



PHASE 1 SITE INVESTIGATION

367, Wilmslow Road, Manchester

For

The Feltham Group

January 2019

Project No. 001ALDWP1

Prepared by

Wesson Environmental

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The material and data in this report were prepared under the supervision and direction of the undersigned.

Wesson Environmental

A handwritten signature in black ink, consisting of a large, stylized 'R' followed by a dot and a long, wavy horizontal line.

**Prepared by: Dr. Richard Wesson
Environmental Consultant**

4th February 2019

Date

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1.0 Introduction

1.1 General

Wesson Environmental were commissioned to carry out a Phase 1 Site Investigation of the site located at 367, Wilmslow Road, Manchester.

The report uses documentary data (refs. 1, 2, 3).

The purpose of this report is to assess the potential risks to human, controlled water receptors and to the wider environment arising from past and present land use, and naturally occurring features present at or near the site.

1.2 Scope of report

This report aims to identify and address the following issues related to the use of the site for residential development:

1. The potential presence of any contaminants.
2. Pathways which may feasibly exist between contaminant sources and receptors.
3. Potential impact on human, controlled waters and the wider environment.

The report will conclude with a preliminary risk assessment which will address issues associated with potential contaminants on the site based on the collation of documentary data.

2.0 Site Location and Description

The site is located at National Grid Reference 385487,393641 and covers an area of approximately 0.15ha.

Current Site Use:

The site currently consists of a residential property and associated land.

Site Boundaries:

The site is bordered by residential properties to the north, east and south with a road to the west.

Surrounding Site Use:

The immediately surrounding area is predominantly residential.

Storage Tanks:

No storage tanks are present on the study site.

3.0 Site History

Historical maps have been procured from the Ordnance Survey, which show development of the site and its surrounding area from 1894– 2014.

These maps are contained in Appendix B. Please note that maps showing no significant change to the site or surrounding area are not referred to in this section.

Site Area	Date of Map	Surrounding Area
A residential property is present on the site named Fern Lea which is consistent with the location and outline of the current building on the site. A lodge is shown on the south western boundary.	1894	A nursery is shown 30m to the north west. A railway cutting is shown approximately 200m to the north. A tramway is present on the adjacent road.
The lodge is no longer present.	1922	The road has been widened and the western border coincides with the pavement.
	1957	A garage is shown 50m to the north west and 130m to the north east. A post office sorting office is shown 30m to the west.
	1958	The nursery to the north west is no longer present.
	1981	The garage to the north east is no longer present. The railway to the north is shown as dismantled, although the cuttings are still present.
	1992	The garage to the north west is shown as a residential property.

3.1 Areas of Disturbed Ground

No artificial ground is known to underlie the study site.

3.2 Intended Site Use

An extension to the residential property is planned on the site.

3.3 Historical Industrial sites

3.3.1 Potentially Contaminative Uses identified from 1:10,000 scale Mapping

112 records found. Nearest:
 152-153m N. Railway building. Dates: 1905-1938.
 154m NE. Railway sidings. Date: 1965.
 156m N. Railway cuttings. Dates: 1892-1938.

3.3.2 Historical Tank Database

No records found.

3.3.3 Historical Energy Features Database

33 records found. Nearest:
 103m S. Electricity substation. Dates: 1958-1995.

3.3.4 *Historical Petrol and Fuel Site Database*

No records found

3.3.5 *Historical Garage and Motor Vehicle Repair Database*

36 records found. Nearest:

39-46m N. Garage. Dates: 1957 – 1984.

3.3.6 *Potentially Infilled Land*

52 records found. Nearest:

156-159m N. Cuttings. Dates: 1892-1938.

4.0 Geological Setting

4.1 Geology

Current geological maps of the region² have been consulted to provide information on geological conditions associated with the site.

Artificial/Made Ground:

There are no records artificial/made ground within 500m of the site boundary.

Superficial Geology:

The site is underlain by Devensian Till comprising Diamicton. Mixed flow is present, and permeability is classified as low to high.

Bedrock/solid geology:

Bedrock is shown as sandstone of the Chester Formation. Flow type is mixed, and permeability is classified as moderate to high.

4.1.1 Man Made/ Induced Hazards

Hazard	Risk
Historical Mining	No data found.
Coal Mining	No data found.
Non-coal mining	No data found.
Non-coal mining cavities	No data found.
Natural cavities	No data found.
Brine extraction	No data found.
Gypsum extraction	No data found.
Tin Mining	No data found.
Clay mining	No data found.

4.1.2 Natural Hazards

Hazard	Risk
Shrinking/Swelling clay	Very Low
Landslides	Very Low
Ground Dissolution	Negligible
Compressible deposits	Negligible
Collapsible deposits	Very Low
Running Sand	Very Low
Radon	The property is not in a Radon Affected Area, as less than 1% of properties are above the Action Level. No radon protective measures are necessary.

4.2 Ground workings

4.2.1 Historical surface ground workings

19 records found. Nearest:
156-159m N. Cuttings. Dates: 1892-1983

4.2.2 Historical underground workings

No records found.

4.2.3 *Current ground workings*

No records found.

5.0 Environmental Setting

5.1 Hydrology and Hydrogeology

Groundwater:

The superficial deposits underlying the study site are classified as a Secondary (Undifferentiated) Aquifer. This is 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.

The bedrock is classified as a Principal Aquifer. This refers to 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

Vulnerability:

Soils on site are classified as HU - 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.

Surface water:

The nearest recorded river is located 133m S and refers to Cringle brook which forms part of the Mersey catchment.

Source Protection Zones:

The site is located within a Zone 3 Total catchment Source Protection Zone.

Surface and Groundwater Abstraction Points:

No groundwater abstractions are shown within 1000m of the study site.

No surface water abstractions are shown within 1000m of the study site.

No potable water abstractions are identified within 1000m of the study site.

Flood Risk:

An Environment Agency/Natural Resources Wales Zone 2 floodplain is located 118m S of the study site. Environment Agency/Natural Resources Wales Zone 2 floodplains estimate the annual probability of flooding as between 1 in 1000 (0.1%) and 1 in 100 (1%) from rivers and between 1 in 1000 (0.1%) and 1 in 200 (0.5%) from the sea.

An Environment Agency/Natural Resources Wales Zone 3 floodplain is located 142m S of the study site. Zone 3 shows the extent of a river flood with a 1 in 100 (1%) or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year.

Risk of Flooding from Rivers and the Sea (RoFRaS) Flood Rating is classified as very low on site.

A BGS Groundwater Flooding area is identified within 50m of the study site. This refers to Clearwater Flooding and there is considered to be limited potential.

5.2 Sensitive Land Uses

Uses within 1km

Designation	Details
Sites of Special Scientific Interest (SSSI)	No records found
National Nature Reserves (NNR)	No records found
Special Areas of Conservation (SAC)	No records found
Special Protection Areas (SPA)	No records found
Ramsar sites	No records found
Ancient Woodland	No records found
Local Nature Reserves (LNR)	No records found
World Heritage Sites	No records found
Environmentally Sensitive Areas	No records found
Areas of Outstanding Natural Beauty (AONB)	No records found
National Parks (NP)	No records found
Nitrate Sensitive Areas	No records found
Nitrate Vulnerable Zones (NVZ)	No records found
Areas of Green Belt	No records found

5.3 Landfill and Other Waste Sites

Uses within 1km

Records Searched:	Details
Environment Agency landfill data	No records found
Environment Agency historic landfill sites	No records found
Records of BGS/DoE non-operational landfill sites	No records found
Local Authority and Historical Mapping Records	No records found
Waste treatment, transfer or disposal sites	No records found
Environment Agency licensed waste sites	No records found

5.4 Current Land Use

There are 6 Contemporary Trade Directory Entries recorded within 250m of the study site:

9m SW. Electricity Sub Station
 105m NW. Electricity Sub Station
 128m SW. Petrol and Fuel Stations/ Vehicle Cleaning Services
 162m NE. Electricity Sub Station
 235m NE. Electricity Sub Station

Full details are contained in Appendix C.

5.5 Petrol and Fuel Sites

1 record found within 500m:

82m SW. Open

5.6 National Grid High Voltage Underground Electricity Transmission Cables

No records found.

