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Contaminated Land Phase One Desk Study for proposed commercial unit at 48 Derby Street, Manchester, M8 8HN.

Prepared for

Building Design Services
6 Stock Close
Rochdale
OL12 6BB

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Summary

This report consists of a phase one contaminated land desk study produced in relation to the construction of a commercial unit at 48 Derby Street, Manchester M8 8HN.

Following the site walkover and review of the available information it has been concluded that a further intrusive investigation is required due to the historic use of the site as a chemical works. Gas protection measures are also recommended due to the former brickworks and associated quarry activities.

The report further recommends that a watching brief is maintained throughout the construction of the new dwellings and any signs of potential contamination found are fully investigated, with appropriate remedial action taken as necessary.

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Introduction

Martin Environmental Solutions has been commissioned, to carry out a phase one contaminated land desk study report in relation to a proposed commercial unit at 48 Derby Street, Manchester, M8 8HN.

This version of the report updates the original report following the lapse of time between the two.

Aims and Objectives of the report.

The aims and objectives of this report are as follows:

- Assess the likelihood of contamination affecting the site,
- Identify any likely receptors to be affected by the potential contamination,
- Identify the pathways by which the receptors will be exposed to any potential contamination,
- Identify any areas where further investigation will be required.

Scope of works

This report has been written in line with the 'BS 10175: 2011+A2: 2017 Investigation of potentially contaminated sites – Code of Practice' and Land Contamination Risk Management (LCRM).

The scope of this report covers the phase one desk study only. It will look at relevant information on: -

- the history of the site and surrounding area,
- the current use of the site and surrounding area,
- the geology and hydrogeology of the area,

A site walk-over survey has been undertaken in addition to consultations with the existing site owner, to identify any potential contamination issues.

Evaluation of the above information will be used to construct an initial conceptual model as appropriate, with the identification of any additional investigations that may be required.

The Site:

Site Address: 48 Derby Street, Manchester, M8 8HN.

Grid reference: 384033; 399581

An aerial photograph of the site is included in Figure 1.

Current Site use:

The site currently consists of a rectangular concreted yard area to the rear of an existing commercial building. Additional retail units are located to the north, east and on the opposite side of the road west of the site.

Research

Details of Research

This report has been based on information gathered from a number of reputable sources, covering details:

- on the historic and current use of the site,
- any known waste disposal activities in the area,
- any regulated industrial activities within the vicinity of the site including recorded industrial accidents,
- on the geology, hydrogeology, hydrology of the area,
- identification of any environmentally sensitive sites,
- any natural hazards.

Principle sources of this information have been:

- environmental data from Groundsure Limited
- the Local Planning Authority,
- historic maps (Groundsure Ltd),
- site walk-over survey and discussion with the current owners.

Site History

Information on the historic uses of the site has been obtained from historic mapping information (Appendix 2), and environmental data from Groundsure Limited.

Mapping Year	Changes on Site	Changes off Site
1848-50	The sites forms part of a much larger area of open ground.	Properties are located to the east along York Street, to the north and west a river, flowing south and to the south a brick field located ~300m away. Further residential properties lie to the west beyond the river at Cheetwood and to the southeast.
1891-94	No change	An old Clay pit is identified to the north of the site, ~50m with a new road, Broughton Street, splitting it in two. This appears to continue through to the south. Beyond Derby Street into the brick field. To the east the Knowsley Sawmills ~50m, opposite a school. An art metal works and drugs laboratory mill are located 100m to the south. Another building is located ~80m to the west of the site. The wider area to the southeast round to the west has been developed further. A tramway is shown along Cheetham Hill Road.
1906-08	The site forms a yard to the larger commercial building to the south which extends to the north.	The building to the west is identified as a Police Station, another building is adjacent to the site. The sawmill is identified as a cabinet works. Further unnamed buildings have been built to the opposite side of the road along with some residential units. A brick works is shown 250m to the west and 200m to the north. A prison 500m southwest.
1922-23	No change	An Ice palace has been built between the site and the police station; a large Electricity substation is located 250m to the southeast.

