DRAFT TECHNICAL ADVICE NOTE E1.1
PLANNING GUIDANCE ON; LAND CONTAMINATION

LANCASTER CITY COUNCIL
Promoting City, Coast & Countryside

DEVELOPMENT & LAND CONTAMINATION FOR DEVELOPERS, LAND OWNERS AND CONSULTANTS.

This technical advice note comprises the following elements:

Introduction to land contamination in the Lancaster District.

Planning Policy Statement 23 annex 2 (PPS23), The roles of each party to development – developers, consultants, regulators.

The common procedure for dealing with land contamination in planning, building control, Part IIA as well as projects for other legislative regimes.

Key technical advice is provided as a more detailed guide to the Council's requirements including checklists, pointers to good practice and references to codes of practice, nationally accepted standards and technical guidance

NOTE: All reports should be prepared by suitably qualified professionals and should contain evidence of their credentials. The reports should be submitted in hard copy and if possible, a CD-ROM or disk containing complete reports and CAD plans should also be supplied

EVERY SITE IS DIFFERENT AND THE COUNCIL WILL BE HAPPY TO OFFER ADVICE ON A SITE-SPECIFIC BASIS – SEE CONTACTS ON THE BACK COVER / LAST PAGE.

IMPORTANT
This Guidance Note is written to serve as an informative and helpful source of advice. Readers must note that legislation, guidance and practical methods may be subject to change. Lancaster City Council has taken all reasonable precautions to ensure that the information contained within this guidance document is accurate at the time of publication. However the Council, its Officers, servants and agents cannot assume legal responsibility for any loss or damage caused to person, land or property for persons relying on this information. Observation of this advice will assist applicants and developers concerned with development proposals falling within the administrative district of Lancaster City Council. The advice contained in this note will be reviewed and revised from time to time. Please ensure you have an up-to-date copy.

1.0 Introduction to Land Contamination in the Lancaster District

The Districts of Lancaster, Morecambe and the Lune Valley are well known for their industrial past. These industries are typified by textile mills, mineral extraction, heavy engineering and gas works. However the District has also hosted large-scale special industries such as oil refining, explosives processing, linoleum ('oil cloth') manufacture and ship building. Generally speaking, early industrialists had little or no knowledge of the environmental effects of their manufacturing processes or operating practices. For example, over a period of decades a particular site may have been home to a variety of land uses and industries. Each may have left substances which individually or in combination remain capable of causing health effects or severe pollution. There is also a risk of contamination – such as oil pollution – penetrating deeper through limestone and fissured clay. This could affect important aquifers and water abstractions used for human consumption and farming purposes. Our coastal location with low-lying flood plains, land drains and culverts also provides an increased risk of mobilised contamination and marine / estuarine pollution.

National policy provides that land contamination is taken seriously in planning and building projects. In view of this and the circumstances of the District, applicants are expected to declare all knowledge of contamination. The Council will not accept without question that sites are suitable for redevelopment where there are reasonable grounds to suspect that contamination may be present.

1.1 What is 'Contaminated Land'?

The legal definition of Contaminated Land comes from Section 78A(2) of Part IIA of the Environmental Protection Act 1990:

' *…any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that:*

(a) significant harm is being caused or there is the significant possibility of such harm being caused; or
(b) pollution of controlled waters is being, or is likely to be, caused…[11]'

Controlled waters include all surface watercourses or bodies, including those that are man made, as well as groundwater.

"Part IIA" of the Environmental Protection Act 1990, as inserted by Section 57 of the Environment Act 1995, was brought into force on 1 April 2000. It requires all Local Authorities to identify contaminated land in its area and secure its remediation to a condition suitable for use. Part IIA provides the first statutory definition of contaminated land.

A key element of the Part IIA regime is the **Source-Pathway-Receptor pollutant linkage concept**. The meaning of each element is as follows:

- the source is the contamination in, on or under the land;
- the pathway is the route by which the contamination reaches the receptor; and
- the receptor is defined as living organisms, ecological systems or property which may be harmed

Without the clear identification of all three elements of the pollutant linkage, land cannot be identified as contaminated land under the regime.

