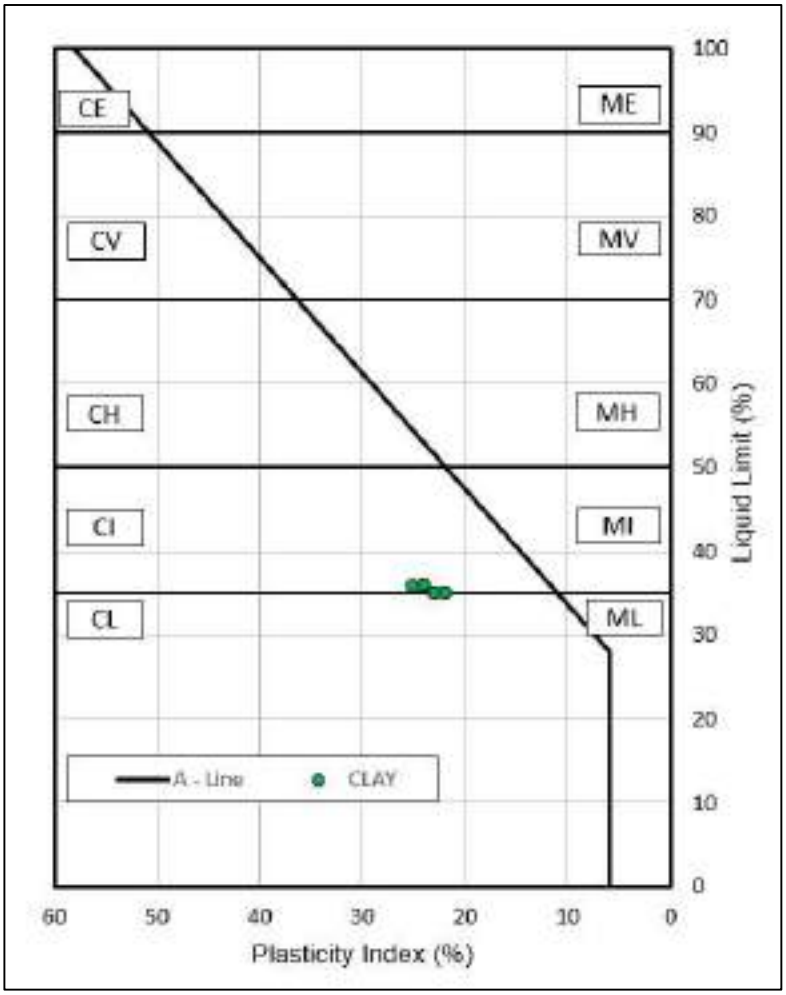


Figure 10: Plasticity Chart



Results of the SPTs in the Clay are summarised in the table below.

Table 3: Summary of Design Parameters (Clay)

Depth (m)	SPT N Value Range	Design N Value*	Measured Undrained Triaxial Shear Strength (kN/m²)	Equivalent Shear Strength** (kN/m²)	Coefficient of Volume Compressibility** (m²/MN)
1.0-2.0	5-11	7.5	110	33.7	0.18
2.0-3.0	10-23	12	128-130	54	0.16
3.0-4.0	28-50	40	-	54	0.09
*Based on lower quartile of SPT N value **Based on correlation by Stroud & Butler (1975)					

Sulphate content and pH value determinations were carried out by the geotechnical laboratory on four samples of the Clay. The values of **water-soluble sulphate** were between 240 to 380 mg/l SO_4, with **pH values** of 7.0 to 7.3.

Particle size testing of the Clay has characterised it as stiff brown silty sandy clay with rare gravel (WS01 2.70-3.00m, WS02 2.70-3.00m, WS03 1.70-2.00m and WS03 2.60-3.00m).

6.0 GEOTECHNICAL ASSESSMENT

6.1 Proposed Development

It is understood that the client intends to construct a four-storey property with ground floor retail units and three-storeys of residential flats. Off street parking and minor amounts of landscaping are also proposed. The site access will remain from Siddall Street to the west.

6.2 Ground Conditions

The exploratory holes generally encountered Made Ground (to a maximum depth of 2.00m bgl) over Clay that stiffens rapidly with depth causing refusals across the site between 3.00m and 4.00m.

Groundwater seepages were not encountered during the site work.

6.3 Foundation Considerations

Due to the anticipated structural loads of the proposed four-storey development, variable depths of Made Ground and soft to firm shallow clays, it is recommended that shallow piled foundations be used for the building works. Piled foundations are considered in the following section.

The natural clay soils are susceptible to volume change due to the influence of trees. However, no mature trees border the site.

6.3.1 Piled Foundations

It is recommended that piles terminate in the very stiff clays that underlie the site at minimum depths between 3.00 and 4.00m.

Bored/Continuous Flight Auger (CFA) piles are considered most suitable for the proposed extension carrying their loads as a combination of skin friction and end bearing.

The noise and vibration associated with the installation of driven piles prevents this type of pile from being selected due to the proximity and sensitivity of the neighbouring properties. It should also be noted that driven piles can potentially create preferential pollutant pathways.

There may be differential settlement between piled structures and the surrounding ground level. Provision should, therefore, be made to make up ground levels at threshold positions, loading bays, vehicle access doorways, etc. Alternatively, these materials should be removed and replaced in a controlled manner by suitable existing materials or imported engineered fill.

It is essential the advice of a specialist piling contractor is sought and that positive assurances are provided by the piling contractor that their proprietary system is capable of providing the required working loads in the ground conditions encountered.

6.4 Ground Floor Slabs

Floor slabs should be designed as suspended with a subfloor void appropriate to medium volume change potential were located within the zone of influence of a tree or if Made Ground of 600mm thickness or greater is present. Made ground is not considered an appropriate bearing stratum due to its variable nature.

6.5 Pavement Design

The ground investigation identified the soil type at subgrade level to typically be either Made Ground or Clay, with plasticity index of 22% to 25%. Based on the recommendations for design CBR values provided in Interim advice note 73/06, Revision 1 (2009), a CBR value for the natural materials would be 4-5%.

A conservative design CBR value of 1% should be adopted in areas where Made Ground is encountered at subgrade level.

Once formation level for the new road pavements has been achieved, formation excavations should be examined by a suitably experienced engineer or inspector to check for soft or unsuitable material, which should be removed and replaced with compacted granular fill. Also, to ensure good compaction and remove unevenness, the formation should be compacted with equipment suitable for use in the ground conditions encountered. Careful inspection of this work will also help identify any soft spots at or just below formation level.

Exposed subgrades are likely to deteriorate rapidly on exposure to wet weather and should be shaped to shed water. Subbase should be placed as soon as possible to minimise the exposure of subgrade to adverse weather conditions.

6.6 Chemical Attack on Buried Concrete

Chemical testing of samples taken from beneath the site show low levels of water-soluble sulphates and near neutral conditions.

Based on these conditions, it is recommended that for foundations the Design Sulphate Class for the site, as defined in BRE Special Digest 1(2005), be taken as DS-1, and the Aggressive Chemical Environment for Concrete (ACEC) site classification be taken as AC-1.

The recommendations of BRE Special Digest 1 should be followed for concrete foundations and ground bearing floor slabs.

6.7 Suitability of Excavated Materials

Acceptability criteria and testing, and methods of compaction/placement will depend on the type of contract and specification used for the construction of the proposed development and it is recommended that earthworks specifications are reviewed by a suitably qualified engineer once these have been prepared by the relevant parties.

Demolition rubble may be re-used as structural fill, providing it is not contaminated and subject to processing (breaking down etc.). Granular Made Ground could be suitable as structural fill providing it is not contaminated and does not have excessive amounts of clay.

6.8 Temporary Works

Formations in the Made Ground and natural materials will be susceptible to damage both by weather and trafficking, and should be protected immediately on exposure, particularly in areas where construction plant will access the site.

Excavations in Made Ground are likely to be unstable and should be battered back to an angle of 1 in 2, or a system of close sheeting and shoring adopted to ensure stability, and in particular

where personnel are required to enter excavations. All excavations should be adequately supported where personnel are required to enter.

Groundwater seepages could be encountered near surface within excavations, particularly during the wetter months of the year. Pumping of excavations from a suitable located sump is likely to be required to keep excavations dry.

All natural materials on site should be capable of being excavated using conventional excavating machinery.

6.9 Soakaway Testing

Soakaway testing was undertaken at one location on the site. The location was rapidly filled with water using a bowser and the water level monitored over the remainder of the day. In this location, the water level did not fall substantially (failing to reach even the 75% effective depth level). Therefore, it was not possible to calculate a reliable infiltration rate. The full results are included in Appendix 5.

Based on the above, it is considered that the use of soakaways at the site is not feasible and alternative methods of surface water drainage should be investigated.

7.0 SOIL CONTAMINATION RISK ASSESSMENT

7.1 Tier I Human Health Soil Risk Assessment – Groundworkers During Development

To assess the risk of soil contamination to construction and ground workers during development, guidelines from the HSE Document 'Protection of workers and the general public during development of contaminated land' (1991) are used. The document assesses soil contamination test results and classifies the site as being uncontaminated or contaminated with varying degrees of contamination from 'slight' to 'unusually heavy'.

The guideline values and laboratory test results are summarised in the following table:

Table 4: Summary of Guideline Values for Protection of Workers and the General Public During Development of Contaminated Land

Contaminant	Typical Values* for:					Test Results	Class
	Uncontaminated Soils	Slight Contamination	Contaminated	Heavy Contamination	Unusually Heavy Contamination		
	Class A	Class B	Class C	Class D	Class E		
pH (alkaline)	7 - 8	8 - 9	9 - 10	10 - 12	12	7.2-7.9	A
Arsenic	0 - 30	30 - 50	50 - 100	100 - 500	500	4-24	A
Cadmium	0 - 1	1 - 3	3 - 10	10 - 50	50	< 0.2-3.1	A-C
Chromium	0 - 100	100 - 200	200 - 500	500 - 2500	2500	7-18	A
Copper	0 - 100	100 - 200	200 - 500	500 - 2500	2500	12-136	A-B
Lead	0 - 500	500 - 1000	1000 - 2000	2000 – 1%	1.0%	30-866	A-B
Mercury	0 - 1	1 - 3	3 - 10	10 - 50	50	< 1-1.7	A-B
Nickel	0 - 20	20 - 50	50 - 200	200 - 1000	1000	4-23	A-B
Zinc	0 - 250	250 - 500	500 - 1000	1000 - 5000	5000	34-375	A-B
Boron	0 - 2	2 - 5	5 - 50	50 - 250	250	< 1	A
Beryllium	0 - 5	5 - 10	10 - 20	20 - 50	50	< 0.5-1.3	A
Vanadium	0 - 100	100 - 200	200 - 500	500 - 2500	2500	6-31	A
Sulphate	0 - 2000	2000 - 5000	5000 – 1%	1% - 5%	5.05%	245-1374	A
Sulphide	0 - 10	10 - 20	20 - 100	100 - 500	500	< 5	A
Cyanide (free)	0 - 1	1 - 5	5 - 50	50 - 100	100	< 2	A
Phenol	0 - 2	2 - 5	5 - 50	50 - 250	250	< 2	A

Based on the above results, the soil samples are predominantly uncontaminated with some slightly contaminated and one contaminated concentration. Therefore, there is a **MODERATE to LOW** potential risk from soil contamination to construction workers, ground workers and members of the public during construction. Appropriate measures, such as PPE, site health plans, and appropriate disposal of material arisings will be required to mitigate this risk.

7.2 Tier I Human Health Soil Risk Assessment – Future Site Users

The following sections provide a Human Health Soil Assessment for groundworkers during development and future residential end users using residential end use, without plant uptake screening criteria.

At a Tier I stage the long term (chronic) human health toxicity of the soil has been assessed with reference to DEFRA/Environment Agency Contaminated Land Exposure Assessment (CLEA) Soil Guideline Values (SGV) for generic site land uses, soils, and exposure. Where Environment Agency generic guidance is absent, reference has been made to the Chartered Institute of Environmental Health (CIEH) S4ULs for human health risk assessment.

In the case of arsenic, cadmium, hexavalent chromium, lead and benzo(a)pyrene DEFRA Category 4 Screening levels have been adopted.

A conservative Soil Organic Matter (SOM) of 1% has been adopted for organic chemicals for the purposes of the initial assessment. A SOM of 6% has been adopted for inorganic chemicals as detailed in 'The LQM / CIEH S4ULS for human health assessment', (2015).

The soil chemical testing results are presented in Appendix 2 and summarised in Table 5, overleaf.

Table 5: Assessment of Soil Chemical Data

Parameter	WS01	WS02	WS03	WS03	WS04	WS05	WS05	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2	Trench 1	Assessment Criteria (mg/kg)
	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	
	0.50m	0.60m	0.30m	0.70m	0.30m	0.30m	0.70m	1.00m	0.50m	0.30m	0.30m	0.50m	1.00m	
Arsenic	12	12	8	5	6	14	14	13	10	7	24	4	14	40
Boron	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	11000
Beryllium	0.8	0.7	< 0.5	0.6	< 0.5	0.7	0.9	0.9	0.9	0.9	1.3	0.9	1.1	1.7
Cadmium	0.3	0.3	0.4	< 0.2	0.4	0.4	3.1	2.3	0.2	< 0.2	0.5	< 0.2	0.3	150
Chromium	14	14	16	13	7	14	15	15	12	13	18	13	16	910
Hexavalent Chromium	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	21
Free Cyanide	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	41
Copper	33	42	19	12	20	41	62	136	39	30	97	31	41	7100
Lead	111	188	163	46	30	148	222	517	111	163	866	111	177	310
Inorganic Mercury	< 1	< 1	< 1	< 1	< 1	< 1	1.7	1.3	< 1	< 1	1.5	< 1	< 1	56
Nickel	15	11	8	10	4	12	18	23	13	14	22	17	19	180
Selenium	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	430
Vanadium	23	20	14	16	6	22	22	21	19	18	31	16	26	1200
Zinc	64	118	93	39	34	117	180	375	55	43	252	55	73	40000
pH	7.2	7.3	7.4	7.2	7.6	7.3	7.5	7.5	7.3	7.5	7.5	7.9	7.6	N/A
Naphthalene	0.15	0.14	< 0.1	< 0.1	< 0.1	0.17	2.14	1.76	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2.3
Acenaphthylene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.18	0.13	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2900
Acenaphthene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.32	2.65	4.66	< 0.1	< 0.1	0.15	< 0.1	< 0.1	3000
Fluorene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.22	1.83	3.22	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	2800
Phenanthrene	0.45	0.98	0.28	< 0.1	0.16	2.66	18.7	35.9	0.23	0.24	1.25	< 0.1	0.72	1300
Anthracene	< 0.1	0.38	< 0.1	< 0.1	< 0.1	0.6	3.76	6.94	< 0.1	< 0.1	0.21	< 0.1	0.14	31000
Fluoranthene	0.65	2.24	0.54	< 0.1	0.43	4.35	23.9	45.7	0.54	0.4	1.92	< 0.1	0.96	1500
Pyrene	0.63	2.06	0.52	< 0.1	0.46	3.96	21.5	42.4	0.58	0.41	1.99	< 0.1	0.93	3700

Parameter	WS01	WS02	WS03	WS03	WS04	WS05	WS05	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2	Trench 1	Assessment Criteria (mg/kg)
	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	
	0.50m	0.60m	0.30m	0.70m	0.30m	0.30m	0.70m	1.00m	0.50m	0.30m	0.30m	0.50m	1.00m	
Benzo(a)anthracene	0.32	1.14	0.29	< 0.1	0.25	2.18	9.3	19.4	0.32	0.19	1.08	< 0.1	0.48	11
Chrysene	0.38	1.13	0.32	< 0.1	0.31	2.04	9	18.6	0.36	0.24	0.99	< 0.1	0.46	30
Benzo(b)fluoranthene	0.41	1.29	0.36	< 0.1	0.38	2.4	9.84	17.2	0.33	0.2	1.05	< 0.1	0.49	3.9
Benzo(k)fluoranthene	0.15	0.44	0.11	< 0.1	0.12	0.77	3.36	5.68	0.14	< 0.1	0.4	< 0.1	0.17	110
Benzo(a)pyrene	0.29	1.02	0.28	< 0.1	0.29	2.05	7.92	16.1	0.31	0.21	1.26	< 0.1	0.56	5.3
Indeno(1,2,3-cd) pyrene	0.17	0.6	0.22	< 0.1	0.2	1.18	4.19	7.23	0.18	< 0.1	0.42	< 0.1	0.21	45
Di-benz (a, h) anthracene	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.24	0.73	1.59	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.31
Benzo(ghi)perylene	0.15	0.52	0.21	< 0.1	0.2	1.04	3.94	6.13	0.16	< 0.1	0.35	< 0.1	0.17	390
Benzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.38
Toluene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	880
Ethylbenzene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	83
m & p-xylene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	0.004	<0.002	<0.002	<0.002	<0.002	<0.002	79
o-Xylene	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.004	0.003	<0.002	<0.002	<0.002	<0.002	<0.002	88
TPH CWG - Aliphatic >C5 - C6	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	42
TPH CWG - Aliphatic >C6 - C8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	100
TPH CWG - Aliphatic >C8 - C10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	27
TPH CWG - Aliphatic >C10 - C12	< 2	< 2	< 2	< 2	< 2	< 2	< 2	5	< 2	< 2	< 2	< 2	< 2	130
TPH CWG - Aliphatic >C12 - C16	< 3	< 3	< 3	< 3	< 3	< 3	< 3	5	< 3	< 3	< 3	< 3	< 3	1100
TPH CWG - Aliphatic >C16 - C21	< 3	< 3	< 3	< 3	5	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	65000
TPH CWG - Aliphatic >C21 - C34	< 10	< 10	60	< 10	196	< 10	157	45	< 10	< 10	< 10	< 10	< 10	65000
TPH CWG - Aromatic >C5 - C7	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	370

Parameter	WS01	WS02	WS03	WS03	WS04	WS05	WS05	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2	Trench 1	Assessment Criteria (mg/kg)
	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	MG	
	0.50m	0.60m	0.30m	0.70m	0.30m	0.30m	0.70m	1.00m	0.50m	0.30m	0.30m	0.50m	1.00m	
TPH CWG - Aromatic >C7 - C8	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	**860**
TPH CWG - Aromatic >C8 - C10	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	**47**
TPH CWG - Aromatic >C10 - C12	< 2	< 2	< 2	< 2	< 2	< 2	3	3	< 2	< 2	< 2	< 2	< 2	**250**
TPH CWG - Aromatic >C12 - C16	< 2	< 2	< 2	< 2	< 2	3	31	22	< 2	< 2	< 2	< 2	< 2	**1800**
TPH CWG - Aromatic >C16 - C21	3	5	< 3	< 3	10	19	137	170	< 3	< 3	9	< 3	6	**1900**
TPH CWG - Aromatic >C21 - C35	59	11	94	< 10	256	77	355	142	< 10	< 10	< 10	< 10	< 10	**1900**
Asbestos Screen	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	**<0.001%**

Notes for Table 5
Concentrations in **red** above assessment criteria
MG = Made Ground
ND = Not Detected

Elevated concentrations of Lead were encountered in samples from Pit B and Trench 5 North. Four PAHs (Polyaromatic Hydrocarbons), Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(a)pyrene and Di-benz (a, h) anthracene were detected across two locations on site (WS05 and Trench 5 North) when compared to residential assessment criteria without plant growth. No other elevated concentrations were identified when compared to these criteria.

Asbestos fibres or fragments were not detected in any of the samples tested.

7.3 Soil Waste Assessment

An assessment of the disposal characteristics of the soil in accordance with Environment Agency guidance WM3.1, edition of May 2018, "Guidance on the classification and assessment of waste" has been carried out on soils recovered from the site, using HazWasteOnline.

The results are summarised below and presented in full in Appendix 4.

Table 6: Waste Classification of Soils

Location	Depth (m bgl)	WM3.1 Classification
WS01	0.50	Non-Hazardous
WS02	0.60	Non-Hazardous
WS03	0.30	Non-Hazardous
WS03	0.70	Non-Hazardous
WS04	0.30	Non-Hazardous
WS05	0.30	Non-Hazardous
WS05	0.70	Non-Hazardous
Pit B	0.30	Non-Hazardous
Trench 1	1.00	Non-Hazardous
Trench 2	0.50	Non-Hazardous
Trench 4	0.30	Non-Hazardous
Trench 5 North	1.00	Non-Hazardous
Trench 5 South	0.50	Non-Hazardous

As shown above, the soils have been classified as Non-Hazardous in accordance with Environment Agency guidance WM3.1.

Waste Acceptance Criteria testing of the material from Trench 2 at 0.50m has shown the material to be acceptable as inert waste.

8.0 REVIEW OF CONCEPTUAL MODEL

A Revised Conceptual Model has been prepared for the site and is presented as Table 9, overleaf. The Revised Conceptual Model reviews the Preliminary Conceptual Model (PCM) presented as Table 3 in Section 6.0 of EEG Phase 1 GeoEnvironmental Investigation report (Reference: A2270/17, dated November 2017) using the information obtained during this site investigation and considers the source-pathway-receptor linkages present alongside the likelihood, severity and risk level as defined within Table 7 and Table 8 below. The assessment of probability, a modified risk table, and certain consequence definitions are based on CIRIA C552 and CLR11.

Table 9 considers whether a pollution linkage is present and provides a preliminary qualitative assessment of risk based on the information currently available. Where a possible linkage is identified, it does not necessarily mean that a significant risk exists but indicates that further information is required through appropriate site investigation to substantiate the conceptual model.

The Revised Conceptual Model is based on a mixed commercial and residential end use.

Table 7: Consequence, Probability and Risk

Probability	Consequence	Risk
High Likelihood – There is a pollution linkage and an event 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	Very High – acute risk to the human health likely to result in significant harm. Risk of severe or irreversible effect on ground/surface water quality. Catastrophic damage to buildings / property.	Very High – there is a high potential that the source-pathway-receptor scenarios may give rise to harm to human health, or the environment and remedial action is likely to be required.
Likely – there is a pollution linkage, and all the elements are present, which means that it is probable 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.	High – Severe or irreversible effect on human health. Temporary severe or irreversible effect on ground/surface water quality. Reduction of water quality rendering groundwater or surface water unfit to drink and/or substantial adverse impact on groundwater dependant environmental receptors.	High – it is likely that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, which may require remediation and/or control measures to mitigate risks
Low likelihood – there is a pollutant linkage and circumstances are possible for 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	Moderate – Long term or short-term moderate effect on human health. Moderate effect on ground/surface water quality, reversible with time. Reduced reliability of a supply at a groundwater or surface water abstraction source	Moderate – it is possible that the source-pathway-receptor scenarios may give rise to an impact on human health or the environment, however it is either relatively unlikely that such would be severe, or if any harm were to occur it is more likely that harm would be mild.
Unlikely – there is a pollution linkage, but circumstances are such that it is doubtful that an event would occur even in the very long term.	Low – Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.) Slight effect on ground/surface water quality, reversible with time. Marginal reduced reliability of a supply at a groundwater or surface water abstraction source.	Low – it is possible that harm could arise at the source, however it is likely that the risk would at worst be mild.
		Very Low – it is unlikely that the source-pathway-receptor scenarios will give rise to an impact on human health or the environment.

Table 8: Estimation of Level of Risk

		Consequence			
		High	**Moderate**	**Low**	**Very low**
Probability	**High Likelihood**	Very High	High risk	Moderate risk	Moderate to low risk
	Likely	High risk	Moderate risk	Moderate to low risk	Low risk
	Low Likelihood	Moderate risk	Moderate to low risk	Low risk	Very low risk
	Unlikely	Moderate to low risk	Low risk	Very low risk	Very low risk

8.1 Sources of Contamination

The Phase I Desk Study report for the site outlined the potential for the presence of soil and groundwater contamination associated with:

- Historical land uses
- Made Ground and asbestos containing materials (ACM) associated with the former structures

The site investigation identified the following:

- Made Ground to a maximum depth of 2.20m.
- Two sample locations exceedances in the concentrations of multiple PAHs when compared to screening criteria relevant to residential end use without plant uptake. Two locations also had elevated lead concentrations.
- No asbestos fibres or fragments were identified in any of the samples tested.

8.2 Receptors

The following receptors have been considered for the construction and operational stages of the proposed redevelopment.

- Current site users
- Adjacent land users
- Future land users
- Construction workers during site development works
- Underlying Groundwater/surface water course

8.3 Pollutant Pathways

The following pathways have been considered for the construction and operational stages of the proposed redevelopment.

- Direct contact via dermal contact, ingestion, inhalation of potentially contaminated soils;
- Downward vertical migration of contaminants to shallow groundwater;
- Vertical and lateral migration of ground gas associated with Made Ground soils.

Table 9: Revised Conceptual Model

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
Made Ground (Exceedances of Lead & PAHs)	Dermal contact, ingestion, and inhalation of soils dust	Current Site Users	Unlikely	Moderate	Low	The site is currently a vacant plot. The risk to current site users from potential contamination is considered to be **LOW**.
		Adjacent land users	Unlikely	Moderate	Low	Residential properties partially surround the site. The risk is considered **LOW** however usual dust control measures should be implemented as part of good site working practices during construction to reduce dust generation.
		Future land users	Unlikely	Moderate	Low	Elevated concentrations of PAHs and lead were recorded across three sampling locations. The proposed development will be almost entirely covered in hardstanding. The locations of the contaminated samples will be covered in hardstanding. The risk to future site users via direct exposure is considered to be **LOW.**
		Construction Workers	Likely	Moderate	Moderate	Assuming appropriate health and safety measures are adopted (in line with CDM and other relevant health and safety guidance) a **LOW** risk to construction workers is anticipated.
	Downward vertical/lateral leaching and migration of contaminants	Underlying shallow groundwater	Unlikely	Moderate	Low	The site is underlain by Secondary (Undifferentiated) and Principal aquifers. Elevated concentrations of lead and PAHs were recorded across three sampling locations. No abstraction licences are located within 1km of the site boundary. The site is underlain completely by clay. No groundwater was encountered during the site work. The risk to controlled waters is therefore considered **LOW.**
	Vertical or lateral migration of ground gas	Current Site Users	Unlikely	Moderate	Low	The site is currently a vacant plot of land. The risk to current site users from ground gas is therefore considered **LOW.**

Source	Pathway	Receptor	Probability	Consequence	Risk	Comment
		Adjacent land users	Unlikely	Moderate	Low	No significant sources of volatile contamination have been identified on the site. The risk to adjacent site users from ground gas is considered **LOW.**
		Future land users	Unlikely	Moderate	Low	No significant sources of volatile contamination have been identified on the site. The risk to future site users from ground gas is therefore considered **LOW.**
		Construction Workers	Unlikely	Moderate	Low	Construction workers may be exposed to low oxygen conditions in confined spaces and excavations; however, the duration will be short term. The risk to construction is considered **LOW.**
Asbestos	Inhalation of fibres	Current/ Future/ Adjacent site users	Unlikely	High	Low	Asbestos fibres were not detected in the soil samples tested. The risk of direct contact with receptors is therefore considered **LOW**. Nevertheless, usual dust control measures should be implemented as part of good site working practices during construction.
		Construction Workers	Unlikely	High	Low	Asbestos fibres were not detected in the soil samples tested, however, may be encountered in parts of the site not investigated during the construction works. Dust control measures and appropriate health and safety measures should be adopted in line with CDM and other relevant health and safety guidance.

9.0 CONCLUSIONS AND RECOMMENDATIONS

The following section provides a summary of the conclusions and recommendations based on the findings of the site investigation.

9.1 Soil Contamination

Ground conditions across the site generally comprised Made Ground (to a maximum depth of 2.20m bgl) over clay, which rapidly stiffens with depth causing refusals between 3.00m and 4.00m across the site.

Elevated concentrations of contaminants were identified across three locations on site when compared to residential assessment criteria without plant growth. Lead was encountered on Pit B and Trench 5 North while multiple PAHs were identified in WS05 and Trench 5 North.

The locations of the elevated PAHs and lead are situated underneath hardstanding in the proposed development plan. The covering of hardstanding will sever any future potential pollutant pathways. There is therefore considered to be a **LOW** overall potential risk from soil contamination to future site users.

The overall potential risk from soil contamination to construction workers, ground workers and members of the public during construction is considered **MODERATE to LOW**. Appropriate measures, such as PPE, site health plans, appropriate disposal of material arisings will mitigate this risk.

9.2 Asbestos

Asbestos fibres were not detected in any soil samples tested during this investigation. The risk from asbestos is therefore concluded to be **LOW**.

9.3 Soil Waste Assessment

The soils have been classified as Non-Hazardous in accordance with Environment Agency guidance WM3.1.

Additional WAC testing has identified the material tested to be acceptable as inert waste.

9.4 Foundation Recommendations

Due to the anticipated structural loads of the proposed four-storey development, variable depths of made ground and soft to firm shallow clays, short, bored piles are considered suitable for the site, bearing into the natural stiff clay at a minimum depth of 3.0m.

9.5 Surface Water Drainage

The use of soakaways for surface water drainage is considered to not be feasible at the site. Alternative methods of drainage should therefore be investigated.

9.6 Risk to Buried (Water) Services

It is considered that, due to the presence of elevated hydrocarbons in the tested soils, non - standard materials are likely to be required for new water pipes. Further advice should be sought from the local water company.

Previous guidance on buried water pipes was contained in Water Regulations Advisory Scheme (WRAS) Guidance Note No. 9-04-03(2002), however this has been superseded by the UK Water Industry Research Report 'Guidance for the Selection of Water Supply Pipes to be used in Brownfield Sites' Ref 10/WM/03/21 (January 2011).

9.7 Site Personnel

As with all construction sites, personnel working on the site during the construction period should be encouraged to maintain a high standard of personal hygiene and on-site washing facilities should be available.

APPENDIX 1

EXPLORATORY HOLE LOGS

APPENDIX 2

CHEMICAL TESTING RESULTS

APPENDIX 3

GEOTECHNICAL TESTING RESULTS

APPENDIX 4

SOIL WASTE ASSESSMENT

APPENDIX 5

SOAKAWAY TESTING RESULTS

APPENDIX 6

REPORT LIMITATIONS

REPORT LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget, and staff resources allocated to the project.

Other than that, expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd provides no other representation or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important factor in determining the scope and level of the services. Should the purpose for which the report is used, or the proposed use of the site change, this report will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2022 and should be read in light of any subsequent changes in legislation, statutory requirements, and industry best practices. Ground conditions can also change over time and further investigations, or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd and the client.

The observations and conclusions described in this report are based solely upon the services that were provided pursuant to the agreement between the client and Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth

Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full from those it was requested from, the items relied on have not been verified.
No responsibility can be accepted for errors within third party items presented in this report. Further Earth Environmental & Geotechnical Ltd was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No.
WS01
Sheet 1 of 1

Project Name: Stockport Road, Manchester	Project No. A2951	Co-ords: 387289.54 - 394793.83	Hole Type WS
Location: Levenshulme		Level:	Scale 1:25
Client: Faz Construction		Dates: 16/04/2019 - 16/04/2019	Logged By LG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					Brown clayey gravelly fine to coarse SAND. Gravel is angular to sub-angular fine to coarse brick and sandstone. Numerous clay pockets (MADE GROUND).
					0.90			
					1.00			Black angular fine to coarse GRAVEL of clinker (MADE GROUND).
		1.20		N=5 (2,2/1,1,2,1)	1.20			Yellowish brown fine to coarse SAND (MADE GROUND).
								Firm to stiff orangish brown mottled grey slightly silty slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded fine to medium sandstone.
								HP = 156 kN/m2
		2.00		N=12 (1,2/2,3,3,4)				
								HP = 168 kN/m2
		2.70 - 3.00	U					
		3.00		N=40 (4,6/8,9,10,13)	3.00			Very stiff brown slightly sandy gravelly CLAY. Gravel is angular to sub-rounded fine to medium sandstone and carbonaceous fragments.
								HP > 215 kN/m2
								HP > 215 kN/m2
		3.80		N=50 (7,10/50 for 245mm)	3.80			*Hole terminated due to refusal on hard clay.* End of borehole at 3.80 m

Remarks
Location scanned with CAT prior to excavation.
Hand dug pit excavated to 1.20m.
No monitoring installation; backfilled with arisings.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No.
WS02
Sheet 1 of 1

Project Name: Stockport Road, Manchester	Project No. A2951	Co-ords: 387298.81 - 394773.95	Hole Type WS
Location: Levenshulme		Level:	Scale 1:25
Client: Faz Construction		Dates: 16/04/2019 - 16/04/2019	Logged By LG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.60	ES					Brown gravelly fine to coarse SAND. Gravel is angular fine to coarse brick, concrete, glass and sandstone. Abundant cobbles of brick and concrete (MADE GROUND).
					1.00			
		1.20		N=3 (1,1/1,1,0,1)				Light orangish brown SAND and GRAVEL. Gravel is angular fine to coarse brick, concrete, slate, wallpaper fragments and sandstone. Cobbles of brick. Poor recovery (MADE GROUND).
		2.00		N=14 (1,2/3,3,4,4)	2.00			*0.08m recovery of firm brown mottled sandy CLAY. Unable to determine exact start and end depth due to poor recovery.*
								Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded fine to medium sandstone and carbonaceous fragments.
								HP > 215 kN/m2
		2.70 - 3.00	U					
		3.00		N=50 (8,8/50 for 265mm)	3.00			*Hole terminated due to refusal on hard clay.* End of borehole at 3.00 m

1
2
3
4
5

Remarks
Location scanned with CAT prior to excavation.
Hand dug pit excavated to 1.20m.
No monitoring installation; backfilled with arisings.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No.
WS03
Sheet 1 of 1

Project Name: Stockport Road, Manchester	Project No. A2951	Co-ords: 387279.91 - 394764.92	Hole Type WS
Location: Levenshulme		Level:	Scale 1:25
Client: Faz Construction		Dates: 16/04/2019 - 16/04/2019	Logged By LG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.25			Gravel over limestone cobbles (MADE GROUND).
		0.70	ES		0.50			Greyish brown slightly clayey sandy GRAVEL of angular fine to coarse brick, slate and glass. Abundant cobbles of brick (MADE GROUND).
		1.20		N=10 (1,1/2,2,3,3)	0.80			Soft grey mottled brown sandy slightly gravelly CLAY. Gravel is angular fine to medium brick and sandstone (MADE GROUND).
		1.70 - 2.00	U		1.00			Orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded fine to coarse sandstone and carbonaceous fragments.
		2.00		N=23 (2,3/5,5,6,7)				Stiff brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to sub-rounded fine to coarse sandstone and carbonaceous fragments.
		2.60 - 3.00	U					*HP = 180 kN/m2*
		3.00		N=50 (5,8/50 for 263mm)	3.00			*HP > 215 kN/m2*
								Hole terminated due to refusal on hard clay. End of borehole at 3.00 m

Remarks
Location scanned with CAT prior to excavation.
Hand dug pit excavated to 1.20m.
No monitoring installation; backfilled with arisings.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No.
WS04
Sheet 1 of 1

Project Name: Stockport Road, Manchester	Project No. A2951	Co-ords: 387303.10 - 394764.92	Hole Type WS
Location: Levenshulme		Level:	Scale 1:25
Client: Faz Construction		Dates: 16/04/2019 - 16/04/2019	Logged By LG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.25			Vegetation over grey sandy GRAVEL of angular to sub-angular fine to coarse limestone (MADE GROUND).
					0.50			GRAVEL of angular to sub-rounded medium to coarse limestone (MADE GROUND.
					0.85			Light orangish brown sandy GRAVEL of angular to sub-angular fine to medium limestone, concrete and clay pipe fragments (MADE GROUND).
		1.20		N=11 (1,2/2,3,3,3)				Firm weathered at top orangish brown becoming brown mottled grey sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to coarse sandstone and carbonaceous fragments.
		1.70 - 2.00	U					*HP = 203 kN/m2*
		2.00		N=19 (2,3/3,4,5,7)				*Lithology is now stiff becoming very stiff.*
								HP > 215 kN/m2
		3.00		N=50 (7,8/11,12,14,13)	3.00			*Hole terminated due to refusal on hard clay.* End of borehole at 3.00 m

1
2
3
4
5

Remarks
Location scanned with CAT prior to excavation.
Hand dug pit excavated to 1.20m.
No monitoring installation; backfilled with arisings.

Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business & Arts Centre
Houldsworth Street
Stockport
SK5 6DA

Borehole Log

Borehole No. **WS05**
Sheet 1 of 1

Project Name: Stockport Road, Manchester	Project No. A2951	Co-ords: 387275.82 - 394782.84	Hole Type WS
Location: Levenshulme		Level:	Scale 1:25
Client: Faz Construction		Dates: 16/04/2019 - 16/04/2019	Logged By LG

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES					Grass over brown very gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse glass, brick, pottery fragments, sandstone, limestone and mudstone. Occasional sandstone cobbles. Frequent roots and rootlets (MADE GROUND).
		0.70	ES		0.60 0.75			Dark grey fine to coarse sandy GRAVEL of angular fine to coarse brick, plastic fragments, clinker and sandstone (MADE GROUND). Sandstone cobbles (MADE GROUND).
		1.20		N=6 (1,1/1,1,2,2)	1.00			Soft grey mottled orangish brown slightly silty sandy CLAY (MADE GROUND).
		1.80	D		1.60			Firm to stiff orangish brown mottled grey sandy gravelly CLAY. Gravel is sub-angular to sub-rounded fine to medium sandstone and carbonaceous fragments.
		2.00		N=10 (1,2/2,2,3,3)				*HP = 120 kN/m2*
								Lithology is now stiff.
								HP > 215 kN/m2
		3.00		N=28 (3,4/6,6,7,9)				*HP > 215 kN/m2*
								Lithology is now very stiff.
								HP > 215 kN/m2
		4.00		N=50 (6,7/50 for 270mm)	4.00			*HP > 215 kN/m2* *Hole terminated due to refusal on hard clay.* End of borehole at 4.00 m

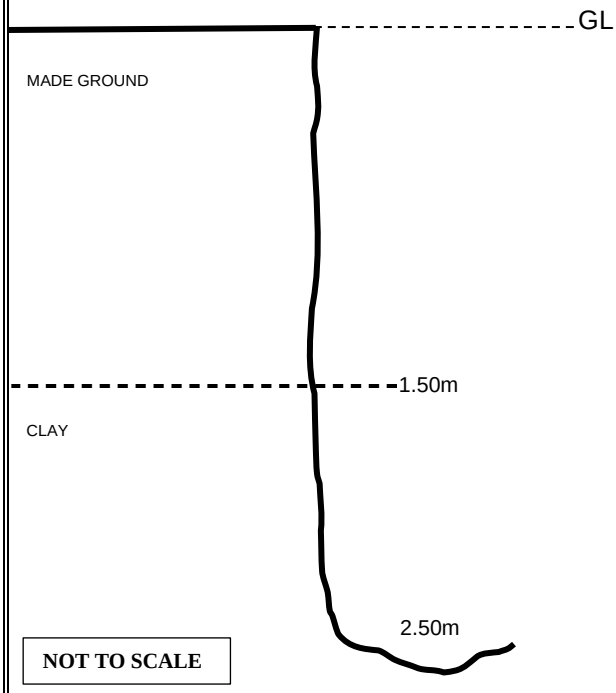
Remarks
Location scanned with CAT prior to excavation.
Hand dug pit excavated to 1.20m.
No monitoring installation; backfilled with arisings.

