Phase 1 Contaminated Land Desk Study Report

Site address:	Rose Cottage 21 Station Road Gedney Hill Spalding PE12 0NP
Report prepared for:	Ernie Berrisford The Hacienda North Road Spalding PE12 0NS
Report reference:	63580R1
Report status:	Final
Date issued:	March 2015
Report author:	Johnathan Green **Land consultant**
Report check & review:	Andy Singleton **Director**





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Report Summary Contaminated Land Risks

The purpose of this 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.

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 contamination being present 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

It is acknowledged that the risk assessment findings are based on documentary sources of information alone. Typically a proportionate programme of intrusive site investigations would be required to fully verify these findings.

Recommendations (for next steps)

✓	**No immediate action but observe a watching brief**	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.

Envirep would be delighted to provide further information and a site specific quotation in relation to the above recommendations.

Please contact **info@envirep.com** for further advice.

1. INTRODUCTION

1.1 Background

The study site (from herein known as 'the Site') is situated at Rose Cottage, 21 Station Road, Spalding. A proposed development plan of the Site is shown in Section 1.5

Envirep was commissioned by Ernie Berrisford in March 2015 to undertake a Phase 1 Land Quality Assessment for the Site. The report has been requested by South Holland District Council in order to satisfy Planning Application Reference H07-0180-14.

The proposed development is for the construction of a residential dwelling.

The Phase 1 assessment 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 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:

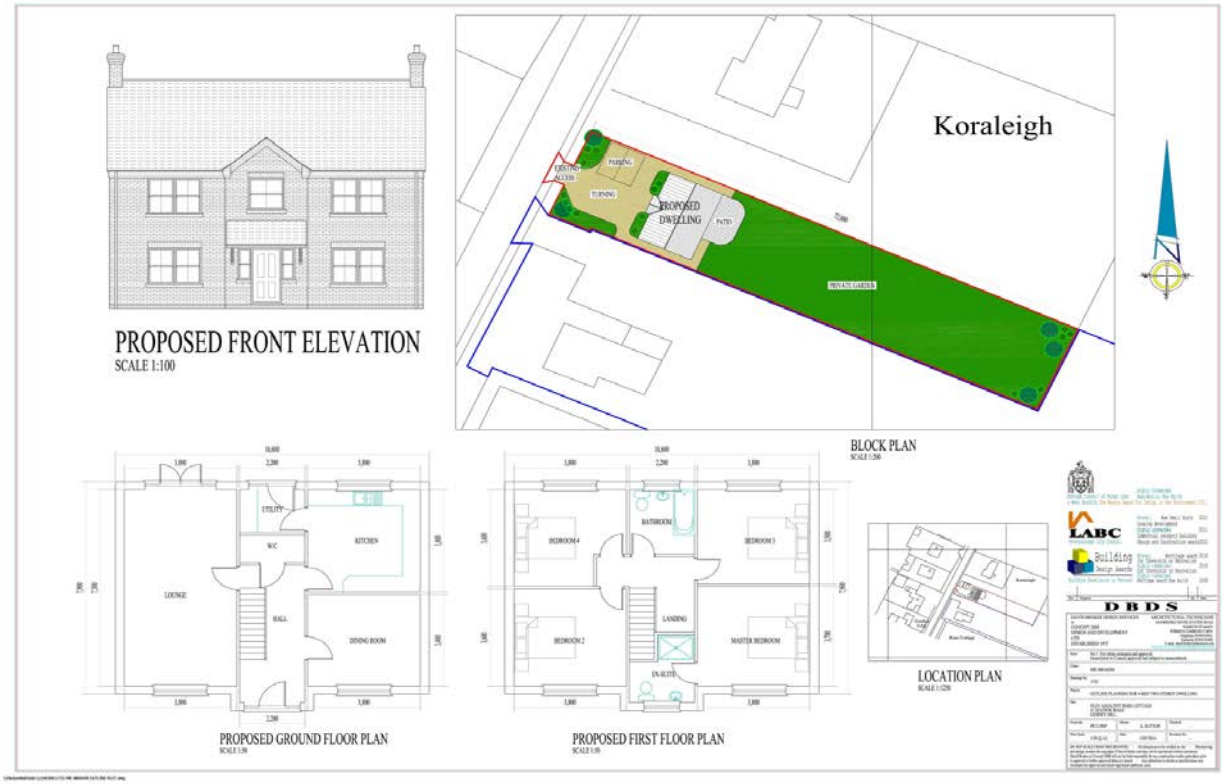
Section	Content	Purpose
Section 2: **LAND QUALITY ASSESSMENT**	A summary of the site history and environmental setting, the findings of the preliminary risk assessment and associated recommendations	To present a clear and concise overview of the land quality issues facing the Site, including recommendations 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.

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.

1.5 Proposed Site Development Plan



2. LAND QUALITY ASSESSMENT

2.1 Site Details

Site name:	Rose Cottage	**Current land cover:**	Combined soft and hard standing with an out-building which covers approximately 10% of the Site
Current use:	Former agricultural buildings used for residential storage		
Proposed use:	Residential with garden	**Site area:**	0.09 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
1888	The Site is developed at this time and comprises a long rectangular structure adjacent to the northern boundary of the Site. Two further rectangular structures are located directly adjacent to, and south of, the long rectangular structure. Directly south of the Site an "L" shaped building is located with a small rectangular structure adjoined to it directly to the north. The drainage structure on-Site appears similar that present at the time of reporting with a drain marked running northwest-southeast along the northern boundary of the Site. The surrounding land is predominately vacant open fields where the assumed use is agricultural. A smithy is located c.220 m northeast of the Site.
1904	No change on-Site.
1952	No apparent change on Site. However, detailed observations are difficult given the scale of mapping available.
1977	An additional rectangular structure has been constructed along the northern boundary of the Site adjacent to and adjoining the south-eastern wall of the original structure on-Site. The western most structure present adjacent to the southern boundary of the Site is no longer mapped. The structures directly south of the Site are labelled "Rose Cottage". The small rectangular structure that adjoined this building has been removed and an additional rectangular structure has been constructed slightly to the east. There has been residential development in the land surrounding the Site. A building labelled "Garage" is located c.70 m south west of the Site.
1981	No apparent change on Site. However, detailed observations are difficult given the scale of mapping available.
1999	Aerial imagery shows a small square structure located approximately half way along the southern boundary of the Site.
2004	Aerial imagery shows that all the buildings on-Site have been removed other than the two long rectangular structures located along the northern boundary of the Site.
2006	Aerial imagery indicates that the western two thirds of the Site appear to have been covered in hardstanding. The easternmost rectangular building that was present along the northern most boundary has been removed.
2013	Aerial imagery shows that an additional building has been constructed along the northern boundary of the Site towards the north-eastern corner of the Site (see environmental data report in Section 3.3 for image).

POTENTIAL **SOURCES** OF CONTAMINATION

Source description

The land use history suggests that there is the potential for contamination to have occurred on-Site relating to the following:

- Possible bulk storage of fuels and/or miscellaneous chemicals and associated spills/leaks.
- Other miscellaneous small scale fuel and chemical spills (i.e., fuels used for heating/agricultural machinery/other vehicles, oils and lubricants, herbicides/pesticides, fertilisers, paints/thinners, creosote, etc.).
- Potential for localised/historical deposition of domestic/agricultural waste materials. *Note: there is no direct evidence, including topographic evidence, that any such waste disposal or infilling activities have taken place on the Site. Also, given the open nature of the wider site, it is considered unlikely that any significant wastes were deposited in close proximity to the existing structures.*
- Made Ground associated with former development/demolition activities.
- Animal effluent from the possible housing of livestock within the on-site buildings.
- 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.
- Localised disposal of effluent wastes.

LOW LIKELI-HOOD

PROBABILITY OF CONTAMINATION

2. LAND QUALITY ASSESSMENT

2.2 Conceptual Understanding (POTENTIAL SOURCES OF CONTAMINATION)

Current land use

The Site currently forms a garden area where the former agricultural building is used for general storage.

Anecdotal information provided by the client indicated that the barn on-Site has been used for general storage for since c.1980. The previous owner of the Site is thought to have used the Site for parking and as a private garden.

There are no known buried storage tanks at the Site.

There is no known bulk fuel or chemical storage on Site.

POTENTIAL **SOURCES** OF CONTAMINATION

Given the Site's current use, there is potential for localised contamination relating to the following:

Miscellaneous small scale fuel and chemical spills (i.e., fuels used for heating/agricultural machinery/other vehicles, oils and lubricants, herbicides/pesticides, fertilisers, paints /thinners,

UNLIKELY

PROBABILITY OF CONTAMINATION

Neighbouring land uses *(see environmental data report in Section 3.3 for full listing)*

One or more potentially contaminative land uses are located within the vicinity of the Site, including:

Gedney Hill Garage Services c. 70 m south west - vehicle repair, testing and servicing

Nr	Nearest distance	Land use / permitted activity / authorisation
0	NA	Petrol or fuel sites
0	NA	High pressure oil or gas pipelines
0	NA	Records of IPC or IPPC Authorised Activities
0	NA	Red List / List 1 / List 2 Dangerous Substance Inventory Sites
0	NA	Part A(2) and Part B Activities and Enforcements
0	NA	Records of Category 3 or 4 Radioactive Substance Licences
13	c. 70 m	Records of Licensed Discharge Consents.
0	NA	COMAH and NIHHS registered sites
0	NA	Sites determined as Contaminated Land under Part IIA of the Environmental Protection Act 1990

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.

UNLIKELY

2.2 Conceptual Understanding (POTENTIAL SOURCES OF CONTAMINATION)					
EA recorded pollution incidents	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.	**NO RISK**	**PROBABILITY** OF CONTAMINATION
Landfills / waste sites *(taken within 500m radius of the Site boundary, see environmental data report in Section 3.3 for full listing)*	There are no Environment Agency listed historical landfills located within 500 m of the Site. There are no Environment Agency listed operational landfills located within 500 m of the Site. There are no Local Authority listed historical landfills located within 500 m of the Site. The following other waste sites are registered within 500 m of the Site: 0 Records of operational waste treatment, transfer or disposal sites. 0 Records of non-operational waste treatment, transfer or disposal sites. 0 Records of Environment Agency waste sites.		Given the absence of any historical or operational landfills within close proximity of the Site no associated contamination hazards have been identified. Given the absence of any waste treatment, transfer or disposal sites within close proximity of the Site no associated contamination hazards have been identified.	**NO RISK**	
Radon	According to current UK radon mapping (Public Health England, 2015) the Site lies in an area where 0 to 1 % of homes are at or above the UK radon action level (200 Bq/m3).		0 to 1 % of homes are at or above the UK radon action level (200 Bq/m3).	**UNLIKELY**	

2.3 Conceptual Understanding (ENVIRONMENTAL SENSITIVITY / POTENTIAL SEVERITY OF IMPACTS)					
Geology and Groundwater (see the environmental data report in Section 3.3 for full details)	British Geological Survey mapping indicates that the underlying superficial geology consists of Tidal Flat Deposits which comprises clay and silt and is classified as Unproductive Strata. British Geological Survey mapping indicates that the bedrock geology consists of Oxford Clay Formation, which comprises of mudstone and is classified as Unproductive Strata. The Site lies within a 'not considered to be prone to groundwater flooding' groundwater flood risk susceptibility area based on the underlying geological conditions. The British Geological Survey confidence rating for this susceptibility classification is 'not applicable'. The Site does not lie within a Source Protection Zone (SPZ). There are no groundwater abstraction licences within 1 km of the Site.	POTENTIAL **RECEPTORS**	Unproductive Strata typically have low permeability and offer negligible water supply or river base flow potential. Based on the susceptibility of the Site to groundwater flooding, a groundwater flood risk assessment is not considered necessary for the Site. The absence of groundwater abstraction licences within close proximity of the Site may indicate poor groundwater resource potential.	**MINOR**	**POTENTIAL SEVERITY** OF IMPACT
Geohazards	The Site does not lie within a 'Coal Mining Reporting Area'. There are no brine affected areas within 75 m of the Site. Artificial ground / Made Ground is anticipated on Site. The subsidence hazard relating to shallow mining is low. The following natural hazards are present at or within 50 m of the Site: Compressible ground deposits Running sands		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. Given the multiple phases of development on-Site, Made Ground is considered likely. The Site has ground stability hazards that should be considered further as part of the redevelopment plans; A moderate hazard rating relating to compressible ground deposits and running sand have been identified at or within 50 m of the Site.	**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)*	The nearest water feature is the unnamed water feature (drain) located on the Site boundary. The Site lies within a 1 in 100 (Zone 3) year flood risk zone. There are no surface water abstraction licences within 1 km of the Site.	**POTENTIAL** RECEPTORS	The relatively close proximity of the identified surface water feature(s) suggests that a potential linkage could occur if any contamination were present on Site. Mobile contamination may potentially enter nearby water features via any shallow groundwater or possibly via preferential flow pathways such as buried services.	**MILD**	**POTENTIAL SEVERITY** OF IMPACT
Environmental designations *(see the environmental data report in Section 3.3 for full details)*	There are no environmentally sensitive areas within 500 m of the Site.		No relevant environmentally designated sites/receptors have been identified.	**NO RISK**	
Human receptors	Proposed residents/users of the Site plus neighbouring residences.		Human receptors are proposed to be present on Site.	**SEVERE**	

2.4 Regulator Perspective		
Consultation date	24/03/15	South Holland District Council
Envirep consultant	Johnathan Green	Janette Reith
Consultation outcome	The Council is not aware of any specific concerns in relation to land quality issues at the Site however the Council is aware that the Site has a number of outbuildings present on-Site and are currently unaware of their use.	

