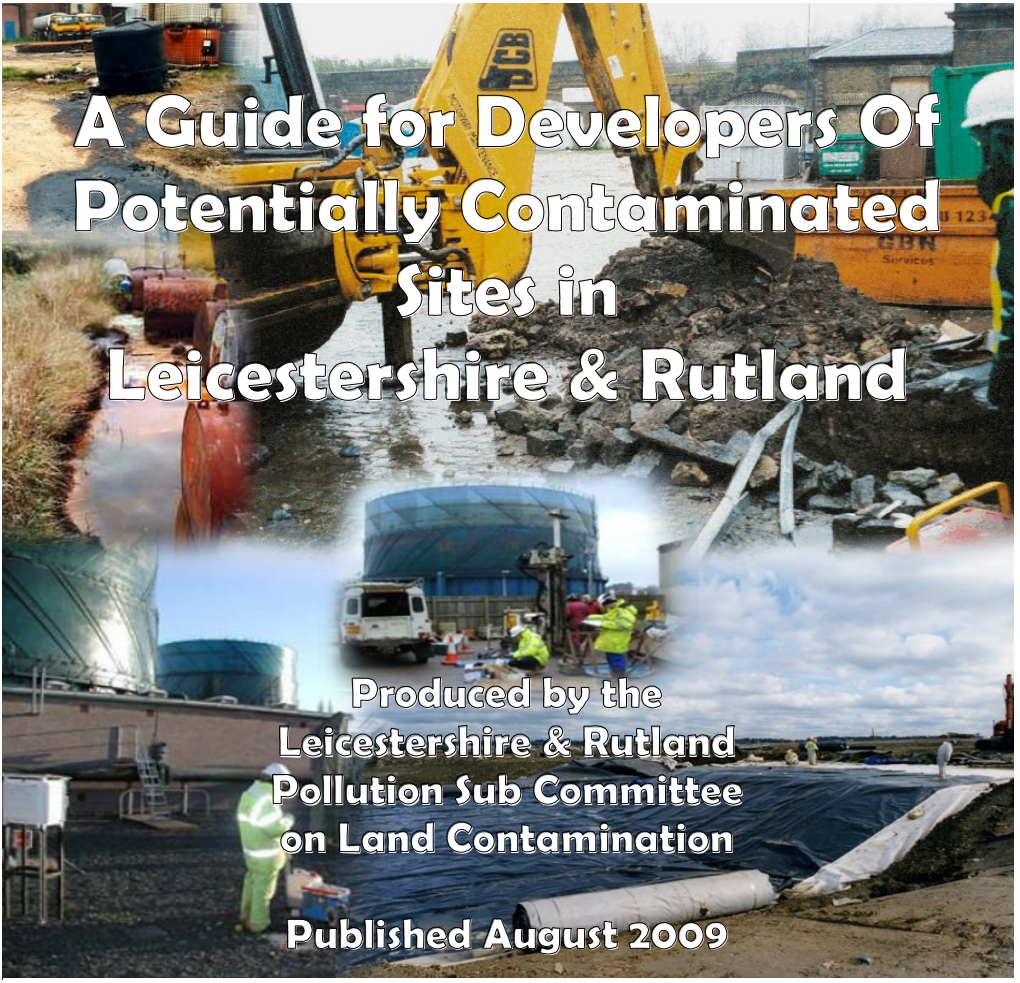


A Guide for Developers Of Potentially Contaminated Sites in Leicestershire & Rutland

Produced by the
Leicestershire & Rutland
Pollution Sub Committee
on Land Contamination

Published August 2009

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Introduction

This guide is designed to offer guidance to property owners, developers, architects and surveyors when applying to develop, or significantly change the use of a piece of land, which may be contaminated.

In most cases sites which are affected by contamination are those which previously have been in industrial use. However contamination can arise from a number of historical and current activities. In some cases sites can become contaminated from activities undertaken on nearby land.

This document is only guidance: site investigation requirements vary due to site-specific issues, for example:

- the nature and extent of the contamination,
- physical site characteristics, and
- the proposed end use of the site.

We recommend that developers seek the advice of an Environmental Consultant, Local Authority Environmental Health Department, and their Building Control provider if it is suspected that contamination may exist.

Competent and experienced persons must carry out all elements of the site investigation and validation of remedial works. These persons must be familiar with all elements of modern risk assessment, site investigation techniques and be familiar with current UK policy and the legislative framework surrounding land contamination.

