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REMEDIAL STRATEGY AND VERIFICATION PLAN

FOR

104 LOWER HYTHE STREET
DARTFORD
KENT

JOMAS ASSOCIATES LTD

6-9 The Square, Stockley Park, Uxbridge, UB11 1FW

www.jomasassociates.com 0843-289-2187 info@jomasassociates.com

Report Title: Remedial Strategy & Verification Plan for 104 Lower Hythe Street, Dartford, Kent, DA1 1BW

Report Status: Final v1.0

Job No: P2883J2099b/TE

Date: December 2021

QUALITY CONTROL: PREVIOUS RELEASE

Version	Date	Issued By

Prepared by: **JOMAS ASSOCIATES LTD** For: **HYPHE APARTMENTS LTD**

Prepared by
Tom Elbourne BSc (Hons), CGeol
FGS, RoGEP - Professional
Geo-environmental Engineer



.....

Reviewed & Approved by
Suneel Law BSc (Hons), MSc,
CGeol FGS
Principal Geo-environmental
Engineer



.....

Should you have any queries relating to this report, please contact

JOMAS ASSOCIATES LTD

www.jomasassociates.com

0843 289 2187

info@jomasassociates.com

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1 INTRODUCTION

1.1 Terms of Reference

1.1.1 Hythe Apartments Ltd (“The Client”), has commissioned Jomas Associates Ltd (‘Jomas’) to produce a remedial strategy prior to the development of 104 Lower Hythe Street, Dartford, Kent.

1.2 Site Information

1.2.1 The site is currently vacant following the demolition of the former structures.

1.3 Proposed Development

1.3.1 Demolition of the existing structures to allow the construction of a 5-storey building comprising commercial use at ground floor level and eleven residential units with associated parking and limited landscaping. No private gardens are proposed.

1.4 Previous Reports

1.4.1 A number of phases of investigation have previously been completed at the site as detailed in Table 1.1.

Table 1.1: Previous Reports

Title	Author	Reference	Date
Preliminary Ground Contamination Risk Assessment Report	Ashdown Site Investigation Ltd	P13653R13615	24 th October 2019
Proposed Scheme of Investigation at 104 Lower Hythe Street, Dartford, Kent, DA1 1BW	Jomas Associates	P2883J2099b	December 2020
Geo-environmental & Geotechnical Assessment (Ground Investigation) Report for 104 Lower Hythe Street, Dartford, Kent	Jomas Associates	P2883J2099b	December 2020
Detailed Quantitative Assessment of Risks to Controlled Waters for 104 Lower Hythe Street, Dartford, Kent, DA1 1BW	Jomas Associates	P2883J2099b	November 2021
Preliminary Verification Report for 104 Lower Hythe Street, Dartford, Kent, DA1 1BW	Jomas Associates	P2883J2099b	November 2021

1.4.2 This document should be read in conjunction with the above reports.

1.5 Background

1.5.1 Development permission is being granted by Dartford Borough Council with a number of conditions relating to various requirements.

1.5.2 Planning Conditions 3, 7 and 9 of application ref DA/20/00588/FUL, relate to land contamination matters.

1.5.3 Condition 3 consists of 4 No. parts.

No development approved by this planning permission shall commence until a strategy to deal with the potential risks associated with any contamination of the site has been submitted to, and approved in writing by, the Local Planning Authority. This strategy will include the following components:

1. *A preliminary risk assessment which has identified:
 -) all previous uses;
 -) potential contaminants associated with those uses; -a conceptual model of the site indicating sources, pathways and receptors; and potentially unacceptable risks arising from contamination at the site. NB (The submitted report fulfils this function, but for completeness we include this part of the overarching condition)*
2. *A site investigation scheme, based on (1) to provide information for a detailed assessment of the risk to all receptors that may be affected, including those off site.*
3. *The results of the site investigation and the detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy giving full details of the remediation measures required and how they are to be undertaken. This should include appropriate Groundwater monitoring.*
4. *A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action.*

Any changes to these components require the written consent of the local planning authority. The scheme shall be implemented as approved.

