

Why produce this document

Hambleton District Council is increasingly dealing with planning applications for development on or adjacent to contaminated and potentially contaminated land.

The Council has therefore produced this document in order to clearly state what is expected from developers proposing to carry out works on any site which may be affected by contamination.

Developing potentially contaminated land

In accordance with Government policy on the development of brownfield sites the Council wishes to encourage effective use of land. Contamination is not just limited to brownfield sites, some greenfield sites can also be affected. Regardless of land classification, it is essential that any contamination on a site does not pose a risk to the health of workers, to the end user or the environment either during or after a development has finished.

Sites that pose a risk to human health or the environment may have specific conditions relating to contaminated land attached to a planning consent. The conditions will require the developer to carry out a site investigation to determine the level of risk posed by any contamination to any 'sensitive' receptor on the site. This will include a desk study, the generation of a conceptual model, and risk assessment for the site. Depending on the level of risk, further investigation of the site and remediation works may be required.

The Council welcomes early discussions with developers so that your proposals for a site investigation can be considered and advice given where necessary.

Significant pollutant linkages

When dealing with land potentially affected by contamination the developer must identify all possible pollutant linkages, or in other words take a Source – Pathway – Receptor approach. It is important to identify by way of a conceptual model the source of the contamination, the receptor it is likely to harm, be it humans, buildings or controlled waters and the pathway by which the contamination can reach the receptor. From this information a remediation strategy can be produced to remove the source, pathway or the receptor and therefore remove the possibility of harm.

Phase 1 - Desktop Study

This involves the collation of any data about the site in terms of site history, land use, physical characteristics (e.g. geology, lie of the land etc.) and a walk over survey.

At the end of this procedure a preliminary risk assessment must be carried out to determine if the site poses a risk from contamination and if it is necessary to proceed to a Phase 2 investigation. The Council expects the following information, as a minimum, to be included in a Phase 1 investigation:

- Site History going back to 1850.
- Land and building uses, including any changes of use over time
- Details of any storage tanks on or under the site, including details of contents, spillages or leaks.
- Walk Over Survey. This involves looking for:
 - . areas of staining
 - . obvious gaps in vegetation
 - . unnaturally raised ground or depressions
 - . inside buildings:
 - . type and condition of flooring materials
 - . evidence of staining
 - . olfactory assessment
- Site plan including scale and grid references
- Geology of the site
- Drainage on site and site topography
- Land use of surrounding area
- Photographs of potential areas of contamination on the site
- Conceptual model showing pollutant linkages
- Risk assessment
- Proposals for Phase 2 investigation (if applicable)

All this information should be collated in a written report. You or an independent, reputable environmental consultant can do this, however if you are at all uncertain then it may be advisable to do the latter.

If the risk assessment indicates that there is a risk from contamination then a Phase 2 investigation will be required.

The Council must approve the proposals for an intrusive investigation before any work is carried out to ensure that no areas have been overlooked.

Phase 2 - Intrusive Investigation

A Phase 2 investigation involves intrusive sampling and analysis of those samples to determine the concentration of known contaminants. The Council expects the following information, as a minimum, to be included in a Phase 2 investigation:

- Scale maps showing the site as it currently is
- Scale maps showing the proposed development
- A clear and detailed sampling strategy in accordance with BS10175
- Details of sampling methods including:
 - . Who will carry out the sampling and analysis
 - . Where will the samples be taken from and why
 - . How will sampling be carried out
 - . When will sampling take place
- Details on the taking and storage of the samples in particular quality assurance and any ISO accreditations
- Details of the analytical technique to be used to test for each contaminant
- Details of the laboratory including accreditation and quality assurance
- Full analysis of the laboratory results. Results should be compared to the Defra/Environment Agency Soil Guideline Values (SGV's) if available. In the absence of an SGV a site specific risk assessment should be carried out, utilising the relevant TOX report necessary.
- Reference to ICRC and Dutch list for comparison with sampling results will not be accepted
- Updated conceptual model and risk assessment, based on sampling results.
- Preferred risk assessment models are CLEA and Sniffer. If any other risk assessment model is used then full justification for its use must be provided along with all adaptations made for UK conditions.
- Conclusions and recommendations
- Proposals for Phase 3 remediation, if applicable

If the sampling results, updated conceptual model and risk assessment indicates a risk from contamination then Phase 3 Remediation will be required.

The Council must approve the proposals for remediation before any work is carried out to ensure that no areas have been overlooked.

Phase 3 - Remediation

Phase 3 requires the remediation of contamination on a site, validation testing to show that the remediation has been successful and production of a post remediation report and a post remediation monitoring program, where appropriate. As a minimum the Council expects the following information to be present in the post remediation report:

- Full details of all remediation carried out.
- Details of validation testing carried out
- If material has been removed from the site, details of quantity removed, final disposal site and waste transfer notes
- If material has been brought onto the site, details of quantity and source
- All imported material must undergo validation testing to prove that it is free from contamination
- If on site remediation techniques have been used details of the following must be provided.
 - Details of the technique used, how it works, who carried it out
 - Starting and end point of contaminant concentrations
- Proposed time scales of effectiveness
- Where it has been used successfully in the past

Each remediation report must include a residual risk assessment when remediation has been completed. Each report must also include details of a post-remediation monitoring program, if appropriate, to verify long term effectiveness of the remediation.

Note - If the post remediation monitoring indicates a problem, you may be required to conduct a further investigation, including sampling, and make amendments to your existing remediation proposals if these prove ineffective.

Sources of information

British Geological Survey	Local Archives
Environment Agency	Local Libraries
Local Authority	Trade Associations

Useful Guidance Documents

The Environmental Protection Act, 1990
The Environment Act, 1995
The Contaminated Land Regulations 2000
Contaminated Land Research Document 7 – Assessment of Risks to Human Health from Land Contamination: An overview of the development of the soil guideline values and related research.
Contaminated Land Research Document 8 – Potential Contaminants for the Assessment of Contaminated Land

Useful Guidance Documents (cont.)

Contaminated Land Research Document 9 – Contaminants in Soil: Collation of toxicological data and intake values for humans.
Contaminated Land Research Document 10 – The Contaminated Land Exposure Assessment (CLEA) Model: Technical basis and algorithms.
Contaminated Land Research Document 11 - Model Procedures for the Management of Land Contamination
DEFRA and the EA Toxicological Reports 1-12, 14, 16-20, 23, 25
DEFRA and the EA Soil Guideline Values 1, 3, 4, 5, 7, 9, 10, 15, 16
BS10175: 2001 Investigation of potentially contaminated sites - Code of Practice
Planning Policy Statement 23 - Planning and Pollution Control
Environment Agency Risk Assessment Factsheets: FS-01 (SNIFFER), FS-02 (ASTM RBCA), FS-03 (RISK-HUMAN 3.1), FS-04 (BP RISK), FS-05 (Risk Assistant 1.1), FS-06 (CLEA 2002)

For further information please contact:

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Contaminated Land

- A Guide to Developers

HAMBLETON
DISTRICT COUNCIL

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