

Land affected by contamination

Developers guide and
information requirements for
planning applications

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Communities and Public Protection

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Introduction

Land contamination, if not dealt with adequately, can pose a serious threat to the health of the environment and the people who inhabit it.

The aim of this guidance note is to aid all those involved in the development of land which may be affected by contamination and outlines how this should be addressed via the planning system. This guidance has been written having regard to the requirements of both the National Planning Policy Framework (NPPF) and the Contaminated Land Statutory Guidance.

The document gives step by step guidance on the planning process including the roles and responsibilities of both developers and the Local Authority.

It is specifically intended to provide practical advice on the requirements and good practice for contaminated land site investigations, in addition to providing guidance on the information requirements required in order to achieve hassle free safe and sustainable development.

What is land affected by contamination?

Planning Practice Guidance states that to ensure a site is suitable for its new use and to prevent unacceptable risk from pollution, the implications of contamination for a new development would be considered by the local planning authority to the extent that it is not addressed by other regimes such as Part 2A of the Environmental Protection Act 1990 or the Environmental Permitting Regulations 2016.

The contaminated land regime under [Part 2A of the Environmental Protection Act 1990](#) provides a risk based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment.

A key element of the Part IIA regime is the Source-Pathway-Receptor contaminant 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 contaminant linkage, land cannot be identified as contaminated land under the regime.

Contaminating substances may include (not exhaustive):

- metals and metallic compounds e.g. cadmium, arsenic, lead, nickel, chromium
- organic compounds e.g. oils, petrol, solvents
- gases e.g. methane, carbon dioxide, hydrogen sulphide

Common causes of land contamination include previous industrial or commercial usage, mining, and the landfilling of waste. Land can also become contaminated due to its proximity to contaminated areas. However, contamination does not occur solely as a result of human activities and land can be 'contaminated' as a result of its natural state. For example, in Cornwall elevated levels of arsenic in soil can result from the weathering of natural rocks and minerals.

Roles and Responsibilities

Role of the developer

The developer is responsible for ensuring that proposed development is safe and suitable for the purpose it is intended.

The developer is therefore responsible for determining whether land is suitable for a particular development or can be made so by remedial action.

In particular, the developer is responsible for:

- determining whether the land in question is already affected by contamination;
- whether the development proposed will increase the potential for contamination on that site or elsewhere; and
- satisfying the Local Planning Authority that any contamination can be successfully remediated with the minimum adverse environmental effect to ensure the safe development and secure occupancy of any site.

Role of the Local Planning Authority (LPA)

Local Planning Authorities are responsible for the management of development and can control land contamination by the use of conditions where appropriate. Dealing with land contamination via the planning system can ensure that land is remediated in the course of development to an appropriate standard for its intended use, and that it is properly maintained thereafter.

Communities and Public Protection provide expert advice on these issues to the Planning Service. In addition to its role in planning, the Environmental Health Section is also the enforcing authority within the Council for the contaminated land regime.

Role of the Environment Agency (EA)

The Environment Agency has certain responsibilities under the contaminated land regime. The Agency is a consultee on certain planning applications for development on land that may be affected by contamination. Through the town and country planning system, a planning authority may consult the Agency where there could be a risk that pollution of "controlled waters" may occur or may have occurred in the past (controlled waters are coastal waters, inland fresh waters and groundwaters). The Environment Agency has responsibilities to protect the water environment under a number of regimes.

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Getting it right first time

Pre-application checks

It is the developer's responsibility to ensure that any development is suitable for use and it is strongly recommended that before any design work is commenced, that appropriate checks are therefore undertaken to determine whether a site could be potentially affected by contamination. This is especially important when a development is particularly vulnerable to contamination (e.g. residential end use).

There are number of ways this information can be ascertained:

- If the current land use is commercial/industrial, a contaminated land risk assessment will be required.
- Cornwall Council holds information on historical commercial/industrial land which may be affected by contamination which can be accessed either by undertaking a formal Contaminated Land Search or by using our [Environmental Health – Technical Advice for Planning Applicants](#) (EH-TAP services)
- Information about previous land uses contained in the [National Land Use Database](#), in commercial databases, land condition records or in records held by the Environment Agency or the British Geological Survey (e.g. the location of 'made ground', the results of broad scale geochemical surveys or radon potential maps).
- Local authority planning department records, including relevant Environmental Statements that may include updated baseline assessments.
- Information on the most common industrial activities and the risk of contamination is in Volume 2, Annex 3 of [Guidance for the safe development of housing on land affected by contamination](#), published by the Environment Agency, NHBC and CIEH. More information is also available from industry profiles published by the Environment Agency.
- Undertake a commercial environmental search to ascertain the historical and environmental history of the site.