Condition 7

Prior to any part of the permitted development being occupied a verification report demonstrating the completion of works set out in the approved remediation strategy and the effectiveness of the remediation shall be submitted to, and approved in writing, by the local planning authority. The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.

Condition 9

If, during development, contamination not previously identified is found to be present at the site then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until a remediation strategy detailing how this contamination will be dealt with has been submitted to and approved in writing by the Local Planning Authority. The remediation strategy shall be implemented as approved.

1.5.4 Condition 3 Part 1 has been addressed by the Desk Study Report produced for the site by Ashdown Site Investigation Ltd. Part 2 has been addressed by the Proposed Scheme of Investigation document produced by Jomas Associates and Part 3 has been partially addressed by the Ground Investigation report produced by Jomas Associates.

1.5.5 This document seeks to address the outstanding requirements of Condition 3 Part 3 as well as Condition 3 Part 4.

- 1.5.6 Following completion of the remedial measures as set out within this report, a verification report will be required to address outstanding conditions 7 and 9.
- 1.6 Objectives**
- 1.6.1 The primary objectives of this document are as follows:
- To provide information on the site setting; identify ground conditions and potential environmental risks associated with the development.
 - To provide an assessment of various options for remediation.
 - To set out the remediation strategy that will provide a site that is suitable for the intended use and addresses any identified unacceptable risks.
 - To provide relevant information to address planning conditions relating to contaminated land. A separate verification report will be required following the implementation of the remediation strategy.
- 1.6.2 This document provides an assessment of potential remedial strategies and describes the methodology for the proposed remedial action.
- 1.6.3 The remediation strategy and associated remediation criteria have been developed with reference to previous works carried out at the site. The remediation criteria used to develop the proposed remediation strategy will be used for the proposed verification works.
- 1.6.4 The Principal Contractor will be responsible for implementing the appropriate methodology and site management procedures to achieve the required outcome and comply with these principles.
- 1.6.5 The works will be undertaken by experienced personnel and will be managed in accordance with the Contractor's Construction Environmental Management Plan. Detailed construction method statements will be prepared for the impacted soil removal works. Jomas will be employed as Environmental Specialist, to supervise the works and undertake soil sampling and analysis as part of the validation process.
- 1.7 Limitations**
- 1.7.1 Jomas Associates Ltd ('Jomas') has prepared this report for the sole use of Hythe Apartments Ltd, in accordance with the generally accepted consulting practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon by any other party without the explicit written agreement of Jomas. No other third party warranty, expressed or implied, is made as to the professional advice included in this report. This report must be used in its entirety.
- 1.7.2 This report provides an overview of conclusions drawn from previous investigations, some of which has been conducted by others. Third party information used is assumed to be correct, and Jomas has not validated any of the data provided. Jomas is unable to guarantee the accuracy of the information provided by others.

2 LAND CONTAMINATION OVERVIEW

2.1 Desk Study Findings

2.1.1 A desk study was produced for the site (Ashdown Site Investigation, 2019), and issued separately. A brief overview of the findings is presented below;

-) A review of historical ordnance survey maps indicated that at the time of the earliest edition (1885) the site was occupied by residential and school buildings. Maps from the 1960s indicate a garage on the centre of the site and by the 1970s a second garage is identified in the west of site. The second garage was subsequently removed and is no longer present.
-) The site is reportedly located within an area of extensive industrial activity, including chemical works (1209m south-east), iron foundries (60m south-west) and gas works (50m north-west).
-) Information provided by the British Geological Survey indicated that the site is directly underlain by superficial alluvial deposits underlain by the White Chalk Subgroup. Jomas review of mapping suggests the alluvium is likely to be underlain by further superficial deposits of the Taplow Gravel Member.
-) The superficial deposits directly underlying the site are identified as a Secondary (undifferentiated) aquifer with the underlying solid deposits identified as a Principal Aquifer.
-) The site is reported to lie within a Source Protection Zone 1, with the closest abstraction reported 165m south-east of site.
-) The nearest surface water feature is reported to be a pond 89m south-east.
-) Preliminary intrusive investigations were recommended to assess land contamination risks at the site.