2.5 PRELIMINARY RISK ASSESSMENT

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
On Site sources								
1	Potential for **inorganic** and low volatility organic contaminants to be present within the sub-surface **soils**	Dermal contact, soil & soil dust ingestion, inhalation of soil dust	HH	Current/future site occupants	**MEDIUM**	**LOW LIKELIHOOD**	**MODERATE/LOW RISK**	Given the likely presence of Made Ground beneath the Site, any residual contamination associated with this material has the potential to impact on future site users. It is however noted that the development plans show buildings and hard standing across the area currently occupied by the main outbuilding; these will restrict any future contaminant exposure.
2		Consumption of home grown produce	HH	Current/future site occupants	**MEDIUM**	**LOW LIKELIHOOD**	**MODERATE/LOW RISK**	
3		Ingress into water supply pipework and subsequent water ingestion	HH	Current/future site occupants	**MILD**	**LOW LIKELIHOOD**	**LOW RISK**	
4		Building materials in direct contact with aggressive ground	PROP	Current/future site buildings	**MILD**	**LOW LIKELIHOOD**	**LOW RISK**	
5		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Tidal Flat Deposits (an Unproductive Strata)	**MINOR**	**LOW LIKELIHOOD**	**VERY LOW RISK**	The risk classification reflects the low permeability of the geology and the local groundwater sensitivity (low resource value)
6		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Oxford Clay Formation (an Unproductive Strata)	**MINOR**	**LOW LIKELIHOOD**	**VERY LOW RISK**	
7		Dissolution into pore water/shallow groundwater and subsequent lateral migration	CW	Unnamed water feature (drain)	**MINOR**	**LOW LIKELIHOOD**	**VERY LOW RISK**	The risk classification reflects the assumed low resource/ecological value of the drain and the clayey nature of the local substrate (which will limit any contaminant migration towards the drain)
8		Dissolution into aqueous phase and preferential migration via drainage structures	CW	Unnamed water feature (drain)	**MINOR**	**LOW LIKELIHOOD**	**VERY LOW RISK**	

2. LAND QUALITY ASSESSMENT

2.5 PRELIMINARY RISK ASSESSMENT

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
9	Potential for **volatile organic** contaminants to be present within the sub-surface **soils**	Dermal contact, ingestion & inhalation of soils & soil dust	HH	Current/future site occupants	**MEDIUM**	**UNLIKELY**	**LOW RISK**	Any residual contamination associated with in situ Made Ground has the potential to impact on future site users. It is however noted that based on the nature and scale of historical Site land uses an appreciable vapour phase contaminant source is considered unlikely. The proposed presence of buildings and hard standing across the area currently occupied by the main outbuilding will also restrict any future contaminant exposure.
10		Consumption of home grown produce	HH	Current/future site occupants	**MEDIUM**	**UNLIKELY**	**LOW RISK**	
11		Ingress into water supply pipework and subsequent water ingestion	HH	Current/future site occupants	**MILD**	**UNLIKELY**	**VERY LOW RISK**	
12		Migration of vapours to surface; inhalation indoors	HH	Current/future site occupants	**MEDIUM**	**UNLIKELY**	**LOW RISK**	It is plausible that the source mass associated with any volatile contaminants that were originally present on-Site may have been significantly reduced due to the effects of volatilisation and degradation
13		Migration of vapours to surface; inhalation outdoors	HH	Current/future site occupants	**MILD**	**UNLIKELY**	**VERY LOW RISK**	
14		Building materials in direct contact with aggressive ground	PROP	Current/future site buildings	**MILD**	**UNLIKELY**	**VERY LOW RISK**	
15		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Tidal Flat Deposits (an Unproductive Strata)	**MILD**	**LOW LIKELIHOOD**	**LOW RISK**	The risk classification reflects the low permeability of the geology and the local groundwater sensitivity (low resource value)
16		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Oxford Clay Formation (an Unproductive Strata)	**MILD**	**LOW LIKELIHOOD**	**LOW RISK**	
17		Dissolution into pore water/shallow groundwater and subsequent lateral migration	CW	Unnamed water feature (drain)	**MINOR**	**LOW LIKELIHOOD**	**VERY LOW RISK**	The risk classification reflects the assumed low resource/ecological value of the drain and the clayey nature of the local substrate (which will limit any contaminant migration towards the drain)
18		Dissolution into aqueous phase and preferential migration via drainage structures	CW	Unnamed water feature (drain)	**MINOR**	**LOW LIKELIHOOD**	**VERY LOW RISK**	

2. LAND QUALITY ASSESSMENT

2.5 PRELIMINARY RISK ASSESSMENT

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
19	Potential for **asbestos** containing materials within the sub-surface **soils**	Liberation of sub surface ACMs and inhalation of asbestos fibres	HH	Occupants of on site buildings	**MEDIUM**	**LOW LIKELIHOOD**	**MODERATE/LOW RISK**	Given the age of the past and present Site structures asbestos containing material may be present within the building fabric and surrounding sub soils
20	Potential for **dissolved phase** contaminants to be present within **shallow groundwater**	Lateral and vertical groundwater movement via natural or artificial flow paths	CW	Tidal Flat Deposits (an Unproductive Strata)	**MILD**	**LOW LIKELIHOOD**	**LOW RISK**	The risk classification reflects the likely absence of a significant source of contamination and the low resource value of the underlying geology
21		Lateral and vertical groundwater movement via natural or artificial flow paths	CW	Oxford Clay Formation (Unproductive Strata)	**MILD**	**LOW LIKELIHOOD**	**LOW RISK**	
22		Lateral and vertical groundwater movement via natural or artificial flow paths	CW	Unnamed water feature (drain)	**MINOR**	**LOW LIKELIHOOD**	**VERY LOW RISK**	The risk classification reflects the assumed low resource/ecological value of the drain and the clayey nature of the local substrate (which will limit any contaminant migration towards the drain)
23	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	**MEDIUM**	**UNLIKELY**	**LOW RISK**	The gas generation potential of on site materials is considered to be limited
24		Lateral migration towards off site buildings; potential to cause an explosion	HH	Off site properties and their occupants	**MEDIUM**	**UNLIKELY**	**LOW RISK**	
25	Potential for elevated **carbon dioxide** to be present within the sub-surface **soils**	Lateral and vertical migration into on site buildings; potential to cause asphyxiation	HH	Occupants of on site buildings	**MEDIUM**	**UNLIKELY**	**LOW RISK**	
26		Lateral migration towards off site buildings; potential to cause asphyxiation	HH	Occupants of off site buildings	**MEDIUM**	**UNLIKELY**	**LOW RISK**	
27	Potential for **radon** within the sub-surface	Lateral migration towards on site buildings; potential to cause long term health effects	HH	Occupants of onsite buildings	**MILD**	**UNLIKELY**	**VERY LOW RISK**	The Site lies in an area where 0 to 1 % of homes are at or above the UK radon action level (200 Bq/m3)
						OVERALL RISK RATING	**MODERATE/LOW RISK**	

2.6	Recommendations for Next Steps		
✓	**No immediate action but observe a watching brief**	envirep.co.uk environmental report specialists	Given the known history of the Site it is considered unlikely that significant contamination is present within the sub-surface; this reflects the nature and scale of historical land uses, the absence of any evidence of bulk fuel or chemical storage and the presence of concrete flooring within the on-Site structure. Future exposure of site users to any in situ contamination may also be constrained by the proposed presence of hard standing / buildings across the main area of historical site development (i.e., the northern section of the Site). It is also anticipated that some importation of clean soils may be required to create the garden area proposed for the central and southern parts of the Site (i.e., in those areas currently covered by gravel hardcore). On balance, the preliminary risk assessment suggests that the risks posed by in situ land quality are 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 and associated ground works (which would include a thorough inspection of any exposed sub surface soils/Made Ground) 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.

3. SUPPORTING INFORMATION

The following supporting information is contained in this section:

Section	Content
3.1	Referenced materials used in the Phase 1 reporting
3.2	Site photographs
3.3	Published environmental data records (Centremaps EnviroInsight report Rose Cottage, 21 Station Road, Gedney Hill, Spalding, PE12 0NP. REF: CMAPS-CM-410662-34722-160315) 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

This report has been prepared by Envirep in its professional capacity as soil and groundwater 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 Envirep 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 Envirep 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, Envirep may, by prior written agreement, agree to such release, provided that it is acknowledged that Envirep accepts no responsibility of any nature to any third party to whom this report or any part thereof is made known. Envirep 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 Envirep except as expressly agreed with Envirep in writing.

3. SUPPORTING INFORMATION

3.1 References

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

British Standards Institute, 2011. Investigation of potentially contaminated sites – code of practice. ISO 10175:2011.

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

Groundsure, 2015. Centremaps EnviroInsight report Rose Cottage, 21 Station Road, Gedney Hill, Spalding, PE12 0NP. REF: CMAPS-CM-410662-34722-160315

Environment Agency, 2015. What's in my backyard? **(**http://www.environment-agency.gov.uk/homeandleisure/37793.aspx).

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

Public Health England, 2015. Interactive Radon Map **(**http://www.ukradon.org/information/ukmaps/englandwales).

3.2 Site Photographs

Photograph 1: Rear of the out-building looking north west



Photograph 2: Rear and side of the out-building looking north west



Photograph 3: Side view of the out-building looking north



Photograph 4: Side view of the out-building looking north



Photograph 5: The out-building looking south east



Photograph 6: The out-building looking south



Photograph 7: The concrete base of the out-building



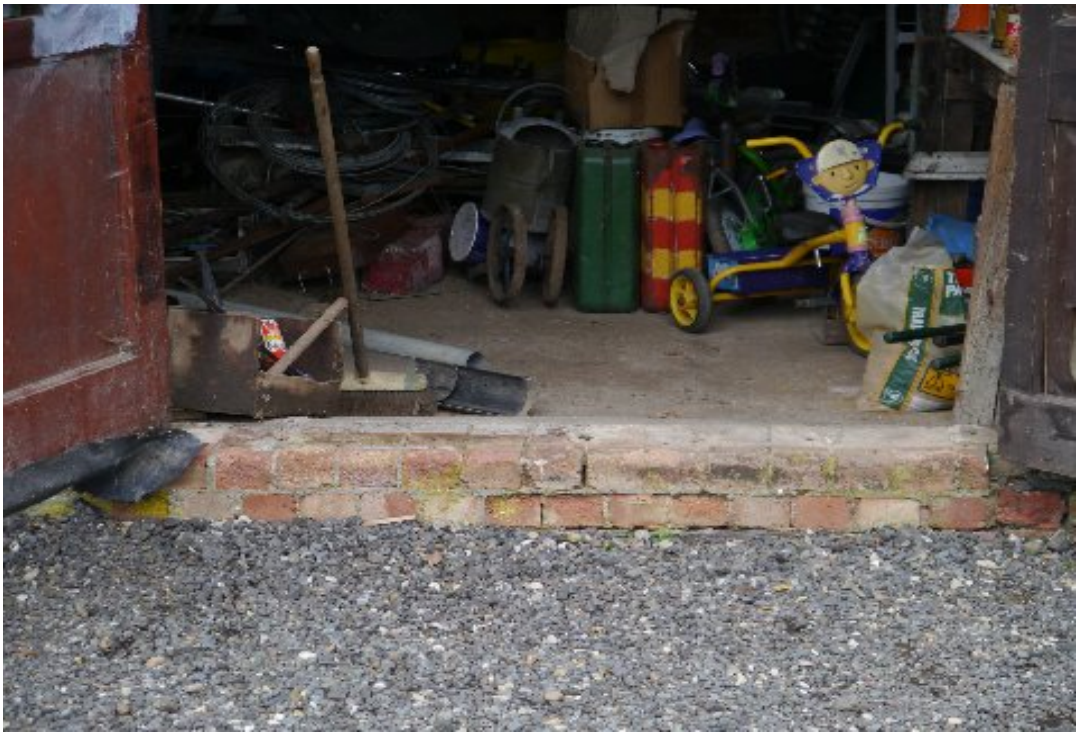
Photograph 8: Garden machinery inside the out-building



Photograph 9: Inside view to the rear of the out-building



Photograph 10: the doorway at the entrance of the out-building



3. SUPPORTING INFORMATION

3.3 Environmental Data Report

Readily available environmental information relating to the site and its surrounding area has been provided by Groundsure.

centremapslive.com
the mapping portal from Laser Surveys

CENTREMAPS

Brockamin House, ,
Worcester, WR6 5JU

GroundSure Reference:	CMAPS-CM-410662-34722-160315
Your Reference:	34722
Report Date	16 Mar 2015
Report Delivery Method:	Email - pdf

GroundSure EnviroInsight

Address: Rose Cottage, 21 Station Road, Gedney Hill, Spalding, PE12 0NP

Dear Sir/ Madam,

Thank you for placing your order with GroundSure. Please find enclosed the **GroundSure Enviroinsight** as requested.

If you need any further assistance, please do not hesitate to contact our helpline on 01886 832972 quoting the above CENTREMAPS reference number.

Yours faithfully,

CENTREMAPS

Enc.
GroundSure EnviroInsight

GroundSure EnviroInsight

Address:	**Rose Cottage, 21 Station Road, Gedney Hill, Spalding, PE12 0NP**
Date:	**16 Mar 2015**
Reference:	**CMAPS-CM-410662-34722-160315**
Client:	**CENTREMAPS**

NW N NE



W E

SW S SE

Aerial Photograph Capture date:	27-May-2013
Grid Reference:	533693,310849
Site Size:	0.09ha

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Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

Section 1: Environmental Permits, Incidents and Registers	On-site	0-50m	51-250	251-500
1.1 Industrial Sites Holding Environmental Permits and/or Authorisations				
1.1.1 Records of historic IPC Authorisations	0	0	0	0
1.1.2 Records of Part A(1) and IPPC Authorised Activities	0	0	0	0
1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer)	0	0	0	0
1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)	0	0	0	0
1.1.5 Records of List 1 Dangerous Substances Inventory sites	0	0	0	0
1.1.6 Records of List 2 Dangerous Substances Inventory sites	0	0	0	0
1.1.7 Records of Part A(2) and Part B Activities and Enforcements	0	0	0	0
1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations	0	0	0	0
1.1.9 Records of Licensed Discharge Consents	0	0	6	7
1.1.10 Records of Planning Hazardous Substance Consents and Enforcements	0	0	0	0
1.2 Records of COMAH and NIHHS sites	0	0	0	0
1.3 Environment Agency Recorded Pollution Incidents				
1.3.1 National Incidents Recording System, List 2	0	0	0	0
1.3.2 National Incidents Recording System, List 1	0	0	0	0
1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990	0	0	0	0

Section 2: Landfill and Other Waste Sites	On-site	0-50m	51-250	251-500	501-1000	1000-5000
2.1 Landfill Sites						
2.1.1 Environment Agency Registered Landfill Sites	0	0	0	0	0	Not searched
2.1.2 Environment Agency Historic Landfill Sites	0	0	0	0	4	1
2.1.3 BGS/DoE Landfill Site Survey	0	0	0	0	0	0
2.1.4 GroundSure Local Authority Landfill Sites Data	0	0	0	0	0	0
2.2 Landfill and Other Waste Sites Findings						
2.2.1 Operational and Non-Operational Waste Treatment, Transfer and Disposal Sites	0	0	0	0	Not searched	Not searched
2.2.2 Environment Agency Licensed Waste Sites	0	0	0	0	0	0

Section 3: Current Land Use

	On-site	0-50m	51-250	251-500
3.1 Current Industrial Sites Data	0	0	1	Not searched
3.2 Records of Petrol and Fuel Sites	0	0	0	0
3.3 Underground High Pressure Oil and Gas Pipelines	0	0	0	0

Section 4: Geology

4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site?	No
4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site?	Yes
4.3 For records of Bedrock and Solid Geology beneath the study site see the detailed findings section.	

