



EnviroSmart

Site address	Planning Ref: 20211212 Land at rear of 2/3 Cobham Street Gravesend Kent DA11 0SB
Site coordinates	564630, 173880
Report prepared for	Panaser Global Ltd 14 Darnley Street Gravesend Kent DA11 0PJ
Report reference	72343R2
Report status	Final
Date issued	November 2019
Date revised	October 2021
Report author	Alexandra Pickles Consultant
Report check & review	Andy Singleton Principal Consultant



Report summary: contaminated land risks

The purpose of this EnviroSmart report is to provide clear and pragmatic advice regarding the nature and potential significance of contaminated land hazards which may be present at the study site. GeoSmart are providing consultancy and professional opinion based upon our collation, interpretation and assessment of information contained within an Envirocheck report, and other sources where expressly stated (i.e. site visits, photographs, and anecdotal evidence).

As such, potential contaminated land risks have been assessed by considering two key items:

1. The likelihood that **sources of contamination** are present within the sub surface beneath the site. This gives a measure of the potential for contamination to be occurring at the site.
2. The **consequence or severity of any impacts** should contamination be present. The consequence or severity of impact is inferred from the nature of any **potential receptors** (i.e., something that could be adversely affected by a contaminant, such as people, an ecological system, property or a water body) as well as any **relevant pathways** (i.e., a route or means by which a receptor can be exposed to or affected by a contaminant) relating to the site and the surrounding area.

The assessment findings are summarised as follows:

1. Probability/likelihood of a contaminant hazard at the Site	High likelihood	
	Likely	
	Low likelihood	
	Unlikely	
2. Potential severity/consequence of any impacts	Severe	
	Medium	
	Mild	
	Minor	
3. Overall land quality risks posed by the Site	Very high	
	High	
	Moderate	
	Moderate/low	
	Low	
	Very low	

Risk Key

Very High	High	Moderate	Moderate/Low	Low	Very Low
There is a high probability that severe harm could arise to a designated receptor from an identified hazard without appropriate remediation action	Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remediation action	It is possible that without appropriate remediation action harm could arise to a designated receptor. It is relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely that such harm would be relatively mild	It is possible that harm could arise to a designated receptor from an identified hazard. It is likely any harm would be mild	It is possible that harm could arise to a designated receptor from an identified hazard. It is likely that, at worst if any harm was realised any effects would be mild	The presence of an identified hazard does not give rise to the potential to cause harm to a receptor

Recommendations (for next steps)

	No immediate action but observe a watching brief Specify barrier pipework where water supplies are laid within Made Ground	It is noted that whilst a limited intrusive site investigation (including appropriate laboratory testing of soil samples) could be adopted in order to validate the preliminary risk assessment conclusions, a watching brief during all proposed redevelopment activities and associated ground works (which would include a thorough inspection of any exposed sub surface soils/Made Ground) would likely be sufficient. If future water supply pipework is to come into possible contact with in-situ Made Ground, it is recommended that appropriate barrier pipework is specified and laid within service corridors backfilled with clean fill materials.
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1. Introduction

1.1 Background

The study site (from herein known as 'the Site') is situated at Land at rear of 2/3 Cobham Street, Gravesend. A location plan of the Site is shown in Section 1.5.

GeoSmart was commissioned by Panaser Global Ltd in October 2019 to undertake a Phase 1 Land Quality Assessment for the Site. The report was originally requested, and accepted, by Gravesham Borough Council in support of Planning Application Reference 20190497. In October 2021 GeoSmart were asked to update the report to include a revised planning application reference number, all other elements of the assessment remain unchanged.

The proposed development is for the erection of a three storey building including a basement, to create four, one bedroom flats.

The EnviroSmart report has been undertaken by firstly compiling information concerning the Site and the surrounding area, including current and historical land uses, geological records and registered pollution incidents. The information which is gathered is then used to construct a 'conceptual site model', including an understanding of likely contaminant sources, pathways and receptors. Finally, a preliminary assessment of risks posed to identified receptors (i.e., people, buildings or the natural environment) from the anticipated land quality at the Site is performed. The risk assessment methodology is consistent with CIRIA C552 (2001); see Section 3.4 for details.

1.2 Purpose of this report

The purpose of this EnviroSmart report is to provide clear and pragmatic advice regarding the nature and potential significance of contamination hazards which may be present at the Site.

