



Contaminated Land Inspection Strategy (4th Edition, 2015)

Implementation of Part IIA of the Environmental Protection Act 1990



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Foreword

Part IIA of the Environmental Protection Act, 1990 came into effect on 1 April 2000. It requires local councils to inspect their districts for potentially contaminated land and where found ensure the land, currently not under development, is suitable for its present use.

For land which is being developed through the planning process, The National Policy Framework NPPF (March 2012) requires the local planning authority to take account of land contamination when making planning decisions. If required remedial works must be undertaken to ensure that the site is 'suitable for use' and as a minimum cannot be classed as Contaminated Land under Part 2A. Environmental Health will act as a consultee to the Planning Department to aid this process.

In December 2013 Defra announced that it would no longer be supporting the costs to Local Authorities of investigating and remediating contaminated land under Part 2A through the Contaminated Land Capital Grants Scheme and that funding would cease completely in 2017. Funding for local authorities will continue to be provided through the Revenue Support Grant provided by the Department for Communities and Local Government (DCLG) so that they can fulfil their statutory obligations under Part 2A of the Environmental Protection Act. However this is unlikely to cover the cost of intrusive investigations or costly remedial work when there is no Appropriate Person for a Contaminated Land site and the local authority is responsible. Addressing land contamination through the planning and building control processes and encouraging voluntary remediation is therefore the primary mechanism for ensuring remediation of contaminated sites within the Breckland Council area.

This Strategy reinforces the principles set out in draft Breckland Council's 2015-2019 Corporate Plan prioritising:

Supporting Breckland to develop and thrive.

Providing the right services, at the right time and in the right way.

The implementation of this strategy and the close working partnerships of all stakeholders will minimise the potential risks to people and the environment. The Strategy also supports the Norfolk County Structure Plan and the Council's Local Plan in encouraging development of brownfield sites.

Within the framework of the Local Plan, Breckland District Council will continue to assist and encourage development within our towns and villages to help maintain active and prosperous communities. The identification and remediation of contaminated land should be seen as a positive step as it will help to enable sustainable development throughout our district. The Council recognises that concerns exist about potential blight and we are committed to avoiding this risk by addressing concerns sensitively and as promptly as possible, given the resources available at the time.

The Breckland Local Development Framework (LDF) will replace the adopted Local Plan and plan for the period up to 2026. The objectives of the LDF will be to promote Breckland communities so that they:

- are economically prosperous;
- have decent homes at affordable prices;

- safeguard the countryside; and
- enjoy a well designed, accessible and pleasant living and working environment

Our officers will provide guidance and advice through the planning department to assist the stakeholders with contaminated land issues. Together we can ensure that cost effective investment and development in Breckland will maintain a buoyant economy, combined with a healthy, pleasant and enjoyable environment in which to live, work and enjoy leisure activities.

1 Introduction

1.1 *The Breckland area and the Contaminated Land Regulations*

The district of Breckland Council (The Council) is situated in the centre of Norfolk (see Figure 1). The district covers an area of 130,496 hectares (approximately 500 square miles) and is principally a rural area with five towns, Attleborough, Dereham, Swaffham, Thetford and Watton. The Breckland area has a wide variety of industry, including engineering, mineral extraction, agriculture commercial forestry and military establishments.

The presence of sand and gravel deposits has allowed for mineral extraction resulting in a large number of excavated sites in Breckland, some of which have been filled as a means of disposing of waste.

Despite being principally a rural area, there is still a need, and a legal requirement, for The Council to implement the Contaminated Land Regulations. The current and historic uses of parts of the district require The Council to assess whether there are contamination issues that need to be addressed.