Section 5: Hydrogeology and Hydrology

	0-500m
5.1 Are there any records of Strata Classification in the Superficial Geology within 500m of the study site?	Yes
5.2 Are there any records of Strata Classification in the Bedrock Geology within 500m of the study site?	Yes

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
5.3 Groundwater Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	1
5.4 Surface Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.5 Potable Water Abstraction Licences (within 2000m of the study site)	0	0	0	0	0	0
5.6 Source Protection Zones (within 500m of the study site)	0	0	0	0	Not searched	Not searched
5.7 Source Protection Zones within Confined Aquifer	0	0	0	0	Not searched	Not searched
5.8 Groundwater Vulnerability and Soil Leaching Potential (within 500m of the study site)	0	0	0	0	Not searched	Not searched

	On-site	0-50m	51-250	251-500	501-1000	1000-1500
5.9 Is there any Environment Agency information on river quality within 1500m of the study site?	No	No	No	No	No	No
5.10 Detailed River Network entries within 500m of the site	0	0	0	0	Not searched	Not searched
5.11 Surface water features within 250m of the study site	Yes	Yes	Yes	Not searched	Not searched	Not searched

Section 6: Flooding

6.1 Are there any Environment Agency Zone 2 floodplains within 250m of the study site?	Yes
6.2 Are there any Environment Agency Zone 3 floodplains within 250m of the study site?	Yes
6.3 Are there any Flood Defences within 250m of the study site?	No
6.4 Are there any areas benefiting from Flood Defences within 250m of the study site?	No
6.5 Are there any areas used for Flood Storage within 250m of the study site?	No
6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site?	Not Prone
6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas?	Not Applicable

Section 7: Designated Environmentally Sensitive Sites

	On-site	0-50m	51-250	251-500	501-1000	1000-2000
7.1 Records of Sites of Special Scientific Interest (SSSI)	0	0	0	0	0	0
7.2 Records of National Nature Reserves (NNR)	0	0	0	0	0	0
7.3 Records of Special Areas of Conservation (SAC)	0	0	0	0	0	0
7.4 Records of Special Protection Areas (SPA)	0	0	0	0	0	0
7.5 Records of Ramsar sites	0	0	0	0	0	0
7.6 Records of Ancient Woodlands	0	0	0	0	0	0
7.7 Records of Local Nature Reserves (LNR)	0	0	0	0	0	0
7.8 Records of World Heritage Sites	0	0	0	0	0	0
7.9 Records of Environmentally Sensitive Areas	0	0	0	0	0	0
7.10 Records of Areas of Outstanding Natural Beauty (AONB)	0	0	0	0	0	0
7.11 Records of National Parks	0	0	0	0	0	0
7.12 Records of Nitrate Sensitive Areas	0	0	0	0	0	0
7.13 Records of Nitrate Vulnerable Zones	0	0	0	0	0	0
7.14 Records of Green Belt Data	0	0	0	0	0	0

Section 8: Natural Hazards

8.1 What is the maximum risk of natural ground subsidence?	Moderate
8.1.1 What is the maximum Shrink-Swell hazard rating identified on the study site?	Low
8.1.2 What is the maximum Landslides hazard rating identified on the study site?	Very Low
8.1.3 What is the maximum Soluble Rocks hazard rating identified on the study site?	Negligible
8.1.4 What is the maximum Compressible Ground hazard rating identified on the study site?	Moderate
8.1.5 What is the maximum Collapsible Rocks hazard rating identified on the study site?	Negligible
8.1.6 What is the maximum Running Sand hazard rating identified on the study site?	Moderate

Section 9: Mining

9.1 Are there any coal mining areas within 75m of the study site?	No
9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site?	Negligible
9.3 Are there any brine affected areas within 75m of the study site?	No

Using this report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between GroundSure and the Client. The document contains the following sections:

1. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

2. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

3. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

4. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

5. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

6. Flooding

Provides information on surface water flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites and Scheduled Ancient Woodland. These searches are conducted using radii of up to 2000m.

8. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence.

9. Mining

Provides information on areas of coal and shallow mining.

10. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, GroundSure provide a free Technical Helpline (08444 159000) for further information and guidance.

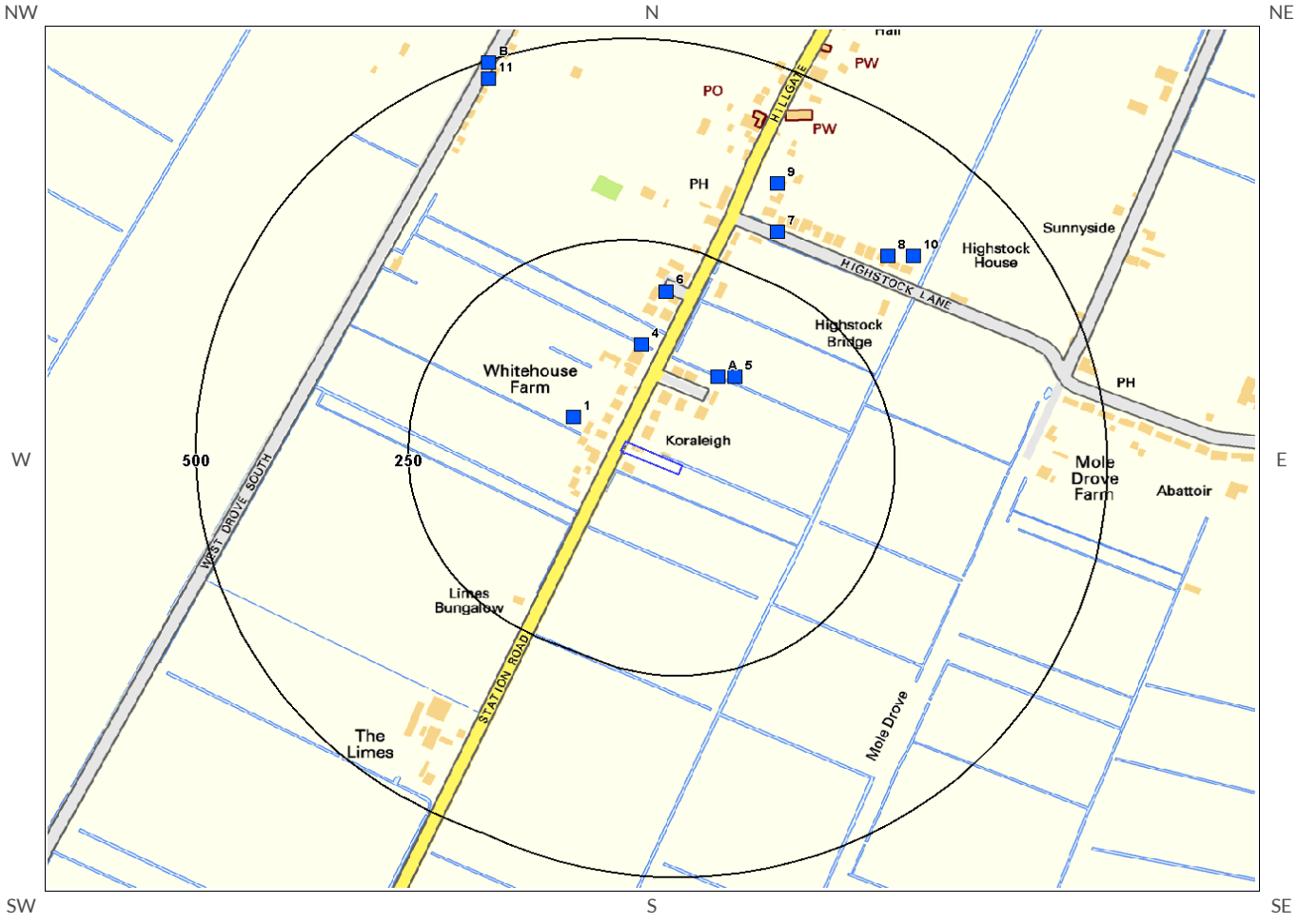
Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as “Not Shown”.

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.

1. Environmental Permits, Incidents and Registers Map



Environmental Permits, Incidents and Registers Legend

Mapping sourced from Ordnance Survey

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- Site Outline
- Search Buffers (m) 250 / 500
- Recorded Pollution Incident
- Dangerous Substances (List 1)
- Dangerous Substances (List 2)
- Water Industry Referrals
- Licenced Discharge Consents
- Red List Discharge Consents
- RAS 3 & 4 Authorisations
- Part A(1) Authorised Processes and Historic IPC Authorisations
- Part A(2) and Part B Authorised Processes
- COMAH / NIHHS Sites
- Sites Determined as Contaminated Land
- Hazardous Substance Consents and Enforcements



1. Environmental Permits, Incidents and Registers

1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

1.1.1 Records of historic IPC Authorisations within 500m of the study site:

0

Database searched and no data found.

1.1.2 Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:

0

Database searched and no data found.

1.1.3 Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:

0

Database searched and no data found.

1.1.4 Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:

0

Database searched and no data found.

1.1.5 Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1.1.6 Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:

0

Database searched and no data found.

1.1.7 Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:

0

Database searched and no data found.

1.1.8 Records of Category 3 or 4 Radioactive Substances Authorisations:

0

Database searched and no data found.

1.1.9 Records of Licensed Discharge Consents within 500m of the study site:

13

The following Licensed Discharge Consents records are represented as points on the Environmental Permits, Incidents and Registers Map:

ID	Distance	Direction	NGR	Details	
1	69.0	NW	533600 310900	Address: House At Mole Drove, Gedney Hill, Spalding, Lincs Effluent Type: Unspecified Permit Number: PR5LF3818 Permit Version: 1	Receiving Water: Land Status: Pre Nra Legislation Where Issue Date < 01-sep-89 (historic Only) Issue date: 20/1/1982 Effective Date: 20/1/1982 Revocation Date: 1/10/1996
2A	117.0	NE	533770 310950	Address: Huberts Close, Gedney Hill, Spalding, Lincolnshire, PE12 0NJ Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: PRNNF02910 Permit Version: 2	Receiving Water: Trib Highstock Drain Status: Post Nra Legislation Where Issue Date > 31-aug-89 (historic Only) Issue date: 27/3/1992 Effective Date: 27/3/1992 Revocation Date: -
3A	117.0	NE	533770 310950	Address: Huberts Close, Gedney Hill, Spalding, Lincolnshire, PE12 0NJ Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: PRNNF02910 Permit Version: 1	Receiving Water: Trib Highstock Drain Status: Post Nra Legislation Where Issue Date > 31-aug-89 (historic Only) Issue date: 5/6/1990 Effective Date: 5/6/1990 Revocation Date: 26/3/1992
4	121.0	N	533680 310990	Address: Whitehouse Farm, Station Road, Gedney Hill, Spalding, PE12 0NP Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: PRNNF18006 Permit Version: 1	Receiving Water: Trib Of South Holland Main Drn Status: New Consent (wra 91, S88 & Sched 10 As Amended By Env Act 1995) Issue date: 4/7/2003 Effective Date: 4/7/2003 Revocation Date: -

ID	Distance	Direction	NGR	Details	
5	126.0	NE	533790 310950	Address: Sewage Treatment Wrks, Hillgate Council Housing Est., Gedney Hill Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: PR5NF457 Permit Version: 1	Receiving Water: Trib Highstock Drain Status: Pre Nra Legislation Where Issue Date < 01-sep-89 (historic Only) Issue date: 17/2/1969 Effective Date: 17/2/1969 Revocation Date: 5/6/1990
6	192.0	N	533709 311056	Address: Sycamore View, Gedney Hill, Spalding, Lincs, PE12 ONQ Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: PRNNF12454 Permit Version: 1	Receiving Water: Tributary Of Highstock Drain Status: Revoked - Unspecified Issue date: 9/8/2000 Effective Date: 27/7/2000 Revocation Date: -
7	310.0	NE	533840 311130	Address: Highstock Road, Gedney Hill, Spalding Effluent Type: Unspecified Permit Number: PRNLF02220 Permit Version: 1	Receiving Water: Land Status: Post Nra Legislation Where Issue Date > 31-aug-89 (historic Only) Issue date: 22/1/1990 Effective Date: 22/1/1990 Revocation Date: 1/10/1996
8	355.0	NE	533970 311100	Address: Plot 8 High Stock Lane, Gedney Hill, Spalding, Lincolnshire Effluent Type: Unspecified Permit Number: PR5LF5483 Permit Version: 1	Receiving Water: Land Status: Pre Nra Legislation Where Issue Date < 01-sep-89 (historic Only) Issue date: 5/2/1988 Effective Date: 5/2/1988 Revocation Date: 22/9/1997
9	365.0	NE	533840 311190	Address: Plot 1, Hillgate Street, Gedney Hill, Spalding Effluent Type: Unspecified Permit Number: PRNLF02229 Permit Version: 1	Receiving Water: Land Status: Post Nra Legislation Where Issue Date > 31-aug-89 (historic Only) Issue date: 22/1/1990 Effective Date: 22/1/1990 Revocation Date: 1/10/1996
10	376.0	NE	534000 311100	Address: Plot 9 Highstock Lane, Gedney Hill, Spalding, Lincs, PE12 0QG Effluent Type: Unspecified Permit Number: PR5LF5545 Permit Version: 1	Receiving Water: Land Status: Pre Nra Legislation Where Issue Date < 01-sep-89 (historic Only) Issue date: 8/7/1988 Effective Date: 8/7/1988 Revocation Date: 23/9/1997
11	478.0	N	533500 311320	Address: Otter House, West Drove, Gedney Hill, Spalding, PE12 0PN Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: PRNNF09389 Permit Version: 1	Receiving Water: Fen Drain Status: Post Nra Legislation Where Issue Date > 31-aug-89 (historic Only) Issue date: 19/6/1992 Effective Date: 19/6/1992 Revocation Date: -
12 B	497.0	N	533500 311340	Address: West Drove South 19/21, Gedney Hill, Spalding, Lincs, PE12 0PN Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: PR5NF5509 Permit Version: 1	Receiving Water: Fen Drain Status: Pre Nra Legislation Where Issue Date < 01-sep-89 (historic Only) Issue date: 30/3/1988 Effective Date: 30/3/1988 Revocation Date: 19/6/1992
13 B	497.0	N	533500 311340	Address: West Drove South 19/21, Gedney Hill, Spalding, Lincs, PE12 0PN Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company Permit Number: PRNNF09388 Permit Version: 1	Receiving Water: Fen Drain Status: Post Nra Legislation Where Issue Date > 31-aug-89 (historic Only) Issue date: 19/6/1992 Effective Date: 19/6/1992 Revocation Date: -

1.1.10 Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site:

0

Database searched and no data found.