1.3 Report contents

This report is divided into two sections, as described below:

Section	Content	Purpose
Section 2: LAND QUALITY ASSESSMENT	A summary of the site history and environmental setting, the findings of the preliminary risk assessment and associated recommendations	To present a clear and concise overview of the land quality issues facing the Site, including recommendations of how to manage any land contamination which may be present
Section 3: SUPPORTING INFORMATION	A collection of site specific information on which the land quality assessment is based	To provide detailed information in support of the risk assessment; this section also represents a source of reference data for use in any subsequent site works/assessments

1.4 Report limitations

It is noted that the findings presented in this report are largely based on information supplied by third parties. Whilst we assume that all information is representative of past and present conditions we can offer no guarantee as to its validity.

GeoSmart did not undertake a site visit as part of this assessment. Photographs included in Section 3.2 were provided by the client. GeoSmart can not be held responsible for their accurate representation.

This report excludes consideration of potential hazards arising from any activities at the Site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities.

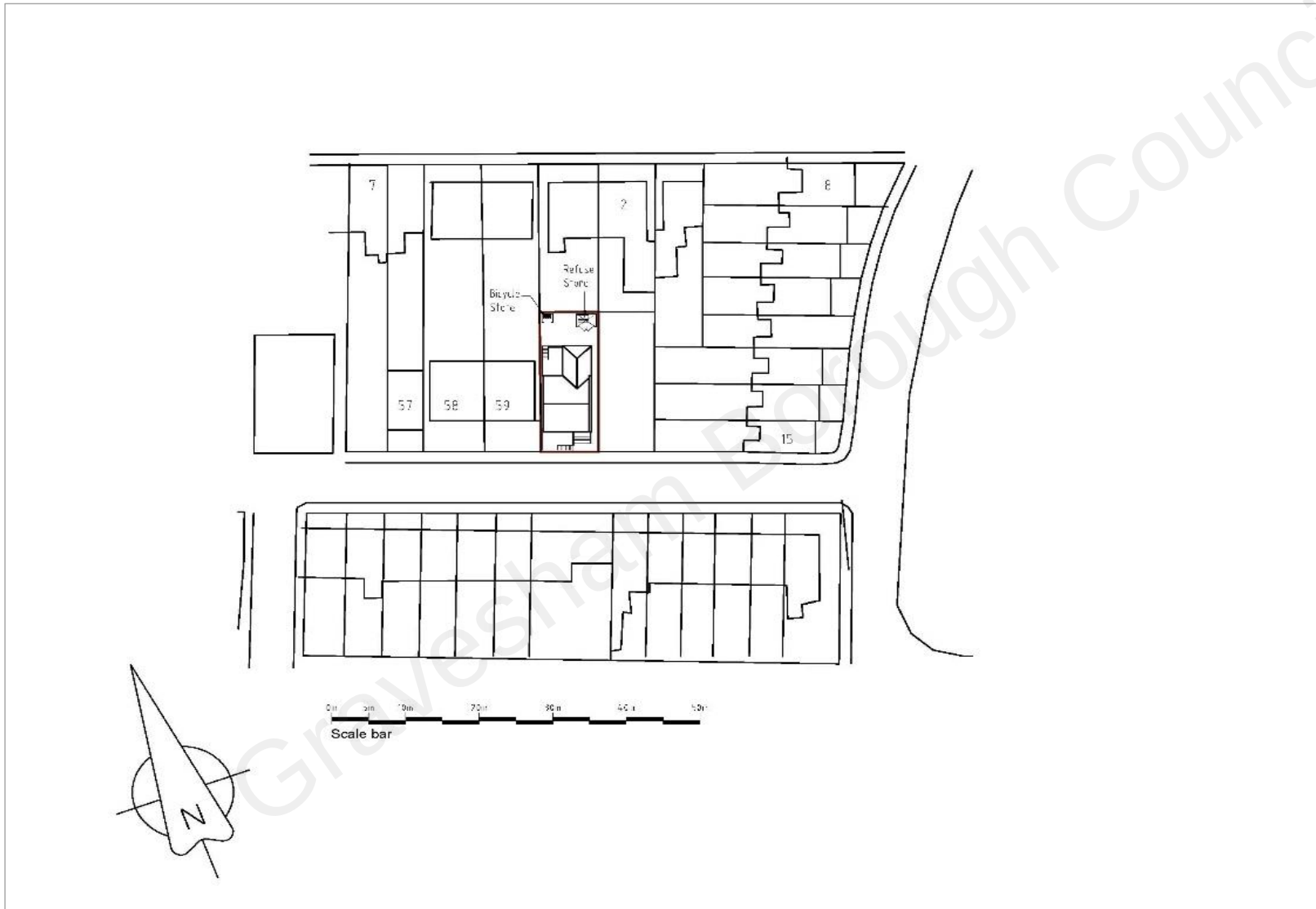
1. Introduction

1.5 Site location plan



1. Introduction

1.6 Proposed Site development plan



2. Land quality assessment



2.1 Site details

Site name:	Planning Ref: 20211212	Current land cover:	Majority softstanding (60%) with some hardstanding/building cover (40%)
Current use:	Derelict commercial/industrial development		
Proposed use:	Residential flats	Site area:	0.02 ha

2.2 Conceptual understanding (potential sources of contamination)

 Site history (historical land use taken within 250m radius of the Site boundary)	Date	Description of land use	
		On-Site	Off-Site
	1866	The Site is undeveloped.	There is a timber Yard c. 70 m to the north; North Kent Branch railway station and rail line are c. 110 m to the north.
	1869 - 1874	No change.	There is a hospital c. 220 m to the south west.
	1897	The Site is now the back garden of 3 Cobham Street (note: the mapped boundary is offset by c. 5 m to the east).	The local area has been developed for housing. A Methodist chapel is located c. 40 m to the west. The timber yard is no longer labelled and the depot is now labelled as a goods shed, with a crane.
	1899	No change.	
	1909	No change (the mapped boundary is offset by c. 1 m to the north and c. 5 m to the east).	There are allotment gardens c. 55 m to the north.
	1923 - 1932	No change.	
	1936	The mapped boundary is offset by c. 10 m to the east and c. 5 m to the north. Three new buildings are evident in the south of the Site (possible out buildings?).	No change.
