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22nd June 2016

By e-mail kenelener@gmail.com

Subject: **Geo-Environmental Assessment – Site at Bull Lane Long Sutton Lincolnshire**
EPS Ref: **P9493**

Dear Ken,

Thank you for your enquiry and continuing to bear EPS in mind for such works.

Further to your recent enquiry and our correspondence, Environmental Protection Strategies Ltd (EPS) is pleased to provide you with the following proposal for completion of a Phase I Geo-Environmental Desk Study followed by a Phase II Geo-Environmental Assessment in order to address planning requirements in terms of contamination for your site on Bull Lane in Long Sutton ('the site') for a proposed residential redevelopment.

The site is a former abattoir, albeit quite a small one, undergoing residential redevelopment and I understand from our discussion that the site is quite compact and therefore you would prefer a Desk Study to be undertaken at the outset, followed by an Intrusive Investigation (Phase 2) following demolition of the buildings. This would allow easier access for the drilling rig etc. provided there are no 'commencement' issues associated with the planning process which we would take your advice on. So the Intrusive Investigation costs are provisional and for your information at this stage.

The soil under the site should comprise mainly clays and silts which are prevalent in this area and not particularly sensitive in terms of contamination risks to groundwater, so the main driver for the investigation would be assessing risks to future site users due to any residual contamination caused by the former use of the site. We would need to account for the range of potential contaminants arising from this landuse including potentially any soil gases. We would suggest that the use of a window sampling drilling rig with concrete coring attachment would be appropriate to allow and inspection of the underlying soil and installation of the necessary monitoring wells.

The work EPS proposes will be compliant with the principles and requirements of the following publications and guidance:

- NPPF – *The National Planning Policy Framework*

- BS10175 - *Investigation of Potentially Contaminated Sites*
- BS5930 - *Code of Practice for Site Investigations*
- CLR 11 - *Model Procedures for the Management of Land Contamination*
- NHBC - *Guidance for the Safe Development of Housing on Land Affected by Contamination*

Phase I – Geo-Environmental Desk Study

The reason the local authority have made the requirement for a such an assessment is that the change of use from commercial to residential represents a more sensitive use and so there is a planning requirement to demonstrate that no unacceptable risks will be created as a results of the development.

The approach adopted for site assessment follows the Environment Agency's 'Contaminant Linkage' or 'Source-Pathway-Receptor' methodology for establishing potential risks. The desk study is a research based assessment with only a site walkover, and its purpose is to identify and document all potential ***sources*** of contamination associated with a sites historical and current use as well as the human and environmental features which could be affected ('***receptors***'). It also determines the various ***pathways*** through which interaction between the sources and receptors might result in an unacceptable risk of harm. Any situation where an identified receptor could plausibly be harmed by contamination is called a ***Contaminant Linkage***.

The desk study is undertaken to establish the following:

- Full Site History - late 1800's to present day.
- Environmental Sensitivity.
- Identification of Potential Areas of Concern (PAOCs).
- Conceptual Site Model (CSM) and Preliminary Risk Assessment.

The above is established by performing the following tasks:

- Preliminary site visit and walkover.
- Collection of site records.
- Consultation with the Environmental Health Department of the Local Authority and Environment Agency public database.
- Study of geological, hydrogeological, topographical, and historic maps of the area.
- Review of initial proposed development plan for the site.

The objective of this work will be to identify what contaminant linkages are potentially active at the site in its current state and also what might become active through the proposed development. Contaminant linkages found to be potentially active will ultimately require investigation. However, an integral objective of the desk study phase is to discount those contaminant linkages which are not considered plausible at a particular site, enabling any subsequent intrusive assessment (i.e. Phase II) to focus solely on the key issues which have been identified and so be both targeted and cost effective.

In this instance, the desk study for this site identified plausible risks associated with this development associated with the nature and quality of soils particularly within the garden / soft landscaping areas.

Phase II - Site Investigation

Further (Phase II) site investigation is likely to be deemed necessary following the completion of the desk study, so we have included below the proposed scope and costs for your information.

Please find below a proposed scope of work, which we can discuss and formally agree with any third parties/regulators if necessary.