1.2 Dangerous or Hazardous Sites

Records of COMAH & NIHHS sites within 500m of the study site: 0

Database searched and no data found.

1.3 Environment Agency Recorded Pollution Incidents

1.3.1 Records of National Incidents Recording System, List 2 within 500m of the study site:

0

Database searched and no data found.

1.3.2 Records of National Incidents Recording System, List 1 within 500m of the study site:

0

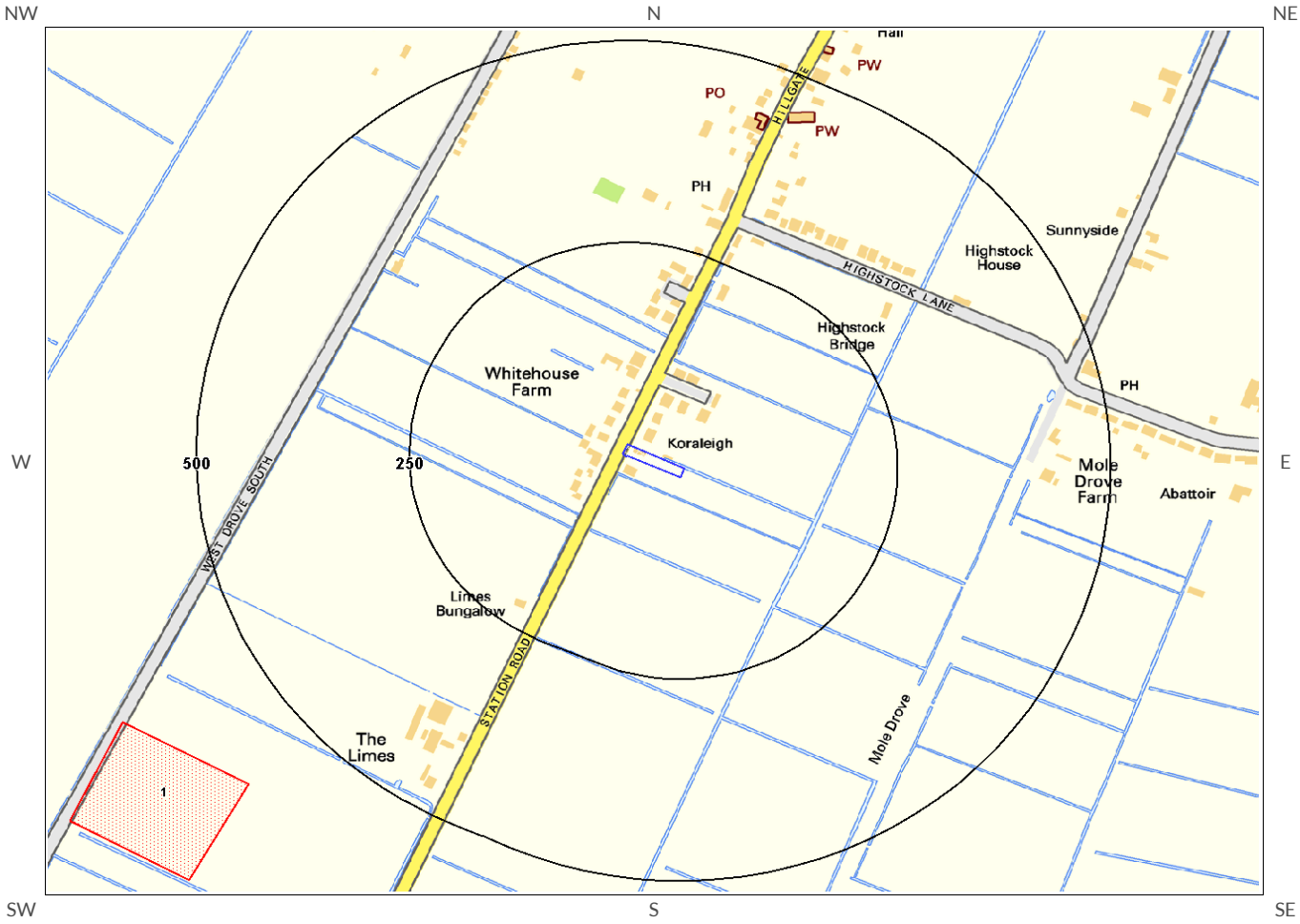
Database searched and no data found.

1.4 Sites Determined as Contaminated Land under Part 2A EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? 0

Database searched and no data found.

2. Landfill and Other Waste Sites Map



Landfill and Other Waste Sites Legend

Mapping sourced from Ordnance Survey

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- Site Outline
- Search Buffers (m) 250 500
- E.A. Active Landfill
- E.A. Historic Landfill
- Local Authority Landfill
- Historic and Planned Waste Sites
- E.A. Licensed Waste Site
- BGS / DoE Survey Landfill



2. Landfill and Other Waste Sites

2.1 Landfill Sites

2.1.1 Records from Environment Agency landfill data within 1000m of the study site:

0

Database searched and no data found.

2.1.2 Records of Environment Agency historic landfill sites within 1500m of the study site:

5

The following landfill records are represented as either points or polygons on the Landfill and Other Waste Sites map:

ID	Distance (m)	Direction	NGR	Details	
1	599.0	SW	533100 310400	Site Address: West Drove, West Drove South, Gedney Hill, Lincolnshire Waste Licence: - Site Reference: RD7-31-01/89, SH-31-01/89, 2500/5077 Waste Type: Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	748.0	N	533600 311600	Site Address: Peacock House, West Drove North, Gedney Hill Waste Licence: - Site Reference: SH-32-01/89, RD7-32-01/89, 2500/5076 Waste Type: Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	847.0	E	534500 310800	Site Address: Lutton Gate Road, Gedney Hill Waste Licence: - Site Reference: SH-33-01/89, 2500/5037 Waste Type: Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -
Not shown	949.0	SW	532900 310100	Site Address: West Drove, West Drove South, Gedney Hill, Lincolnshire Waste Licence: - Site Reference: RD7-29-01/89, SH-29-01/89, 2500/5075 Waste Type: Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -

ID	Distance (m)	Direction	NGR	Details	
Not shown	1087.0	NW	533000 311800	Site Address: Long Lane, Gedney Hill, Lincolnshire Waste Licence: - Site Reference: RD7-30-01/89, SH-30-01/89 Waste Type: Household Environmental Permitting Regulations (Waste) Reference: -	Licence Issue: Licence Surrendered: Licence Hold Address: - Operator: -

2.1.3 Records of BGS/DoE non-operational landfill sites within 1500m of the study site:

0

Database searched and no data found.

2.1.4 Records of Local Authority landfill sites within 1500m of the study site:

0

Database searched and no data found.

2.2 Other Waste Sites

2.2.1 Records of waste treatment, transfer or disposal sites within 500m of the study site:

0

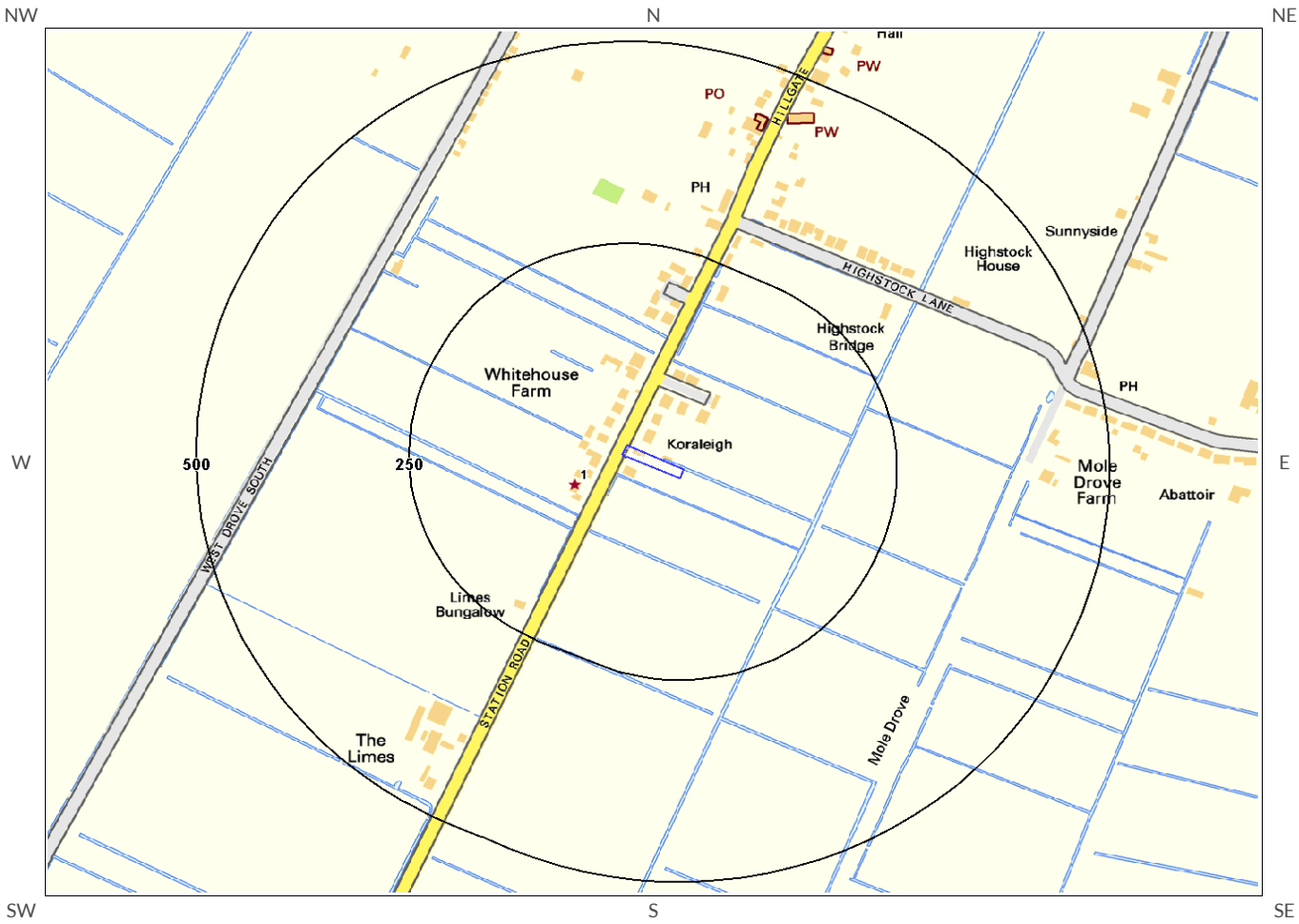
Database searched and no data found.

2.2.2 Records of Environment Agency licensed waste sites within 1500m of the study site:

0

Database searched and no data found.

3. Current Land Use Map



Current Land Use Legend

Mapping sourced from Ordnance Survey

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Site Outline

250
500
Search Buffers (m)

Current Industrial Sites

Petrol & Fuel Sites

Underground High Pressure Oil & Fuel Pipelines



3. Current Land Uses

3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 1

The following records are represented as points on the Current Land Uses map.

ID	Distance (m)	Direction	Company	NGR	Address	Activity	Category
1	67.0	SW	Gedney Hill Garage Services	533600 310821	The Garage, Station Road, Gedney Hill, Spalding, PE12 0NP	Vehicle Repair, Testing and Servicing	Repair and Servicing

3.2 Petrol and Fuel Sites

Records of petrol or fuel sites within 500m of the study site: 0

Database searched and no data found.

3.3 Underground High Pressure Oil and Gas Pipelines

Records of high pressure underground pipelines within 500m of the study site: 0

Database searched and no data found.



4. Geology

4.1 Artificial Ground and Made Ground

Database searched and no data found.

The database has been searched on site, including a 50m buffer.

4.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
TFD1	TIDAL FLAT DEPOSITS, 1	CLAY AND SILT [UNLITHIFIED DEPOSITS CODING SCHEME]

4.3 Bedrock and Solid Geology

The database has been searched on site, including a 50m buffer.