The Leicestershire and Rutland Pollution Sub Committee on Land Contamination, which consists of representatives from all Local Authorities within Leicestershire and Rutland, decided that there was a need to produce a clear and informative guide for developers and Planning/Building Regulation applicants relating to how to deal with land contamination. It is hoped that in so doing we ensure a consistent approach across the county.

It is important to note that reports which fail to address all the relevant issues referred to in this guidance may be rejected. All Local Authorities encourage early consultation and submission of environmental reports.

This information is correct at time of publication and will undergo periodic review.

The Local Authority approach

Government guidance recognises that land potentially affected by contamination is a material planning consideration, a statutory requirement of the Building Regulations and that the development phase is the most cost-effective time to deal with the problem. Planning and Building Regulations legislation and guidance places the responsibility on owners and developers to establish the extent of any potentially harmful materials on their sites.

It is the duty of Local Authorities and Building Control providers to ensure that owners and developers carry out the necessary investigations and formulate proposals for dealing with any contamination in a responsible and effective manner.

Planning Policy Statement 23 Annex 2 paragraph 2.51 states that 'The standard of remediation to be achieved through the grant of planning permission for new development (including permission for land remediation activities) is the removal of unacceptable risk and making the site suitable for its new use… As a minimum, after carrying out the development and commencement of its use, the land should not be capable of being determined as contaminated land under Part IIA of the EPA 1990 [Environmental Protection Act 1990]'.

From April 2008, all planning applications must use the new national 1App planning application form. Section 15 (Existing Use) of 1App, highlights the requirements of Planning Policy Statement 23. When preparing a planning application the following questions must therefore be addressed:

Does the proposal involve any of the following:-

1) Land which is known to be contaminated?
   This includes developments on land which has known contamination or on land which is known to be affected by contamination.
2) Land where contamination is suspected for all or part of the site?

This includes developments on or near land which has had a previous potentially contaminative use, but there is no actual knowledge of land contamination issues. Further information on potential contaminative activities can be found in the Department of Environment Industry Profiles. (DoE, 1995).

3) A proposed use that would be particularly vulnerable to the presence of contamination?

For example a proposed use that will be particularly vulnerable or sensitive to the presence of contamination would include any residential building, schools, nurseries and allotments. For residential buildings, this will include any development of one dwelling or more, while extensions or conservatories will be excluded, unless there is a specific known land contamination issue.

It should be noted that contamination is not just restricted to land with previous industrial use; it can occur on green field sites as well as previously developed land. If the answer to any of the above questions is 'Yes', then an appropriate Contamination Assessment must be submitted with the planning application.

The Building Regulations 2000 Part C1 (2) requires 'reasonable precautions to be taken to avoid danger to health and safety caused by contaminants on or in the ground covered, or to be covered by the building and any land associated with the building'

Approved Document Part C provides guidance on how the regulation can be complied with. For example this includes advice on how to produce a site investigation report and methods of treating land contaminated with gases such as methane or radon.

Please note that the Local Authority may take enforcement action under Sections 35 and/or 36 (or have the matter referred to them for enforcement by an Approved Inspector) of the Building Regulations if the applicant is unwilling to demonstrate compliance with Part C1 of the Building Regulations. In addition the necessary legal documentation for new buildings will be withheld by the Building Control body and warranty providers until sufficient information is provided to demonstrate that there is an acceptable risk to human health, property and the environment. Until such time, mortgage funds may not be

released and legal completion and/or the discharge of planning and/or Building Regulations conditions will be prevented.

Local Authorities have an additional duty under Part IIA of the Environmental Protection Act 1990 to devise a strategy to identify all contaminated sites, whether or not they are subject to development proposals. Where contamination is found to be significant, the Local Authority must actively take steps to remove or reduce the risk to people and the environment. Copies of individual Local Authority strategies are available on request.

The site investigation procedure

The site investigation procedure will identify the potential for contamination and identify possible areas that may require remedial works in order to make a site 'Suitable for Use'. The investigation can be split into three phases, although not every site will require each phase to be carried out. This allows resources to be targeted at the areas that are most likely to be contaminated. A checklist has been included for your information in this document.

It is preferred that each phase of the investigation is submitted for approval before moving to the next phase of investigation in order to ensure that all possible occurrences of contamination are addressed in an appropriate manner.

