



Ground Condition Consultants

LAND AT 31A NORTH STREET, EMSWORTH

REMEDIATION STRATEGY

MARCH 2022

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Contents

1.	INTRODUCTION	4
1.1	INSTRUCTION	4
1.2	LEGAL CONTEXT	4
1.3	METHODOLOGY	5
1.4	PROPOSED USE	6
1.5	REPORT SCOPE AND LIMITATIONS	6
2.	RISK ASSESSMENT	7
2.1	SITE LOCATION AND DESCRIPTON	7
2.2	SITE HISTORY	7
2.3	DOCUMENTATED GROUND CONDITIONS	8
2.4	CONCLUSIONS OF RISK ASSESSMENT	8
3.	REMEDIAL OPTIONS APPRAISAL	10
4.	REMEDICATION STRATEGY	12
4.1	GENERAL	12
4.2	REMEDICATION SOLUTION SELECTION	12
4.3	COVER SYSTEM DESIGN	13
5.	VERIFICATION PLAN	17
5.1	COVER SYSTEM	17
6.	COMMUNICATION OF RESIDUAL RISK	19
7.	DISCOVERY STRATEGY	20

List of Figures and Appendices

FIGURE 1: PROPOSED LAYOUT PLAN

APPENDIX 1: REPORT CONDITIONS

APPENDIX 2: GENERIC ASSESSMENT CRITERIA

APPENDIX 3: DISCOVERY STRATEGY

1. INTRODUCTION

1.1 INSTRUCTION

Ground Condition Consultants Ltd. (GCC) was commissioned by Parchow Groundworks Ltd in January 2022 to prepare a Remediation Strategy for a site located at 31A North Street, Emsworth, PO10 7DA.

This report should be read in conjunction with the RSK Environment Ltd (RSK) Geo-environmental Site Assessment Report (Ref: 305019 R02 (00)), dated September 2018).

This report is prepared in line with the agreed brief and is subject to the report conditions shown in Appendix 1.

1.2 LEGAL CONTEXT

Part IIA of the Environmental Protection Act 1990 (inserted by Section 57 of the Environment Act 1995) provides a regime for the control of specific threats to health or the environment from land contamination. In accordance with the Act and the statutory guidance document 'The Contaminated Land (England) Regulations 2000', the definition of contaminated land is intended to embody the concept of risk assessment. Within the meaning of the Act, land is only "contaminated land" where it appears to the Regulatory Authority, by reason of substances within or under the land, that:

- Significant harm is being caused, or there is a significant possibility of such harm being caused; or
- Pollution of controlled waters is being, or is likely to be, caused."

Inherent in this definition is the requirement for contamination risk assessment to be undertaken on a site specific basis, as the potential for harm is determined by the site's end use and its specific environmental setting.

The guidance defines "risk" as the combination of:

- The probability, or frequency, of occurrence of a defined hazard (for example, exposure of a property to a substance with the potential to cause harm); and
- The magnitude (including the seriousness) of the consequences.

While Part IIA of the Environmental Protection Act provides a risk based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment, the regime does not take into account future uses. New developments are therefore controlled by the planning regime, with reference to the National Planning Policy Framework (NPPF), rather than directly by Part IIA of the Environmental Protection Act.

The NPPF is based on the principal that the site should be suitable for its new use, taking account of ground conditions, including from natural hazards or former activities and states that “Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner”. The NPPF also links the planning and Part IIA regimes by stating that “after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990”. Key components of the Part IIA regime, such as the definition of Contaminated Land and the associated risk based assessment approach, are therefore considered to also be applicable to the planning regime.

1.3 METHODOLOGY

This report has been prepared in accordance with published Environment Agency guidance (‘Model Procedures for the Management of Land Contamination – Contaminated Land Report (CLR) 11’). CLR 11 provides the technical framework for structured decision making about land contamination and builds on previous work carried out under the Contaminated Land Research Programme (of the former Department of the Environment). CLR 11 has adopted and refined the well recognised methodology and terminology that has been used in contaminated land risk assessment for a number of years.