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street, Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

SOAK AWAY PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	SA01
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	2.50m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-1.00	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles and boulders of brick and concrete.
	1.00-1.20	MADE GROUND. Layer of Asphalt.
	1.20-1.50	MADE GROUND. Layer of red brick and concrete.
	1.50-2.50	Firm to stiff brown mottled grey CLAY. SV at 1.7m = 41kPa SV at 2.0m = 63kPa SV at 2.3m = 67kPa

Trial pit terminated at 2.50m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Soak Away 1: View of excavation



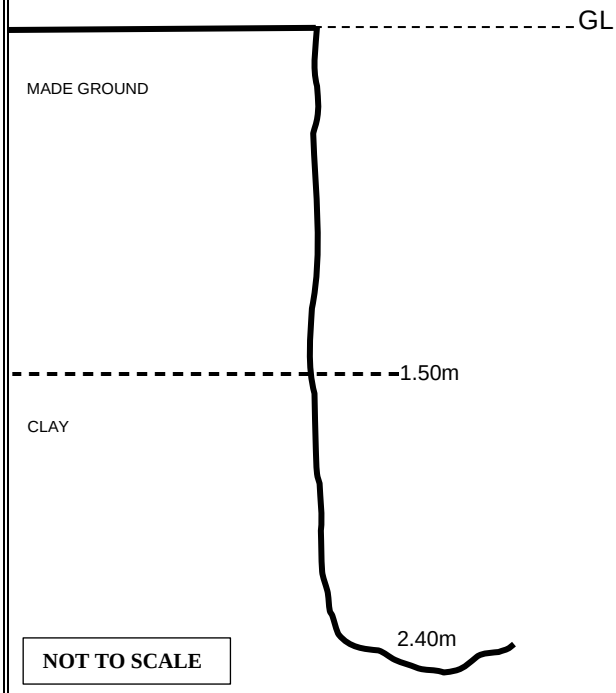
Soak Away 1: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street, Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Pit A
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	2.40m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-1.50	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles and boulders of brick and concrete.
	1.50-2.40	Firm to stiff brown mottled grey CLAY. SV at 1.7m = 74kPa SV at 2.0m = 96kPa SV at 2.2m = 41kPa

Trial pit terminated at 2.40m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Pit A: View of excavation



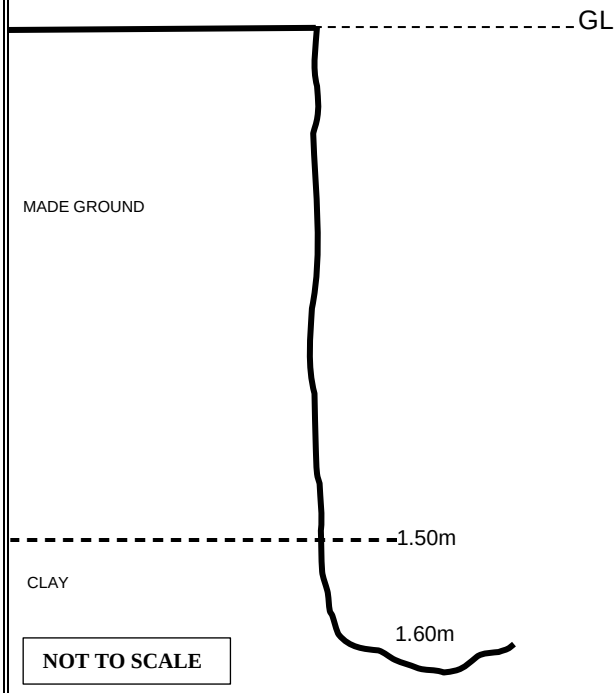
Pit A: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street,
Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Pit B
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	1.60m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-1.50	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles of brick and.
	1.50-1.60	Stiff brown mottled grey CLAY. SV at 1.6m = 67kPa

Trial pit terminated at 1.60m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Pit B: View of excavation



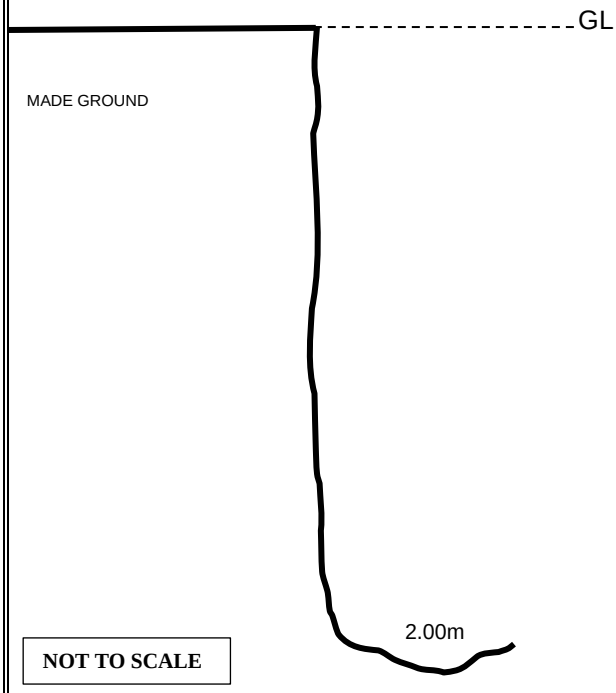
Pit B: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street,
Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Pit C
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	2.00m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-2.00	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles and boulders of brick, concrete and sandstone door lintels. Brick wall runs along western side of pit. Pit terminated at 2.0m due to encountering possible cellar floor of sandstone flags.

Trial pit terminated at 2.00m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Pit C: View of excavation



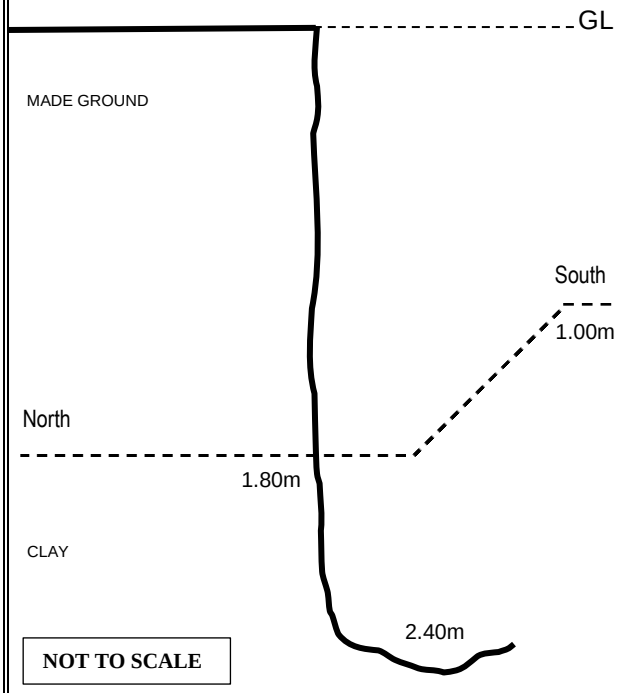
Pit C: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street,
Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Trench 1
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	2.40m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-1.80 (N) 0.00-1.00 (S)	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles of brick and concrete.
	1.80-2.40 1.00-2.40	Stiff brown mottled grey CLAY. SV at 1.2m = 55kPa SV at 1.9m = 102kPa SV at 2.2m = 89kPa Clay layer decreases in depth from north to south.

Trial pit terminated at 2.40m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Trench 1: View of excavation



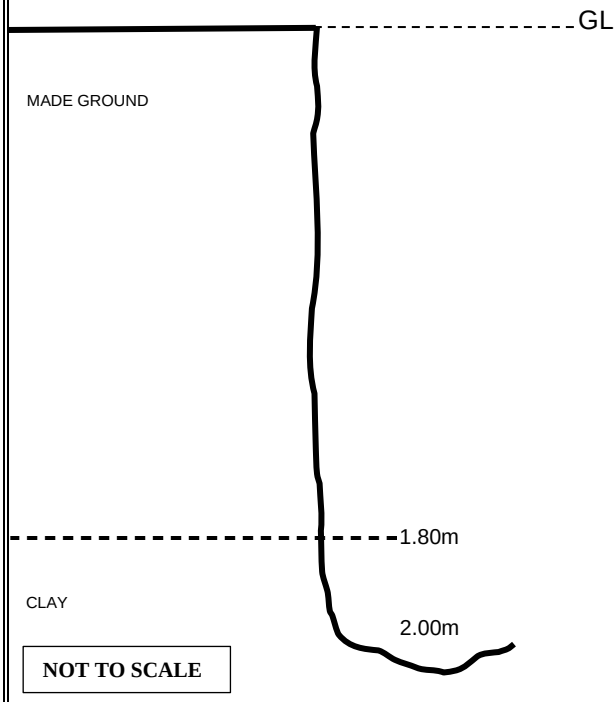
Trench 1: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street,
Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Trench 2
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	2.00m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-1.80	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles and boulders of brick and concrete.
	1.80-2.00	Stiff brown mottled grey CLAY. SV at 1.8m = 82-96kPa SV at 2.0m = 96-137kPa

Trial pit terminated at 2.00m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Trench 2: View of excavation



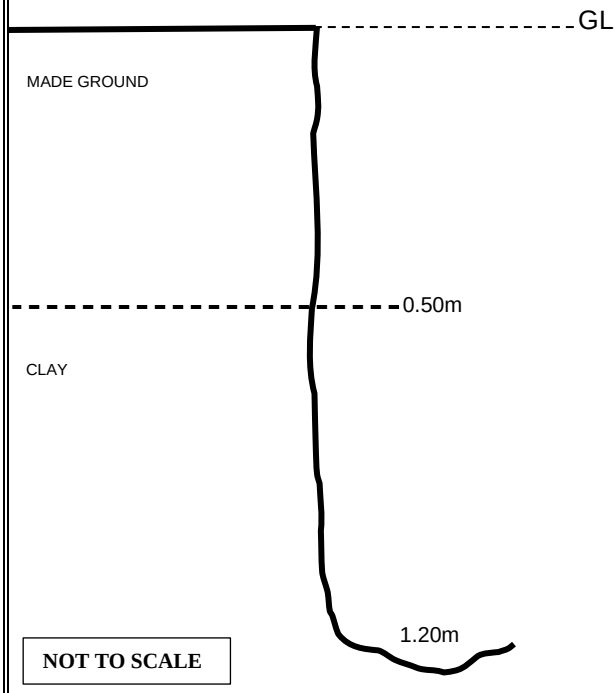
Trench 2: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street,
Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Trench 3
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	1.20m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-0.30	MADE GROUND. Grey very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse of sub-angular concrete and limestone.
	0.30-0.50	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. cobbles of brick.
	0.50-1.20	Firm to stiff brown mottled grey CLAY. SV at 0.7m = 34-96kPa SV at 1.0m = 77-103kPa

Trial pit terminated at 1.20m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Trench 3: View of excavation



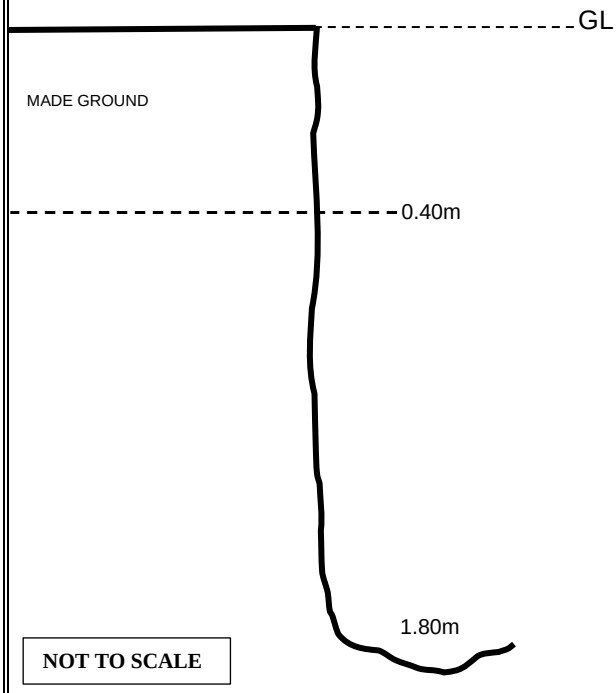
Trench 3: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street,
Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Trench 4
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	1.80m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-0.40	MADE GROUND. Grey very sandy GRAVEL. Sand is fine to coarse. Gravel is fine to coarse of sub-angular concrete and limestone. Cobbles of brick.
	0.40-1.80	Stiff brown mottled grey CLAY.

Trial pit terminated at 1.80m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Trench 4: View of excavation



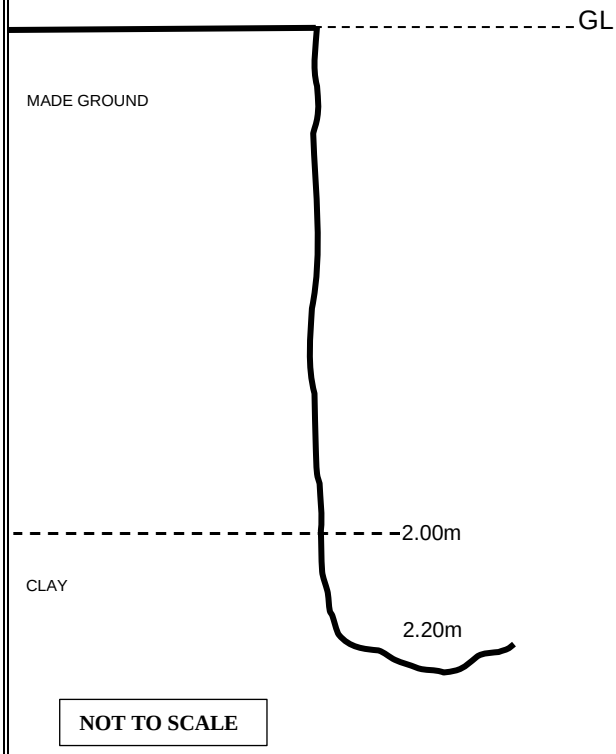
Trench 4: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street,
Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Trench 5A (North)
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	2.20m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-2.00	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles and boulders of brick, concrete and sandstone door lintels.
	2.00-2.20	Stiff brown mottled grey CLAY. SV at 2.1m = 70kPa

Trial pit terminated at 2.20m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Trench 5A: View of excavation



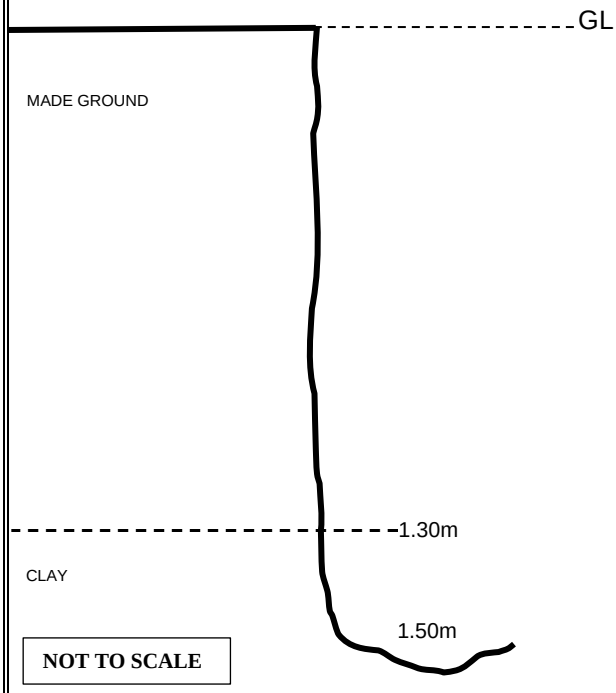
Trench 5A: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street, Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Trench 5B
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	1.50m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-1.30	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles and boulders of brick, concrete and sandstone door lintels.
	1.30-1.50	Stiff brown mottled grey CLAY. SV at 1.4m = 117kPa SV at 1.5m = 123kPa

Trial pit terminated at 1.50m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



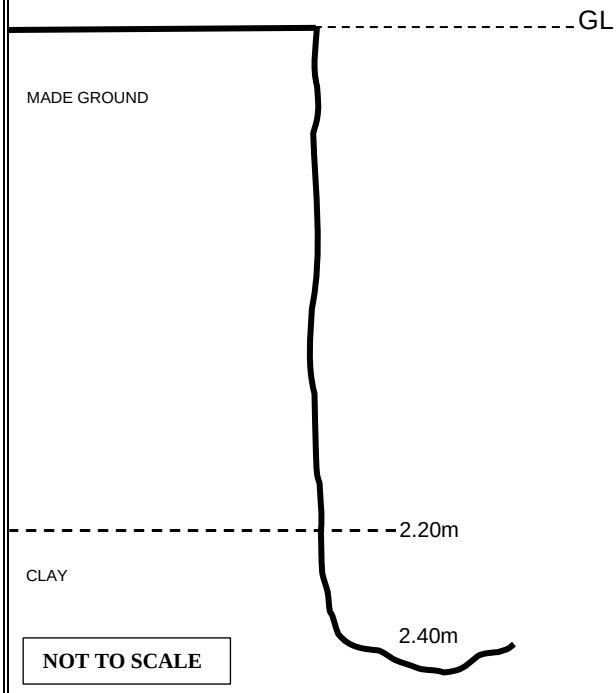
Trench 5B: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street,
Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Trench 5C
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	2.40m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-2.20	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles and boulders of brick and concrete.
	2.20-2.40	Stiff brown mottled grey CLAY. SV at 2.3m = 117kPa

Trial pit terminated at 2.40m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Trench 5C: View of excavation



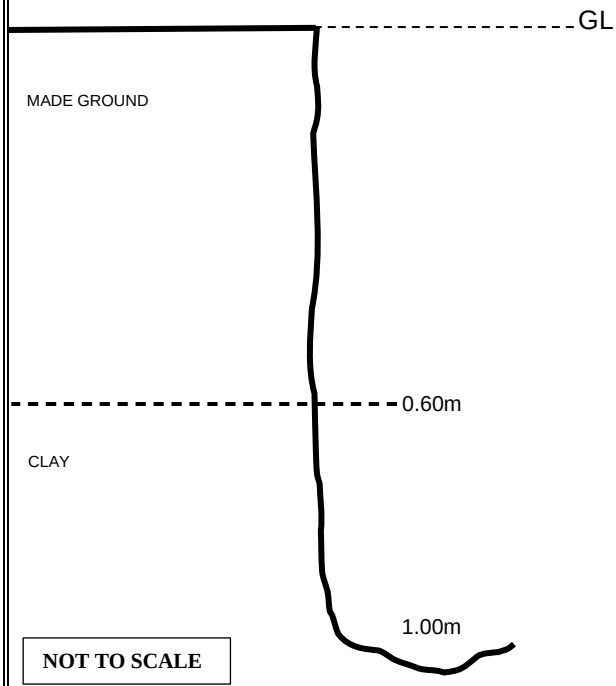
Trench 5C: View of excavation

EARTH ENVIRONMENTAL & GEOTECHNICAL
Houldsworth Mill Business & Arts Centre, Houldsworth Street,
Stockport, SK5 6DA
Tel: 0161 975 6088
Email: info@earthenvironmental.co.uk
Web: www.earthenvironmental.co.uk

TRIAL PIT LOG

Project Name:	774-786 Stockport Road	**Hole Number:**	Trench 5D (South)
Date:	18/07/22	**Logged By:**	A Graham
Project No.:	A2951	**Total Depth:**	1.00m bgl
Client:	Views	**Remarks:**	No groundwater encountered.

Schematic Profile:



Legend	Depth (m)	Description
	0.00-0.60	MADE GROUND. Brown slightly silty slightly clayey gravelly SAND. Sand is fine to coarse. Gravel is fine to coarse of angular brick, plastic, concrete and slate. Frequent cobbles and boulders of brick and concrete.
	0.60-1.00	Stiff brown mottled grey CLAY. SV at 0.7m = 110kPa SV at 0.9m = 102kPa

Trial pit terminated at 1.00m bgl.
ES=Environmental Sample, D=Disturbed Sample, SV=Shear Vane Reading

Pictures:



Trench 5D: View of excavation

Luke Glover
Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Reddish
Stockport
Cheshire
SK5 6DA

DETS Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 19-05609

Site Reference:	Stockport Road, Manchester
Project / Job Ref:	A2951
Order No:	A2951
Sample Receipt Date:	23/04/2019
Sample Scheduled Date:	23/04/2019
Report Issue Number:	1
Reporting Date:	29/04/2019

Authorised by:



Dave Ashworth
Deputy Quality Manager

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate						
DETS Report No: 19-05609	**Date Sampled**	16/04/19	16/04/19	16/04/19	16/04/19	16/04/19
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Stockport Road, Manchester	**TP / BH No**	WS01	WS02	WS03	WS03	WS04
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A2951	**Depth (m)**	0.50	0.60	0.30	0.70	0.30
Reporting Date: 29/04/2019	**DETS Sample No**	403655	403656	403657	403658	403659

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.2	7.3	7.4	7.2	7.6
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Complex Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO_4	mg/kg	< 200	NONE	313	1176	1374	469	245
Total Sulphate as SO_4	%	< 0.02	NONE	0.03	0.12	0.14	0.05	0.02
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	11	124	245	78	12
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.01	0.12	0.25	0.08	0.01
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	3.4	3	2	1.9	1.7
Arsenic (As)	mg/kg	< 2	MCERTS	12	12	8	5	6
Barium (Ba)	mg/kg	< 5	NONE	99	216	189	92	98
Beryllium (Be)	mg/kg	< 0.5	NONE	0.8	0.7	< 0.5	0.6	< 0.5
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.3	0.3	0.4	< 0.2	0.4
Chromium (Cr)	mg/kg	< 2	MCERTS	14	14	16	13	7
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	33	42	19	12	20
Lead (Pb)	mg/kg	< 3	MCERTS	111	188	163	46	30
Mercury (Hg)	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	15	11	8	10	4
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3	< 3	< 3	< 3
Vanadium (V)	mg/kg	< 2	NONE	23	20	14	16	6
Zinc (Zn)	mg/kg	< 3	MCERTS	64	118	93	39	34
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	97	99	194	25	526

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C
Subcontracted analysis (S)

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate						
DETS Report No: 19-05609	**Date Sampled**	16/04/19	16/04/19			
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Stockport Road, Manchester	**TP / BH No**	WS05	WS05			
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied			
Order No: A2951	**Depth (m)**	0.30	0.70			
Reporting Date: 29/04/2019	**DETS Sample No**	403660	403661			

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected			
pH	pH Units	N/a	MCERTS	7.3	7.5			
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Complex Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Total Sulphate as SO_4	mg/kg	< 200	NONE	320	530			
Total Sulphate as SO_4	%	< 0.02	NONE	0.03	0.05			
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	17	24			
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.02	0.02			
Sulphide	mg/kg	< 5	NONE	< 5	< 5			
Organic Matter	%	< 0.1	MCERTS	3.1	3.4			
Arsenic (As)	mg/kg	< 2	MCERTS	14	14			
Barium (Ba)	mg/kg	< 5	NONE	131	174			
Beryllium (Be)	mg/kg	< 0.5	NONE	0.7	0.9			
W/S Boron	mg/kg	< 1	NONE	< 1	< 1			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.4	3.1			
Chromium (Cr)	mg/kg	< 2	MCERTS	14	15			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	41	62			
Lead (Pb)	mg/kg	< 3	MCERTS	148	222			
Mercury (Hg)	mg/kg	< 1	NONE	< 1	1.7			
Nickel (Ni)	mg/kg	< 3	MCERTS	12	18			
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3			
Vanadium (V)	mg/kg	< 2	NONE	22	22			
Zinc (Zn)	mg/kg	< 3	MCERTS	117	180			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			
EPH (C10 - C40)	mg/kg	< 6	MCERTS	110	850			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C
Subcontracted analysis (S)

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 19-05609	**Date Sampled**	16/04/19	16/04/19	16/04/19	16/04/19	16/04/19
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Stockport Road, Manchester	**TP / BH No**	WS01	WS02	WS03	WS03	WS04
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A2951	**Depth (m)**	0.50	0.60	0.30	0.70	0.30
Reporting Date: 29/04/2019	**DETS Sample No**	403655	403656	403657	403658	403659

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	0.15	0.14	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.45	0.98	0.28	< 0.1	0.16
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.38	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.65	2.24	0.54	< 0.1	0.43
Pyrene	mg/kg	< 0.1	MCERTS	0.63	2.06	0.52	< 0.1	0.46
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.32	1.14	0.29	< 0.1	0.25
Chrysene	mg/kg	< 0.1	MCERTS	0.38	1.13	0.32	< 0.1	0.31
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.41	1.29	0.36	< 0.1	0.38
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.15	0.44	0.11	< 0.1	0.12
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.29	1.02	0.28	< 0.1	0.29
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.17	0.60	0.22	< 0.1	0.20
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.15	0.52	0.21	< 0.1	0.20
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	3.7	11.9	3.1	< 1.6	2.8

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 19-05609	**Date Sampled**	16/04/19	16/04/19			
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Stockport Road, Manchester	**TP / BH No**	WS05	WS05			
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied			
Order No: A2951	**Depth (m)**	0.30	0.70			
Reporting Date: 29/04/2019	**DETS Sample No**	403660	403661			

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	0.17	2.14			
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	0.18			
Acenaphthene	mg/kg	< 0.1	MCERTS	0.32	2.65			
Fluorene	mg/kg	< 0.1	MCERTS	0.22	1.83			
Phenanthrene	mg/kg	< 0.1	MCERTS	2.66	18.70			
Anthracene	mg/kg	< 0.1	MCERTS	0.60	3.76			
Fluoranthene	mg/kg	< 0.1	MCERTS	4.35	23.90			
Pyrene	mg/kg	< 0.1	MCERTS	3.96	21.50			
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	2.18	9.30			
Chrysene	mg/kg	< 0.1	MCERTS	2.04	9			
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	2.40	9.84			
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.77	3.36			
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	2.05	7.92			
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	1.18	4.19			
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.24	0.73			
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	1.04	3.94			
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	24.2	123			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - TPH CWG Banded							
DETS Report No: 19-05609	**Date Sampled**	16/04/19	16/04/19	16/04/19	16/04/19	16/04/19
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Stockport Road, Manchester	**TP / BH No**	WS01	WS02	WS03	WS03	WS04
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A2951	**Depth (m)**	0.50	0.60	0.30	0.70	0.30
Reporting Date: 29/04/2019	**DETS Sample No**	403655	403656	403657	403658	403659

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	5
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	60	< 10	196
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	60	< 21	201
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	3	5	< 3	< 3	10
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	59	11	94	< 10	256
Aromatic (C5 - C35)	mg/kg	< 21	NONE	62	< 21	94	< 21	266
Total >C5 - C35	mg/kg	< 42	NONE	62	< 42	153	< 42	467

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 19-05609	**Date Sampled**	16/04/19	16/04/19			
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Stockport Road, Manchester	**TP / BH No**	WS05	WS05			
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied			
Order No: A2951	**Depth (m)**	0.30	0.70			
Reporting Date: 29/04/2019	**DETS Sample No**	403660	403661			

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01			
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05			
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2			
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2			
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3			
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3			
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	157			
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	157			
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01			
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05			
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2			
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	3			
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	3	31			
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	19	137			
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	77	355			
Aromatic (C5 - C35)	mg/kg	< 21	NONE	99	527			
Total >C5 - C35	mg/kg	< 42	NONE	99	684			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 19-05609	**Date Sampled**	16/04/19	16/04/19	16/04/19	16/04/19	16/04/19
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Stockport Road, Manchester	**TP / BH No**	WS01	WS02	WS03	WS03	WS04
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A2951	**Depth (m)**	0.50	0.60	0.30	0.70	0.30
Reporting Date: 29/04/2019	**DETS Sample No**	403655	403656	403657	403658	403659

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 19-05609	**Date Sampled**	16/04/19	16/04/19			
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied			
Site Reference: Stockport Road, Manchester	**TP / BH No**	WS05	WS05			
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied			
Order No: A2951	**Depth (m)**	0.30	0.70			
Reporting Date: 29/04/2019	**DETS Sample No**	403660	403661			

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	4			
Toluene	ug/kg	< 5	MCERTS	< 5	< 5			
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2			
p & m-xylene	ug/kg	< 2	MCERTS	< 2	4			
o-xylene	ug/kg	< 2	MCERTS	< 2	4			
MTBE	ug/kg	< 5	MCERTS	< 5	< 5			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Sample Descriptions	
DETS Report No: 19-05609	
Earth Environmental & Geotechnical Ltd	
Site Reference: Stockport Road, Manchester	
Project / Job Ref: A2951	
Order No: A2951	
Reporting Date: 29/04/2019	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
403655	WS01	None Supplied	0.50	12.5	Brown sandy loam with vegetation
403656	WS02	None Supplied	0.60	11.5	Brown sandy loam with vegetation and stones
403657	WS03	None Supplied	0.30	8.2	Brown loamy sand with stones and gravel
403658	WS03	None Supplied	0.70	18.4	Brown sandy clay
403659	WS04	None Supplied	0.30	2.3	Brown gravelly sand with stones and gravel
403660	WS05	None Supplied	0.30	13.8	Brown sandy loam with vegetation and stones
403661	WS05	None Supplied	0.70	10.2	Brown sandy loam with stones

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 19-05609
Earth Environmental & Geotechnical Ltd
Site Reference: Stockport Road, Manchester
Project / Job Ref: A2951
Order No: A2951
Reporting Date: 29/04/2019

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

Ashley Graham
Earth Environmental & Geotechnical Ltd
Houldsworth Mill Business Centre
Houldsworth Street
Reddish
Stockport
Cheshire
SK5 6DA

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 22-06164

Site Reference:	774 - 786 Stockport Road
Project / Job Ref:	A2951
Order No:	A2951/22
Sample Receipt Date:	20/07/2022
Sample Scheduled Date:	20/07/2022
Report Issue Number:	1
Reporting Date:	26/07/2022

Authorised by:

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate						
DETS Report No: 22-06164	**Date Sampled**	18/07/22	18/07/22	18/07/22	18/07/22	18/07/22
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: 774 - 786 Stockport Road	**TP / BH No**	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A2951/22	**Depth (m)**	1.00	0.50	0.30	0.30	0.50
Reporting Date: 26/07/2022	**DETS Sample No**	605579	605580	605581	605582	605583

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen (S)	N/a	N/a	**ISO17025**	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	**MCERTS**	7.5	7.3	7.5	7.5	7.9
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	2	< 2
Complex Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	2	< 2
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO_4	mg/kg	< 200	**MCERTS**	715	457	342	697	533
Total Sulphate as SO_4	%	< 0.02	**MCERTS**	0.07	0.05	0.03	0.07	0.05
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**	26	53	< 10	14	< 10
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**	0.03	0.05	< 0.01	0.01	< 0.01
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter (SOM)	%	< 0.1	**MCERTS**	16.2	10	4.9	10.1	2.3
Arsenic (As)	mg/kg	< 2	**MCERTS**	13	10	7	24	4
Barium (Ba)	mg/kg	< 2.5	**MCERTS**	278	115	94	249	131
Beryllium (Be)	mg/kg	< 0.5	**MCERTS**	0.9	0.9	0.9	1.3	0.9
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	2.3	0.2	< 0.2	0.5	< 0.2
Chromium (Cr)	mg/kg	< 2	**MCERTS**	15	12	13	18	13
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	**MCERTS**	136	39	30	97	31
Lead (Pb)	mg/kg	< 3	**MCERTS**	517	111	163	866	111
Mercury (Hg)	mg/kg	< 1	**MCERTS**	1.3	< 1	< 1	1.5	< 1
Nickel (Ni)	mg/kg	< 3	**MCERTS**	23	13	14	22	17
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Vanadium (V)	mg/kg	< 1	**MCERTS**	21	19	18	31	16
Zinc (Zn)	mg/kg	< 3	**MCERTS**	375	55	43	252	55
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	**MCERTS**	621	28	20	43	12

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate						
DETS Report No: 22-06164	**Date Sampled**	18/07/22				
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied				
Site Reference: 774 - 786 Stockport Road	**TP / BH No**	Trench 1				
Project / Job Ref: A2951	**Additional Refs**	None Supplied				
Order No: A2951/22	**Depth (m)**	1.00				
Reporting Date: 26/07/2022	**DETS Sample No**	605584				

Determinand	**Unit**	**RL**	**Accreditation**					
Asbestos Screen (S)	N/a	N/a	**ISO17025**	Not Detected				
pH	pH Units	N/a	**MCERTS**	7.6				
Total Cyanide	mg/kg	< 2	NONE	< 2				
Complex Cyanide	mg/kg	< 2	NONE	< 2				
Free Cyanide	mg/kg	< 2	NONE	< 2				
Total Sulphate as SO_4	mg/kg	< 200	**MCERTS**	408				
Total Sulphate as SO_4	%	< 0.02	**MCERTS**	0.04				
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	**MCERTS**	< 10				
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	**MCERTS**	< 0.01				
Sulphide	mg/kg	< 5	NONE	< 5				
Organic Matter (SOM)	%	< 0.1	**MCERTS**	5.4				
Arsenic (As)	mg/kg	< 2	**MCERTS**	14				
Barium (Ba)	mg/kg	< 2.5	**MCERTS**	142				
Beryllium (Be)	mg/kg	< 0.5	**MCERTS**	1.1				
W/S Boron	mg/kg	< 1	NONE	< 1				
Cadmium (Cd)	mg/kg	< 0.2	**MCERTS**	0.3				
Chromium (Cr)	mg/kg	< 2	**MCERTS**	16				
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2				
Copper (Cu)	mg/kg	< 4	**MCERTS**	41				
Lead (Pb)	mg/kg	< 3	**MCERTS**	177				
Mercury (Hg)	mg/kg	< 1	**MCERTS**	< 1				
Nickel (Ni)	mg/kg	< 3	**MCERTS**	19				
Selenium (Se)	mg/kg	< 2	**MCERTS**	< 3				
Vanadium (V)	mg/kg	< 1	**MCERTS**	26				
Zinc (Zn)	mg/kg	< 3	**MCERTS**	73				
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2				
EPH (C10 - C40)	mg/kg	< 6	**MCERTS**	47				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-06164	**Date Sampled**	18/07/22	18/07/22	18/07/22	18/07/22	18/07/22
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: 774 - 786 Stockport Road	**TP / BH No**	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A2951/22	**Depth (m)**	1.00	0.50	0.30	0.30	0.50
Reporting Date: 26/07/2022	**DETS Sample No**	605579	605580	605581	605582	605583

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	1.76	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	0.13	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	4.66	< 0.1	< 0.1	0.15	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	3.22	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	35.90	0.23	0.24	1.25	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	6.94	< 0.1	< 0.1	0.21	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	45.70	0.54	0.40	1.92	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	42.40	0.58	0.41	1.99	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	19.40	0.32	0.19	1.08	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	18.60	0.36	0.24	0.99	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	17.20	0.33	0.20	1.05	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	5.68	0.14	< 0.1	0.40	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	16.10	0.31	0.21	1.26	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	7.23	0.18	< 0.1	0.42	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	1.59	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	6.13	0.16	< 0.1	0.35	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	233	3.2	1.9	11.1	< 1.6

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-06164	**Date Sampled**	18/07/22				
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied				
Site Reference: 774 - 786 Stockport Road	**TP / BH No**	Trench 1				
Project / Job Ref: A2951	**Additional Refs**	None Supplied				
Order No: A2951/22	**Depth (m)**	1.00				
Reporting Date: 26/07/2022	**DETS Sample No**	605584				

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1				
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1				
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1				
Phenanthrene	mg/kg	< 0.1	MCERTS	0.72				
Anthracene	mg/kg	< 0.1	MCERTS	0.14				
Fluoranthene	mg/kg	< 0.1	MCERTS	0.96				
Pyrene	mg/kg	< 0.1	MCERTS	0.93				
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.48				
Chrysene	mg/kg	< 0.1	MCERTS	0.46				
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.49				
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.17				
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.56				
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.21				
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.17				
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	5.3				

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 22-06164	**Date Sampled**	18/07/22	18/07/22	18/07/22	18/07/22	18/07/22
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: 774 - 786 Stockport Road	**TP / BH No**	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A2951/22	**Depth (m)**	1.00	0.50	0.30	0.30	0.50
Reporting Date: 26/07/2022	**DETS Sample No**	605579	605580	605581	605582	605583

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	5	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	5	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	45	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	54	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	3	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	22	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	170	< 3	< 3	9	< 3
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	142	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	336	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	390	< 42	< 42	< 42	< 42

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 22-06164	**Date Sampled**	18/07/22				
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied				
Site Reference: 774 - 786 Stockport Road	**TP / BH No**	Trench 1				
Project / Job Ref: A2951	**Additional Refs**	None Supplied				
Order No: A2951/22	**Depth (m)**	1.00				
Reporting Date: 26/07/2022	**DETS Sample No**	605584				

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01				
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05				
Aliphatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2				
Aliphatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2				
Aliphatic >C12 - C16	mg/kg	< 3	**MCERTS**	< 3				
Aliphatic >C16 - C21	mg/kg	< 3	**MCERTS**	< 3				
Aliphatic >C21 - C34	mg/kg	< 10	**MCERTS**	< 10				
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21				
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01				
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05				
Aromatic >C8 - C10	mg/kg	< 2	**MCERTS**	< 2				
Aromatic >C10 - C12	mg/kg	< 2	**MCERTS**	< 2				
Aromatic >C12 - C16	mg/kg	< 2	**MCERTS**	< 2				
Aromatic >C16 - C21	mg/kg	< 3	**MCERTS**	6				
Aromatic >C21 - C35	mg/kg	< 10	**MCERTS**	< 10				
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21				
Total >C5 - C35	mg/kg	< 42	NONE	< 42				

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-06164	**Date Sampled**	18/07/22	18/07/22	18/07/22	18/07/22	18/07/22
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: 774 - 786 Stockport Road	**TP / BH No**	Trench 5 North	Trench 5 South	Trench 4	Pit B	Trench 2
Project / Job Ref: A2951	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: A2951/22	**Depth (m)**	1.00	0.50	0.30	0.30	0.50
Reporting Date: 26/07/2022	**DETS Sample No**	605579	605580	605581	605582	605583

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	4	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	3	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 22-06164	**Date Sampled**	18/07/22				
Earth Environmental & Geotechnical Ltd	**Time Sampled**	None Supplied				
Site Reference: 774 - 786 Stockport Road	**TP / BH No**	Trench 1				
Project / Job Ref: A2951	**Additional Refs**	None Supplied				
Order No: A2951/22	**Depth (m)**	1.00				
Reporting Date: 26/07/2022	**DETS Sample No**	605584				

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2				
Toluene	ug/kg	< 5	MCERTS	< 5				
Ethylbenzene	ug/kg	< 2	MCERTS	< 2				
p & m-xylene	ug/kg	< 2	MCERTS	< 2				
o-xylene	ug/kg	< 2	MCERTS	< 2				
MTBE	ug/kg	< 5	MCERTS	< 5				

DETS Ltd
l, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 22-06164		**Date Sampled**	18/07/22					**Landfill Waste Acceptance Criteria Limits**		
Earth Environmental & Geotechnical Ltd		**Time Sampled**	None Supplied					**Inert Waste Landfill**	**Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Site Reference: 774 - 786 Stockport Road		**TP / BH No**	Trench 2							
Project / Job Ref: A2951		**Additional Refs**	None Supplied							
Order No: A2951/22		**Depth (m)**	0.50							
Reporting Date: 26/07/2022		**DETS Sample No**	605583							
Determinand	**Unit**	**MDL**								
TOC[MU]	%	< 0.1	1.4					3%	5%	6%
Loss on Ignition	%	< 0.01	2.90					--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05					6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1					1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10					500	--	--
Total PAH[MU]	mg/kg	< 1.7	< 1.7					100	--	--
pH[MU]	pH Units	N/a	7.9					--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1.3					--	To be evaluated	To be evaluated

Eluate Analysis	**2:1 mg/l**	**8:1 mg/l**		**Cumulative 10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
Arsenic[U]	< 0.01	< 0.01		< 0.2	0.5	2	25
Barium[U]	0.04	0.08		0.7	20	100	300
Cadmium[U]	< 0.0005	< 0.0005		< 0.02	0.04	1	5
Chromium[U]	0.038	0.019		0.21	0.5	10	70
Copper[U]	< 0.01	< 0.01		< 0.5	2	50	100
Mercury[U]	< 0.0005	< 0.0005		< 0.005	0.01	0.2	2
Molybdenum[U]	0.004	0.005		< 0.1	0.5	10	30
Nickel[U]	< 0.007	< 0.007		< 0.2	0.4	10	40
Lead[U]	< 0.005	< 0.005		< 0.2	0.5	10	50
Antimony[U]	< 0.005	< 0.005		< 0.05	0.06	0.7	5
Selenium[U]	< 0.005	< 0.005		< 0.05	0.1	0.5	7
Zinc[U]	0.012	< 0.005		< 0.2	4	50	200
Chloride[U]	4	3		27	800	15000	25000
Fluoride[U]	1	0.6		6.8	10	150	500
Sulphate[U]	27	7		90	1000	20000	50000
TDS	143	91		964	4000	60000	100000
Phenol Index	< 0.01	< 0.01		< 0.5	1	-	-
DOC	25.1	8.2		99.9	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.20						
Dry Matter (%)	88.8						
Moisture (%)	12.6						
Stage 1							
Volume Eluate L2 (litres)	0.33						
Filtered Eluate VE1 (litres)	0.18						

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepencies with current legislation
M Denotes MCERTS accredited test
U Denotes ISO17025 accredited test

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Sample Descriptions
DETS Report No: 22-06164
Earth Environmental & Geotechnical Ltd
Site Reference: 774 - 786 Stockport Road
Project / Job Ref: A2951
Order No: A2951/22
Reporting Date: 26/07/2022

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
605579	Trench 5 North	None Supplied	1.00	7.3	Black sandy clay with stones
605580	Trench 5 South	None Supplied	0.50	13.3	Brown sandy clay with stones
605581	Trench 4	None Supplied	0.30	14	Brown sandy clay with stones and brick
605582	Pit B	None Supplied	0.30	11.4	Black sandy clay with stones and vegetation
605583	Trench 2	None Supplied	0.50	11.2	Brown sandy clay with stones and concrete
605584	Trench 1	None Supplied	1.00	12.5	Brown gravelly sand with stones and concrete

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

Soil Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 22-06164
Earth Environmental & Geotechnical Ltd
Site Reference: 774 - 786 Stockport Road
Project / Job Ref: A2951
Order No: A2951/22
Reporting Date: 26/07/2022

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

UKAS TESTING 4480

Water Analysis Certificate - Methodology & Miscellaneous Information
DETS Report No: 22-06164
Earth Environmental & Geotechnical Ltd
Site Reference: 774 - 786 Stockport Road
Project / Job Ref: A2951
Order No: A2951/22
Reporting Date: 26/07/2022

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 – C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichlorometha	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

Parameter	Matrix Type	Suite Reference	Expanded Uncertainity Measurement	Unit
TOC	Soil	BS EN 12457	20.0	%
Loss on Ignition	Soil	BS EN 12457	35.0	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	23.0	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	11.6	%
pH	Soil	BS EN 12457	0.28	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	18.7	%
Barium	Leachate	BS EN 12457	11.6	%
Cadmium	Leachate	BS EN 12457	20.3	%
Chromium	Leachate	BS EN 12457	18.3	%
Copper	Leachate	BS EN 12457	24.3	%
Mercury	Leachate	BS EN 12457	23.7	%
Molybdenum	Leachate	BS EN 12457	14.7	%
Nickel	Leachate	BS EN 12457	16.1	%
Lead	Leachate	BS EN 12457	15.7	%
Antimony	Leachate	BS EN 12457	17.9	%
Selenium	Leachate	BS EN 12457	22.0	%
Zinc	Leachate	BS EN 12457	17.4	%
Chloride	Leachate	BS EN 12457	15.3	%
Fluoride	Leachate	BS EN 12457	16.4	%
Sulphate	Leachate	BS EN 12457	20.6	%
TDS	Leachate	BS EN 12457	12.0	%
Phenol Index	Leachate	BS EN 12457	14.0	%
DOC	Leachate	BS EN 12457	10.0	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	35.0	%
pH	Soil	BS 3882: 2015	0.14	Units
Carbonate	Soil	BS 3882: 2015	16.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16.0	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%

MURRAY RIX
CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING

TEST REPORT

Client	Earth Environmental & Geotechnical Ltd
Address	Houldsworth Mills Business & Arts Centre Houldsworth Street Reddish Stockport SK5 6DA
Contract	A2951 - Stockport Road, Manchester
Job Number	MRN 3507/28
Date of Issue	03 May 2019
Page	1 of 17

Approved Signatories

S J Hutchings, O P Davies

Notes

1 All remaining samples and remnants from this contract will be disposed 28 days from the date of this report unless you notify us to the contrary.