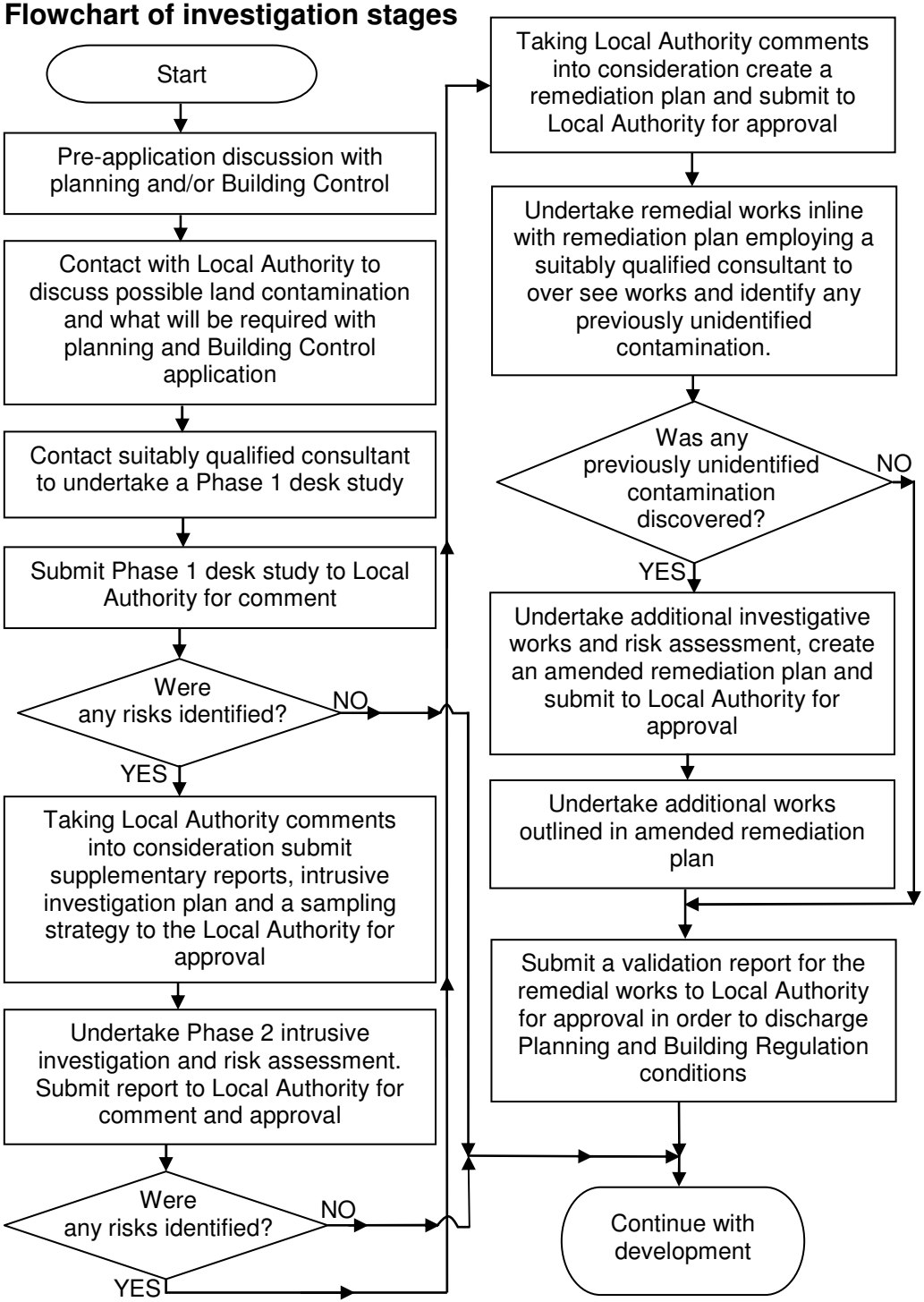
All reports and laboratory results should be signed by the contractor or sub-contractor for quality assurance purposes.

The site investigation procedure should be carried out in accordance with current guidance (see further guidance section)

A definition of 'suitable for use'

UK policy for the control and treatment of existing contamination is based on the 'suitable for use' principle. This means that remediation (clean-up) is required where there are unacceptable risks to human health or the environment arising from the actual or intended use of the site. In other words, each case is assessed on a site-specific basis and an assessment of risk used to determine the extent of the remedial works needed.