	1938 - 1951	No change.	
	1954	The Site is now labelled as a builder's yard. There has been redevelopment with a building in the north-west and a building in the south-west. The mapped boundary offset is by c. 1 m to the south.	There is a tyre depot c. 65 m to the north east. The station is now labelled as Gravesend Central Station. There is a garage c. 160 m to the west and Lord Street Garage is c. 165 m to the east. There is a builder's yard and builders contactors yard c. 185 m to the north and a garage and a garage c. 200 m to the south west.
	1955 - 1966	No change.	
	1972	There has been further redevelopment on-Site with a new building in the north-east and an extension to the building in the south-west.	The allotment gardens are now a car park. There is a pond c. 80 m to the north. The garage c. 160 m to south west is now an engineering works and Lord Street Garage c. 165 m to the east is no longer labelled. There is a builder's yard c. 210 m to the north east.

Source description
The land use history suggests that there is the potential for contamination to have occurred <u>on-Site</u> relating to the following: Builders Yard - Potential for bulk storage of fuels and/or miscellaneous chemicals. - Miscellaneous small scale fuel and oil spills relating to the presence of vehicles /parking associated with the builders yard . - Potential for localised/historical deposition of construction wastes. - Made Ground associated with former development/demolition activities. - Asbestos containing materials (ACM) may have been incorporated within the built structures in the past; the disturbance of any such materials may have resulted in asbestos being present within the sub surface surrounding the buildings. The land use history suggests that there is the potential for contamination to have occurred <u>off-Site</u> relating to the following: Railway Land c. 100 m north - Herbicide residues (possibly including atrazine and simazine from historical vegetation control). - Fuel and engine oil spills /leakage from train engines. Lubricant residues from associated rolling stock/carriages. - Made Ground/fill materials associated with the construction of the rail line. - Coal residues associated with the former material stores (in the case of sidings). Builders Yard c. 185 m north and Depot c. 160 m north Garage c. 160 m west, c. 160 m south west, c. 165 m east and c. 200 m south west - Miscellaneous fuel or chemical spills/leaks (i.e. fuels used for refilling and storage in UST's, oils, lubricants, greases, antifreeze residues ,etc.). - Potential for underground tanks or other buried infrastructure including former waste oil pits, inspection pits, grease pits, drainage interceptors, etc. - Made Ground associated with former development/demolition activities.