Proposed Scope of Work

Our proposed scope of work is therefore described as follows:

1. Completion of up to five window sampler boreholes to depth of up to 5m below ground level at up to 5 locations.
2. On a precautionary basis, installation of gas/groundwater monitoring standpipes in 3 of the boreholes to allow future monitoring.
3. Two return gas monitoring visit in addition to one monitoring visit on the day of drilling.
4. Continual logging of ground conditions encountered, including any physical evidence of contamination such as soil staining, odours and the use of a handheld Photo-Ionisation Detection instrument (PID) for in-situ volatile organics screening.
5. Collection of 5 representative shallow soil samples for submission to an MCERTS accredited laboratory for environmental testing, including heavy metals, Speciated Polycyclic Aromatic Hydrocarbon (PAH), cyanide and phenols and asbestos screen. Volatile Organic Compounds (including Chlorinated Solvents), Ammoniacal Nitrogen & Petroleum Hydrocarbons to be tested on 3 samples.
6. Production of an interpretive report to describe the site work which has been undertaken, present the findings of the investigation in relation to the environmental desk study, the nature and quality of the ground conditions encountered with borehole logs and present conclusions and recommendations for resolution of environmental issues.

Project Timescales & Costs

The cost for a Phase I Geo-Environmental Desk Study would be **£850+vat**, to be completed within 3-4 weeks of instruction.

Provisional costs for the Phase II Geo-Environmental Assessment are also provided below.

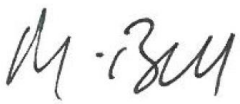
Description –	**Cost**
Project Set up and utility plans	£360
Site Work (incl. H&S Supervision, on-site testing, provision window sampler drilling rig with concrete coring attachment and sampling equipment)	£1155
Environmental Laboratory Analysis	£745
Gas monitoring visits (1 on day of drilling, two return visits)	£565
Provision of Phase II Interpretive Report	£450
Total	**£3,275**

In terms of the timescales, with the above assessment would be delivered within 6-7 weeks of instruction.

These costs are inclusive of all reasonable expenses and subject to our standard terms and conditions, a copy of which is attached.

We hope you find the above of interest, if you have any queries, or require anything further, please do not hesitate to contact us.

Yours Sincerely,



Marcus Bell
Principal Consultant, EPS

ENVIRONMENTAL PROTECTION STRATEGIES LIMITED

7B Caxton House, Broad Street, Cambourne, Cambridge, CB23 6JN

STANDARD TERMS AND CONDITIONS OF CONTRACT FOR SERVICES

The following terms and conditions apply to all contracts unless qualified in the quotation or otherwise agreed in writing.

1. INTERPRETATION

In the Terms and Conditions of contract for supply of environmental services, the following words and abbreviations will have the following meanings:-

(a) "EPS" = Environmental Protection Strategies Limited

(b) "Service" = work carried out by EPS for its clients

(c) "Client" = the person, company or organisation requesting service and offering payment to EPS

(d) "Site" = property or land asset that, unless otherwise specified, is the location at which an intrusive or other environmental investigations are conducted by EPS

(e) "Contract" = agreement between EPS and its Client to supply the Service to the Client in accordance with these terms and conditions.

2. INFORMATION AND CONFIDENTIALITY

(a) The Client shall provide to EPS such information in relation to the Site and the use thereof as EPS may require the accuracy of which EPS shall rely upon in recommendations made for the Service to be carried out.

(b) The Client shall disclose to EPS full details of all individuals other than EPS who are likely to be engaged in operations on or have to the right to occupy any part of the Site during the Service to be provided and if requested the Client shall disclose full details of such operations and/or the purpose of occupation of the land by such person or persons and in the event that such operations or occupation shall in the opinion of EPS be regarded as adverse to its suitability to provide the Service then EPS reserve the right to refrain from undertaking works until such matters of objection have been rectified and in the event of delay in the commencement of progression of works caused thereby the Client shall be liable to EPS for all or any financial loss incurred.

(c) EPS shall be entitled for the better performance of the Service hereby to be carried out to seek the assistance of such third party or third parties as they may deem appropriate in which event the Client will allow full access to such third party or parties.

(d) All information obtained by EPS during provision of Service to the Client will be held by EPS in strict confidence.

(e) Unless otherwise agreed in all Service carried out for the Client it is acknowledged and agreed that all data, reports or other products supplied and arising from the Service hereunder are intended only for the use and reliance of the Client, no liability or responsibility whatsoever being accepted by EPS to any third party or parties in any way whatsoever.