1933-38	The site forms part of a chemical works.	The immediate surrounding area has been developed with a printing works adjacent to the east and a mill (rainproofing garments) to the west beyond the ice palace and more beyond.
1951-59	No change on site	No significant changes, more development in the area with additional warehousing, waterproofing works. A recreational ground is shown to the north beyond the printworks. The opposite to the south is a diary.
1963-68	No Change	No significant changes, most of the buildings are shown as works.
1973-78	No Change	No significant changes
1985-88	No Change	No significant changes, the recreational ground has been developed into a warehouse.
1991-94	No Change	No significant changes
2001-03	No Change	No significant changes
2010-23	No Change	No significant changes
Aerial	No change	The diary site is demolished around 2005 and new units constructed in 2017.

Regulatory Information

Relevant information obtained from the Groundsure report (Appendix 1) is summarised below. A review for the information has been undertaken and publicly available websites consulted to identify any changes (Environment Agency, British Geological Society, Magic map, Manchester City Council). No significant changes have been identified.

Two Part B permitted activities has been identified within 500m of the site as defined in the Environmental Permitting (England and Wales) Regulations 2016 or previous legislation. These cover the same site; one is historic the other active. The activity is a petrol station and located 466m south of the site.

Nine pollution incidents have been identified in the surrounding area. The closest four sites located 88m southwest in December 2010 involved construction and demolition waste and specific waste. Another 196m northwest in August 2002 involving household waste. Three incidents 488m southeast in September 2008 involving dust and smoke and finally 496m east of the site in September 2011 an incident involving solvents.

Two discharge consents are reported, both sewage discharges. The first 377m southeast at Cheetham Hill Road and the second 470m southwest Sherbourne Street.

The above identified sites are unlikely to impact on the development site.

No active landfill site records have been found in the area, two historic landfills have been identified the first 116m northeast at Elizabeth Street, no details are presented. The second 465m east, at Queens Rd Tip accepting inert, industrial, commercial, household, and special waste. Identified from December 1955 to December 1970.

A further nine historical waste sites are recorded only two of which are within 250m of the site, both 239m northeast a historic car breakers yard. Along with two current waste sites, relating to one operation at Kains Steel Drums, 397m northwest of the site.

Four additional historic sites are identified 363m and 442m southwest scrap yards in 1995 & 1990 respectful and 402m southwest a waste rubber works 1910-1930.

In addition, 20 waste exemptions are noted. The next five located 377m-395m southwest for the sorting and denaturing of drugs. Other sites further afield covered the storage of waste, recovery of scrap metal, screening and blending waste and the use of wate in construction.

Given the distances and nature and age of the sites it is unlikely that the above sites will pose any risk to the development, with the potential exception of the adjacent historic landfill site.

56 current potentially contaminative sites are identified within 250m of the sit, these include:

Historical potentially contaminative land uses have been identified within 250m of the site from the purchased information; most of these have been identified from the historical mapping and include:

The chemical works on site

The Art metal Works, 33m south in 1894,

An unspecified pit 39m southwest in 1894 (identified as old clay pit)

Ice works 40m southwest in 1906

The sawmill 44m southeast

Police station 64m west, 143m south

Brickworks 104m northeast, 117m southwest, 147m southwest, 175m west

Tramway Sidings 161m north

Printworks 204m west,

railway sidings 200m-26m north

Electricity substation 240m southwest

Unspecified pits – surrounding the site, identified as the former clay pits.

Geology and Hydrogeology

Information from the British Geology Survey 1:50,000 mapping identifies the bedrock in the area as Chester Pebble Beds Formation - Sandstone overlaid with Till, Devensian Diamicton deposits.

The information obtained on the hydrogeology of the area identifies the site as having a Principal aquifer in the bedrock capable of providing a high level of water storage and may support water supply/river base flow on a strategic scale., with a Secondary undifferentiated aquifer in the superficial layer.

A total of 33 historical groundwater abstraction licenses have been identified, the nearest active sites are located 154m southeast at Joseph Holts Brewery, 984m east at Little green Works, Collyhurst Rd, and 1194m south at House Chapel Street. No potable supplies are recorded.

The site is not located within a Source Protection Zone.

The Groundwater vulnerability is described as low within all geological layers.

Hydrology

There are no watercourses within the vicinity of the site.

The site is not within a floodplain, and the risk of flooding is classified as low.