POTENTIAL SOURCES OF CONTAMINATION

LIKELY

PROBABILITY OF CONTAMINATION

2. Land quality assessment



2.2 Conceptual understanding (potential sources of contamination)						
 Site history <i>(historical land use taken within 250m radius of the Site boundary)</i>	Date	Description of land use		POTENTIAL SOURCES OF CONTAMINATION	Source description	LIKELY
		On-Site	Off-Site			
	1973	No change.			As above.	
	1978	No change (the mapped boundary is offset by c. 2 m to the south).	The tyre depot is no longer labelled. The garage c. 160 m west, Lord Street Garage c. 165 m to the east and the garage c. 200 m to the south west are no longer labelled. There is a garage c. 160 m to the north west. The depot associated with the railway c. 160 m to the north and the builders contactors yard c. 185 m to the north are no longer labelled.			
	1980 - 1994	No change.				
2003 - 2018	Aerial Imagery shows no change.					
High Council						
PROBABILITY OF CONTAMINATION						

2. Land quality assessment

2.2 Conceptual understanding (potential sources of contamination)

 Current land use	The Site is currently a disused timber workshop. There are no known buried storage tanks at the Site. There is no known bulk fuel or chemical storage on Site.			The Site's current use is unlikely to have given rise to significant land contamination.	UNLIKELY	
 Neighbouring industrial land uses (see environmental data report in Section 3.3 for full listing)	There are one or more potentially contaminative land uses are located within 250 m of the Site:					
	Distance from Site	Number of active industrial land uses	Number of inactive industrial land uses			
	0 - 50 m	0	0			
	51 - 100m	0	0			
	101 - 250 m	5	27			
	Nr	Nearest distance	Land use / permitted activity / authorisation			
	0	NA	Fuel station entries			
0	NA	Gas pipelines				
0	NA	Underground electrical cables				
0	NA	Control of major accident hazards sites (COMAH)				
0	NA	Notification of installations handling hazardous substances (NIHHS)				
0	NA	Explosives sites				
0	NA	Planning hazardous substance consents				
0	NA	Planning hazardous substance enforcements				
0	NA	Sites determined as Contaminated Land under Part IIA of the Environmental Protection Act 1990				
0	NA	Records of Licensed Discharge Consents.				
1	c. 170 m	Local Authority pollution prevention and control sites				
0	NA	Local Authority pollution prevention and control enforcements				
0	NA	Records of Category 3 or 4 Radioactive Substance Licences				
POTENTIAL SOURCES OF CONTAMINATION					UNLIKELY	PROBABILITY OF CONTAMINATION
Despite the presence of potential contaminative activities in the area surrounding the Site, since none occur within close proximity (i.e., within a 50 m radius of the Site) they are unlikely to pose a significant contamination hazard in relation to the Site itself.						
Contemporary trade directory entries include: A Brighter Clean (Inactive) Carpet, Curtain & Upholstery Cleaners c. 140 m east Car & Van Body Repairs (Inactive) Car Body Repairs c. 155 m south Clutch Clinic (Active) Garage Services c. 155 m south Gravesend Clutch Clinic (Inactive) Garage Services c. 160 m south Orange Computers (Inactive) Computer Manufacturers c. 160 m south Freeland Electrical (Inactive) Electrical Goods Sales, Manufacturers & Wholesalers c. 165 m south Arriva Travel (Inactive) Bus & Coach Operators & Stations c. 165 m north Tri The Bike Shop (Active) Cycle Accessories, Manufacturers & Wholesalers c. 170 m north east Heating & Plumbing Solutions (Active) Boilers - Servicing, Replacements & Repairs c. 170 m south Railway Dry Cleaners (Active) Dry Cleaners c. 175 m north east Nationwide Crash Repair Centres Ltd (Inactive) Car Body Repairs c. 215 m north east Eurostar Laundrycare (Inactive) Dry Cleaners c. 185 m west Local Authority pollution prevention and control sites entries include: Railway Dry Cleaners c. 170 m north east; description: PG6/46 Dry Cleaning. Dated: 20th September 2006. Status: Permitted.						

2. Land quality assessment

2.2 Conceptual understanding (potential sources of contamination)					
 EA recorded pollution incidents <i>(see environmental data report in Section 3.3 for full listing)</i>	No Environment Agency pollution incidents have been recorded within 250 m of the Site.	POTENTIAL SOURCES OF CONTAMINATION	No potential for gross contamination has been identified in relation to any pollution incidents occurring near to the Site.	PROBABILITY OF CONTAMINATION	NEGLECTIBLE
	 Landfills / waste sites <i>(taken within 500m radius of the Site boundary, see environmental data report in Section 3.3 for full listing)</i>		The potentially contaminative land uses/activities identified in close vicinity of the Site may pose a contamination hazard to the Site should relevant contaminant pathways exist. Given the absence of any waste treatment, transfer or disposal sites within close proximity of the Site no associated contamination hazards have been identified.		
	 Radon <i>(see environmental data report in Section 3.3 for full listing)</i>		1 to 3% of homes are at or above the UK radon action level (200 Bq/m3).		