Lex Code	Description	Rock Type
OXC-MDST	OXFORD CLAY FORMATION	MUDSTONE

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

5. Hydrogeology and Hydrology

5a. Aquifer Within Superficial Geology



Aquifer Within Superficial Geology

Mapping sourced from Ordnance Survey

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Site Outline

250
500
Search Buffers (m)

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

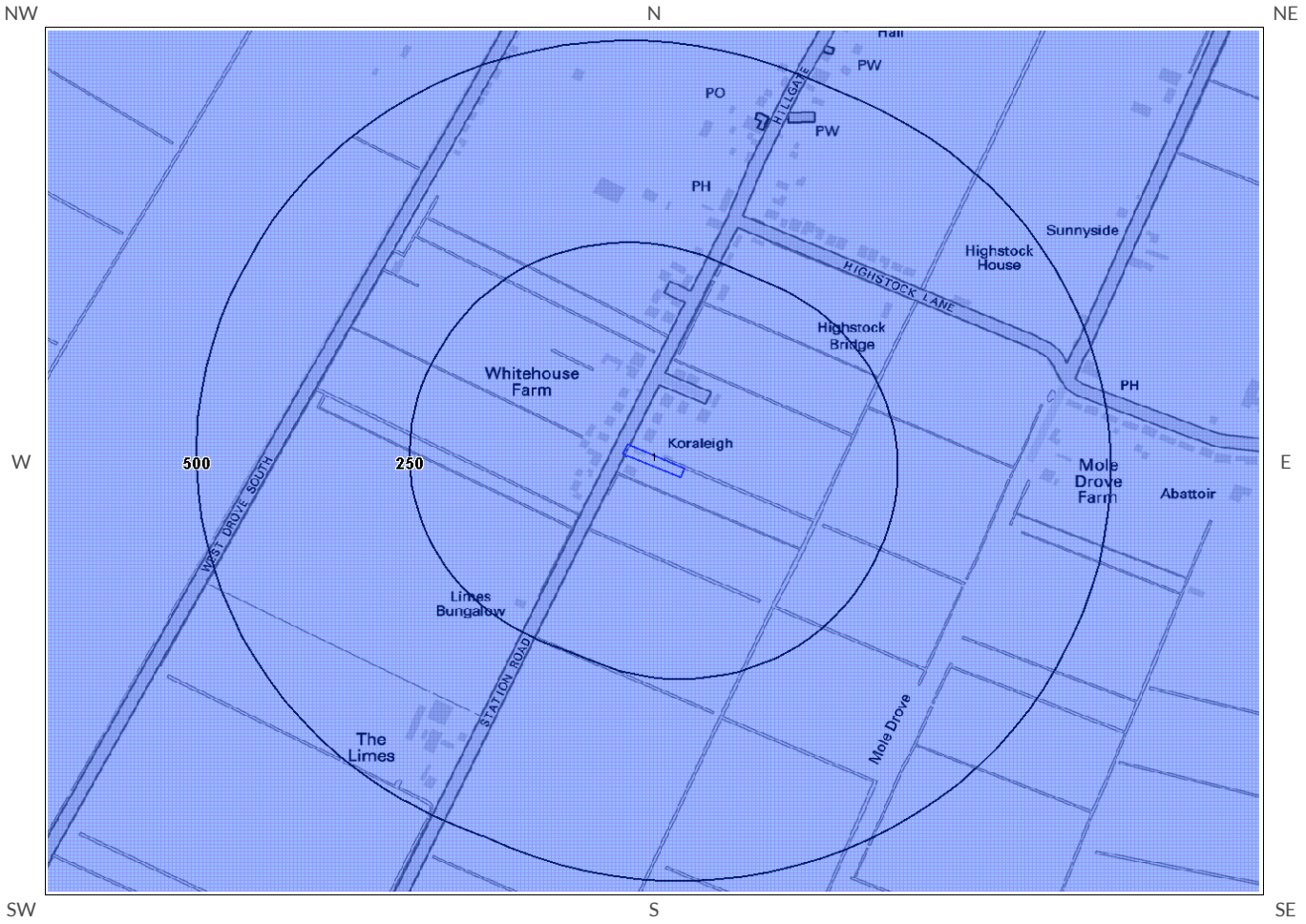
Secondary (B) Aquifer - Lower Permeability Layers

Secondary Aquifer - Undifferentiated Layers

Unproductive

Unknown (lakes and landslip)

5b. Aquifer Within Bedrock Geology and Abstraction Licenses



Aquifer Within Bedrock Geology and Abstraction Licenses

Mapping sourced from Ordnance Survey®

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Ordnance Survey license 100035207.

Site Outline

Search Buffers (m)
250
500

Principal Aquifer

Secondary (A) Aquifer - Permeable Layers

Secondary (B) Aquifer - Lower Permeability Layers

Secondary Aquifer - Undifferentiated Layers

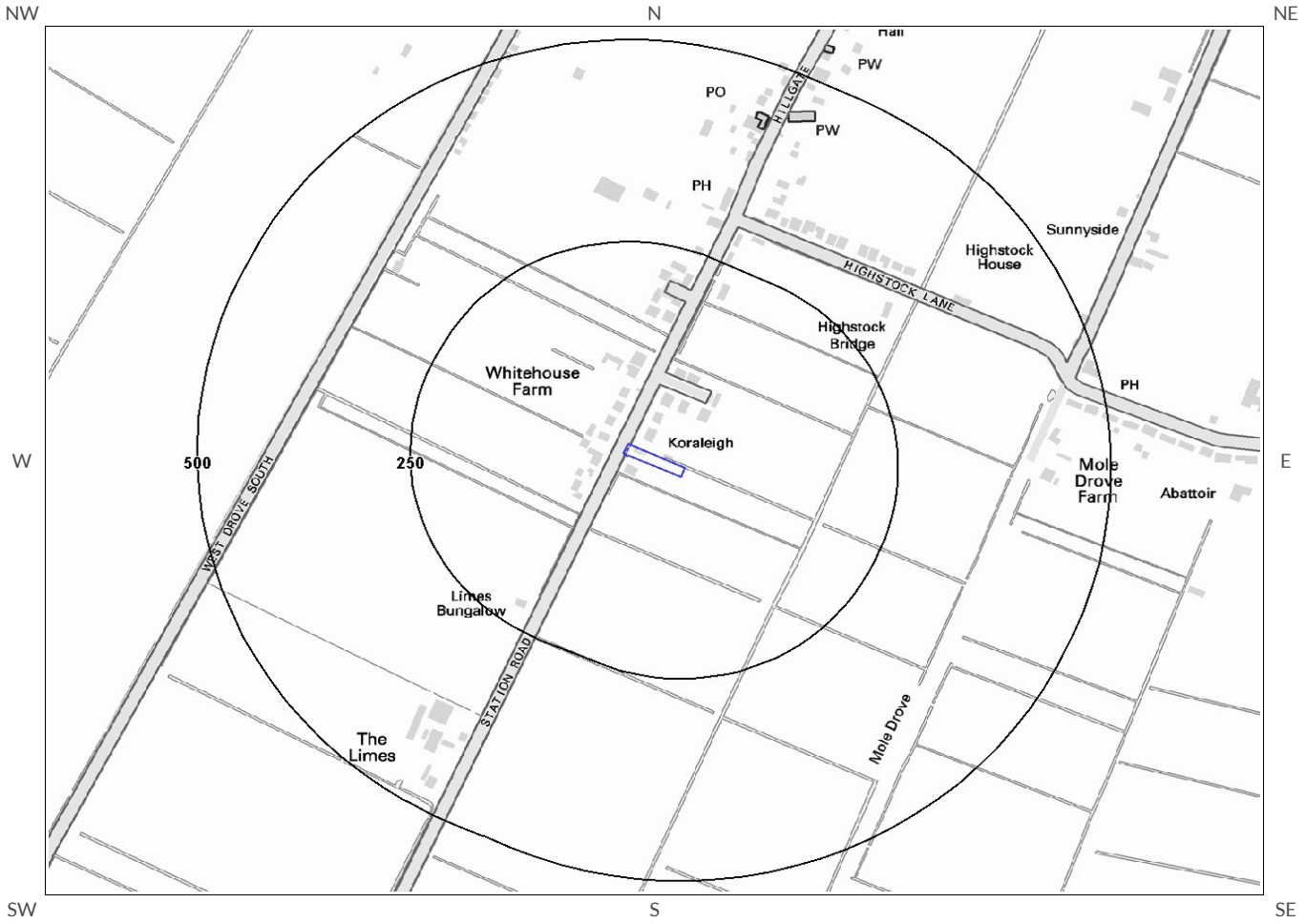
Unproductive

Unknown (lakes and landslip)

Groundwater Abstraction Licence

Surface Water Abstraction Licence

5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses



Map LegendSource Protection Zonesand PotableWater Abstraction Licenses

Mapping sourced from Ordnance Survey®

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Site Outline

250
500
Search Buffers (m)

Source Protection Zone 1 - Inner Catchment

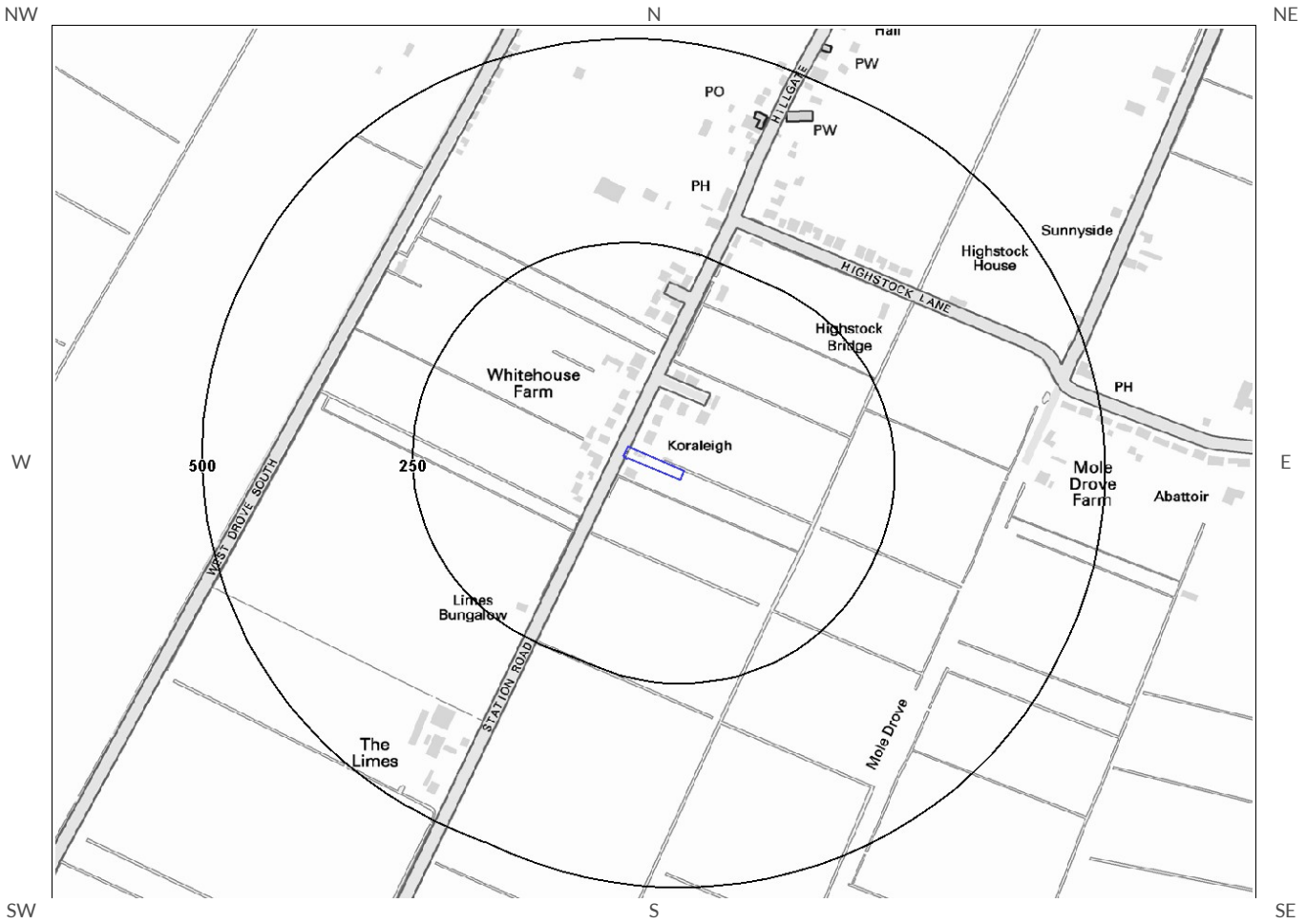
Source Protection Zone 2 - Outer Catchment

Source Protection Zone 3 - Total Catchment

Source Protection Zone 4 - Zone of Special Interest

Potable Water Abstraction Licence

5d. Hydrology Source Protection Zones within confined aquifer



Hydrology Source Protection Zones

Mapping sourced from Ordnance Survey

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Site Outline

250
500
Search Buffers (m)

