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Consulting Engineers

Report on

**Mill Farm,
Hawkinge**

Desk Study Report

For

ATS

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Date

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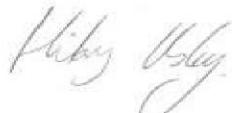
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Figure 1 Key Plan

Appendix A	Limitations
Appendix B	Groundsure Report
Appendix C	Historical Map Extracts

1 INTRODUCTION

1.1.1 **jnp group** (geoenvironmental) were instructed by ATS to undertake a desk study of a site known as Mill Farm, Hawkinge (hereinafter referred to as 'the site'). This report is subject to the limitations presented in Appendix A.

1.1.2 It is understood that site is to be redeveloped with a number of new residential properties with private gardens. A proposed redevelopment drawing is not available at the writing of this report.

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

1.2 Objectives

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

1.3 Methodology

1.3.1 This report has been compiled in accordance with the guidance given in the Environment Agency / Department of Environment, Food, and Rural Affairs (DEFRA) Contaminated Land Report 11 'Model Procedures for the Management of Land Contamination' (Environment Agency, 2004) and the Environment Agency's three reports entitled 'Guiding Principles for Land Contamination' (Environment Agency, 2010).

2 SITE DESCRIPTION

- 2.1.1 The site is located off Mill Lane, Hawkinge, Kent approximately 200m north-west of Hawkinge town centre (see Figure 1 Key Plan). The centre of the site is located at National Grid Reference TR 217 401. The site covers an area of approximately 1.12 hectares.
- 2.1.2 The site is an open area covered in grass. A single storey building resides in the far east of the site. Some mature trees are located on the site boundary, specifically in the north and east. Access to the site is available through a farm gate located off Mill Lane.
- 2.1.3 The surrounding land uses are summarised in the following table.

Table 2.1. Surrounding Land Use

Direction	Land Use
North	Residential.
East	Residential.
South	Residential.
West	Residential.

3 GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

3.1 Geology

- 3.1.1 The geology of the site has been determined by reference to the 1:50,000 scale British Geological Survey (BGS) online Geoindex Tool (<http://mapapps2.bgs.ac.uk/geoindex/home.html>).
- 3.1.2 No artificial or Made Ground is indicated to be present underlying the site.
- 3.1.3 The superficial geology of the site to be is indicated to be Clay-with-Flints - Sand formation which is described by the BGS as "a residual deposit formed from the dissolution, decalcification and cryoturbation of bedrock strata of the Chalk Group and Palaeogene formations and, in the extreme west of the outcrop, the Upper Greensand Formation".
- 3.1.4 The underlying geology is indicated to be the Seaford and Lewes Nodular Chalk Formation which is described by the BGS as "Composed of hard to very hard nodular chalks and hardground (which resist scratching by finger-nail) with interbedded soft to medium hard chalks (some grainy) and marls; some griotte chalks. The softer chalks become more abundant towards the top. Nodular chalks are typically lumpy and iron-stained (usually marking sponges). Brash is rough and flaggy or rubbly, and tends to be dirty. First regular seams of nodular flint, some large, commence near the base and continue throughout."
- 3.1.5 There are no faults denoted within 500m of the site.
- 3.1.6 The following table details the risk of geological hazard potential on or underlying the site as identified in the Groundsure Report (included in Appendix B).

Table 3.1: Geological Hazards

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

- 3.1.7 Hence, geological hazards are not considered to present a constraint to development. However, it should be noted that 40m west of the site there is a moderate risk of ground dissolution.

3.2 BGS Borehole Records

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

3.3 Background Soil Chemical Concentrations

- 3.3.1 The Groundsure Report provides an indication to the background concentrations of a number of metal contaminants commonly recorded in soils:
-  arsenic < 15mg/kg;
 -  cadmium < 1.8mg/kg;
 -  chromium 60 - 90mg/kg;
 -  lead < 100mg/kg;
 -  nickel 15 - 30mg/kg.
- 3.3.2 Therefore, naturally elevated concentrations of metals are not anticipated at the site or in close proximity.

3.4 Ground Workings, Mining History and Natural Cavities

-  There are no historic surface ground workings are recorded to be present within 250m of the site;
-  There are no historic underground workings within 1km of the site;
-  There are four records of current ground workings within 1km of the site:
 -  485m north-west – ‘Mudshole’ mining for chalk – status is ceased;
 -  835m south-east – ‘Coombe Wood Chalk Pits’ mining for chalk – status is ceased;
 -  838m north-east – ‘Fernfield Farm Brick Works’ mining for clay and shale – status is ceased;
 -  851m north-east – ‘Fernfield Farm Chalk Pits’ mining for chalk – status is ceased;
-  There is no coal mining within 1km of the site;
-  The site is located within the Kent Coalfield, however coal in this coalfield is located at least 400m below ground level (bgl). Hence, there is no risk of settlement at the surface, and this does not need to be considered further;
-  Non-coal mining for chalk may have occurred at the site and within close proximity. These occurrences are reported to be either localised (unlikely) or infrequent (rare);
-  There are no non-coal cavities located within 1km of the site;
-  There are nine natural cavities located within 1km of the site. The closest three are summarised as follows:
 -  112m east – solution pipe x3 – superficial deposits are ‘brickearth/head, clay-with-flints and sand and gravel of uncertain age and origin’;
 -  318m north-west – solution pipe x1 – superficial deposits are ‘clay-with-flints and sand and gravel of uncertain age and origin’;
 -  399m north-west – solution pipe x 22 – superficial deposit is ‘clay-with-flints’;
-  There are no brine or gypsum extraction within 1km of the site;
-  There are no tin or clay mining areas within 1km of the site.

3.5 Hydrology

- 3.5.1 There are no surface water features within 250m of the site, and there are no details of a river network within 500m of the site..
- 3.5.2 The site does not lie in area considered at risk of flooding by the Environment Agency.

3.6 Hydrogeology

- 3.6.1 The Aquifer Maps contained in the Groundsure Report indicates that the site is underlain by both a Principal and a Secondary A aquifer. The aquifer status refers to the Lewes Nodular Chalk and Clay-with-Flints respectively.
- 3.6.2 The Environment Agency define a Principal Aquifer as:

“These are layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.”

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

"Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers."

3.6.4 The overlying soils are classified as having a high leaching potential, although this is uncertain as a worst case vulnerability classification is assumed by the Environment Agency (EA) for urban areas.

3.6.5 The Groundsure Report lists no water abstraction licences within 1km of the site.

3.6.6 The site's proximity to groundwater Source Protection Zones (SPZs) was determined by reference to the Environment Agency's website. These zones show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk. The maps show three main zones (inner, outer and total catchment) to a groundwater source.

3.6.7 The site lies within a Zone III (Total Catchment) Source Protection Zone.

3.6.8 The definition of a SPZ III is:

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

4 SITE HISTORY

4.1.1 The history of the site and the surrounding area has been determined from historical map extracts. Copies of these extracts are included in Appendix C. The historical land uses on site and in close proximity to the site are summarised in the following table:

Table 4.1: Site History Summary

Date	On site Historical Land Use	Off site Historical Land Use
1872 - 1873	The site is an open field. In the east of the site there is a 'Windmill (corn)' denoted. A building is located in the north-west of the site. A footpath is denoted running horizontally in the northern half of the site.	The site is surrounded predominantly by open agricultural fields. 'Maypole Farm' is located approximately 100m north of the site.' An unnamed complex of buildings is located approximately 25m south-east of the site. A single small unlabelled building is located immediately west of the site.
1896 – 1898	By 1896 an unlabelled pond is located in the northern corner of the site. By 1896 a building has been built in the far eastern corner of the site close to the 'Windmill (corn)'. By 1896, buildings south-east of the site have been extended and now reside partially in the east of the site.	Approximately 100m south of the site, a series of residential houses and a school have been built.
1907	By 1907 several buildings are now located along the north-western boundary of the site. An additional building is now present in the east of the site.	No Changes.
1907 – 1937	No data.	No data.
1937	By 1937, the 'Windmill (corn)' has been removed from the site.	South, south-west and west of the site there have been multiple residential developments.
1948 – 1972	By 1972 buildings in the east of the site are labelled as 'Mill House'.	General expansion of the town of 'Hawkinge' south/south-west of the site.

Date	On site Historical Land Use	Off site Historical Land Use
		By 1950 'Brick Works' is located approximately 900m north-east of the site. A 'Garage' is located approximately 150m south-west of the site.
1972 – 1993	By 1993, the buildings located in the far east of the site have been demolished and replaced with a single small building labelled as 'Stable Cott'.	No changes.
1993 – 2014	Between 2010 and 2014 the pond located in the north of the site is no longer denoted on the historical map.	No changes.

4.2 Site History Summary

- 4.2.1 The site was been undeveloped agricultural land since the mid-to-late 19th century. A 'pond' was built in the northern corner of the site between 1872 and 1898. A 'Windmill' that produced corn was present in the east of the site from the earliest historical maps and was demolished between 1907 and 1937. A pond in the north of the site was backfilled between 2010 and 2014. Buildings have also been present in the east of the site (south of the former windmill) since the late 1800s, with some redevelopment happening throughout the 20th century.
- 4.2.2 The nearby area was predominantly agricultural land. The surrounding area started to develop in the early 20th century.

5 INFORMATION HELD BY STATUTORY AUTHORITIES

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

5.2 Waste Management Facilities

5.2.1 The Groundsure Report identifies no licensed waste management facilities located within 1km of the site.

5.2.2 The Groundsure Report identifies no historical landfills located within 500m of the site.

5.3 Historic IPC, IPPC Part A and B Activities and Enforcements

5.3.1 The Groundsure Report indicates that:

-  There are no historic IPC authorisations within 500m of the study site;
-  There are no Part A (1) and IPPC authorised activities within 1km of the site;
-  There are no Part A (2) and Part B activity and enforcements within 500m of the site.

5.4 Pollution Incidents to Controlled Waters

5.4.1 Records held by the Environment Agency identified two pollution incidents to controlled waters within 500m of the site:

-  321m east – August 2002 – ‘sewage materials’ – classified as a category 3 (minor) impact on land and water;
-  333m north-west – June 2002 – ‘waste materials’ – classified as a category 3 (minor) impact on land.

5.5 Contaminated Land

5.5.1 The Groundsure Report identifies one site determined as Contaminated Land under Part 2A EPA 1990:

-  320m south – 75 and 77 Canterbury Road, Folkestone – categorised as ‘potentially contaminated land’.

5.6 Discharge Consents

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

5.7 Fuel Sites

5.7.1 The Groundsure Report identifies one fuel station entry within 500m of the site:

-  437m south-west – ‘Murco’, Radnor Garage – status is listed as ‘closed’.

5.8 Historical and Contemporary Industrial Data

5.8.1 The Groundsure Report identifies multiple potentially contaminative industrial sites within 250m of the site. The nearest are summarised as follows:

-  A ‘Windmill’ is known to have been located onsite from 1873 to 1906;
-  There are seven records of ‘tanks’ and ‘troughs’ dating between 18772 and 1898, the closest of which was 10m south of the site;

-  A 'garage' is located 123m south-west of the site, dating from 1972 to 1999;
-  A 'Telephone Exchange' is located 134m west of the site dating from 1975;
-  An electricity substation has been located 183m south-west of the site since approximately 1972.

5.9 Radon

- 5.9.1 The Groundsure Report states that the Health Protection Agency identified less than 1% of homes above the action level. The British Geological Survey Information Services Group indicates that no radon protection measures are necessary.
- 5.9.2 Reference to BRE211 'Radon: guidance on protective measures for new dwellings' indicates that the site does not lie within an area where geological information indicates that basic radon protection may be required. Therefore, no radon protection measures are considered necessary.

5.10 Environmentally Sensitive Areas

- 5.10.1 The sensitive land use map within the Groundsure Report indicates:
 -  There are six records of Ancient Woodland located within 1km of the site, the closest is 'Ancient Replanted Woodland' located 509m north of the site;
 -  The site is located within the 'Kent Downs' Area of Outstanding Natural Beauty (AONB).

6 UK CONTAMINATED LAND LEGISLATIVE FRAMEWORK

6.1 Legislation on Contaminated Land

6.1.1 Given that the site is being assessed with the potential for future development, the most applicable appraisal relates to the requirements of the Planning Regime as described in the newly drafted National Planning Policy Framework. In order to proceed with an assessment of contamination issues it is essential that we comply with UK guidance as detailed within the Environment Agency's published reports 'Model Procedures for the Management of Land Contamination' (Environment Agency, 2004) and 'Guiding Principles for Land Contamination' (Environment Agency, 2010).

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

6.1.3 Part IIA provides a statutory definition of contaminated land:

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

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

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

6.1.6 A pollutant linkage must comprise the following:

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

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

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

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

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

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

 presents a significant possibility of significant harm being caused to that receptor;

 is resulting in the pollution of controlled waters, which constitute the receptor; or is likely to result in such pollution.

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

- 6.1.10 In addition, **jnp group** has undertaken a preliminary risk assessment based on the **probability** of receptor exposure to the identified source and the **consequences** of such exposure.
- 6.1.11 **Risk management**, which can include site surfacing, formal management systems, legal requirements; is then considered to provide an overall residual risk. The categories of environmental risk used by **jnp group** are given in Table 6.1 that follows.

Table 6.1: Risk Matrix

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

7 CONCEPTUAL MODEL AND PRELIMINARY RISK ASSESSMENT

7.1 General

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

7.1.2 The conceptual model has been developed assuming that the site will be redeveloped for residential housing with private gardens.

7.2 Potential Sources of Contamination

Potential On-site Sources of Contamination

 The site had a 'Windmill' located in the east of the site until the early 20th century (last recorded in 1906). Furthermore, buildings were built on site along the eastern and western boundaries in the late 19th century. The buildings in the east were then redeveloped in the late 20th century;

 A 'pond' is indicated to have been in the north of the site throughout the 20th century, however it is indicated to have been backfilled recently (between 2010 and 2014 judging by the information obtained on the historical maps). **jnp group** consider that material used would have most likely to have been inert with a low organic content such as recycled soils, or rubble rather than domestic waste, chemical or industrial waste;

 Heavy metals, hydrocarbons and soil gas associated with limited Made Ground materials may be present as a result of previous phases of development in the east of the site including imported and site generated fill materials.

Potential Off-Site Sources of Contamination

 There are no potential off-site sources of contamination. The site is surrounded by residential properties and their associated gardens;

 From the earliest historical maps the surrounding land was predominantly agricultural with residential developments. The surrounding land was developed throughout the 20th century until approximately the 1970s with little change since this period.

7.3 Receptors

7.3.1 The site is to be redeveloped for residential housing with private gardens. In addition, the site overlies both Principal (Lewes Nodular Chalk Formation) and Secondary-A (Clay-with-Flints) Aquifers. The primary receptors, considered to be potentially at risk from any identified contamination are as follows:

Human Health

 Construction workers during the redevelopment phase;

 Residential end users.

Controlled Waters

 The Lewes Nodular Chalk Formation beneath the site is classified as a Principal Aquifer, and the superficial deposits of Clay-with-Flints is classified Secondary-A Aquifer. **jnp group** consider groundwater to be a sensitive receptor.

Ecological

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

Property

-  Concrete sulphate attack;
-  Build-up of gases with potential for explosion.

7.4 Pathways

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

Human Health

-  Ingestion of contaminated soils and dust particles;
-  Direct physical contact with near surface soils and contaminated dust particles;
-  Inhalation of wind blown contaminated dust;
-  Inhalation of vapours and gases, migrating vertically into the atmosphere;
-  Inhalation of vapours and gases, migrating vertically into buildings and confined spaces;
-  Consumption of vegetables cultivated in contaminated soils;
-  Consumption of soil attached to vegetables cultivated in contaminated soils.

Infrastructure

-  Water supply pipework.

Controlled Waters

-  Leaching of contaminants in Made Ground;
-  Vertical migration of contaminated shallow groundwater impacting deeper groundwater in the aquifer sequence;

Ecological

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

7.5 Pollutant Linkages

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

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

Source	Pathway	Receptor
Contaminated soils	Ingestion of soil	On site female child: 0 - 6 yrs old On site construction worker
	Ingestion of household dust	On site female child: 0 - 6 yrs old
	Ingestion of contaminated vegetables	On site female child: 0 - 6 yrs old
	Ingestion of soil attached to vegetables	On site female child: 0 - 6 yrs old
	Dermal contact	On site female child: 0 - 6 yrs old On site construction worker
	Dermal contact with household dust	On site female child: 0 - 6 yrs old
	Inhalation of fugitive soil dust	On site construction worker On site female child: 0 - 6 yrs old
	Inhalation of fugitive household dust	On site construction worker
	Inhalation of vapours in outdoor air	On site female child: 0 - 6 yrs old On site construction worker
	Inhalation of vapours in indoor air	On site female child: 0 - 6 yrs old
	Contact with contaminated soils	Water supply pipework
Ground Gas and Landfill Gas	Vertical and Lateral Migration	End Users
		Residential Housing
		Services and Infrastructure

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

Source	Pathway	Receptor
Contaminated soils	Leaching Mechanisms	Groundwater stored in the Clay-with-Flints and Lewes Nodular Chalk Formation.
	Runoff during construction works	None.
Contaminated groundwater	Vertical migration	Groundwater stored in the Clay-with-Flints and Lewes Nodular Chalk Formation.
Contaminated groundwater	Lateral and vertical migration (baseflow)	None.

7.6 Preliminary Risk Assessment

7.6.1 From the information obtained from the desk study jnp group has undertaken a preliminary risk assessment.

Table 7.3: Preliminary Risk Assessment

Issue	Risk		Justification
LAND	LOW		Former open field, however former buildings onsite (including a windmill) have been removed and redeveloped leading to a potential for contaminated Made Ground in the east of the site. A former pond was located in the north of the site, backfilled recently (2010 – 2014).
GROUNDWATER	MEDIUM		The site is located on productive strata (Principal Aquifer) and is within a SPZ.
SURFACE WATER	NONE		There are no nearby surface water features.
ECOLOGY	NONE		Based on the assumption that there are no sensitive/protected species on site (subject to any ecological survey undertaken).

7.6.2 The conceptual model has been refined and the plausible pollutant linkages evaluated against generic criteria in accordance with joint defra / Environment Agency publication 'Model Procedures for the Management of Land Contamination' (Environment Agency. 2004).

8 CONCLUSIONS OF DESK STUDY / PREVIOUS REPORTS & RECOMMENDATIONS

8.1 Conclusions

8.1.1 The desk study has identified that:

-  The geological succession below the site comprises Clay-with-Flints overlying the Lewes Nodular Chalk Formation;
-  The site had a 'Windmill' located in the east of the site until the early 20th century (last recorded in 1906). Furthermore, buildings were built on site along the eastern and western boundaries in the late 19th century. The buildings in the east were then redeveloped in the late 20th century. Heavy metals, hydrocarbons and soil gas associated with limited Made Ground materials may be present as a result of previous phases of development in the east of the site including imported and site generated fill materials;
-  A 'pond' was located in the north of the site and was recently backfilled (between 2010 – 2014). **jnp group** consider that material used would have most likely to have been inert with a low organic content such as recycled soils, or rubble rather than domestic waste, chemical or industrial waste;
-  The site is located upon a Principal Aquifer. Groundwater is considered as a potential receptor;
-  Radon is not a risk as less than 1% of homes are above the action level;
-  The site is not in an area considered at risk of flooding by the Environment Agency.

8.1.2 Based on information contained within desk study work it is the opinion of **jnp group** that the potential site conditions provide a **LOW** environmental risk and hence further investigation and assessment is required.

8.2 Recommendations

8.2.1 Based on the conclusions from the desk study and the intended redevelopment of the site **jnp group** recommend that the following intrusive works be undertaken:

-  Chemical testing of potential Made Ground and natural soils beneath the site, specifically in the north and east relating to the former windmill and pond respectively. The testing should comprise a suite of hydrocarbon contaminants including metals, Total Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, and asbestos;
-  Testing of the soils to identify volume change potential of any cohesive material, concrete classification and predicted CBR values;
-  The installation of gas monitoring standpipes as there is an area of backfilled material (pond) in the north of the site.

9 REFERENCES

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Figures / Drawings



Figure 1

Site Location Plan

Project:

Mill Farm, Hawkinge

Project No:

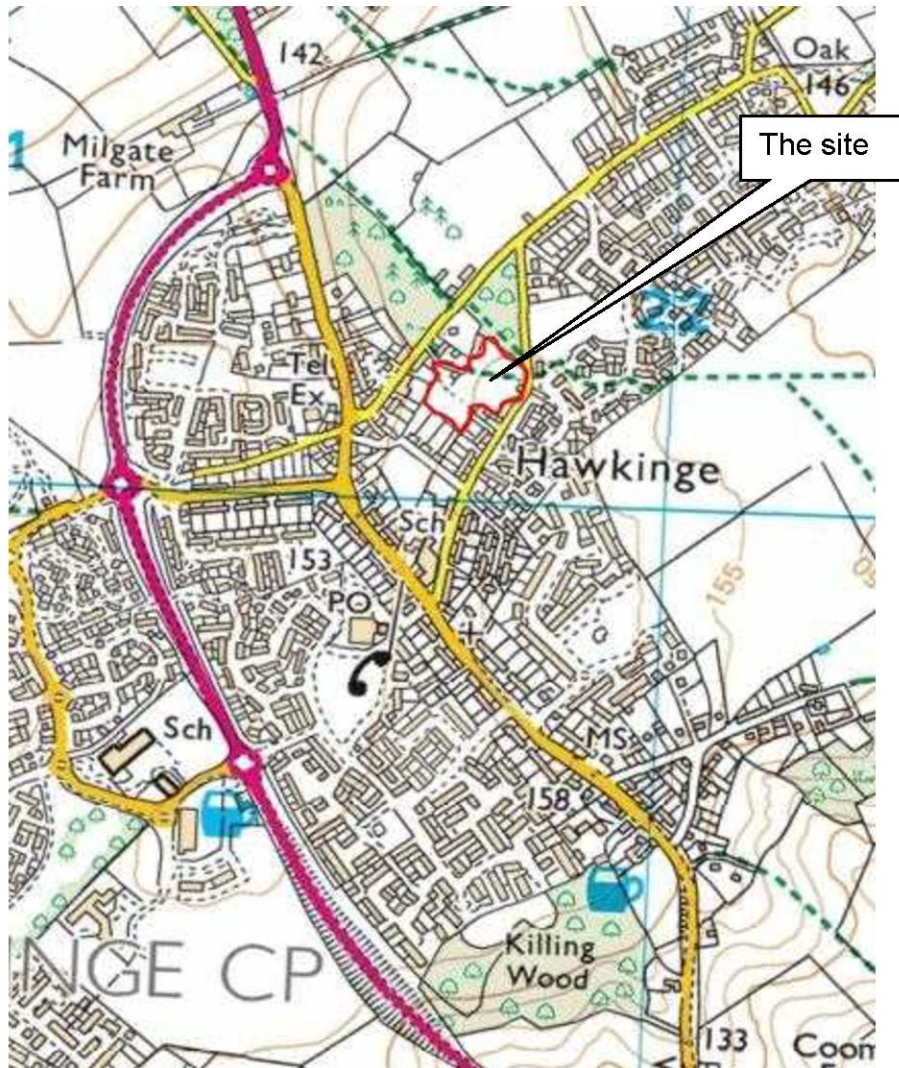
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