Flowchart of investigation stages



Phase I – Desktop study
The desktop study is the collection of information in order that the 'conceptual site model' can be established. This model considers all potential contaminant sources, pathways and receptors, defined as a pollutant linkage. The study should document the site history and identify all potentially contaminative land uses. The conclusions of the report should contain recommendations for any progression to Phase II, if required.

From the findings of this study, an initial 'Conceptual Model' will be produced. This is usually in the form of a diagram or table that illustrates any potentially significant **sources** of contamination, **pathways** through which contaminants can travel, and **receptors** that ultimately can be affected.

It is important to note that an Envirocheck, Sitescope, Groundsure, or similar report submitted in isolation will not be sufficient to provide all of the information required by the Local Authority. However it would be acceptable for such a report to be included as part of a desktop study.

Phase II – Intrusive investigation
The 'Intrusive Investigation' phase is the on-site validation of the conceptual model. Through intrusive investigation, chemical testing and quantitative risk assessment, the Phase II study can confirm possible pollutant linkages and therefore, should also provide appropriate remediation options, if required.

Phase III – Remediation
The remediation phase of the process is split into three sections.

1. The 'Remediation Strategy' is a document detailing the objectives, methodology, and procedures of the proposed remediation works. **This must be submitted to and approved by the Local Authority before works commence**.
2. The remedial works to be carried out in accordance with the agreed remediation strategy and to be overseen by a competent person. Any deviation from the 'Remediation Strategy' will require justification and must be agreed by the Local Authority prior to works continuing.
3. Following completion of the works, a 'Validation Report' must be submitted demonstrating that the works have been carried out satisfactorily and objectives have been achieved.

Checklists for reports

The Checklists provide a guide on what the Local Authority is likely to require when assessing the content of any site reports submitted in relation to a planning proposal. If any of the items listed below are not submitted in the reports then a full explanation should be included as to their omission unless otherwise agreed with the Local Authority.

The checklists are not exhaustive, and as such the contents of any site reports will vary due to site specific issues e.g. the past use of the site, the nature and extent of the contamination, and the proposed end use of the site.

The following reports should be submitted to, and agreed by the Local Authority prior to the commencement of development works.

1. Desktop reports

- Purpose and aims of study.
- Site location and layout plans appropriately scaled and annotated.
- Appraisal of site history, to include an appraisal of current and historical maps.
- Appraisal of site walkover survey.
- Assessment of environmental setting, to include:
  - Geology, hydrogeology, hydrology
  - Information on coal workings (if appropriate)
  - Information from Environment Agency on abstractions, pollution incidents, water quality classification, landfill sites within 250m etc.
  - Assessment of current / proposed site use and surrounding land uses.
- Review of any previous site investigations or remediation works.
- Preliminary (qualitative) assessment of risks, to include:
  - Appraisal of potential contaminant sources, pathways, and receptors ('Pollutant Linkages')
  - Conceptual site model.
- Recommendations for Phase II intrusive investigation (if necessary) to include identification of target areas for more detailed investigation.

2. Intrusive investigation reports

- Site investigation methodology, to include:
  - Plan showing exploration locations, on site structures, above/below ground storage tanks etc, and to be appropriately scaled and annotated.
  - Justification of exploration locations.
  - Sampling and analytical strategies.
- Borehole / trial pit logs.
- Results and findings of investigation to include:
  - Ground conditions (soil and groundwater regimes including made ground).
  - Discussion of soil/groundwater/surface water contamination (visual, olfactory, analytical).
  - Laboratory and in-situ test results
  - Quantitative Risk assessment: when completed, the results of the investigation should be compared against suitable criteria. In the first instance, exposure to human health will be assessed with reference to the Soil Guideline Values (SGVs). Where these are unavailable it is expected that Generic Assessment Criteria will be obtained either by:
    - generation using an appropriate model. Values can be derived using the CLEA UK Exposure Model in accordance with the 'acceptable risk' approach. Other Risk Assessment tools will be considered, however these must be fully justified and conform to current UK policy.
    - use of a third party list of values to include justification of their appropriateness (e.g. CIEH/LQM generic assessment Criteria for Human Health Risk Assessment, Atrisk Soil screening values). **The use of ICRCL 59/83 and the Dutch intervention values is deemed inappropriate as they do not conform to current UK legislation.**
- Revised Conceptual Site Model.
- Any uncertainties relating to the conclusions,
- Recommendations for further investigation if necessary.

