CONTAMINATION LTD

CONTAMINATED LAND RISK ASSESSMENT

DESKTOP STUDY

Sigma Property Ltd

97 Jersey Street
Manchester

PLANNING
RECD 17 FEB 2010
LATE



Contamination Consultants Ltd
December 2009

Our Ref: CC/SP/JS/1209 **Date: 15th December 2009**

Client:

Sigma Property Ltd
30 Mason Street
Manchester
M4 5EX

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DESKTOP STUDY

97 Jersey Street
Manchester

A report prepared on behalf of ***Contamination Consultants*** by:

PGC *Contaminated Land Management*

INSTITUTE OF PROFESSIONAL SOIL SCIENTISTS

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1. INTRODUCTION AND OBJECTIVES

The purpose of this assessment is to examine specifically the current and potential risks to human, ecological and ground and surface water receptors associated with possible contamination of the ground at the site located at:

97 Jersey Street
Manchester
M4 6JG

Grid Ref 385120, 398720

The site is to be re-developed for commercial use as offices.

This risk assessment has been designed within the source/pathway/receptor framework for contaminated site investigation as outlined by:

Model Procedures for the Management of Contaminated Land CLR11 (2004).

Reporting and all site work is based on the format outlined in:

Investigation of Potentially contaminated sites – Code of practice BS10175 (2001)

Evaluation of the risks are given and subsequently, if needed, further investigation or remediation recommendations made with regard to risk reduction and or evaluation.

2. SITE CHARACTERISATION AND FORMER INVESTIGATIONS

Current setting and condition

The site assessed for this investigation currently comprises a public house located on Jersey Street, Manchester. The site is bounded to the south, west and north by roads and to the east by commercial buildings (Photo 1).

Photo 1. (NB This aerial photo may be a number of months out of date).



Site history (see Appendix A - Historical maps)

Prior to 1893

A public house was located on the site with an iron works 25 m east, a road bounding the site to the south and west and a works 20 m south east. Cotton mills were located 20 m and 50 m south west and 75 m south east and 75 m north east of the site. A tramway was located 152 m north of the site.

1908

A corn mill was located 6 m west of the site. The mill 75 m south east was now labelled as the 'Jersey Street Dwellings'.

1922

Part of the works 20 m south east had been demolished and was now marked as a waterproof factory and an iron works was located 42 m north east of the site. The mill 75 m north east was now marked as a printing works.

1951

The corn mill 6 m west of the site was now labelled as a soap works and the waterproof factory was re-marked as a clothing factory. A waste paper factory had been constructed 25 m south east, a warehouse 18 m north west and a sheet metal works 15 m south of the site. The tramway 152 m north of the site had been demolished and a road had been constructed. The mill 50 m south west was marked as a clothing factory.

1978-1985

An engineering works was located 3 m north and a depot was marked 5 m east of the site. The soap works 6 m west was now marked as a clothing factory and the sheet metal works 15 m south was now labelled as an engineering works.

1992

The mill 20 m south west and the engineering works 15 m south ceased to be marked.

1993-2009

The former soap works 6 m west was now marked as 'Beehive Mill' and the former waste paper warehouse 25 m south east had been demolished.

The Local Authority have been approached to forward any relevant information they may have for the site but have not yet responded.

Soils, geology and hydrology

The site is located on Millstone Grit from the Carboniferous period.

Flow to groundwater could exist through the highly permeable soils finding a possible route to the aquifer at depth or to The Rochdale Canal 100 m south of the site.

The site is located on a highly permeable major aquifer zone and is in a groundwater source protection zone.

Previous reports and environmental data

Environmental data (Appendix B) indicates the following:

The site is in a highly permeable major aquifer zone
The site is in a groundwater source protection zone
No active landfill sites within 250 m
No historic landfill sites within 250 m
No pollution inventory sites within 250 m
No waste treatment sites within 250 m
No pollution incidents within 250 m
Radon is not considered to be a risk
No fuel sites within 250 m

Former investigations

No former investigations have taken place.

3. THE CONCEPTUAL SITE MODEL

The conceptual site model detailed here is by a written and diagrammatical (Drawing CSM/1) description of the sources, pathways and receptors.

3.1 Sources of contamination

Possible sources generated on-site:

The historical maps indicate no significant sources have been generated on site.

Possible sources generated off-site:

The various industries surrounding the site may possibly have generated potential contaminants such as metals, solvents and hydrocarbons associated with materials and goods stored or used at the sites: *factory 6 m west and 12 m south east, works 3 m north and 42 m north east, depot 5 m east and warehouse 25 m north east.*

Former railway/tramway

The former railway/tramway located 152 m north of the site may have produced potential contaminants such as hydrocarbons and metals

3.2 Pathways

Service channels are considered as a possible pathway to and from the site.

Human health

The main pathways considered possible are:

1. Ingestion of soil
2. Ingestion of dust
3. Dermal contact with skin
4. Dermal contact with dust
5. Inhalation of fugitive soil dust
6. Inhalation of fugitive dust
7. Inhalation of vapours outside
8. Inhalation of vapours inside
9. Ingress to water supplies is also considered

Controlled waters

Flow to groundwater could exist through the highly permeable soils finding a possible route to the aquifer at depth or to The Rochdale Canal 100 m south of the site.

The site is located on a highly permeable major aquifer zone and is in a groundwater source protection zone.

3.3 Receptors

Humans

- Personnel in the proposed offices.
- Personnel involved with any site development.

Controlled waters

- The site is on a highly permeable major aquifer zone.
- The site is in a groundwater source protection zone.
- The Rochdale Canal 100 m south of the site.

Ecology

- Plants and animals are considered to be possible receptors.