1.3.1. Pollutant linkage concept

In the context of land contamination, there are three essential elements to any risk:

- A **contaminant source** – a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters.
- A **receptor** – in general terms, something that could be adversely affected by a contaminant, such as people, an ecological system, property, or a water body.
- A **pathway** – a route or means by which a receptor can be exposed to, or affected by, a contaminant.

Each of these elements can exist independently, but they create a risk only where they are linked together, so that a particular contaminant affects a particular receptor through a particular pathway. This kind of linked combination of contaminant–pathway–receptor is described as a pollutant linkage.

1.3.2. Conceptual model

An important thread throughout the overall process of risk assessment is the need to formulate and develop a **conceptual model** for the site, which supports the identification and assessment of pollutant linkages. A conceptual model represents the characteristics of the site in diagrammatic or written form that shows the possible relationships between contaminants, pathways and receptors (pollutant linkages).

1.4 PROPOSED USE

It is currently understood that the site is proposed to be developed for residential use with gardens and associated car parking areas. A change in the site use from that currently proposed may result in the need for re-assessment of risk criteria and the conclusions and recommendations resulting from the risk assessment could therefore significantly change.

1.5 REPORT SCOPE AND LIMITATIONS

This report is based upon a review of the RSK Geo-environmental Site Assessment Report, dated September 2018, and the data presented within it. The assessment is based on the proposed use stated in Section 1.4 and the outcomes of this assessment could change if the end uses change.

The information contained in this report is intended for the use of Parchow Groundworks Ltd. GCC can take no responsibility for the use of this information by any other party or for uses other than that described in this report.

2. RISK ASSESSMENT

2.1 SITE LOCATION AND DESCRIPTION

The site is located on land at 31A North Street, Emsworth PO10 7DA, at National Grid reference 474919, 106078. The site covers approximately 0.1 hectares at an elevation of approximately 8m above Ordnance Datum (AOD) and comprises shared hardstanding entrance way; hardstanding courtyard area in the central portion; single storey brick-built warehouse / workshop structure in the north; two storey brick built commercial unit adjoining workshop to the south along the eastern boundary; two-storey brick built office building on the western side of the courtyard, along the western boundary.

2.2 SITE HISTORY

Reference to historical mapping suggests the site was developed prior to 1866. The development comprised terraced houses and a Smithy in the southwest of the site. These properties remained on site until the 1950s, when buildings, industrial in appearance, are noted across the northern and southern portions of the site. In the 1960s the site is noted as a Builder's Yard, which became a Works in the 1970s. From interviews by RSK with the land owner's at the time, it was ascertained that the Works comprised a machine engineering works. The owner also confirmed the presence of the reinforced concrete across the site from before their ownership began in the 1970s. No further on-site changes were noted within the historical mapping.

Various contaminative activities have been identified within 250 m radius of the site, including Gas Works / Gas Holders (~20 - 90 m north), a Railway Line (~180 m north), Industrial Works (north and east), Tanks (~50 m north and ~60 m east), a Hospital (~120 m south) and Electrical Substations (~70 m south east, ~80, 140 and 150 north and ~140 m west). No landfills or refuse tips were noted within 1 km of the site boundary.

2.3 DOCUMENTATED GROUND CONDITIONS

Ground conditions recorded in readily available sources are summarised below.

2.3.1. Geology

Published geological records for the area (British Geological Survey, July 2018) indicated that the site is underlain by superficial River Terrace Deposits (sand, silt and clay) and superficial Head Deposits (clay and gravel) along the eastern boundary. Bedrock deposits of the London Clay Formation (clay, silt and sand) are shown to underlie the site.

The RSK exploratory holes revealed that the site is underlain by a variable thickness of Made Ground (0.5-0.9m thick) over Alluvium (0.6-0.7m thick) with Head Deposits (0.3-1.5m thick) encountered overlying the London Clay Formation at depth from 1.2-2.2mbgl.