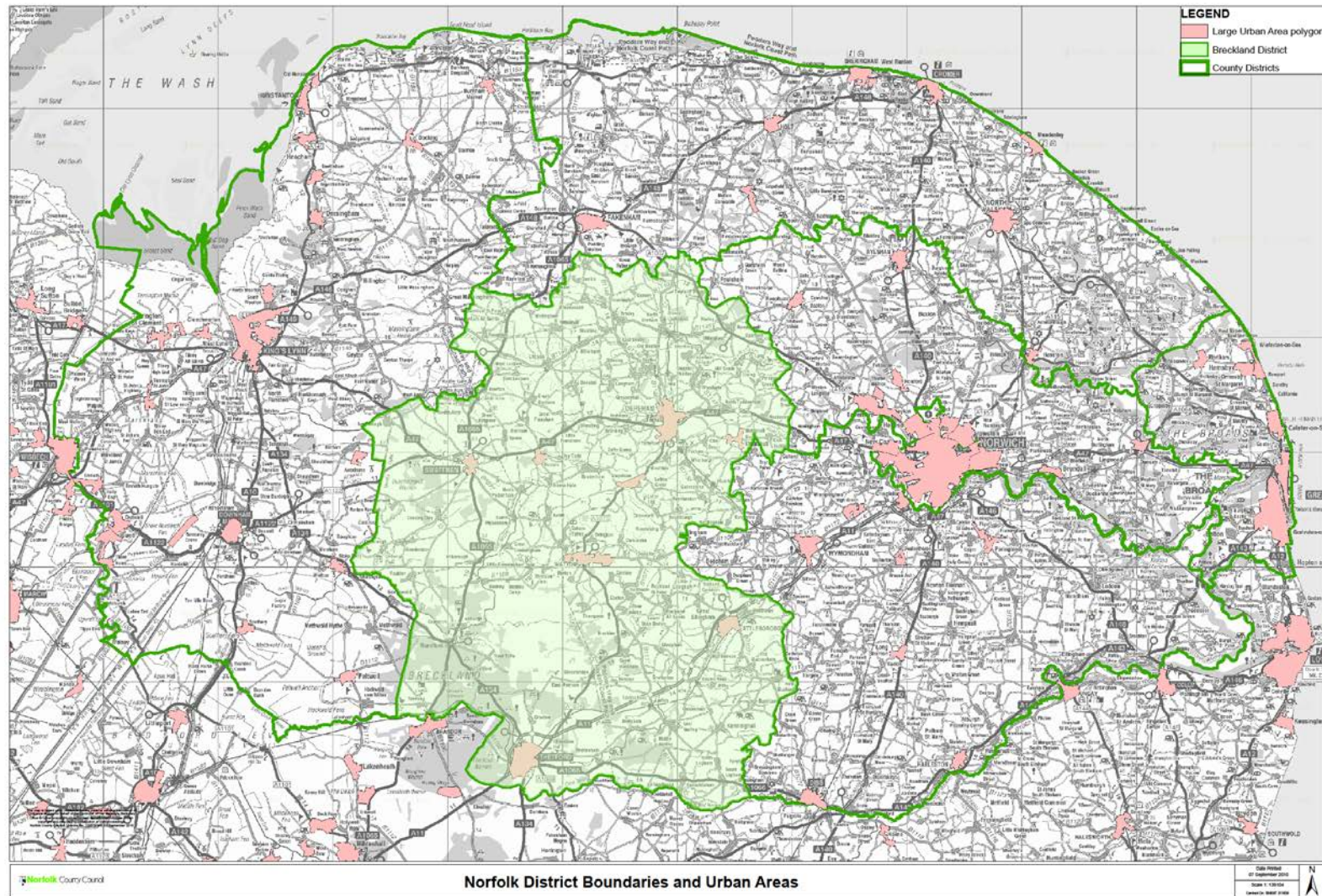
Contaminated land is an issue that must be dealt with professionally by the Local Authority to enable a clear assessment of the land in the district. The Contaminated Land Regulations are made under Part IIA of the Environmental Protection Act 1990 (herein afterwards known as Part IIA) which came into force on 1 April 2000 and require The Council to develop and operate a strategy for the assessment, identification and, where necessary, the remediation of contaminated land.

The aim of this document is to illustrate how the Council intends to satisfy its statutory duty under Part IIA.

On 6 April 2012, new Statutory Guidance was published requesting that Local Authorities revise their Contaminated Land Strategies to reflect the new guidance.

This document is written in accordance with the new Statutory Guidance and explains how Breckland Council will approach the inspection of its district. This document replaces the previous June 2011 version and all subsequent reviews.

Figure 1. The Breckland Area (Map developed in cooperation with Norfolk County Council)



1.2 Operation and enforcement of the Contaminated Land Regulations

In Breckland the Contaminated Land Regulations (OPSI, 2006) as amended in 2012 are enforced by the Environmental Protection Team. The context of these regulations is set out in Appendix 1. The regulations require the Local Authority to identify contaminated land and ensure that it is remediated by the appropriate person to a level that makes the site fit for its current use. This may either be through voluntary remediation by the appropriate person, or as a result of the local authority serving a Remediation Notice.

Operation of these regulations will be carried out with the assistance of the Environment Agency, who will be responsible for any special sites identified by The Council. The Environment Agency will also act as a statutory consultee advising The Council in other matters including the pollution of controlled waters.