2. Land quality assessment

2.3 Conceptual understanding (environmental sensitivity / potential severity of impacts)				
 Geology and Groundwater <i>(see the environmental data report in Section 3.3 for full details)</i>	British Geological Survey mapping indicates the absence of any superficial deposits beneath the Site. British Geological Survey mapping indicates that the bedrock geology consists of Thanet Formation, which comprises of sand and is classified as a Secondary (A) Aquifer. It is noted that the Principal Chalk aquifer is located within 50 m of the Site. According to the GeoSmart Groundwater Flood Risk (GW5) Map (GeoSmart, 2019). The risk of groundwater flooding at the Site is 'negligible'. The Site does not lie within a groundwater Source Protection Zone (SPZ), but is positioned c. 100 m west of a Total Catchment (Zone 3). The following groundwater abstraction licences are held within 1 km of the Site: - Southern Water Services Ltd potable water supply abstraction located c. 740 m south east of the Site. - Southern Water Services Ltd public water supply abstraction located c. 770 m south east of the Site (Licence Revoked).	POTENTIAL RECEPTORS	A Secondary (A) Aquifer comprises permeable layers capable of supporting water supply at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. Based on the susceptibility of the Site to groundwater flooding, a groundwater flood risk assessment is not considered necessary for the Site. The depth to groundwater beneath the Site is unknown. The presence of one or more groundwater abstraction licences within close proximity of the Site indicates a reasonable groundwater resource potential.	MEDIUM
	 Geohazards <i>(see the environmental data report in Section 3.3 for full details)</i>		The Site does not lie within an identified coal mining area and is therefore unlikely to be affected by related ground stability or mine gas issues. The Site does not lie within an area of former brine working and is therefore unlikely to be affected by related ground stability issues. BGS Mineral Site Northfleet Chalk Pit Opencast chalk mine c. 445 m north west; Operations ceased. A natural cavity solution pipe is recorded c. 405 m to the south east BGS GeoIndex Onshore mapping does not have any artificial deposits recorded at the Site. The Site has ground stability hazards that should be considered further as part of the redevelopment plans.	MILD

2. Land quality assessment

2.3 Conceptual understanding (environmental sensitivity / potential severity of impacts)					
 Surface water (see the environmental data report in Section 3.3 for full details)	There are no significant surface water features within 250 m of the Site. The Site lies within a Flood Zone 1. The following surface water abstraction licences are held within 1 km of the Site: Southern Water Services Ltd pond/lake water abstraction located c. 775 m south east of the Site.	POTENTIAL RECEPTORS	Given the distance from the Site and the nature of the local geology, the sensitivity of local surface waters is judged to be low.	MILD	POTENTIAL SEVERITY OF IMPACT
 Environmental designations (see the environmental data report in Section 3.3 for full details)	There are no environmentally sensitive land uses within 500 m of the Site.		No relevant environmentally designated sites/receptors have been identified.	NEGLIGIBLE	
 Human receptors	Proposed residents/users of the Site plus neighbouring residences.		Human receptors are proposed to be present on Site.	SEVERE	

2. Land quality assessment

2.4 Regulator perspective		
Consultation date	1st November 2019	Gravesham Borough Council
GeoSmart consultant	Alexandra Pickles	Elleanor Harris
Consultation outcome	We can confirm that based on the records available to us at the current time the site is known to have been used as a builders yard within the last 5 years, which may have included the use of various contaminants/pollutants. Apart from this: • We don't have any specific information or concerns relating to the site. • The site is not on a list of sites held by Environmental Health as being of particular potential concern with regards to contaminated land which may be prioritised for investigation. • We don't have any other local knowledge.	