A supplementary investigation for geotechnical purposes by GCC in 2022 (reported under separate cover) encountered 1.0-1.6m of Made Ground, comprising surfacing and hardcore over reworked natural clay with anthropogenic inclusions, directly overlying the London Clay Formation.

2.3.2. Hydrogeology

Superficial River Terrace Deposits beneath the site are classified by the Environment Agency as a Secondary (A) Aquifer. The London Clay Formation is classified as an unproductive strata. The site does not lie within any groundwater Source Protection Zones (SPZs). There are no records of licensed groundwater or surface water abstractions within a 1 km radius of the site.

Groundwater was monitored on the 11th February 2022 in WS1 and WS3, from the RSK investigation, at 0.92mbgl and 0.96mbgl, respectively.

2.3.3. Hydrology

The nearest identified surface watercourse to the site is the River Ems located approximately 89 m to the east of the site, flowing to the south.

2.4 CONCLUSIONS OF RISK ASSESSMENT

The investigation has revealed that polycyclic aromatic hydrocarbons (PAH), lead and asbestos within the Made Ground materials pose a significant risk to future residents if the contaminated Made Ground is left exposed at surface in areas of soft landscaping.

The remainder of the site will be hardstanding and as such any contaminants will be removed during the site strip or capped.

At the time of issuing of the RSK report, a preliminary gas assessment has been carried out which revealed a CS1 designation is applicable to the site.

3. REMEDIAL OPTIONS APPRAISAL

The primary risk drivers on this site are considered to be the presence lead, PAH and asbestos containing materials in the Made Ground across the site. These risks are considered to be present in relation to human health but are not considered to be significant with regard to controlled waters.

The following table summarises the benefits and limitations of a number of options that have been evaluated during the reporting period. The most appropriate feasible options have been taken forward in the remediation strategy for the site.

The technologies reviewed during the options appraisal have taken into account the pollutant linkages present on site to provide an options summary in the following table.

Table 2.1: Remedial options appraisal

Option	Applicable Contaminants	Advantages	Limitations
Barrier Implementation	All – containment rather than elimination	- Relatively cheap - Will allow site remediation to be completed in a reasonable timeframe	- Does not remove source areas and long term potential of risk. - Investor confidence - Affects site levels
Off-Site Disposal	All contaminants of concern	- Quick - Suitable for untreatable contaminants	- High cost - Unsustainable - Traffic impact
Stabilisation/ Solidification	All contaminants of concern	Is able to stabilise all contaminants of concern	- High cost - Contaminants are not eliminated - Can cause drainage problems due to reduced permeability

As the lead, PAH and asbestos in the Made Ground do not present a significant risk to human health when covered by buildings and hard standing, the areas that require mitigation in the context of the proposed development are the areas of soft landscaping. A cover system or source removal are therefore viable options to address the lead, PAH and asbestos risks in the areas of proposed soft landscaping as these will break the ingestion and inhalation pathways of contaminated soil and airborne asbestos fibres.

Due to the contaminated Made Ground having been recorded to be up to 1.6m thick during the GCC investigation, it is not considered to be cost effective or sustainable to remove all of the Made Ground as a remedial solution.

Stabilisation and solidification are not considered likely to be viable due to the cost and constraints created by the stabilised material.

4. REMEDIAL STRATEGY

4.1 GENERAL

The following Remedial Strategy is intended to address the risks associated with the identified lead, PAH and asbestos impacts to the Made Ground across the site.

4.2 REMEDIAL SOLUTION SELECTION

The ground conditions and contamination regime on the site are considered to be sufficiently well understood from the investigation works undertaken to date that a detailed design of the remedial measures for the site can be presented.

The primary contamination risk drivers for the site are lead, PAH and asbestos within the Made Ground. The primary options for remedial of these contaminants are currently an engineered cover system in soft landscaped areas or excavation and off site disposal.

