# Appendix 7: The Development of Potentially Contaminated Sites in Cambridge and South Cambridgeshire: A Developers Guide

#### Introduction

- 1. Land contamination is often the unintended result of past industrial/commercial land use and, since it can negatively impact upon human health, property, and/or the wider environment, land contamination is a material planning consideration.
- 2. This guidance document has been prepared jointly by the Environmental Health Departments of Cambridge City Council and South Cambridgeshire District Council (the Greater Cambridge Councils) for developers and other organisations who are involved in the redevelopment of potentially contaminated sites. The purpose of this guide is to provide developers, planning agents, and other relevant parties with an overview of the information required by the Greater Cambridge Shared Planning Service when assessing potentially contaminated sites in the planning and development control system across the Greater Cambridge area.
- 3. Please note that this guidance is not an exhaustive list of requirements and developers are encouraged to speak with the Contaminated Land Officers at the relevant Council.
- 4. Important note Legislation, guidance, and practical methods are all subject to change and it is the responsibility of the developer to follow the latest good practice and legislative requirements. All reasonable precautions have been taken to ensure that the information contained within this document is accurate at the time of publication. However, the Greater Cambridge Councils cannot assume legal responsibility for any loss or damage caused to person, land, or property for persons relying on this information.
- 5. This document replaces all developers contaminated land guidance notes previously issued by Cambridge City Council and South Cambridgeshire District Council.

#### **Planning Policy**

- 6. There is a range of national, regional, and local planning policies that, along with other legislation, set out requirements for dealing with contaminated land.
- 7. At the national level, the overarching national planning policy document is the National Planning Policy Framework (NPPF, 2018) whose purpose is to encourage sustainable development, including the reuse of brownfield land. Under the NPPF the potential for land contamination is a material planning consideration intended to ensure that land is made suitable for its proposed use.

8. At the local level, Local Plans have been adopted by both <u>Cambridge City Council</u> and <u>South Cambridgeshire District Council</u> that set out policies and proposals for future development and land use in the Greater Cambridge area. The Plans set out a vision for Greater Cambridge and objectives for its achievement. These Plans provide a means of guiding change over long periods of time and establishes a framework against which planning applications can be assessed. Land contamination is specifically referenced by Policy 33 Contaminated Land in Cambridge City Council's Local Plan 2018 and by Policy SC/11: Contaminated Land in South Cambridgeshire District Council's Local Plan 2018 (see Appendix 1 for policy wording).

#### **The Planning Procedure**

#### **Role of the Developer**

- 9. The developer is responsible for ensuring that any proposed development is safe and suitable for use for the purpose for which it is intended. In order to fulfil this responsibility the developer will be required to undertake a process of risk assessment in order to determine the severity of any contamination and the degree of harm that it poses to future site users and to the wider environment. The NPPF requires this site investigation has to be prepared by a 'competent person'. Whilst the term 'competent person' has not been defined further, the developer must consider the full range of technical expertise that is likely to be required when sourcing consultants or advisors to undertake the risk assessment process. It is highly recommended that the selected consultants should have professional indemnity insurance.
- 10. A development is more likely to be successful, and considerable effort and expense spared, if appropriately qualified experts with relevant environmental experience are used at appropriate stages.
- 11. After the completion of the risk assessment process, which may include remediation, the development site, as a minimum, should not be capable of being determined as contaminated land under Part 2A of the Environmental Protection Act 1990 (see Table 1 below).

**Table 1**: Definition of Contaminated Land under Part 2A of the EnvironmentalProtection Act 1990)

<u>Part 2A of the Environmental Protection Act 1990</u> requires Local Authorities to inspect their areas for potentially contaminated land and, if necessary, to ensure that any contamination is remediated. Part 2A introduced a legal definition of *contaminated land* whereby contamination is assessed and defined in the context of a site's current use and where the contamination must be capable of causing either significant harm, or the significant possibility of significant harm, to human health and/or to other specified receptors. Where contaminated land is identified, details of the contamination and any remediation undertaken are placed on a Public Register. The narrow definition of the term *contaminated land* means that the number of sites that will be determined as legally defined contaminated land by Local Authorities is likely to be very small.