2.1.2 The desk study included a Scheme of Investigation for proposed further investigations at the site.

2.2 Intrusive Investigation

2.2.1 The ground investigation was undertaken on 18th, 19th and 23rd November 2020, and consisted of the following:

-) 5No window sampling boreholes, drilled up to 4.45m below ground level (bgl), with associated in situ testing and sampling;
-) 2No cable percussive boreholes to 20.4mbgl with associated in situ testing and sampling;
-) Laboratory analysis for chemical and geotechnical purposes.

2.2.2 4No. return visits to monitor ground gas concentrations and groundwater levels have been completed. The exploratory locations are shown in Figure 2.

- 2.2.3 The results of the ground investigation revealed a ground profile comprising a variable thickness of Made Ground (up to 1.10mbgl depth), overlying predominantly granular alluvial deposits to a maximum depth of 1.50mbgl, overlying gravelly sand and sandy gravel of the Taplow Gravel Member to the base of the deepest borehole at a maximum proven depth of 20.4mbgl.
- 2.2.4 Groundwater was reported between 2.00mbgl and 4.00mbgl during drilling, and between 1.47-2.50mbgl during return monitoring visits.
- 2.2.5 The Made Ground at BH1 was described as “ashy” and Made Ground in WS3 and WS4 was described as “black”.
- 2.2.6 Samples were screened with a hand-held photo-ionisation detector throughout the progression of the works; no response was recorded at any time.

Soil Gas Risk Assessment

- 2.2.7 Calculating the Gas Screening Value using worst case results indicates Characteristic Situation 1; meaning no formal gas protection measures are considered necessary. PID screening of the monitoring well headspace has revealed maximum concentrations of VOCs of 0.1ppm.

Controlled Waters Risk Assessment

- 2.2.8 No significant risks to controlled water were considered to be present based on the ground investigation results; however, given the potential for previously undetected contamination to be encountered during redevelopment, and particularly during the removal of buried infrastructure such as tanks, it was recommended that a detailed quantitative risk assessment be undertaken in order to derive remedial criteria for soils that were protective of controlled waters receptors, to be compared with soil validation results during buried infrastructure removal.

Human Health Risk Assessment

- 2.2.9 Following generic risk assessments and statistical analysis, elevated concentrations of lead, benzo(b)fluoranthene, benzo(a)pyrene and dibenzo(ah)anthracene were detected in soils in excess of generic assessment criteria for the protection of human health within a “residential without plant uptake” end-use scenario.
- 2.2.10 No asbestos fibres were detected in the samples analysed in the laboratory.
- 2.2.11 The site proposal indicates that the majority of the site will remain covered by a combination of the proposed building footprint and hard surfacing. Where this is the case, no formal remedial measures were considered necessary in terms of human health, as the building and hard surfacing are expected to provide a barrier to potential receptors. In areas of soft landscaping, it was recommended that existing site soils should be encapsulated with a minimum 450mm of imported clean topsoil, placed on a membrane.

2.3 Impact to Neighbouring Properties and Buried Services

- 2.3.1 Screening of levels of determinands potentially affecting water pipes identified no exceedances, and therefore polyethylene pipework is likely to be suitable.

2.3.2 Requirements for potable water supply pipework should be confirmed with the relevant utility provider at an early stage of the project life cycle.