Environmental Health Technical Planning Advice for Applicants (EH-TAP)

[Environmental Health - Technical Advice for Planning Applicants \(EH-TAP\)](#) is a service for developers, applicants and agents seeking technical and regulatory advice on environmental health matters linked to the planning process.

EH-TAP provides technical and regulatory advice to help prevent both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by, pollution. This is a prime objective of the National Planning Policy Framework (NPPF) for achieving sustainable development.

In particular, EH-TAP provides a consultee perspective on potential adverse effects upon health and/or general amenity associated with land contamination.

EH-TAP is aimed at applicants who want to 'get it right first time' and in the process reduce costs and save time. It is a separate service from 'Pre-Application Planning and Building Control Advice' offered by the Planning and Enterprise Service.

The Key Benefits of EH-TAP can include:

- Saving time and resources – aim to get it right first time
- Reducing the number of unsuccessful planning applications
- Facilitating an efficient planning validation process
- Identifying the need for specialist input earlier
- Providing sufficient information to support final application
- Raising the quality of development and reducing any negative impacts
- Increasing community acceptance
- Reducing the likelihood of complaints and future Public Protection regulatory involvement if an application is approved

Submitting a Planning Application

Minimum information requirements prior to determination

If your pre-application checks highlight that you may be developing on land affected by contamination, planning practice guidance states that the minimum level of information required with a planning application is the submission a Phase 1 hazard assessment. This should include a desk based study (which looks at all the available historical and environmental information), a site walkover, and the generation of a risk-based conceptual model of the site identifying the potential sources, pathways and receptors at the site (“preliminary risk assessment”).

The requirements for a Phase 1 hazard assessment can be found in the document [Guidance for the Safe Development of Housing on Land Affected by Contamination, NHBC/EA/CIEH, R&D Publication 66: 2008](#). If the preliminary risk assessment indicates that potential pollutant linkages are likely to be present on the site then further intrusive investigations will be required in line with ‘Land contamination risk management’ (LCRM) and BS 101752011+A2:2017 - Investigation of potentially contaminated sites. Code of practice.

[Planning Practice Guidance on Land affected by contamination](#) (released March 2014) states that unless this initial assessment clearly demonstrates that the risk from contamination can be satisfactorily reduced to an acceptable level, further site investigations and risk assessment will be needed **before the application can be determined**.

The Planning Process

On any site where there is the potential for contamination to influence the development, the planning officer will consult with the Environment Health Section. This section will assess the application and may recommend that certain conditions are imposed upon the development to ensure that the site is made suitable for the proposed use and ensure the safety of future site users and the environment. The Planning Officer is also likely to consult the Environment Agency for comment on protection of controlled waters and any waste regulation issues. Where the risk is significant an outline planning application for development will not be appropriate.

There are a range of possible outcomes for planning applications on land which may be affected by contamination:

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- permission is refused
- permission is granted without conditions, or
- permission is granted conditionally, which will require certain information to be provided and possibly remediation and validation works to be undertaken in order to discharge the condition.
- permission is granted conditionally as above, but may require in addition a Planning Obligation.

It is essential that the developer and their agents provide as much information to the planning authority as possible at every stage of the planning process. Withholding information, however trivial, may cause a delay to the application. The onus is on the applicant to keep the planning authority well informed about the development at all times so that decisions can be made swiftly, and the application process completed as quickly as possible.

The Risk Assessment Process

The Council expects developers to carry out a phased approach to site investigations in accordance with BS 10175: 2011+A2:2017 Investigation of Potentially Contaminated Sites – Code of Practice.

Useful guidance to aid developers in this process is the ‘Land contamination risk management’ (LCRM) from the Environment Agency.

The various phases of a contaminated land site assessment are briefly outlined below.