A site that contains contaminants which, in its current use, <u>do not</u> have the potential to cause significant harm will fall outside of Part 2A. It is government policy that these sites will be dealt with through the planning and development control system as and when they are brought forward for development. In such circumstances the developer must provide the Council with enough information to enable it to decide that the site will be suitable for use. For some sites that are identified as contaminated land under Part 2A, redevelopment of the land may be a cost effective solution for securing remediation. In such circumstances action taken under the planning regime to ensure that land is suitable for use would also satisfy the Part 2A regime and turn a liability into an asset.

The Greater Cambridge Councils' Part 2A strategies may be viewed on their respective websites – <u>Cambridge City Council</u> and <u>South Cambridgeshire District Council</u>.

#### **Role of the Greater Cambridge Shared Planning Service**

- 12. On any site where there is the potential for contamination to exist, the Greater Cambridge Shared Planning Service will work in consultation with the Environmental Health Department from the relevant Council to ensure that application sites are appropriately investigated, managed, and, if required, remediated.
- 13. When considering planning applications on sites where land contamination is a reasonable possibility, or known to exist, the Greater Cambridge Shared Planning Service has to be satisfied that the proposed development will remove all unacceptable risks to human health, property, ecosystems, and water quality, and will not introduce new risks. In doing this, full consideration will be given to both the historical and existing use of the site, the current circumstances of the land, the proposed end use, and the potential for contamination to be encountered during development works. The Greater Cambridge Shared Planning Service, through the imposition of planning conditions, will ensure that the developer undertakes the appropriate risk assessment and, if deemed necessary, the remediation of land contamination in line with all good practice procedures and guidance.

#### **Role of the Environment Agency**

14. The Environment Agency (EA) are a statutory consultee in the planning process and they provide expertise to the Greater Cambridge Shared Planning Service on the issues of flooding and the potential for land contamination to pollute surface waters and groundwater (controlled waters).

15. It is important to note that for sites where contamination poses a risk to controlled waters, planning conditions will not be discharged until both the Council's Contaminated Land Officer and the Environment Agency have recommended approval for all appropriate contamination risk assessment reports.

#### The Contaminated Land Risk Assessment Procedure

- 16. The site investigation procedure aims to identify the potential for contamination and aims to identify areas that may require remediation to make the site suitable for use. In order to achieve these aims the site investigation procedure is sub-divided into distinct phases that are intrinsically linked together with the results from each phase being used to inform and to design the next subsequent phase of site investigation. Typically these sub-divisions comprise of a Phase 1 desk study, a Phase 2 intrusive site investigation, a Phase 3 remediation proposal, and a Phase 4 verification report.
  - The Phase 1 desk study establishes whether there have been any former contaminative uses on the site or adjacent properties which could impact upon the development;
  - The Phase 2 intrusive site investigation determines the nature, extent, and severity of contamination using risk-based criteria.
  - The Phase 3 remediation proposal uses the results from Phase 2 to inform remedial options, health and safety issues, potential impacts on the environment, and a remediation work plan;
  - The Phase 4 verification report provides a summary of remediation work carried out together with relevant documentary evidence and, if required, post-remediation test results.
- 17. The site investigation procedure involves specialist technical knowledge and it is essential that all phases of the site investigation procedure are conducted by competent and experienced persons (who should hold recognised and appropriate qualifications). It is essential that developers conduct their site investigations in accordance with the latest good practice.
- 18. Examples of current good practice may be found in the following documents:
  - Environment Agency (2004). Model Procedures for the Management of Land Contamination CLR 11
  - BS 10175:2001 British Standard Institute (2001) Investigation of Potentially Contaminated Sites Code of Practice, British Standard Institute, London.
  - Environment Agency (2001) Secondary Model Procedure for the Development of Appropriate Soil Sampling Strategies for Land Contamination. R&D Technical Report P5-066/TR. Water Research Centre, Swindon.
  - Environment Agency (2000) Technical Aspects of Site Investigation (2 Vols.).
    Research and Development Technical Report P5-065/TR. Water Research Centre, Swindon.

- Environment Agency (2000) Guidance for the Safe Development of Housing on Land Affected by Contamination. The Stationary Office, London.
- 19. Please note that good practice is constantly evolving and the onus is on the developer to use the most up to date version of any relevant document.