In order to achieve the required development levels, it is understood that a certain volume of Made Ground may be removed from the site to allow the development of the area and to allow for cover materials. As a result, it is anticipated that some of the Made Ground impacted with lead, PAH and asbestos containing materials will be removed from the site. However, these excavated volumes are not likely to remove all of the Made Ground to natural soils on the site. In addition, with regard to sustainability and cost criteria, it is preferable to retain as much material on site as possible.

The most appropriate remedial option for the areas where residual Made Ground is present is therefore considered to be the placement of an engineered cover system in areas of soft landscaping as this is a relatively low cost solution that can be integrated with the proposed development works. Clean corridors for services through Made Ground, lined with geotextile membrane, will also be required. Hard covered areas, such as beneath buildings, roads, parking areas etc, are not considered to require any additional cover measures.

4.3 COVER SYSTEM DESIGN

4.3.1. Guidance

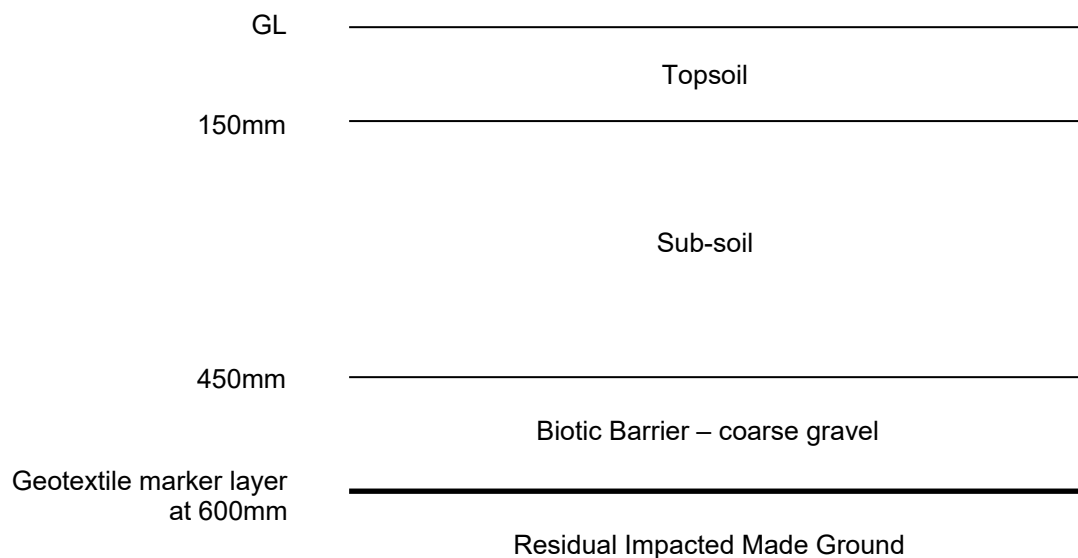
Design guidance is available for simple cover systems, being uncompacted soil placed on contaminated soil, in Cover Systems for Land Regeneration (BRE 465, March 2004). However, due to the presence of asbestos containing material (ACM) in the Made Ground across the site, the cover system is to include a geotextile membrane to prevent the migration of ACM fragments and fibres to the ground surface and to act as a marker layer for people excavating in the cover material. The incorporation of a geotextile membrane makes the cover system an engineered system rather than a simple system, such that the calculations used in BRE 465 are no longer applicable. Reference has therefore also been made to Barriers, Liners and Cover Systems for Containment and Control of Land Contamination (CIRIA Special Publication 124, 1996).

BRE 465 does, however, provide some useful general guidance for cover system thicknesses that can be applied to the design of engineered cover systems. The first point of note is that a literature review undertaken as part of the preparation of BRE 465 determined that excavation depths by residential gardeners will typically not exceed 600mm (two times a standard spade length of 300mm) and that any digging by children or pets is also not likely to exceed 600mm. This dimension is used as the mixing zone in the design calculations for simple cover systems. The second point of note is that BRE 465 recommends that if a cover system is required, it should have a minimum thickness of 300mm.