2.4 Conceptual Site Model (CSM)

2.4.1 The CSM, as refined following the Jomas ground investigation, is presented overleaf.

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Potential Source	Potential Receptor	Potential Contaminants	Potential Pathway	Potential Linkage Present?	Probability	Consequence	Viable S-P-R Linkage (pre-remediation)
Existing/historical garage workshops, including vehicle inspection pit within existing building	End Users	Petroleum Hydrocarbons, VOC Compounds and Land Gases	Dermal contact with soil and dust (indoor & outdoor)	Yes	High	Moderate	✓
			Ingestion of soil and indoor dust	Yes	High	Moderate	✓
			Consumption of home-grown produce and attached soil	No private gardens proposed			
			Inhalation of soil dust (indoor and outdoor)	Yes	High	Moderate	✓
			Inhalation of vapours	Yes	High	Moderate	X
			Inhalation of soil gases/Risk of explosion	Yes	Low	Moderate	X
	End Users (via Water Supply Pipework)	Petroleum Hydrocarbons and VOC Compounds	Contamination of incoming services	Yes	High	Moderate	X
Groundwater	Petroleum Hydrocarbons and VOC Compounds	Migration to groundwater	Yes	Moderate	Severe	X	
Underground fuel/waste oil storage tanks within eastern area of site	End Users	Petroleum Hydrocarbons, VOC Compounds and Land Gases	Dermal contact with soil and dust (indoor & outdoor)	Yes	High	Moderate	✓
			Ingestion of soil and indoor dust	Yes	High	Moderate	✓
			Consumption of home-grown produce and attached soil	No private gardens proposed			
			Inhalation of soil dust (indoor and outdoor)	Yes	High	Moderate	✓
			Inhalation of vapours	Yes	High	Moderate	X
			Inhalation of soil gases/Risk of explosion	Yes	Moderate	Moderate	X
	End Users (via Water Supply Pipework)	Petroleum Hydrocarbons and VOC Compounds	Contamination of incoming services	Yes	High	Moderate	X
Groundwater	Petroleum Hydrocarbons and VOC Compounds	Migration to groundwater	Yes	Moderate	Severe	X	
Made ground associated with historical site	End Users	Dermal contact with soil and dust (indoor & outdoor)	Dermal contact with soil and dust (indoor & outdoor)	Yes	Moderate	Moderate	✓
		Ingestion of soil and indoor dust	Ingestion of soil and indoor dust	Yes	Moderate	Moderate	✓

SECTION 2
LAND CONTAMINATION OVERVIEW

development/demolition of buildings		Consumption of home-grown produce and attached soil	Consumption of home-grown produce and attached soil	No private gardens proposed			
		Inhalation of soil dust (indoor and outdoor)	Inhalation of soil dust (indoor and outdoor)	Yes	Moderate	Moderate	✓
		Inhalation of soil vapours	Inhalation of vapours	Identified contaminant(s) do not pose a risk via this pathway			
		Inhalation of soil gases/ Risk of explosion	Inhalation of soil gases/Risk of explosion	Identified contaminant(s) do not pose a risk via this pathway			
	End Users (via Water Supply Pipework)	Contamination of incoming services	Contamination of incoming services	Identified contaminant(s) do not pose a risk via this pathway			
	Groundwater	Migration to groundwater	Migration to groundwater	Yes	Very Low	Minor	X
Off-site industrial land use	End Users	Petroleum Hydrocarbons and VOC Compounds	Dermal contact with soil and dust (indoor & outdoor)	Yes	Low	Moderate	✓
			Ingestion of soil and indoor dust	Yes	Low	Moderate	✓
			Consumption of home-grown produce and attached soil	No private gardens proposed			
			Inhalation of soil dust (indoor and outdoor)	Yes	Low	Moderate	✓
			Inhalation of vapours	Yes	Low	Moderate	✓
	Inhalation of soil gases/Risk of explosion	No potential gas source identified					
	End Users (via Water Supply Pipework)	Petroleum Hydrocarbons and VOC Compounds	Contamination of incoming services	Yes	Very Low	Moderate	X
Groundwater	Petroleum Hydrocarbons and VOC Compounds	Migration to groundwater	Yes	Very Low	Severe	X	

2.5 Detailed Quantitative Risk Assessment

2.5.1 A controlled waters detailed quantitative risk assessment was undertaken by Jomas as referenced in Table 1.1. The purpose of this assessment was to derive site-specific remedial target criteria for use in validating the soils remaining on site following tank removal works, as well as determining whether elevated contaminants reported in groundwater on site pose a potential risk to off-site controlled waters receptors.