2. Land quality assessment

2.5 Preliminary Risk Assessment

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
On-Site sources - Builder's Yard								
1	Potential for inorganic and low volatility organic contaminants to be present within the subsurface soils	Dermal contact, ingestion & inhalation of soils & soil dust	HH	Current/future Site occupants	MEDIUM	UNLIKELY	LOW RISK	Due to the long history of development on Site including the historical use as a Builders Yard, there is potential for contamination to be present which could affect future residents. However, given the proposed presence of hard standing across the entire Site, no routine exposure to any subsurface contamination is considered likely. The basement excavation will also remove a large component of the in situ Made Ground.
2		Consumption of home grown produce	HH		MEDIUM	UNLIKELY	LOW RISK	
3		Ingress into water supply pipework and subsequent water ingestion	HH		MEDIUM	LOW LIKELIHOOD	MODERATE/LOW RISK	Due to the long history of development on Site including the historical use as a Builders Yard, there is potential for localised organic contamination to be present. As such, it would be prudent to ensure any new water supplies are installed in clean fill trenches utilising barrier pipework as a precaution (subject to the extent of the excavations required for the basement construction).
4		Building materials in direct contact with aggressive ground	PROP	Current/future Site buildings	MILD	UNLIKELY	VERY LOW RISK	Aggressive ground conditions are not anticipated to be present.
5		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Thanet Formation (a Secondary (A) Aquifer)	MEDIUM	UNLIKELY	LOW RISK	The risk classification reflects the local groundwater sensitivity (relatively high resource value) and the potential presence of localised contamination on the Site but also the proposals to remove in situ Made Ground across the basement area and to cover the entire Site with hard standing / building cover (which will constrain any contaminant mobilisation).

2. Land quality assessment

2.5 Preliminary Risk Assessment								
Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
6	Potential for volatile organic contaminants to be present within the subsurface soils	Dermal contact, ingestion & inhalation of soils & soil dust	HH	Current/future Site occupants	MEDIUM	UNLIKELY	LOW RISK	Due to the long history of development on Site including the historical use as a Builders Yard, there is potential for contamination to be present which could affect future residents. However, given the proposed presence of hard standing across the entire Site, no routine exposure to any subsurface contamination is considered likely. The basement excavation will also remove a large component of the in situ Made Ground.
7		Consumption of home grown produce	HH		MEDIUM	UNLIKELY	LOW RISK	
8		Migration of vapours to surface; inhalation indoors	HH		MEDIUM	UNLIKELY	LOW RISK	
9		Migration of vapours to surface; inhalation outdoors	HH		MILD	UNLIKELY	VERY LOW RISK	
10		Ingress into water supply pipework and subsequent water ingestion	HH	Current/future Site buildings	MEDIUM	LOW LIKELIHOOD	MODERATE/LOW RISK	Due to the long history of development on Site including the historical use as a Builders Yard, there is potential for localised organic contamination to be present. As such, it would be prudent to ensure any new water supplies are installed in clean fill trenches utilising barrier pipework as a precaution (subject to the extent of the excavations required for the basement construction).
11		Building materials in direct contact with aggressive ground	PROP		MILD	UNLIKELY	VERY LOW RISK	
12		Dissolution into pore water/shallow groundwater and subsequent migration	CW		MEDIUM	UNLIKELY	LOW RISK	

2. Land quality assessment

2.5 Preliminary Risk Assessment

Nr	Sources		TYPE	Receptors	Consequence	Probability	Risk classification	Comments
13	Potential for asbestos containing materials within the subsurface soils	Liberation of sub surface ACMs and inhalation of asbestos fibres	HH	Current/future Site occupants	MEDIUM	UNLIKELY	LOW RISK	Given the age of the existing building structures asbestos-containing material may be present within the building fabric and surrounding subsoils. However, given the proposed presence of hard standing across the entire Site, no routine exposure to any subsurface contamination is considered likely.
14	Potential for dissolved phase contaminants to be present within shallow groundwater	Lateral and vertical groundwater movement via natural or artificial flow paths	CW	Thanet Formation (a Secondary (A) Aquifer)	MEDIUM	UNLIKELY	LOW RISK	The risk classification reflects the local groundwater sensitivity (relatively high resource value) and the potential presence of localised contamination on the Site but also the proposals to remove in situ Made Ground across the basement area and to cover the entire Site with hard standing / building cover (which will constrain any contaminant mobilisation).
15	Potential for elevated methane to be present within the sub-surface soils	Lateral and vertical migration into on-Site buildings; potential to cause an explosion	HH	On-Site properties and their occupants	SEVERE	UNLIKELY	MODERATE/LOW RISK	Based on the prevailing conceptual understanding an appreciable gas source is considered unlikely (not least given the proposed excavation of in situ soils to facilitate the basement construction). The risk classification is a reflection of the severity of consequences, rather than the likelihood of occurrence.
16		Lateral migration towards off-Site buildings; potential to cause an explosion	HH	Off-Site properties and their occupants		UNLIKELY	MODERATE/LOW RISK	
17	Potential for elevated carbon dioxide to be present within the subsurface soils	Lateral and vertical migration into on-Site buildings; potential to cause asphyxiation	HH	Occupants of on-Site buildings		UNLIKELY	MODERATE/LOW RISK	
18		Lateral migration towards off-Site buildings; potential to cause asphyxiation	HH	Occupants of off-Site buildings		UNLIKELY	MODERATE/LOW RISK	
19	Potential for radon within the subsurface	Lateral migration towards on-Site buildings; potential to cause long term health effects	HH	Occupants of on-Site buildings	MEDIUM	LOW LIKELIHOOD	MODERATE/LOW RISK	The Site lies in an area where 1 to 3% of homes are at or above the UK radon action level (200 Bq/m3).
OVERALL RISK RATING							MODERATE/LOW RISK	