2.0 Introduction to PPS23

To avoid confusion with the statutory term "Contaminated Land" and its definition and to reflect the different context and scope of planning control, the PPS23 document uses the wider term – ***"land affected by contamination"***. This is intended to cover all cases where the actual or suspected presence of substances in, on or under the land may cause risks to people, property, human activities or the environment, regardless of whether or not the land meets the statutory definition in Part IIA Environmental Protection Act 1990. (ODPM, Annex 2. 2004)

DEFRA *Circular 01/2006* makes clear that, where new development is taking place, it is the *developer's responsibility to carry out the necessary remediation* and that, in most cases, the enforcement of remediation requirements will be through planning conditions and building control rather than through a remediation notice under Part IIA.

Information about the condition of the land and the risks involved may arise through a planning application or its implementation. The Local Authority needs to consider this information in accordance with its strategic approach under Part IIA as a prerequisite to determination. The Local Authority may conclude that the condition of the land is being or will be investigated and the necessary remediation will be carried out on an appropriate time scale as part of the development. (ODPM, Annex 2. 2004)

2.1 Responsibilities of the Parties in the Development Process

Owner/Developer (subcontracted to) - Consultant:

The developer is responsible for determining whether land is suitable for a particular development or whether it can be made so by remedial action. The developer should carry out an adequate investigation to inform a risk assessment, to include;

- Evaluation of the land through use of source-pathway-receptor methodology represented in a conceptual model.
- Evaluation of the developments potential to create new pollution pathways to current and future vulnerable receptors.
- Evaluation of what action is needed to break identified linkages and avoid new ones.
- Remediate any unacceptable risks to enable safe development and future occupancy of the site and neighbouring land.

Planning Control

The principal planning objective is to ensure that any unacceptable risk to human health, buildings, other property, and the natural, historical environment from the contaminated condition of the land are identified so that appropriate consideration/action can be taken to address those risks.

Suitable achievement of these objectives should provide the necessary confidence to owners and occupiers of the land about its condition and standing in relation to relevant environmental protection regimes including Part IIA EPA 1990. (ODPM, Annex 2. 2004)

A precautionary basis should be taken when considering the possibility of land contamination in development plans and planning applications in relation to all land subject to or adjacent to previous industrial use and where sensitive uses are being considered. For example, housing, schools, hospitals and children's play areas.
(ODPM, Annex 2. 2004)

Building Control Dept;

Are responsible under Building Regulations 2000 to protect the health, safety and welfare of people in and around buildings. This includes protecting buildings from the effects of contamination. Amendments to Approved Document C came into effect 1st December 2004. One of its requirements for dealing with contaminants should apply to the building and any land associated with the building and to all changes to residential purposes. (ODPM, Annex 2. 2004)

Environmental Protection Team (Regulator Part IIA, Human Health)

The Environmental Protection Team enforces Part IIA of the EPA 1990 and serves as the main source of technical advice on environmental issues (Air, Noise, Land Contamination) to planning, building control and other services within Lancaster City Council.

Environment Agency (Regulator Part IIA, Water Environment)