Obtaining Specialist Advice

The developer is responsible for determining whether land is suitable for a particular development or can be made so by remedial action. Developers should therefore recognise the importance of obtaining specialist advice. It is essential that a developer appoints a suitably qualified consultant to carry out the site investigation and, if required, prepare an appropriate remediation strategy. The consultant should be made aware of any land contamination planning requirements in addition to the developers own proposals for the site.

Under the NPPF, all site investigation work shall be undertaken by a competent person. The definition of a competent person is a person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution, and membership of a relevant professional organisation.

Phase I/ Hazard Assessment and Risk Estimation

A Phase 1 Hazard Assessment study is essential. It is the collection and examination of existing available information obtained from a wide variety of sources. A walkover survey of the site is conducted to identify if there are any obvious signs of contamination at the surface. A desk study should describe the condition and uses of the site, past and present, and its immediate environment. The general aim is to establish whether there have been any contaminating uses on or off the site. It should indicate any potential hazards at an early stage and provide a basis for further investigation - a desk study should always be carried out before fieldwork.

Information gathered on actual or potential pollutant linkages is built into a ‘conceptual model’ of the site. The model should clearly interpret the characteristics and sensitivities of the site, evaluating each pollutant linkage. Please see Appendix C for examples of conceptual models.

The Department of Environment has also published profiles of some industries that can be useful when researching historical land uses.

More information can be found in [Guidance for the Safe Development of Housing on Land Affected by Contamination, NHBC/EA/CIEH, R&D Publication 66: 2008.](#)

Phase II/ Intrusive Investigation

Site investigations should characterise as fully as possible the nature, extent and severity of contamination. Every plausible pollutant linkage should be identified and described, and the risks should be estimated and evaluated. Site investigations must reflect the findings from the desk study and the conceptual model.

An intrusive site investigation typically includes boreholes and trial pits where gas, soils and water are chemically analysed.

A properly designed and conducted site investigation will establish good confidence in the findings of sampling and analysis. Good practice and strict quality control must be observed throughout sample collection, handling and analysis. Every precaution must be taken to ensure that site investigations do not introduce or mobilise contaminants or create new pathways. Any visible contaminated or odorous material encountered during site investigations should be investigated.

Analytical laboratories must hold UKAS accreditation and be MCERTS registered (Monitoring Certification Scheme). MCERTS provides assurance to all stakeholders (e.g. laboratories, Local Authorities, consultants, members of the public) of the reliability of data from chemical testing of soils.

It is common practice to compare contaminant data collected during the site investigation to Generic Assessment Criteria (GAC). GAC are used as screening tools in generic quantitative human health risk assessment to help decide when land can be excluded from the need for further inspection and assessment, or when further work may be warranted. GAC in human health scenario represent cautious estimates of levels of contaminants in soil at which there is considered to be no risk to health or, at most, a minimal or low risk to health.

A detailed quantitative risk assessment usually requires much more in-depth information than a generic quantitative risk assessment. It is considered to be more site specific than the generic approach and usually involves the collection of further data in order to inform the risk assessment and the conceptual model. This can include specialist field techniques or laboratory testing in order to determine certain parameters in relation to the site. It may also include

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detailed research into the toxicological, physical and chemical parameters of particular contaminant and how it may affect a particular linkage.

More information can be found in [Guidance for the Safe Development of Housing on Land Affected by Contamination, NHBC/EA/CIEH, R&D Publication 66: 2008.](#)

Phase III/ Remediation Options Appraisal and Strategy

If contaminant linkages exist then remediation will be required to bring the site back to suitable standard by breaking those linkages.

It can include measures such as the removal of contamination, encapsulation to isolate the contaminants, or insitu or exsitu treatment of the contaminants. Government policy encourages sustainable methods of remediation. Remediation can involve a combination of different techniques, sometimes called a 'remedial package'.

A 'remediation options appraisal' should be undertaken using detailed evaluation criteria which are used to test the ability of each feasible remediation option to meet specific remediation, management and other technical objectives. Since objectives are determined on a site- specific basis, detailed evaluation criteria should also be specific to the site, although many will be common to many sites.

A strategy for implementation (remediation scheme) should be submitted once the most appropriate options have been identified. This scheme should state exactly how the remediation will be carried out including such issues as waste management, occupational health and safety, and environmental management of the works when these take place.