4.3.2. Main Cover System Design

Therefore, it is proposed that a cover system comprising 450mm of suitable for use topsoil (150mm) and sub-soil (300mm) is placed over a minimum 150mm thickness of coarse gravel (a biotic barrier to deter excavation by humans and animals) over a robust permeable geotextile marker membrane (Terram Hi-Vis or similar) in the majority of areas in all private residential gardens where the potential exists for residents to grow their own produce. The total cover system thickness would therefore be 600mm.

Cover System Diagram:

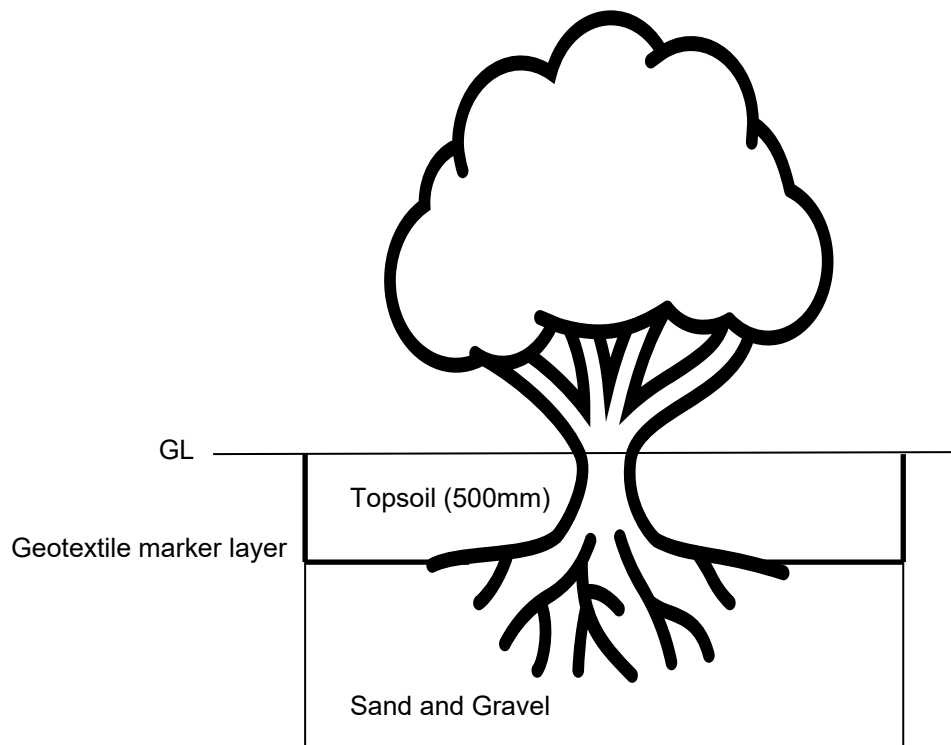


4.3.3. Tree Pits (if required)

Where tree pits are required, if residual Made Ground is present, tree pits will require a separate remedial design. The tree pits are proposed to comprise 500mm depth topsoil over sand and gravel base and are not considered to require a geotextile membrane beneath the root ball as this may inhibit root growth.

However, the geotextile membrane is to be placed on the vertical sides of the tree pits and extend horizontally between the imported topsoil and imported sand and gravel from the vertical sides of the tree pit to the root ball. With the placement of the geotextile between the topsoil and the sand and gravel, the depth to the base of the tree pit from the geotextile is not critical to the remediation design and can be determined by the project landscape designers.

It is understood that landscape designers may wish to use specialist products for tree pits and other in-ground applications. Such products and their application will need to be in accordance with the principles of separation of the receptors and the contaminated Made Ground and will need to be agreed with the geo-environmental consultant undertaking the subsequent verification works and, if necessary, the Local Authority.