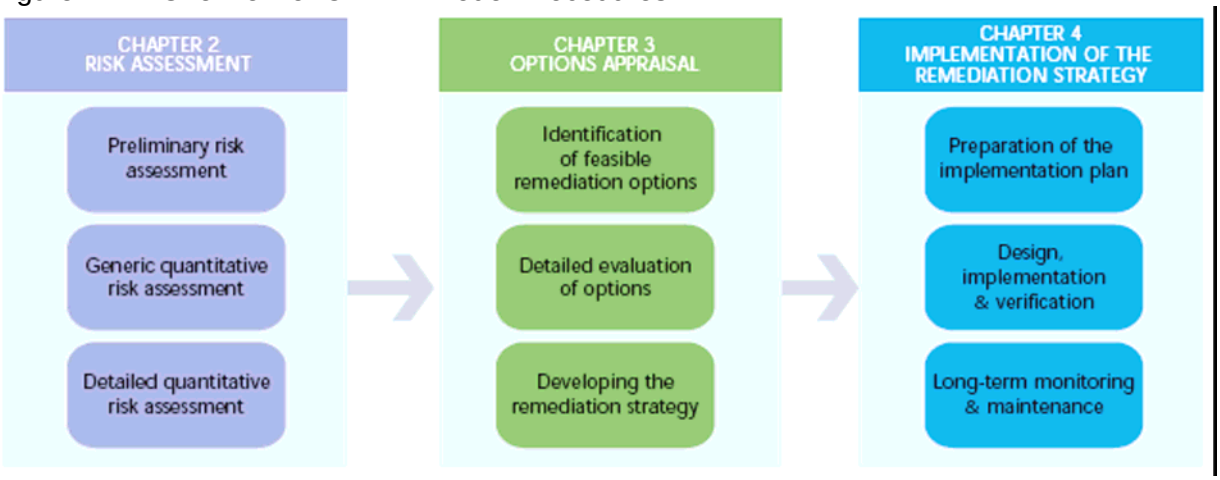
The Agency is the enforcing authority under Part IIA for sites designated as *"special sites"*. They are also the lead enforcing authority under PPC regulations 2000 and other legislation, which help to prevent future contamination of the land. Remediation methods may require environmental permitting and the Agency generally issue these on a site specific and mobile plant basis depending on the requirements of the method employed.

The Agency provides technical advice relevant to land contamination on a national level. The Agency is also a statutory consultee under General Development Procedure Order 1995. Example triggers are development within 250m of notified landfill sites and potentially polluting developments that may affect controlled waters.
(ODPM, Annex 2. 2004)

3.0 Model Procedures for the Management of Land Contamination (CLR 11)

Where contamination is known or suspected a balanced approach should be taken in the collection of sufficient information required to determine the existence or otherwise of contaminants and associated risks. Defra/Environment Agency's *Model Procedures for the Management of Contaminated Land (CLR 11)* has been referenced in PPS23 as the overarching procedural guidance applicable to all land contamination assessment scenarios. An overview of the framework is shown below in Figure 1. (CLR11, 2005)

Figure 1. An Overview of CLR 11 Model Procedures



(CLR11, 2005)

Key technical guidance (BS:10175:2001 & BS5930:1999) referenced by PPS 23, is accepted by Lancaster City Council as the minimum standard for a preliminary risk assessment and intrusive site investigation using the risk assessment approach in CLR 11. Further guidance on the approaches required for assessment of human and environmental risks are provided in CLR 11.

3.1 Preliminary Risk Assessment/Investigation (Phase I, Desk Top Study)

This stage involves the setting of aims and objectives, data collection in the form of a Desk Top Study, site reconnaissance (walk over survey), and development of the initial Conceptual Model (CM). This information should be presented in report format and accompanied by a qualitative risk assessment based on the CM with recommendations for further information gathering and or intrusive works.

This stage may also include limited exploratory ground investigations that should not be confused or regarded as the main investigation. An exploratory investigation may be used to obtain an indication that the initial CM is generally correct before carrying out a main investigation to provide detailed confirmation should this be required. (BS 10175: 2001)

3.2 Generic Qualitative Risk Assessment (Phase II, Main Investigation)

This stage involves the collection and analysis of samples of soil, surfacewater, groundwater and soil gas in order to obtain all the necessary information for the assessment of human and environmental risks identified in the initial CM. Analytical results are then compared with the UK Soil Guidance values (SGV) or Generic Assessment Criteria (GAC).