2. Land quality assessment

2.5 Preliminary Risk Assessment								
Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
Off-Site sources								
- Railway and Station c. 100 m north and depot/good shed c. 160 m north								
20	Potential for a range of inorganic and organic contaminants to be present within the subsurface soils	Dermal contact, ingestion & inhalation of soils & soil dust	HH	Current/future Site occupants	MEDIUM	UNLIKELY	LOW RISK	Given the nature of industrial development to the north of the Site there is potential for assorted contaminants to be present. However, no viable exposure pathways to on-Site receptors are considered likely to exist.
21		Consumption of home grown produce	HH		MEDIUM	UNLIKELY	LOW RISK	
22		Ingress into water supply pipework and subsequent water ingestion	HH		MEDIUM	UNLIKELY	LOW RISK	
23		Migration of vapours to surface; inhalation indoors	HH		MEDIUM	UNLIKELY	LOW RISK	
24		Migration of vapours to surface; inhalation outdoors	HH		MILD	UNLIKELY	VERY LOW RISK	
25		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Thanet Formation (a Secondary (A) Aquifer)	MEDIUM	UNLIKELY	LOW RISK	

2. Land quality assessment

2.5 Preliminary Risk Assessment

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
Off-Site sources								
- Timber Yard/Engineering Works c. 60 m north, Tyre Depot,c. 65 m north, Garages c. 160 m west, c. 160 m south west, c. 165 m east, c. 200 m south west and Builder's Yards c. 185 m north								
26	Potential for a range of inorganic and organic contaminants to be present within the subsurface soils	Dermal contact, ingestion & inhalation of soils & soil dust	HH	Current/future Site occupants	MEDIUM	UNLIKELY	LOW RISK	Given the nature of the identified industrial developments there is potential for assorted contaminants to be present. However, no viable exposure pathways to on-Site receptors are considered likely to exist.
27		Consumption of home grown produce	HH		MEDIUM	UNLIKELY	LOW RISK	
28		Ingress into water supply pipework and subsequent water ingestion	HH		MEDIUM	UNLIKELY	LOW RISK	
29		Migration of vapours to surface; inhalation indoors	HH		MEDIUM	UNLIKELY	LOW RISK	
30		Migration of vapours to surface; inhalation outdoors	HH		MILD	UNLIKELY	VERY LOW RISK	
31		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Thanet Formation (a Secondary (A) Aquifer)	MEDIUM	UNLIKELY	LOW RISK	
	OVERALL RISK RATING						LOW RISK	

2. Land quality assessment

2.6 Next steps			
✓	No immediate action but observe a watching brief Specify barrier pipework where water supplies are laid within Made Ground		Given the known history of the Site it is considered possible that contamination is present within the sub-surface. However, given that the proposed development allows for the removal of in situ Made Ground across the majority of the Site (in order to facilitate the basement construction) and also the placement of hardstanding and/or building cover across the entire Site, the preliminary risk assessment suggests that the risks posed by in situ land quality to human health is therefore likely to be moderate/low. It is noted that whilst a limited intrusive site investigation (including appropriate laboratory testing of soil samples) could be adopted in order to validate the preliminary risk assessment conclusions, a watching brief during all proposed redevelopment activities will likely be sufficient. The watching brief should be maintained throughout the entire development phase of works and any possible evidence of contamination encountered during the redevelopment works should be alerted to the Local Authority. Appropriate actions would then be required to further inspect, sample and analyse any suspect materials, and formulate an appropriate remediation plan, as necessary. If future water supply pipework is to come into possible contact with in-situ Made Ground, it is recommended that appropriate barrier pipework is specified and laid within service corridors backfilled with clean fill materials.