It is often necessary to test and audit the effectiveness of remediation in order to confirm successful completion. Long term monitoring and or after care maintenance works may also be required to ensure that remediation continues to be effective.

More information can be found in [Guidance for the Safe Development of Housing on Land Affected by Contamination, NHBC/EA/CIEH, R&D Publication 66: 2008.](#)

Phase IV / Verification

Where contamination has been identified and/or remediated, the developer will be required to submit a site completion report to verify that remediation has been carried out effectively in accordance with the agreed scheme. A

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completion certificate (Appendix D) must be signed by an appropriately qualified consultant i.e. a person who can demonstrate the appropriate knowledge and experience of contaminated land. In certain circumstances it may be necessary for the developer to complete post completion monitoring. This should be undertaken to the approval of the Local Authority and results of the monitoring should be submitted for review. If it is a brownfield site development, the relevant condition will not be discharged until the site completion report has been submitted and approved by the local planning authority.

More information can be found in [Guidance for the Safe Development of Housing on Land Affected by Contamination, NHBC/EA/CIEH, R&D Publication 66: 2008.](#)

Minimum information requirements post determination

Conditions may be placed on a planning Decision Notice to ensure that land contamination is adequately addressed. The conditions require all investigation work to be undertaken in line with the Environment Agency guidance 'Land contamination risk management' (LCRM) and BS 10175: 2011+A2:2017 - Investigation of potentially contaminated sites. Code of practice. The Council will reject reports and/or require further information in cases where work has not been carried out in accordance with good practice or fails to establish confidence in the findings and conclusions reached.

The scope of submitted reports must reflect the size and complexity of the site, the necessary level of investigation, as well as the likely contamination risks.

If the investigations undertaken prove to the Council's satisfaction that there is no contamination, then no further action will be necessary and the necessary planning condition will be recommended for discharge.

Submission of Reports

Developers should submit complete reports, including all appendices, in colour directly to the Planning Service (not directly to the C&PP service). The Planning case officer will raise a formal consultation with C&PP for comment. Applicants are advised against attempting to enter into negotiation with other departmental consultees without prior notification of the Planning case officer.

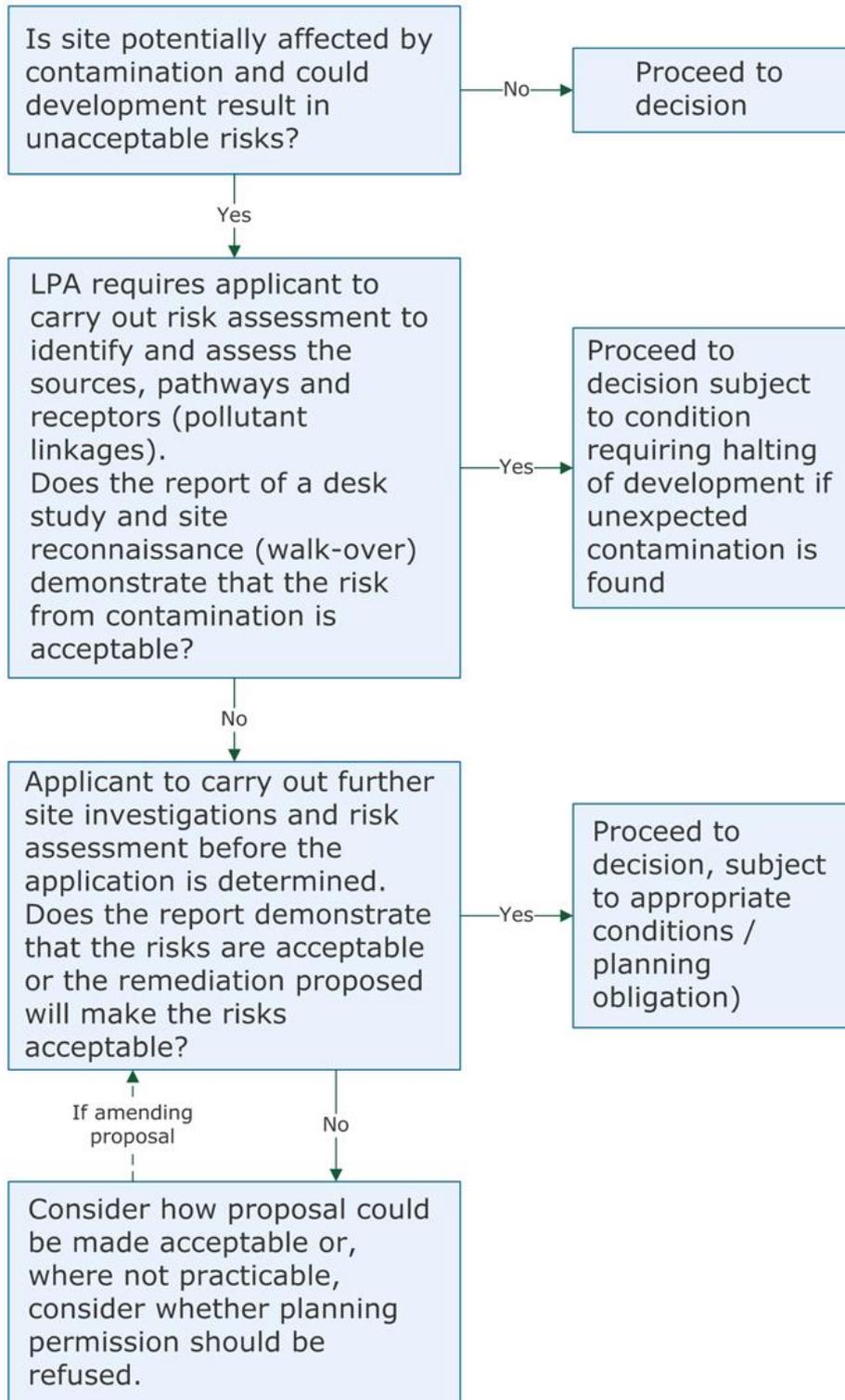
Appendix A - Examples of sites where land could be affected by contamination

1) Where a site has been used for any of the following:

- Agricultural Buildings
- Aircraft manufacture and repair
- Airports
- Animal and animal products processing
- Animal burials
- Asbestos manufacturing and use
- Builders Merchants
- Ceramics, cement and asphalt manufacturing
- Charcoal Works
- Chemical Works : coatings, paints and printing inks
- Chemical Works : cosmetics and toiletries
- Chemical Works : disinfectants
- Chemical Works : fertiliser
- Chemical Works : fine chemical manufacturing
- Chemical Works : inorganic chemical manufacturing
- Chemical Works : linoleum, vinyl and bitumen based products
- Chemical Works : organic chemicals
- Chemical Works : pesticides
- Chemical Works : pharmaceuticals
- Chemical Works : soap and detergent manufacturing
- Dockyards and Dockland
- Dry Cleaning
- Electrical and electronic equipment manufacture and repair
- Electroplating and other metal finishing
- Engineering Works
- Fibreglass and fibreglass resin manufacturing
- Foundries and smithies
- Gasworks, coke works and coal carbonisation sites
- General industrial usage
- Glass and ceramic manufacture
- Gun clubs and rifle ranges
- Hospital sites
- Infilled and Made ground
- Iron and steelworks
- Laboratories
- Lead works

- Lime kilns
- Mining and mine sites
- Ministry of Defence sites
- Munitions, explosives, fuses, pyrotechnic production, testing and storage sites
- Non ferrous metal works
- Oil refineries and Bulk storage of crude oil and petroleum products
- Power stations and power supply
- Photographic processing
- Printing and Bookbinding
- Pulp and paper manufacturing
- Quarries
- Railway land
- Road vehicle service and repair, garages and filling stations
- Rubber industry including tyre manufacture
- Scrapyards
- Sewage works and farms
- Textile works and Dye works
- Timber product Manufacture
- Timber treatment works
- Tin streaming
- Transport and Haulage depots
- Waste recycling, treatment and disposal sites