2 Result certificates, in this report, not bearing a UKAS mark, are not included in our UKAS accreditation schedule.

3 Opinions and interpretations expressed herein are outside the scope of our UKAS accreditation

4 Certified that the samples have been examined and tested in accordance with the terms of the contract/order and unless otherwise stated conform to the standards/specifications quoted. This does not, however, guarantee the balance of the materials from which the tested samples have been taken to be of equal quality.

33C, Vauxhall Industrial Estate, Greg Street, Reddish, Stockport SK5 7BR Tel. 0161 475 0870 Fax. 0161 475 0871
Email: steve@mr-uk.com Website: www.murrayrix.com
Also at London: 020 8523 1999
Murray Rix is the trading name of Murray Rix (Northern) Limited, Registered in England 2875161

MURRAY RIX
33C VAUXHALL INDUSTRIAL ESTATE
GREG STREET, REDDISH, STOCKPORT SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.5: 1990

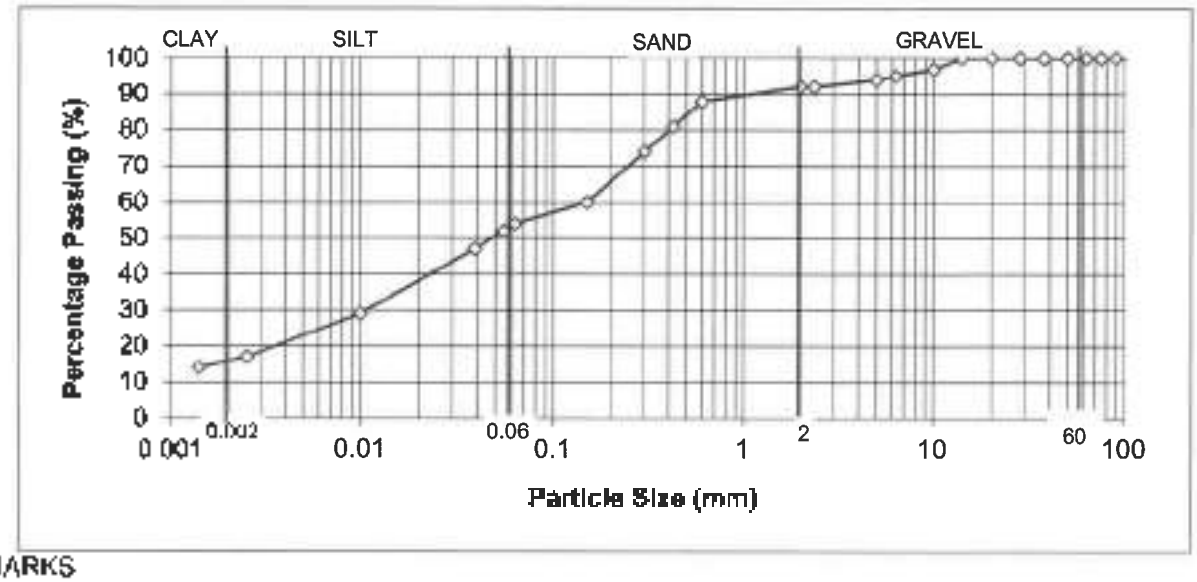
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 - Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS01 2.70-3.00m	DATE SAMPLED	16-Apr-19
LAB SAMPLE No	82834	DATE RECEIVED	17-Apr-19
DATE TESTED	22-Apr-19	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2.36	92	
90	100		2	92	
75	100		0.6	88	
63	100		0.425	81	
50	100		0.3	74	
37.5	100		0.15	60	
28	100		0.063	54	
20	100		0.055	52	
14	100		0.039	47	
10	97		0.01	29	
6.3	95		0.0025	17	
5	94		0.0014	14	



REMARKS
As received moisture content = 14%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 03-May-19

MURRAY RIX

33C Vauxhall Ind Estate, Greg Street
Reddish, Stockport SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3

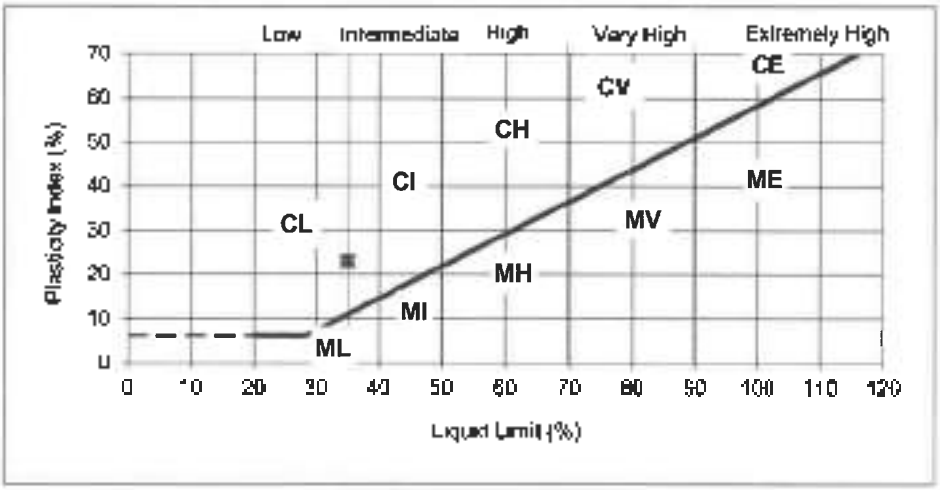
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 - Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS01 2.70-3.00m	DATE SAMPLED	16-Apr-19
SAMPLE No	82834	DATE RECEIVED	17-Apr-19
DATE TESTED	24-Apr-19	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
14	35	12	23	81



REMARKS
Sample tested in natural condition

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-May-19
(Laboratory Manager)

MURRAY RIX
33C VAUXHALL INDUSTRIAL ESTATE. GREG STREET
REDDISH, STOCKPORT SK5 7BR
TEL 0161 475 0870 FAX 161 475N 0871

TEST CERTIFICATE

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377: PART 7: 1990:CLAUSE 8 SINGLE STAGE

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 – Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS01 2.70-3.00m	DATE SAMPLED	16 April 2019
LAB SAMPLE No	82834	DATE RECEIVED	17 April 2019
DATE TESTED	24 April 2019	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation sample

SPECIMEN LENGTH	140	mm
SPECIMEN DIAMETER	71	mm
MOISTURE CONTENT OF SAMPLE	14	%
BULK DENSITY	2.25	Mg/m^3
DRY DENSITY	1.97	Mg/m^3
DEPTH OF TOP OF SPECIMEN	2.75	m
RATE OF STRAIN	2	%/min
RUBBER MEMBRANE THICKNESS	0.6	mm

SPECIMEN AT FAILURE



Measured Cell Pressure (kPa)	Strain at Failure (%)	Membrane Correction (kPa)	Corrected Max Deviator Stress (kPa)	Shear Stress Cu (kPa)
60	20	2.0	259.6	130

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager)

DATE 03 May 2019

MURRAY RIX
UNIT 33C, VAUXHALL IND. ESTATE, GREG STREET
REDDISH, STOCKPORT, SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

pH and Sulphate as SO_4
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS01 2.70-3.00m	DATE SAMPLED	16 April 2019
LAB SAMPLE No	82834	DATE RECEIVED	17 April 2019
DATE TESTED	24 April 2019	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.0	
Sulphate as SO_4 (2:1 Water Extract)	0.29	g/l

REMARKS

SIGNED

NAME O.P. Davies BA (Hons)
(Laboratory Manager)

DATE 03 May 2019

MURRAY RIX
33C VAUXHALL INDUSTRIAL ESTATE
GREG STREET, REDDISH, STOCKPORT SK5 7BR
TEL 0161 475 9870 FAX 0161 475 9871

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2 Clause 9.5 1990

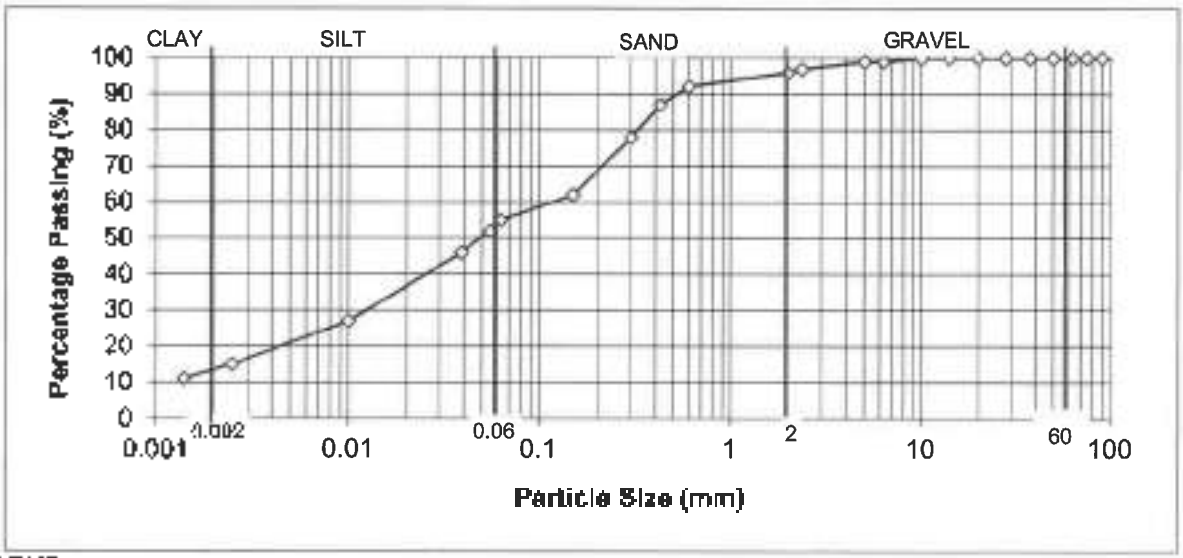
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 - Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS02 2.70-3.00m	DATE SAMPLED	16-Apr-19
LAB SAMPLE No	82835	DATE RECEIVED	17-Apr-19
DATE TESTED	22-Apr-19	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2.36	97	
90	100		2	96	
75	100		0.6	92	
63	100		0.425	87	
50	100		0.3	78	
37.5	100		0.15	62	
28	100		0.063	55	
20	100		0.055	52	
14	100		0.039	46	
10	100		0.01	27	
6.3	99		0.0025	15	
5	99		0.0014	11	



REMARKS

As received moisture content = 13%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 03-May-19

MURRAY RIX

33C Vauxhall Ind. Estate, Greg Street
Reddish, Stockport SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3

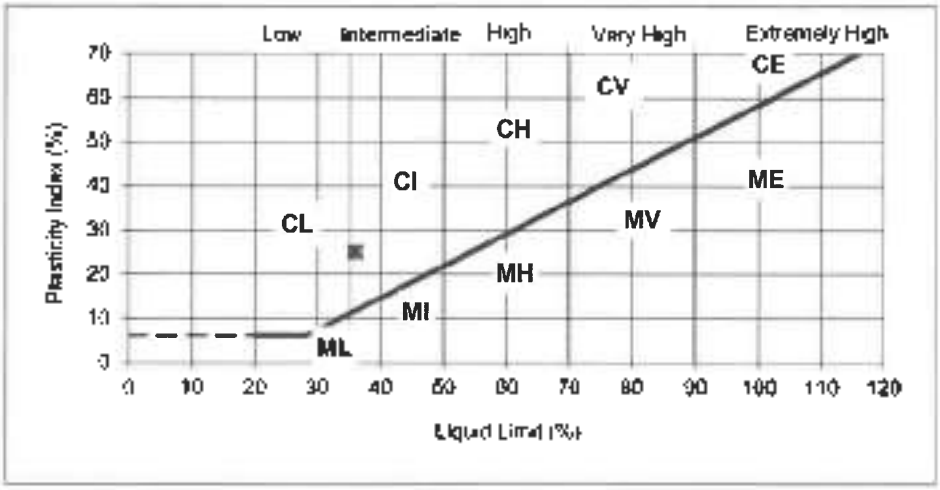
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 - Stockport Road, Manchester
JOB NUMBER	MRN 3507/26

SAMPLE LABEL	WS02 2.70-3.00m	DATE SAMPLED	16-Apr-19
SAMPLE No.	82835	DATE RECEIVED	17-Apr-19
DATE TESTED	24-Apr-19	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
13	36	11	25	87



REMARKS
Sample tested in natural condition

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-May-19
(Laboratory Manager)

MURRAY RIX
33C VAUXHALL INDUSTRIAL ESTATE, GREG STREET
REDDISH, STOCKPORT SK5 7BR
TEL 0161 475 0870 FAX 161 475N 0871

TEST CERTIFICATE

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377: PART 7: 1990:CLAUSE 8 SINGLE STAGE

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 – Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS02 2.70-3.00m	DATE SAMPLED	16 April 2019
LAB SAMPLE No	82835	DATE RECEIVED	17 April 2019
DATE TESTED	24 April 2019	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation sample

SPECIMEN LENGTH	140	mm
SPECIMEN DIAMETER	70	mm
MOISTURE CONTENT OF SAMPLE	13	%
BULK DENSITY	2.15	Mg/m^3
DRY DENSITY	1.91	Mg/m^3
DEPTH OF TOP OF SPECIMEN	2.75	m
RATE OF STRAIN	2	%/min
RUBBER MEMBRANE THICKNESS	0.6	mm

SPECIMEN AT FAILURE



Measured Cell Pressure (kPa)	Strain at Failure (%)	Membrane Correction (kPa)	Corrected Max Deviator Stress (kPa)	Shear Stress Cu (kPa)
60	20	2.0	256.3	128

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager)

DATE 03 May 2019

MURRAY RIX
33C VAUXHALL INDUSTRIAL ESTATE
GREG STREET, REDDISH, STOCKPORT SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.5: 1990

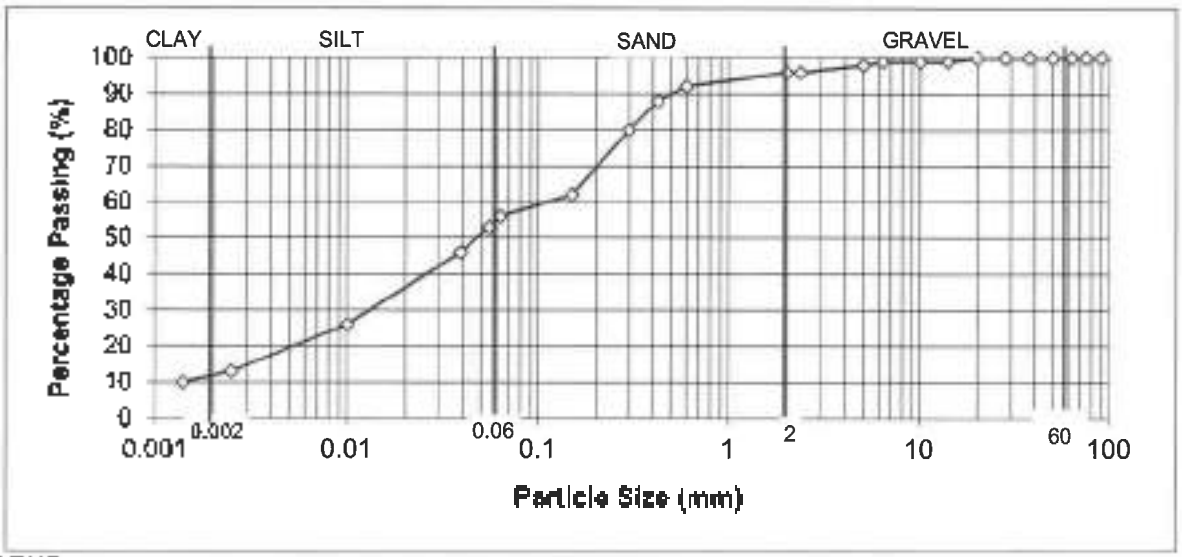
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 - Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS03 1.70-2.00m	DATE SAMPLED	16-Apr-19
LAB SAMPLE No	82836	DATE RECEIVED	17-Apr-19
DATE TESTED	22-Apr-19	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2.36	96	
90	100		2	96	
75	100		0.6	92	
63	100		0.425	88	
50	100		0.3	80	
37.5	100		0.15	62	
28	100		0.063	56	
20	100		0.065	53	
14	99		0.039	46	
10	99		0.01	26	
6.3	99		0.0025	13	
5	98		0.0014	10	



REMARKS
As received moisture content = 15%

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 03-May-19

MURRAY RIX

33C Vauxhall Ind. Estate, Greg Street
Reddish. Stockport SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

BS 1377: PART 2: 1990 Clause 4.4 ONE POINT METHOD & Clause 5.3

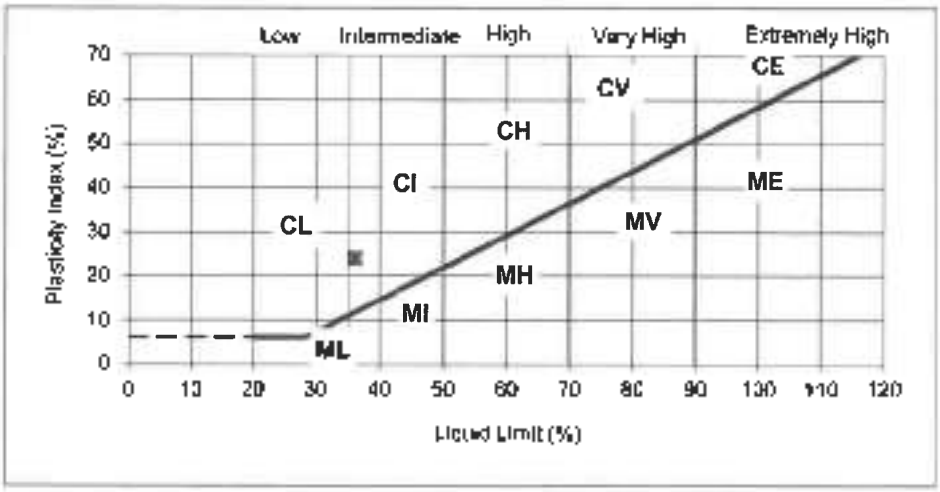
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 - Stockport Road. Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS03 1.70-2.00m	DATE SAMPLED	16-Apr-19
SAMPLE No.	82836	DATE RECEIVED	17-Apr-19
DATE TESTED	24-Apr-19	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15	36	12	24	88



REMARKS
Sample tested in natural condition

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-May-19
(Laboratory Manager)

MURRAY RIX
33C VAUXHALL INDUSTRIAL ESTATE, GREG STREET
REDDISH, STOCKPORT SK5 7BR
TEL 0161 475 0670 FAX 161 475N 0671

TEST CERTIFICATE

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377: PART 7: 1990:CLAUSE 8 SINGLE STAGE

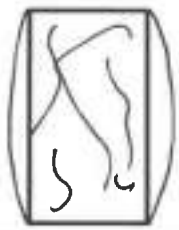
CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 – Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS03 1.70-2.00m	DATE SAMPLED	16 April 2019
LAB SAMPLE No	82836	DATE RECEIVED	17 April 2019
DATE TESTED	24 April 2019	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation sample

SPECIMEN LENGTH	160	mm
SPECIMEN DIAMETER	82	mm
MOISTURE CONTENT OF SAMPLE	15	%
BULK DENSITY	2.19	Mg/m^3
DRY DENSITY	1.91	Mg/m^3
DEPTH OF TOP OF SPECIMEN	1.80	m
RATE OF STRAIN	2	%/min
RUBBER MEMBRANE THICKNESS	0.6	mm

SPECIMEN AT FAILURE



Measured Cell Pressure (kPa)	Strain at Failure (%)	Membrane Correction (kPa)	Corrected Max Deviator Stress (kPa)	Shear Stress Cu (kPa)
40	20	2.0	219.8	110

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) **DATE** 03 May 2019

MURRAY RIX
UNIT 33C, VAUXHALL IND. ESTATE, GREG STREET
REDDISH, STOCKPORT, SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

pH and Sulphate as SO_4
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 – Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS03 1.70-2.00m	DATE SAMPLED	16 April 2019
LAB SAMPLE No	82836	DATE RECEIVED	17 April 2019
DATE TESTED	24 April 2019	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.0	
Sulphate as SO_4 (2:1 Water Extract)	0.24	g/l

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager)

DATE 03 May 2019

MURRAY RIX
33C VAUXHALL INDUSTRIAL ESTATE, GREG STREET
REDDISH, STOCKPORT SK5 7BR
TEL 0161 475 0870 FAX 161 475N 0871

TEST CERTIFICATE

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION
BS 1377: PART 7: 1990:CLAUSE 8 SINGLE STAGE

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 – Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS03 2.60-3.00m	DATE SAMPLED	16 April 2019
LAB SAMPLE No	82837	DATE RECEIVED	17 April 2019
DATE TESTED	24 April 2019	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation sample

SPECIMEN LENGTH	140	mm
SPECIMEN DIAMETER	70	mm
MOISTURE CONTENT OF SAMPLE	15	%
BULK DENSITY	2.31	Mg/m^3
DRY DENSITY	2.01	Mg/m^3
DEPTH OF TOP OF SPECIMEN	2.65	m
RATE OF STRAIN	2	%/min
RUBBER MEMBRANE THICKNESS	0.6	mm

SPECIMEN AT FAILURE



Measured Cell Pressure (kPa)	Strain at Failure (%)	Membrane Correction (kPa)	Corrected Max Deviator Stress (kPa)	Shear Stress Cu (kPa)
60	20	2.0	259.7	130

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager)

DATE 03 May 2019

MURRAY RIX

33C VAUXHALL INDUSTRIAL ESTATE
GREG STREET, REDDISH, STOCKPORT SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

PARTICLE SIZE DISTRIBUTION

BS 1377: PART 2: Clause 9.5: 1990

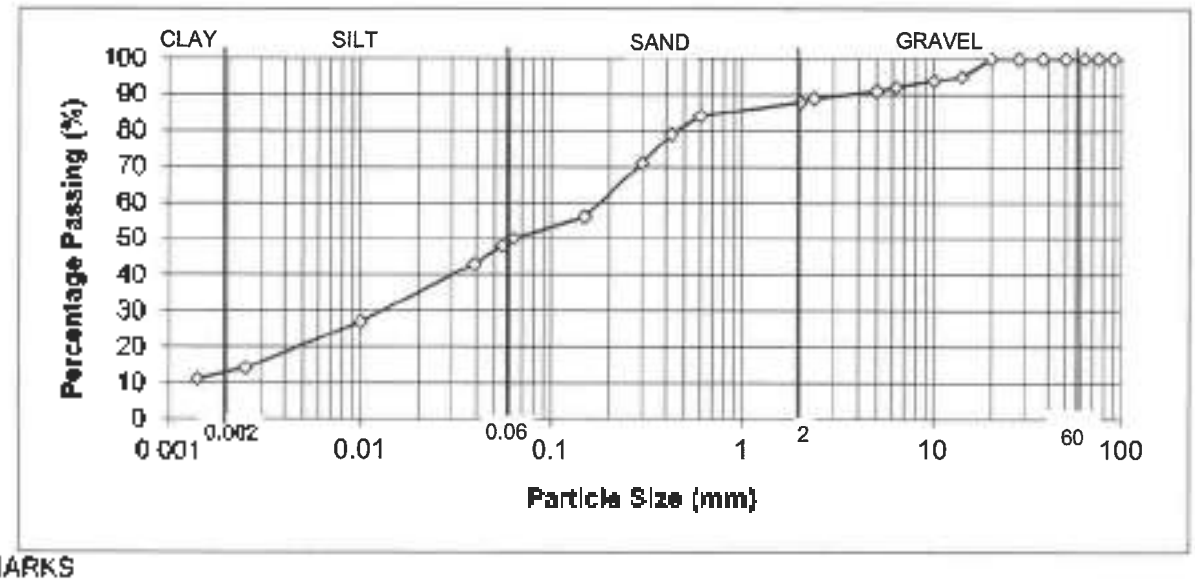
Determination of Moisture Content in accordance with BS 1377: PART 2: Clause 3: 1990 (Oven Dry)

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 - Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS04 1.70-2.00m	DATE SAMPLED	16-Apr-19
LAB SAMPLE No	82838	DATE RECEIVED	17-Apr-19
DATE TESTED	22-Apr-19	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Sieve Size (mm)	% Passing (%)	Specification (%)	Sieve Size (mm)	% Passing (%)	Specification (%)
125	100		2.36	89	
90	100		2	88	
75	100		0.6	84	
63	100		0.425	79	
50	100		0.3	71	
37.5	100		0.15	56	
28	100		0.063	50	
20	100		0.055	48	
14	95		0.039	43	
10	94		0.01	27	
6.3	92		0.0025	14	
5	91		0.0014	11	



REMARKS

As received moisture content = 15%

SIGNED

NAME O.P Davies BA (Hons) (Laboratory Manager) DATE 03-May-19

MURRAY RIX

33C Vauxhall Ind Estate, Greg Street
Reddish, Stockport SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

UKAS TESTING 1999

TEST CERTIFICATE

LIQUID AND PLASTIC LIMIT

BS 1377: PART 2: 1990 Clause 4 4 ONE POINT METHOD & Clause 5.3

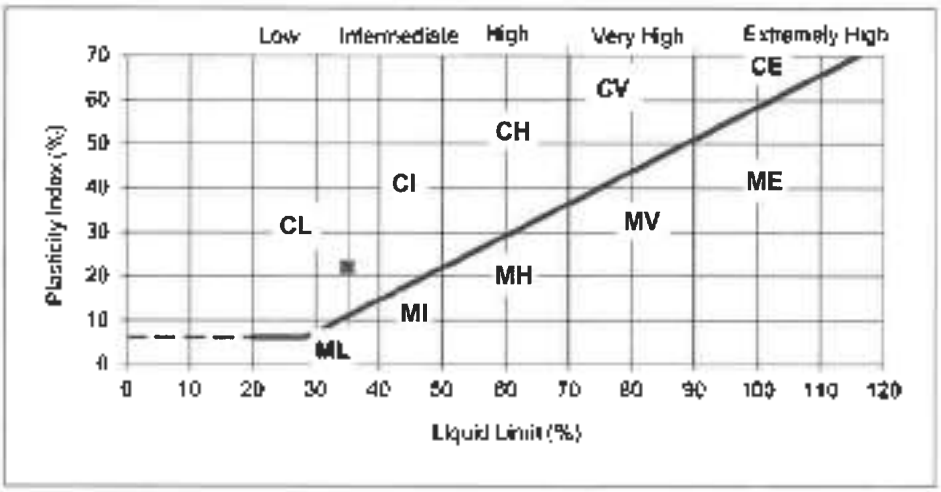
MOISTURE CONTENT METHOD BS 1377: PART 2: 1990 Clause 3.2

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 - Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS04 1.70-2.00m	DATE SAMPLED	16-Apr-19
SAMPLE No.	82838	DATE RECEIVED	17-Apr-19
DATE TESTED	24-Apr-19	SAMPLED BY	Client

MATERIAL	Stiff brown silty sandy CLAY with rare gravel
ADVISED SOURCE	Site Investigation Sample

Moisture Content (Natural) (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Passing 425 micron (%)
15	35	13	22	79



REMARKS
Sample tested in natural condition

SIGNED

NAME O.P. Davies BA (Hons) DATE 03-May-19
(Laboratory Manager)

MURRAY RIX
UNIT 33C, VAUXHALL IND. ESTATE. GREG STREET
REDDISH, STOCKPORT, SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

pH and Sulphate as SO_4
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A2951 – Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS04 1.70-2.00m	DATE SAMPLED	16 April 2019
LAB SAMPLE No	82838	DATE RECEIVED	17 April 2019
DATE TESTED	24 April 2019	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.1	
Sulphate as SO_4 (2:1 Water Extract)	0.32	g/l

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 03 May 2019

MURRAY RIX
UNIT 33C, VAUXHALL IND ESTATE, GREG STREET
REDDISH, STOCKPORT, SK5 7BR
TEL 0161 475 0870 FAX 0161 475 0871

TEST CERTIFICATE

pH and Sulphate as SO_4
BS 1377: PART 3: 1990

CLIENT	Earth Environmental & Geotechnical Ltd
SITE	A295I – Stockport Road, Manchester
JOB NUMBER	MRN 3507/28

SAMPLE LABEL	WS05 1.80m	DATE SAMPLED	16 April 2019
LAB SAMPLE No	82840	DATE RECEIVED	17 April 2019
DATE TESTED	24 April 2019	SAMPLED BY	Client

ADVISED SOURCE	Site Investigation Sample
PRE TREATMENT	Air Dried

PH Value	7.3	
Sulphate as SO_4 (2:1 Water Extract)	0.38	g/l

REMARKS

SIGNED

NAME O.P. Davies BA (Hons) (Laboratory Manager) DATE 03 May 2019

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 15/05/2019

0998

Contract	**Stockport Road, Manchester**
Serial No.	**35146**

Client:

Murray Rix (Northern) Ltd

33C Vauxhall Industrial Estate
Greg Street
Stockport
SK5 7BR

Soil Property Testing Ltd

15, 16, 18 Halcyon Court, St Margaret's Way,
Stukeley Meadows, Huntingdon,
Cambridgeshire, PE29 6DG

Tel: 01480 455579
Email: enquiries@soilpropertytesting.com
Website: www.soilpropertytesting.com

Samples Submitted By:

Murray Rix (Northern) Ltd

Samples Labelled:

Stockport Road, Manchester

Approved Signatories:

- ☑ **J.C. Garner B.Eng (Hons) FGS** — Technical Director
- ☐ **S.P. Townend FGS** — Quality Manager
- ☐ **W. Johnstone** — Materials Lab Manager
- ☐ **D. Sabnis** — Operations Manager

Date Received: 01/05/2019

Samples Tested Between: 01/05/2019 **and** 15/05/2019

Remarks:

For the attention of Mr O Davies
Your Order No: 19-101

Notes:

1. All remaining samples or remnants from this contract will be disposed of after 21 days from today, unless we are notified to the contrary.

2. (a) UKAS - United Kingdom Accreditation Service
   (b) Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

3. Tests marked "NOT UKAS ACCREDITED" in this test report are not included in the UKAS Accreditation Schedule for this testing laboratory.

4. This test report may not be reproduced other than in full except with the prior written approval of the issuing laboratory.

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 15/05/2019

0998

Contract	**Stockport Road, Manchester**		
Serial No.	**35146**	**Target Date**	15/05/2019
Scheduled By	Murray Rix (Northern) Ltd		

SCHEDULE OF LABORATORY TESTS

Schedule Remarks

Bore Hole No.	Type	Sample Ref.	Top Depth	One Dimensional Consolidation																		Sample Remarks
WS02	D	82835	2.70	1																		
WS03	D	82836	1.70	1																		
Totals				**2**																		**End of Schedule**

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 15/05/2019

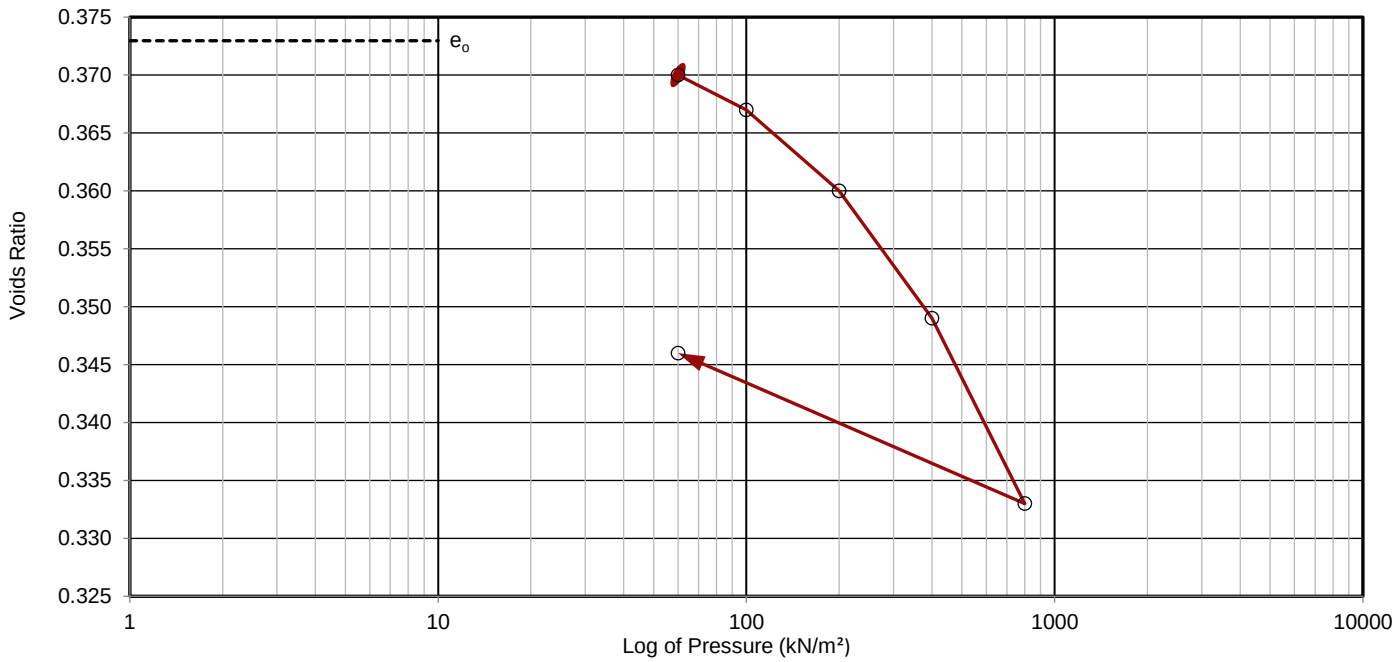
0998

Contract	**Stockport Road, Manchester**
Serial No.	**35146**

DETERMINATION OF THE ONE-DIMENSIONAL CONSOLIDATION PROPERTIES

Borehole/ Pit No.	Depth (m)	Type	Ref.	Specimen Depth (m) and Orientation	Water Content (%)	Description	Remarks
WS02	2.70 - 3.00	D	82835	2.70 Horizontal	12.5	Very stiff yellowish brown slightly gravelly slightly sandy silty CLAY. Gravel is brown and grey fine and medium rounded to subangular chert	Visible gravel picked out and replaced with matrix material

Initial Conditions			Increment No.	Load (kN/m²)	Change in Height (mm)	Void Ratio	Cv (m²/yr)	Mv (m²/MN)	Temp (°C)	Corrected Cv
Height	mm	18.69	1	60	0.039	0.370			21	
Diameter	mm	50.03	2	100	0.077	0.367	2.27	0.05	21	2.20
Wet Weight	g	83.37	3	200	0.176	0.360	2.27	0.05	21	2.20
Water Content	%	12.5	4	400	0.332	0.349	2.07	0.04	21	2.00
Bulk Density	Mg/m³	2.27	5	800	0.543	0.333	2.17	0.03	21	2.10
Particle Density		Assumed 2.77	6	60	0.368	0.346		0.01	21	
Voids Ratio		0.373								
Degree of Saturation	%	93								
Swelling Pressure	kN/m²	60								
Dry Density	Mg/m³	2.02								



Method of Preparation:	BS 1377: Part 5: 1990: 3.3 & 3.4
Method of Test:	BS 1377: Part 5: 1990: 3.5
Method of Time Fitting Used:	Square root
Type of Sample Key:	U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:	
Remarks to Include:	Sample disturbance, loss of water, variation from test procedure, location and origin of test specimen within original sample, oven drying temperature if not 105-110 °C.

TEST REPORT

ISSUED BY SOIL PROPERTY TESTING LTD

DATE ISSUED: 15/05/2019

0998

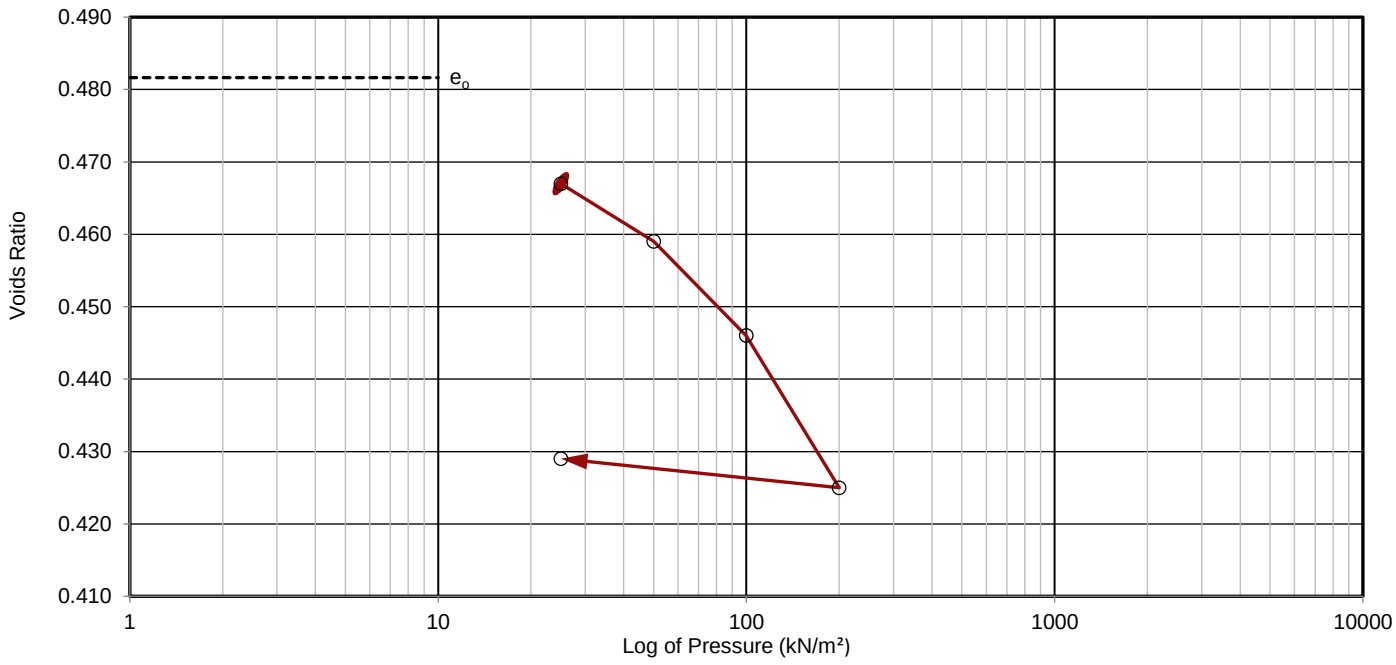
Contract	**Stockport Road, Manchester**
Serial No.	**35146**

DETERMINATION OF THE ONE-DIMENSIONAL CONSOLIDATION PROPERTIES

Borehole/ Pit No.	Depth (m)	Type	Ref.	Specimen Depth (m) and Orientation	Water Content (%)	Description	Remarks
WS03	1.70 - 2.00	D	82836	1.70 Horizontal	16.0	Firm dark yellowish brown slightly gravelly slightly sandy silty CLAY. Gravel is brown and grey fine and medium rounded to subangular chert	Visible gravel picked out and replaced with matrix material

Initial Conditions		
Height	mm	18.72
Diameter	mm	50.02
Wet Weight	g	78.62
Water Content	%	16.0
Bulk Density	Mg/m³	2.14
Particle Density		Assumed 2.73
Voids Ratio		0.482
Degree of Saturation	%	91
Swelling Pressure	kN/m²	<25
Dry Density	Mg/m³	1.84

Increment No.	Load (kN/m²)	Change in Height (mm)	Void Ratio	Cv (m²/yr)	Mv (m²/MN)	Temp (°C)	Corrected Cv
1	25	0.191	0.467	1.24	0.41	21	1.20
2	50	0.285	0.459	1.14	0.20	21	1.10
3	100	0.454	0.446	1.34	0.18	21	1.30
4	200	0.711	0.425	1.45	0.14	21	1.40
5	25	0.669	0.429		0.01	21	



Method of Preparation:	BS 1377: Part 5: 1990: 3.3 & 3.4
Method of Test:	BS 1377: Part 5: 1990: 3.5
Method of Time Fitting Used:	Square root
Type of Sample Key:	U = Undisturbed, B = Bulk, D = Disturbed, J = Jar, W = Water, SPT = Split Spoon Sample, C = Core Cutter
Comments:	
Remarks to Include:	Sample disturbance, loss of water, variation from test procedure, location and origin of test specimen within original sample, oven drying temperature if not 105-110 °C.