Environmental Sensitivity

The Cliff / Kersal Dales Local Nature Reserve is located 1976m northwest of the site, this is the only environmentally sensitive site identified.

The property is in an area identified as having less than 1% of properties above the action level of 200 Becquerel's per cubic metre, based on specific property search. Radon protection measures are not required in line with BR211.

No additional natural hazards have been identified & the site has very low/negligible risk of shrink swell, running sand, and compressible ground.

There are no mining activities identified in the immediate area, beyond the brickworks, although the site is located within a coal mining area as identified by the Coal Authority.

Site Walkover

The initial site walkover was undertaken on the 20th February 2023 and confirmed much of what had already been identified from the information obtained on the site. The photographs in Appendix 3 provide some indication of the current layout and condition of the site.

The site is currently accessed from the west off Woolley Street and consists of an asphalt covered yard surrounded by buildings. A block wall is located along the northern façade and access to and service from the build to the south can be seen. Inert waste was seen within the yard at the time of the visit. And evidence of drainage running along the length was observed.

The surrounding area was built up.

No signs of contamination, discoloration, or olfactory evidence, dead or dying vegetation were seen during the walkover.

The current owners are unaware of any issues on site which could have led to contamination.

A further site walkover has been undertaken on the 21st May 2024. This identified no changes to the site or the surrounding area, with the exceptions of additional vegetation (grass/weed) growth over the site and removal of some of the inert material originally found. Appendix 4 provides some updated photographs.

Conclusions

Potential Contaminants

Following a review of the information gathered on the history of the site and the surrounding area and following the site walk-over survey there are no contaminants identified on or off site that are likely to present a significant possibility of significant harm to any identified receptor.

However historical use of the site and the surrounding area present potential risk of contamination which required additional investigation. Predominantly the filled ground surrounding the site from the former sand extraction works associated with the brickworks and the previous use of the site as a chemical works.

Receptors and Pathways

Potential receptors which may be affected by any unknown contamination on site will include:

- Construction workers who are likely to be affected by any potential contamination as they will initially be working in the ground and are likely to be the ones who unearth any potential contaminants.
- Future users of the site, including residents, staff, and visitors to the site. For the purpose of evaluating any effects from any contamination found during any intrusive investigation future users/visitors to the site should be regarded as the 0-6-year-old female child.
- Any building on site e.g., foundations which may be attacked by any contaminants in the ground or services.
- The underlying groundwater which may be contaminated by migrating pollutants present on the site. There is also the potential for further pollution of the groundwater or the watercourse from disturbing any potential contaminants on site.

The pathways by which these receptors may be exposed to any unforeseen potential contamination will include:

Construction workers

- Inhalation, of gases or vapours released during ground work or fine particles.
- Ingestion of the contaminants, principally from cross contamination with contaminated soil and inadequate hand washing before smoking and eating.
- Absorption through the skin following contact with contaminated soil.

Future users and visitors

- Inhalations of gas/vapours or fibres, particularly if these are allowed to enter the new structures through the ground and build up in an enclosed area.
- Ingestion of contaminants, through the ingestion of contaminated soil from the garden area via direct contact, e.g., playing in the garden.
- Absorption of contaminants from dermal contact with contaminated soil.

Buildings

Contaminants on site have the potential to affect the foundations to the new building or the services supplying it.

Watercourses

As discussed above, if they exist on site, there is a potential for any contaminants to migrate through the ground into the groundwater and aquifer or via run-off into the watercourse.

Neighbouring sites

If present on site contaminates have the potential to migrate to neighbouring sites through ground water or air blown transfer.

Conceptual Model

The table represents a basic conceptual model. It highlights the potential sources of pollutants identified from the gathered information, and potential pathways in which any contaminants could reach the identified receptors.

Pathway	Description	Identified sources	Receptor at risk	Likelihood
1	Run off and seepage into groundwater from any spillages	Previous chemical works	Watercourse/ Environment	Low
2	Migration of gases into the building.	Surrounding filled ground associated with Brickworks	Future users	Low,
3	Inhalation of gases/ vapours outside	-	Construction workers/future users	V. Low
4	Inhalation of fine particles	Previous chemical works	Construction workers/future users	Low
5	Direct ingestion of contaminated soil	Previous chemical works	Construction workers	Low
6	In-direct ingestion of contaminated soil	-	Future users	V. Low
7	Absorption via direct dermal contact with contaminated soil	Previous chemical works	Construction workers	Low

Recommendations

As a result of the investigation into the historical use of the site and surrounding area the site has been identified as being located adjacent to a former brickwork site and filled ground, in addition the previous use of the site includes a chemical works.

