BROWNFIELD LAND SITE INVESTIGATION

harrisongroup ENVIRONMENTAL

DATA SHEET

INTRODUCTION

The current government target for house building is 3.8 million new homes by 2021, of which 60% are to be built on brownfield sites. This means that a large percentage of the estimated 66,000ha of **brownfield** or previously developed land in the UK, will be allocated for new developments.

Development of **brownfield land** is more demanding as it is often contaminated, poses particular geotechnical problems and supports important wildlife habitats.

Harrison Group Environmental has extensive experience with investigation of brownfield land. Expertise ranges from site appraisals to design and execution of **site investigation** and assessment of **remediation principles** as part of planning applications and **earthworks**. Site investigation is often a necessary stage of the **planning application** process. While particularly important for brownfield sites, it is often required and equally beneficial for **greenfield sites**. The company offers a comprehensive range of in-house services to carry out successful brownfield site investigations, with experience of a wide variety of sites from barn conversions to chemical works and manufacturing plants.

Our service is designed to assist the client at each stage of their development project i.e to provide sufficient, appropriate information and assessment to allow the development to progress with specific relevance to planning conditions and statutory/ technical requirements where necessary. Specifically, the following elements are incorporated:

DESK STUDY

Phase 1 Assessment is the initial stage of site investigation, using desk based and literature surveys to assess the historical, environmental and geotechnical setting of development sites. The scope involved includes:

- **Site walkover** by a Geoenvironmental Engineer to identify and record details of potential contamination sources on site and nearby, potentially hazardous building materials, evidence of structural distress and hazardous ground, presence of important habitats and assessment of vegetation.

- Collation of environmental database information from Environment Agency mapping and online databases, Local Authority sources and specialist supplies.
- Examination and interpretation of historical and geological mapping.
- **Consultation** with regulatory bodies, where necessary

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The information is used to produce a conceptual ground model and identify and assess the risk from potential contamination and geotechnical hazards at the site through **source-pathway-receptor** principles. This is designed to address the possible impacts on the environment, future site users and building structures. Based on this recommendations can be given on the suitability of sites for the proposed use, with advice given for additional works where necessary.

INTRUSIVE INVESTIGATION

PHASE 2/3 CONTAMINATION ASSESSMENTS

Intrusive investigations follow on from recommendations made at the desk study stage and involve the collection of environmental samples to quantify the level and extent of contamination.

A variety of investigative methods can be employed depending on the site situation and requirements, including; window sampling, cable percussive drilling, trial pitting and gas/water monitoring & sampling

Environmental samples are analysed for specific contaminants at UKAS/MCERTS accredited laboratories. Results are compared to published guidelines including Environment Agency **Soil Guideline Values** and **Generic Assessment Criteria**; the hazards initially identified and risk assessed in Phase 1, are evaluated further using the updated information. If required, site specific human health, groundwater or ground gas risk assessments can be completed to quantify the potential risks to human health, the environment, air and water resources. The analysis is used to evaluate the need for and extent of land remediation. **Remediation options appraisal** is used to assess the potential remediation strategies that may be applied with respect to efficacy, technical practicability and cost effectiveness.

GEOTECHNICAL ASSESSMENTS

The Company can tailor a site investigation in order to gain valuable information concerning the ground conditions at a site and relationship to geotechnical issues. The intrusive techniques employed in a Phase 2 assessment, as detailed above, can be used to target the **geotechnical hazards** identified in the desk study, supplemented by geotechnical testing at our in house UKAS accredited soils testing laboratory. We offer a site specific service and provide clients with cost effective **foundation solutions;** advising on **pavements, drainage, slope stability** and **settlement calculations**. We are also able to provide earthworks design, methods and supervision, supported by our in-house testing services.