(Supplementary Investigation)

Where individual contaminative substances exceed an SGV or GAC further collection of data based on an updated CM may be required in order to fully characterise the source-pathway- receptor linkages on the site. For example, to obtain site specific date required to refine the risk assessment or to improve the accuracy of costing for remediation may require further sampling to delineate an area of contamination or a contamination plume or more monitoring wells may be necessary to confirm the direction of groundwater flow. (BS10175:2001)

3.3 Detailed Quantitative Risk Assessment

During this stage the risk assessor identifies or develops tools and criteria to estimate and evaluate the identified risks in the CM. This may include the development of Site Specific Assessment Criteria (SSAC). SSAC are values for concentrations of contaminants that have been derived using detailed site-specific information gathered during the main and supplementary investigations. For example, information on a contaminants chemical fate and transport within a soil and water environment may be required to better model individual pollution pathways for the chemicals of concern. Such values may be soil organic content and salinity of water samples etc. (CLR11, 2005)

3.4 Options Appraisal (Remediation Strategy, Phase III)

The aim of options appraisal is to establish which remediation option, or combination of options, provides the best approach to remediating all pollution linkages that present an unacceptable risk at a site. This stage aims to ensure that;

a) Remediation criteria selected for the site are protective of human and environmental receptors.
b) The remediation strategy addresses all relevant pollution linkages
c) The requirement for waste management licences, environmental permits, discharge consents etc is taken into account at an early stage when deciding how to remediate a site.

3.5 Implementation of Remediation Strategy (programme of works & Verification)

The main aims of the implementation stage are to ensure that the remedial works deliver the site remediation criteria without causing harm to the environment and that there is an accurate and permanent record of works. The implementation plan should be capable of demonstrating the following;

a) Site remediation criteria derived for the relevant pollution linkages are achieved or comply with the as low as reasonably practicable (ALARP) principle.
b) Appropriate environmental permits, licences etc have been, or will be obtained.
c) The remediation activities will not create new pollution pathways.
d) Measures will be taken to mitigate potential impacts on human and environmental receptors should significant variations from the remediation strategy occur.

(Verification)

Once the site remediation is complete, a Verification Report will be required to demonstrate that the agreed site remediation criteria have been achieved. This report should provide a full record of all remediation activities carried out at the site and data collected in accordance with the requirements of the Verification Plan.

NOTE:

The reporting requirements have been provided in checklists contained in Appendix A, B, C, D, & E and have been adapted from the Environment Agency's, 2005 guidance on report requirements for land contamination, which represent good practice but are not exhaustive.

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CONTACTS

	Planning enquiries:	**Technical matters:**
✉	Planning & Building Control Service Palatine Hall Dalton Square Lancaster LA1 1PW	Environmental Health Services (Environmental Protection Team) Town Hall Marine Road East Morecambe LA4 5AF
☎	Tel: 01524 582343 Fax: 582323	Tel: 01524 582935 Fax: 582709
e-mail	developmentcontrol@lancaster.gov.uk	environmentalhealth@lancaster.gov.uk

4.0 Further information References

British Standards Institution (1999) Code of Practice for site Investigations, BS: 5930.

British Standards Institution (2001) Investigation of Potentially Contaminated Sites, Code of Practice, BS: 10175.

Building Research Establishment 414 (2001) Protective Measures for Housing on Gas Contaminated Land

Card G. B. (1995) CIRIA Report 149 Protecting development from methane

CIRIA Report 150 (1995) Methane Investigation Strategies

Department of the Environment (1994) CLR Report No.4: Sampling Strategies for Contaminated Land.

Department of the Environment (1994) Industry Profiles

Department of Environment, Food & Rural Affairs/Environment Agency, 2002, CLR Report No's 7 to 10, Toxicological Data and Soil Guideline Values Reports

Department of the Environment, Transport and the Regions (2000) Guidelines for Environmental Risk Assessment & Management, Revised Departmental Guidance.

Department of Environment, Transport and Regions, 1997, CLR Report No 12, A Quality Approach for Contaminated Land Consultancy [section 3.4 'Reporting'].

Environment Agency (2004) Model Procedures for the Management of Land Contamination (CLR 11).

Environment Agency (2002) Environment Agency Technical Advice to Third Parties on Pollution of Controlled Waters for Part IIA EPA 1990.

Environment Agency (2000) Guidance on the Selection of Non-Intrusive Techniques for Groundwater Pollution Studies, R&D Technical Report P404.