Therefore, there is a chance that the surrounding sites could contain material which could result in the release of ground gas and could therefore affect the development site, along with potential contamination ono site.

While the risks are considered low it is recommended that an intrusive investigation be undertaken on site to confirm the present of any contamination. It is recommended that three trail pits are excavated across the site and samples taken for analysis of a standard range of contaminants, heavy metals, TPH, PAH, asbestos.

It is also recommended that basic gas protection measures are included within the design of the building in the form of a suitably install gas protection membrane.

It is further recommended that a watching brief is maintained throughout the construction of the new building and any signs of potential contamination found are fully investigated, with appropriate remedial action taken as necessary and the local planning authority informed of the findings.

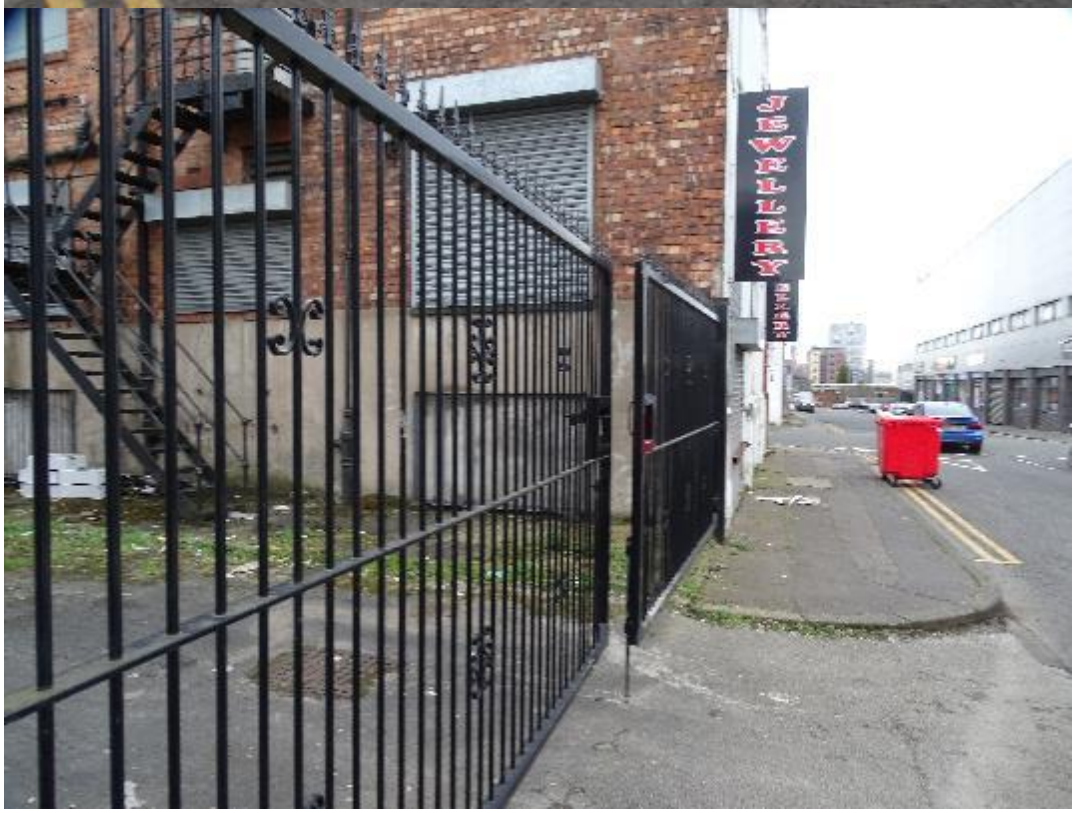
Figure 1 – Aerial Photograph

Appendix 1 – Groundsure Data

Appendix 2 – Historical Mapping

Appendix 3 – Site Walkover Photographs

The access to the site



The southern boundary to the rear of the neighbouring property, looking east and then west.