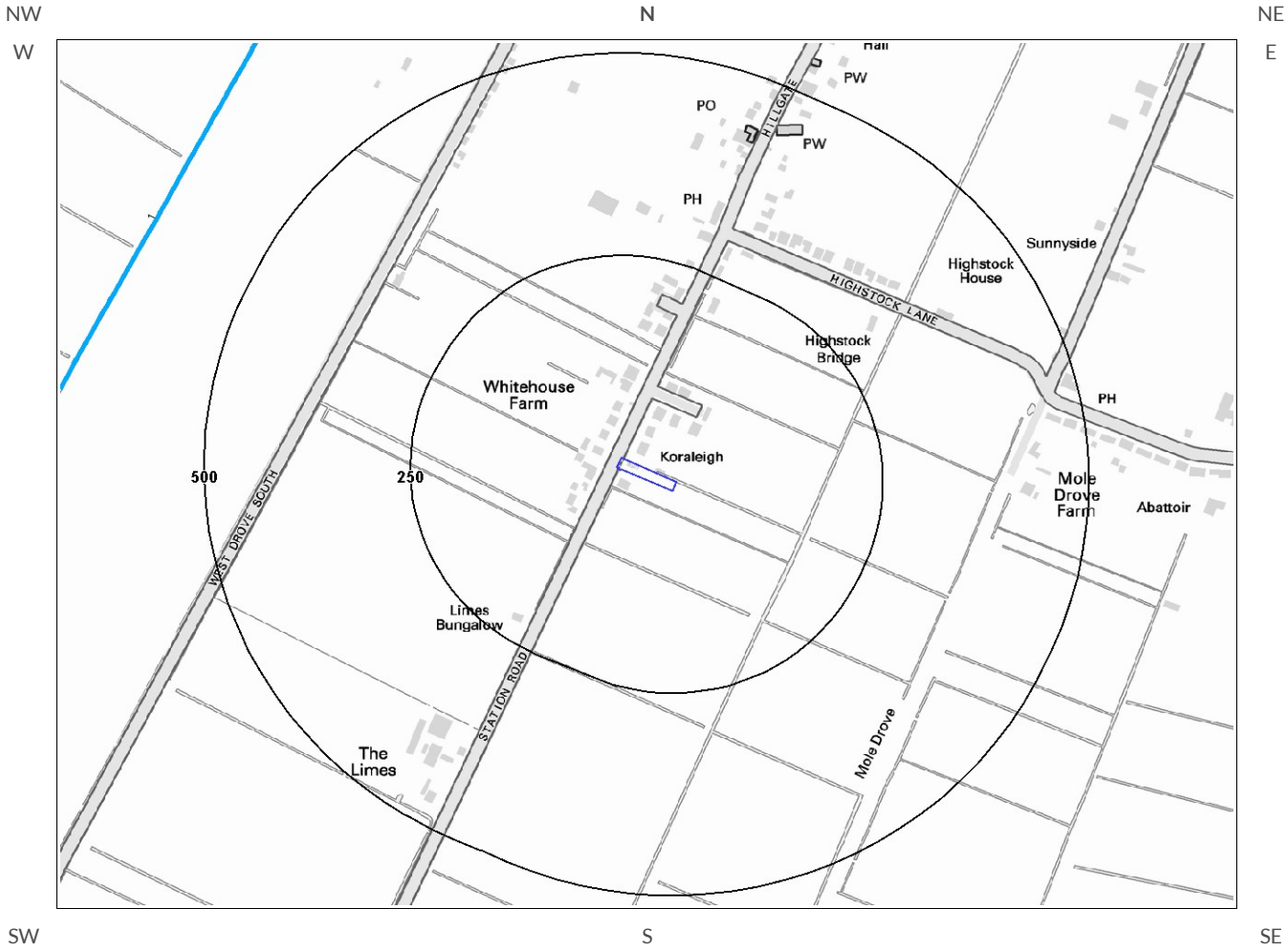
Source Protection Zone 1C - Inner Catchment within Confined Aquifer

Source Protection Zone 2C - Outer Catchment within Confined Aquifer

Source Protection Zone 3C - Total Catchment within Confined Aquifer

Potable Water Abstraction Licence

5 e. Hydrology – Detailed River Network and River Quality

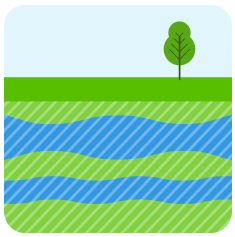


Hydrology – Detailed River Network and River Quality

Mapping sourced from Ordnance Survey

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- Site Outline
- Search Buffers (m): 250, 500
- Primary River
- Secondary River
- Tertiary River
- Lake/Reservoir
- Underground River (inferred)
- General Quality Assessment: Biology
- General Quality Assessment: Chemistry
- Canal
- Canal Tunnel
- Culvert
- Multiple Channel Culvert
- Underground River (Potential Sewer)
- Underground River (local knowledge)



5. Hydrogeology and Hydrology

5.1 Aquifer within Superficial Deposits

Are there records of strata classification within the superficial geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

ID	Distance (m)	Direction	Designation	Description
5	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow
1	272.0	NE	Secondary (undifferentiated)	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
2	317.0	S	Secondary (undifferentiated)	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

5.2 Aquifer within Bedrock Deposits

Are there records of strata classification within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency's Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Enviroinsight User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	Designation	Description
1	0.0	On Site	Unproductive	These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow

5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

ID	Distance (m)	Direction	NGR	Details	
Not shown	1797.0	SW	532000 310160	Licence No: 5/32/11/*G/0056 Details: General Farming & Domestic Direct Source: Ground Water Source Of Supply Point: Well At Whaplode Drove Data Type: Point	Annual Volume (m^3): - Max Daily Volume (m^3): - Original Application No: - Original Start Date: 1/12/1965 Expiry Date: - Issue No: 100 Version Start Date: 1/12/1965 Version End Date:

5.4 Surface Water Abstraction Licences

Are there any Surface Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

5.5 Potable Water Abstraction Licences

Are there any Potable Water Abstraction Licences within 2000m of the study site? No

Database searched and no data found.

5.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site? No

Database searched and no data found.

5.7 Source Protection Zones within Confined Aquifer

Are there any Source Protection Zones within the Confined Aquifer within 500m of the study site?

No

Historically, Source Protection Zone maps have been focused on regulation of activities which occur at or near the ground surface, such as prevention of point source pollution and bacterial contamination of water supplies. Sources in confined aquifers were often considered to be protected from these surface pressures due to the presence of a low permeability confining layer (e.g. glacial till, clay). The increased interest in subsurface activities such as onshore oil and gas exploration, ground source heating and cooling requires protection zones for confined sources to be marked on SPZ maps where this has not already been done.

Database searched and no data found.

5.8 Groundwater Vulnerability and Soil Leaching Potential

Is there any Environment Agency information on groundwater vulnerability and soil leaching potential within 500m of the study site? No

Database searched and no data found.

5.9 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site? No

---

5.9.1 Biological Quality:

Database searched and no data found.

5.9.2 Chemical Quality:

Database searched and no data found.

5.10 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site? No

Database searched and no data found.

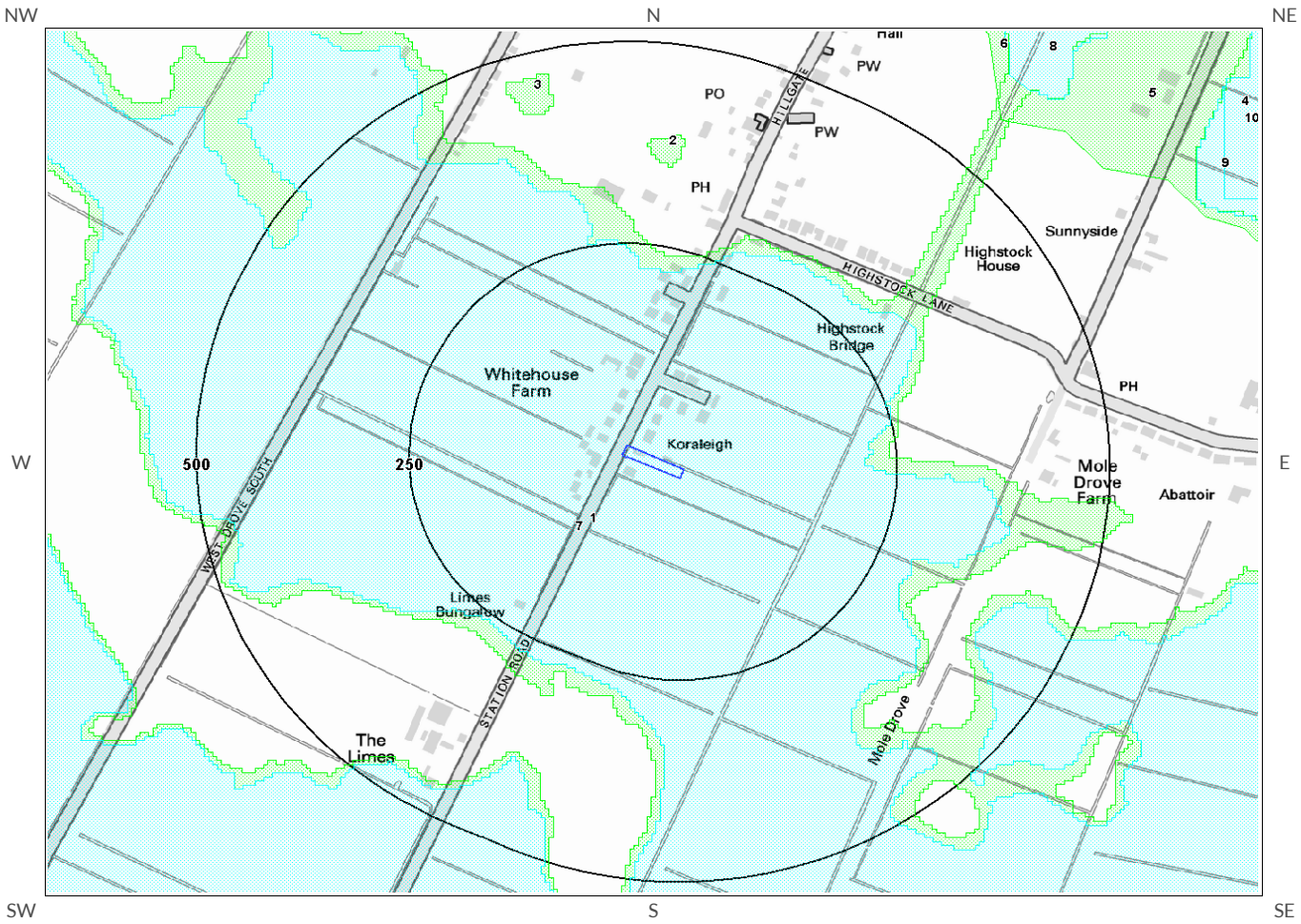
5.11 Surface Water Features

Are there any surface water features within 250m of the study site? Yes

The following surface water records are not represented on mapping:

Distance (m)	Direction
0.0	On Site
23.0	SW
52.0	NW
90.0	SW
99.0	SW
117.0	NE
117.0	N
127.0	NE
175.0	SE
233.0	E
247.0	SW

6. Environment Agency Flood Map for planning (from rivers and the sea)



Environment Agency Flood Map for planning (from rivers and the sea)

Mapping sourced from Ordnance Survey

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Site Outline

250
500
Search Buffers (m)

Zone 2 Floodplain

Zone 3 Floodplain

Flood Storage Area

Area Benefiting from Flood Defences

Flood Defences



6. Flooding

6.1 Zone 2 Flooding

Environment Agency 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. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning:

Is the site within 250m of an Environment Agency Zone 2 floodplain? Yes

The following floodplain records are represented as green shading on the Flood Map:

ID	Distance (m)	Direction	Update	Type
1	0.0	On Site	10-Feb-2015	Zone 2 - (Fluvial / Tidal Models)

6.2 Zone 3 Flooding

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. Any relevant data is represented on Map 1 – Environment Agency Flood Map for Planning.

Is the site within 250m of an Environment Agency Zone 3 floodplain? Yes

The following floodplain records are represented as blue shading on the Flood Map:

ID	Distance (m)	Direction	Update	Type
7	0.0	On Site	10-Feb-2015	Zone 3 - (Fluvial Models)

6.3 Flood Defences

Are there any Flood Defences within 250m of the study site? No

Database searched and no data found.

6.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

6.5 Areas benefiting from Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

---

6.6 Groundwater Flooding Susceptibility Areas

6.6.1 Are there any British Geological Survey groundwater flooding susceptibility areas within 50m of the boundary of the study site?

No

Notes: Groundwater flooding may either be associated with shallow unconsolidated sedimentary aquifers which overlie unproductive aquifers (Superficial Deposits Flooding), or with unconfined aquifers (Clearwater Flooding).

6.6.2 What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions?

Not Prone

The area is not considered to be prone to groundwater flooding based on rock type.

6.7 Groundwater Flooding Confidence Areas

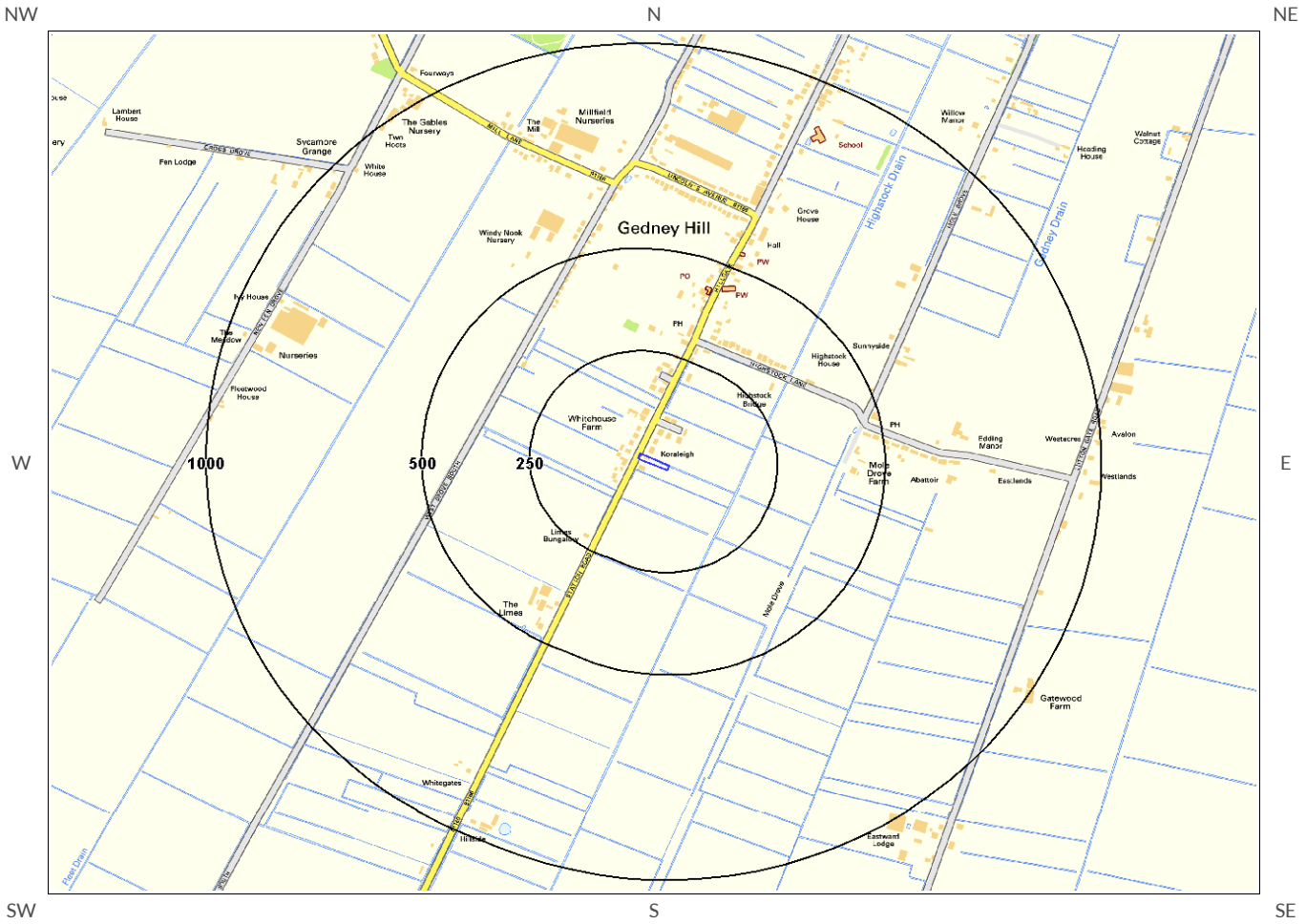
What is the British Geological Survey confidence rating in this result? Not Applicable

Notes: Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.