4.3.4. Communal Area Cover System

The communal and public soft landscaped areas, where there is not a significant potential for residents to grow their own produce, are considered to be less sensitive as they are anticipated to be disturbed to a lesser extent and managed by management company.

Where communal land will be laid to lawn, it is considered appropriate to apply a minimum 300mm thick cover system, incorporating a minimum 150mm of topsoil over a permeable geotextile membrane.

The remainder of the communal areas, where deeper planting is required, the thickness of the cover system and the proportions of topsoil and sub-soil are to be specified by the landscape designer, provided the cover system is a minimum of 300mm thick and is underlain by a permeable geotextile membrane.

4.3.5. Imported Cover Material Quality

For imported cover material to be considered suitable for use at this site, from a human health risk perspective, the contaminant concentrations present within the soil are not to exceed the assessment criteria presented in Appendix 2. Chemical analysis is to be undertaken by a UKAS accredited laboratory and be MCERTS compliant, where possible. **The soil should also be free from asbestos, metals, plastic, wood, glass, tarmac, paper and odours associated with contaminated soils** and topsoil should also comply with the requirements of BS 3882:2007 – Specification for topsoil and requirements for use.

5. VERIFICATION PLAN

5.1 COVER SYSTEM

An essential element of the performance of a cover system is assurance that it has been installed in accordance with the design. Consequently, the installation of the cover system will be verified upon completion. This will involve two components.

The first component is to confirm that a sufficient cover thickness has been installed and will involve a minimum of two visits by a GCC engineer during the excavation works and during the placement of the biotic barrier (coarse gravel layer) and a further visit on completion of the placement of the cover system to excavate through the cover in a number of locations to ensure a sufficient sub-soil and topsoil thickness has been placed. Evidence of level survey data before and after the placement of the cover system may also be used to verify the cover thickness.

The second component is to sample the imported cover material delivered to site to confirm that the cover material delivered and placed on site is chemically consistent with the material sampled by the supplier and to provide a baseline contamination status of the areas of soft landscaping prior to occupancy of the development to enable comparison to any possible future investigation of the site. The imported soil should be free from asbestos, metals, plastic, wood, glass, tarmac, paper and odours associated with contaminated soils and topsoil should also comply with the requirements of BS 3882:2007 – Specification for topsoil and requirements for use.

A sampling frequency of 1 sample per 40 m³ is required where the soils are from a natural source. A minimum of 3 samples are required for each soil type imported (topsoil, subsoil etc). For recycled or manufactured topsoil, or where the source of the soil is unknown, a sampling frequency of 1 sample per 20 m³ is required. Again a minimum of 3 samples are required.

All soil samples are to be analysed for the suite of contaminants identified in Appendix 2 and are to be analysed by a UKAS accredited laboratory and be MCERTS compliant, where possible.

The results of these verification procedures will be reported in a verification report following completion of the installation of the cover system. This verification report will also contain copies of the chemical analysis results for the imported cover material and an assessment of these results against the adopted assessment criteria to verify that the material is suitable for the proposed use.

The final verification report should be a slim report that includes:

- The plan of soft landscaping, annotated with the as built cover depths and membrane details.
- The original chemical test certificates of the imported soil provided by the supplier.
- Transfer notes showing the source and quantity of the imported soil.
- Photographs of cover system soil and membrane placement works in progress.
- The original analysis results for the verification samples and screening results to demonstrate compliance with the assessment criteria presented in Appendix 2.

6. COMMUNICATION OF RESIDUAL RISK

Following completion of the development and associated landscaping, the details of the cover system and the reasons for its placement, i.e. the protection of the site users from residual lead, PAH and asbestos in the underlying Made Ground, will be conveyed to all future owners of the properties on site under the Client's duty of care.

It is proposed to include the residual risk in the Health and Safety file which will become part of the searches should the units be sold.

7. DISCOVERY STRATEGY

A Discovery Strategy is presented in Appendix 3 detailing the evidence of contamination all site personnel should be vigilant for during the development and the procedures to be followed in the event that such evidence of contamination is encountered. It is recommended that these procedures are included in the site induction for development workers and are available to site staff for reference during the development.