The eastern boundary looking north and south.

The southern boundary looking west and east.

The western boundary

An overview of the site from the fire escape

Appendix 4 New Walkover Survey Photographs

07405 254007
FRESH & TASTY
JEWELLERY

PICE MCR
07405 254007
FRESH & TASTY
JEWELLERY
DESIRE
PARAS

Appendix 5 Report limitations and exclusions

Basis of Risk Assessment

The methods used follow a risk-based approach with the potential risk assessed using the 'Source – pathway – receptor pollution linkage concept.

Limitations and Exceptions of this Report

This report was undertaken for at the request of Building Design Services and as such should not be entrusted to any third party without written permission of ***Martin Environmental Solutions***. No other third parties may rely upon or reproduce the contents of this report without the written permission of ***Martin Environmental Solutions***. If any unauthorised third party comes into possession of this report, they rely on it at their own risk and the authors do not owe them any duty of care or skill.

This report has been compiled from a number of sources, within the time constraints of the programme, which ***Martin Environmental Solutions*** believes to be trustworthy. However, ***Martin Environmental Solutions*** is unable to guarantee the accuracy of information provided by third parties.

The findings and opinions provided in this document are made in good faith and are based on data provided by third parties (Groundsure, Environment Agency, The Coal Authority, and Regulatory Bodies) and the report should be read in conjunction with the limitations on the document control form. The accuracy of map extracts cannot be guaranteed, and it should be recognised that different conditions on /adjacent to the site may have existed between and subsequent to the various map surveys.

This report is prepared and written in the context of the purposes stated above and should not be used in a different context. Furthermore, new information, improved practices and legislation may necessitate an alteration to this report in whole or in part after its submission.

The conclusions and recommendations of this report are based on the development described, for any other development the report may require revision.

All of the comments and opinions contained in this report, including any conclusions, are based on the information obtained by ***Martin Environmental Solutions***. The conclusions

drawn by ***Martin Environmental Solutions*** could therefore differ if the information obtained is found to be misrepresentative, inaccurate, or misleading. ***Martin Environmental Solutions*** reserves the right to amend their conclusions and recommendations in the light of further information that may become available.

The report should be read in its entirety, including all associated drawings and appendices.

Martin Environmental Solutions cannot be held responsible for any misinterpretations arising from the use of extracts that are taken out of context.

This report does not comprise a geotechnical assessment of the strata underlying the site.

Any borehole data from the British Geological Survey sources is included on the following basis: 'The British Geological Survey accept no responsibility for omissions or misinterpretations of the data from their Data Bank as this may be old or obtained from non-BGS sources and may not represent current interpretation'.

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Any risks identified in a Phase I Desk Study Report are perceived risks. Actual risks can only be assessed following a physical investigation of the site.

The findings of this report are based on finite information obtained from research and consultations. Martin Environmental Solutions cannot guarantee the reliability of all such information and the searches should not be considered exhaustive. The findings of the report may need to be reviewed as any future exploratory investigations progress and in the event that additional archive information becomes available.

Notwithstanding the findings of this study (and any subsequent investigations), if any indication of contaminated soil (visual or olfactory) is encountered at any stage of the development further investigation may be required.

Arboricultural Survey and advice on arboricultural issues are considered to be outside the scope of this report except for their effect on the foundations to the proposed buildings.

Where identification of any species is made, especially invasive plants such as Japanese Knotweed, Himalayan Balsam, or Giant Hogweed, this should only be considered as a preliminary assessment and subject to confirmation by a professional Arboriculturist. Martin Environmental Solutions takes no responsibility for failing to identify, or the incorrect identification of, any tree or plant species on site.

Our investigations exclude surveys to identify the presence or indeed absence of asbestos in buildings/infrastructure on site. If asbestos is suspected to be present, we recommend specialists in the identification and control / disposal of asbestos are appointed prior to commencement of any works on site or, if appropriate, purchase of the site. The presence of asbestos on site may have considerable effects on the cost / timescale in developing the site. There is good guidance in relation to Asbestos available on the Health and Safety Executive (HSE) web site.

Whilst a site walkover has been undertaken as part of this report, the survey does not constitute either an asbestos or structural survey and all areas of the site may not have been visited / inspected.