(f) No part of a Service product, or references to it, may be included in published documents of any kind without approval from EPS.

3. LIABILITY FOR SERVICES

(a) No liability will be accepted for any damage to buried cables, pipes or other underground utilities unless (a) the location of such utilities has been made known and correctly identified to EPS by the Client or a utility company upon request from the Client and (b) such damage has arisen as a result of the negligence and/or breach of exercising reasonable care by EPS.

(b) Whilst all due care will be taken to avoid damage by equipment used during on Site investigations no liability will be accepted for any damage to items affixed to or growing or deposited on the land unless full and adequate details thereof have been provided by the Client in response to any such request for information made by EPS and in any event unless such damage has arisen from negligence of failure to exercise reasonable care.

(c) EPS shall be entitled to assume that the Site is sufficiently firm and level to allow its Service to be carried out in one continuous operation and in the event that such is not possible and/or reinstatement of the Site surface shall become necessary by reason of the existence of anything affixed to growing or deposited on the land undisclosed by the Client then EPS shall be entitled to render such further charge or charges as may be necessary to meet the cost of such additional works.

(d) In the event that performance of the contract is rendered uneconomic, prevented or delayed as a result of war, hostilities, act of God, industrial unrest, civil disturbance, the act of any local or national government or authority (whether in the UK or abroad), shortage or unavailability of raw materials, equipment, labour, or fuel or any other cause beyond reasonable control of EPS, EPS may by written notice to the Client either terminate its obligations remaining to be performed under the contract or suspend or postpone performance with no liability arising from either party to the other save that the Client shall remain responsible for payment to EPS for the value of work undertaken to the date of giving of such notice.

(e) EPS' liability shall not under any circumstances exceed the value or cost to the Client of direct remedial works to or upon the land arising from any provable failure of Service and shall not under any circumstances extend to loss of profit or any consequential loss sustained by the Client or any other party.

(f) The period of EPS' liability shall be 6years from completion of the service

4. AMENDMENTS TO OR CANCELLATION OR POSTPONEMENT OF CONTRACT

(a) Whilst EPS will always attempt to limit the costs incurred relating to amendments/postponement/cancellations of projects/contracts, this cannot be guaranteed and the client shall be responsible and shall pay for any goods, design-work, drawings, sub-contractor or supplier cancellations charges or expenses whatsoever incurred or expended by EPS up to the time of amendment/cancellation or postponement including any special purchases already made by EPS even though not delivered or used.

(b) The period of notice required for the site work element of a contract to be cancelled or postponed is 72 hours prior to scheduled date of site work. Site work can include but is not limited to 'site attendance, H&S supervision, provision of sub-contractor plant hire/drilling rigs, provision of JCB, provision of water bowsers, provision of personnel, specific equipment purchased for proposed site work, overnight stops'.

(c) EPS reserves the right to delay performance of variations until written instructions have been received and written agreement reached on the terms for such variation of goods or services to be supplied.

5. PRICE AND PAYMENT

(a) In addition to the arising of the events referred to in 2 (b) and 3 (c) Liability for Services, the Client shall pay to EPS additional sums than specified within the contract price in the event of the following arising:-

(b) If, after commencement of the Service, unforeseen Site conditions are encountered that hinder or prevent completion of the work by the method agreed with the Client.

(c) If the Client has failed to supply all necessary information, or supplied false or misleading information required by EPS to carry out the Service.

(d) If the Client makes any changes to the Service requirements, or instructs additional works to be carried out after the contract has been agreed.

(e) Service carried out by EPS is subject to Value Added Tax at the current rate.

(f) Where the period required to undertake and complete the proposed EPS Service exceeds 30days, EPS will submit interim invoices at 30day intervals for payment by the Client, which equal the value of the relevant Service it has completed during the preceding 30days.

(g) EPS terms of payment are strictly net within 30 days of the date of invoice being submitted.

(h) All unpaid debts remaining after 30 days of an invoice being submitted will attract Interest at the Bank of England Rate + 8% calculated daily, and EPS will be entitled to the right to reasonable compensation for debt recovery costs incurred as a result of late payment.

(i) EPS rates are valid for a period of 6 weeks from the date of issue unless otherwise stated.