Websites

- These websites contain many useful references:
- British Standards Online at www.bsi-global.com
- Construction Industry and Research and Information Association contaminated land website at www.contaminated-land.org
- DEFRA website at www.defra.gov.uk
- Environment Agency website at www.environment-agency.gov.uk
- UK Planning Policy Statements http://www.communities.gov.uk

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Appendix A.

Preliminary risk assessment reporting requirements:	
Contents:	Provided?
Report objectives	Yes /No
Site location map and National Grid Reference	Yes /No
Site layout plans *	Yes /No
Site area in hectares	Yes /No
Description of site and surroundings	Yes /No
Details of desk study researches undertaken	Yes /No
Information on past and current activities at the site	Yes /No
Details of intended future use of the site	Yes /No
Unique references for all relevant planning applications or permissions at the site	Yes /No
Historical Ordnance Survey maps* and site plans* and if available, aerial photographs	Yes /No
Environmental setting including: superficial deposits and solid geology hydrology hydrogeology location and status of relevant surface water and groundwater receptors, including all abstracted uses and natural discharge such as springs, river baseflow and wetlands.	 Yes /No Yes /No Yes /No Yes /No
Information on site drainage and other man- made potential pollutant pathways, e.g. underground services	Yes /No
Identification of potential contaminants of concern and source areas	Yes /No
Consultations with the local authority	Yes /No
Consultations with the Environment Agency	Yes /No
Consultations with other appropriate bodies	Yes /No
Review and summary of previous reports, with report references	Yes /No
Outline conceptual model with nature and location of receptors clearly identified	Yes /No
Description of all possible pollutant linkages for human and environmental receptors	Yes /No
Identification of potentially unacceptable risks to human and environmental receptors, including criteria used to identify those risks	Yes /No
Discussion of uncertainties and gaps in information	Yes /No
Description and justification of next steps proposed at the site, e.g. carry out site investigation and quantitative risk assessment	Yes /No
* All plans and historical maps extracts must be large scale, to scale, with a north point, and clearly show the site boundary.	Yes /No

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Appendix B.

Quantitative risk assessment (including site investigation) reporting requirements:	
Contents:	Provided?
Report objectives	Yes /No
Site location map and National Grid Reference	Yes /No
Site layout plans	Yes /No
Review and summary of previous reports, with report references	Yes /No
Up dated conceptual model with geological profile and all receptors clearly identified in; Textual form Schematic form Diagrammatic form	Yes /No Yes /No Yes /No Yes /No
Results of preliminary risk assessment	Yes /No
Details of any preparatory enabling works e.g. moving mounds of waste, breaking out concrete	Yes /No
Site investigation:	
Investigation objectives	Yes /No
Summary of work done	Yes /No
Site investigation strategy, including: • rationale for investigation • methods used for forming exploratory holes e.g. boreholes, trial pits, window samples • details of any borehole sampling undertaken • methods used for collecting, preserving and transporting samples to the analytical laboratory	 Yes /No Yes /No Yes /No Yes /No
Site sampling strategy, including: • rationale for strategy • description and explanation of monitoring programmes for groundwater and, if encountered, surface waters (upstream and downstream conditions should be represented) • monitoring and sampling locations, depths (metres below ground and AOD) and frequencies	 Yes /No Yes /No Yes /No
Analytical strategy, including: • rationale for selection of analytical parameters • selection of samples for leachability testing • description of chemical analyses, in accordance with Best Practice • quality assurance and quality control requirements for laboratory analyses	 Yes /No Yes /No Yes /No Yes /No
Plan showing monitoring and sample point locations*	Yes /No
Details of in- situ tests and geotechnical tests required to provide data for quantitative risk assessment	Yes /No
Description of site works and on- site observations	Yes /No

Appendix B.