#### The Phase 1 Desk Top Studies

#### Purpose and scope

- 20. The purpose and scope of the Phase One desk study has to be clearly defined. A map of the site must be included showing its location, as well as plans of the current and planned layouts of the site.
- 21. The desk study must describe the condition of the land and uses of the site (both past and present) and its immediate environment (again both past and present). The aim is to establish whether there have been any potentially contaminative uses of the site or nearby land. All documentary evidence must be referenced and summarised where appropriate.
- 22. There are many former land uses that are potentially contaminating and some sites may have had more than one use, either simultaneously or separated in time. Lists of potentially contaminative land uses are available, some of which also have 'profiles' indicating the possible contaminants that might be present. Such understanding is crucial in defining the need for, and scope of, any subsequent review, investigation, and remediation. Experience and consideration of site histories must be used to predict the principal contaminants associated with each particular industry (see Annex A).
- 23. A site is evaluated initially by compiling a site history (see Annex B) with a view to determining the possibility of soil and groundwater contamination (including by gases). The Councils expect to be provided with such information in full and may require it in advance of a planning decision or as a condition of a grant of permission.

#### Assessment of environmental setting

- 24. A traceable assessment of the environmental setting must include:
  - Information on geology, hydrogeology and hydrology.
  - Information from the Environmental Agency on controlled waters, abstractions, pollution incidents, water quality classification, landfill sites within 250m.
  - Information on ecosystems, heritage, and other interests.

Review of earlier studies

25. A review of any previous studies, ongoing monitoring, remediation work etc. should be provided for both the site and for any adjacent sites.

#### Reconnaissance

26. A site walkover should be undertaken wherever possible (and safe) to confirm the information in the desk study, to locate and record the position and condition of relevant site features, and to plan further site investigation works (if appropriate). Anecdotal evidence from local interviews may provide additional useful information.

#### Conceptual Site Model

- 27. A Conceptual Site Model (CSM) of the site must be produced which provides a clear interpretation of all plausible pollutant linkages discovered at the site. Receptors include humans, controlled waters, wildlife, and buildings. Pathways include direct contact, inhalation, and off-site migration into watercourses etc. The CSM will largely depend upon the previous site use(s) and the proposed end-use of the site. In some circumstances there may be a large number of plausible pollutant linkages whilst in others there may only be a small number.
- 28. The CSM should provide a working description of the relevant physical, chemical, and biological characteristics of the site including:
  - Geology, Hydrogeology, and Hydrology.
  - Ecology.
  - Land use historic, current and proposed (including adjacent land).
  - Identifying potential Sources of contamination, Pathways and Receptors (i.e., significant pollutant linkages).
- 29. The CSM that is developed as part of the Phase 1 desk study must provide sufficient detail to determine what will be needed as part of the Phase 2 intrusive site investigation. Documentary evidence such as historical maps, photographs, and former site layouts etc. must be appended to the desk study in order to demonstrate how the CSM has been formulated.

#### Recommendations for Phase Two (where appropriate)

- 30. Aims and objectives for Phase Two of the investigation must be clearly stated and any health and safety issues must be highlighted.
- 31. It is recommended that developers consult with the relevant Environmental Health Department regarding the scope and the content required of Phase 1 assessments. Failure to demonstrate familiarity with a site's former uses and published information on their potential for contamination during Phase 1 will be regarded as a significant failing by the developer/consultant.

#### The Phase 2 Intrusive Site Investigation

#### Objectives, scope and execution

- 32. If site history or other information from the Phase 1 desk study indicates that contamination is possible, the developer/site owner must engage the services of an appropriately experienced environmental consultant to undertake further site assessment the Phase 2 intrusive site investigation. It is expected that the objectives, scope, and execution of the Phase 2 investigation be agreed in advance with the relevant Environmental Health Department and the resulting report(s) submitted in full. The expected contents of such reports are provided in Annex C for reference.
- 33. The Phase 2 investigation must be guided by the CSM produced by the Phase 1 study with the aim of further characterising the suspected contamination on the site. Each site is unique and must be dealt with on a site specific basis.
- 34. The Phase 2 investigation may consist of targeted sampling of suspected 'hot-spots' of contamination, randomised sampling using a statistically valid sampling strategy across the whole site, or a combination of the both. Every precaution must be taken to ensure that site investigations do not mobilise contaminants or create new pathways. All visibly contaminated or odorous material encountered during a site investigation must be investigated and fully documented.
- 35. The Phase 2 report must include full descriptions of all surface and intrusive ground investigations, an assessment of ground conditions and its implications for contaminated land, the source, distribution, and concentration of contaminants. This information must then be used to re-evaluate the CSM. Further investigative work may be required.