FIGURE 1: PROPOSED LAYOUT PLAN

APPENDIX 1: REPORT CONDITIONS

This report is produced solely for the benefit of **Parchow Groundworks** and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

This report refers, within the limitations stated, to the condition of the Site at the time of the inspections. No warranty is given as to the possibility of future changes in the condition of the Site.

This report is based on a visual Site inspection, study of readily accessible referenced historical records, information supplied by those parties noted in the text and preliminary discussions with local and Statutory Authorities. Some of the opinions are based on unconfirmed data and information and are presented in good faith without exhaustive clarification. Where ground contamination is suspected but no physical Site test results are available to confirm this, the report must be regarded as initial advice only, and further assessment should be undertaken prior to detailed activities related to the Site. Where test results undertaken by others have been made available these can only be regarded as a limited sample. The possibility of the presence of contaminants, not revealed by this research cannot be discounted.

Whilst confident in the findings detailed within this report because there are no exact UK definitions of these matters, being subject to risk analysis, we are unable to give categorical assurances that they will be accepted by Authorities or Funds etc. without question, as such bodies may have unpublished, often more stringent objectives. This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Ground Condition Consultants Ltd. In time improved practices or amended legislation may necessitate a re-assessment.

The report is necessarily limited to those aspects of land contamination specifically reported on and no liability is accepted for any other aspect especially concerning gradual or sudden pollution incidents that may occur. The opinions expressed cannot be absolute due to the limitations of time and resources within the context of the agreed brief and the possibility of unrecorded previous use and abuse of the Site and adjacent Sites. The report concentrates on the Site as defined in the report and provides an opinion on surrounding Sites. If migrating pollution or contamination (past or present) exists this can only practically be better assessed following extensive on and off Site intrusive investigations and monitoring.

APPENDIX 2: GENERIC ASSESSMENT CRITERIA

SOIL - HUMAN HEALTH SCREENING VALUES

Status	End Use	Issue No	Issue Date
ISSUE	Residential with Homegrown Produce	1	June 2015