2.5.2 L3 RTC were derived for the primary contaminants of concern based on the previous site investigation on site and relative mobility and solubility in groundwater. The selected compounds were:

-) Aliphatic C5-C6
-) Aliphatic C6-C8
-) Aromatic C5-C7
-) Aromatic C7-C8
-) Aromatic C8-C10
-) Aromatic C10-C12
-) Aromatic C12-C16
-) Naphthalene
-) Benzene
-) Toluene
-) Ethylbenzene
-) Xylene
-) Tetrachloroethene

2.5.3 Due to their presence within groundwater samples previously obtained from site, naphthalene and tetrachloroethene were assessed for both L3 Soil RTC and L3 Groundwater RTC. All other contaminants were assessed for L3 Soil RTC only..

2.5.4 Review of the ground investigation data against the derived L3 RTC indicated no exceedances and therefore no significant risk to controlled water was considered to be present based on the previous investigation.

2.6 Preliminary Verification Report

2.6.1 Prior to the production of this Remediation Strategy, Jomas was informed that tank removal works on site had already been undertaken by other.

- 2.6.2 Jomas were commissioned to investigate the soils in the vicinity of the removed tanks in order to assess whether the residual soils remaining on site after the tank farm removal pose a significant risk of harm to controlled waters receptors.
- 2.6.3 7No trial pits were excavated using a JCB 3CX. Pits were completed in the east of the site in the area where tanks had been removed, as identified by the client. This area also correlated with man-hole covers and vent pipes observed by Jomas during previous site visits.
- 2.6.4 10 No samples were scheduled for analysis, obtained from across the investigated area. Results were compared against the L3 RTC derived in the previously referenced DQRA, with no exceedances reported.
- 2.6.5 On this basis, the soils remaining on site following the tank removal were not considered to pose a significant risk to controlled waters receptors.
- 2.6.6 No evidence of significant hydrocarbon contamination was observed, and therefore risks to human health via the vapour inhalation pathway were considered to be low.
- 2.6.7 As per the conclusions of the ground investigation report, remedial measures to prevent direct exposure between end users and existing soils will be required.

3 REMEDIAL OPTIONS APPRAISAL

3.1.1 Soil Screening

-) A possible remedial option would be to undertake soil screening, comprising excavation of impacted soils, screening within the site to remove likely contaminative materials, and re-deposition of materials on site. Such an operation may include a variety of screening methodologies, including soil washing etc.
-) Such an operation may be successful at removing materials responsible for elevated concentrations of polyaromatic hydrocarbons. Any visible asbestos materials may be removed by hand, with extensive dust control measures required during the soil screening operations for the protection of site workers and nearby residents. Asbestos fibres in soil will however, not be visible for removal.

3.1.2 Excavation and disposal

-) Made Ground displaying elevated concentrations of contaminants may be excavated for disposal off site. From a review of chemical testing data, excavations to a depth in the order of 1.0-1.5mbgl minimum would be required, with the importation of a respective thickness of certified clean material to restore site level.
-) The costs and vehicle movements required for such an operation may render the costs associated with this method prohibitive.

3.1.3 Encapsulation

-) In order to sever the identified pathways to the most sensitive receptors (human health), encapsulation of impacted materials below building footprints or areas of hard surfacing may be undertaken. This would have the effect of removing the potential pathways of direct contact and inhalation.
-) It is not anticipated that areas of extensive soft landscaping will be present as part of the final development. Should such features be proposed, the impacted soils will be encapsulated by the use of a capping layer. This should comprise a minimum 600mm thickness of clean cover layer, laid over a geotextile membrane.

3.1.4 Dust control measures will be required during the undertaking of all the remedial options identified above for the protection of site workers.

3.1.5 When issues of cost effectiveness, requirements for vehicle movements etc. are taken into account, it is recommended that encapsulation of impacted soils is adopted as the preferred remedial methodology.

3.1.6 The requirements for the remedial methodology are presented within Section 5 of this report.

4 PROPOSED REMEDIATION STRATEGY

4.1 Introduction

4.1.1 The proposed remediation scheme serves to address the potential unacceptable risks identified in the context of the proposed redevelopment of the site.