---

7. Designated Environmentally Sensitive Sites Map



Designated Environmentally Sensitive Sites Map

Mapping sourced from Ordnance Survey

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Site Centre
Site Outline
100
250
Search Buffers (m)

AONB
National Park
SSSI
Special Protection Areas
Nitrate Vulnerable Zones
Green Belt
Environmentally Sensitive Areas
Special Areas of Conservation
World Heritage Sites
Nitrate Sensitive Areas
Ancient Woodland
National Nature Reserve
Local Nature Reserves
RAMSAR Sites



7. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? No

7.1 Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site:

0

Database searched and no data found.

7.2 Records of National Nature Reserves (NNR) within 2000m of the study site:

0

Database searched and no data found.

7.3 Records of Special Areas of Conservation (SAC) within 2000m of the study site:

0

Database searched and no data found.

7.4 Records of Special Protection Areas (SPA) within 2000m of the study site:

0

Database searched and no data found.

7.5 Records of Ramsar sites within 2000m of the study site:

0

Database searched and no data found.

7.6 Records of Ancient Woodland within 2000m of the study site:

0

Database searched and no data found.

7.7 Records of Local Nature Reserves (LNR) within 2000m of the study site:

0

Database searched and no data found.

7.8 Records of World Heritage Sites within 2000m of the study site:

0

Database searched and no data found.

7.9 Records of Environmentally Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.10 Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site:

0

Database searched and no data found.

7.11 Records of National Parks (NP) within 2000m of the study site:

0

Database searched and no data found.

7.12 Records of Nitrate Sensitive Areas within 2000m of the study site:

0

Database searched and no data found.

7.13 Records of Nitrate Vulnerable Zones within 2000m of the study site:

0

Database searched and no data found.

7.14 Records of Green Belt land within 2000m of the study site:

0

Database searched and no data found.



8. Natural Hazards Findings

8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a GroundSure GeoInsight, available from our website. The following information has been found:

8.1.1 Shrink Swell

What is the maximum Shrink-Swell* hazard rating identified on the study site? Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.

8.1.2 Landslides

What is the maximum Landslide* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Slope instability problems are unlikely to be present. No special actions required to avoid problems due to landslides. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with landslides.

* This indicates an automatically generated 50m buffer and site.

8.1.3 Soluble Rocks

What is the maximum Soluble Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Soluble rocks are present, but unlikely to cause problems except under exceptional conditions. No special actions required to avoid problems due to soluble rocks. No special ground investigation required, and increased construction costs or increased financial risks are unlikely due to potential problems with soluble rocks.

8.1.4 Compressible Ground

What is the maximum Compressible Ground* hazard rating identified on the study site? Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Significant potential for compressibility problems. Avoid large differential loadings of ground. Do not drain or de-water ground near the property without technical advice. For new build consider possibility of compressible ground in ground investigation, construction and building design. Consider effects of groundwater changes. Extra construction costs are likely. For existing property possible increase in insurance risk from compressibility, especially if water conditions or loading of the ground change significantly.

8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
No indicators for collapsible deposits identified. No actions required to avoid problems due to collapsible deposits. No special ground investigation required, or increased construction costs or increased financial risk due to potential problems with collapsible deposits.

8.1.6 Running Sand

What is the maximum Running Sand* hazard rating identified on the study site? Moderate

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

Hazard
Significant potential for running sand problems with relatively small changes in ground conditions. Avoid large amounts of water entering the ground (for example through pipe leakage or soak-aways). Do not dig (deep) holes into saturated ground near the property without technical advice. For new build consider the consequences of soil and groundwater conditions during and after construction. For existing property possible increase in insurance risk from running sand, for example, due to water leakage, high rainfall events or flooding.

* This indicates an automatically generated 50m buffer and site.



9. Mining

9.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No

Database searched and no data found.

9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site*? Negligible

*Please note this data is searched with a 150m buffer.

9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No

Guidance: No Guidance Required.

Contact Details

CENTREMAPS
Telephone: 01886 832972
groundsure@centremaps.co.uk
CENTREMAPS, Brockamin House, Leigh, Worcester, London, WR6 5JU

Directors: M C Walker, MInst C.E.S., C M Walker,
S J Hawkins BSc (Hons), S E Stewart BSc (Hons)
Registered No. 1890261 Registered in England and Wales
Registered Company: Laser Surveys Limited
Brockamin House, Leigh, Worcester, WR6 5JU.

centremapslive.com
the mapping portal from Laser Surveys

British Geological Survey Enquiries

Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143.
Fax: 0115 936 3276.
Email: **enquiries@bgs.ac.uk**
Web:**www.bgs.ac.uk**
BGS Geological Hazards Reports and general geological enquiries

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

National Customer Contact Centre, PO Box 544
Rotherham, S60 1BY
Tel: 08708 506 506
Web:**www.environment-agency.gov.uk**
Email:**enquiries@environment-agency.gov.uk**

Environment Agency

Public Health England

Public information access office
Public Health England, Wellington House
133-155 Waterloo Road, London, SE1 8UG
https://www.gov.uk/government/organisations/public-health-england
Email:**enquiries@phe.gov.uk**
Main switchboard**: 020 7654 8000**

Public Health England

The Coal Authority

200 Lichfield Lane
Mansfield
Notts NG18 4RG
Tel: 0345 7626 848
DX 716176 Mansfield 5
www.coal.gov.uk

The Coal Authority

Ordnance Survey

Adanac Drive, Southampton
SO16 0AS
Tel: 08456 050505

Mapping sourced from Ordnance Survey

Local Authority
Authority: South Holland District Council
Phone: 01775 761 161
Web: http://www.sholland.gov.uk/
Address: Council Offices, Priory Road, Spalding, Lincolnshire, PE11 2XE

Gemapping PLC

Virginia Villas, High Street, Hartley Witney,
Hampshire RG27 8NW
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getmapping

Acknowledgements: Site of Special Scientific Interest, National Nature Reserve, Ramsar Site, Special Protection Area, Special Area of Conservation data is provided by, and used with the permission of, Natural England who retain the Copyright and Intellectual Property Rights for the data. PointX © Database Right/Copyright, Thomson Directories Limited © Copyright Link Interchange Network Limited © Database Right/Copyright and Ordnance Survey © Crown Copyright and/or Database Right. All Rights Reserved. Licence Number [03421028].
This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Standard Terms and Conditions

1 Definitions

In these terms and conditions unless the context otherwise requires:

"Beneficiary" means the person or entity for whose benefit the Client has obtained the Services.

"Client" means the party or parties entering into a Contract with GroundSure.

"Commercial" means any building or property which is not Residential.

"Confidential Information" means the contents of this Contract and all information received from the Client as a result of, or in connection with, this Contract other than

(i) information which the Client can prove was rightfully in its possession prior to disclosure by GroundSure and

(ii) any information which is in the public domain (other than by virtue of a breach of this Contract).

"Support Services" means Support Services provided by GroundSure including, without limitation, interpreting third party and in-house environmental data, providing environmental support advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

"Contract" means the contract between GroundSure and the Client for the provision of the Services, and which shall incorporate these terms and conditions, the Order, and the relevant User Guide.

"Third Party Data Provider" means any third party providing Third Party Content to GroundSure.

"Data Reports" means reports comprising factual data with no accompanying interpretation.

"Fees" has the meaning set out in clause 5.1.

"GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028.

"GroundSure Materials" means all materials prepared by GroundSure and provided as part of the Services, including but not limited to Third Party Content, Data Reports, Mapping, and Risk Screening Reports.

"Intellectual Property" means any patent, copyright, design rights, trade or service mark, moral rights, data protection rights, know-how or trade mark in each case whether registered or not and including applications for the same or any other rights of a similar nature anywhere in the world.

"Mapping" means a map, map data or a combination of historical maps of various ages, time periods and scales.

"Order" means an electronic, written or other order form submitted by the Client requesting Services from GroundSure in respect of a specified Site.

"Ordnance Survey" means the Secretary of State for Business, Innovation and Skills, acting through Ordnance Survey, Adanac Drive, Southampton, SO16 0AS, UK.

"Order Website" means the online platform through which Orders may be placed by the Client and accepted by GroundSure.

"Report" means a Risk Screening Report or Data Report for Commercial or Residential property.

"Residential" means any building or property used as or intended to be used as a single dwelling.

"Risk Screening Report" means a risk screening report comprising factual data with an accompanying interpretation by GroundSure.

"Services" means any Report, Mapping and/or Support Services which GroundSure has agreed to provide by accepting an Order pursuant to clause 2.6.

"Site" means the area of land in respect of which the Client has requested GroundSure to provide the Services.

"Third Party Content" means data, database information or other information which is provided to GroundSure by a Third Party Data Provider.

"User Guide" means the user guide, as amended from time to time, available upon request from GroundSure and on the website (www.GroundSure.com) and forming part of this Contract.

2 Scope of Services, terms and conditions, requests for insurance and quotations

2.1 GroundSure agrees to provide the Services in accordance with the Contract.

2.2 GroundSure shall exercise reasonable skill and care in the provision of the Services.

2.3 Subject to clause 7.3 the Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in writing in the Contract and all such statements and representations are hereby excluded to the fullest extent permitted by law.

2.4 The Client acknowledges that terms and conditions appearing on a Client's order form, printed stationery or other communication, or any terms or conditions implied by custom, practice or course of dealing shall be of no effect, and that this Contract shall prevail over all others in relation to the Order.

2.5 If the Client or Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to recommend such insurance, but makes no warranty that such insurance shall be available from insurers or that it will be offered on reasonable terms. Any insurance purchased by the Client or Beneficiary shall be subject solely to the terms of the policy issued by insurers and GroundSure will have no liability therefor. In addition you acknowledge and agree that GroundSure does not act as an agent or broker for any insurance providers. The Client should take (and ensure that the Beneficiary takes) independent advice to ensure that the insurance policy requested or offered is suitable for its requirements.

2.6 GroundSure's quotations or proposals are valid for a period of 30 days only unless an alternative period of time is explicitly stipulated by GroundSure. GroundSure reserves the right to withdraw any quotation or proposal at any time before an Order is accepted by GroundSure. GroundSure's acceptance of an Order shall be binding only when made in writing and signed by GroundSure's authorised representative or when accepted through the Order Website.

3 The Client's obligations

3.1The Client shall comply with the terms of this Contract and

(i) procure that the Beneficiary or any third party relying on the Services complies with and acts as if it is bound by the Contract and

(ii) be liable to GroundSure for the acts and omissions of the Beneficiary or any third party relying on the Services as if such acts and omissions were those of the Client.

3.2 The Client shall be solely responsible for ensuring that the Services are appropriate and suitable for its and/or the Beneficiary's needs.

3.3 The Client shall supply to GroundSure as soon as practicable and without charge all requisite information (and the Client warrants that such information is accurate, complete and appropriate), including without limitation any environmental information relating to the Site and shall give such assistance as GroundSure shall reasonably require in the provision of the Services including, without limitation, access to the Site, facilities and equipment.

3.4 Where the Client's approval or decision is required to enable GroundSure to carry out work in order to provide the Services, such approval or decision shall be given or procured in reasonable time and so as not to delay or disrupt the performance of the Services.

3.5 Save as expressly permitted by this Contract the Client shall not, and shall procure that the Beneficiary shall not, re-sell, alter, add to, or amend the GroundSure Materials, or use the GroundSure Materials in a manner for which they were not intended. The Client may make the GroundSure Materials available to a third party who is considering acquiring some or all of, or providing funding in relation to, the Site, but such third party cannot rely on the same unless expressly permitted under clause 4.

3.6 The Client is responsible for maintaining the confidentiality of its user name and password if using the Order Website and the Client acknowledges that GroundSure accepts no liability of any kind for any loss or damage suffered by the Client as a consequence of using the Order Website.

4 Reliance

4.1The Client acknowledges that the Services provided by GroundSure consist of the presentation and analysis of Third Party Content and other content and that information obtained from a Third Party Data Provider cannot be guaranteed or warranted by GroundSure to be reliable.

4.2 In respect of Data Reports, Mapping and Risk Screening Reports, the following classes of person and no other are entitled to rely on their contents;

(i) the Beneficiary,

(ii) the Beneficiary's professional advisers, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate),

(iv) the first purchaser or first tenant of the Site, and

(v) the professional advisers and lenders of the first purchaser or tenant of the Site.

4.3 In respect of Support Services, only the Client, Beneficiary and parties expressly named in a Report and no other parties are entitled to rely on its contents.