4. PLAUSIBLE POLLUTANT LINKAGES AND RISK ASSESSMENT

4.1 Human health

Risks from possible sources generated on-site:

No risks are considered to exist from sources having been generated on the site.

Risks from possible sources generated off-site:

All of the industries surrounding the site may have generated contaminants which may pose a possible risk to human health due to the proximity to the site and the high leaching potential of the soils making it possible for contamination migration to the site. However, given the intended use of the site and the concrete floors on surrounding sites, it is considered that little contamination will have passed through the ground to below the site.

Former railway/tramway

The former railway/tramway located 152 m north of the site is not considered to pose a risk to human health given the time since dismantlement (over 55 years) and the distance from the site.

4.2 Controlled waters

The site is considered to pose no significant risk to controlled waters as no sources are considered to be generated on the site.

4.3 Ecology

Animals and plants are not considered to be at risk as no significant pathways exist on the site and so no plausible pollutant linkages exist.

5. CONCLUSIONS AND OPTIONS APPRAISAL

Based on this investigation, it is considered there is the potential for significant risk to human receptors within the proposed development and to workers during development.

It is recommended that development progress and that during the early stages of ground clearance, further investigation be conducted should possible contaminated ground be suspected.

This may consist of samples obtained via borehole or excavated trial pits with soils analysed for a broad range of contaminants such that a site specific quantitative risk assessment can be undertaken.

DRAWING CSM/1

Current site location

NOTES:

Site boundary

Potential surface water flow

Contamination Consultants

Contaminated Land Risk Assessment

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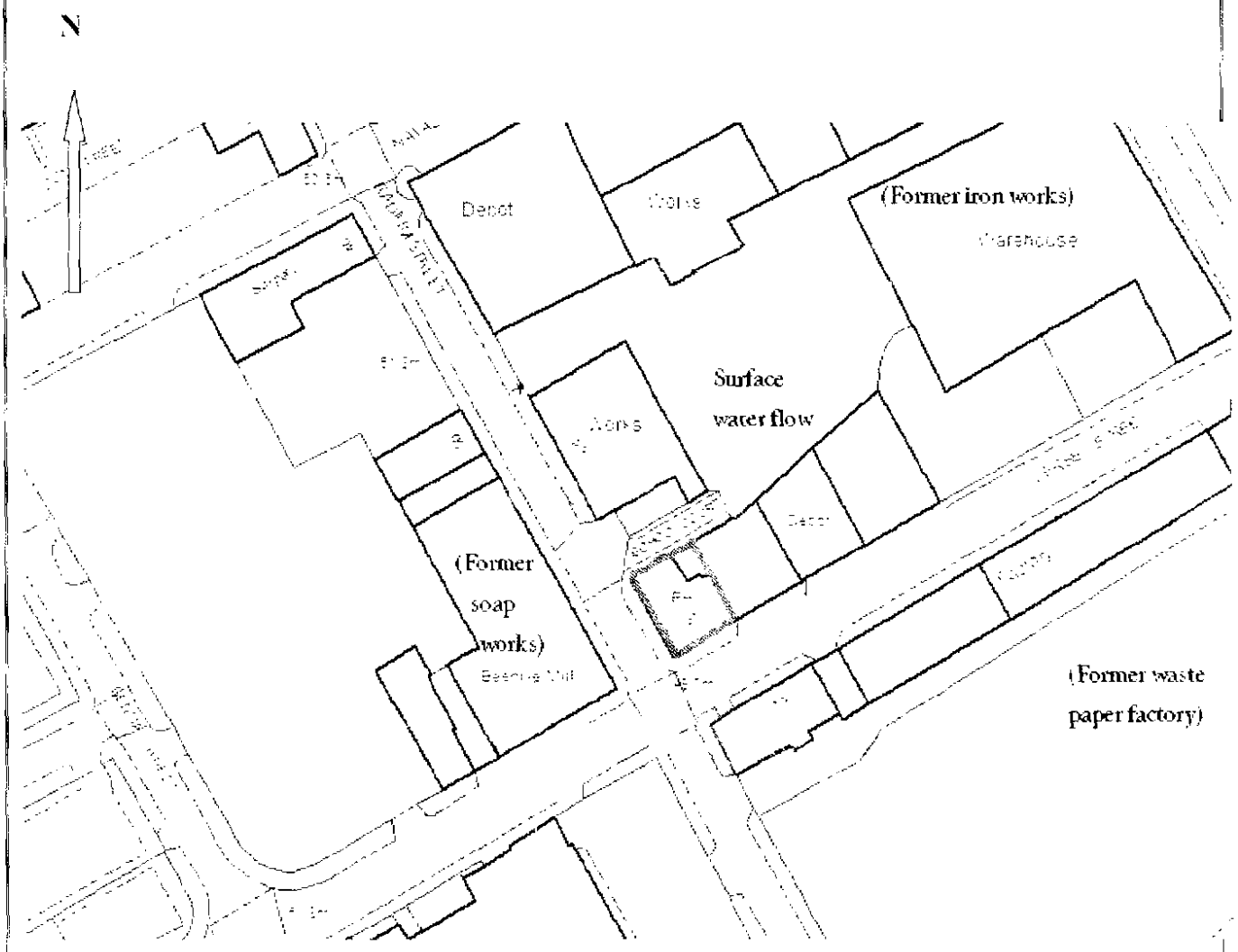
Drawing Title Current site location	Drawing No. CSM/1
Client Sigma Proprty Ltd	Project. 97 Jersey Street
Scale. 1. 445	Date 15th December 2009



APPENDIX A

Historical maps

APPENDIX B

Environmental data