Waste Classification Report

YVDUP-LNQKP-5LUJM

Job name

A2951 Stockport Road

Description/Comments

Project

A2951

Site

Stockport Road

Related Documents

#	Name	Description
None		

Waste Stream Template

Example waste stream template for contaminated soils

Classified by

Name:
Jessica Sheridan
Date:
14 May 2019 09:32 GMT
Telephone:
0161 975 6088

Company:
Earth Environmental & Geotechnical
Houldsworth Mill Business & Arts Centre
Houldsworth Street, Reddish
Stockport
SK5 6DA

Report

Created by: Jessica Sheridan
Created date: 14 May 2019 09:32 GMT

Job summary

#	Sample Name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01	0.50	Non Hazardous		3
2	WS02	0.60	Non Hazardous		6
3	WS03	0.30	Non Hazardous		9
4	WS03[2]	0.70	Non Hazardous		12
5	WS04	0.30	Non Hazardous		15
6	WS05	0.30	Non Hazardous		18
7	WS05[2]	0.70	Non Hazardous		21

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	24
Appendix B: Rationale for selection of metal species	25

Appendices	Page
Appendix C: Version	26

Classification of sample: WS01

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
WS01
Sample Depth:
0.50 m
Moisture content:
12.5%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12.5% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12 mg/kg	1.32	14.083 mg/kg	0.00141 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.8 mg/kg	2.775	1.974 mg/kg	0.000197 %	✓	
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3 mg/kg	1.142	0.305 mg/kg	0.0000305 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		14 mg/kg	1.462	18.188 mg/kg	0.00182 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		33 mg/kg	1.126	33.026 mg/kg	0.0033 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	111 mg/kg	1.56	153.902 mg/kg	0.00987 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<**LOD**
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		15 mg/kg	2.976	39.684 mg/kg	0.00397 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<3 mg/kg	2.554	<7.661 mg/kg	<0.000766 %		<**LOD**
12	zinc { zinc chromate }	024-007-00-3				64 mg/kg	2.774	157.818 mg/kg	0.0158 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		97 mg/kg		86.222 mg/kg	0.00862 %	✓	

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<2	mg/kg	1.884	<3.768	mg/kg	<0.000377 %		<LOD
20		pH			PH		7.2	pH		7.2	pH	7.2 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		0.15	mg/kg		0.133	mg/kg	0.0000133 %	✓	
22		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
23		acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
24		fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
25		phenanthrene		201-581-5	85-01-8		0.45	mg/kg		0.4	mg/kg	0.00004 %	✓	
26		anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
27		fluoranthene		205-912-4	206-44-0		0.65	mg/kg		0.578	mg/kg	0.0000578 %	✓	
28		pyrene		204-927-3	129-00-0		0.63	mg/kg		0.56	mg/kg	0.000056 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.32	mg/kg		0.284	mg/kg	0.0000284 %	✓	
30		chrysene	601-048-00-0	205-923-4	218-01-9		0.38	mg/kg		0.338	mg/kg	0.0000338 %	✓	
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.41	mg/kg		0.364	mg/kg	0.0000364 %	✓	
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.15	mg/kg		0.133	mg/kg	0.0000133 %	✓	
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.29	mg/kg		0.258	mg/kg	0.0000258 %	✓	
34		indeno[123-cd]pyrene		205-893-2	193-39-5		0.17	mg/kg		0.151	mg/kg	0.0000151 %	✓	
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
36		benzo[ghi]perylene		205-883-8	191-24-2		0.15	mg/kg		0.133	mg/kg	0.0000133 %	✓	
37		phenol	604-001-00-2	203-632-7	108-95-2		<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
											Total:	0.0476 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid/free phase detected

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00862%)

Classification of sample: WS02

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
WS02
Sample Depth:
0.60 m
Moisture content:
11.5%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 11.5% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		12	mg/kg	1.32	14.21	mg/kg	0.00142 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.7	mg/kg	2.775	1.742	mg/kg	0.000174 %	✓	
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.3	mg/kg	1.142	0.307	mg/kg	0.0000307 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		14	mg/kg	1.462	18.351	mg/kg	0.00184 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		42	mg/kg	1.126	42.41	mg/kg	0.00424 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	188	mg/kg	1.56	263	mg/kg	0.0169 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		11	mg/kg	2.976	29.362	mg/kg	0.00294 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<3	mg/kg	2.554	<7.661	mg/kg	<0.000766 %		<**LOD**
12	zinc { zinc chromate }	024-007-00-3				118	mg/kg	2.774	293.587	mg/kg	0.0294 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		99	mg/kg		88.789	mg/kg	0.00888 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2	mg/kg	1.884	<3.768	mg/kg	<0.000377 %		<**LOD**
		006-007-00-5											
20		pH				7.3	pH		7.3	pH	7.3 pH		
				PH									
21		naphthalene				0.14	mg/kg		0.126	mg/kg	0.0000126 %	✓	
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-695-5	86-73-7									
25		phenanthrene				0.98	mg/kg		0.879	mg/kg	0.0000879 %	✓	
			201-581-5	85-01-8									
26		anthracene				0.38	mg/kg		0.341	mg/kg	0.0000341 %	✓	
			204-371-1	120-12-7									
27		fluoranthene				2.24	mg/kg		2.009	mg/kg	0.000201 %	✓	
			205-912-4	206-44-0									
28		pyrene				2.06	mg/kg		1.848	mg/kg	0.000185 %	✓	
			204-927-3	129-00-0									
29		benzo[a]anthracene				1.14	mg/kg		1.022	mg/kg	0.000102 %	✓	
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				1.13	mg/kg		1.013	mg/kg	0.000101 %	✓	
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				1.29	mg/kg		1.157	mg/kg	0.000116 %	✓	
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				0.44	mg/kg		0.395	mg/kg	0.0000395 %	✓	
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				1.02	mg/kg		0.915	mg/kg	0.0000915 %	✓	
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				0.6	mg/kg		0.538	mg/kg	0.0000538 %	✓	
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				0.52	mg/kg		0.466	mg/kg	0.0000466 %	✓	
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.069 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid/free phase detected

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00888%)

Classification of sample: WS03

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
WS03
Sample Depth:
0.30 m
Moisture content:
8.2%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 8.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8 mg/kg	1.32	9.762 mg/kg	0.000976 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<LOD
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.422 mg/kg	0.0000422 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		16 mg/kg	1.462	21.613 mg/kg	0.00216 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		19 mg/kg	1.126	19.771 mg/kg	0.00198 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	163 mg/kg	1.56	234.981 mg/kg	0.0151 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		8 mg/kg	2.976	22.006 mg/kg	0.0022 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<3 mg/kg	2.554	<7.661 mg/kg	<0.000766 %		<LOD
12	zinc { zinc chromate }	024-007-00-3				93 mg/kg	2.774	238.443 mg/kg	0.0238 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		194 mg/kg		179.298 mg/kg	0.0179 %	✓	

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<2	mg/kg	1.884	<3.768	mg/kg	<0.000377 %		<**LOD**
20		pH			PH		7.4	pH		7.4	pH	7.4 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
22		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
23		acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
24		fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
25		phenanthrene		201-581-5	85-01-8		0.28	mg/kg		0.259	mg/kg	0.0000259 %	✓	
26		anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
27		fluoranthene		205-912-4	206-44-0		0.54	mg/kg		0.499	mg/kg	0.0000499 %	✓	
28		pyrene		204-927-3	129-00-0		0.52	mg/kg		0.481	mg/kg	0.0000481 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.29	mg/kg		0.268	mg/kg	0.0000268 %	✓	
30		chrysene	601-048-00-0	205-923-4	218-01-9		0.32	mg/kg		0.296	mg/kg	0.0000296 %	✓	
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.36	mg/kg		0.333	mg/kg	0.0000333 %	✓	
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.11	mg/kg		0.102	mg/kg	0.0000102 %	✓	
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.28	mg/kg		0.259	mg/kg	0.0000259 %	✓	
34		indeno[123-cd]pyrene		205-893-2	193-39-5		0.22	mg/kg		0.203	mg/kg	0.0000203 %	✓	
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
36		benzo[ghi]perylene		205-883-8	191-24-2		0.21	mg/kg		0.194	mg/kg	0.0000194 %	✓	
37		phenol	604-001-00-2	203-632-7	108-95-2		<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
											Total:	0.0669 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid/free phase detected

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0179%)

Classification of sample: WS03[2]

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
WS03[2]
Sample Depth:
0.70 m
Moisture content:
18.4%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18.4% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number / EC Number / CAS Number							
1	arsenic { arsenic trioxide }		5 mg/kg	1.32	5.576 mg/kg	0.000558 %	✓	
	033-003-00-0 / 215-481-4 / 1327-53-3							
2	beryllium { beryllium oxide }		0.6 mg/kg	2.775	1.406 mg/kg	0.000141 %	✓	
	004-003-00-8 / 215-133-1 / 1304-56-9							
3	boron { diboron trioxide; boric oxide }		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8 / 215-125-8 / 1303-86-2							
4	cadmium { cadmium oxide }		<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0 / 215-146-2 / 1306-19-0							
5	chromium in chromium(III) compounds { chromium(III) oxide }		13 mg/kg	1.462	16.047 mg/kg	0.0016 %	✓	
	/ 215-160-9 / 1308-38-9							
6	chromium in chromium(VI) compounds { chromium(VI) oxide }		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0 / 215-607-8 / 1333-82-0							
7	copper { dicopper oxide; copper (I) oxide }		12 mg/kg	1.126	11.411 mg/kg	0.00114 %	✓	
	029-002-00-X / 215-270-7 / 1317-39-1							
8	lead { lead chromate }	1	46 mg/kg	1.56	60.601 mg/kg	0.00389 %	✓	
	082-004-00-2 / 231-846-0 / 7758-97-6							
9	mercury { mercury dichloride }		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X / 231-299-8 / 7487-94-7							
10	nickel { nickel chromate }		10 mg/kg	2.976	25.137 mg/kg	0.00251 %	✓	
	028-035-00-7 / 238-766-5 / 14721-18-7							
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }		<3 mg/kg	2.554	<7.661 mg/kg	<0.000766 %		<LOD
	034-002-00-8 / /							
12	zinc { zinc chromate }		39 mg/kg	2.774	91.378 mg/kg	0.00914 %	✓	
	024-007-00-3 / /							
13	TPH (C6 to C40) petroleum group		25 mg/kg		21.115 mg/kg	0.00211 %	✓	
	/ / TPH							

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2	mg/kg	1.884	<3.768	mg/kg	<0.000377 %		<LOD
		006-007-00-5											
20		pH				7.2	pH		7.2	pH	7.2 pH		
				PH									
21		naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-917-1	208-96-8									
23		acenaphthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-469-6	83-32-9									
24		fluorene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-695-5	86-73-7									
25		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			201-581-5	85-01-8									
26		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-371-1	120-12-7									
27		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-912-4	206-44-0									
28		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			204-927-3	129-00-0									
29		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0235 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid/free phase detected

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00211%)

Classification of sample: WS04

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
WS04
Sample Depth:
0.30 m
Moisture content:
2.3%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 2.3% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6 mg/kg	1.32	7.744 mg/kg	0.000774 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		<0.5 mg/kg	2.775	<1.388 mg/kg	<0.000139 %		<LOD
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4 mg/kg	1.142	0.447 mg/kg	0.0000447 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		7 mg/kg	1.462	10.001 mg/kg	0.001 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20 mg/kg	1.126	22.012 mg/kg	0.0022 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	30 mg/kg	1.56	45.742 mg/kg	0.00293 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		4 mg/kg	2.976	11.637 mg/kg	0.00116 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<3 mg/kg	2.554	<7.661 mg/kg	<0.000766 %		<LOD
12	zinc { zinc chromate }	024-007-00-3				34 mg/kg	2.774	92.2 mg/kg	0.00922 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		526 mg/kg		514.174 mg/kg	0.0514 %	✓	

#		Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	603-181-00-X	216-653-1	1634-04-4		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
15		benzene	601-020-00-8	200-753-7	71-43-2		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
16		toluene	601-021-00-3	203-625-9	108-88-3		<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
17		ethylbenzene	601-023-00-4	202-849-4	100-41-4		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
18		xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				<2	mg/kg	1.884	<3.768	mg/kg	<0.000377 %		<**LOD**
20		pH			PH		7.6	pH		7.6	pH	7.6 pH		
21		naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
22		acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
23		acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
24		fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
25		phenanthrene		201-581-5	85-01-8		0.16	mg/kg		0.156	mg/kg	0.0000156 %	✓	
26		anthracene		204-371-1	120-12-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
27		fluoranthene		205-912-4	206-44-0		0.43	mg/kg		0.42	mg/kg	0.000042 %	✓	
28		pyrene		204-927-3	129-00-0		0.46	mg/kg		0.45	mg/kg	0.000045 %	✓	
29		benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		0.25	mg/kg		0.244	mg/kg	0.0000244 %	✓	
30		chrysene	601-048-00-0	205-923-4	218-01-9		0.31	mg/kg		0.303	mg/kg	0.0000303 %	✓	
31		benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		0.38	mg/kg		0.371	mg/kg	0.0000371 %	✓	
32		benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		0.12	mg/kg		0.117	mg/kg	0.0000117 %	✓	
33		benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		0.29	mg/kg		0.283	mg/kg	0.0000283 %	✓	
34		indeno[123-cd]pyrene		205-893-2	193-39-5		0.2	mg/kg		0.196	mg/kg	0.0000196 %	✓	
35		dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
36		benzo[ghi]perylene		205-883-8	191-24-2		0.2	mg/kg		0.196	mg/kg	0.0000196 %	✓	
37		phenol	604-001-00-2	203-632-7	108-95-2		<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
											Total:	0.0714 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid/free phase detected

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0514%)

Classification of sample: WS05

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
WS05
Sample Depth:
0.30 m
Moisture content:
13.8%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 13.8% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14	mg/kg	1.32	16.243	mg/kg	0.00162 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.7	mg/kg	2.775	1.707	mg/kg	0.000171 %	✓	
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<1	mg/kg	3.22	<3.22	mg/kg	<0.000322 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		0.4	mg/kg	1.142	0.402	mg/kg	0.0000402 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		14	mg/kg	1.462	17.98	mg/kg	0.0018 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2	mg/kg	1.923	<3.846	mg/kg	<0.000385 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		41	mg/kg	1.126	40.564	mg/kg	0.00406 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	148	mg/kg	1.56	202.858	mg/kg	0.013 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<1	mg/kg	1.353	<1.353	mg/kg	<0.000135 %		<**LOD**
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		12	mg/kg	2.976	31.384	mg/kg	0.00314 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<3	mg/kg	2.554	<7.661	mg/kg	<0.000766 %		<**LOD**
12	zinc { zinc chromate }	024-007-00-3				117	mg/kg	2.774	285.215	mg/kg	0.0285 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		110	mg/kg		96.661	mg/kg	0.00967 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<**LOD**
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		601-023-00-4	202-849-4	100-41-4									
18		xylene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<**LOD**
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2	mg/kg	1.884	<3.768	mg/kg	<0.000377 %		<**LOD**
		006-007-00-5											
20		pH				7.3	pH		7.3	pH	7.3 pH		
				PH									
21		naphthalene				0.17	mg/kg		0.149	mg/kg	0.0000149 %	✓	
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-917-1	208-96-8									
23		acenaphthene				0.32	mg/kg		0.281	mg/kg	0.0000281 %	✓	
			201-469-6	83-32-9									
24		fluorene				0.22	mg/kg		0.193	mg/kg	0.0000193 %	✓	
			201-695-5	86-73-7									
25		phenanthrene				2.66	mg/kg		2.337	mg/kg	0.000234 %	✓	
			201-581-5	85-01-8									
26		anthracene				0.6	mg/kg		0.527	mg/kg	0.0000527 %	✓	
			204-371-1	120-12-7									
27		fluoranthene				4.35	mg/kg		3.822	mg/kg	0.000382 %	✓	
			205-912-4	206-44-0									
28		pyrene				3.96	mg/kg		3.48	mg/kg	0.000348 %	✓	
			204-927-3	129-00-0									
29		benzo[a]anthracene				2.18	mg/kg		1.916	mg/kg	0.000192 %	✓	
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				2.04	mg/kg		1.793	mg/kg	0.000179 %	✓	
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				2.4	mg/kg		2.109	mg/kg	0.000211 %	✓	
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				0.77	mg/kg		0.677	mg/kg	0.0000677 %	✓	
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				2.05	mg/kg		1.801	mg/kg	0.00018 %	✓	
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				1.18	mg/kg		1.037	mg/kg	0.000104 %	✓	
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				0.24	mg/kg		0.211	mg/kg	0.0000211 %	✓	
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				1.04	mg/kg		0.914	mg/kg	0.0000914 %	✓	
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<**LOD**
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.0663 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid/free phase detected

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00967%)

Classification of sample: WS05[2]

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample Name:
WS05[2]
Sample Depth:
0.70 m
Moisture content:
10.2%
(dry weight correction)

LoW Code:
Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 10.2% Dry Weight Moisture Correction applied (MC)

#	Determinand	CLP index number	EC Number	CAS Number	CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
1	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		14 mg/kg	1.32	16.774 mg/kg	0.00168 %	✓	
2	beryllium { beryllium oxide }	004-003-00-8	215-133-1	1304-56-9		0.9 mg/kg	2.775	2.267 mg/kg	0.000227 %	✓	
3	boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2		<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<**LOD**
4	cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0		3.1 mg/kg	1.142	3.213 mg/kg	0.000321 %	✓	
5	chromium in chromium(III) compounds { chromium(III) oxide }		215-160-9	1308-38-9		15 mg/kg	1.462	19.894 mg/kg	0.00199 %	✓	
6	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		62 mg/kg	1.126	63.344 mg/kg	0.00633 %	✓	
8	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	222 mg/kg	1.56	314.228 mg/kg	0.0201 %	✓	
9	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		1.7 mg/kg	1.353	2.088 mg/kg	0.000209 %	✓	
10	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		18 mg/kg	2.976	48.614 mg/kg	0.00486 %	✓	
11	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				<3 mg/kg	2.554	<7.661 mg/kg	<0.000766 %		<**LOD**
12	zinc { zinc chromate }	024-007-00-3				180 mg/kg	2.774	453.127 mg/kg	0.0453 %	✓	
13	TPH (C6 to C40) petroleum group			TPH		850 mg/kg		771.325 mg/kg	0.0771 %	✓	

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
14		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
15		benzene				0.004	mg/kg		0.0036	mg/kg	0.000000363 %	✓	
		601-020-00-8	200-753-7	71-43-2									
16		toluene				<0.005	mg/kg		<0.005	mg/kg	<0.0000005 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
17		ethylbenzene				<0.002	mg/kg		<0.002	mg/kg	<0.0000002 %		<LOD
		601-023-00-4	202-849-4	100-41-4									
18		xylene				0.004	mg/kg		0.0036	mg/kg	0.000000363 %	✓	
		601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]									
19		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2	mg/kg	1.884	<3.768	mg/kg	<0.000377 %		<LOD
		006-007-00-5											
20		pH				7.5	pH		7.5	pH	7.5 pH		
				PH									
21		naphthalene				2.14	mg/kg		1.942	mg/kg	0.000194 %	✓	
		601-052-00-2	202-049-5	91-20-3									
22		acenaphthylene				0.18	mg/kg		0.163	mg/kg	0.0000163 %	✓	
			205-917-1	208-96-8									
23		acenaphthene				2.65	mg/kg		2.405	mg/kg	0.00024 %	✓	
			201-469-6	83-32-9									
24		fluorene				1.83	mg/kg		1.661	mg/kg	0.000166 %	✓	
			201-695-5	86-73-7									
25		phenanthrene				18.7	mg/kg		16.969	mg/kg	0.0017 %	✓	
			201-581-5	85-01-8									
26		anthracene				3.76	mg/kg		3.412	mg/kg	0.000341 %	✓	
			204-371-1	120-12-7									
27		fluoranthene				23.9	mg/kg		21.688	mg/kg	0.00217 %	✓	
			205-912-4	206-44-0									
28		pyrene				21.5	mg/kg		19.51	mg/kg	0.00195 %	✓	
			204-927-3	129-00-0									
29		benzo[a]anthracene				9.3	mg/kg		8.439	mg/kg	0.000844 %	✓	
		601-033-00-9	200-280-6	56-55-3									
30		chrysene				9	mg/kg		8.167	mg/kg	0.000817 %	✓	
		601-048-00-0	205-923-4	218-01-9									
31		benzo[b]fluoranthene				9.84	mg/kg		8.929	mg/kg	0.000893 %	✓	
		601-034-00-4	205-911-9	205-99-2									
32		benzo[k]fluoranthene				3.36	mg/kg		3.049	mg/kg	0.000305 %	✓	
		601-036-00-5	205-916-6	207-08-9									
33		benzo[a]pyrene; benzo[def]chrysene				7.92	mg/kg		7.187	mg/kg	0.000719 %	✓	
		601-032-00-3	200-028-5	50-32-8									
34		indeno[123-cd]pyrene				4.19	mg/kg		3.802	mg/kg	0.00038 %	✓	
			205-893-2	193-39-5									
35		dibenz[a,h]anthracene				0.73	mg/kg		0.662	mg/kg	0.0000662 %	✓	
		601-041-00-2	200-181-8	53-70-3									
36		benzo[ghi]perylene				3.94	mg/kg		3.575	mg/kg	0.000358 %	✓	
			205-883-8	191-24-2									
37		phenol				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
		604-001-00-2	203-632-7	108-95-2									
										Total:	0.171 %		

Key	
	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Deteminand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because No liquid/free phase detected

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

benzene: (conc.: 3.63e-07%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.0771%)
xylene: (conc.: 3.63e-07%)

Appendix A: Classifier defined and non CLP determinands

- **chromium(III) oxide** (EC Number: 215-160-9, CAS Number: 1308-38-9)

Conversion factor: 1.462
Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Repr. 1B H360FD , Skin Sens. 1 H317 , Resp. Sens. 1 H334 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302 , Acute Tox. 4 H332

- **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: Aquatic Chronic 2 H411 , Repr. 2 H361d , Carc. 1B H350 , Muta. 1B H340 , STOT RE 2 H373 , Asp. Tox. 1 H304 , Flam. Liq. 3 H226

- **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

CLP index number: 601-023-00-4
Description/Comments:
Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)
Additional Hazard Statement(s): Carc. 2 H351
Reason for additional Hazards Statement(s)/Risk Phrase(s):
03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

- **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

CLP index number: 006-007-00-5
Description/Comments: Conversion factor based on a worst case compound: sodium cyanide
Data source: Commission Regulation (EC) No 790/2009 - 1st Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP1)
Additional Hazard Statement(s): EUH032 >= 0.2 %
Reason for additional Hazards Statement(s)/Risk Phrase(s):
14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

- **pH** (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

- **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 1 H310 , Acute Tox. 1 H330 , Acute Tox. 4 H302

- **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Aquatic Chronic 2 H411 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

- **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Skin Irrit. 2 H315 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Carc. 2 H351 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302

anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 17 Jul 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Acute Tox. 4 H302

pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 21 Aug 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Irrit. 2 H315

indeno[123-cd]pyrene (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 06 Aug 2015
Hazard Statements: Carc. 2 H351

benzo[ghi]perylene (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

beryllium {beryllium oxide}

Reasonable case CLP species based on hazard statements/molecular weight. Industrial sources include: most common (non alloy) form, used in ceramics (edit as required)

boron {diboron trioxide; boric oxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(III) compounds {chromium(III) oxide}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case CLP species based on hazard statements/molecular weight. Industrial sources include: production stainless steel, electroplating, wood preservation, anti-corrosion agents or coatings, pigments (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case. Pigment cadmium sulphoselenide not likely to be present in this soil. No evidence for the other CLP entries: sodium selenite, nickel II selenite and nickel selenide, to be present in this soil. (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide] (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018
HazWasteOnline Classification Engine Version: 2019.115.3847.7849 (25 Apr 2019)
HazWasteOnline Database: 2019.115.3847.7849 (25 Apr 2019)

This classification utilises the following guidance and legislation:
WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018
CLP Regulation - Regulation 1272/2008/EC of 16 December 2008
1st ATP - Regulation 790/2009/EC of 10 August 2009
2nd ATP - Regulation 286/2011/EC of 10 March 2011
3rd ATP - Regulation 618/2012/EU of 10 July 2012
4th ATP - Regulation 487/2013/EU of 8 May 2013
Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013
5th ATP - Regulation 944/2013/EU of 2 October 2013
6th ATP - Regulation 605/2014/EU of 5 June 2014
WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014
Revised List of Wastes 2014 - Decision 2014/955/EU of 18 December 2014
7th ATP - Regulation 2015/1221/EU of 24 July 2015
8th ATP - Regulation (EU) 2016/918 of 19 May 2016
9th ATP - Regulation (EU) 2016/1179 of 19 July 2016
10th ATP - Regulation (EU) 2017/776 of 4 May 2017
HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017
13th ATP - Regulation (EU) 2018/1480 of 4 October 2018
POPs Regulation 2004 - Regulation 850/2004/EC of 29 April 2004
1st ATP to POPs Regulation - Regulation 756/2010/EU of 24 August 2010
2nd ATP to POPs Regulation - Regulation 757/2010/EU of 24 August 2010

Earth Environmental & Geotechnical Ltd

Tel / Fax: 0161 975 6088
Web: www.earthenvironmental.co.uk
Email: adam@earthenvironmental.co.uk

SOAKAWAY TEST

(To: BRE 365 1991)

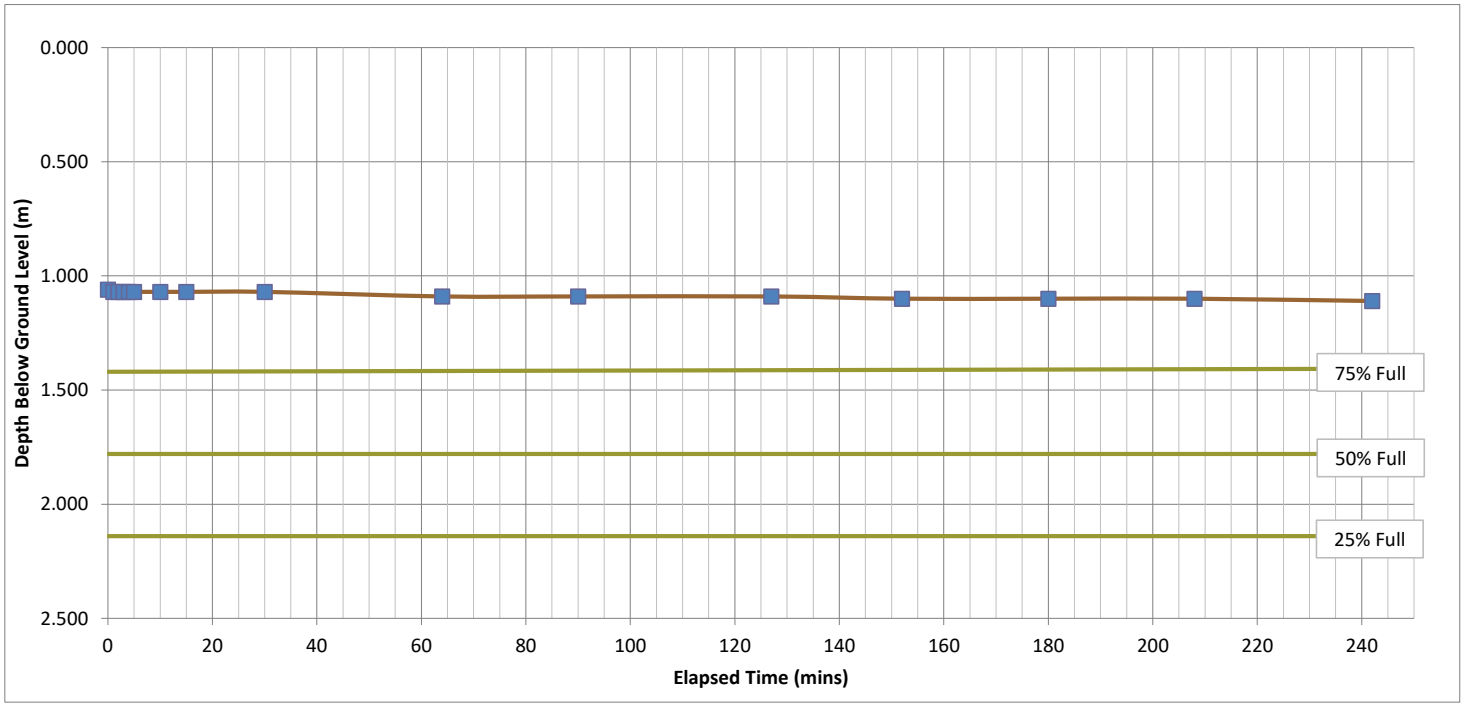
Job No:	A2951
Site:	Stockport Road
Client:	Views

Location Reference:	**SA1**	
Date	18/07/2022	
Geology in test section	CLAY	
Depth to Base of Hole	2.50	m
Effective Depth	1.44	m
Hole width	0.60	m
Hole length	2.50	m
Depth to water at start of test below ground level	1.06	m
Depth to water at end of test below ground level	1.11	m
Effective storage depth to 75% full	1.08	m
(Depth below GL)	1.42	m
Effective storage depth to 50% full	0.72	m
(Depth below GL)	1.78	m
Effective storage depth to 25% full	0.36	m
(Depth below GL)	2.14	m
Height to 50% depth	0.72	m3
Effective Storage Volume V*p75-25*	1.08	m3
Time tp25 at which water is 75% of effective depth (minutes)	Infiltration rate too slow to calculate	mins
Time tp25 at which water is 25% of effective depth (minutes)	Infiltration rate too slow to calculate	mins
Time for water level to fall between Vp75 -25	Infiltration rate too slow to calculate	mins
Time for water level to fall between Vp75 -25	Infiltration rate too slow to calculate	secs
Internal surface area of hole up to 50% depth including base	5.96	m2
Soil Infiltration Rate, f	Infiltration rate too slow to calculate	m/s

Assumes pit is not filled

Time Elapsed (mins)	**Depth of Water below GL** (m)
0	1.060
1	1.070
2	1.070
3	1.070
4	1.070
5	1.070
10	1.070
15	1.070
30	1.070
64	1.090
90	1.090
127	1.090
152	1.100
180	1.100
208	1.100
242	1.110

Measured Data



APPENDIX 3

BEK ENVIRONMENTAL CONSULTING ENGINEERS- PHASE 1 - PRELIMINARY RISK ASSESSMENT, REPORT REF: BEK-20757-1, SEPTEMBER 2020

GEO-ENVIRONMENTAL CONSULTING ENGINEERS

bEk Enviro Ltd
Suite One | No 3 Mitton Road Business Park
Mitton Road | Whalley | Lancashire | BB7 9YE
01254 377622
mbuckley@bekenviro.co.uk | bekenviro.co.uk

FORMER POLICE STATION, STOCKPORT ROAD, MANCHESTER

Phase 1 - Preliminary Risk Assessment



Prepared for:

VIEWS (Holdings) Limited

Report Ref: BEK-20757-1

September 2020

bEk Enviro Ltd
Suite One | No 3 Mitton Road Business Park
Mitton Road | Whalley | Lancashire | BB7 9YE
01254 377622
mbuckley@bekenviro.co.uk | bekenviro.co.uk

Project Quality Assurance Information Sheet

Site	Former Police Station, Stockport Road, Manchester	
Report Title	Phase 1 - Preliminary Risk Assessment	
Report Status	Final	
Report No	BEK-20757-1	
Date	September 2020	
Prepared For	VIEWS (Holdings) Limited Suite 3.10 Building 2 Universal Square Devonshire Street North Manchester England M12 6JH	
Prepared By	**BEK ENVIRO LIMITED** Suite One No 3 Mitton Road Business Park Mitton Road Whalley Lancashire BB7 9YE	
Author(s)	**Michelle Birkett** BSc (Hons) PgDip Env Science	**James Mashiter** BSc (Hons) MSc
Checked	**David Emmott** BSc (Hons) MSc MIEnvSci	
Authorised	**Michael Buckley** BSc (Hons) MSc MIEnvSci CEnv	
Contact	mbuckley@bekenviro.co.uk www.bekenviro.co.uk Office: 01254 377622 Mobile: 07906753583	

bEk Enviro Ltd
Suite One | No 3 Mitton Road Business Park
Mitton Road | Whalley | Lancashire | BB7 9YE
01254 377622
mbuckley@bekenviro.co.uk | bekenviro.co.uk

FORMER POLICE STATION, STOCKPORT ROAD, MANCHESTER

Phase 1 - Preliminary Risk Assessment

PROJECT NO: 20757

REPORT REF: BEK-20757-1

DATE: September 2020

REVISION STATUS / HISTORY

Rev	Date	Issue / Comment	Prepared	Checked

GENERAL REPORT LIMITATIONS

BEK Enviro Limited (BEK) has prepared this report for the sole use of the client, showing reasonable skill and care, for the intended purposes as stated in the agreement under which this work was completed. The report may not be relied upon by any other party without the express agreement of the client and BEK. No other warranty, expressed or implied, is made as to the professional advice included in this report.

Where any data supplied by the client or from other sources have been used, it has been assumed that the information is correct. No responsibility can be accepted by BEK for inaccuracies in the data supplied by any other party. The conclusions and recommendations in this report are based on the assumption that all relevant information has been supplied by those bodies from whom it was requested.

No part of this report may be copied or duplicated without the express permission of BEK and the party for whom it was prepared. Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

Unless explicitly agreed otherwise, in writing, this report has been prepared under BEK's limited standard Terms and Conditions as included within our proposal to the Client.

The report needs to be considered in the light of the BEK proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

TABLE OF CONTENTS

1.	INTRODUCTION
1.1	Appointment
1.2	Proposed Development
1.3	Objective & Scope of Work
1.4	Limitations
2.	SITE DESCRIPTION
2.1	Site Location
2.2	Site Layout & Description
2.3	Surrounding Land Use
3.	SITE HISTORY
4.	ENVIRONMENTAL SETTING
4.1	Geology
4.2	Mining & Ground Stability
4.3	Hydrogeology
4.4	Hydrology
4.5	Contaminated Land & Landfill Activities
4.6	Sensitive Land Uses
4.7	Radon
4.8	Unexploded Ordnance
5.	POTENTIAL POLLUTANT LINKAGES
5.1	General
5.2	Potential Contaminants of Concern
5.3	Potential Pathways
5.4	Receptors
5.5	Preliminary Conceptual Model
5.6	Potentially Significant Pollutant Linkages
6.	RECOMMENDATIONS

APPENDICES	
Appendix A	Historical OS Maps
Appendix B	Enviro+GeoInsight Report
Appendix C	BGS Borehole
Appendix D	Potential Pollutant Linkages
Appendix E	Site Inspection Photographs
Appendix F	Drawings
DRAWINGS	
BEK Drawing No 20757-1	Site Location
BEK Drawing No 20757-2	Site Layout Plan
Proposed Ground Floor Plan' (Leach Rhodes Walker Architects, 25.06.20)	

1. INTRODUCTION

1.1 Appointment

1.1.1 BEK Enviro Limited (BEK) have been commissioned by VIEWS (Holdings) Limited to prepare a Preliminary Risk Assessment for land located at the Former Police Station, Stockport Road, Manchester (hereafter referred to as 'the site') to assess potential risks associated with contamination and ground gas with respect to the re-development of the site to residential.

1.1.2 The site location and site layout are presented on BEK Drawing No 20757-1, presented in Appendix F.

1.2 Proposed Development

1.2.1 This report has been prepared to support a planning application for residential development of an undeveloped area of land. The proposed development includes construction of a mixed use commercial/residential development comprising a 4-storey block housing 6 commercial units (ground floor) and residential apartments (remainder of block), a car parking area and associated utilities buildings (ie cycle store, waste storage area, substation, switchroom and comms room). Limited shared landscaped areas will be present at the site.

1.2.2 The proposed development is illustrated on Figure 1 below and a drawing entitled 'Proposed Ground Floor Plan' (Leach Rhodes Walker Architects, 25.06.20), a copy of which is presented in Appendix F.

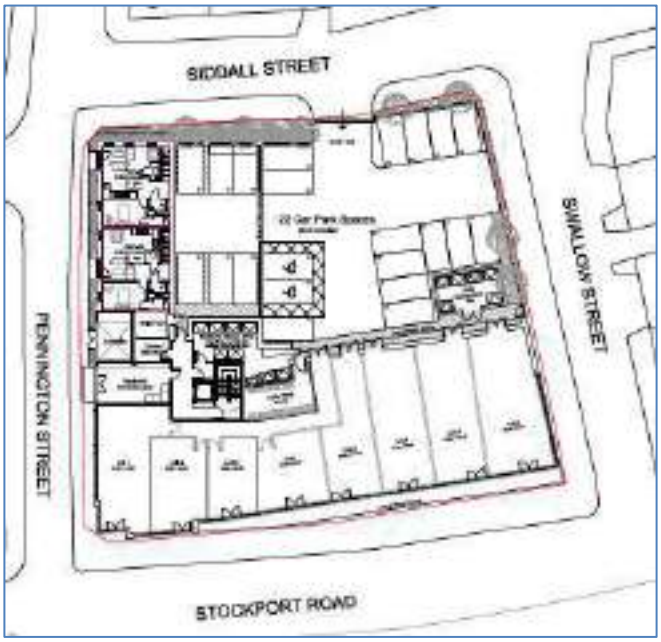


Figure 1: Proposed Development Layout

1.3 Objective & Scope of Work

1.3.1 This report provides the details of the works undertaken by BEK to assess the potential risks from contamination considering the change of use as above.

1.3.2 To achieve the objective BEK will undertake the following:

- Carry out a site inspection and take photographs
- Review the available relevant background information for the site, including:
  - Recent Ordnance Survey Map
  - Coal Authority Website
  - BGS Web Page
  - Site Specific GroundSure Reports
  - Site Specific Historical Maps
- Develop a preliminary conceptual site model in accordance with guidance to identify potentially significant pollutant linkages specific to the proposed development
- Establish areas of potential concern based on identified risks and/or potential risks
- Identify any actions required to assess or reduce the risks identified

1.4 Limitations

1.4.1 The conclusions and recommendations presented in this report are the result of our professional interpretation of the information currently available. BEK reserves the right to amend the conclusions and recommendations if further information becomes available.

1.4.2 However, it should be noted that much of the information has been derived from reports written by others and BEK takes no responsibility for the accuracy of that information. Notwithstanding the above, the reports reviewed have all been written by professional environmental consultants with a duty of care to provide relevant and accurate information.

1.4.3 This report does not include an assessment of the vegetation of site and in particular the identification of any invasive plant species.

2. SITE DESCRIPTION

2.1 Site Location

2.1.1 The site is located to the west of Stockport Road, with Swallow Street to the north, Pennington Street to the south, and Siddal Street to the west, in Levenshulme, Manchester. Access to the site is currently off Siddall Street.

2.1.2 The National Grid Reference for the centre of the site is SJ 87282, 94782. The site location plan is shown on BEK Drawing No 20757-1 presented in Appendix F.

2.2 Site Layout & Description

2.2.1 An engineer from BEK visited the site on Wednesday 9th September 2020 to carry out a site walkover/inspection. A series of photographs taken during the site inspection is provided as Appendix E.

2.2.2 The site was access via a gated entrance adjacent to Siddal Street. The site occupies a rectangular shaped plot of scrubland of approximately 1500 m^2. The general layout of the site is presented on BEK Drawing No 20757-2 (see Appendix F).

2.2.3 Long grasses with sporadic weeds occupy the north and eastern parts of the site. Heavy brambles with tree are situated in the centre and west. Three concrete pads were noted in the west of the site. Hardstanding tarmac and concrete occupy the southern section of the site. A number of small stockpiles of soils with occasional brick and concrete were noted in the south-east of the site and fly-tipped materials (including a mattress, wooden plank, carpets, household refuse and paint pots) were noted in the south-west. The site walkover also encountered protruding relic hard structures across the site.

2.2.4 Metal construction fencing (approximately 2.5 m in height) bounds the site in all directions. The fencing was noted to be covered in graffiti.

2.3 Surrounding Land Use

2.3.1 The area is a mix of residential and commercial, light industrial. To the north and west are residential areas. Along Stockport Road to the east there is a tyre shop, car wash and supermarket. To the south off Pennington Street is commercial offices.

2.3.2 Grange School is located 25 m to the north-west. The Manchester-Stockport rail line is located to 90 m to the west. Cowcroft Park open area is located approximately 160 m to the north-east.

3. SITE HISTORY

3.1 The history of the site has been established using historical OS maps supplied by Groundsure. A selection of the maps reviewed is presented in Appendix A.

1849

3.2 The site is located in the east of a large open field adjacent to an un-named road (Stockport Road).

3.3 To the south of the site is a row of five residential houses. There is a hotel/inn to the east along Stockport Road. The surrounding area is rural with farms/country houses. The Crewe and Manchester rail line is located approximately 90 m to the west. Crowcroft Cotton Mill is located approximately 350 m to the north.

1892 - 1893

3.4 By 1892/1893 the site is occupied by eleven residential buildings with gardens. Swallow Street is to the north with residential properties aligning Stockport Road, Pimlott Street (now Pennington Street) is to the south with associated housing. To the west are open fields.

3.5 The surrounding area is now a mix of residential and rural.

1905 - 1908

3.6 There are no changes to the configuration of the residential buildings across the site. The surrounding area is increasingly residential. A branch off the Crewe and Manchester rail line is under development approximately 200 m to the north-west (the Wilmslow and Levenshulme branch).

1922 - 1923

3.7 There are no changes to the configuration of buildings on the site in these OS maps. There are no relevant changes to the surrounding area.

1933 - 1938

3.8 There are no changes to the configuration of buildings on the site in these OS maps, and no relevant changes to the surrounding area.

1956 - 1957

3.9 The configuration of the site remains the same in this OS map. The properties along Stockport Road are labelled as 788 to 804. A surgery is labelled in number 802 which is in the south-east of the site.

3.10 Across Stockport Road to the north-east is now a garage. A coal yard is labelled approximately 80 m to the south. There is a Neon Sign Works noted approximately 25 m to the north on Swallow Street.

1968 – 1981

3.11 By 1978 two properties in the north-east of the site (788 and 790) appear to have been demolished. The rest of the site remains the same.

3.12 The garage to the north-east has been extended. A sub-station is noted approximately 27 m to the east. There are no other relevant changes to the surrounding areas noted.

1984 - 1985

3.13 By 1984 there is a police station and associated yard area in the south of the site which have replaced the residential housing previously located in this location. Access to the police station is from Siddal Street in the south-west of the site. There are two residential properties remaining from the former configuration (ie 794 and 796). The north of the site has been cleared.

3.14 Residential housing along Pennington and Midway Streets to the south have been cleared. The coal yard to the south now has associated works adjacent. To the north, further residential housing has been cleared.

1986 – 1992

3.15 During this time period, the two remaining residential houses are demolished, and only the police station and associated yard remain on the site in the south.

3.16 There are no relevant changes to the surrounding area in these OS maps.

1992 – 1995

3.17 There are no changes to the site or relevant changes to the surrounding area in these OS maps.

2000 - 2003

3.18 There are no changes to the site or relevant changes to the surrounding area in OS maps for this period.

3.19 An aerial photograph supplied by Groundsure showing the site in 2000 shows the police station building and associated yard in the south of the site. The rest of the site is covered by grass, and there are a number of trees around the perimeter of the site.

3.20 Reference to Google Earth imagery for the site in 2003 show that the police station has been demolished. There are two cleared but still surfaced with hardstanding areas in the south of the site where the police station and yard were located. The rest of the site is covered by grass and a few trees around the former yard and on the eastern site boundary.

3.21 Google Earth imagery for the site in 2005 show no changes.

2009 - 2010

3.22 An aerial photograph provided by Groundsure showing the site in 2009 shows that the police building has been cleared. Trees around the boundary of the site have also been cleared. There are a few trees remaining that separated the police station and yard from the rest of the site. The OS map for 2010 shows the site is fully cleared of buildings and there ae no relevant changes to the surrounding area.

2013 - 2017

3.23 Google Earth imagery for 2013 for the site shows a number of cars parked in the cleared area where the former police station was located, and also along the eastern site perimeter.

3.24 An aerial photograph provided by Groundsure showing the site in 2015 shows the site is still cleared with a few trees remaining. There are a few cars parked in the area of the former police station and yard.

3.25 Google Earth imagery for 2017 for the site, shows that the remaining trees have been cleared and in this location is a stockpile of debris, possibly bark/wood chip/brash from the cleared trees.

2019 - 2020

3.26 An aerial photograph provided by Groundsure showing the site in 2019 shows the site is covered by vegetation with a few trees remaining. Hardstanding surfacing is still present in the location of the former police station and yard. The 2020 OS map shows that the site is fully cleared of buildings.

4. ENVIRONMENTAL SETTING

4.0.1 An Enviro+GeoInsight Report has been obtained from Groundsure and information provided in these reports has been used within this section. A copy of the report is presented in Appendix B.

4.1 Geology

4.1.1 The site geology is illustrated in the Enviro+GeoInsight Report which has sourced data from several sources including British Geological Society (BGS), BRITPITS database and the Coal Authority. A copy of the report is presented in Appendix B.

BGS Information

4.1.2 In addition, BEK has sought site investigation information from the BGS website. There is one borehole available to view within 250 m of the site, located 94 m to the north. Made ground was encountered to 0.3 m depth below ground level (bgl) in this borehole, underlain by clay layers to the maximum depth investigated (15.24 m depth bgl).

4.1.3 A copy of the BGS Borehole record are presented in Appendix C.

Made Ground

4.1.4 According to the Enviro+GeoInsight Report there are no recorded of artificial ground (made ground) located at the site. An area of 'Made Ground (undivided) – Artificial Deposit' is situated 176 m north-west of the site associated with the rail line. Approximately 216 m to the south-west is an area of 'infilled ground' also associated with the rail line. These areas are considered too distant from the site to pose a direct risk of potential hazardous ground gases.

Superficial Geology

4.1.5 The Enviro+GeoInsight Report states that Glacial Till (Boulder Clay) is present below the site and is laterally continuous on a regional scale. This strata generally has a low permeability.

Bedrock

4.1.6 The Enviro&GeoInsight Report states that the solid geology underlying the site comprises the 'Chester Pebble Beds Formation - Sandstone', which generally comprises 'composed of well-rounded pebbles, cobbles and boulders in a coarse to fine granulestone and silty sandstone matrix.'

Linear Features

4.1.7 There are three faults identified by Groundsure in the surrounding area located 95 m and 106 m to the west and 215 m to the north.

4.2 Mining & Ground Stability

4.2.1 Information in the Enviro+GeoInsight Report indicates that the site is not located within a coal mining area as defined by the Coal Authority.

4.2.2 The Enviro+GeoInsight Report provides hazard ratings associated with ground subsidence at the site, as summarised below:

Shrink-Swell Clay:	Very Low
Landslides:	Very Low
Ground Dissolution of Soluble Rocks:	Negligible
Compressible Deposits:	Negligible
Collapsible Deposits:	Very Low
Running Sands:	Very Low

4.2.3 It can be seen from the above that the site is unlikely to be affected by natural ground instability.

4.3 Hydrogeology

4.3.1 The underlying superficial strata is classified as a 'Secondary (undifferentiated) Aquifer' which are described as 'assigned where it is not possible to attribute either category A or B to a rock type.'

4.3.2 The underlying 'Chester Pebble Beds Formation – Sandstone' bedrock is classified by the EA as a 'Principal' aquifer which are described as 'geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale.'

4.3.3 The Enviro+GeoInsight Report indicates that there are no groundwater abstraction licenses within 250 m of the site.

4.3.4 The site is not located within a groundwater Source Protection Zone.

4.3.5 The site is at a moderate risk from groundwater flooding.

4.4 Hydrology

4.4.1 The Enviro+GeoInsight Report indicates that there are no surface water features on site or within 250 m of the site. There are no surface water abstractions within 2 km of the site.

4.4.2 According to Groundsure the north-western tip of the site is located within Flood Zone 1 (1 in 1000 year (0.1 %) chance of flooding each year).

4.5 Contaminated Land & Landfill Activities

4.5.1 Information provided in the Enviro+GeoInsight Report indicates that there are no current or historic landfill sites located within 250 m of the site. There are no waste exemptions or licensed waste operations within 250 m of the site.

4.5.2 Potentially infilled areas are associated with the rail line 176 m to the north-west and 216 m to the south-west. These areas are considered too distant from the site to pose a direct risk of potential hazardous ground gases.

4.5.3 Historical industrial land use recorded for the site is for the police station located at the site from around the early 1980s to the early 2000's.

4.5.4 There are no EA recorded pollution incidents located within 250 m of the site.

4.5.5 There are no NIHHS or COMAH sites located on/within 250 m of the site.

4.5.6 There are no Part A(2) or IPPC Authorised Activities located within 250 m of the site. There is one historical Part B licensed activity for 'Petrol Vapour Recovery' issued for the Crowcroft Service Station located to the north of the site. The license had no enforcement notices issued for it.

4.5.7 An current/recent petrol station is previously located circa 22 m north of the site. This is now marked Obsolete.

4.5.8 There are 21 potentially contaminative industrial sites located within 250 m of the site, the closest of which is an Unspecified Works or Factory located some 25 m north. These are unlikely to have impacted upon the site.

4.6 Sensitive Land Uses

4.6.1 The site is not affected by any of the ecological systems identified as a statutory receptor in the DETR Circular 01/2006.

4.7 Radon

4.7.1 The Enviroinsight report states that 'the property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level. Therefore, 'no radon protective measures are necessary.'

5. POTENTIAL POLLUTANT LINKAGES

5.1 General

5.1.1 This section identifies the potential contaminants of concern, sources, pathways and receptors that may be associated with the site based on its known history and the current condition and with respect to the 'construction of a 4-storey block housing 6 commercial units (ground floor) and residential apartments (remainder of block), a car parking area and associated utilities buildings (ie cycle store, waste storage area, substation, switchroom and comms room).'

5.1.2 This information is used to develop a conceptual model which is a qualitative description of potential sources of environmental pollutants, the pathways by which they are transported and the receptors:

i) Potential sources of contamination: these include any actual or potentially contaminating materials and activities, located either on or in the vicinity of the site

ii) Potential pathways for contamination migration: these comprise the routes or mechanisms by which contaminants may migrate from the source to the receptor including environmental migration pathways and human health exposure pathways

iii) Potential receptors of contamination: these include future land users, ecological systems, water resources and property.

5.2 Potential Contaminants of Concern

5.2.1 Based on the earliest available historical maps dating from 1849 the site was noted to be located in the east of a large open field adjacent to an un-named road (Stockport Road). By 1892/1893 the site was noted to be occupied by eleven residential buildings with gardens. The site remained this way until 1978 at which point two properties in the north-east of the site (788 and 790) appeared to have been demolished with the rest of the site remaining unchanged.

5.2.2 From 1984 a police station and associated yard area occupied the south of the site replacing the residential housing previously present within this location. From 1986 the two remaining residential houses were demolished and only the police station and the yard remained on the site. The remaining areas were shown to be occupied by grass and trees at this time. By 2009 the police building and trees were cleared.

5.2.3 Earth imagery for 2014 showed a number of cars parked in the cleared area where the police station was formally present. The site is now occupied by overgrown scrubland with relic tarmac/concrete in the south.

5.2.4 The use of the site for residential and subsequently as a police station is unlikely to have results in significant contamination being deposited at the site.

5.2.5 However, made ground is likely to be present at the site associated with the historical activity/development which has taken place on site. It is possible that the former properties had basements and these were infilled with the demolition rubble when the buildings were demolished. The nature and full extent of the made ground is currently unknown and it could contain contaminants of concern.

5.2.6 Considering the historical development at the site, it is considered likely that made ground is present. This could have been imported to level the site prior to construction of the properties at the site or could be left following their demolition. The properties may have had basements that have been infilled with the demolition rubble. To a lesser extent, the site may have been impacted upon by the industrial activities (historically) located within close proximity to the site.

5.2.7 Furthermore, considering the age of the buildings at the site it is possible that oil fired boilers were used for heating/hot water and there may have been an associated kerosene oil tank. Although the presence/location of any such tank is unknown, consideration should be given the potential for localised contamination of organic contamination.

5.2.8 The nature and extent of any made ground is currently unknown and it could contain contaminants of concern.

5.2.9 The site walkover identified a number of small stockpiles of soils with occasional brick and concrete were noted in the south-east of the site and fly-tipped materials (including a mattress, wooden plank, carpets, household refuse and paint pots) were noted in the south-west.

5.2.10 The potential contaminants of concern associated with made ground are presented below:

Contaminants Associated with Made Ground	
Arsenic	Zinc
Cadmium	Cyanide
Chromium	Phenols
Copper	Sulphate
Lead	Polycyclic Aromatic Hydrocarbons (PAHs)
Mercury	Total Petroleum Hydrocarbons
Nickel	pH
Selenium	Asbestos

Table 1: Potential Contaminants of Concern

5.2.11 It should be noted that the above list represents a broad range of potential contaminants of concern. Additional contaminants of concern may be present if ground conditions differ from those anticipated.

5.2.12 Based on the available background information the potential risks from ground gas are considered to be very low. However, if a significant thickness of made ground is encountered (> 3 m thick) or organic rich strata is encountered (including high wood content), it may be necessary to carry out further assessment.

5.3 Potential Pathways

5.3.1 The pathways through which contaminants may reach receptors are in part dependent by the nature and behaviour of the contaminant and the intended end use of the site.

5.3.2 The following potential pathways have been identified with respect to the existing site condition, the environmental setting and the re-development of the site to a mixed use commercial/residential development comprising a 4-storey block housing 6 commercial units (ground floor) and residential apartments, a car parking area, associated utilities buildings and limited shared landscaped areas all of which are assessed in the conceptual model:

- Ingestion of contaminated soil
- Inhalation of contamination dust
- Dissolution or suspension (leaching) of contaminants into pore waters affecting plant growth
- Indoor inhalation of organic vapours and ground gas
- Dermal contact
- Dissolution or suspension (leaching) of contaminants from site soils leading to contamination of groundwater
- Dissolution or suspension (leaching) of contaminants from site soils leading to lateral migration within perched waters to off-site receptors. Potential significant pathways include more permeable layers within the made ground/natural strata, underground services and piles/foundations.
- Contamination affecting the integrity of service pipelines by direct contact
- Buildings affected by direct contact with elevated concentrations of sulphate and/or extreme pH.

5.4 Receptors

5.4.1 Potential site specific receptors that may be affected by contamination at the site are listed below:

Future Site Users

5.4.2 Future occupants of the site could be at risk from contamination present at the site.

5.4.3 Potential risks are associated with ingestion of soils as well as inhalation of contaminated dust/vapours (including asbestos) and dermal contact with contaminants of concern. These risks are all associated with the limited landscaped areas of the new development.

5.4.4 In addition, risks associated with indoor inhalation of ground gas/organic vapours need to be assessed.

Construction Workers

5.4.5 The primary risks to construction workers are associated with shallow excavations within made ground as asbestos could be present. Asbestos fibres (if present) can be released into the atmosphere during earthworks of the development.

5.4.6 Standard personal protective equipment and site specific risk assessments and method statements should reduce risks associated with other contaminants of concern due to short exposure duration.

Off Site Receptors

5.4.7 Off site receptors include nearby business users. Human health could be at risk if asbestos fibres are released during the re-development.

Buildings & Services

5.4.8 The integrity of service pipes can be affected by concentrations of organic contamination.

5.4.9 Risks to buildings (concrete) can occur due to elevated concentrations of sulphate in the shallow ground and extreme pH. Risks to the integrity of service pipes can occur due to elevated concentrations of specific organic contamination.

Controlled Waters

5.4.10 The Enviro+GeoInsight Report indicates that there are no surface water features on site or within 250 m of the site.

5.4.11 The underlying superficial strata is classified as a 'Secondary (undifferentiated) Aquifer' which are described as 'assigned where it is not possible to attribute either category A or B to a rock type.'

5.4.12 The underlying 'Chester Pebble Beds Formation – Sandstone' bedrock is classified by the EA as a 'Principal' aquifer which are described as 'geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale.'

5.4.13 The site is not located within a groundwater Source Protection Zone. There are no groundwater abstraction licenses within 250 m of the site.

5.5 Preliminary Conceptual Model

5.5.1 The identified potential sources of contaminants, pathways and receptors have been assessed to establish plausible pollutant linkages. All potentially significant pollutant linkages are detailed in Table B, in Appendix D.

5.6 Potentially Significant Pollutant Linkages

5.6.1 A number of possible 'significant pollutant linkages' have been identified associated with the site.

5.6.2 Potential risks relating to the potential harm to the health of humans and/or domestic pets both on and off site due to the potential for direct contact with contaminants in the made ground and the ingestion of contaminated soil/dust **(Link 1).**

5.6.3 There is also the possibility of windblown particulates being inhaled by people/animals both on site and off site **(Link 2).**

5.6.4 Human health could be at risk by the inhalation of ground gases **(Link 3)** and/or volatile contamination migrating into properties on site **(Link 4).**

5.6.5 Property (including services, flora and fauna) could be affected by direct contact to high concentrations of contaminants **(Link 5).**

5.6.6 Dissolution or suspension (leaching) of contaminants from site soils leading to lateral migration within perched permeable layers within the made ground/natural strata, underground services and piles/foundations **(Link 6).**

5.6.7 Dissolution or suspension (leaching) of contaminants from site soils leading to impact on the underlying Principle Aquifer within the bedrock **(Link 7).**

5.6.8 Site investigation is required to identify site specific conditions and assess the risks associated with each identified plausible pollutant linkage.

6. RECOMMENDATIONS

6.1 Based on the findings of the Preliminary Risk Assessment herein, a number of potential risks associated with contamination have been identified with respect to the proposed change of use to residential without plant uptake (the most sensitive end use on site).

6.2 Risks have been identified to human health and property (including services) and controlled waters. Site investigation is required to determine shallow ground conditions and quantify the potential risks identified.

6.3 To assess the potential risk associated with contamination and ground gas at the site, BEK recommends that the following works should be undertaken:

Site Investigation

6.4 The investigation should comprise the drilling of a series of small diameter boreholes to characterise the shallow ground conditions across the site. The investigation should target the locations of the former buildings to prove nature and thickness of any made ground present and characterise the natural strata. It should be noted that the site may have to be cleared of vegetation prior to site investigation.

6.5 The site investigation should be supervised by an experienced engineer who will be responsible for recording ground conditions encountered.

6.6 If a significant thickness of made ground is encountered (>3 m thick) or organic rich strata is encountered (including high wood content), it will be necessary to install ground gas monitoring wells to facilitate a gas risk assessment.

6.7 The engineer will recover representative samples for chemical testing. All samples will be collected in appropriate sampling vessels, stored in a precooled cool box and dispatched to the laboratory within 24 hours.

Chemical Testing

6.8 Following a review of ground conditions encountered, a selection of samples will be tested for the contaminants of concern listed in Table 1 of this report. If visual or olfactory evidence of contamination is encountered (including any made ground) during the site investigation then it may be necessary to undertake additional testing.

6.9 All testing will be carried out by a UKAS accredited laboratory to MCERTS standard (where applicable).

Risk Assessment

6.10 The investigation findings will be assessed as part of a quantitative risk assessment to amend the conceptual site model and identify any potential significant pollutant linkages.

6.11 The assessment will be undertaken in accordance with current UK guidance and policy.

Reporting

6.12 The investigation findings should be assessed in accordance with current UK policy and guidance to identify any potential significant pollutant linkages and determine the requirements for mitigation and/or remediation.

6.13 The works undertaken will be detailed in a Site Investigation Contamination Assessment report along with full justifications for the assessment and the conclusions/recommendations.

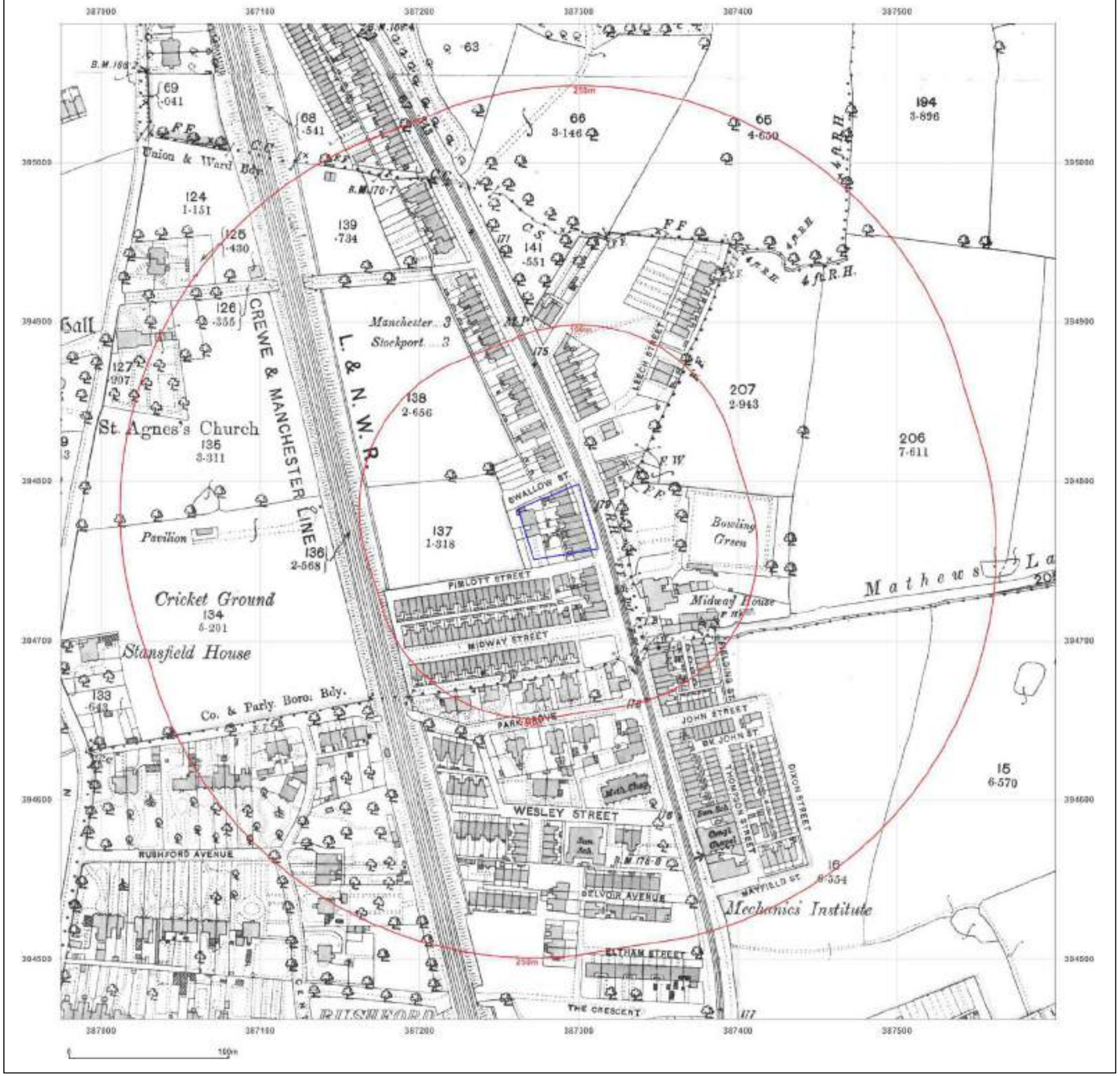
Other Considerations

6.14 In addition to the assessment of the shallow ground conditions with respect to contamination, the site investigation will characterise the shallow ground to facilitate a geotechnical assessment for foundation design. If a geotechncial assessment is required then we would also recommend drilling an additional two deep cable percussion boreholes.

6.15 We would also recommend that consideration is given to the requirements of the water supply service provider and the completion of the UKWIR risk assessment for water pipe selection.

APPENDIX A

Historical OS Maps



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: County Series

Map date: **1893**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: County Series

Map date: **1907-1908**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: County Series

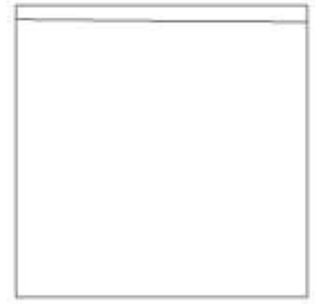
Map date: **1922**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S

Surveyed 1922
Revised 1916
Edition 1922
Copyright N/A
Levelled 1915



Surveyed 1922
Revised 1916
Edition 1922
Copyright N/A
Levelled 1915

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: County Series

Map date: **1933**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Powered by

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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





Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1951-1956**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

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

Surveyed 1956
Revised 1956
Edition N/A
Copyright 1956
Levelled 1949

Surveyed 1956
Revised 1956
Edition N/A
Copyright 1956
Levelled 1948

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

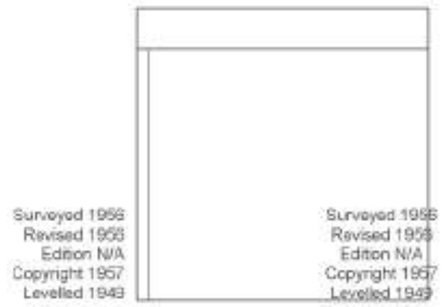
Map Name: National Grid

Map date: **1956**

Scale: 1:2,500

Printed at: 1:2,500

N
W E
S



Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1957**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

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

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

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1974-1978**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

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

Surveyed 1956
Revised 1973
Edition N/A
Copyright 1974
Levelled 1964

Groundsure

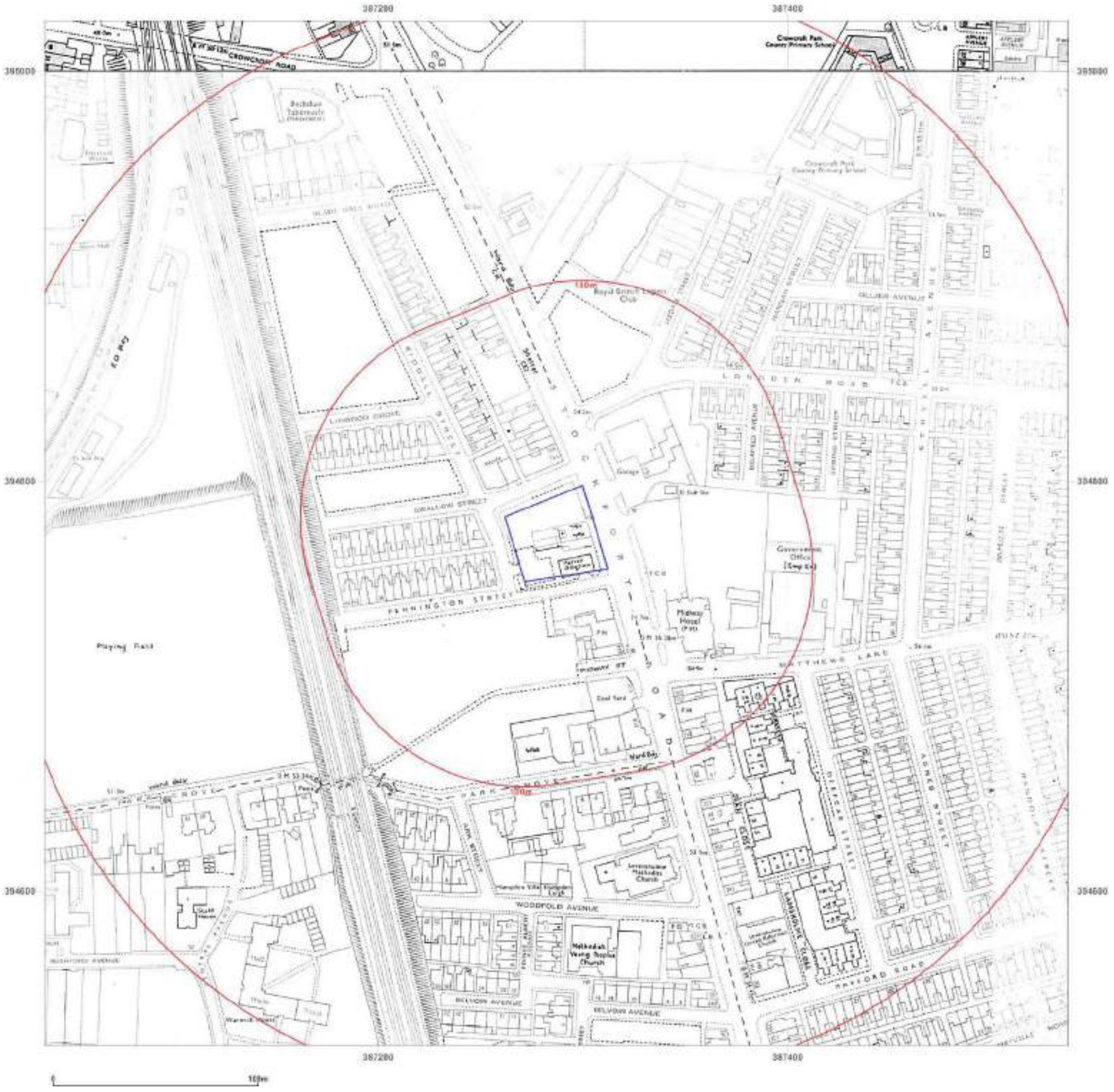
Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1983-1984**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1964 Revised 1984 Edition N/A Copyright 1984 Levelled 1964	Surveyed 1950 Revised 1984 Edition N/A Copyright 1984 Levelled 1964
Surveyed 1964 Revised 1983 Edition N/A Copyright 1983 Levelled 1964	Surveyed N/A Revised N/A Edition N/A Copyright 1984 Levelled 1964

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

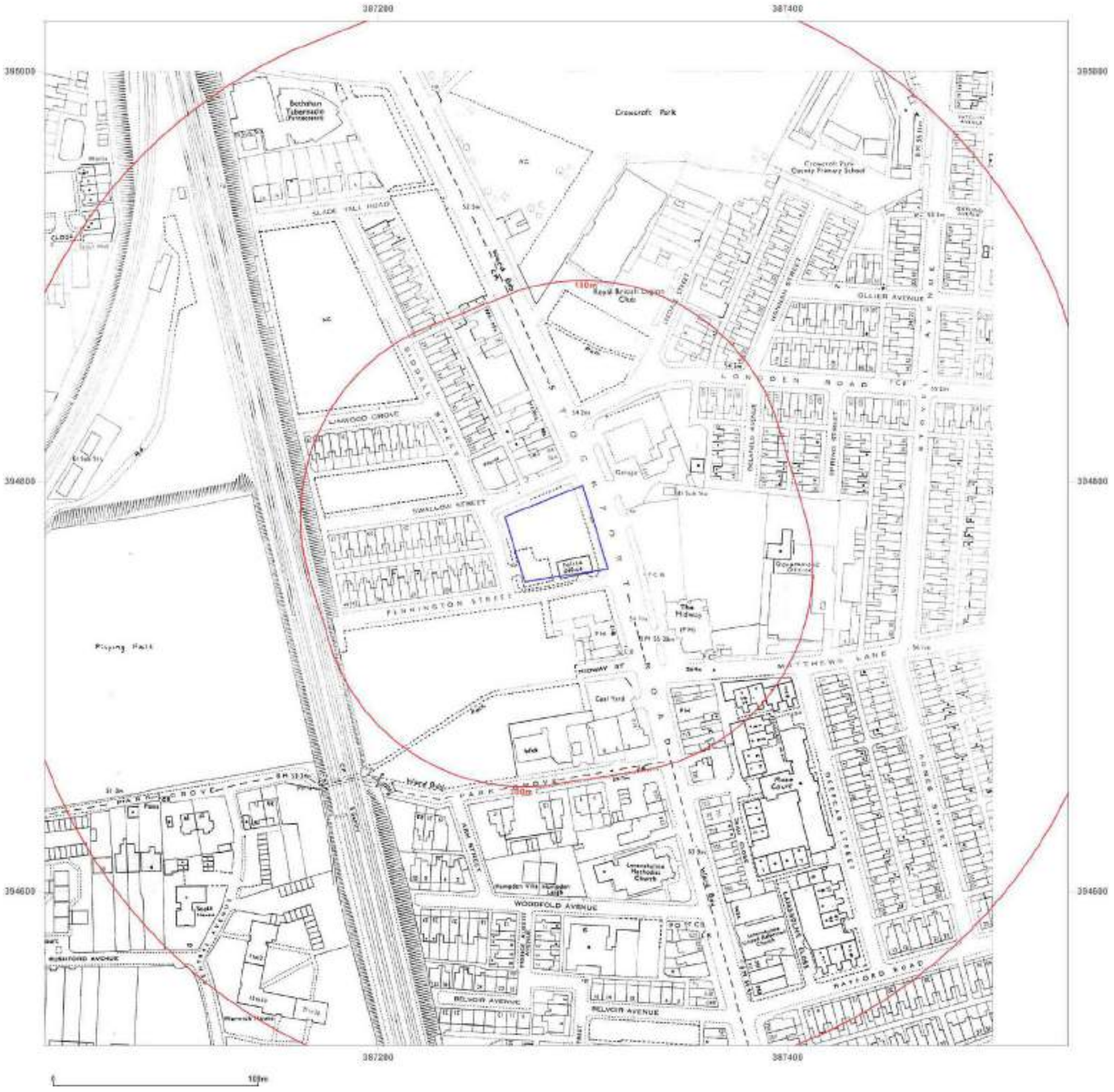
Powered by

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1986**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1964
Revised 1985
Edition N/A
Copyright 1986
Levelled 1964

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1979-1988**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1979
Revised 1979
Edition N/A
Copyright 1979
Levelled 1964

Surveyed 1964
Revised 1983
Edition N/A
Copyright 1983
Levelled 1964

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

Groundsure

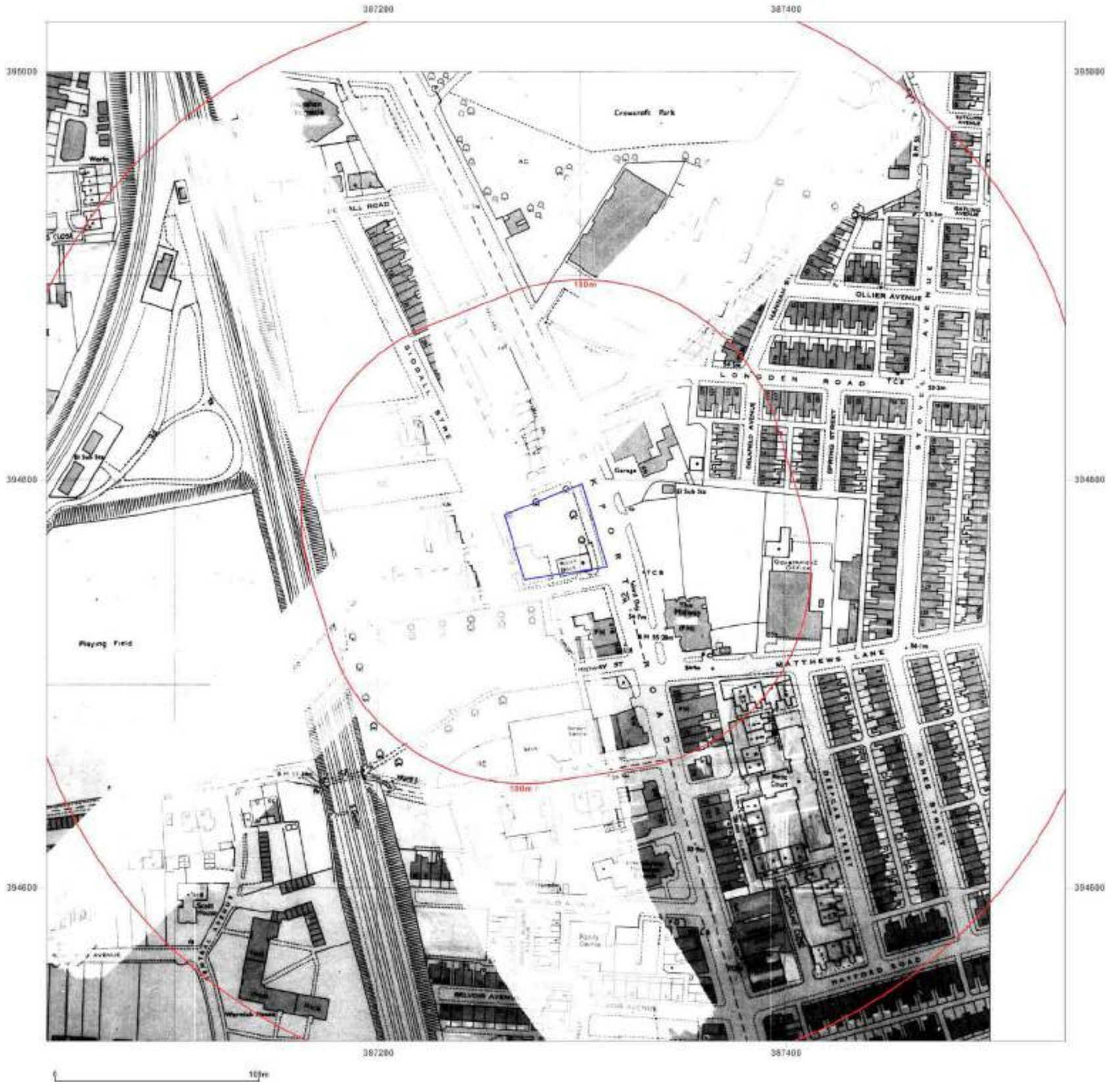
Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1988**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1964
Revised 1980
Edition N/A
Copyright 1988
Levelled 1964

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1988-1992**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

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

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

Surveyed 1964
Revised 1986
Edition N/A
Copyright 1968
Levelled 1964

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

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1992**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

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

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1994
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1994**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

Surveyed 1994
Revised 1994
Edition N/A
Copyright 1994
Levelled N/A

Groundsure

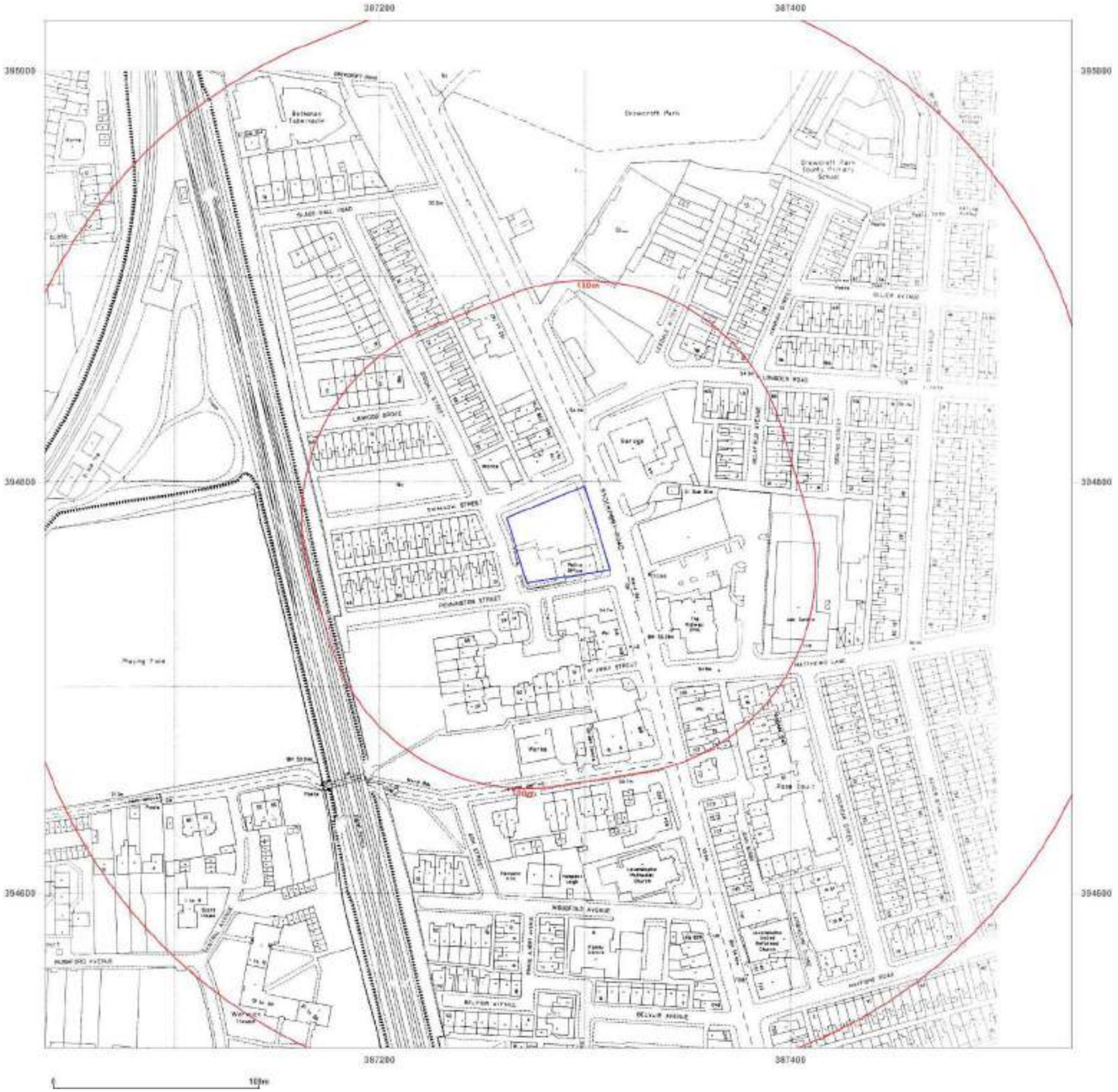
Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

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

Groundsure

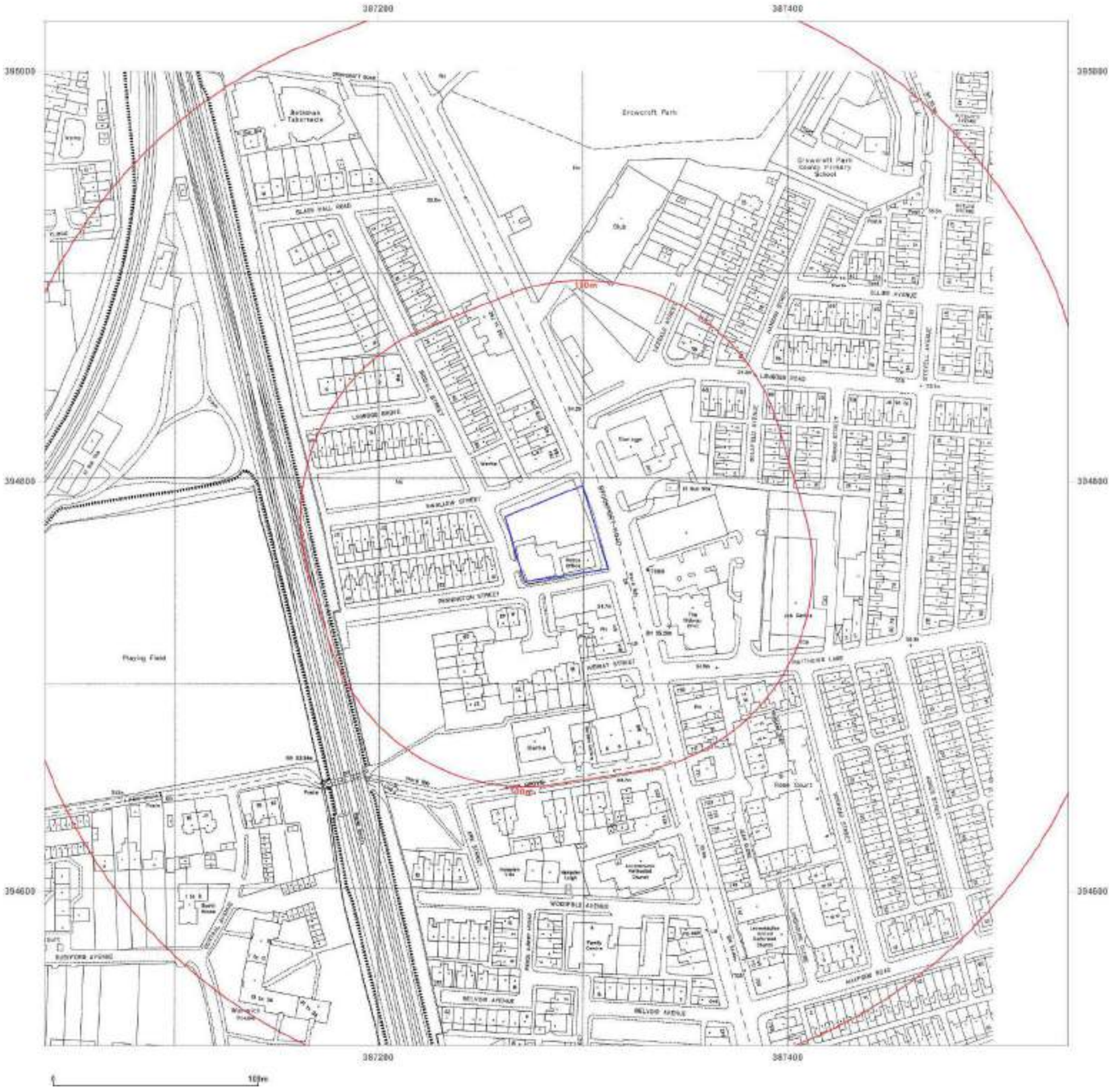
Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **1995**

Scale: 1:1,250

Printed at: 1:2,000

N
W E
S

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

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

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

N
W E
S



Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Powered by OS

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **2001**

Scale: 1:10,000

Printed at: 1:10,000

N W E S

2001

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **2010**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2010

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

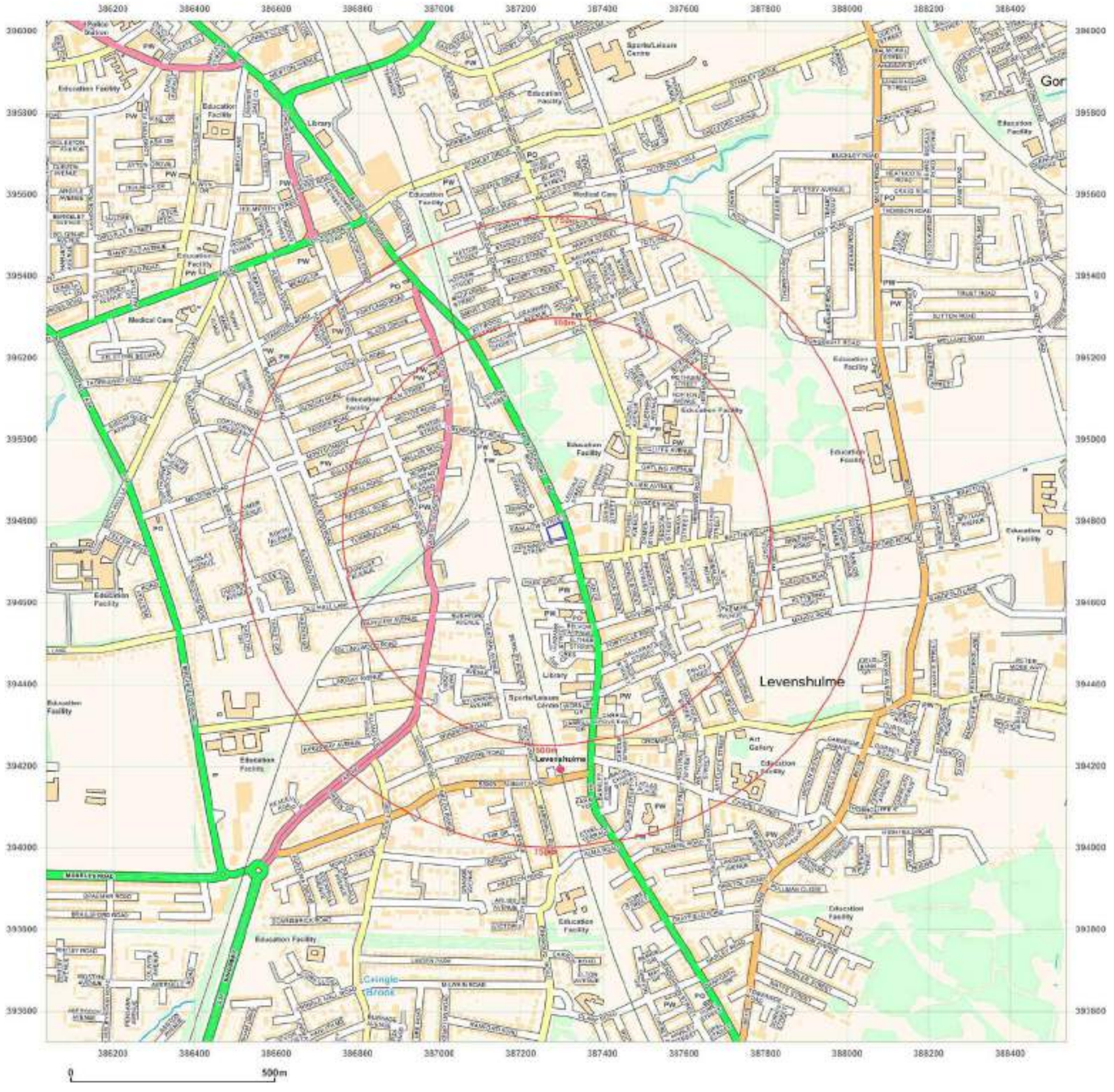
Powered by

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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



CENTRE MAPS LIVE.