#### Quality Assurance Quality Control

- 36. Good quality assurance and quality control procedures must be followed during the collection of soil samples. After the samples have been collected they must be sent for the appropriate analytical testing at a laboratory that holds MCERTS accreditation for each contaminant. The quality assurance, quality control data, and limits of detection for all tests carried out must be included with the results of the chemical analysis and appended to the Phase 2 report.
- 37. Whilst many organisations are capable of undertaking some or all parts of a site assessment, the Councils will rigorously assess the report's contents and an assessment will be made as to the authority of the compiling organisation(s), their professional affiliations, and their demonstrable expertise. Submitted reports must contain a sufficient level of detail that is presented in a rational, ordered, and efficient manner such that accurate judgements can be made on the risk posed by land contamination.

#### Assessing the Risks

- 38. When a Phase 2 investigation is required at a site, a risk assessment must be performed. In the first instance the significance of each contaminant must be compared against the most up-to-date and appropriate Generic Assessment Criteria (GACs), e.g. LQM/CIEH Suitable 4 Use Levels, Defra Category 4 Screening Levels, WHO/Drinking Water Guidelines, Environment Agency Environmental Quality Standards (EQS).
- 39. The use of particular (site specific) GACs, especially 'in-house' GACs, must be fully justified in the Phase 2 report.
- 40. Following the initial risk assessment against the appropriate GACs, a decision must be taken about the next course of action. This may be to either design an appropriate remediation scheme on the basis of the available data, or to carry out a more comprehensive site-specific risk assessment using an industry standard model.

#### Types of risk assessment model

- 41. The CLEA model uses probabilistic techniques to assess the risks to human health from a contaminant, taking into account long-term exposure, ground conditions etc. There are a number of other risk assessment tools that have been developed for assessing risk to different receptor groups (e.g. SNIFFER, RBCA, RiscHuman, Landsim). The Environment Agency has developed a site-specific model that assesses the risk posed to groundwater by leaching contaminants known as CONSIM.
- 42. It should be noted that not all contaminants may be covered by the most commonly used GACs and that certain GACs may not always be appropriate for assessing potential risks to human health and the wider environment in conditions found in the UK. Some allowance may have to be made to reflect assumptions that were made when the GACs were derived in order to make them more appropriate for UK conditions.
- These models are not appropriate for all circumstances and clear explanation of the choice, type, and limitations of any risk assessment model must be included in the Phase 2 report. The risk assessor must justify each of the input parameters and effectively communicate their output.
- 44. The Councils will require further information where there is not sufficient confidence in the conclusions presented in a report (for example where an investigation has not been carried out in accordance with current good practice).

#### Phase 3 Remediation Strategy

#### Selection of options

- 45. The Phase 2 investigation may confirm possible pollutant linkages, and if so, must propose an appropriate remediation (scheme/selection of potential schemes) that will ensure safe redevelopment. The remediation options proposed must be related to the significant pollutant linkages that have been identified and must indicate the receptor(s) being protected.
- 46. There may be a number of remediation options, for example:
  - To remove or treat soil or groundwater with contaminant levels above certain concentrations.
  - To biodegrade hydrocarbons to acceptable levels.
  - To block the pathway between the source and a receptor.
  - To cap the site, limiting the potential for contact with contaminated soil.
- 47. The selection of the remediation strategy must be discussed in full with the advantages and disadvantages of each option outlined and reasons given for the chosen option, or combination of options.

#### Other factors

- 48. It should be noted that the remediation works might also require a waste management licence or mobile plant licence. When designing the remediation strategy, the Phase 3 report must also cover details such as the measures proposed to protect workers and the public and to ensure effective dust and odour control.
- 49. On larger or complex sites, an off-site impact assessment, monitoring, and a risk communication strategy will be required. Remediation strategies on such sites will need to include consideration and control of impacts during the remediation programme as well as the site situation post-remediation.
- 50. During remediation works, if any unsuspected contamination is identified then the relevant Environmental Health Department must be contacted immediately in order to agree a suitable strategy for the treatment or removal of the contaminated material.
- 51. The Councils will require that an environmental consultant, or an appropriately qualified project manager, must supervise any agreed required remediation of a contaminated site, including the documented identification, handling, and fate of contaminated material. The appointed persons or organisations will be responsible for the certification of the site remediation work and for its compliance with the agreed remediation plan, the recommendations of the consultant, and the requirements of other regulatory agencies, such as the Environment Agency.