3. Remediation strategy

- Objectives of the remediation works.
- Details of the remedial works to be carried out, to include:
  - Description of ground conditions (soil and groundwater)
  - Type, form and scale of contamination to be remediated
  - Remediation methodology
  - Site plans/drawings
  - Phasing of works and approximate timescales
  - Consents and licences e.g. (discharge consents, waste management licence, asbestos waste material removal licence etc.)
  - Site management measures to protect neighbours.
- Details of how the works will be validated to ensure the remediation objectives have been met, to include:
  - Sampling strategy
  - Use of on-site observations, visual/olfactory evidence
  - Chemical analysis
  - Proposed clean-up standards (i.e. contaminant concentration).

4. Interim reports

- Details of any contamination discovered during development not previously addressed in the remediation strategy
- Justification of any changes or additional works to the original remediation strategy to be submitted to and agreed by the Local Authority prior to continuation of works.

5. Validation reports (submit for approval after remedial works in order to discharge planning conditions)

- Details of who carried out the work.
- Substantiating data - should include where appropriate:
  - laboratory and in situ test results
  - Results from monitoring of groundwater and gases
  - Summary data plots and tables relating to clean-up criteria
- Plans showing treatment areas and details of any differences from the original remediation statement
- Copies of site waste management plans and transfer certificates
- Confirmation that remediation objectives have been met.

Frequently Asked Questions

When would the Local Authority impose planning conditions, relating to land contamination, on a site?
The Local Authority may attach such a condition where a site, or sites of close proximity have a known history of potentially contaminative uses or where the site history is unknown but it is suspected that contamination may be present.

When would the Building Control body impose Building Regulation conditions relating to Land Contamination, on a site?
All applications submitted to the Building Control body must demonstrate compliance with Part C1 of the Regulations on submission of the application. Where this information is not available, the application can be conditionally approved, however the developer proceeds on site at their own risk.

How can I find out if the land is potentially contaminated?
Local Authorities do not keep a public register of **potentially** 'Contaminated Land'. You can write and request for a site search to be undertaken by the Local Authority's Contaminated Land Officer. Some Local Authorities have more information than others and they may make a charge for this information. However, if the search provides no further information this should not be taken to mean that the site is free from contamination. Other sources of information include the library service, county archives and the Internet. However, it is recommended that a consultant is employed to carry out a desktop study of the site and provide expert advice.

Will the Local Authority recommend a consultant?
No. However, you can refer to professional institutions such as the following for advice and guidance.

- Association for Consultancy and Engineering
  http://www.acenet.co.uk/
- British Expertise (formerly British consultants and construction companies)
  http://www.britishexpertise.org/
- The Association of Geotechnical and Geoenvironmental Specialists
  http://www.ags.org.uk/

When is the Environment Agency involved in the planning process in relation to contaminated land?

The Planning Authority may consult the Environment Agency on matters for which the agency has a regulatory responsibility such as:

- where pollution of surface or groundwater is involved;
- where the water environment is at risk of pollution; and
- where an application is within a flood-plain area.

Why do I need to appoint a suitably qualified consultant?

Contaminated land has evolved into a very complex topic with an ever increasing amount of new legislation and guidance to comply with. As the issues relating to contaminated land have become more complex, so have the means to evaluate them. There are many sophisticated risk assessment tools to assist with decisions. This has resulted in a requirement for consultants who can interpret the results from these tools and make accurate judgements to the satisfaction of the regulator.

The appointment of a suitably qualified consultant is essential if satisfactory site investigation works and associated reports are to be produced. Due to the importance of appointing a suitable consultant the applicant should consider the following:

1. Can the consultant provide evidence of having successfully undertaken similar contaminated land work?
2. Are the consultant or key members of their team associated with an appropriate professional institute?
3. What level of experience do the key field workers / engineers / scientists have? This is important as often the most inexperienced members of a consultancy are used to undertake fieldwork however they may not be able to undertake the more complex risk assessment. Ask the consultant to provide CVs of the staff who will be involved with the project. **It should also be noted that geotechnical experience does not qualify as contaminated land experience and this distinction should be made.**

Please note that appointing a consultant to undertake a site investigation purely from a budgetary perspective may have consequences within the planning process. There may be information missing from the work they produce which will be required by the Local

Authority. This can lead to delays and additional cost in getting the application through the planning process.