3. Supporting information

The following supporting information is contained in this section:

Section	Content
3.1	Referenced materials used in the EnviroSmart reporting
3.2	Site photographs
3.3	Published environmental data records (Landmark Envirocheck report Former Builders Yard Rear of 3, Cobham Street, GRAVESEND, Kent. REF: 222071662_1_1) including: • Aerial photographs and site map • Environmental permits, incidents and registers • Landfill and other waste sites • Current land use information • Geology • Hydrogeology and hydrology • Flooding • Designated environmentally sensitive sites • Other environmental factors
3.4	Risk assessment methodology
3.5	Historical land use maps

Disclaimer

This report has been prepared by GeoSmart in its professional capacity as soil and water specialists, with reasonable skill, care and diligence within the agreed scope and terms of contract and taking account of the manpower and resources devoted to it by agreement with its client, and is provided by GeoSmart solely for the internal use of its client.

The advice and opinions in this report should be read and relied on only in the context of the report as a whole, taking account of the terms of reference agreed with the client. The findings are based on the information made available to GeoSmart at the date of the report (and will have been assumed to be correct) and on current UK standards, codes, technology and practices as at that time. They do not purport to include any manner of legal advice or opinion. New information or changes in conditions and regulatory requirements may occur in future, which will change the conclusions presented here.

This report is confidential to the client. The client may submit the report to regulatory bodies, where appropriate. Should the client wish to release this report to any other third party for that party's reliance, GeoSmart may, by prior written agreement, agree to such release, provided that it is acknowledged that GeoSmart accepts no responsibility of any nature to any third party to whom this report or any part thereof is made known. GeoSmart accepts no responsibility for any loss or damage incurred as a result, and the third party does not acquire any rights whatsoever, contractual or otherwise, against GeoSmart except as expressly agreed with GeoSmart in writing.

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3. Supporting information

Important consumer protection information

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GeoSmart Information Ltd is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry registration rules and standards and relevant laws
- monitor their compliance with the Code

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs contact details:

The Property Ombudsman scheme

Milford House

43-55 Milford Street

Salisbury

Wiltshire SP1 2BP

Tel: 01722 333306

Fax: 01722 332296

Website: www.tpos.co.uk

Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

Please ask your search provider if you would like a copy of the search code



3. Supporting information

A key commitment under the Code is that firms will handle any complaints both speedily and fairly

If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to:

Jemma Prydderch
Operations Manager

GeoSmart Information Limited
Suite 9-11, 1st Floor
Old Bank Buildings, Bellstone
Shrewsbury
SY1 1HU

Tel: 01743 298100
jemmaprydderch@geosmartinfo.co.uk

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman Scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.



3. Supporting information

3.1 References

The following references were used to inform the conceptual site model and preliminary risk assessment:

British Geological Survey, 2019a. Geology of Britain viewer (<http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html>)

British Geological Survey, 2019b. GeoIndex Onshore (<http://mapapps2.bgs.ac.uk/geoindex/home.html>)

British Standards Institute, 2011. Investigation of potentially contaminated sites – code of practice. BS10175:2011+A1:2013.

CIRIA, 2001. Contaminated land risk assessment. A guide to good practice. Publication C552. CIRIA London. ISBN 0-86017-552 9

Environment Agency, 2004. Publication CLR 11. Model Procedures for the Management of Land Contamination.

GeoSmart Information Limited, 2019. National Groundwater Flood Risk Map (GW5)

Health Protection Agency, 2000. Spring 2000 Newsletter featuring: Radon: Guidance on Protective Measures for New Dwellings (BR 211).

Landmark, 2019. Landmark Envirocheck report Former Builders Yard Rear of 3, Cobham Street, GRAVESEND, Kent. REF: 222071662_1_1

3. Supporting information

3.2 Site photographs

Photograph 1: Photo shows the entrance to the Site facing north.



Photograph 2: Photo shows nearest residential property along the western boundary and the entrance to Site.



Photograph 3: Photo shows neighbouring property garden along the eastern boundary and the wall/boundary line.



Photograph 4: Photo shows structure on-Site to be demolished.



Photograph 5: Photo shows neighbouring property along the western boundary and property along the northern boundary.