Site Details:

Land south of 786 Stockport Road, M12 4QL

Client Ref: 29721
Report Ref: CMAPS-CM-896422-29721-200820HIS
Grid Ref: 387287, 394775

Map Name: National Grid

Map date: **2020**

Scale: 1:10,000

Printed at: 1:10,000

N
W E
S

2020

Groundsure

Produced by
Groundsure Insights
www.groundsure.com

Supplied by:
www.centremapslive.com
groundsure@centremaps.com

© Crown copyright and database rights 2018 Ordnance Survey 100035207

Production date: 20 August 2020

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

APPENDIX B

Enviro+GeoInsight Report

Groundsure LOCATION INTELLIGENCE

Enviro+Geo Insight

Land south of 786 Stockport Road, M12 4QL

Order Details

Date: 20/08/2020

Your ref: 29721

Our Ref: CMAPS-CM-896422-29721-200820EDRGEO

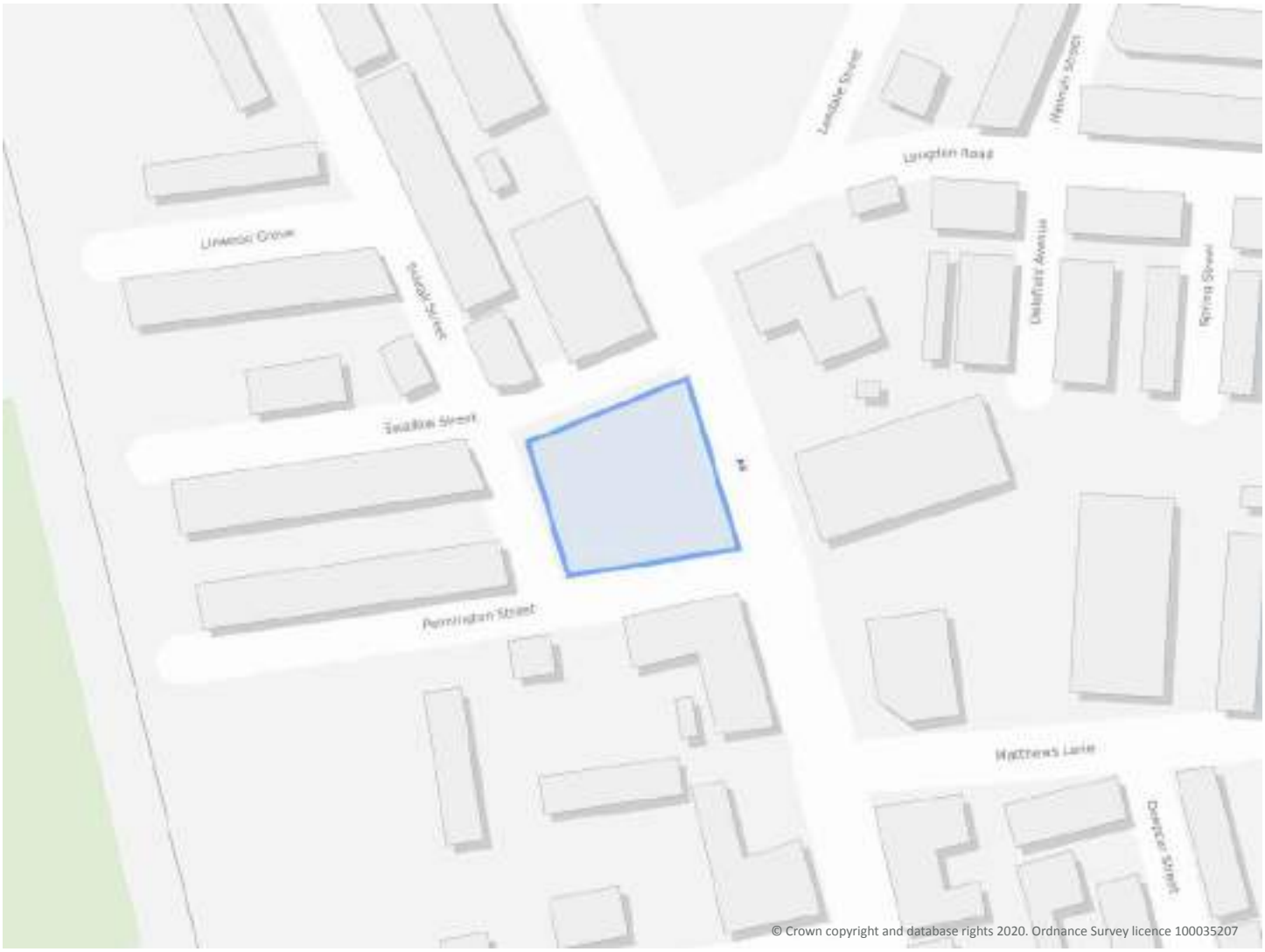
Client: CENTREMAPS

Site Details

Location: 387286 394774

Area: 0.15 ha

Authority: Manchester City Council



© Crown copyright and database rights 2020. Ordnance Survey licence 100035207

Summary of findings p. 2

OS MasterMap site plan p.12

Aerial image p. 8

groundsure.com/insightuserguide

Contact us with any questions at:
info@groundsure.com
08444 159 000

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
13	1.1	Historical industrial land uses	1	0	3	17	-
14	1.2	Historical tanks	0	0	0	0	-
15	1.3	Historical energy features	0	1	5	10	-
16	1.4	Historical petrol stations	0	0	0	0	-
16	1.5	Historical garages	0	5	4	3	-
17	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
18	2.1	Historical industrial land uses	2	0	3	23	-
20	2.2	Historical tanks	0	0	0	0	-
20	2.3	Historical energy features	0	7	16	17	-
22	2.4	Historical petrol stations	0	0	0	0	-
22	2.5	Historical garages	0	9	9	5	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
24	3.1	Active or recent landfill	0	0	0	0	-
24	3.2	Historical landfill (BGS records)	0	0	0	0	-
25	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
25	3.4	Historical landfill (EA/NRW records)	0	0	0	1	-
25	3.5	Historical waste sites	0	0	0	0	-
25	3.6	Licensed waste sites	0	0	0	0	-
26	3.7	Waste exemptions	0	0	0	2	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
27	4.1	Recent industrial land uses	0	4	17	-	-
29	4.2	Current or recent petrol stations	0	1	0	1	-
29	4.3	Electricity cables	0	0	0	0	-
29	4.4	Gas pipelines	0	0	0	0	-
29	4.5	Sites determined as Contaminated Land	0	0	0	0	-

30	4.6	Control of Major Accident Hazards (COMAH)	0	0	0	0	-
30	4.7	Regulated explosive sites	0	0	0	0	-
30	4.8	Hazardous substance storage/usage	0	0	0	0	-
30	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
30	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
31	**4.11**	**Licensed pollutant release (Part A(2)/B)**	0	1	0	1	-
31	4.12	Radioactive Substance Authorisations	0	0	0	0	-
31	4.13	Licensed Discharges to controlled waters	0	0	0	0	-
31	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
32	4.15	Pollutant release to public sewer	0	0	0	0	-
32	4.16	List 1 Dangerous Substances	0	0	0	0	-
32	4.17	List 2 Dangerous Substances	0	0	0	0	-
32	4.18	Pollution Incidents (EA/NRW)	0	0	0	0	-
32	4.19	Pollution inventory substances	0	0	0	0	-
33	4.20	Pollution inventory waste transfers	0	0	0	0	-
33	4.21	Pollution inventory radioactive waste	0	0	0	0	-

Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
34	**5.1**	**Superficial aquifer**	Identified (within 500m)				
36	**5.2**	**Bedrock aquifer**	Identified (within 500m)				
38	**5.3**	**Groundwater vulnerability**	Identified (within 50m)				
39	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
39	5.5	Groundwater vulnerability- local information	None (within 0m)				
40	**5.6**	**Groundwater abstractions**	0	0	0	0	7
42	5.7	Surface water abstractions	0	0	0	0	0
43	5.8	Potable abstractions	0	0	0	0	0
43	5.9	Source Protection Zones	0	0	0	0	-
43	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-

Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
44	6.1	Water Network (OS MasterMap)	0	0	0	-	-

44	6.2	Surface water features	0	0	0	-	-
45	**6.3**	**WFD Surface water body catchments**	1	-	-	-	-
45	**6.4**	**WFD Surface water bodies**	0	0	0	-	-
46	**6.5**	**WFD Groundwater bodies**	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
47	7.1	Risk of Flooding from Rivers and Sea (RoFRaS)	None (within 50m)				
47	7.2	Historical Flood Events	0	0	0	-	-
47	7.3	Flood Defences	0	0	0	-	-
47	7.4	Areas Benefiting from Flood Defences	0	0	0	-	-
48	7.5	Flood Storage Areas	0	0	0	-	-
49	7.6	Flood Zone 2	None (within 50m)				
49	7.7	Flood Zone 3	None (within 50m)				
Page	Section	Surface water flooding					
50	**8.1**	**Surface water flooding**	1 in 30 year, 0.1m - 0.3m (within 50m)				
Page	Section	Groundwater flooding					
52	**9.1**	**Groundwater flooding**	Moderate (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
53	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
54	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
54	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
54	10.4	Special Protection Areas (SPA)	0	0	0	0	0
54	10.5	National Nature Reserves (NNR)	0	0	0	0	0
55	**10.6**	**Local Nature Reserves (LNR)**	0	0	0	0	1
55	10.7	Designated Ancient Woodland	0	0	0	0	0
55	10.8	Biosphere Reserves	0	0	0	0	0
55	10.9	Forest Parks	0	0	0	0	0
56	10.10	Marine Conservation Zones	0	0	0	0	0
56	10.11	Green Belt	0	0	0	0	0
56	10.12	Proposed Ramsar sites	0	0	0	0	0

56	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
56	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
57	10.15	Nitrate Sensitive Areas	0	0	0	0	0
57	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
58	**10.17**	**SSSI Impact Risk Zones**	1	-	-	-	-
59	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
60	11.1	World Heritage Sites	0	0	0	-	-
61	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
61	11.3	National Parks	0	0	0	-	-
61	11.4	Listed Buildings	0	0	0	-	-
61	**11.5**	**Conservation Areas**	0	0	1	-	-
62	11.6	Scheduled Ancient Monuments	0	0	0	-	-
62	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
63	**12.1**	**Agricultural Land Classification**	Urban (within 250m)				
64	12.2	Open Access Land	0	0	0	-	-
64	12.3	Tree Felling Licences	0	0	0	-	-
64	12.4	Environmental Stewardship Schemes	0	0	0	-	-
64	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
65	**13.1**	**Priority Habitat Inventory**	0	0	2	-	-
66	13.2	Habitat Networks	0	0	0	-	-
66	13.3	Open Mosaic Habitat	0	0	0	-	-
66	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
67	**14.1**	**10k Availability**	Identified (within 500m)				
68	**14.2**	**Artificial and made ground (10k)**	0	0	2	16	-
70	**14.3**	**Superficial geology (10k)**	1	0	1	0	-

71	14.4	Landslip (10k)	0	0	0	0	-
72	14.5	Bedrock geology (10k)	1	0	4	5	-
73	14.6	Bedrock faults and other linear features (10k)	0	0	3	2	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
74	15.1	50k Availability	Identified (within 500m)				
75	15.2	Artificial and made ground (50k)	0	0	0	1	-
76	15.3	Artificial ground permeability (50k)	0	0	-	-	-
77	15.4	Superficial geology (50k)	1	0	0	0	-
78	15.5	Superficial permeability (50k)	Identified (within 50m)				
78	15.6	Landslip (50k)	0	0	0	0	-
78	15.7	Landslip permeability (50k)	None (within 50m)				
79	15.8	Bedrock geology (50k)	1	0	2	3	-
80	15.9	Bedrock permeability (50k)	Identified (within 50m)				
80	15.10	Bedrock faults and other linear features (50k)	0	0	2	1	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
81	16.1	BGS Boreholes	0	0	1	-	-
Page	Section	Natural ground subsidence					
82	17.1	Shrink swell clays	Very low (within 50m)				
83	17.2	Running sands	Very low (within 50m)				
84	17.3	Compressible deposits	Negligible (within 50m)				
85	17.4	Collapsible deposits	Very low (within 50m)				
86	17.5	Landslides	Very low (within 50m)				
87	17.6	Ground dissolution of soluble rocks	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
88	18.1	Natural cavities	0	0	0	0	-
89	18.2	BritPits	0	0	0	0	-
89	18.3	Surface ground workings	0	0	0	-	-
89	18.4	Underground workings	0	0	0	0	3
89	18.5	Historical Mineral Planning Areas	0	0	0	1	-

90	**18.6**	**Non-coal mining**	0	0	0	1	1
90	18.7	Mining cavities	0	0	0	0	0
91	**18.8**	**JPB mining areas**	Identified (within 0m)				
91	18.9	Coal mining	None (within 0m)				
91	18.10	Brine areas	None (within 0m)				
91	18.11	Gypsum areas	None (within 0m)				
92	18.12	Tin mining	None (within 0m)				
92	18.13	Clay mining	None (within 0m)				

Page	Section	Radon	
93	**19.1**	**Radon**	Less than 1% (within 0m)

Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
94	**20.1**	**BGS Estimated Background Soil Chemistry**	1	0	-	-	-
94	**20.2**	**BGS Estimated Urban Soil Chemistry**	2	2	-	-	-
95	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-

Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
96	21.1	Underground railways (London)	0	0	0	-	-
96	21.2	Underground railways (Non-London)	0	0	0	-	-
97	21.3	Railway tunnels	0	0	0	-	-
97	**21.4**	**Historical railway and tunnel features**	0	0	6	-	-
97	21.5	Royal Mail tunnels	0	0	0	-	-
98	21.6	Historical railways	0	0	0	-	-
98	**21.7**	**Railways**	0	0	30	-	-
99	21.8	Crossrail 1	0	0	0	0	-
99	21.9	Crossrail 2	0	0	0	0	-
100	**21.10**	**HS2**	0	0	0	1	-

Recent aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2020. All Rights Reserved.

Capture Date: 22/04/2019

Site Area: 0.15ha

Recent site history - 2015 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2020. All Rights Reserved.

Capture Date: 11/06/2015

Site Area: 0.15ha

Recent site history - 2009 aerial photograph



Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2020. All Rights Reserved.

Capture Date: 02/06/2009

Site Area: 0.15ha

Recent site history - 2000 aerial photograph

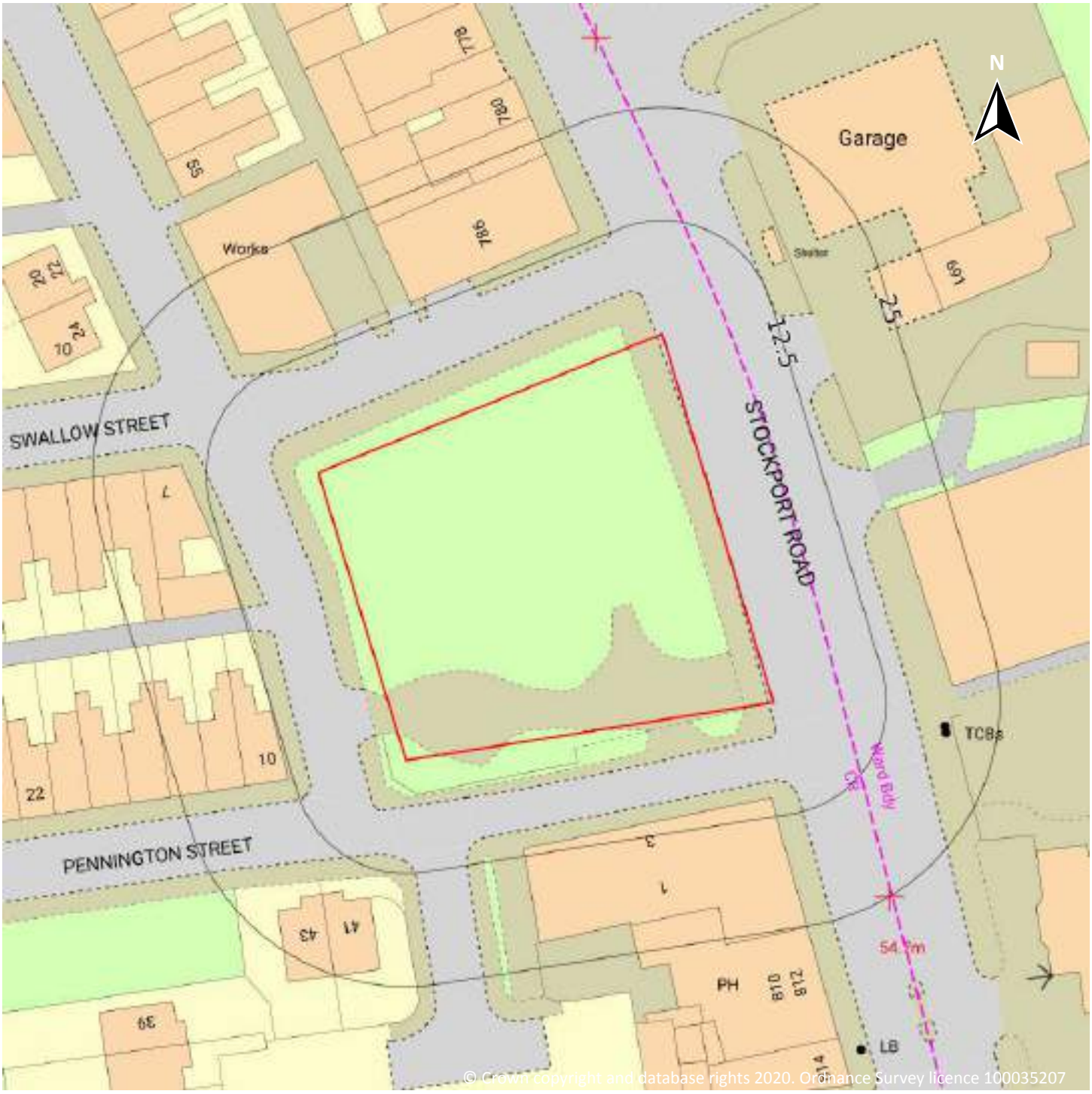


Aerial photography supplied by Getmapping PLC. © Copyright Getmapping PLC 2020. All Rights Reserved.

Capture Date: 19/06/2000

Site Area: 0.15ha

OS MasterMap site plan



© Crown copyright and database rights 2020. Ordnance Survey licence 100035207

Site Area: 0.15ha

1 Past land use



Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical energy features

Historical garages

1.1 Historical industrial land uses

Records within 500m	21

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 1:10,560 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
1	**On site**	**Police Station**	**1983 - 1989**	**856964**

ID	Location	Land use	Dates present	Group ID
2	124m N	Police Station	1965	832602
3	146m SE	Rope Walk	1851	794202
4	223m N	Nursery	1968	831877
5	288m N	Cotton Mill	1851	797883
F	326m E	Laundry	1934 - 1938	878281
G	334m SE	Unspecified Works	1916 - 1923	959856
F	338m E	Laundry	1955 - 1974	865040
G	378m E	Chocolate Works	1965	843638
G	378m E	Unspecified Works	1983 - 1989	908936
G	378m E	Unspecified Works	1974	980950
I	433m S	Railway Building	1916	919746
I	437m S	Railway Building	1934 - 1938	881628
8	450m E	Railway Sidings	1965	794673
J	472m S	Railway Buildings	1916	833691
J	475m S	Railway Building	1923	820590
10	483m NE	Tramway Sidings	1956	821582
K	494m NE	Clay Pit	1968	896276
K	494m NE	Clay Pit	1978	934170
11	495m N	Brick Works	1905	909791
12	496m S	Railway Station	1955	873594

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	**16**

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
A	27m E	Electricity Substation	1974 - 1994	73066
B	192m W	Electricity Substation	1994	82198
B	192m W	Electricity Substation	1983 - 1988	76589
B	193m W	Electricity Substation	1974	64612
C	211m NW	Electricity Substation	1956 - 1994	81109
C	212m NW	Electricity Substation	1974 - 1988	78320
D	283m S	Electricity Substation	1982	62154
D	288m S	Electricity Substation	1992	62155
6	381m SW	Electricity Substation	1995	62153
7	413m N	Electricity Substation	1950 - 1992	66201
H	422m N	Electricity Substation	1984 - 1992	76900
G	423m SE	Electricity Substation	1956	82104
H	423m N	Electricity Transformer	1972	63781
G	426m SE	Electricity Substation	1984	67844
G	432m SE	Electricity Substation	1956 - 1996	75334
9	460m SW	Electricity Substation	1984 - 1995	73072

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0

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

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	12

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

Features are displayed on the Past land use map on **page 13**

ID	Location	Land use	Dates present	Group ID
A	16m E	Garage	1983 - 1988	27349
A	16m NE	Garage	1956	21073
A	16m E	Garage	1994	23699
A	16m E	Garage	1974	22991
A	28m NE	Garage	1956	22217
B	226m W	Garage	1956	23442
B	226m W	Garage	1994	22482
B	226m W	Garage	1983 - 1988	27499
B	227m W	Garage	1956 - 1974	26294
E	293m S	Garage	1956	26998
E	295m S	Garage	1992	22953
E	295m S	Garage	1982	27257

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m	0

Areas of military land digitised from multiple sources including the National Archives, local records, MOD records and verified other sources, intelligently grouped into contiguous features.

This data is sourced from Ordnance Survey / Groundsure / other sources.

2 Past land use - un-grouped



© Crown copyright and database rights 2020. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Historical industrial land uses

Historical energy features

Historical garages

2.1 Historical industrial land uses

Records within 500m	28

Potentially contaminative land use features digitised from historical Ordnance Survey mapping at 1:10,000 and 10,560 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
A	**On site**	**Police Station**	**1983**	**856964**
A	**On site**	**Police Station**	**1989**	**856964**
1	124m N	Police Station	1965	832602

ID	Location	Land Use	Date	Group ID
2	146m SE	Rope Walk	1851	794202
3	223m N	Nursery	1968	831877
4	288m N	Cotton Mill	1851	797883
G	326m E	Laundry	1938	878281
G	326m E	Laundry	1934	878281
H	334m SE	Unspecified Works	1923	959856
G	338m E	Laundry	1974	865040
G	338m E	Laundry	1955	865040
G	338m E	Laundry	1965	865040
H	377m SE	Unspecified Works	1916	959856
H	378m E	Unspecified Works	1974	980950
H	378m E	Unspecified Works	1983	908936
H	378m E	Unspecified Works	1989	908936
H	378m E	Chocolate Works	1965	843638
K	433m S	Railway Building	1916	919746
K	437m S	Railway Building	1938	881628
K	437m S	Railway Building	1934	881628
6	450m E	Railway Sidings	1965	794673
M	472m S	Railway Buildings	1916	833691
M	475m S	Railway Building	1923	820590
7	483m NE	Tramway Sidings	1956	821582
N	494m NE	Clay Pit	1978	934170
N	494m NE	Clay Pit	1968	896276
8	495m N	Brick Works	1905	909791
9	496m S	Railway Station	1955	873594

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	0

Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	40

Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
B	27m E	Electricity Substation	1983	73066
B	27m E	Electricity Substation	1983	73066
B	27m E	Electricity Substation	1986	73066
B	27m E	Electricity Substation	1988	73066
B	27m E	Electricity Substation	1988	73066
B	27m E	Electricity Substation	1974	73066
B	27m E	Electricity Substation	1994	73066
C	192m W	Electricity Substation	1994	82198
C	192m W	Electricity Substation	1983	76589
C	192m W	Electricity Substation	1983	76589
C	192m W	Electricity Substation	1986	76589
C	192m W	Electricity Substation	1988	76589
C	192m W	Electricity Substation	1988	76589
C	193m W	Electricity Substation	1974	64612
D	211m NW	Electricity Substation	1994	81109
D	211m NW	Electricity Substation	1956	81109

ID	Location	Land Use	Date	Group ID
D	212m NW	Electricity Substation	1956	81109
D	212m NW	Electricity Substation	1974	78320
D	212m NW	Electricity Substation	1983	78320
D	212m NW	Electricity Substation	1983	78320
D	212m NW	Electricity Substation	1986	78320
D	212m NW	Electricity Substation	1988	78320
D	212m NW	Electricity Substation	1988	78320
E	283m S	Electricity Substation	1982	62154
E	288m S	Electricity Substation	1992	62155
5	381m SW	Electricity Substation	1995	62153
I	413m N	Electricity Substation	1992	66201
I	414m N	Electricity Substation	1972	66201
I	414m N	Electricity Substation	1950	66201
I	414m N	Electricity Substation	1984	66201
I	414m N	Electricity Substation	1950	66201
J	422m N	Electricity Substation	1992	76900
H	423m SE	Electricity Substation	1956	82104
J	423m N	Electricity Substation	1984	76900
J	423m N	Electricity Transformer	1972	63781
H	426m SE	Electricity Substation	1984	67844
H	432m SE	Electricity Substation	1996	75334
H	432m SE	Electricity Substation	1956	75334
L	460m SW	Electricity Substation	1995	73072
L	460m SW	Electricity Substation	1984	73072

This data is sourced from Ordnance Survey / Groundsure.

2.4 Historical petrol stations

Records within 500m	0

Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m	23

Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 18**

ID	Location	Land Use	Date	Group ID
B	16m E	Garage	1983	27349
B	16m E	Garage	1983	27349
B	16m E	Garage	1986	27349
B	16m E	Garage	1988	27349
B	16m E	Garage	1988	27349
B	16m E	Garage	1994	23699
B	16m NE	Garage	1956	21073
B	16m E	Garage	1974	22991
B	28m NE	Garage	1956	22217
C	226m W	Garage	1956	23442
C	226m W	Garage	1994	22482
C	226m W	Garage	1983	27499
C	226m W	Garage	1983	27499
C	226m W	Garage	1986	27499
C	226m W	Garage	1988	27499
C	226m W	Garage	1988	27499

ID	Location	Land Use	Date	Group ID
C	227m W	Garage	1956	26294
C	227m W	Garage	1974	26294
F	293m S	Garage	1956	26998
F	295m S	Garage	1992	22953
F	295m S	Garage	1982	27257
F	295m S	Garage	1982	27257
F	296m S	Garage	1956	26998

This data is sourced from Ordnance Survey / Groundsure.

3 Waste and landfill



Site Outline

Search buffers in metres (m)

Historical landfill (EA/NRW)

Waste exemptions

3.1 Active or recent landfill

Records within 500m	0

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

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

3.2 Historical landfill (BGS records)

Records within 500m	0

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

This data is sourced from the British Geological Survey.

3.3 Historical landfill (LA/mapping records)

Records within 500m	0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m	1

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

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Details		
1	415m E	Site Address: Matthews Lane, Longsight, Greater Manchester Licence Holder Address: -	Waste Licence: Yes Site Reference: F009 Waste Type: Inert, Industrial, Commercial, Household, Special, Liquid sludge Environmental Permitting Regulations (Waste) Reference: - Licence Issue: 01/01/1974 Licence Surrender: -	Operator: Manchester Corporation Cleansing Department Licence Holder: Greater Manchester Waste Disposal Authority First Recorded 31/12/1969 Last Recorded: 11/07/1978

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

3.5 Historical waste sites

Records within 500m	0

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

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

3.6 Licensed waste sites

Records within 500m	0

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

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

3.7 Waste exemptions

Records within 500m	2

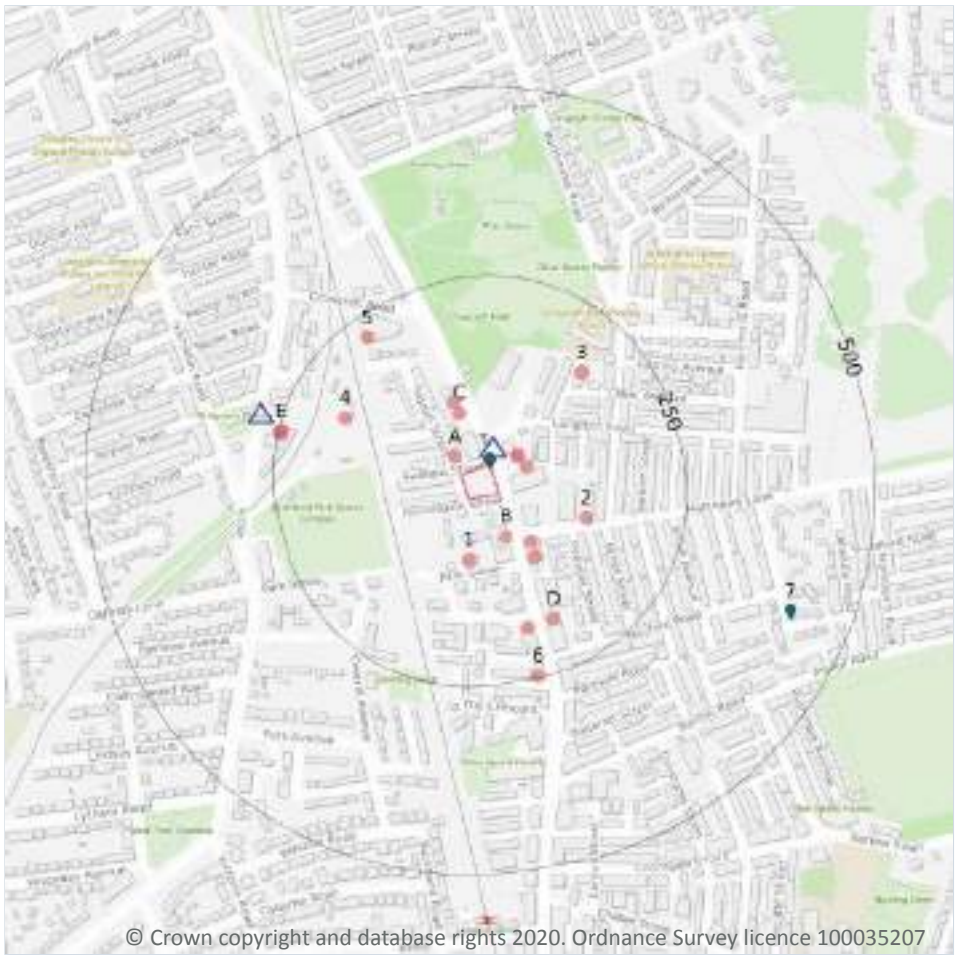
Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 24**

ID	Location	Site	Reference	Category	Sub-Category	Description
A	374m E	Unit 13 Hemmons Road Manchester Manchester M12 5ST	EPR/YF0407TQ/A001	Storing waste exemption	Non-Agricultural Waste Only	Storage of waste in a secure place
A	399m E	Unit 13, Hemmons Road, Levenshulme, Manchester, M12 5ST	EA/EPR/VP3852VP/A001	Treating waste exemption	Not on a farm	Repair or refurbishment of WEEE

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

4 Current industrial land use



© Crown copyright and database rights 2020. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Recent industrial land uses

Current or recent petrol stations

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

4.1 Recent industrial land uses

Records within 250m	21

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	Activity	Category
A	25m N	Works	Greater Manchester, M12	Unspecified Works Or Factories	Industrial Features
A	39m E	Rikshaw Ltd	691, Stockport Road, Manchester, Greater Manchester, M12 4QN	Vehicle Hire and Rental	Hire Services
A	39m E	Tyreworx Tyres	691, Stockport Road, Manchester, Greater Manchester, M12 4QN	Vehicle Parts and Accessories	Motoring

ID	Location	Company	Address	Activity	Category
A	46m E	Electricity Sub Station	Greater Manchester, M12	Electrical Features	Infrastructure and Facilities
B	57m S	816 Garage	816, Stockport Road, Manchester, Greater Manchester, M19 3AW	Vehicle Repair, Testing and Servicing	Repair and Servicing
B	76m SE	Kam Auto Spares & Diagnostics	707, Stockport Road, Manchester, Greater Manchester, M19 3AG	Vehicle Repair, Testing and Servicing	Repair and Servicing
C	77m N	Crowcroft Garages	762-770, Stockport Road, Manchester, Greater Manchester, M12 4GD	Garden Goods	Consumer Products
1	82m S	Works	Greater Manchester, M19	Unspecified Works Or Factories	Industrial Features
C	93m N	Computer Empire	760a, Stockport Road, Manchester, Greater Manchester, M12 4GD	Electrical Equipment Repair and Servicing	Repair and Servicing
B	96m SE	Auto Services M C R Ltd	715, Stockport Road, Manchester, Greater Manchester, M19 3AG	Vehicle Repair, Testing and Servicing	Repair and Servicing
2	121m E	S & R Auto Repair Centre	3, Matthews Lane, Manchester, Greater Manchester, M12 4QW	Vehicle Repair, Testing and Servicing	Repair and Servicing
3	172m NE	Cafron Technical Services	5, Hannah Street, Manchester, Greater Manchester, M12 5SN	Mechanical Engineers	Engineering Services
4	172m NW	Electricity Sub Station	Greater Manchester, M13	Electrical Features	Infrastructure and Facilities
D	181m SE	Vaughan Locksmiths	Flat 7 747, Stockport Road, Manchester, Greater Manchester, M19 3AR	Vehicle Repair, Testing and Servicing	Repair and Servicing
D	182m S	Fonelab	828a, Stockport Road, Manchester, Greater Manchester, M19 3AW	Electrical Equipment Repair and Servicing	Repair and Servicing
5	221m NW	Electricity Sub Station	Greater Manchester, M12	Electrical Features	Infrastructure and Facilities
E	246m W	Nasar Auto Repairs	91a, Slade Lane, Manchester, Greater Manchester, M13 0GW	Vehicle Repair, Testing and Servicing	Repair and Servicing
E	246m W	Fast Autos	91, Slade Lane, Manchester, Greater Manchester, M13 0GW	Vehicle Repair, Testing and Servicing	Repair and Servicing
E	247m W	Eclipse Auto Parts	91, Slade Lane, Manchester, Greater Manchester, M13 0GW	Vehicle Parts and Accessories	Motoring
E	247m W	A1 Tyres	91a, Slade Lane, Manchester, Greater Manchester, M13 0GW	Vehicle Parts and Accessories	Motoring

ID	Location	Company	Address	Activity	Category
6	248m S	Car Sound Studio	848, Stockport Road, Manchester, Greater Manchester, M19 3AW	Vehicle Repair, Testing and Servicing	Repair and Servicing

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	**2**

Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Company	Address	LPG	Status
A	22m N	TEXACO	691, Stockport Road, Longsight, Manchester, Greater Manchester, M12 4QN	Not Applicable	Obsolete
E	279m W	Q8	91, Slade Lane, Levenshulme, Manchester, Greater Manchester, M13 0GW	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	**0**

High voltage underground electricity transmission cables.

This data is sourced from National Grid.

4.4 Gas pipelines

Records within 500m	**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m	**0**

Contaminated Land Register of sites designated under Part 2a of the Environmental Protection Act 1990.

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m	0

Control of Major Accident Hazards (COMAH) sites. This data includes upper and lower tier sites, and includes a historical archive of COMAH sites and Notification of Installations Handling Hazardous Substances (NIHHS) records.

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m	0

Sites registered and licensed by the Health and Safety Executive under the Manufacture and Storage of Explosives Regulations 2005 (MSER). The last update to this data was in April 2011.

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m	0

Consents granted for a site to hold certain quantities of hazardous substances at or above defined limits in accordance with the Planning (Hazardous Substances) Regulations 2015.

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m	0

Integrated Pollution Control (IPC) records of substance releases to air, land and water. This data represents a historical archive as the IPC regime has been superseded.

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m	0

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

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

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

Records within 500m	2

Records of Part A(2) and Part B installations regulated under the Environmental Permitting (England and Wales) Regulations 2016 for the release of substances to the environment.

