

Imperial War Museum
Survey - Invitation to Tender

Appendix B
Ground Investigation Survey
Service Scope

12 July 2017



Contract Number:
Tender Deadline:
Contact:

IWM/ASA/1754
17.00 Monday 31st July
Tom Coleman, AMR Consult Limited, 07525175220

Ground Investigation / Contamination Survey Service Scope

(Includes Transport Lines search and Previous Land Use desk top survey)

The Sub-Consultant will provide the following services:

Phase 1 - Desk Study, Assessment of Historical Site use and Site Inspection

The scope of the reports is to be in accordance with British Standard requirements for the 'Investigation of potentially contaminated sites - Code of practice' (ref. BS10175:200) and Planning Policy Statement (PPS) 23 – Planning and Pollution Control.

The reports must include the following components:

- Site inspection. To assess current on-site and neighbouring activities, potential sources of contamination, site drainage facilities (ditches, watercourses and culverts) and their layout, the condition and status of ground cover and trees, hazards to access and working activities and to assist in the design of any subsequent site investigation.
- Site history. Comprising a detailed review of available historical Ordnance Survey plans from around 1870 to date.
- Review of planning history.
- Environmental setting
- Geology
- Hydrogeology
- Surface watercourses and flood risk
- Neighbouring land uses
- Consultation with regulatory bodies
- Environment Agency for details of any licensed landfill sites in the vicinity, recorded significant pollution incidents, groundwater/surface water quality in the area and points of water abstraction.
- Local Environmental Health Officer concerning any record of pre-licensed land filling, pollution incidents or location of contaminated land relevant to the site.
- Local Planning Department for a summary of planning records for the site.
- Petroleum Officer for records of any flammable storage (past or present) and recorded underground tanks at the site.
- British Geological Survey for any borehole logs recorded on the site or adjacent area.
- Review of any existing reports relevant to the site (There may be an additional charge for significant volumes of previous report(s)).
- Assessment/Conclusions. A report is to be prepared describing the potential for contamination beneath the site and the risks that any such contamination would present in terms of environmental effects, possible regulatory action and any redevelopment constraints.
- A preliminary Conceptual Model is to be produced describing any potential 'pollutant linkages'.
- The report must include an assessment of the site's suitability for its proposed use and recommendations for further works.

Phase 2 - Intrusive Investigation Scoping Report

As necessary, the Sub-Consultant is to set out the requirements for further intrusive works to determine:

- The presence of contamination sources on site, as highlighted by the Phase 1 assessment;
- Whether pollutant linkages are present on site;
- The geotechnical properties of underlying soils to facilitate foundation, floor slab and pavement design for new developments.

Phase 3 - Intrusive Site Investigations

The proposed scope of the Phase 2 investigations is to be designed on a site specific basis to allow an assessment of ground conditions to inform foundation design and establish the presence of any contamination.

The Phase 2 investigations are to be carried out in accordance with current best practice and guidance documents. The scope of the investigations is to include site wide coverage of shallow ground conditions, using window sampling techniques, and additionally to give information on deeper ground conditions by drilling boreholes to depths of up to 20m below ground level (bgl) where required. The deep boreholes will provide preliminary information for pile design should shallow foundations not prove appropriate for the development.

The specification of the ground investigations is to include, as appropriate:

- Excavation of window sample boreholes to depths of up to 5m bgl to visually identify the ground conditions, undertake in situ geotechnical testing (Standard Penetration Tests (SPT)) and obtain soil samples for environmental and geotechnical testing;
- Excavation of boreholes using cable percussive techniques to depths of up to 20m bgl;
- In-situ Standard Penetration Testing (SPT) will be carried out at regular intervals throughout the depth of the boreholes and disturbed and undisturbed samples will be taken at prescribed intervals. Samples will be sent to an accredited geotechnical testing laboratory for analysis;
- Ground gas and groundwater monitoring pipes will be installed in some window sample/ cable percussion boreholes as deemed appropriate;
- Soil samples will be screened on site using a PID, and a representative suite of samples will be submitted for laboratory analysis of a range of contaminants including metals, speciated PAH and speciated TPH;
- Ground gas monitoring to be undertaken on a minimum of three separate occasions (ideally at times of low atmospheric pressure), with each well monitored for methane, carbon dioxide and oxygen concentrations together with atmospheric pressure, relative pressure and any detectable flow rates. Further monitoring may be required by the Environmental Health Officer if high gas concentrations and/or ground gas flow rates are detected. This can be provided at an additional cost if it is required;
- Groundwater samples would be collected from each monitoring well on one occasion, and submitted for chemical analysis for a similar range of determinants as the soil samples. Each well will be purged prior to groundwater sampling to ensure a truly representative groundwater sample is obtained.
- Service clearance will be undertaken prior to the drilling of any boreholes. The Sub-Consultant will be present throughout the duration of the site works to supervise the drilling of the boreholes, log the drill arisings, and obtain environmental and geotechnical samples as necessary. On completion, boreholes that are not installed

Imperial War Museum
Survey - Invitation to Tender
Appendix B

with monitoring wells will be backfilled with arisings. Hard standing will be reinstated using lean mix concrete or similar.

- Allowance for "like-for-like" reinstatement is not included in the current scope of works.
- An initial desk based UXO screening exercise is to be undertaken in high risk areas prior to the commencement of any intrusive works, which might require subsequent site supervision during drilling.

Schedule & Reporting

The geotechnical assessment is to include an evaluation of the ground conditions and provide a review of suitable foundation and ground improvement options for the site. In addition, the Sub-Consultant will need to comment on the floor slab and pavement design for the surrounding area as well as the potential for attack on buried concrete by aggressive ground. Any other relevant engineering considerations, based on the ground conditions encountered, will be made.

The environmental assessment will include an examination of the underlying ground conditions and the nature of any contamination present. A qualitative risk assessment is to be undertaken based on this data, and any significant environmental risks are to be identified. Where necessary, the report will outline any recommendations necessary in order to remediate / mitigate any identified risks as required by the planning process.

Proposals for additional items of works (if required) will be issued under separate cover following the ground investigation.

A written update is to be provided after the site works and upon receipt of the laboratory data. Should extraordinary ground conditions be encountered then the contractor will seek to discuss such pertinent issues at the earliest opportunity with the client.

The Phase 1 Desk Study and Phase 2 Intrusive Investigation data for each site are to be compiled into a single stand-alone report detailing the ground conditions encountered and the geotechnical and contamination status of each site. The final Phase 2 investigation report can be issued within 6 weeks of commission.

The tenders should be returned under two separate headings. These are:

- a) Costs for survey to cover the existing All Saints building and surrounding area (shown in red on site map).
- b) Costs for survey to cover the proposed new build area at the rear of the existing site (shown in blue on site map).

Imperial War Museum
 Survey - Invitation to Tender
 Appendix B

Please see following site plan to confirm site areas that must be included within the survey.