Determinand	Units	SOIL ORGANIC MATTER			SOURCE
		1%	2.5%	6%	
pH		<5, >9			
Asbestos	%	Presence			
HEAVY METALS/METALLOIDS					
Arsenic	mg/kg	37			S4UL
Cadmium	mg/kg	11			S4UL
Chromium (III)	mg/kg	910			S4UL
Lead	mg/kg	200			C4SL
Mercury (Inorganic)	mg/kg	40			S4UL
Nickel	mg/kg	130			S4UL
Selenium	mg/kg	250			S4UL
Boron	mg/kg	290			S4UL
Copper	mg/kg	2,400			S4UL
Zinc	mg/kg	3,700			S4UL
GENERAL INORGANICS					
Easily Liberatable Cyanide (free)	mg/kg	36			Acute effects infant 1 dose 3g soil
US EPA PRIORITY PAHs					
Acenaphthene	mg/kg	210	510	1100	S4UL
Acenaphthylene	mg/kg	170	420	920	S4UL
Anthracene	mg/kg	2,400	5,400	11000	S4UL
Benzo(a)Anthracene	mg/kg	72	11	13	S4UL
Benzo(b)fluoranthene	mg/kg	2.6	3.3	3.7	S4UL
Benzo(k)fluoranthene	mg/kg	77	93	100.0	S4UL
Benzo(g,h,i)perylene	mg/kg	320	340	350	S4UL
Benzo(a)Pyrene	mg/kg	2.20	2.7	3	S4UL
Chrysene	mg/kg	15	22	27.0	S4UL
Di-benzo(a,h)anthracene	mg/kg	0.24	0.28	0.30	S4UL
Fluoranthene	mg/kg	280	560	890	S4UL
Fluorene	mg/kg	170	400	860	S4UL
Indeno(1,2,3-cd)pyrene	mg/kg	27.0	36	41.0	S4UL
Naphthalene	mg/kg	2.3	5.6	13.0	S4UL
Phenanthrene	mg/kg	95	220	440	S4UL
Pyrene	mg/kg	620	1200	2000	S4UL
Total PAHs	mg/kg	No Sum	No Sum	No Sum	
Phenolics					
Phenol	mg/kg	280	550	1100	S4UL
Chlorophenols	mg/kg	0.87	2.00	4.50	S4UL
Pentachlorophenol	mg/kg	0.22	0.52	1.20	S4UL
TPH					
TPH Aliphatic >C5-6	mg/kg	42	78	160	S4UL
TPH Aliphatic >C6-8	mg/kg	100	230	530	S4UL
TPH Aliphatic >C8-10	mg/kg	27	65	150	S4UL
TPH Aliphatic >C10-12	mg/kg	130	330	760	S4UL
TPH Aliphatic >C12-16	mg/kg	1100	2,400	4,300	S4UL
TPH Aliphatic >C16-35	mg/kg	65,000	92,000	110,000	S4UL
TPH Aliphatic >C35-44	mg/kg	65,000	92,000	110,000	S4UL
TPH Aromatic >EC5-7 (Benzene)	mg/kg	70	140.00	300	S4UL
TPH Aromatic >EC7-8	mg/kg	130	290	660	S4UL
TPH Aromatic >EC8-10	mg/kg	34	83	190	S4UL
TPH Aromatic >EC10-12	mg/kg	74	180	380	S4UL
TPH Aromatic >EC12-16	mg/kg	140	330	660	S4UL
TPH Aromatic >EC16-21	mg/kg	260	540	930	S4UL
TPH Aromatic >EC21-35	mg/kg	1100	1,500	1,700	S4UL
TPH Aromatic >EC35-44	mg/kg	1100	1,500	1,700	S4UL
TPH Aliphatic & Aromatic >EC44-70	mg/kg	1,600	1,800	1,900	S4UL
Total TPH	mg/kg	No Sum	No Sum	No Sum	
BTEX					
Benzene	mg/kg	0.087	0.17	0.37	S4UL
Toluene	mg/kg	130	290	660	S4UL
Ethylbenzene	mg/kg	47	110	260	S4UL
m-Xylene	mg/kg	60	140	330	S4UL
o-Xylene	mg/kg	59	140	320	S4UL
p-Xylene	mg/kg	56	130	310	S4UL

APPENDIX 3: DISCOVERY STRATEGY

Attn: Ground Works Contractors

Land at 31A North Street, Emsworth – Discovery Strategy

Background

This document presents a brief summary of the actions to be taken if suspected contamination of the soil or groundwater is encountered during the development of the site and follows on from the GCC Ground Condition Assessment Report dated April 2021. Lead, PAH (in the form of ash) and asbestos fibres have been encountered in the Made Ground across the site.

Evidence of contamination

Fragments of asbestos containing materials may be encountered in Made Ground. Any evidence of contamination is likely to be in the following form, although other indicators may be observed.

- Dark staining of the soil
- Ash in soil
- Oily sheen on soil or water
- Tanks and pipework
- Smell of oil/diesel/petrol
- Asbestos containing material fragments
- Large deposits of made ground (e.g. waste deposits)

Actions following identification of evidence of contamination

Contractors encountering evidence of contamination are to report the discovery to the site office.

- Further development of the potentially contaminated area should cease and Site Engineer should contact the Client's Environmental Consultant to attend site and assess the implications of the discovered impact.
- The Environmental Consultant will in turn inform the Local Authority and/or the Environment Agency as appropriate.
- Potentially contaminated material is to be left in situ where possible, or stockpiled in bunded areas where it is not possible to leave in situ, until an assessment is complete and appropriate action is agreed with the relevant regulator.
- Potentially contaminated material to be disposed of off site may require further chemical testing.