Features are displayed on the Current industrial land use map on **page 27**

ID	Location	Address	Details	
A	2m N	Crowcroft Serv Stn, Stockport Rd, M12 4QN	Process: Petrol Vapour Recovery Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
7	417m E	British Cement Corp Ltd, Levenshulme Trad Est, Printwks Lane M19 3JP	Process: Use of Bulk Cement Status: Historical Permit Permit Type: Part B	Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m	0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m	0

Discharges of treated or untreated effluent to controlled waters under the Water Resources Act 1991.

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m	0

Discharges of specified substances under the Environmental Protection (Prescribed Processes and Substances) Regulations 1991.

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

4.15 Pollutant release to public sewer

Records within 500m	0

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List I of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

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

4.17 List 2 Dangerous Substances

Records within 500m	0

Discharges of substances identified on List II of European Directive E 2006/11/EC, and regulated under the Environmental Damage (Prevention and Remediation) Regulations 2015.

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

4.18 Pollution Incidents (EA/NRW)

Records within 500m	0

Records of substantiated pollution incidents. Since 2006 this data has only included category 1 (major) and 2 (significant) pollution incidents.

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

4.19 Pollution inventory substances

Records within 500m	0

The pollution inventory (substances) includes reporting on annual emissions of certain regulated substances to air, controlled waters and land. A reporting threshold for each substance is also included. Where emissions fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

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

4.20 Pollution inventory waste transfers

Records within 500m	0

The pollution inventory (waste transfers) includes reporting on annual transfers and recovery/disposal of controlled wastes from a site. A reporting threshold for each waste type is also included. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

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

4.21 Pollution inventory radioactive waste

Records within 500m	0

The pollution inventory (radioactive wastes) includes reporting on annual releases of radioactive substances from a site, including the means of release. Where releases fall below the reporting threshold, no value will be given. The data is given for the most recent complete year available.

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

5 Hydrogeology - Superficial aquifer



Site Outline

Search buffers in metres (m)

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

5.1 Superficial aquifer

Records within 500m **2**

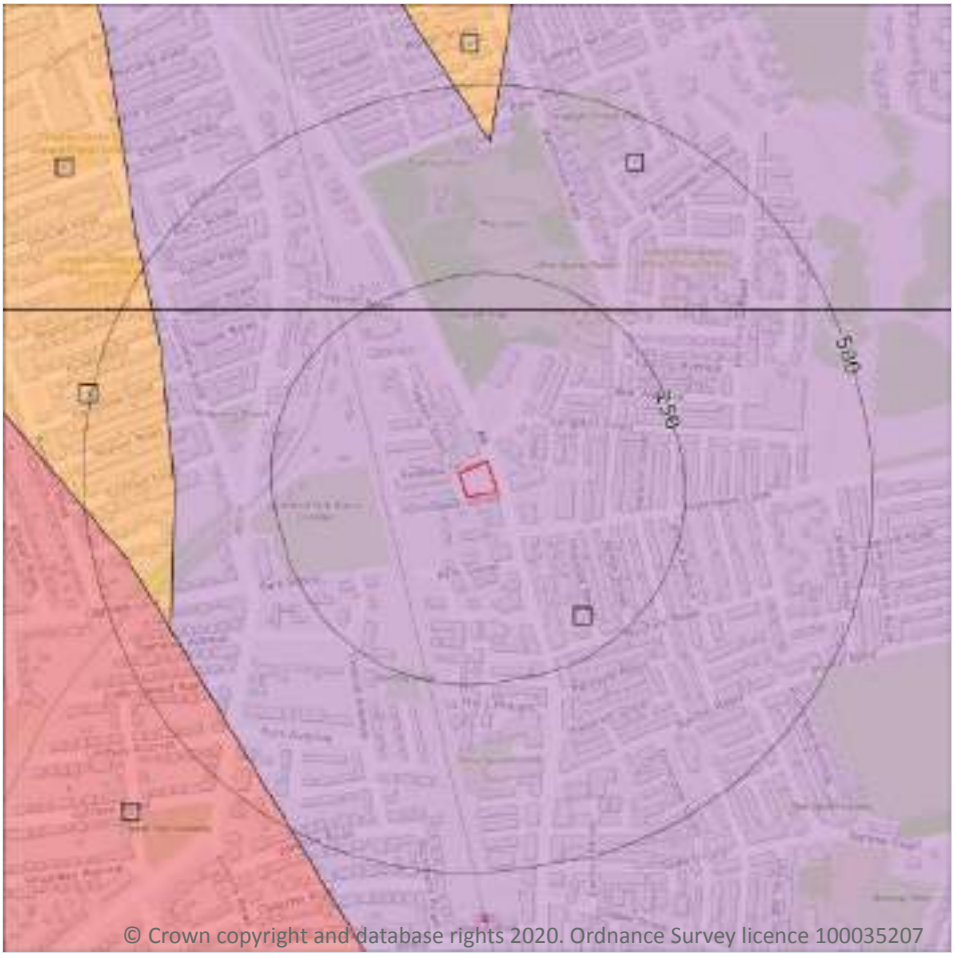
Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 34**

ID	Location	Designation	Description
1	**On site**	**Secondary Undifferentiated**	**Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type**
2	202m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

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

Bedrock aquifer



Site Outline

Search buffers in metres (m)

- Principal
- Secondary A
- Secondary B
- Secondary Undifferentiated
- Unproductive

5.2 Bedrock aquifer

Records within 500m	6

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 36**

ID	Location	Designation	Description
1	**On site**	**Principal**	**Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers**
2	202m N	Principal	Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers

ID	Location	Designation	Description
3	378m W	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers
4	426m N	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers
5	428m SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
6	462m NW	Secondary B	Predominantly lower permeability layers which may store/yield limited amounts of groundwater due to localised features such as fissures, thin permeablehorizons and weathering. These are generally the water-bearing parts of the former non-aquifers

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

Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m	1

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid. Groundwater vulnerability is described as High, Medium or Low as follows:

- High - Areas able to easily transmit pollution to groundwater. They are likely to be characterised by high leaching soils and the absence of low permeability superficial deposits.
- Medium - Intermediate between high and low vulnerability.
- Low - Areas that provide the greatest protection from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

Features are displayed on the Groundwater vulnerability map on **page 38**

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

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site	**0**

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

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

5.5 Groundwater vulnerability- local information

Records on site	**0**

This dataset identifies areas where additional local information affecting vulnerability is held by the Environment Agency. Further information can be obtained by contacting the Environment Agency local Area groundwater team through the Environment Agency National Customer Call Centre on 03798 506 506 or by email on enquiries@environment-agency.gov.uk.

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

Abstractions and Source Protection Zones



Site Outline

Search buffers in metres (m)

- Source Protection Zone 1 — Inner catchment
- Source Protection Zone 2 — Outer catchment
- Source Protection Zone 3 — Total catchment
- Source Protection Zone 4 — Zone of Special Interest
- Source Protection Zone 1c — Inner catchment - confined aquifer
- Source Protection Zone 2c — Outer catchment - confined aquifer
- Source Protection Zone 3c — Total catchment - confined aquifer
- Drinking water abstraction licences
- Drinking water abstraction licences — Polygon features
- Drinking water abstraction licences — Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m	7

Licensed groundwater abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, between two points (line data) or a larger area.

Features are displayed on the Abstractions and Source Protection Zones map on **page 40**

ID	Location	Details	
-	1129m N	Status: Historical Licence No: 2569006042 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: PERMO-TRIASSIC SANDSTONE AT BELLE VUE LEISURE CENTRE Data Type: Point Name: CLIVE BACK Easting: 387590 Northing: 395890	Annual Volume (m^3): 15000 Max Daily Volume (m^3): 276 Original Application No: - Original Start Date: 11/07/2002 Expiry Date: 31/03/2014 Issue No: 3 Version Start Date: 04/02/2009 Version End Date: -
-	1130m N	Status: Historical Licence No: 2569006042 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: PERMO-TRIASSIC SANDSTONE AT BELLE VUE LEISURE CENTRE Data Type: Point Name: CLIVE BACK Easting: 387591 Northing: 395891	Annual Volume (m^3): 10000 Max Daily Volume (m^3): 276 Original Application No: - Original Start Date: 11/07/2002 Expiry Date: 31/03/2014 Issue No: 4 Version Start Date: 29/02/2012 Version End Date: -
-	1130m N	Status: Historical Licence No: NW/069/0006/006 Details: Spray Irrigation - Direct Direct Source: Ground Water - North West Region Point: PERMO-TRIASSIC SANDSTONE AT BELLE VUE LEISURE CENTRE Data Type: Point Name: The Chief Operating Officer of the Eastlands Trust Easting: 387591 Northing: 395891	Annual Volume (m^3): 8000 Max Daily Volume (m^3): 276 Original Application No: - Original Start Date: 16/05/2014 Expiry Date: 31/03/2016 Issue No: 1 Version Start Date: 16/05/2014 Version End Date: -
-	1189m E	Status: Historical Licence No: 2569013018 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: "BOREHOLE AT SANDFOLD LANE, LEVENSHULME, MANCHESTER" Data Type: Point Name: CBA ENTERPRISES LTD Easting: 388500 Northing: 394700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/06/1992 Expiry Date: - Issue No: 100 Version Start Date: 29/03/1996 Version End Date: -

ID	Location	Details	
-	1189m E	Status: Historical Licence No: 2569013018 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT SANDFOLD LANE, LEVENSHULME, MANCHESTER Data Type: Point Name: CBA ENTERPRISES LTD Easting: 388500 Northing: 394700	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 18/06/1992 Expiry Date: - Issue No: 100 Version Start Date: 29/03/1996 Version End Date: -
-	1189m E	Status: Historical Licence No: 2569013018 Details: General use relating to Secondary Category (Medium Loss) Direct Source: Ground Water - North West Region Point: BOREHOLE AT SANDFOLD LANE LEVENSHULME MANCHESTER Data Type: Point Name: CBA ENTERPRISES LTD Easting: 388500 Northing: 394700	Annual Volume (m^3): 117835 Max Daily Volume (m^3): 409 Original Application No: - Original Start Date: 18/06/1992 Expiry Date: - Issue No: 100 Version Start Date: 29/03/1996 Version End Date: -
-	1455m NE	Status: Historical Licence No: 2569006043 Details: Dust Suppression Direct Source: Ground Water - North West Region Point: PERMO-TRIASSIC SANDSTONE AT BELLE VUE, MANCHESTER Data Type: Point Name: G R A LIMITED Easting: 387950 Northing: 396100	Annual Volume (m^3): 4000 Max Daily Volume (m^3): 22 Original Application No: - Original Start Date: 20/06/2003 Expiry Date: 31/03/2014 Issue No: 2 Version Start Date: 01/04/2008 Version End Date: -

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

5.7 Surface water abstractions

Records within 2000m	**0**

Licensed surface water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

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

5.8 Potable abstractions

Records within 2000m	0

Licensed potable water abstractions for sites extracting more than 20 cubic metres of water a day and includes active and historical records. The data may be for a single abstraction point, a stretch of watercourse or a larger area.

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

5.9 Source Protection Zones

Records within 500m	0

Source Protection Zones define the sensitivity of an area around a potable abstraction site to contamination.

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m	0

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

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

6 Hydrology



Site Outline

Search buffers in metres (m)

Water Network (OS MasterMap)

Surface water features (wider than 5m)

Surface water features (narrower than 5m)

WFD River, canal and surface water transfer water bodies

WFD Lake water bodies

WFD Transitional and coastal water bodies

WFD Surface water body catchments boundaries

WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m	0

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

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m	0

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons.

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site	1

The Water Framework Directive is an EU-led framework for the protection of inland surface waters, estuaries, coastal waters and groundwater through river basin-level management planning. In terms of surface water, these basins are broken down into smaller units known as management, operational and water body catchments.

Features are displayed on the Hydrology map on **page 44**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
A	**On site**	**River WB catchment**	**Platt Brook (Source to Fallowfield Bk)**	**GB112069061060**	**Bollin, Dean, Upper Mersey**	**Upper Mersey**

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

6.4 WFD Surface water bodies

Records identified	1

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

Features are displayed on the Hydrology map on **page 44**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
-	721m NW	River	Platt Brook (Source to Fallowfield Bk)	GB112069061060	Moderate	Good	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site	1

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

Features are displayed on the Hydrology map on **page 44**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
A	**On site**	**Manchester and East Cheshire Permo-Triassic Sandstone Aquifers**	**GB41201G101100**	**Poor**	**Poor**	**Poor**	**2015**

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

7 River and coastal flooding

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m	0

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

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

7.2 Historical Flood Events

Records within 250m	0

Records of historic flooding from rivers, the sea, groundwater and surface water. Records began in 1946 when predecessor bodies started collecting detailed information about flooding incidents, although limited details may be included on flooding incidents prior to this date. Takes into account the presence of defences, structures, and other infrastructure where they existed at the time of flooding, and includes flood extents that may have been affected by overtopping, breaches or blockages.

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

7.3 Flood Defences

Records within 250m	0

Records of flood defences owned, managed or inspected by the Environment Agency and Natural Resources Wales. Flood defences can be structures, buildings or parts of buildings. Typically these are earth banks, stone and concrete walls, or sheet-piling that is used to prevent or control the extent of flooding.

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

7.4 Areas Benefiting from Flood Defences

Records within 250m	0

Areas that would benefit from the presence of flood defences in a 1 in 100 (1%) chance of flooding each year from rivers or 1 in 200 (0.5%) chance of flooding each year from the sea.

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

7.5 Flood Storage Areas

Records within 250m	0

Areas that act as a balancing reservoir, storage basin or balancing pond to attenuate an incoming flood peak to a flow level that can be accepted by the downstream channel or to delay the timing of a flood peak so that its volume is discharged over a longer period.

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

River and coastal flooding - Flood Zones

7.6 Flood Zone 2

Records within 50m	0

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

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

7.7 Flood Zone 3

Records within 50m	0

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

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

8 Surface water flooding



Site Outline
Search buffers in metres (m)

1 in 1000 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period
- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site	**Negligible**
Highest risk within 50m	**1 in 30 year, 0.1m - 0.3m**

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

Features are displayed on the Surface water flooding map on **page 50**

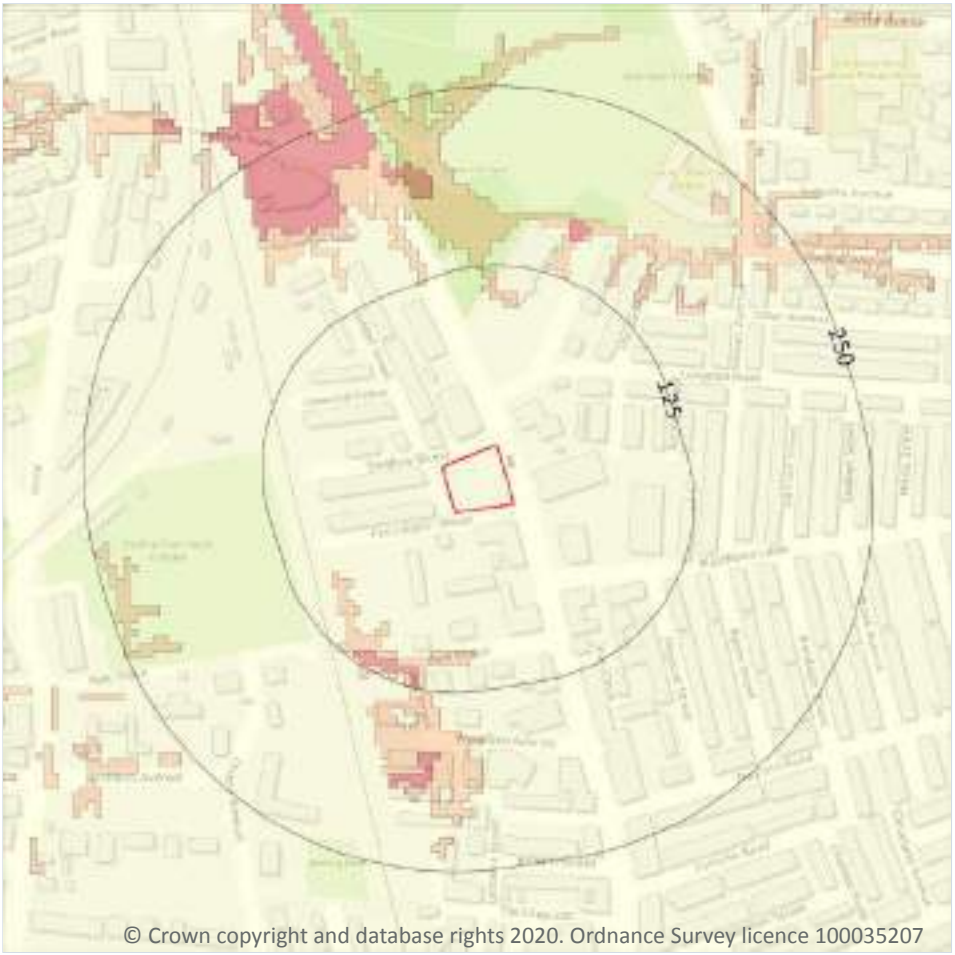
The data shown on the map and in the table above shows the highest likelihood of flood events happening at the site. Lower likelihood events may have greater flood depths and hence a greater potential impact on a site.

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

Return period	Maximum modelled depth
1 in 1000 year	Negligible
1 in 250 year	Negligible
1 in 100 year	Negligible
1 in 30 year	Negligible

This data is sourced from Ambiental Risk Analytics.

9 Groundwater flooding



Site Outline

Search buffers in metres (m)

High

Moderate - High

Moderate

Low

Negligible

9.1 Groundwater flooding

Highest risk on site	**Moderate**
Highest risk within 50m	**Moderate**

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

Features are displayed on the Groundwater flooding map on **page 52**

This data is sourced from Ambiental Risk Analytics.

10 Environmental designations



Site Outline

Search buffers in metres (m)

Local Nature Reserves (LNR)

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m	0

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

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

10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m	0

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m	0

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m	0

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m	0

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m	1

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

Features are displayed on the Environmental designations map on **page 53**

ID	Location	Name	Data source
1	1146m SE	Highfield Country Park	Natural England

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

10.7 Designated Ancient Woodland

Records within 2000m	0

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

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

10.8 Biosphere Reserves

Records within 2000m	0

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

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

10.9 Forest Parks

Records within 2000m	0

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m	0

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

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

10.11 Green Belt

Records within 2000m	0

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

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

10.12 Proposed Ramsar sites

Records within 2000m	0

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m	0

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

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

10.14 Potential Special Protection Areas (pSPA)

Records within 2000m	0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m	0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m	0

Areas at risk from agricultural nitrate pollution designated under the EC Nitrate Directive (91/676/EEC). These are areas of land that drain into waters polluted by nitrates. Farmers operating within these areas have to follow mandatory rules to tackle nitrate loss from agriculture.

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

SSSI Impact Zones and Units



Site Outline

Search buffers in metres (m)

SSSI Impact Risk Zones

SSSI Units

Not recorded

Favourable

Unfavourable - Recovering

Unfavourable - No change

Unfavourable - Declining

Partially destroyed

Destroyed

10.17 SSSI Impact Risk Zones

Records on site	1

Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

Features are displayed on the SSSI Impact Zones and Units map on **page 58**

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

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0

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

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

11 Visual and cultural designations



Site Outline

Search buffers in metres (m)

Listed buildings

Conservation areas

Conservation areas - no data

National Parks

Areas of Outstanding Natural Beauty

Registered parks and gardens

Scheduled Monuments

World Heritage Sites

11.1 World Heritage Sites

Records within 250m	0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m	0

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

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

11.3 National Parks

Records within 250m	0

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

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

11.4 Listed Buildings

Records within 250m	0

Buildings listed for their special architectural or historical interest. Building control in the form of 'listed building consent' is required in order to make any changes to that building which might affect its special interest. Listed buildings are graded to indicate their relative importance, however building controls apply to all buildings equally, irrespective of their grade, and apply to the interior and exterior of the building in its entirety, together with any curtilage structures.

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

11.5 Conservation Areas

Records within 250m	1

Local planning authorities are obliged to designate as conservation areas any parts of their own area that are of special architectural or historic interest, the character and appearance of which it is desirable to preserve or enhance. Designation of a conservation area gives broader protection than the listing of individual buildings. All the features within the area, listed or otherwise, are recognised as part of its character. Conservation area designation is the means of recognising the importance of all factors and of ensuring that planning decisions address the quality of the landscape in its broadest sense.

Features are displayed on the Visual and cultural designations map on **page 60**

ID	Location	Name	District	Date of designation
1	135m SW	Rushford Park, Levenshulme	Manchester	01/03/1986

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

11.6 Scheduled Ancient Monuments

Records within 250m	**0**

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

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

11.7 Registered Parks and Gardens

Records within 250m	**0**

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

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

12 Agricultural designations



Site Outline

Search buffers in metres (m)

- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3 - good to moderate quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Non-agricultural land
- Urban land
- Exclusion land
- Tree felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m	1

Classification of the quality of agricultural land taking into consideration multiple factors including climate, physical geography and soil properties. It should be noted that the categories for the grading of agricultural land are not consistent across England, Wales and Scotland.

Features are displayed on the Agricultural designations map on **page 63**

ID	Location	Classification	Description
1	**On site**	**Urban**	-

This data is sourced from Natural England.

12.2 Open Access Land

Records within 250m	0

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

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

12.3 Tree Felling Licences

Records within 250m	0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m	0

Environmental Stewardship covers a range of schemes that provide financial incentives to farmers, foresters and land managers to look after and improve the environment.

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m	0

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

This data is sourced from Natural England.

13 Habitat designations



Site Outline

Search buffers in metres (m)

Priority Habitat Inventory
Open Mosaic Habitat
Limestone Pavement Orders

Habitat Networks
Primary Habitat
Restorable Habitat
Associated Habitats
Habitat Restoration-Creation
Network Enhancement Zone 1
Network Enhancement Zone 2

13.1 Priority Habitat Inventory

Records within 250m	**2**

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

Features are displayed on the Habitat designations map on **page 65**

ID	Location	Main Habitat	Other habitats
1	204m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)
2	217m N	Deciduous woodland	Main habitat: DWOOD (INV > 50%)

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m	0

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m	0

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m	0

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

This data is sourced from Natural England.

14 Geology 1:10,000 scale - Availability



Site Outline

Search buffers in metres (m)

Full coverage

Partial coverage

No coverage

14.1 10k Availability

Records within 500m	2

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

Features are displayed on the Geology 1:10,000 scale - Availability map on **page 67**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**Full**	**Full**	**Full**	**No coverage**	**SJ89SE**
2	202m N	Full	Full	Full	Full	SJ89NE

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Reclaimed ground
- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m	18

Details of made, worked, infilled, disturbed and landscaped ground at 1:10,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

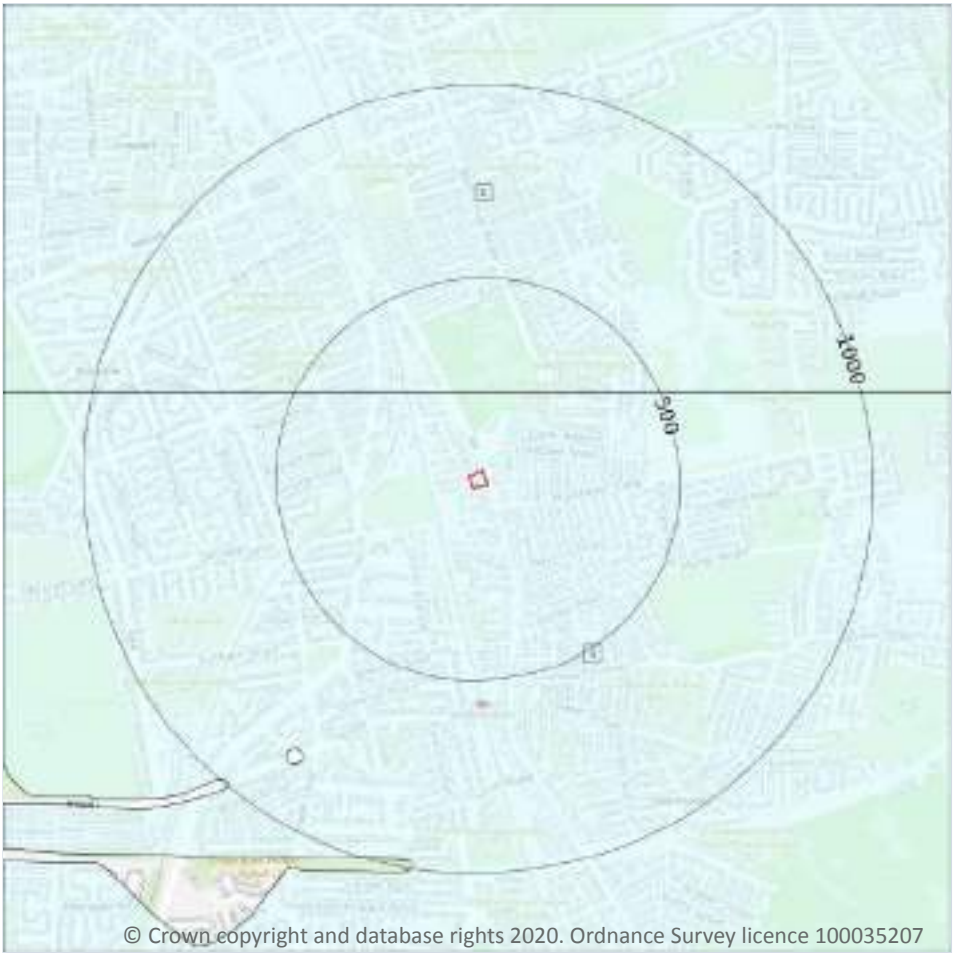
Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 68**

ID	Location	LEX Code	Description	Rock description
1	176m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
2	216m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	254m NW	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	257m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit

ID	Location	LEX Code	Description	Rock description
B	287m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
C	300m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
B	306m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
3	325m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
A	355m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
4	408m S	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
5	415m SW	WMGR-ARTDP	Infilled Ground	Artificial Deposit
D	439m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
D	442m SE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
6	446m E	WMGR-ARTDP	Infilled Ground	Artificial Deposit
7	463m N	WMGR-ARTDP	Infilled Ground	Artificial Deposit
8	465m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
9	475m NE	WMGR-ARTDP	Infilled Ground	Artificial Deposit
10	496m NW	WMGR-ARTDP	Infilled Ground	Artificial Deposit

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Superficial



© Crown copyright and database rights 2020. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m **2**

Superficial geological deposits at 1:10,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 70**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**Till, Devensian - Diamicton**	**Diamicton**
2	202m N	TILLD-DMTN	Till, Devensian - Diamicton	Diamicton

This data is sourced from the British Geological Survey.

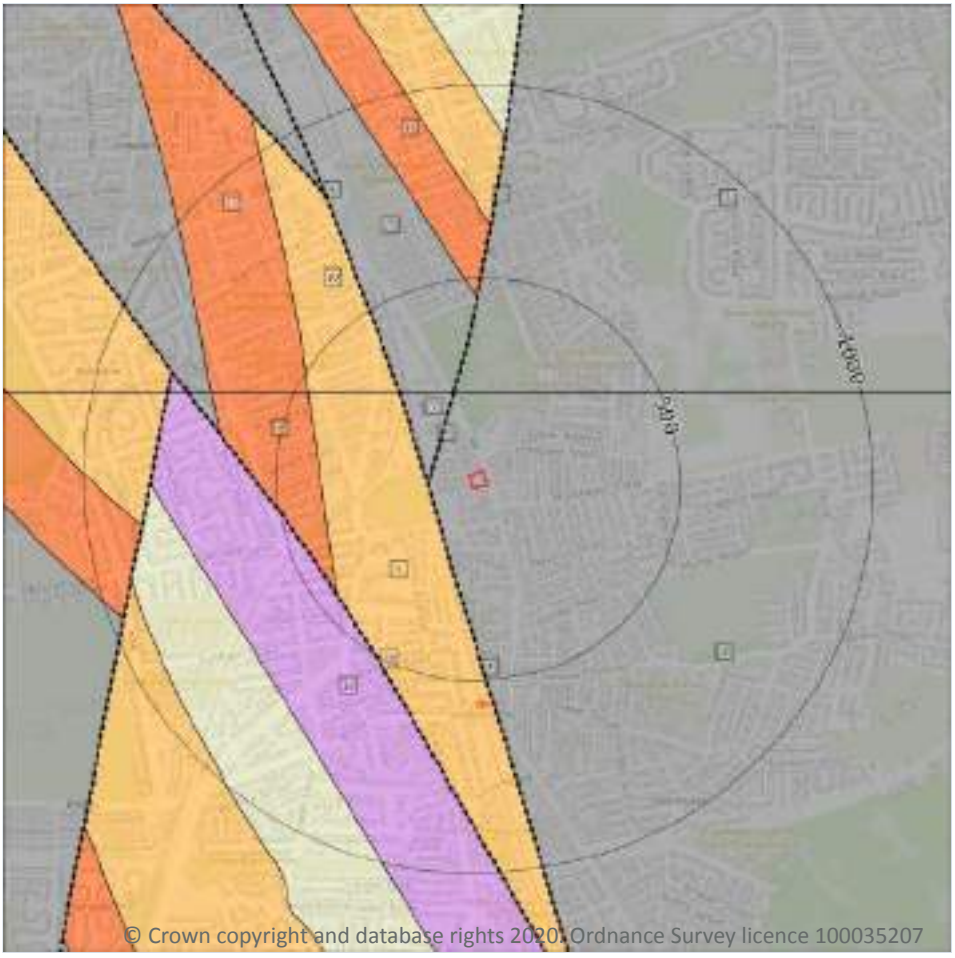
14.4 Landslip (10k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:10,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m	10

Bedrock geology at 1:10,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 72**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CPB-SDST**	**Chester Pebble Beds Formation - Sandstone**	**Early Triassic Epoch**
3	95m W	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
5	106m W	CS-SDST	Collyhurst Sandstone Formation - Sandstone	Cisuralian Epoch
6	202m N	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch

ID	Location	LEX Code	Description	Rock age
7	215m N	CPB-SDST	Chester Pebble Beds Formation - Sandstone	Early Triassic Epoch
10	282m NW	CS-SDST	Collyhurst Sandstone Formation - Sandstone	Cisuralian Epoch
11	381m W	MM-MDST	Manchester Marls Formation - Mudstone	Late Permian Epoch [Obsolete name]
12	444m N	MM-MDST	Manchester Marls Formation - Mudstone	Late Permian Epoch [Obsolete name]
13	445m SW	ETM-STMD	Etruria Formation - Sandstone And Mudstone	Westphalian Age
15	471m NW	MM-MDST	Manchester Marls Formation - Mudstone	Late Permian Epoch [Obsolete name]

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	**5**

Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 72**

ID	Location	Category	Description
2	95m W	FAULT	Normal fault, inferred; crossmarks on downthrow side
4	106m W	FAULT	Normal fault, inferred; crossmarks on downthrow side
8	215m N	FAULT	Normal fault, inferred; crossmarks on downthrow side
9	282m NW	FAULT	Normal fault, inferred; crossmarks on downthrow side
14	445m SW	FAULT	Normal fault, inferred; crossmarks on downthrow side

This data is sourced from the British Geological Survey.

15 Geology 1:50,000 scale - Availability



Site Outline

Search buffers in metres (m)

Geological map tile

15.1 50k Availability

Records within 500m	1

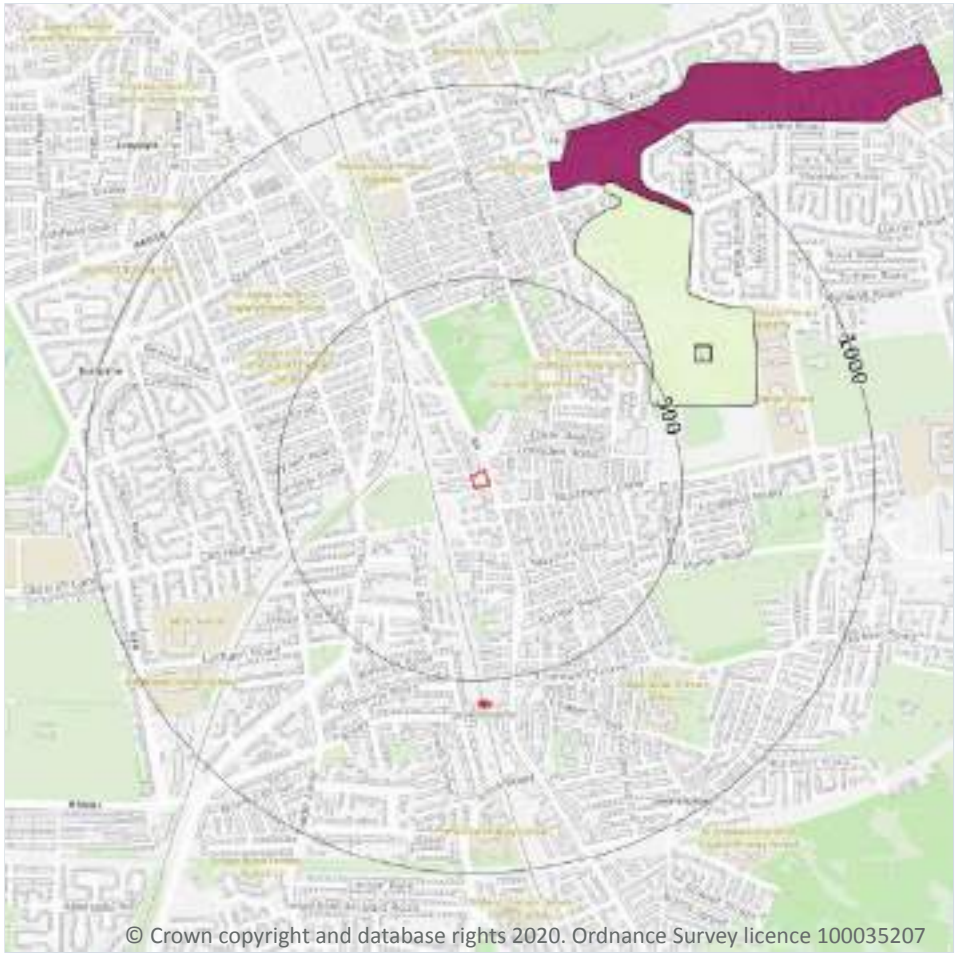
An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme.

Features are displayed on the Geology 1:50,000 scale - Availability map on **page 74**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	**On site**	**No coverage**	**Full**	**Full**	**No coverage**	**EW085_manchester_v4**

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Artificial and made ground



Site Outline

Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m	1

Details of made, worked, infilled, disturbed and landscaped ground at 1:50,000 scale. Artificial ground can be associated with potentially contaminated material, unpredictable engineering conditions and instability.

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 75**

ID	Location	LEX Code	Description	Rock description
1	465m NE	WMGR-ARTDP	INFILLED GROUND	ARTIFICIAL DEPOSIT

This data is sourced from the British Geological Survey.

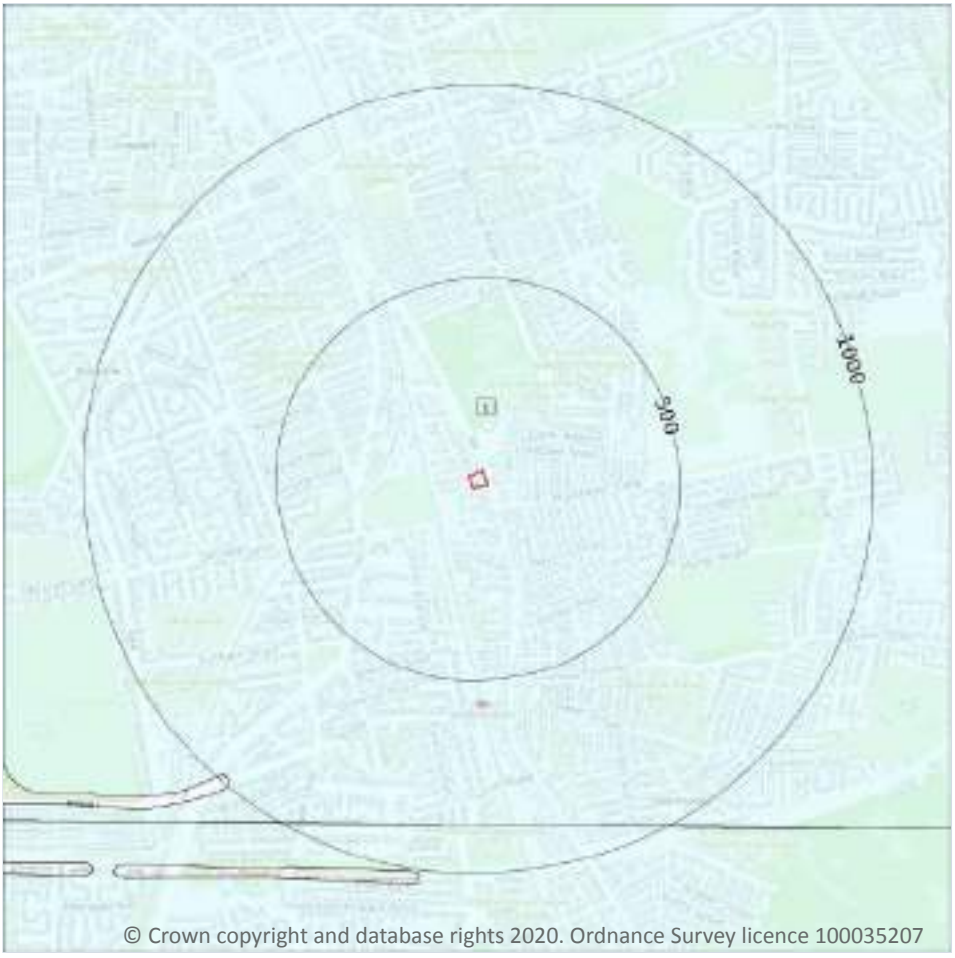
15.3 Artificial ground permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any artificial deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

Superficial geology (50k)
Please see table for more details.

15.4 Superficial geology (50k)

Records within 500m	1

Superficial geological deposits at 1:50,000 scale. Also known as 'drift', these are the youngest geological deposits, formed during the Quaternary. They rest on older deposits or rocks referred to as bedrock.

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 77**

ID	Location	LEX Code	Description	Rock description
1	**On site**	**TILLD-DMTN**	**TILL, DEVENSIAN**	**DIAMICTON**

This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m	1

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any superficial deposits (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Low**

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m	0

Mass movement deposits on BGS geological maps at 1:50,000 scale. Primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground.

This data is sourced from the British Geological Survey.

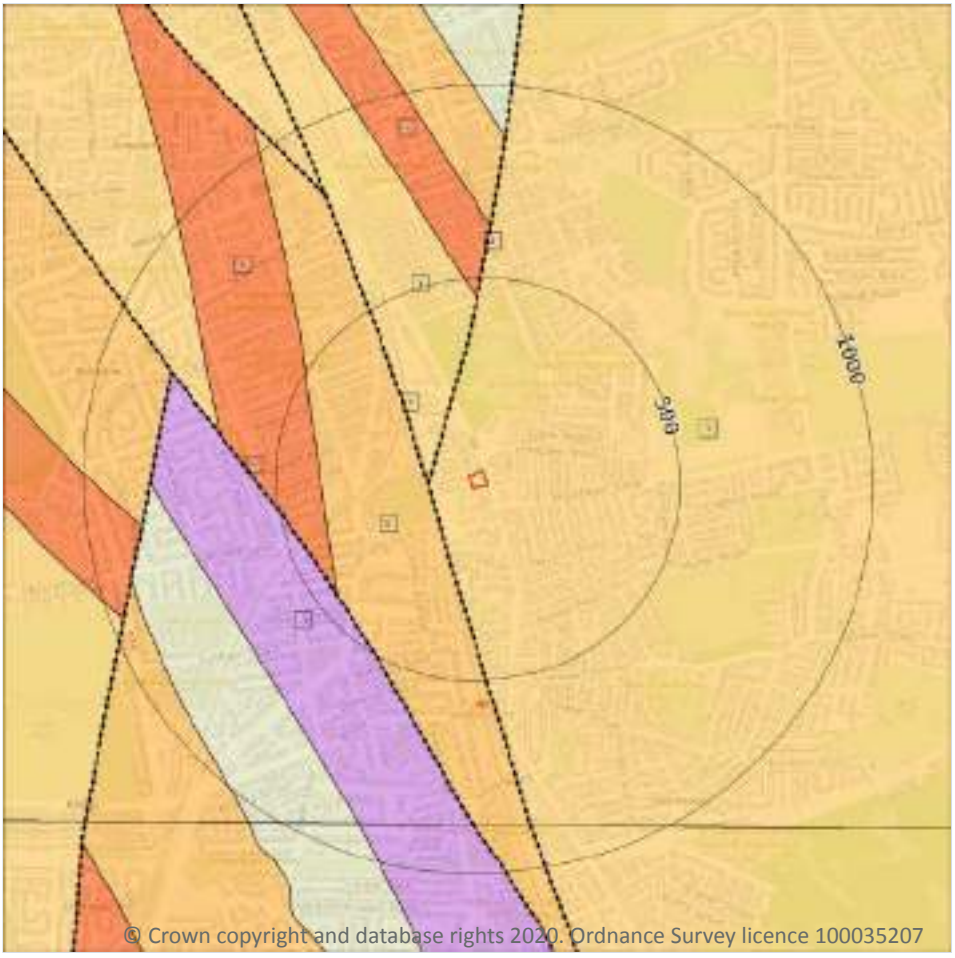
15.7 Landslip permeability (50k)

Records within 50m	0

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of any landslip deposits (the zone between the land surface and the water table).