Recommended guidance

Planning Policy Statement 23: Planning and Pollution Control Annex 2 Development on Land Affected by Contamination. 2004. Office of the Deputy Prime Minister.
http://www.communities.gov.uk/planningandbuilding/planning/planningpolicyguidance/planningpolicystatements/planningpolicystatements/pps23/

Environment Agency,
- Human Health Toxicological Assessment of Contaminants in Soil Science Report – SC050021/SR2;
- Updated Technical Background to the CLEA Bodel Science Report – SC050021/SR3;
- CLEA Software (Version 1.04) Handbook Science Report – SC050021/SR4;
- CLEA software version 1.04;
- Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values – SC050021/SR7;
- Contaminated Land Report 11 Model Procedures for the Management of Land Contamination;
- Toxicological Reports;
- Soil Guideline Value Report;
- Supplementary Information to the Soil Guideline Value Reports;
- Department of the Environment Industry Profiles.

http://www.environment-agency.gov.uk/research/planning/33706.aspx

Department for Environment, Food and Rural Affairs Circular 01/2006 Environmental Protection Act 1990: Part 2A Contaminated Land. September 2006.
http://www.defra.gov.uk/environment/land/contaminated/index.htm

Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66. 2008 Joint publication by Environment Agency and NHBC.
http://www.nhbcbuilder.co.uk/Buildersupportservices/Technicaladvicesupport/Publications/ContaminatedLandDevelopment/

BS 10175:2001. Investigation of Potentially Contaminated Land - Code of Practice. 2001 London: BSI. British Standards Institution.

BS EN 1997-2:2007 EUROCODE 7 – Geotechnical Design – Part 2: Ground Investigation and Testing. 2007 London: BSI. British Standards Institution.

BS 8485:2007. Code of practice for the characterization and remediation from ground gas in affected developments. 2007 London: BSI. British Standards Institution.

Guidance on Comparing Contamination Data with a Critical Concentration. May 2008 Joint publication of Chartered Institute of Environmental Health (CIEH) and Contaminated Land: Applications in Real Environments (CL:AIRE).
http://www.claire.co.uk/index.php?option=com_content&task=view&id=164&Itemid=28

Wilson, S.; Oliver, S.; Mallett, H.; Hutchings, H.; Card, G., 2007. CIRIA C665: Assessing Risks Posed by Hazardous Ground Gases to Buildings. CIRIA

Wilson, S; Card, G.; Haines, S. 2008. Ground Gas Handbook. Whittles Publishing. Scotland.

Approved Document C - Site Preparation and Resistance to Contaminates and Moisture, 2006, NBS.
http://www.planningportal.gov.uk/england/professionals/en/4000000000242.html

Building Regulations 2000 as amended
http://www.planningportal.gov.uk/england/professionals/en/1115314112742.html

BRE Report BR211; Radon: Protective Measures for New Dwellings, 2007. BRE press
http://www.bre.co.uk/radon/protect.html

Nathanail, C.P.; McCaffrey, C.; Ashmore, M.H.; Cheng, Y.Y.; Gillett, A.; Ogden, R.; and Scott, D. 2009. The LQM/CIEH Generic Assessment Criteria for Human Health Risk Assessment (2nd edition). Land Quality Press, Nottingham.

Further information

For further information contact the appropriate Local Authority for the area and ask for the officer dealing with land contamination.

Blaby District Council
0116 2727555
www.blaby.gov.uk

Charnwood Borough Council
01509 263151
www.charnwood.gov.uk

Harborough District Council
01858 828282
www.harborough.gov.uk

Hinckley and Bosworth Borough Council
01455 238141
www.hinckley-bosworth.gov.uk

Leicester City Council
0116 2549922
www.leicester.gov.uk

Melton Borough Council
01664 502502
www.melton.gov.uk

North West Leicestershire District Council
01530 454545
www.nwleics.gov.uk/

Oadby and Wigston Borough Council
0116 2888961
www.oadby-wigston.gov.uk

Rutland County Council
01572 722577
www.rutland.gov.uk

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Dalsze kopie, wersie w innych językach i drukowane większymi literami lub wersie audio są dostępne pod następującym adresem: Pollution team, Harborough District Council, Adam and Eve Street, Market Harborough, LE16 7AG
Telephone: 01858 828282 Email: noiseandpollution@harborough.gov.uk

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The authors would like to acknowledge Nottinghamshire Contaminated Land Sub-Group and Essex Contaminated Land Consortium for their contributions to this document.

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