JNP GROUP

CONSULTING ENGINEERS

Phase I Geo-environmental Report

Project: 83 – 89 Manor Way,
Ruislip

Client: John Gladwin

Reference: M45391-JNP-XX-XX-RP-G-1001 P01

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DOCUMENT CONTROL SHEET

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FOR AND ON BEHALF OF JNP GROUP

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Any advice, opinions or recommendations within this document should be read and relied upon only in the context of this document as a whole.

Any comments given within this document are based on the understanding that the proposed works to be undertaken will be as described in the introduction. The information referred to and provided by others and will be assumed to be correct and will not have been checked by JNP Group, JNP Group will not accept any liability or responsibility for any inaccuracy in such information.

Any deviation from the recommendations or conclusions contained in this document should be referred to JNP Group in writing for comment and JNP Group reserve the right to reconsider their recommendations and conclusions contained within. JNP Group will not accept any liability or responsibility for any changes or deviations from the recommendations noted in this document without prior consultation and our full approval.

Contents

EXECUTIVE SUMMARY

Site location	83-89 Manor Way, Ruislip, HA4 8HW		
Development scheme	Erection of a single bungalow with garden area, access road and parking.		
NGR	509929, 187405		
Current use	On-site: Private garages.	Off-site: Commercial and residential	
Historical use	The site was undeveloped agricultural land until the 1930s, when garages were erected on-site to likely service the residential properties constructed at the same time. The nearby area was subject to extensive residential development since the 1930s and has remained largely unchanged since.		
Geology	Made ground Lambeth Group		
Hydrogeology	Secondary-A Aquifer Source Protection Zone III located 80 m west of the site.		
Hydrology	The nearest surface watercourse is the River Pinn located 750 m north.		
UXO	A medium UXO risk applies to the site. A detailed UXO risk assessment has been obtained for the site and this report will be updated following receipt of the assessment.		
Preliminary Risk Assessment	**Risk Receptor**	**Risk**	**Justification**
	HUMAN HEALTH	MEDIUM	The site was subject to development in the 1930s with the construction of garages likely to service the surrounding residential properties. Limited made ground materials associated with the development are a potential source of contamination to end users.
	GROUNDWATER	LOW	The site is located on productive strata (Secondary-A Aquifer) and is not within a Source Protection Zone. The site lies 80 m east of an SPZ III. Limited sources of contamination to the site reduce the risk from medium to low.
	SURFACE WATER	LOW	The nearest surface watercourse is located 750 m north of the site.
	ECOLOGY	NONE	Based on the assumption that there are no sensitive/ protected species on site (subject to any ecological survey undertaken).

	PROPERTY & INFRASTRUCURE	MEDIUM		The site was subject to development in the 1930s with the construction of garages likely to service the surrounding residential properties. Limited made ground materials associated with the development are a potential source of contamination to end users including ground gas. Should made ground thickness be significant there is a potential source of vapours or gases on-site.
Recommendations	Further **basic ground investigation** is required to confirm the presence / absence of contamination and to inform foundation design.			

1 INTRODUCTION

1.1 General

1.1.1 JNP Group was instructed by FirstPlan on behalf of John Gladwin to undertake a desk study of:

Land Rear of 83-89 Manor Way
Ruislip
HA4 8HW

hereinafter referred to as 'the site'. This report is subject to the limitations presented in **Appendix A**.

1.1.2 It is understood that the existing buildings are to be demolished, and the site redeveloped with a one-storey bungalow, with hardstanding for access and parking, and amenity green space. The proposed redevelopment layout is shown on external Drawing Reference FLU.1278.01 Rev K, dated 24/08/2020 produced by Fluent Architectural Design Services (**Appendix B**).

1.1.3 All comments given are based on the understanding that the proposed redevelopment will be as detailed above.

1.2 Objectives

1.2.1 The scope of work comprised non-intrusive (desk-based) research only. This report contains details of the site, development of an initial conceptual model, and a preliminary risk assessment with regard to contaminated land issues.

1.2.2 This report has been produced to assist in discharging Condition 17 attached to Planning Permission Ref. 6280/APP/2023/1065.

1.3 Methodology

1.3.1 This report has been compiled in accordance with the on-line Land contamination: risk management (LCRM) guidance produced by the Environment Agency (June 2019). This can be found on the UK government website: https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks.

2 SITE DESCRIPTION

2.1.1 The site is located off Manor Way, in Ruislip, approximately 2.5 km north-east of Ickenham (see Figure 1 Key Plan). The centre of the site is located at National Grid Reference TQ 099 874. The site covers an area of approximately 0.05 hectares.