This data is sourced from the British Geological Survey.

Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

Bedrock faults and other linear features (50k)

Bedrock geology (50k)
Please see table for more details.

15.8 Bedrock geology (50k)

Records within 500m **6**

Bedrock geology at 1:50,000 scale. The main mass of rocks forming the Earth and present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 79**

ID	Location	LEX Code	Description	Rock age
1	**On site**	**CHES-SDST**	**CHESTER FORMATION - SANDSTONE**	**OLENEKIAN**
3	95m W	CHES-SDST	CHESTER FORMATION - SANDSTONE	OLENEKIAN
5	106m W	CS-SDST	COLLYHURST SANDSTONE FORMATION - SANDSTONE	-
6	381m W	MM-MDST	MANCHESTER MARLS FORMATION - MUDSTONE	-

ID	Location	LEX Code	Description	Rock age
7	444m N	MM-MDST	MANCHESTER MARLS FORMATION - MUDSTONE	-
8	445m SW	ETM-STMD	ETRURIA FORMATION - SANDSTONE AND MUDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	**1**

A qualitative classification of estimated rates of vertical movement of water from the ground surface through the unsaturated zone of bedrock (the zone between the land surface and the water table).

Location	Flow type	Maximum permeability	Minimum permeability
On site	**Mixed**	**High**	**Moderate**

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	**3**

Linear features at the ground or bedrock surface at 1:50,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 79**

ID	Location	Category	Description
2	95m W	FAULT	Fault, inferred
4	106m W	FAULT	Fault, inferred
9	445m SW	FAULT	Fault, inferred

This data is sourced from the British Geological Survey.

16 Boreholes



© Crown copyright and database rights 2020. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

Confidential

0 - 10m

10 - 30m

30m+

Unknown

16.1 BGS Boreholes

Records within 250m	1

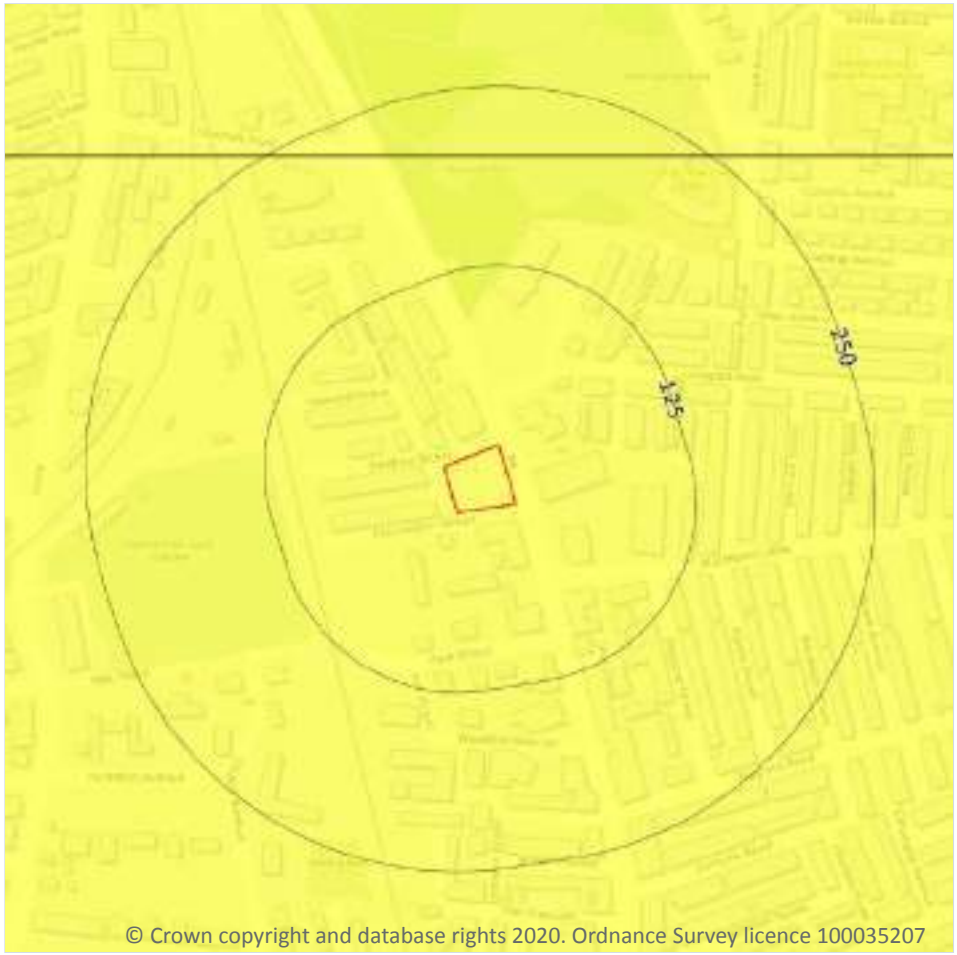
The Single Onshore Boreholes Index (SOBI); an index of over one million records of boreholes, shafts and wells from all forms of drilling and site investigation work held by the British Geological Survey. Covering onshore and nearshore boreholes dating back to at least 1790 and ranging from one to several thousand metres deep.

Features are displayed on the Boreholes map on **page 81**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	94m N	387258 394883	MANCHESTER CORP. LEVENSHULME 34	5.36	N	865691

This data is sourced from the British Geological Survey.

17 Natural ground subsidence - Shrink swell clays



© Crown copyright and database rights 2020. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.1 Shrink swell clays

Records within 50m	1

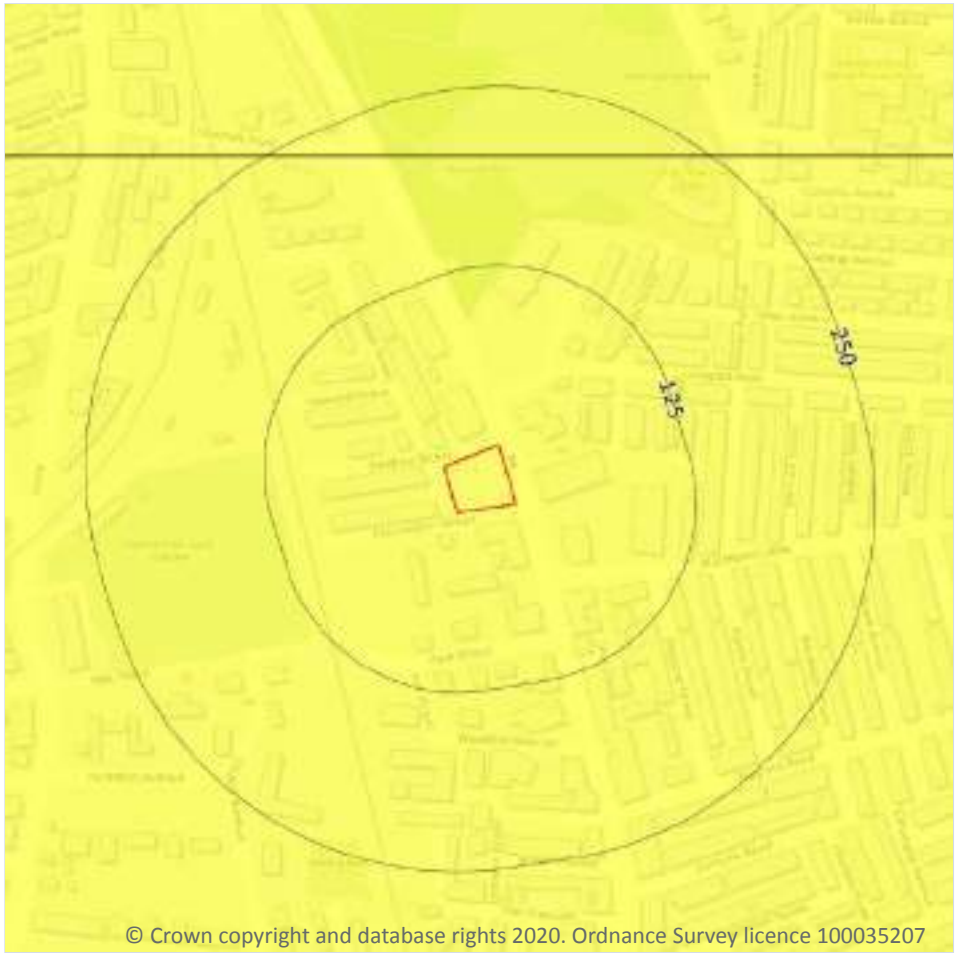
The potential hazard presented by soils that absorb water when wet (making them swell), and lose water as they dry (making them shrink). This shrink-swell behaviour is controlled by the type and amount of clay in the soil, and by seasonal changes in the soil moisture content (related to rainfall and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

Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 82**

Location	Hazard rating	Details
On site	**Very low**	**Ground conditions predominantly low plasticity.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Running sands



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.2 Running sands

Records within 50m	1

The potential hazard presented by rocks that can contain loosely-packed sandy layers that can become fluidised by water flowing through them. Such sands can 'run', removing support from overlying buildings and causing potential damage.

Features are displayed on the Natural ground subsidence - Running sands map on **page 83**

Location	Hazard rating	Details
On site	**Very low**	**Running sand conditions are unlikely. No identified constraints on land use due to running conditions unless water table rises rapidly.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Compressible deposits



© Crown copyright and database rights 2020. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.3 Compressible deposits

Records within 50m	1

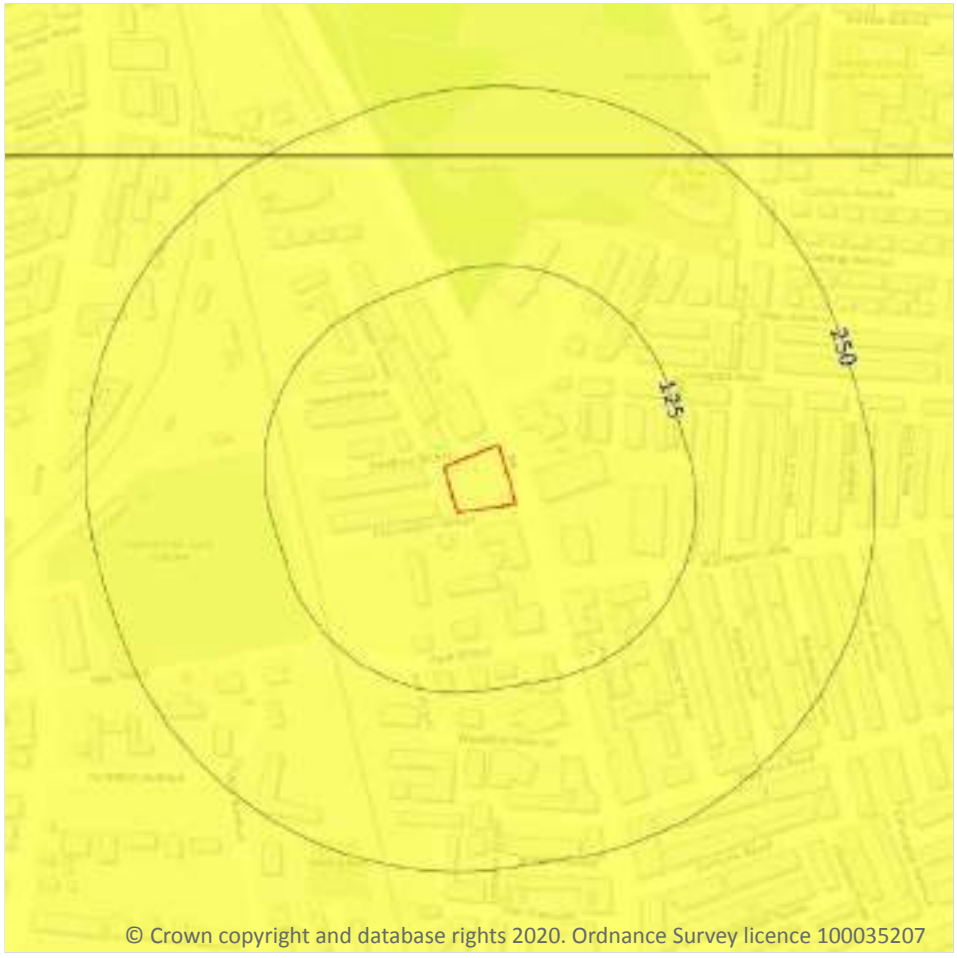
The potential hazard presented by types of ground that may contain layers of very soft materials like clay or peat and may compress if loaded by overlying structures, or if the groundwater level changes, potentially resulting in depression of the ground and disturbance of foundations.

Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 84**

Location	Hazard rating	Details
On site	**Negligible**	**Compressible strata are not thought to occur.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Collapsible deposits



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.4 Collapsible deposits

Records within 50m	1

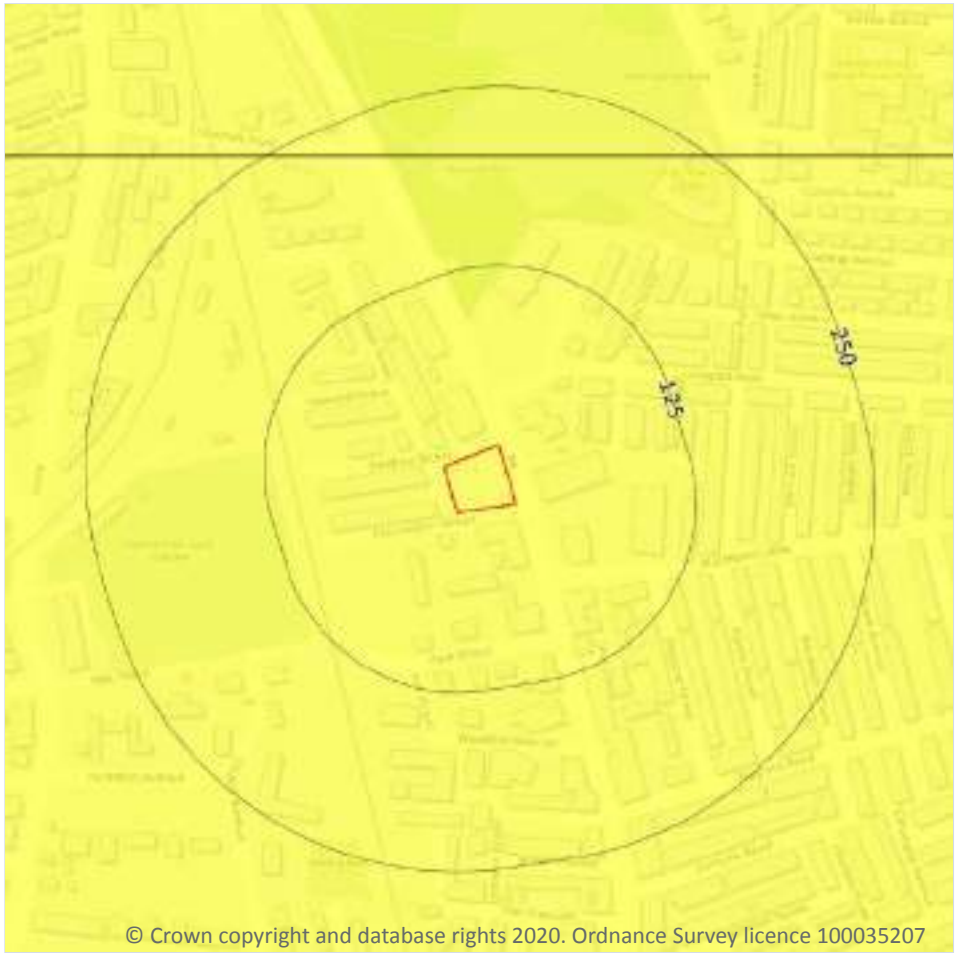
The potential hazard presented by natural deposits that could collapse when a load (such as a building) is placed on them or they become saturated with water.

Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 85**

Location	Hazard rating	Details
On site	**Very low**	**Deposits with potential to collapse when loaded and saturated are unlikely to be present.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Landslides



Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.5 Landslides

Records within 50m	1

The potential for landsliding (slope instability) to be a hazard assessed using 1:50,000 scale digital maps of superficial and bedrock deposits, combined with information from the BGS National Landslide Database and scientific and engineering reports.

Features are displayed on the Natural ground subsidence - Landslides map on **page 86**

Location	Hazard rating	Details
On site	**Very low**	**Slope instability problems are not likely to occur but consideration to potential problems of adjacent areas impacting on the site should always be considered.**

This data is sourced from the British Geological Survey.

Natural ground subsidence - Ground dissolution of soluble rocks



© Crown copyright and database rights 2020. Ordnance Survey licence 100035207

Site Outline

Search buffers in metres (m)

- No data
- Negligible
- Very low
- Low
- Moderate
- High

17.6 Ground dissolution of soluble rocks

Records within 50m	1

The potential hazard presented by ground dissolution, which occurs when water passing through soluble rocks produces underground cavities and cave systems. These cavities reduce support to the ground above and can cause localised collapse of the overlying rocks and deposits.

Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 87**

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

This data is sourced from the British Geological Survey.

18 Mining, ground workings and natural cavities



Site Outline

Search buffers in metres (m)

- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities

Non Coal Mining

- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m	0

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

This data is sourced from Peter Brett Associates (PBA).

18.2 BritPits

Records within 500m	0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m	0

Historical land uses identified from Ordnance Survey mapping that involved ground excavation at the surface. These features may or may not have been subsequently backfilled.

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m	3

Historical land uses identified from Ordnance Survey mapping that indicate the presence of underground workings e.g. mine shafts.

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Land Use	Year of mapping	Mapping scale
-	979m S	Tunnel	1974	1:10000
-	979m S	Tunnel	1983	1:10000
-	979m S	Tunnel	1989	1:10000

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m	1

Boundaries of mineral planning permissions for England and Wales. This data was collated between the 1940s (and retrospectively to the 1930s) and the mid 1980s. The data includes permitted, withdrawn and refused permissions.

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Site Name	Mineral	Type	Planning Status	Planning Status Date
4	410m E	Nelstrop Road	Brick clay	Surface mineral working	Valid	21/10/47

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m	**2**

The potential for historical non-coal mining to have affected an area. The assessment is drawn from expert knowledge and literature in addition to the digital geological map of Britain. Mineral commodities may be divided into seven general categories - vein minerals, chalk, oil shale, building stone, bedded ores, evaporites and 'other' commodities (including ball clay, jet, black marble, graphite and chert).

Features are displayed on the Mining, ground workings and natural cavities map on **page 88**

ID	Location	Name	Commodity	Class	Likelihood
5	428m SW	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered
-	753m W	Not available	Vein Mineral	A	Sporadic underground mining of restricted extent may have occurred. Potential for difficult ground conditions are unlikely and localised and are at a level where they need not be considered

This data is sourced from the British Geological Survey.

18.7 Mining cavities

Records within 1000m	**0**

Industry recognised national database of mining cavities. Degraded mines may result in hazardous subsidence (crown holes). Climatic conditions and water escape can also trigger subsidence over mine entrances and workings.

This data is sourced from Peter Brett Associates (PBA).

18.8 JPB mining areas

Records on site	1

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

Location	Details
On site	**Whilst outside of an area where The Coal Authority have information on coal mining activities, Johnson Poole & Bloomer (JPB) have information such as mining plans and maps held within their archive of mining activities that have occurred within 1km of this property. Further details and a quote for services can be obtained by emailing this report to enquiries.gs@jpb.co.uk.**

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site	0

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

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site	0

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

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

18.11 Gypsum areas

Records on site	0

Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

18.13 Clay mining

Records on site	0

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

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

19 Radon



Site Outline

Search buffers in metres (m)

- Greater than 30%
- Between 10% and 30%
- Between 5% and 10%
- Between 3% and 5%
- Between 1% and 3%
- Less than 1%

19.1 Radon

Records on site	1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 93**

Location	Estimated properties affected	Radon Protection Measures required
On site	**Less than 1%**	**None****

This data is sourced from the British Geological Survey and Public Health England.

20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m **1**

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km^2. In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km^2; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	**15 - 25 mg/kg**	**No data**	**100 mg/kg**	**60 mg/kg**	**1.8 mg/kg**	**60 - 90 mg/kg**	**15 - 30 mg/kg**

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m **4**

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km^2).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	**26**	**4.6**	**42**	**29**	**0.3**	**79**	**12**	**38**	**3**
On site	**26**	**4.6**	**43**	**30**	**0.3**	**80**	**13**	**38**	**4**
2m NE	26	4.6	42	29	0.3	80	12	39	3
2m NW	27	4.7	41	28	0.3	79	12	38	3

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

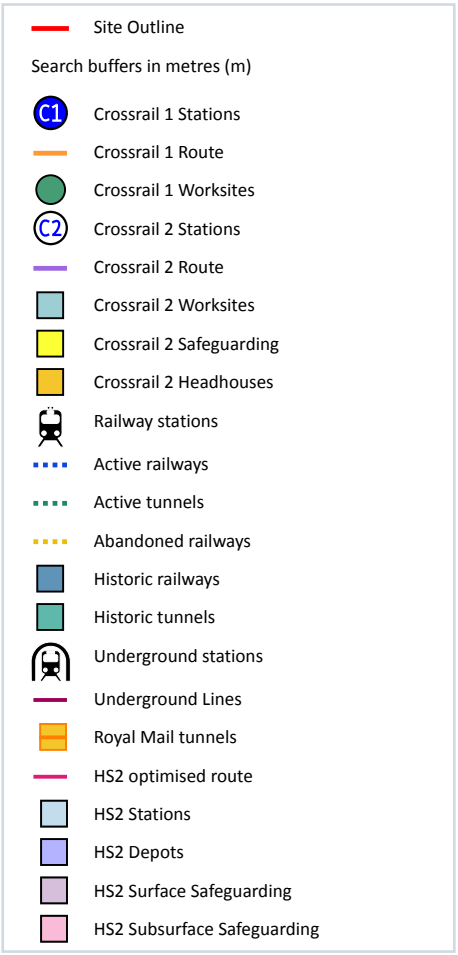
Records within 50m	0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km^2.

This data is sourced from the British Geological Survey.

21 Railway infrastructure and projects





21.1 Underground railways (London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m	0

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

This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m	0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m	6

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

Features are displayed on the Railway infrastructure and projects map on **page 96**

Location	Land Use	Year of mapping	Mapping scale
89m W	Railways	1893	-
94m W	Railways	1903	-
94m W	Railways	1930	-
189m S	Railway	1907	-
209m NW	Railway Sidings	1956	2500
209m NW	Railway Sidings	1956	1250

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m	0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m	0

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

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	30

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

Features are displayed on the Railway infrastructure and projects map on **page 96**

Location	Name	Type
100m W	Manchester-Crewe Line	rail
100m W	Manchester-Crewe Line	rail
100m W	-	rail
103m W	Manchester-Crewe Line	rail
105m W	Not given	Multi Track
107m W	Manchester-Crewe Line	rail
108m W	-	rail
108m W	Manchester-Crewe Line	rail
110m W	Manchester-Crewe Line	rail
111m W	Manchester-Crewe Line	rail
113m W	Manchester-Crewe Line	rail
118m W	Manchester-Crewe Line	rail
121m SW	Manchester-Crewe Line	rail
123m SW	Manchester-Crewe Line	rail
127m SW	Manchester-Crewe Line	rail
131m SW	Manchester-Crewe Line	rail
136m SW	Manchester-Crewe Line	rail
139m SW	Manchester-Crewe Line	rail

Location	Name	Type
141m SW	Manchester-Crewe Line	rail
145m SW	Manchester-Crewe Line	rail
168m NW	Manchester-Crewe Line	rail
168m NW	-	rail
204m NW	Manchester-Crewe Line	rail
204m NW	-	rail
208m W	Styal Line	rail
209m W	Not given	Multi Track
209m W	Not given	Multi Track
209m W	Not given	Multi Track
209m NW	Manchester-Crewe Line	rail
211m NW	Styal Line	rail

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	1

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

Features are displayed on the Railway infrastructure and projects map on **page 96**

Location	Track Type	Speed (mph)	Speed (km/h)	Status
419m W	Tunnel	143mph	230kph	Current preferred consultation route

This data is sourced from HS2 ltd.

Data providers

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

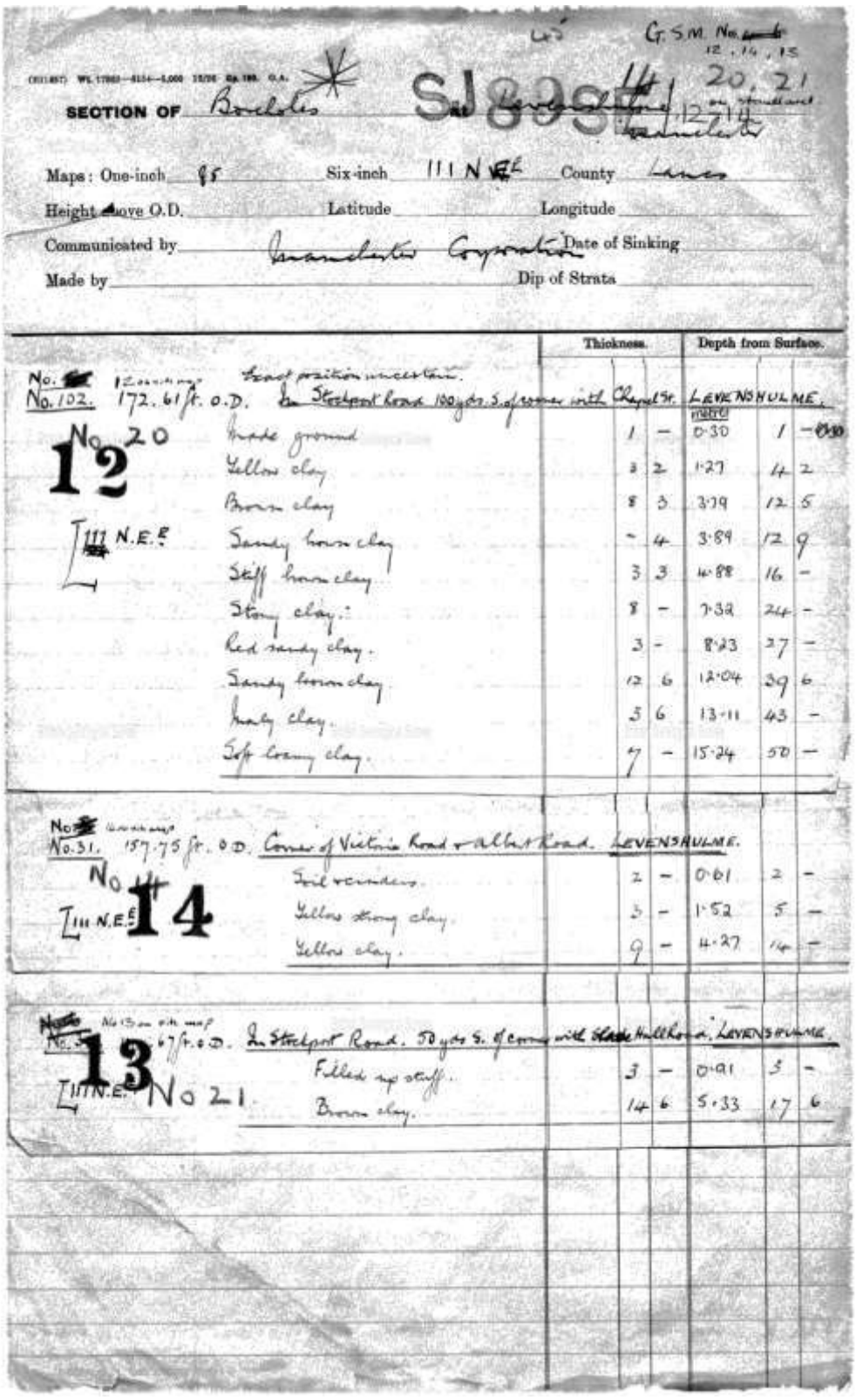
Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: https://www.groundsure.com/terms-and-conditions-jan-2020/.

APPENDIX C

BGS Borehole

GEO-ENVIRONMENTAL CONSULTING ENGINEERS



G.S.M. No. 12, 14, 15

SECTION OF Bowdon SJ 88 SE 11 20, 21

Maps: One-inch 85 Six-inch 111 N.E. County Cheshire

Height above O.D. Latitude Longitude

Communicated by Manchester Corporation Date of Sinking

Made by Dip of Strata

		Thickness		Depth from Surface	
No. 102. 172.61 ft. O.D.	Head position uncertain. In Stockport Road 150 yds S. of corner with Chapel St. LEVENSHULME.				
No 20 12	Made ground	1 –		0·30	1 –
111 N.E.E	Yellow clay	3 2		1·27	4 2
	Brown clay	8 3		3·19	12 5
	Sandy brown clay	– 4		3·89	12 9
	Stiff brown clay	3 3		4·88	16 –
	Stony clay:	8 –		7·32	24 –
	Red sandy clay.	3 –		8·23	27 –
	Sandy brown clay	12 6		12·04	39 6
	Marly clay.	5 6		13·11	43 –
	Soft loamy clay.	7 –		15·24	50 –
No. 31. 157.75 ft. O.D.	Corner of Victoria Road + Albert Road. LEVENSHULME.				
No 14 111 N.E.E	Soil + cinders.	2 –		0·61	2 –
	Yellow stony clay.	3 –		1·52	5 –
	Yellow clay.	9 –		4·27	14 –
No. 5. 167 ft. O.D. 13 111 N.E. No 21.	In Stockport Road. 50 yds S. of corner with Hall Road. LEVENSHULME.				
	Filled up stuff.	3 –		0·91	3 –
	Brown clay.	14 6		5·33	17 6

BGS Borehole Record

APPENDIX D

Potential Pollutant Linkages

POTENTIAL RECEPTOR	COMMENTS	Include in PCM
PROPERTY: Other		
On Site		
Crops	None Intended on site	×
Domestic Produce	Unlikely	×
Livestock	None Intended on site	×
Domestic Animals	Possibly belonging to residential end users	✓
Game	None Intended on site	×
Off Site		
Crops	None	×
Domestic Produce	Possibly in houses in vicinity of the site	✓
Livestock	Unlikely	×
Domestic Animals	May belong to adjacent residents	✓
Game	Unlikely	×
PROPERTY: Buildings		
On Site		
	Commercial and Residential Properties, services,	✓
Off Site		
	Residential Properties, commercial business, services	✓
HUMANS		
On Site		
Residents	Future Residents	✓
Construction Workers	During ground excavations	✓
Employees	Landscape Gardeners/Building Service Companies	✓
Surface water users	No current surface water abstractions located on site	×
Off Site		
Residents	Residents adjacent to the site	✓
Surrounding Area	Residential/commercial (during construction)	✓
Groundwater users	No existing groundwater abstractions within 250 m	×
Controlled Waters		
On Site		
Surface Waters	No surface water features on site	×
Groundwater	The underlying superficial strata is classified as a 'Secondary (undifferentiated) Aquifer' which are described as 'assigned where it is not possible to attribute either category A or B to a rock type.' The underlying 'Chester Pebble Beds Formation – Sandstone' bedrock is classified by the EA as a 'Principal' aquifer which are described as 'geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale.	✓
Off Site		
Controlled Waters	There are no surface water receptors within likely impacting distance from the site.	×
Ecological Systems		
On/Off Site		
SSSIs, national nature reserves, SACs etc	Not applicable to the site	×

Table A: Potential Receptors to be considered in the Preliminary Conceptual Model

Link	Source	Hazard	Transport Mechanism	Pathway	Medium of Exposure	Receptor	Risk Summary*
1	Made Ground/ Contaminated Soils/ Contaminated Groundwater	Direct contact /ingestion of soil or dust	Direct contact with contaminated soil	Dermal contact/ingestion of soil at surface	Soil	Humans (on-site/off-site), domestic pets	Low
2		Particulate inhalation	Wind blown particulates (during construction)	Inhalation of particulates	Air	Humans (on-site/off-site), domestic pets	Low-Medium
3		Inhalation of Ground Gas	Degradation of contaminants generating ground gas through unsaturated zone to soil leading to inhalation	Inhalation of Gases	Air	Humans (on-site/ off-site, domestic pets)	Low
4		Vapour Inhalation	Volatalisation of organic compounds through unsaturated zone of soil leading to inhalation	Inhalation of Gases	Air	Humans (on-site/ off-site, domestic pets)	Low-Medium
5		Damage to structure/services	Direct contact of contaminants with building structures/services	Direct contact	Soil/Water	Flora, services	Low-Medium
6		Degradation of perched water quality	Dissolution or suspension of contaminants into perched waters	Dissolution or Suspension	Water	Perched Waters	Low
7		Pollution of underlying groundwater	Dissolution or suspension of contaminants into groundwaters	Dissolution or Suspension	Water	Groundwaters	Low-Medium

Table B: *Preliminary Conceptual Model (based on preliminary development proposals for a food shop with single apartment above, and carparking (no landscaped or garden areas)*

***Relative Risk Screening and Prioritisation for further Investigation & or Assessment**

High	Higher probability of occurrence and identification of primary sources of contamination with respect to most sensitive receptors.
Medium	Pollutant linkage generally dependent on the presence of other primary pollutant linkages and/or where pollutant linkage generally associated with less sensitive receptors.
Low	Lower probability of occurrence such as based on requirement for significant migration pathway or where pollutant linkage requires the presence of source contaminants at concentration likely to be much higher than other identified pollutant linkages.

APPENDIX E

Site Photographs



P1: The site was accessed via a gated entrance adjacent to Siddal St.



P2: Heavy Brambles and trees are situated in the centre and west



P3: Heavy Brambles and trees are situated in the centre and west



P4: Long grasses and sporadic weeds occupy the north and eastern parts of the site



P5: Long grasses and sporadic weeds occupy the north and eastern parts of the site



P6: Three concrete pads were noted in the west of the site

Comments:

GEO-ENVIRONMENTAL CONSULTING ENGINEERS

Photographs 1 to 6

This appendix is for illustrative purposes only and is for use only in conjunction with associated reports relating to the project	**Site:** Former Police Station, Stockport Road	**Project No:** 20757	**Created By:** J Mashiter	**Date:** 21/9/2020
	Title: Appendix E – Site Photographs	**Client: VIEWS (Holdings) Limited**		



P7: Hardstanding tarmac and concrete occupy the southern section of the site



P8: A number of small stockpiles of soils with occasional brick and concrete were noted in the south-east of the site



P9: A number of small stockpiles of soils with occasional brick and concrete were noted in the south-east of the site



P10: Flytipped Mattress located in the south-west



P11: Flytipped rubbish noted in the south-west of the site



P12: Flytipped rubbish noted in the south-west of the site

Comments:

Photographs 7 to 12

This appendix is for illustrative purposes only and is for use only in conjunction with associated reports relating to the project	**Site:** Former Police Station, Stockport Road	**Project No:** 20757	**Created By:** J Mashiter	**Date:** 21/9/2020
	Title: Appendix E – Site Photographs	**Client: VIEWS (Holdings) Limited**		

APPENDIX F

Drawings

APPENDIX 4

STOCKPORT RD - LANDSCAPE AND GARDEN AREAS - GUIDE PLAN


Estate Landscape Area
Private Garden Area
PENNINGTON STREET
SWALLOW STREET
22 Car Park Spaces
(Inc 2 Accessible)
Entry / Exit
Line of Riser Above
Tank
Residents Refuse Store
32 sqm
Cycle Store
40 stands
Residents' Entrance Lobby
Indicative Unit Subdivision
Unit 1
Unit 2
Unit 3
Unit 4
Unit 5
Unit 6
Unit 7
Unit 8
784
786
780
LAND SOUTH OF 786 STOCKPORT ROAD
Landscape & Garden areas

APPENDIX 5

ASSESSMENT CRITERIA FOR COVER SOIL IN LANDCAPING AREAS

Assessment Criteria for Imported Soils in Garden Areas (Residential without Homegrown produce)

Determinand	Assessment Criteria		
Metals			
Arsenic	40		
Beryllium	1.7		
Boron	11000		
Cadmium	150		
Chromium	910		
Chromium VI	21		
Copper	7100		
Lead	310		
Inorganic Mercury	300		
Nickel	180		
Selenium	430		
Vanadium	1200		
Zinc	40000		
Organic Compounds	***1% SOM***	***2.5% SOM***	***6% SOM***
Petroleum Hydrocarbons			
Benzene	3.3	3.3	3.3
Toluene	880[vap]	1900	3900
Ethylbenzene	83	190	440
m-xylenes	82	190	430
p-xylenes	79	180	180
o-xylenes	88	210	480
Aliphatic EC >5-6	42	78	160
Aliphatic EC >6-8	100	230	530
Aliphatic EC >8-10	27	65	150
Aliphatic EC >10-12	130[vap]	330	760
Aliphatic EC >12-16	1100[sol]	2400[l]	4300
Aliphatic EC >16-21	65000[sol]	92000[sol]	110000
Aliphatic EC >21-35	65000[sol]	92000[sol]	110000
Aromatic EC >5-7	370	690	1400
Aromatic EC >7-8	860	1800	3900
Aromatic EC >8-10	47	110	270
Aromatic EC >10-12	250	590	1200
Aromatic EC >12-16	1800	2300	2500
Aromatic EC >16-21	1900	1900	1900
Aromatic EC >21-35	1900	1900	1900
Polycyclic Aromatic Hydrocarbons			
Naphthalene	15	36	85
Acenaphthylene	2900	4600	6000
Acenaphthene	3700	4700	6000
Fluorene	2800	3800	4500
Phenanthrene	1500	1500	1500
Anthracene	31000	35000	37000
Fluoranthene	1500	1600	4500
Pyrene	3700	3800	3800
Benzo(a)anthracene	11	14	15
Chrysene	30	31	32
Benzo(b)fluoranthene	3.9	4	4
Benzo(k)fluoranthene	110	110	110
Benzo(a)pyrene	3.3	3.3	3.3
Indeno(1,2,3-cd)pyrene	45	46	46
Dibenz(a,h)anthracene	0.31	0.32	0.32
Benzo(ghi)perylene	360	360	360
Phenols			
Phenol	750	1300	2300
Asbestos Fibres	<0.001%	<0.001%	<0.001%

Material should have a maximum stone size of 75mm and be free of foreign debris including building waste, materials, or contaminants e.g. brick, glass, asbestos, and plasterboard.

The site-specific risk-based criteria are based upon DEFRA/EA CLEA 1.07 modelling assuming a sandy loam with 1% Soil Organic Matter and pH of 7.
The above criteria are to determine if material is chemically clean, for suitability as a growing medium in accordance with BS3882:2015 for Topsoil and BS8601:2013 Specification for Subsoil and Requirements for Use

APPENDIX 6

REPORT LIMITATIONS

LIMITATIONS

This contract was completed by Earth Environmental & Geotechnical Ltd based on a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with all reasonable skill, and care, bearing in mind the project objectives, the agreed scope of works, the prevailing site conditions, the budget, and staff resources allocated to the project.

Other than that, expressly contained in the above paragraph, Earth Environmental & Geotechnical Ltd provides no other representation or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Earth Environmental & Geotechnical Ltd.

If a third party relies on this report, it does so wholly at its own and sole risk and Earth Environmental & Geotechnical Ltd disclaims any liability to such parties.

It is Earth Environmental & Geotechnical Ltd understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was an important factor in determining the scope and level of the services. Should the purpose for which the report is used, or the proposed use of the site change, this report will no longer be valid and any further use of, or reliance upon the report in those circumstances by the client without Earth Environmental & Geotechnical Ltd review and advice shall be at the client's sole and own risk.

The report was written in 2024 and should be read considering any subsequent changes in legislation, statutory requirements, and industry best practices. Ground conditions can also change over time and further investigations, or assessment should be made if there is any significant delay in acting on the findings of this report. The passage of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions contained in this report should not be relied upon in the future without the written advice of Earth Environmental & Geotechnical Ltd. In the absence of such written advice of Earth Environmental & Geotechnical Ltd, reliance on the report in the future shall be at the client's own and sole risk. Should Earth Environmental & Geotechnical Ltd be requested to review the report in the future, Earth Environmental & Geotechnical Ltd shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between Earth Environmental & Geotechnical Ltd and the client.

The observations and conclusions described in this report are based solely upon the services that were provided pursuant to the agreement between the client and Earth Environmental & Geotechnical Ltd. Earth Environmental & Geotechnical Ltd has not performed any observations, investigations, studies or testing not specifically set out or mentioned within this report.

Earth Environmental & Geotechnical Ltd is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, Earth Environmental & Geotechnical Ltd did not seek to evaluate the presence on or off the site of electromagnetic fields, lead paint, radon gas or other radioactive materials.

The services are based upon Earth Environmental & Geotechnical Ltd observations of existing physical conditions at the site gained from a walkover survey of the site together with Earth Environmental & Geotechnical Ltd interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and whilst Earth Environmental & Geotechnical Ltd have no reason to doubt the accuracy and that it has been provided in full of those it was requested from, the items relied on have not been verified.

No responsibility can be accepted for errors within third party items presented in this report. Further Earth Environmental & Geotechnical Ltd was not authorised and did not attempt to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Earth Environmental & Geotechnical Ltd is not liable for any inaccurate information, misrepresentation of data or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to Earth Environmental & Geotechnical Ltd and including the doing of any independent investigation of the information provided to Earth Environmental & Geotechnical Ltd save as otherwise provided in the terms of the contract between the client and Earth Environmental & Geotechnical Ltd.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable and as investigation excavations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report. The extent of the limited area depends on the soil and groundwater conditions, together with the position of any current structures and underground facilities and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters [as stipulated in the contract between the client and Earth Environmental & Geotechnical Ltd] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The normal speed of investigation usually does not permit the recording of an equilibrium water level for any one water strike. Moreover, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site.