52. It is expected that the means for demonstrating compliance will be agreed in advance and would typically require an agreement on the appropriate means of inspection, testing, and quality assurance. Compliance with an agreed remediation strategy or materials management plan will be expected before any planning conditions can be discharged.

#### **Phase 4 Verification/Validation Report**

- 53. It is important that remediation is undertaken in accordance with the approved remediation strategy and that accurate documentary evidence is maintained so that it can be summarised and appended to a Phase 4 Post-Remediation Verification Report. This report must identify actions carried out during the remediation works and the methods of validation testing, together with documentary records of implementation. This report must provide an accurate summary of the:
  - Types of measures testing (in-situ/lab), monitoring, inspection etc.
  - Number of samples/rate of testing/monitoring/locations.
  - Supervision during the remediation.
- 54. The documentary evidence must include copies of waste transfer notes, photographs, and results of chemical analysis of soils/groundwater undertaken during remediation (including each batch of soils and materials to be tested prior to being brought onto the site, from off-site sources). The Phase 4 report must be submitted at the end of any remediation work.

#### **Unexpected Contamination**

55. During development it is not uncommon for previously unidentified and unexpected contamination to be discovered. The Councils will typically use a planning condition to cover this scenario that specifies the actions to be taken should such contamination be discovered. However unexpected contamination can also occur on sites where no such condition has been put in place. Upon the discovery of unexpected contamination all site works must stop immediately and the Councils must be notified as soon as possible. The Councils will then require that the contamination be assessed in full and a remediation strategy drawn up if required. Site works must only be restarted once the Councils have given written consent.

#### **Materials Management Plan**

56. Imported/recycled materials for backfill and capping - In order to ensure the quality assurance of imported/recycled material to be used for piling, engineering, and landscaping purposes, the Councils expect that a Materials Management Plan is submitted. This will need to detail proposals on the source, quantity and independent verification of all such material. The Councils expect that the materials are

independently tested for a full suite of contaminants (including metals and petroleum hydrocarbons) prior to importation. Material imported for landscaping should be tested at a frequency of 1 sample every 20m<sup>3</sup> or one per lorry load, whichever is greater. Material imported for other purposes and/or material that originates from a clean (virgin) source can be tested at a lower frequency subject to justification and prior approval from the relevant Contaminated Land Officer. For further information please refer to the Material Management Plan Explanatory Note in Annex D

#### **Key Points**

#### 57. To summarise

- It is important to identify the potential for contamination to be present at an early stage in order that unexpected costs and delays can be avoided later should a potential problem be identified during development works.
- Specialist advice from a suitably qualified consultant is required to assess contaminated land issues.
- The Phase 1 investigation should produce a 'conceptual model' that characterises all plausible pollutant linkages. This will form the basis of any subsequent work undertaken as part of a Phase 2 investigation.

#### Contacts

#### **Contaminated Land Officer**

Cambridge City Council Environmental Health Mandela House 4 Regent Street Cambridge CB2 1BY Tel: 01223 457900 Email: <u>EQG@cambridge.gov.uk</u>

#### **Contaminated Land Officer**

South Cambridgeshire District Council Environmental Health South Cambridgeshire Hall Cambourne Business Park Cambourne Cambridge CB23 6EA Tel: 03450 450063 Email: <u>env.health@scambs.gov.uk</u>

# **Annex A: Examples of Potentially Contaminating Site Uses**

*Please note that this list is not exhaustive and other potentially contaminating activities must be considered.* 