4.1.2 The remedial measures comprise;

-) The encapsulation of impacted soils below areas of building footprint or hardstanding,
-) A watching brief following demolition and during enabling works,
-) Within areas of soft landscaping, a cover layer comprising a minimum 450mm thickness of clean subsoil/topsoil over a geotextile membrane/marker layer will be utilised.
-) Where Made Ground is removed and the base of the Made Ground is encountered at shallower depth than the depth of the proposed clean cover, the depth of clean cover can be limited to the thickness of made ground removed, or thickness required for finished levels.
-) Validation testing will be undertaken upon soils imported to site to confirm their suitability for use as a clean capping layer.

4.2 Remediation Strategy

Impacted Soils Encapsulation

4.2.1 Where buildings or hardstanding are proposed, no formal remedial works are considered necessary, beyond the construction of the building/hardstanding, as this should provide an appropriate barrier to impacted soils. External hardstanding within private areas should be of a construction that discourages possible removal by future occupiers.

4.2.2 Within areas of soft landscaping, soils will be encapsulated below a cover layer of imported clean subsoil/topsoil. This should comprise a minimum 450mm of soil, laid over a geotextile membrane/marker layer.

4.2.3 Where topsoil and sub-soil is imported to the site, the soil should be chemically suitable for use. All imported soil should conform to the following chemical specification:

Table 4.1: Topsoil Requirements

Determinand	Unit	Screening Criteria	
Arsenic	mg/kg	S4UL	40
Boron	mg/kg	S4UL	11000
Cadmium	mg/kg	S4UL	85
Chromium	mg/kg	S4UL	910
Lead	mg/kg	C4SL	310
Mercury	mg/kg	S4UL	56

Determinand	Unit	Screening Criteria	
Nickel	mg/kg	BS3882	110
Selenium	mg/kg	S4UL	430
Copper	mg/kg	BS3882	7100
Zinc	mg/kg	BS3882	40000
Asbestos	%	S4UL	None Detected
pH	-	S4UL	5-9
Naphthalene	mg/kg	S4UL	2.3
Acenaphthylene	mg/kg	S4UL	2900
Acenaphthene	mg/kg	S4UL	3000
Fluorene	mg/kg	S4UL	2800
Phenanthrene	mg/kg	S4UL	1300
Anthracene	mg/kg	S4UL	2300
Fluoranthene	mg/kg	S4UL	1500
Pyrene	mg/kg	S4UL	3700
Benzo(a)anthracene	mg/kg	S4UL	11
Chrysene	mg/kg	S4UL	30
Benzo(b)fluoranthene	mg/kg	S4UL	3.9
Benzo(k)fluoranthene	mg/kg	S4UL	110
Benzo(a)pyrene	mg/kg	S4UL	3.2
Indeno(123-cd)pyrene	mg/kg	S4UL	45
Dibenzo(ah)anthracene	mg/kg	S4UL	0.31
Benzo(ghi)perylene	mg/kg	S4UL	360
TPH C ₅ -C ₆	mg/kg	S4UL	42
TPH C ₆ -C ₈	mg/kg	S4UL	100
TPH C ₈ -C ₁₀	mg/kg	S4UL	27
TPH C ₁₀ -C ₁₂	mg/kg	S4UL	74
TPH C ₁₂ -C ₁₆	mg/kg	S4UL	140
TPH C ₁₆ -C ₂₁	mg/kg	S4UL	260
TPH C ₂₁ -C ₃₅	mg/kg	S4UL	1100

4.3 Health and Safety / PPE

- 4.3.1 Excavations will have suitable barriers and access points, with pedestrian routes clearly marked. Appropriate safety signage and instructions will be clearly visible, with accesses to be kept clear of debris, materials and cables.
- 4.3.2 Operatives will be briefed on sharps protection in order to ensure safety. Clean/dirty rooms will be provided for operatives working within contaminated areas
- 4.3.3 Standard PPE will be required at all times, namely:

-) Hard hat
-) Safety spectacles
-) Hi-viz waistcoat or jacket
-) Gloves
-) Boots or shoes with steel toe and midsole protection

4.3.4 Other items may be required as per detailed in the specific method statement;

-) Harness
-) Dust protection
-) Ear protection
-) Other specialist equipment

4.3.5 A method statement will be produced by the chosen contractor.

4.4 Unexpected Contamination

4.4.1 To accord with best practice if, during the construction of the development, contamination and/or materials not previously identified are found to be present at the site, then no further development (unless otherwise agreed in writing with the Local Planning Authority) shall be carried out until Jomas' (or qualified environmental engineer) has been informed, and a suitable strategy implemented to the approval of the engineer and/or the Local Planning Authority.

4.4.2 Examples of such materials include:

-) Suspected asbestos containing materials
-) Buried drums, tanks, pipework or containers
-) Soil or water with colour or odour
-) Non-natural materials and wastes
-) Other evidence of contamination, for example iridescent sheens (like oil or diesel) on soil or water.

4.5 Operational Standards – Summary

4.5.1 As a minimum, the following standards shall be employed during the full course of this remediation site works;

-) All materials subject to excavation and disposal must be tracked throughout and evidence generated to provide an auditable trail.
-) Any excavated soils will be stockpiled/stored in a designated area on site, with plastic sheeting placed at ground surface to prevent cross-contamination. The contractor shall be responsible for the removal of spoil from the site.
-) Personal protective equipment shall be employed by all site remediation and ground worker personnel in accordance with site specific risk assessments. These are to be completed by all contractors following consideration of the potentially hazardous properties of contaminants within the site.
-) A copy of this remediation statement together with all previous geo-environmental assessment reports shall be retained on site for reference during the full course of remediation activities.

5 VERIFICATION PLAN

5.1 Proposals for Validation & Verification

5.1.1 A qualified environmental engineer shall undertake the following tasks to monitor the remedial activities described in this statement.

-) Following importation of subsoil/topsoil to site, representative samples will be obtained prior to laying of the material. It is anticipated that 1No sample will be taken per 50m³ of soil imported.
-) The thickness of the clean cover layer and the presence of a geotextile/marker layer will be verified by a series of hand dug pits in areas of soft landscaping, with accompanying photographs.
-) These samples shall be sent directly to an MCERTS and UKAS accredited laboratory for testing.
-) The results will be screened against the criteria given previously within Table 4.1, which comprise current published Environment Agency residential end-use soil guideline values (SGVs) or where unavailable, LQM or S4UL generic assessment criteria – safe for use levels for human health risk assessment. If these values become out of date, reference shall be made to industry approved superseded values.

5.2 Remediation Verification/Completion Report

5.2.1 The Remediation Completion Report shall include the following information:

-) Summary of all works undertaken
-) Photographic log of the works.
-) A full chemical soil analysis results schedule.
-) Full details of any further contamination reported during construction works
-) Disposal documentation for any spoil or asbestos materials spoil.

5.3 Reporting

5.3.1 All activities will be documented (including photographs) to show compliance with the Remediation Strategy. This documentation will be kept on site at all times during the works and updated daily as part of a field record as the works progress, which would be available for regulatory inspection at any time. All documentation would be included in a final verification report to be presented to the Local Authority.

6

REFERENCES

-) A possible approach for generating site specific assessment criteria for polycyclic aromatic hydrocarbons (draft internal HPA briefing note)
-) CIEH & CL:AIRE (2008) *Guidance on comparing soil contamination data with a critical concentration*. London: Chartered Institute of Environmental Health (CIEH) and CL:AIRE
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-) National Planning Policy Framework. Department for Communities and Local Government, March 2012

WE LISTEN, WE PLAN, WE DELIVER

Geotechnical Engineering and Environmental Services across the UK.



JOMAS ASSOCIATES LTD

6-9 The Square
Stockley Park
Uxbridge
UB11 1FW

CONTACT US

Website: www.jomasassociates.com
Tel: 0843-289-2187
Fax: 0872-115-4505
Email: info@jomasassociates.com