Measures undertaken to prevent pollution of controlled waters as a consequence of site investigation methods used	Yes /No
Presentation and interpretation of investigation results, including: • description of ground conditions encountered at the site, including groundwater regime and surface water features • cross-sections showing site strata and shallow and deep groundwater levels • summary tables of chemical analyses, site monitoring and geotechnical test results • description of type, nature and spatial distribution of contamination, with plans where appropriate* • evaluation of site investigation results against the outline conceptual model	 Yes /No Yes /No Yes /No Yes /No
Annexes containing: • exploratory hole logs including grid co-ordinates and ground elevation (logged by suitably qualified professionals) • construction details for monitoring boreholes or other type of monitoring installation e.g. response zone, method of sealing borehole annulus • monitoring results • groundwater levels • description of samples submitted for analysis • laboratory analytical reports, completed in accordance with the UKAS or MCERTS performance standard for soils, and groundwater where appropriate • chain of custody records	 Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No

Appendix B.

Quantitative risk assessment:	
Risk assessment objectives	Yes /No
Description of proposed development	Yes /No
Conceptual model, revised following site investigation, with nature and location of human and environmental receptors clearly identified	Yes /No
Rationale for the chosen risk assessment approach and explanation for why it is valid for the site.	Yes /No
Discussion of relevant exposure scenarios	Yes /No
Assessment criteria selected for the site, with justification for all criteria used	Yes /No
Description of model, if used, and: • input parameters • safety factors • assumptions • any sensitivity analysis undertaken	Yes /No Yes /No Yes /No Yes /No Yes /No
Calculation worksheets provided	Yes /No
Constraints and limitations relating to data quality and risk assessment method	Yes /No
Identification of pollutant linkages that present an unacceptable risk to human and environmental receptors	Yes /No
Discussion of uncertainties and their impact on the outcome of the risk assessment	Yes /No
Results of risk estimation if detailed quantitative risk assessment is undertaken	Yes /No
Evaluation of unacceptable risks to human and environmental receptors taking into account both the current use of the site and details of the proposed development, e.g. foundation design, cover layer system, surface drainage and foul water disposal	Yes /No
Description of evaluation method and criteria used	Yes /No
Description and justification of next steps proposed at the site, e.g. carry out Options Appraisal for pollutant linkages that present an unacceptable risk of pollution to human and environmental receptors	Yes /No
* All plans must be large scale, to scale, with a north point, and clearly show the site boundary.	Yes /No

Appendix C.

Combined options appraisal reporting requirements:	
Contents:	Provided?
Report objectives	Yes /No
Site location map and National Grid Reference	Yes /No
Site layout plans *	Yes /No
Review and summary of previous reports, with report references	Yes /No
Summary of relevant pollutant linkages that require remediation	Yes /No
Statement and explanation of remediation objectives, i.e. what the remediation needs to achieve, for each relevant pollutant linkage	Yes /No
Statement of remediation criteria against which compliance with remediation objectives for each relevant pollutant linkage can be measured	Yes /No
Statement of overall site remediation criteria (these should always be protective of controlled waters) where they differ from the criteria derived for relevant pollutant linkages.	Yes /No
Identification of feasible remediation options:	
Summary of feasible remediation options identified for each relevant pollutant linkage, including general characteristics of those options and methods used for collecting information on them	Yes /No
Short-list of feasible remediation options to be taken forward for more detailed consideration, including: • an assessment of their suitability for use at the site • reasons for selecting options on the short-list and rejecting others	 Yes /No Yes /No Yes /No
Detailed evaluation of remediation options:	
Evaluation of short-listed remediation options, including explanation of evaluation criteria used	Yes /No
Identification of the most appropriate option for each relevant pollutant linkage and justification for its selection	Yes /No
Reasons for rejecting other remediation options on the short-list	Yes /No
Justification for any proposals to combine remediation options	Yes /No

Appendix C.