2.1.2 An engineer from JNP Group visited the site on 23rd February 2026, the weather was sunny and cloudy. A description of the site is given below and photographs of the site are included within **Appendix C**.

2.1.3 Freely available topographic information shows that ground level within the development site is approximately 50.4 m aOD (above Ordnance Datum).

2.1.4 The site was used for material storage and car parking, with garages along the west of the site.

2.1.5 Five garage units, as one overall building, were present on site although access inside could not be gained. The building was brick in construction with a corrugated roof and appeared to be in good condition.

2.1.6 Concrete hardstanding was present across the whole of the site. In the east of the site, chipboard and artificial turf covered the ground, assumed to be underlain by concrete hardstanding.

2.1.7 There was limited vegetation on site, primarily consisting of weeds and ivy along the site boundaries and fencing. Mature trees and other vegetation were present in the private rear gardens of residential properties which abutted the site.

2.1.8 The northern area of the site was used for the storage of building materials including bricks, block paving and roof tiles with other equipment such as pipe and chapter eight fencing also present.

2.1.9 The site was bounded by various types of fencing associated with the neighbouring properties.

2.1.10 Adjacent land uses were residential in all directions with some commercial buildings to the east.

2.1.11 No invasive species were noted during the site work. However, JNP Group recommend that a specialist is consulted to confirm this assessment.

2.1.12 The surrounding land uses are summarised in Table 2.1 below.

Table 2.1 Surrounding Land Use

Direction	Land Use
North	Residential
East	Residential, Commercial
South	Residential
West	Residential

3 GEOLOGY, HYDROGEOLOGY AND HYDROLOGY

3.1 Geology

3.1.1 The geology of the site has been determined by reference to the 1:50,000 scale British Geological Survey (BGS) online GeoIndex Tool as well as to the BGS 1:50,000 Series published geological map, Sheet 255 Beaconsfield (Solid and Drift dated 2005), accessed via the website; these were both accessed on 16/02/2026.

3.1.2 No recorded artificial or made ground is indicated at the site, however, from the site walkover hardstanding is present across the entire site, and as such, made ground is anticipated to be present.

3.1.3 No superficial geology is indicated on site.

3.1.4 The underlying "bedrock" geology is indicated to be strata of the Lambeth Group, which is described by the BGS as "*vertically and laterally variable sequences mainly of clay, some silty or sandy, with some sands and gravels, minor limestone and lignites and occasional sandstone and conglomerate*".

3.1.5 There are no faults denoted within 500 m of the site.

3.1.6 The following table summarises the potential risks from a range of geological hazards at the site as identified in a site-specific Groundsure Report which has been obtained and is included in **Appendix D**.

Table 3.1 Geological Hazards

Hazard	Risk
Shrinking or swelling clay	Moderate
Landslide ground	Very low
Ground dissolution	Negligible
Compressible soils	Negligible
Collapsible soils	Very low
Running sand	Very low

3.1.7 Based upon the above, most of these geological hazards are considered to pose a constraint to the proposed development. However, risks relating to shrink-swell clays are indicated to be moderate and warrant further investigation.

3.2 BGS Borehole Records

3.2.1 There are no borehole records within 250 m of the site.

3.3 Radon

3.3.1 The Groundsure Report states that the Health Protection Agency identified less than 1% of homes above the action level. The British Geological Survey Information Services Group indicates that no radon protection measures are necessary for the intended development at the site.

3.4 Background Soil Chemical Concentrations

3.4.1 From a review of the Groundsure Report and the UK Soil Observatory map viewer (http://mapapps2.bgs.ac.uk/ukso/home.html) the following range of background metallic soil concentrations are anticipated at the site:

- arsenic < 15 mg/kg [bioaccessible arsenic 2.5 mg/kg];
- barium 0.70 mg/kg;
- cadmium < 1.8 mg/kg;
- chromium 77 mg/kg;
- copper 40 mg/kg;
- lead 75 - 95 mg/kg [bioaccessible lead 49-53 mg/kg];
- nickel 20 mg/kg
- vanadium 80 mg/kg and;
- zinc 130 mg/kg.

3.4.2 Therefore, naturally elevated concentrations of the foregoing elements are not anticipated at the site or within close proximity.