- Analysis laboratory sites.
- Any area where persistent pesticide treatments may have been applied.
- Areas where biological materials have been bred, used or stored.
- Agricultural: fertilisers, garden sprays, pesticides, herbicides, cat and dog dusting powders.
- Battery manufacturers including any site where lead cell accumulators were destroyed for scrap.
- Brake lining manufacturers or repairers.
- Chemical Manufacturers
- Defence works
- Dry cleaning establishments
- Electroplaters
- Fuel depots
- Galvanisers
- Gas works
- Gun clubs
- Industrial cleaners
- Industrial: glues, paints, household cleaners, bleaches, sprays, pool chemical, bitumen, oils and greases, petroleum, petrochemicals, stores.
- Landfills
- Lime burners
- Market gardens, other areas where agricultural chemicals may have been used.
- Metal foundries
- Metal spraying
- Metal treatment, heat treatment, picklers
- Mining and extractive industry
- Patent medicine producers and stores.
- Pest controllers in particular chemical stores and area where vehicle and tanks are washed.
- Petroleum and petrochemical industries
- Pharmaceutical drug manufacturers
- Plasters manufacturers and moulders
- Printers
- Railway yards
- Scrap yards
- Service stations (including mechanical repairers)
- Stock dipping (e.g. sheep, cattle)

- Tanners, curriers and fellmongers
- Transport depots
- Underground storage tanks for fuel, chemical storage and liquid waste
- Warehousing and storing
- Waste storage
- Wood treatment
- Wool hide and skin merchants (e.g. drying, scouring)

# **Annex B: Information for Compiling a Site History**

Please note that this list is not exhaustive and other sources of information may be available.

#### Include in Site History

- proposed, present and past land uses
- processes carried out on site (and location if applicable)
- waste disposal practices and chemical spills
- earthmoving activities, including filling, carried out on site
- site description, and legal identifiers
- past and present land use, zoning per Development Plan

#### Sources of Information

- past and current owners of the site
- past and current employees of the site and neighbouring sites
- aerial and ground level photographs of the site
- past involvement with Government authorities
- past involvement with consultants
- trade and street directories
- local literature, including street directories
- technical literature, including building and related permits
- local knowledge of residents
- previous land uses
- products manufactured
- raw materials used
- waste produced
- chemical storage and transfer areas
- disposal locations
- product spills and losses
- geological survey maps
- sewer and underground service plans

### Site Inspection

Indicators of the possible presence of contaminants are:

- disturbed or discoloured soil
- disturbed or affected vegetation
- presence of chemical containers or holding tanks
- chemical odour

• quality of surface water

# Annex C: Contaminated Site Assessment Reports – suggested content/format

#### Phase 1 – Desk Study:

#### Site identification

- Purpose and aims of study
- Scaled map showing position of site relative to sheets and adjoining properties
- Details of surface features and existing structures above and below ground
- Photographs, where appropriate

#### Ownership

• As listed on title documents

#### Party requesting assessment

• Owner or occupier of land (developer)

#### Party conducting assessment

• Environmental consultant

#### Proposed use

- Map of proposed development (if known)
- Type: residential/recreational/industrial

#### History of site (See Appendix Three)

- Full history
- Sources of information
- Map (s) detailing past activities

#### Site Inspection – walkover

- Relevant geological factors
- Local topography
- Soil types
- Evidence of possible contamination
- Potentially contaminating features and installations

#### Site Inspection – research

- Information from the Environmental Agency on abstractions, pollution incidents, water quality classification, landfill sites, soil leaching potential, water resource status, current and future use of local groundwater, hydrogeology including depth and distribution of aquifers.
- Information from South Cambridgeshire District Council on former landfill sites, private water supplies, contaminated land, pollution incidents.
- Information from other bodies e.g. BGS, Landmark etc.
- Review of previous studies.
- Preliminary assessment on likely risks and recommendations for intrusive works if appropriate.
- Conceptual site model

# Phase 2 – Intrusive Investigations:

## Initial comments

• Review of previous studies

## Investigations

- Rationale for sampling methodology (e.g. screening knowledge of previous land use)
- Rationale for choice of analytes
- Scaled map of sampling locations
- Methods of investigation (e.g. number of boreholes, depths, pattern)
- Sampling methods, storage, maintenance of sample integrity
- Field measurements, instruments, and methods
- Laboratories used
- Analytes and analytical techniques (including extraction methods)
- Quality assurance methods for specific analytes
- Table of results
- Map displaying significant results
- Borehole log and soil profile (including description of fill)

# Conclusions

- Discussion of ground conditions, (soil, gas, water, made ground)
- Discussion of soil/gas/water contamination
- Preliminary conclusions (e.g. most significant results, dispersion of contaminants, properties of contaminants that may affect health or environmental risk such as volatility or water solubility)

- Uncertainties relating to conclusions (e.g. adequacy of site characterisation, likelihood of missing significant contamination)
- Changes to site conceptual model from initial study
- Risk assessment, justifying choice of model if used
- Recommendations for further investigations if required
- Recommendations for remediation

# Annex D: Material Management Plan (MMP) Explanatory Note

The Councils use the following condition with respect to the submission of a MMP:

Prior to importation or reuse of material for the development (or phase of) a Materials Management Plan (MMP) shall be submitted to and approved in writing by the Local Planning Authority. The MMP shall:

a) Include details of the volumes and types of material proposed to be imported or reused on site.

b) Include details of the proposed source(s) of the imported or reused material.

*c)* Include details of the chemical testing for ALL material to be undertaken before placement onto the site.

*d)* Include the results of the chemical testing which must show the material is suitable for use on the development.

*e)* Include confirmation of the chain of evidence to be kept during the materials movement, including material importation, reuse placement and removal from and to the development.

All works will be undertaken in accordance with the approved document.

# Q: Why has this condition been attached to the planning permission?

A: This condition is used to ensure that no unsuitable (i.e. contaminated) material is brought onto the development site.

# Q: Is this condition 'prior to commencement'?

A: No, this condition is prior to the importation of any soils and/or aggregates. In other words, prior to discharge of this condition, development can proceed except the spreading of imported materials.

# Q: What material does the condition relates to?

A: The term material refers to any material used for piling, engineering, and landscaping purposes. This could include (but is not limited to):

- Topsoil/Subsoil
- Crushed Concrete
- Limestone
- Sands and Gravels
- 6F2 Material
- Type 1 and Type 2 Material

The condition does not refer to construction materials (bricks, stones etc.).

# Q: I am not importing or reusing any material for landscaping/engineering/piling purposes. Do I still need to submit a MMP?

A: In this case you do not need to submit a MMP. You should apply for the discharge of the condition after the development has been completed and will need to demonstrate in writing that no material was imported or reused on site.

## Q: What are the sources of material?

A: The term 'sources' refers to the suppliers of the material that will be used for piling/engineering/landscaping purposes.

# Q: Can we discharge parts of the condition if we have some of the information?

A: The condition cannot be partially discharged. All the information required by the condition need to be included in the MMP.

# Q: When do I need to provide the information and discharge this condition?

A: You need to provide the information and discharge this condition before any material (associated with this condition) is placed around the development. We would therefore advise the applicant that they apply for the discharge of the condition once they have ALL the information available.

# Q: I have already undertaken chemical testing in line with BS3882:2015 and know that the material is suitable for landscaping. Do I need to do additional testing and why?

A: Yes you need to do additional chemical testing. Chemical testing in line with BS3882: 2015 relates only to the suitability of the imported material for plant growth (nutrient content) and often overlooks many contamination parameters. In order to comply with this condition you need to undertake chemical testing to show that the material is free from contamination with respect to human health. That includes testing for substances such as polycyclic aromatic hydrocarbons, petroleum hydrocarbons, and the full list of heavy metals.

# Q: What testing frequency is required?

A: All soils imported for gardens and/or landscaping must be tested at a frequency of 1 sample per 20m<sup>3</sup> or 1 sample per lorry load, whichever is greater. This testing must include a full suite of contaminants including metals and petroleum hydrocarbons prior to importation. Material imported for other purposes may be tested at a lower frequency subject to prior approval from the Councils.

# Q: Do I need to test materials from a clean source?

A: If the material originates from a reliably clean and/or natural source (such as British Sugar or from a virgin quarry) the developer must contact the Councils so that a less onerous way forward can be agreed, such as the submission of delivery notes and proprietary testing certificates in lieu of further testing.

# Q: How much detail should I include in the Material Management Plan?

A: The amount of detail included presented in the Material Management Plan will depend on the size of the development and volume of material brought into the site. For small developments it may be sufficient to include details of the suppliers of the material, the volumes of the material and the proposed chemical testing. For large developments it may be more appropriate to submit a Material Management Plan in line with the CL:AIRE Definition of Waste Code of Practice.