5.7 National Grid High Pressure Gas Transmission Pipelines

No records found

5.8 Environmental permits, Incidents and Registers

Industrial Sites Holding Licences/ Authorisations:	Records Held:
Historic IPC Authorisations	No records found
Part A(1) and IPPC Authorised Activities	No records found .
Red List Discharge Consents	No records found
List 1 Dangerous Substances Inventory Sites	No records found
List 2 Dangerous Substance Inventory Sites	No records found
Records of Part A (2) and Part B Activities and Enforcements	4 records found. Nearest: 105m. Process: Unloading of Petrol into Storage at Service Stations
Category 3 or 4 Radioactive Substances Authorisations:	No records found
Licensed Discharge Consents	5 records found. Nearest: 190m SW. Effluent Type: Sewage discharges - sewer storm overflow – water company
Water Industry Referrals	No records found
Planning Hazardous Substance Consents and Enforcements	No records found
Dangerous or Hazardous Sites	No records found
Recorded Pollution Incidents List 2	3 records found. Nearest: 496m SE. Pollutant Description: Construction and demolition materials and wastes: Commercial Waste. Land impact: category 3.
Recorded Pollution Incidents List 1	No records found
Sites Determined as Contaminated Land under Part 2A EPA 1990	No records found

6.0 Other information

The site is vacant with vegetation present outside of the building footprint. The slope is flat with pedestrian access from the road. No fuel tanks are present and there is no evidence of fly tipping on the site.

7.0 Risk Assessment

7.1 Potential Sources of Contamination

Historical mapping shows the site having a residential property present from the earliest records with garden present as per the current layout. Hence, it is considered unlikely that historical or current site usage would have led to impacts on site soils.

A nursery was shown to the north west of the site up until 1934 mapping, but this is unlikely to have impacted site soils as it was small in scale and it is improbable that waste originating from this location would have been disposed of on the study site. A garage is shown 50m+ to the north west of the site. This is shown as a residential property from 1992 mapping onwards. Due to the distance from the site, we would consider this an unlikely source of contamination of site soils, especially when considering the regional topography which indicates a slope to the west which would mean that had leakage occurred from tanks etc migration is likely to have taken place following this gradient.

7.2 Preliminary Conceptual Model

In developing the conceptual model, it is critical that not just the source of any potential contamination is assessed but also potential receptors and pathways. The future use of the site may introduce new pathways to any contaminants that may be present. A change in use of the site may also introduce human receptors to different exposure scenarios.

As discussed in section 7.1, it is considered unlikely that a contaminant source is present in site soils. In the absence of a contaminant source, a discussion of pathways and receptors is not considered relevant.

Therefore, risks to human health and controlled water are considered to be **NEGLIGIBLE**.

7.3 Ground gas

No landfill are records within the specified search distance. Infilled land is unlikely to be present within 250m. Whilst records indicate that the railway cuttings to the north are potentially infilled, mapping indicates that this is not the case. Therefore, risks from ground gas are considered to be **NEGLIGIBLE**.

7.4 Mining

Records indicate that risks from mining are unlikely to be present.

8.0 Conclusions and Recommendations

The review of documentary information indicates that there is a **NEGLIGIBLE** risk to human health and controlled waters. Risks from ground gas are considered to be **NEGLIGIBLE**.

All site investigations carried out in the UK should follow the principles set out in CLR11. This specifies that a phased approach should be used with a desk top study carried out in the first instance in all cases. Where this does not indicate the potential for a pollutant linkage, there is not considered to be a requirement for further stages such as intrusive investigations that involve the physical sampling of soils⁴.

No further investigative measures are recommended.

Should during any works on the site, evidence of contamination become apparent, this should be reported to the Local Authority contaminated land officer.

9.0 Statement of Limitations

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 authority of Wesson Environmental being obtained. This document can be relied upon by The Feltham Group. Wesson Environmental accepts no responsibility or liability for the consequences of this document being used for any purpose other than the purpose for which it was commissioned. Any person using or relying on the document for such other purpose, agrees, and will by such use or reliance, be taken to confirm his acceptance, to indemnify Wesson Environmental for all loss or damage resulting therefrom. Wesson Environmental accepts no responsibility or liability for this document to any other party.

10.0 References

1. Ordnance Survey Maps – Collated for Wesson Environmental by Groundsure ref: GS-GS-5775676.
2. Groundsure Enviro Insight ref: GS-5775674
3. Groundsure Geo Insight ref: GS-5775675
4. Model procedures for the management of land contamination (CLR11) 2004. Environment Agency

APPENDIX A

Figures



Figure 1. Street scene of the site.

APPENDIX B
Historical Maps

APPENDIX C

Environmental Reports