Remediation Strategy:	
Description of the Remediation Strategy, including: • technical and scientific basis of the strategy • requirement for preparatory works • effectiveness of combining remediation options, where required • proposed site zoning and phasing of remediation • verification of remediation and monitoring requirements • constraints and limitations to remediation • timescales required for remediation options to become fully effective • assessment of requirements for environmental permits, licences etc. • expected durability of the proposed remediation • measures to prevent pollution of controlled waters being caused by remediation activities at the site	Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No
Justification for any changes required under the Remediation Strategy to remediation criteria derived for relevant pollutant linkages	Yes /No
Justification for selection of the preferred Remediation Strategy	Yes /No
Description of how the Remediation Strategy will deliver remediation criteria derived for all relevant pollutant linkages	Yes /No
* All plans must be large scale, to scale, with a north point, and clearly show the site boundary.	Yes /No

Appendix D.

Implementation Plan reporting requirements:	
Contents:	Provided?
Report objectives	Yes /No
Site location map and National Grid Reference	Yes /No
Site layout plans *	Yes /No
Review and summary of previous reports, with references	Yes /No
Description of ground conditions at the site, including controlled water features	Yes /No
Remediation objectives for each relevant pollutant linkage	Yes /No
Remediation criteria for relevant pollutant linkages	Yes /No
Overall site remediation criteria	Yes /No
Remediation methodology, i.e. what is to be done by way of remediation	Yes /No
Phasing of the remediation works and approximate timescales for each phase	Yes /No
Site preparation and operational constraints	Yes /No
Site procedures for managing the remediation works in a manner that will not create new pollution pathways i.e. pollution of controlled waters	Yes /No
Discussion of permitting requirements and proposals for obtaining the appropriate permits, e.g: • PPC permit • waste management site licence • exemption from waste management licensing • mobile plant licence • abstraction licence or consent • discharge consent • Groundwater Regulations authorisation • flood defence consent • other permits	 Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No
Details of how any variations from the Implementation Plan that have the potential to impact on controlled waters (including any areas of unexpected contamination encountered) will be dealt with during the site works.	Yes /No
Construction details of proposed monitoring boreholes	Yes /No
Cross-reference to the Verification Plan and, if required, Monitoring and Maintenance Plan for the site.	Yes /No
Plans* showing: • areas to be remediated • proposed locations and phasing of remediation works • areas to be used for stockpiling segregated contaminated and clean, site-derived and imported materials • location of areas to be remediated in relation to any proposed development • proposed monitoring locations	 Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No
* All plans must be large scale, to scale, with a north point, and clearly show the site boundary.	Yes /No

Appendix E.

Verification Plan reporting requirements:	
Contents:	Provided?
Report objectives	Yes /No
Site location map and National Grid Reference	Yes /No
Site layout plans *	Yes /No
Review and summary of previous reports, with references	Yes /No
Scope of remediation works to be undertaken and any design details required to inform the Verification Plan	Yes /No
Description of what constitutes completion for the remedial works and how completion will be verified.	Yes /No
Data gathering requirements to demonstrate that site remediation criteria are achieved for each relevant pollutant linkage, such as: • sampling and monitoring strategy, including: a) validation testing of excavations to remove contaminated materials b) validation testing of materials excavated, treated and deposited at the site c) validation testing of materials imported as 'clean fill' d) post-completion verification testing of the remediated area e) background water quality testing in groundwater and nearby surface waters f) water quality testing of any treated groundwater and surface waters g) site sampling and monitoring methods and frequency • how on and off–site observations will be recorded • explanation and schedule of chemical analyses, to be undertaken in accordance with the UKAS or MCERTS performance standard for soils and groundwater where appropriate • laboratory quality assurance and control requirements	 Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No Yes /No
Performance testing required, e.g. for contaminant barriers and capping layers	Yes /No
Plans showing proposed sampling and monitoring point points*	Yes /No
Explanation of how compliance with discharge consents, abstraction licences, etc. will be demonstrated	Yes /No
Proposed actions in case: • test results and monitoring data show that the remediation activities will not achieve the remediation criteria derived for relevant pollutant linkages • site works vary from those anticipated in the Implementation Plan	 Yes /No Yes /No
Timing for preparation of the Verification Report, particularly if any remediation activities will extend beyond substantial completion of the main site works	Yes /No
* All plans must be large scale, to scale, with a north point, and clearly show the site boundary.	

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Additional Comments