Appendix B – land contamination in the planning process

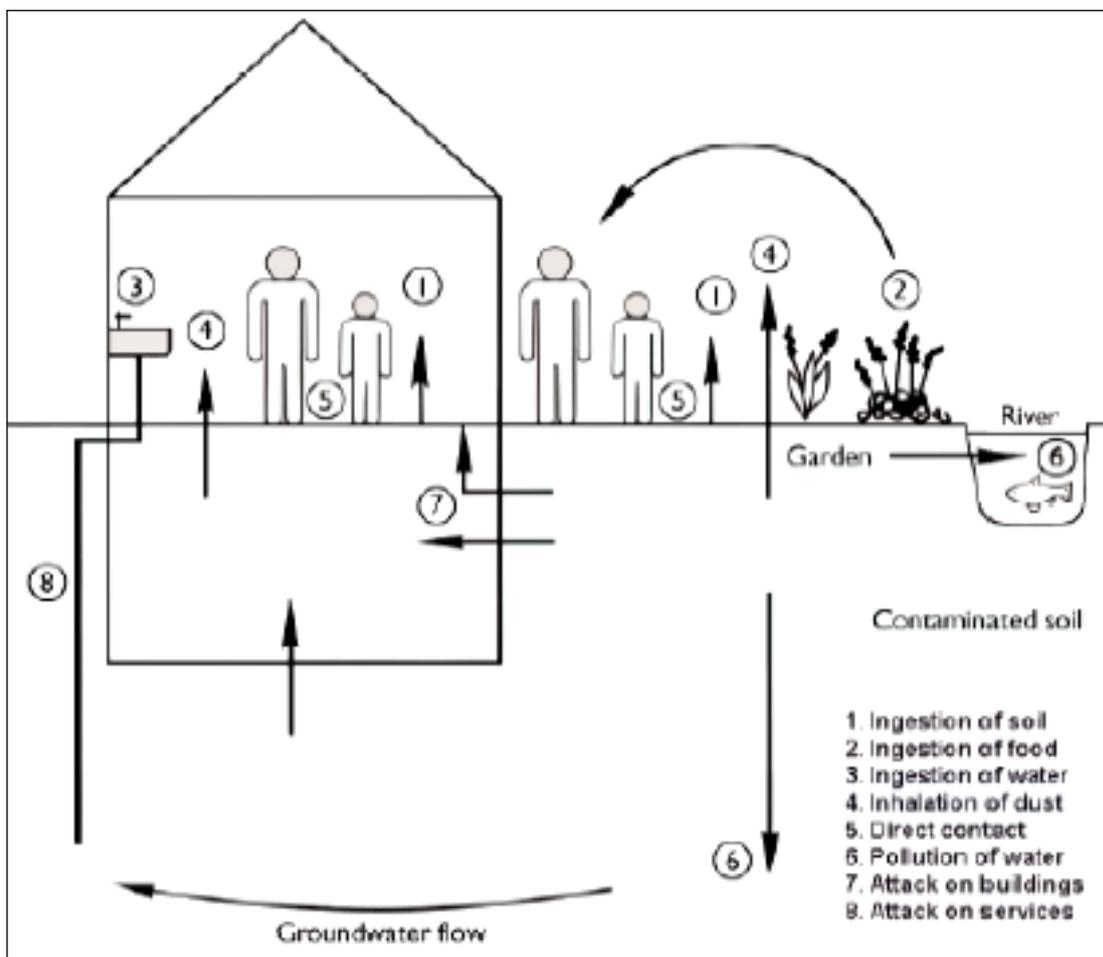


Appendix C – Conceptual Site Model

Conceptual Model in the form of a linkage table:

SOURCE	PATHWAY	RECEPTOR
Arsenic	Ingestion and inhalation of contaminated soil	Humans
	Ingestion and inhalation of vegetables	Humans
PAH	Ingestion and inhalation of contaminated soil	Humans
	Migration through ground	Groundwater
	Surface run-off	Surface water
Zinc	Plant uptake	Flora and Fauna
Sulphate	Direct contact with contaminated soil	Buildings and services

Diagrammatic conceptual model:



Appendix D - Certificate of Remediation

Planning Application Ref.....

This is to certify that the scheme of decontamination and reclamation of the site known as

.....
.....
.....

At Grid Reference.....

Was carried out between the dates of

And was completed to an agreed specification detailed in document reference..... and entitled
(and subsequent agreed amendments) which were designed to afford protection from contamination* on the site to all relevant receptors*.

Signed.....

Name.....

Position.....

Company.....

Address.....

On behalf of developer

Date.....

* Contamination and receptor to have at least the same meaning as in part IIA of the Environmental Protection ACT 1990 plus any others considered relevant to the development.

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9 July 2021

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