4.4 Save as set out in clauses 4.2 and 4.3 and unless otherwise expressly agreed in writing, no other person or entity of any kind is entitled to rely on any Services or Report issued or provided by GroundSure. Any party considering such Reports and Services does so at their own risk.

5 Fees and Disbursements

5.1GroundSure shall charge and the Client shall pay fees at the rate and frequency specified in the written proposal, Order Website or Order acknowledgement form, plus (in the case of Support Services) all proper disbursements incurred by GroundSure. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services (together "Fees").

5.2 The Client shall pay all outstanding Fees to GroundSure in full without deduction, counterclaim or set off within 30 days of the date of GroundSure's invoice or such other period as may be agreed in writing between GroundSure and the Client ("Payment Date"). Interest on late payments will accrue on a daily basis from the Payment Date until the date of payment (whether before or after judgment) at the rate of 8% per annum.

5.3 The Client shall be deemed to have agreed the amount of any invoice unless an objection is made in writing within 28 days of the date of the invoice. As soon as reasonably practicable after being notified of an objection, without prejudice to clause 5.2 a member of GroundSure's management team will contact the Client and the parties shall then use all reasonable endeavours to resolve the dispute within 15 days.

6 Intellectual Property and Confidentiality

6.1 Subject to

(i) full payment of all relevant Fees and

(ii) compliance with this Contract, the Client is granted (and is permitted to sub-licence to the Beneficiary) a royalty-free, worldwide, non-assignable and (save to the extent set out in this Contract) non-transferable licence to make use of the GroundSure Materials.

6.2 All Intellectual Property in the GroundSure Materials are and shall remain owned by GroundSure or GroundSure's licensors (including without limitation the Third Party Data Providers) the Client acknowledges, and shall procure acknowledgement by the Beneficiary of, such ownership. Nothing in this Contract purports to transfer or assign any rights to the Client or the Beneficiary in respect of such Intellectual Property.

6.3 Third Party Data Providers may enforce any breach of clauses 6.1 and 6.2 against the Client or Beneficiary.

6.4 The Client shall, and shall procure that any recipients of the GroundSure Materials shall:

(i) not remove, suppress or modify any trade mark, copyright or other proprietary marking belonging to GroundSure or any third party from the Services;

(ii) use the information obtained as part of the Services in respect of the subject Site only, and shall not store or reuse any information obtained as part of the Services provided in respect of adjacent or nearby sites;

(iii) not create any product or report which is derived directly or indirectly from the Services (save that those acting in a professional capacity to the Beneficiary may provide advice based upon the Services);

(iv) not combine the Services with or incorporate such Services into any other information data or service;

(v) not reformat or otherwise change (whether by modification, addition or enhancement), the Services (save that those acting for the Beneficiary in a professional capacity shall not be in breach of this clause 6.4(v) where such reformatting is in the normal course of providing advice based upon the Services);

(vi) where a Report and/or Mapping contains material belonging to Ordnance Survey, acknowledge and agree that such content is protected by Crown Copyright and shall not use such content for any purpose outside of receiving the Services; and

(vii) not copy in whole or in part by any means any map prints or run-on copies containing content belonging to Ordnance Survey (other than that contained within Ordnance Survey's OS Street Map) without first being in possession of a valid Paper Map Copying Licence from Ordnance Survey,

6.5 Notwithstanding clause 6.4, the Client may make reasonable use of the GroundSure Materials in order to advise the Beneficiary in a professional capacity. However, GroundSure shall have no liability in respect of any advice, opinion or report given or provided to Beneficiaries by the Client.

6.6 The Client shall procure that any person to whom the Services are made available shall notify GroundSure of any request or requirement to disclose, publish or disseminate any information contained in the Services in accordance with the Freedom of Information Act 2000, the Environmental Information Regulations 2004 or any associated legislation or regulations in force from time to time.

7.Liability: Particular Attention Should Be Paid To This Clause

7.1 This Clause 7 sets out the entire liability of GroundSure, including any liability for the acts or omissions of its employees, agents, consultants, subcontractors and Third Party Content, in respect of:

(i) any breach of contract, including any deliberate breach of the Contract by GroundSure or its employees, agents or subcontractors;

(ii) any use made of the Reports, Services, Materials or any part of them; and

(iii) any representation, statement or tortious act or omission (including negligence) arising under or in connection with the Contract.

7.2 All warranties, conditions and other terms implied by statute or common law are, to the fullest extent permitted by law, excluded from the Contract.

7.3 Nothing in the Contract limits or excludes the liability of the Supplier for death or personal injury resulting from negligence, or for any damage or liability incurred by the Client or Beneficiary as a result of fraud or fraudulent misrepresentation.

7.4 GroundSure shall not be liable for

(i) loss of profits;

(ii) loss of business;

(iii) depletion of goodwill and/or similar losses;

(iv) loss of anticipated savings;

(v) loss of goods;

(vi) loss of contract;

(vii) loss of use;

(viii) loss or corruption of data or information;

(ix) business interruption;

(x) any kind of special, indirect, consequential or pure economic loss, costs, damages, charges or expenses;

(xi) loss or damage that arise as a result of the use of all or part of the GroundSure Materials in breach of the Contract;

(xii) loss or damage arising as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such error, omission or inaccuracy is caused by any Third Party Content or any reasonable interpretation of Third Party Content;

(xiii) loss or damage to a computer, software, modem, telephone or other property; and

(xiv) loss or damage caused by a delay or loss of use of GroundSure's internet ordering service.

7.5 GroundSure's total liability in relation to or under the Contract shall be limited to £10 million for any claim or claims.

7.6 GroundSure shall procure that the Beneficiary shall be bound by limitations and exclusions of liability in favour of GroundSure which accord with those detailed in clauses 7.4 and 7.5 (subject to clause 7.3) in respect of all claims which the Beneficiary may bring against GroundSure in relation to the Services or other matters arising pursuant to the Contract.

8 GroundSure's right to suspend or terminate

8.1 If GroundSure reasonably believes that the Client or Beneficiary has not provided the information or assistance required to enable the proper provision of the Services, GroundSure shall be entitled to suspend all further performance of the Services until such time as any such deficiency has been made good.

8.2 GroundSure shall be entitled to terminate the Contract immediately on written notice in the event that:

(i) the Client fails to pay any sum due to GroundSure within 30 days of the Payment Date; or

(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an administration order made against it or if a receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register of Companies or dissolved; or

(iii) the Client being a company is unable to pay its debts within the meaning of Section 123 of the Insolvency Act 1986 or being an individual appears unable to pay his debts within the meaning of Section 268 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on his goods; or

(iv) the Client or the Beneficiary breaches any term of the Contract (including, but not limited to, the obligations in clause 4) which is incapable of remedy or if remediable, is not remedied within five days of notice of the breach.

9. Client's Right to Terminate and Suspend

9.1 Subject to clause 10.1, the Client may at any time upon written notice terminate or suspend the provision of all or any of the Services.

9.2 In any event, where the Client is a consumer (and not a business) he/she hereby expressly acknowledges and agrees that:

(i) the supply of Services under this Contract (and therefore the performance of this Contract) commences immediately upon GroundSure's acceptance of the Order; and

(ii) the Reports and/or Mapping provided under this Contract are

(a) supplied to the Client's specification(s) and in any event

(b) by their nature cannot be returned.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination of the Contract:

(i) GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed and shall deliver to the Client and/or Beneficiary any property of the Client and/or Beneficiary in

GroundSure's possession or control; and

(ii) the Client shall pay to GroundSure all and any Fees payable in respect of the performance of the Services up to the date of termination or suspension. In respect of any Support Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination or suspension of the Contract.

11 Anti-Bribery

11.1 The Client warrants that it shall:

(i) comply with all applicable laws, statutes and regulations relating to anti-bribery and anti-corruption including but not limited to the Bribery Act 2010;

(ii) comply with such of GroundSure's anti-bribery and anti-corruption policies as are notified to the Client from time to time; and

(iii) promptly report to GroundSure any request or demand for any undue financial or other advantage of any kind received by or on behalf of the Client in connection with the performance of this Contract.

11.2 Breach of this Clause 11 shall be deemed a material breach of this Contract.

12 General

12.1 The Mapping contained in the Services is protected by Crown copyright and must not be used for any purpose other than as part of the Services or as specifically provided in the Contract.

12.2 The Client shall be permitted to make one copy only of each Report or Mapping Order. Thereafter the Client shall be entitled to make unlimited copies of the Report or Mapping Order only in accordance with an Ordnance Survey paper map copy license available through GroundSure.

12.3 GroundSure reserves the right to amend or vary this Contract. No amendment or variation to this Contract shall be valid unless signed by an authorised representative of GroundSure.

12.4 No failure on the part of GroundSure to exercise, and no delay in exercising, any right, power or provision under this Contract shall operate as a waiver thereof.

12.5 Save as expressly provided in this Contract, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act 1999 to enforce any terms of the Contract.

12.6 The Secretary of State for Business, Innovation and Skills ("BIS") or BIS' successor body, as the case may be, acting through Ordnance Survey may enforce a breach of clause 6.4(vi) and clause 6.4(vii) of these terms and conditions against the Client in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

12.7 GroundSure shall not be liable to the Client if the provision of the Services is delayed or prevented by one or more of the following circumstances:

(i) the Client or Beneficiary's failure to provide facilities, access or information;

(ii) fire, storm, flood, tempest or epidemic;

(iii) Acts of God or the public enemy;

(iv) riot, civil commotion or war;

(v) strikes, labour disputes or industrial action;

(vi) acts or regulations of any governmental or other agency;

(vii) suspension or delay of services at public registries by Third Party Data Providers;

(viii) changes in law; or

(ix) any other reason beyond GroundSure's reasonable control.

In the event that GroundSure is prevented from performing the Services (or any part thereof) in accordance with this clause 12.6 for a period of not less than 30 days then GroundSure shall be entitled to terminate this Contract immediately on written notice to the Client.

12.8 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known address.

12.9 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email (save to the extent such day is not a working day where it shall be deemed to have been delivered on the next working day) and on the second working day after the day of posting if sent by first class post.

12.10 The Contract constitutes the entire agreement between the parties and shall supersede all previous arrangements between the parties relating to the subject matter hereof.

12.11 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and enforceability of the remaining provisions shall not in any way be tainted or impaired.

12.12 This Contract shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with this Contract shall be subject to the exclusive jurisdiction of the English courts.

12.13 GroundSure is an executive member of the Council of Property Search Organisation (CoPSO) and has signed up to the Search Code administered by the Property Codes Compliance Board (PCCB). All Risk Screening Reports shall be supplied in accordance with the provisions of the Search Code.

12.14 If the Client or Beneficiary has a complaint about the Services, written notice should be given to the Compliance Officer at GroundSure who will respond in a timely manner.

12.15 The Client agrees that it shall, and shall procure that each Beneficiary shall, treat in confidence all Confidential Information and shall not, and shall procure that each Beneficiary shall not (i) disclose any Confidential Information to any third party other than in accordance with the terms of this Contract; and (ii) use Confidential Information for a purpose other than the exercise of its rights and obligations under this Contract. Subject to clause 6.6, nothing shall prevent the Client or any Beneficiary from disclosing Confidential Information to the extent required by law. **© GroundSure Limited June 2013**

3. SUPPORTING INFORMATION

3.4 Risk Assessment Methodology

The method of risk evaluation adopted in this document is consistent with CIRIA C552 (2001). Hence, risk is considered to be a function of both the probability (likelihood) of contamination occurring at the study site and also the potential severity (consequence) of the environmental impacts associated with this contamination.

The classification system used to define contaminant probability, consequence and risk is described in the following tables.

Table A: Classification of probability

Classification	Definition
High likelihood	There is a contaminant linkage and an event that appears either very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a contaminant linkage and all the elements are present and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term, and likely over the long term.
Low likelihood	There is a contaminant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is contaminant linkage but circumstances are such that it is improbable that an event would occur even in the long term.

Table B: Classification of consequence

Classification	Receptor	Definition	Examples
Severe	Humans	Short-term (acute) risk to human health likely to result in "significant harm" as defined in the CTL Statutory Guidance	High concentrations of cyanide on the surface of an informal recreation area
	Controlled waters	Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource	Major spillage of contaminants from site into controlled water
	Property	Catastrophic damage to buildings/property	Explosion, causing building collapse (can also equate to an acute human health risk if buildings are occupied)
	Ecology	A short-term risk to a particular ecosystem, or organism forming part of such eco-system	Potentially long term derogation of a designated site or protected species
Medium	Humans	Chronic damage to human health ("significant harm" as defined in the CTL Statutory Guidance)	Concentrations of a contaminant from a residential site exceed the site-specific assessment criteria
	Controlled waters	Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution)	Leaching of contaminants from a site to a principal or secondary aquifer
	Property	Significant damage to crops, buildings, structures and services	Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability)
	Ecology	A significant change in a particular ecosystem	Death of a species within a designated nature reserve

Table B: Classification of consequence (continued)

Classification	Receptor	Definition	Examples
Mild	Humans	Contamination present although unlikely to constitute a significant chronic health risk	Concentrations of a contaminant from a public access site moderately exceed the generic assessment criteria
	Controlled waters	Pollution of non-water resources	Pollution of non-classified groundwater
	Property	Damage to sensitive buildings/structures/services	Aggressive ground conditions leading to potential for long term degradation of buried concrete
	Ecology	Damage to the environment	Localised damage to aquatic habitat causing temporary relocation of certain species
Minor	Humans	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc.)	The presence of contaminants at such concentrations that protective equipment is required during site works
	Controlled waters	Potential minor release of contamination to local water features	Short term or low volume release of potentially polluting material to a secondary surface water course of low existing quality
	Property	Easily reparable effects of damage to buildings, structures and services. Harm which may result in a financial loss, or expenditure to resolve	The loss of plants in a landscaping scheme. Discolouration of concrete
	Ecology	Short term, localised damage may occur; consequences are spatially and temporally limited	Short term or localised disruption to in situ flora or fauna; no lasting effects

Table C: Risk classification (comparison of consequence and probability)

		Consequence (severity)			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High likelihood**	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk