

HERTS & ESSEX SITE INVESTIGATIONS

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GEOTECHNICAL ASSESSMENTS - ENVIRONMENTAL ASSESSMENTS - DESKTOP STUDY - CONTAMINATED LAND

Report For :

Slick Developments Ltd

Phase I DESK TOP STUDY REPORT

Site location :

***Site at
Hemel Stags Rugby Club
Pennine Way,
Hemel Hempstead,
Herts
HP2 5UD***

***December 2007
Report No. 8271***

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EXECUTIVE SUMMARY

Client	Slick Development Ltd	
Site Location	Site at Hemel Stags Rugby Club, Pennine Way, Hemel Hempstead, Herts HP2 5UD	
Proposed Development	It is proposed to develop the site to form a new stand for the rugby club, incorporating facilities for the rugby ground and refurbishment of the existing changing rooms.	
Site Settings and previous Uses	<p>The site is recorded as underlain by a Major aquifer formed by the upper chalk, although the drift deposit is recorded a Non Aquifer formed by clay-with-flints. The nearest surface water feature is located 508 meters away to the southeast of the site. No abstraction wells are recorded surrounding the site area. The site does not lie within a source protection zone.</p> <p>The site has formed open land until 1982 when the site form a sports ground with pavilion and car park area. The site remained this until present day.</p> <p>Surrounding the site is a dismantled railway present to the south, to the east of the site there has been an Engineering Works and now a Depot with tank, to the north and west of the site there are sports fields in place.</p>	
Ground Conditions	Made Ground	A nominal layer of made ground likely to be encountered although not expected to be in place at any significant depth.
	Clay-with-Flints	This strata is anticipated underlying the site and forms a Clay deposit forming a non Aquifer the records across the site.
	Upper Chalk	The Upper Chalk is anticipated underlying this Clay and will form a Major Aquifer. Concentrations of groundwater maybe in place within this strata.
Potential Sources of Contamination	<p>On Site</p> <ul style="list-style-type: none"> • Car park • Sub-station <p>Off Site</p> <ul style="list-style-type: none"> • Railway Land • Depot. 	
Previous Investigations	No previous investigations were available at this time.	
Recommendations	<p>We would suggest that a range of potential sources of contamination relating to the use of the site and surrounding area may be in place within the upper subsoil and potentially have migrated in to the lower geology that is underlying any superficial FILL deposit. The potential for contamination to migrate to the Major Aquifer is in place although reduced by the potential for a clay strata to be in place, and as such we would suggest that leachate testing may be required and if ground water is encountered that standpipes are installed.</p> <p>Considering the potential sources of contamination detailed above and within this report, we would suggest that further works will be required. These works should incorporate intrusive investigations to assess the subsoil conditions, recover samples and assess subsoil conditions through visual observations and chemical testing. As such, we consider the following to form an appropriate way forward :-</p> <p>Next Steps</p> <ul style="list-style-type: none"> • Intrusive excavation using ether window sampler or Shell and Auger Rig to assess the geological conditions and recover samples; • Consideration through the site assessment as to the presence of Asbestos product within the subsoil within the site; • Recovery of samples for later testing for a range of potentially contaminated subsoil's present across the site; • Assess the presence of shallow or perched water across the site; • Install standpipes in order to assess for water monitoring <p>Requirements of Further Works</p> <ul style="list-style-type: none"> • The use of a Window sampler or Shell and Auger Rig in order to enable a standpipe to be installed for water monitoring. • A breaker may be required to penetrate some location of the works. • Any information with regards services across the site. 	

PRELIMINARY RISK ASSESSMENT

Section 1 Introduction

We have been asked by Slick Development Ltd, to undertake an investigation of the above site in order to assess the potential environmental impact of the historical use within the site on the proposed development.

Set procedures are in place through Local Government in order to undertake these assessments which have been followed in order to derive this report and the remedial action required in order to develop the site with all risks to the environment, human health, plant and vegetation growth and construction materials taken into account.

At this stage, we have been asked to carry out further works on complete of this report. We would suggest that the protocols for the remediation of the site, if required should incorporate this desk top study, an intrusive investigation, remediation strategy report and validation report. This is the basis on which this report has been prepared and as such, these protocols are expected to follow this report.

Section 2 Report Objectives

This project will take the form of an initial appraisal of the above site in order to identify potential sources of contamination that may be present within the site, incorporating an assessment of pathways and subsequent targets that may be affected as a result of the contamination, either historic or current, within the site. Included within this report will form the following tasks:

- A site walk over survey reconnaissance survey;
- Liaison, where possible, with the current or previous occupiers of the site;
- A search of the Statutory Registers for potentially contaminative land uses and licenses in the vicinity of the site, in the form of an environmental report supplied by 'Groundsure Limited' and 'Envirocheck';
- A study of the history of the site and current land use/industry, including reference to archival Ordnance Survey mapping and other sources, where available, of historical information.
- The identification of local water abstraction points and other groundwater and surface water receptors from the Environment Agency records;
- A study of the local geology and hydrogeology and geological hazards;
- An overall assessment of the likely sources, pathways and targets in place, in and around the site. This will include an assessment of proposed excavation points within the site to best identify the above.

Limitations

The opinions expressed within this document and the comments and recommendations given, are based on the information gained, to date within this desktop study. It will not involve, at this stage, physical identification of contaminants, geology or potential water features within the site. The interpretation of the data has been made by Herts & Essex Site Investigations. Any further works resulting in physical excavation of areas of the site should be undertaken in accordance with BS 10175:2001, Code of Practice for the Investigation of Potentially Contaminated Sites.

Contaminated Land is defined under Part IIA of the Environmental Protection Act 1990, (EPA) and that definition is reproduced in later sections of this report. Within this report, the term, 'contaminant' is taken to mean "a substance that is in, on or under the land and which has the potential to cause harm or to cause pollution of controlled water systems". The presence of contaminants may therefore result in contamination of the ground, but the land will only be designated 'Contaminated Land', when the requirements of the strict definition of Part IIA of the EPA are met.

Within any site investigation, materials sampled represent only a small proportion of the materials present on site. It is therefore possible that other conditions prevailing at the site which have not been revealed within the scope of this report, have not been taken into account. Where suspect materials are encountered during any further or future works within the site, additional specialist advice should be sought to assess whether any new information will materially affect the recommendations given within any physical ground investigation.

Section 3 **Site Location and National Grid Reference**

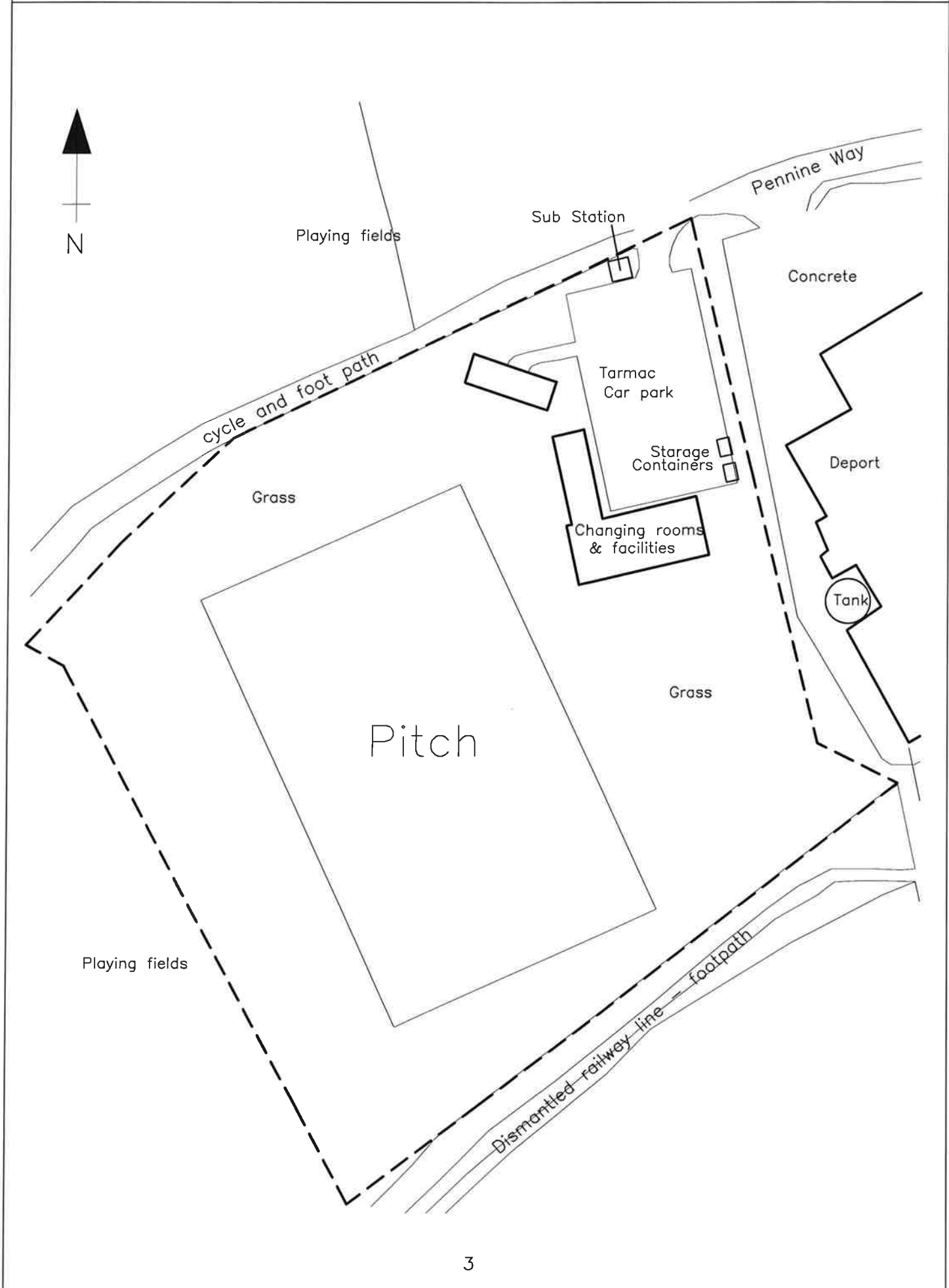
The site is located at National Grid Reference 506840E 208860N, and is located Hemel Hempstead to the west of Hertfordshire. The site is within the Hertfordshire County Council and Dacorum Borough Council and occupies an area of approximately 2.01 Hectares.

The site is located within an area of recreational land, with an industrial area to the east of the site.

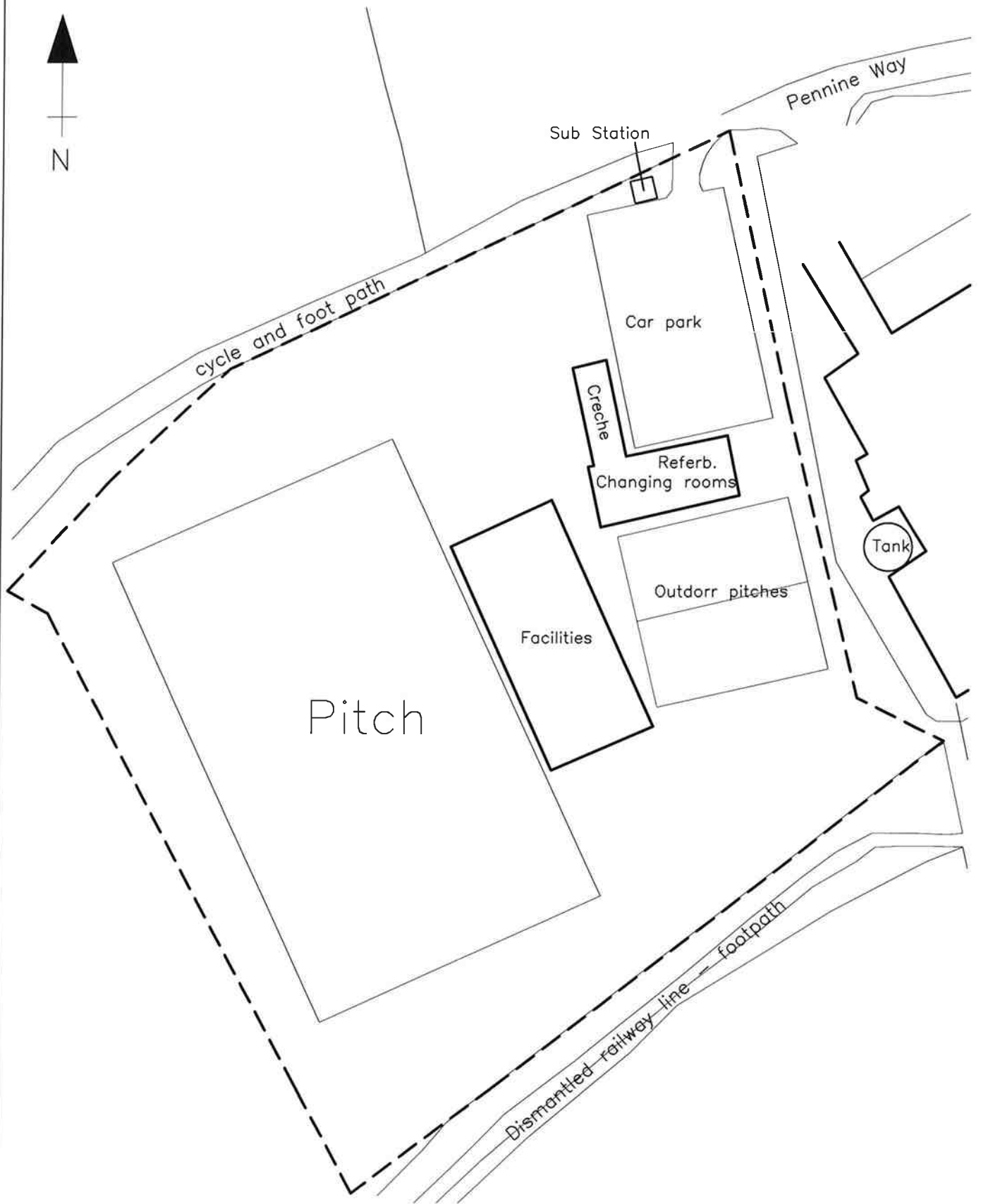
It is proposed to development the site to form a new Stand in one section of the rugby club incorporating facilities for the ground and refurbishment to the existing changing rooms. The car park area is to remain in the same place. Surrounding the area there will be the pitch in a similar location to the existing as well as the soft landscaping.

Extracts of the existing location plan are presented in figures 1 and 2.

Existing Site Plan
Figure 1



Proposed Site Plan
Figure 2



Section 4 Walk Over Survey

The site is located to the northeast of Hemel Hempstead in Hertfordshire.

The site forms the grounds of Hemel Stags Rugby Club, incorporating a car park area, sub station, a brick building in use as changing room and facilities, a wooden clad hut, to be removed, the pitch area and surrounding grassed areas.

Surrounding the Site

To the north east of the site leading to the east there is Pennine Way a narrow road providing access to the site. Along the northern boundary of the site there is a footpath and cycle path, with mature vegetation in place on either side. Beyond this area there are playing fields. This is at a slightly reduced level and relates to a former railway track. No evidence of the previous use was in place.

To the east of the site area access is available along Penine Way to a depot which opens out onto a concreted area for traversing and parking for lorries. The main building is located to the south of the area and form a large unit. To the east of the unit towards the centre of the western site boundary there is a large tank in place, the use of which was not recorded from the site visit, as well as a pump room and spray valve room. The area was in a good state of repair and house keeping. We would suggest that the tank was in use as water storage, although, as suggested, this has not been confirmed

Along the southern boundary of the site there is a dismantled railway line. The area forms footpath with mature shrubs and trees in place on either side. Beyond this there are the rear gardens to residential houses with a block of private garage to the centre of boundary.

To the west of the site area there are playing fields in place. Rugby pitches are marked out limited features are in place. Beyond this there are residential houses.

The Site

The site is accessed form Pennine Way into a car park area to the northeast of the site area. The car park is laid to a tarmac surface with the surface formed by a loose material with potholes and ponding in place. To the west of the site entrance on the boundary of the site there is a sub station in place enclosed by a wooden closed board fence.

To the northeast of the car park area there is a wooden clad building which is to be removed as part of the site works. To the southeast of the car park there is an 'L' shaped single storey brick building. This building is in use as the club faculties and changing rooms, limited features that would promote contamination.

To the east and south of the brick building there a slight slope down to the level of the grassed area and pitch present across the south and east of the site area. At the time of the site visit the weather was poor and the grassed areas on site were water logged and ponding was in place. To the west of the site area there is the main pitch in place.

The main features within the walk over survey of the site that should be considered as potential risks are detailed below :-

Table 4-1 Features that may promote risk from walk over inspection

Feature	Location	Elevation	Potential Pollutants	Risk Present
Car park	On site – NE	At GL	Asbestos, Metals Metalloids, PAH's, Hydrocarbons	✓
Sub-station	On site - NE	At G.L.	Metals Metalloids, PCBs	✓
Depot	Off Site – E	At G.L.	Asbestos, Metals Metalloids, PAH's, Hydrocarbons, VOC PCBs	X
Tank, Pump and Spray Rooms	Off Site – E	At G.L.	Asbestos, Metals Metalloids, PAH's, Hydrocarbons, VOCs	X
Dismantled Railway	Off Site – S	At G.L.	Asbestos, Metals Metalloids, PAH's, Hydrocarbons, VOCs Inorganic, Organic, Acid/Alkalis	Possibly

Section 5 Details of Searches Undertaken

Within this report, various searches have been undertaken in order to assess the risk associated with the development of the site from the historical and current use of the site and surrounding area.

In order to undertake this assessment information has been sourced from 'Envirocheck Limited' and 'Groundsure Limited'. This reports has been sourced to gain information on features within and surrounding the site. A Copy of these documents is enclosed within this report.

In addition to this, internet searches have been made on the site with relevant data recorded within this report.

Section 6 Information on Historical and Current Activities on the Site and Surrounding Area

The history of the site's land-use and development from Victorian times onwards has been researched from early Ordnance Survey, (O.S.) maps. Extracts of the O.S. Maps and plans are presented in Section Nine. Reference to historical maps provides invaluable information regarding the land use/history of the site, but historical evidence may be incomplete for the period pre-dating the first edition and between successive map references.

Discussion of the Development History

A summary of the historical development history of the site and surrounding area, based on the information obtained from the above sources is provided in Table 5.1.

Date 1876 to 1960

The site area forms a section of open land. The site area is located across the parcel of land with open land extending to the east and west. The northern boundary is formed by road with incorporates a ditch and footpath running parallel. The southern boundary of the site is formed by a railway line with cutting/embankments on either side. These cuttings do not encroach on the site area and signal posts are recorded on the boundary with a signal box on the south eastern boundary.

To the east of the site there is a footpath leading from the railway track up to the road on the northern boundary. From the south east corner of the site the railway line splits and incorporates a railway siding, beyond this to the south there is an area of woodland to the south.