3.5 Mining, Mineral Extraction and Natural Cavities

- One historical surface ground working is recorded to be present within 250 m of the site. Located 225 m north as an unspecified pit on both the 1973 and 1987 maps.
- No historical underground workings are recorded within 1 km of the site;
- No current ground workings within 1 km of the site;
- Coal mining has not occurred within 1 km of the site;
- Non-coal mining for chalk may have occurred at the site and within close proximity. These occurrences are reported to be either localised (unlikely) or infrequent (rare);
- There are no non-coal mining cavities located within 1 km of the site;
- There are no natural cavities located within 1 km of the site;
- No brine or gypsum extraction has occurred within 1 km of the site;
- No tin or clay mining areas are located within 1 km of the site.

3.6 Hydrogeology

3.6.1 The Aquifer Maps contained in the Groundsure Report indicates that the site is underlain by a Secondary-A Aquifer referring to the Lambeth Group.

3.6.2 The Environment Agency define a Secondary-A Aquifer as:

"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."

3.6.3 The Groundsure Report lists no groundwater abstractions within 1 km of the site. Sixteen records are held within 2 km of the site.

3.6.4 The site's proximity to groundwater Source Protection Zones (SPZs) was determined by reference to Defra's Magic Map website (https://magic.defra.gov.uk/). These zones show the risk of contamination of major licensed groundwater abstractions from any activities that might cause pollution in the area, with the closer the activity, the greater the associated risk. The maps show four main zones (inner, outer, total catchment and special interest) to a groundwater source.

3.6.5 The site lies approximately 80 m to the east of a Zone III (Total Catchment) Source Protection Zone.

3.6.6 The definition of a SPZ III is:

"The area around a source within which all groundwater recharge is presumed to be discharged at the source. In confined aquifers, the source catchment may be displaced some distance from the source. For heavily exploited aquifers, the final Source Catchment Protection Zone can be defined as the whole aquifer recharge area where the ratio of groundwater abstraction to aquifer recharge (average recharge multiplied by outcrop area) is > 0.75."

3.7 Hydrology

3.7.1 The nearest surface water feature is the River Pinn which is located 750 m to the north of the site. This is classified by the EA as a 'Main River/Ordinary Watercourse'.

3.7.2 The Groundsure Report lists no licensed surface water abstractions within 2 km of the site.

3.8 Pollution Incidents to Controlled Waters

3.8.1 Records held by the Environment Agency identified one pollution incidents to controlled waters within 500 m of the site and is classified as Category 3 – Minor incidents:

- 333 m to the south-east of the site in March 2003. The pollutant was described as 'oils and fuel – lubricating oils'.

3.9 Discharge Consents

3.9.1 The Groundsure Report identifies no licensed discharge consents within 500 m of the site.

4 SITE HISTORY

4.1 Historical Mapping

4.1.1 The history of the site and the surrounding area has been determined from a review of historical map extracts, obtained as part of the Groundsure report. Copies of these extracts are included in **Appendix E**. The historical land uses on site and in close proximity to the site are summarised as follows:

Table 4.1 Site Historical Summary

Date	On-site Historical Land Use	Off-site Historical Land Use
1865 - 1894	The site is located within an open field.	The site is surrounded by open fields in all cardinal directions with two farms located 500 m and 750 m south-west of the site.
1911-1920	No significant changes.	Manor Way is denoted immediately south of the south-western corner of the site. A railway line is denoted approximately 200 m south of the site. Residential development of Ruislip has began 750 m west of the site.
1935	The site is located in an area of undeveloped land between residential buildings.	Large scale residential development of Ruislip has extended to surround the site to the west, north, south and east with the railway line still present to the south.
1938	Garages are denoted along the western site boundary.	No significant changes.
1960	No significant changes.	A garage is denoted 100 m south of the site.
1990-2010	No significant changes.	No significant changes.
2026	Present day the site remains occupied by garages used for storage and is entirely concrete hardstanding.	The site remains surrounded by residential dwellings in all directions with a railway line located to the south.

4.2 Unexploded Ordnance Review

4.2.1 Whilst JNP Group are not experts on this, according to online mapping provided by Zetica (https://zeticauxo.com/downloads-and-resources/risk-maps/) the site lies with an area of moderate risk of unexploded ordnance (UXO).

4.2.2 JNP Group have obtained a detailed risk assessment from a specialist UXO contractor and this report will be updated following receipt of the assessment.

4.3 Site Historical Summary

4.3.1 The site was undeveloped agricultural land until the 1930s, when garages were erected on-site to likely service the residential properties constructed at the same time.

4.3.2 The nearby area was subject to extensive residential development since the 1930s and has remained largely unchanged since.

5 INFORMATION HELD BY STATUTORY AUTHORITIES

5.1 Summary

5.1.1 This section details any relevant information held in the registers maintained by statutory bodies as identified in the Groundsure Report (**Appendix D**).

Table 5.1 Statutory Information Summary

	On-Site	0-250m	250-500m	Details
Waste				
Waste Exemptions	0	0	12	The nearest is located 262 m south-east for the sorting and de-naturing of drugs for disposal. Other off-site records include sorting mixed waste and storing waste.
Landfills	0	0	0	None within 500 m of the site.
Historical Landfills	0	0	0	
Environmental Permits, Incidents and Registers				
Part A(1) and IPPC Authorised Activities	0	0	0	None listed within 500 m of the site.
Part A(2) and Part B Activities and Enforcements	0	0	2	480 m and 485 m south-east for dry cleaning.
COMAH & NIHHS Sites	0	0	0	None listed within 500 m of the site.
Industrial and Contaminative Premises				
Fuel Sites	0	0	0	None listed within 500 m of the site.
Historical industrial land uses	0	17	17	Off site features include railway sidings, railway station, unspecified pits, cuttings and railway buildings.
Historical Energy Features	0	3	7	All records relate to electricity substations with the nearest located 101 m south-west.
Historical Garages	0	5	0	The nearest record is located 75 m south-east of the site on 1988 mapping.
Recent industrial land uses	0	1	13	The nearest record is located 39 m north-east for 'published goods' industrial products. Other off-site features include commercial buildings, mechanics and electrical features.
Historical railway features	0	15	-	Records relate to railway sidings located generally 170 m south-east of the site.

5.2 Environmentally Sensitive Areas

5.2.1 The sensitive land use map within the Groundsure Report indicates:

- Ruislip Local Nature Reserve located 635 m north-east;
- London Green Belt located 812 m south-west;
- The site is located within SSSI Impact Risk Zone most likely associated with Ruislip Woods SSSI located 1,134 north of the site.

5.3 Visual and Cultural Designations

5.3.1 The visual and cultural map within the Groundsure Report indicates:

- A conservation area is located immediately west of the site.

6 UK CONTAMINATED LAND LEGISLATIVE FRAMEWORK

6.1 General

6.1.1 Given that the site is being assessed with the potential for future development, the most applicable appraisal relates to the requirements of the Planning Regime as described in the National Planning Policy Framework.

6.1.2 In order to proceed with an assessment of contamination issues it is essential that there is compliance with UK guidance as detailed in the on-line Land contamination: risk management (LCRM) guidance produced by the Environment Agency (June 2019). This can be found on the UK government website: https://www.gov.uk/guidance/land-contamination-how-to-manage-the-risks.

6.1.3 Part IIA of the Environmental Protection Act, 1990, which was enacted by Section 57 of the Environment Act 1995, and the associated Contaminated Land (England) Regulations 2000 (SI 2000/227), was introduced on 1 April 2000. It created a new statutory regime for the identification and remediation of land where contamination poses an unacceptable risk to human health and the environment. The guidance was subject to a review by DEFRA in 2012, and a revision was published.

6.1.4 Part IIA provides a statutory definition of contaminated land:

6.1.5 *"any land which appears to the Local Authority in whose area it is situated to be in such a condition by reason of substances in, on or under the land, that significant harm is being caused, or that there is a significant possibility of significant harm being caused, or that pollution of controlled waters is being or is likely to be caused".*

6.1.6 Controlled waters are considered to be all groundwaters, inland surface waters, and estuarine and coastal waters.

6.1.7 To determine whether land falls under the Part IIA definition of contaminated land, the site should be evaluated in the context of a risk-based framework. The assessment of contaminated land is typically a two-phase process, which is initially based on a qualitative assessment of the likelihood of complete pollution linkages, with a quantitative element that seeks to determine the degree and the significance of the harm. Land is only defined as 'Contaminated Land' if a "significant pollutant linkage" is present.

6.1.8 A pollutant linkage must comprise the following:

Source *- a contaminant at a concentration capable of causing adverse health or environmental effects.*

Receptor *- there must be a receptor (e.g. human, controlled waters, ecological, or property) present, which may be at risk of harm or impact from the source.*

Pathway *- there must be an exposure pathway through which the receptor comes into contact with the contamination source.*

6.1.9 Each of these elements can exist independently, but they create risk only when they are linked together, so that a particular contaminant affects a particular receptor, through a particular pathway.

6.1.10 The responsible authority then needs to consider whether the identified pollution linkage:

- is resulting in significant harm being caused to the receptor in the pollutant linkage;

- presents a significant possibility of significant harm being caused to that receptor;
- is resulting in the pollution of controlled waters, which constitute the receptor; or is likely to result in such pollution.

6.1.11 If a pollutant linkage is demonstrated, then the Part IIA legislation provides powers for remedial action to be enforced by the Local Authority in whose area the contaminated land is situated.

6.1.12 In addition, JNP Group has undertaken a preliminary risk assessment based on the probability of receptor exposure to the identified source and the consequences of such exposure.

6.1.13 Risk management, which can include site surfacing, formal management systems, legal requirements; is then considered to provide an overall residual risk. The categories of environmental risk used by JNP Group are given in the table that follows.

Table 6.1 Risk Matrix

Environmental Risks		
HIGH		Issues within this category likely to provide a significant cost or liability. Further detailed investigation may be required to clarify the risk.
MEDIUM		It is possible that issues within this category may provide a cost or liability. Further investigation may be required to clarify the risk.
LOW		It is unlikely that issues within this category will provide a significant cost or liability. Basic investigation may be required to clarify the risk.
NONE		No source – pathway – receptor linkage present.

7 CONCEPTUAL SITE MODEL AND PRELIMINARY RISK ASSESSMENT

7.1 General

7.1.1 This section uses information from field observations and all the data sources presented herein to provide a conceptual model and qualitative assessment of the potential risks posed to human health and environmental receptors from potential on-site and off-site sources of contamination. The assessment is presented as a 'source-pathway-receptor' model in accordance with Part IIA of the Environmental Protection Act 1990.

7.1.2 The conceptual site model has been developed assuming that the site will be redeveloped for residential housing with shared open space.

7.2 Potential Sources of Contamination

7.2.1 Potential On-Site Sources of Contamination

- The site remained undeveloped until approximately 1930s, when garages were erected on site to supplement the immediately surrounding residential properties.
- Asbestos, heavy metals, hydrocarbons, and soil gas associated with limited made ground materials may be present as a result of previous phases of development including imported and site generated fill materials.
- Drainage runs associated with such garages can often be a source of heavy metals and hydrocarbons, however, gullies and drainage runs were not noted during the site walkover.
- In accordance with C733 guidance, any structure built, refurbished or modified during the Twentieth Century has the potential to contain asbestos containing materials (ACM). In addition, any demolition material either stockpiled or used as backfill on site also has the potential to contain asbestos containing materials (intact or broken up).

7.2.2 Potential Off-Site Sources of Contamination

- There are no potential off-site sources of contamination that could impact on ground conditions at the site. The site is surrounded by residential properties and their associated gardens.

7.3 Receptors

7.3.1 The site is to be redeveloped for residential housing with shared green space. In addition, the site overlies a Secondary-A Aquifer (Lambeth Group). The primary receptors, considered to be potentially at risk from any identified contamination are as follows:

Human Health

- Construction workers during the redevelopment phase;
- Residential end users.

Controlled Waters

- The Lambeth Group beneath the site is classified as a Secondary-A Aquifer. JNP Group does consider groundwater to be a sensitive receptor;
- The site is located 80 m east of an SPZ III;

- The nearest controlled surface water is 750 m to the north. It is not considered to be a sensitive receptor due to its distance from the site.

Ecological

- The site is not located within an environmentally designated sensitive area;
- Given the site setting sensitive species are considered unlikely to be present at the site (subject to any ecological survey undertaken).

Property / Infrastructure

- Concrete vulnerability to aggressive ground conditions;
- Build-up of gases with potential for explosion;
- Water supply pipework.

7.4 Pathways

7.4.1 Potential contaminant migration pathways considered relevant to the site are:

Human Health

- Ingestion of contaminated soils and dust particles;
- Direct physical contact with near surface soils and contaminated dust particles;
- Inhalation of wind-blown contaminated dust;
- Inhalation of vapours and gases, migrating vertically into the atmosphere;
- Inhalation of vapours and gases, migrating vertically into buildings and confined spaces;
- Consumption of contaminated potable water.

Controlled Waters

- Leaching of contaminants in made ground / natural ground into groundwater;
- Lateral migration of contaminated groundwater into the River Pinn;
- Vertical migration of contaminated shallow groundwater impacting deeper groundwater in the aquifer sequence;

Ecological

- Migration of contamination through groundwater and subsequent uptake by plant roots;
- Direct contact between ecological receptors and contaminated surface water;
- Direct contact between ecological receptors and contaminated soils;
- Ingestion of contaminated soils/surface waters by ecological receptors;
- Inhalation of vapours or wind-blown dust by ecological receptors.

Property

- Direct physical contact with near surface soils;

- Migration of vapours and gases into buildings and confined spaces.

7.5 Pollutant Linkages

7.5.1 A 'pollutant linkage' describes the relationship between a contaminant, a pathway and a receptor, a 'pollutant' being the contaminant in a pollutant linkage. A contaminant, pathway and receptor must all be present for a pollutant linkage to exist, which forms the basis for determination that a piece of land is Contaminated Land. Potential sources, pathways and receptors have been assessed. The following Tables summarise the significant pollutant linkages potentially active at the site.

Table 7.1 Potential Source-Pathway-Receptor Linkages for Human Health Risk Assessment

Source	Pathway	Receptor
Contaminated soils and waters	Ingestion of soil	On-site female child: 0 - 6 yrs old
		On-site construction worker
	Ingestion of household dust	On-site female child: 0 - 6 yrs old
	Ingestion of contaminated vegetables	On-site female child: 0 - 6 yrs old
	Ingestion of soil attached to vegetables	On-site female child: 0 - 6 yrs old
	Dermal contact	On-site female child: 0 - 6 yrs old
		On-site construction worker
	Dermal contact with household dust	On-site female child: 0 - 6 yrs old
	Inhalation of fugitive soil dust	On-site construction worker
		On-site female child: 0 - 6 yrs old
	Inhalation of fugitive household dust	On-site female child: 0 - 6 yrs old
	Inhalation of vapours in outdoor air	On-site female child: 0 - 6 yrs old
		On-site construction worker
	Inhalation of vapours in indoor air	On-site female child: 0 - 6 yrs old
	Consumption of contaminated potable water	On-site female child: 0 - 6 yrs old
Ground gas	Vertical and lateral migration	End users

Table 7.2 Potential Source Pathway Receptor Linkages for Controlled Waters Risk Assessment

Source	Pathway	Receptor
Contaminated soils	Leaching mechanisms	Groundwater stored in the Lambeth Group
Contaminated groundwater	Vertical migration	Groundwater stored in the Lambeth Group
	Lateral and vertical migration (baseflow)	River Pinn

Table 7.3 Potential Source-Pathway-Receptor Linkages for Ecological Risk Assessment

Source	Pathway	Receptor
Contaminated soils and waters	Migration of contamination through groundwater and subsequent uptake by plant roots;	Ecological receptors
	Direct contact between ecological receptors and contaminated surface water;	
	Direct contact between ecological receptors and contaminated soils;	
	Ingestion of contaminated soils/surface waters by ecological receptors;	
	Inhalation of vapours or wind-blown dust by ecological receptors.	
Ground gas	Inhalation of gases	

Table 7.4 Potential Source-Pathway-Receptor Linkages for Property Risk Assessment

Source	Pathway	Receptor
Contaminated soils	Contact with contaminated soils	Concrete
		Water supply pipe materials
Ground gas and landfill gas	Vertical and lateral migration and accumulation in voids	Residential housing / Commercial properties

7.6 Preliminary Risk Assessment

7.6.1 From the information obtained from the desk study JNP Group has undertaken a preliminary risk assessment.

Table 7.5 Preliminary Risk Assessment

Risk Receptor	Risk		Justification
HUMAN HEALTH	MEDIUM		The site was subject to development in the 1930s with the construction of garages likely to service the surrounding residential properties. Limited made ground materials associated with the development are a potential source of contamination to end users.
GROUNDWATER	LOW		The site is located on productive strata (Secondary Aquifer) and is not within a Source Protection Zone. The site lies 80 m east of an SPZ III. Limited sources of contamination to the site reduce the risk from medium to low.
SURFACE WATER	NONE		The nearest surface watercourse is located 750 m north of the site and is not considered to be credible receptor due to its distance from the site

Risk Receptor	Risk		Justification
ECOLOGY	NONE		Based on the assumption that there are no sensitive/ protected species on site (subject to any ecological survey undertaken).
PROPERTY & INFRASTRUCURE	MEDIUM		The site was subject to development in the 1930s with the construction of garages likely to service the surrounding residential properties. Limited made ground materials associated with the development are a potential source of contamination to end users including ground gas. Should made ground thickness be significant there is a potential source of vapours or gases on-site.

7.6.2 In line with BS ISO 18400-202:2018 based on the conceptual site model as above the site is considered to be potentially contaminated.