Legal enforcement of the new regulations by serving a Remediation Notice will be treated as a last resort by The Council. Wherever possible, The Council would prefer remediation to be carried out by voluntary arrangement. However, where this is not possible, or where work carried out under a voluntary agreement has been insufficient or unsatisfactory, enforcement action would be pursued.

2.0 Objectives and Priorities of the Council and the Strategy

2.1 Objectives and Priorities of the Council

The Council's objectives and priorities are to meet the requirements set out in the contaminated land legislation as stated in Part IIA. However, for ease of understanding, these can be summarised as:

- To be consistent with the minimum requirements for a strategic approach set out in the statutory guidance (Appendix 2).
- Identify high risk sites to undergo a detailed risk assessment regardless of ownership.
- Determine whether any sites are 'contaminated land'¹.
- Ensure that remediation is carried out by the appropriate person unless the contaminated land is designated a 'special site' (Section 78C of Part IIA), when the Environment Agency becomes the regulatory authority.
- Review redevelopment of sites as a consultee to the planning department and make recommendations to assist in ensuring that any land contamination is dealt with at the time of new development to ensure it is suitable for its intended use.
- Minimise The Council's risk of obtaining new liabilities associated with the acquisition of further land.

¹ See Defra Guidance Environmental Protection Act 190: P2A Contaminated Land Statutory Guidance April 2012

3.0 Baseline Characteristics of the Breckland area

There are many physical and environmental characteristics which have to be considered when assessing whether a site is determined as contaminated land under Part IIA. These include the site history, geology, hydrogeology, hydrology, ecology and socio-geography. These are discussed briefly in Appendix 3 but for more details on any of the characteristics the original sources of information should be sought.

4.0 Work Stream

Each site that is considered to have a potential for land contamination will undergo a six stage process in order to make a decision whether the site should be determined as contaminated land under Part IIA. The fundamental method of this process is a risk assessment based on the potential pollutant linkage (see Appendix 5 for the meaning of pollutant linkage).

The six stages (see Appendix 6 for full details) are:

1. Initially identify potentially contaminated sites
2. Establish the potential hazard of sites
3. Carry out *preliminary* desk study to establish the potential risk
4. Undertake a detailed desk study to further quantify this risk
5. Carry out intrusive investigation(s) with interpretation
6. Determine whether the site is contaminated land and needs remediation

5.0 Internal Procedures

5.1 Internal Responsibilities

As stated in section 1.2, the Environmental Protection Team will take the lead role for the implementation of Part IIA, supported and advised by other sections. The officers report indirectly to the Public Protection Manager who in turn reports to corporate management as appropriate.

The identification and inspection process will be carried out in the same department. It is likely that if enforcement action is necessary it will be co-ordinated by The Environmental Protection Team supported by other departments, as requested, such as legal services.

5.2 Internal Information Procedures

The Environmental Protection Team as a result of its regulatory and advisory functions now already holds a significant amount of information. Other specialist sections within the council hold other information that may be of use. In addition other legislative information may be required. If this is not available in-house then the relevant statutory organisation will be contacted.

5.3 Requests for Information/Services and Complaints

From time to time the council may receive a complaint or request for information on contamination. These requests may not be specifically related to the requirements of Part IIA. They may, for example, be general enquiries regarding the legislation, planning matters or be highlighting other matters of potential concern. When possible, enquiries will be dealt with through the course of a phone call.

Where full details of a site are held following on from a completed Detailed Desk Study and Site Investigation this information would be available for release under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004. Where

such information has not yet been produced or is not held by the council, enquirers will be advised to make their own investigations.

5.3.1 *Maintaining Confidentiality*

The identities of complainants/persons making service requests will, as far as practicable, remain confidential. However, all complainants will be asked to supply their name, address and complaint details.

5.3.2 *Dealing with Anonymously Supplied Information*

The Environmental Protection Team will not investigate anonymously supplied information unless there are clear signs that there has been a significant pollution incident which may fall under regulations relevant to contaminated land and under the jurisdiction of The Council.

5.3.3 *Anecdotal Evidence*

Anecdotal evidence can be a vital source of information when dealing with the contaminated land regime. It should be noted, however, that determinations cannot be made without robust scientific evidence as advocated in the available guidance. Officer judgement will be used to decide what, if any, investigation is required following receipt of information.

6.0 The Public Register and information management

The public register of contaminated land information is a document which contains details relating to land which The Council has determined as Contaminated under Part IIA². It is a record of the prescribed particulars (Appendix 8) relating to contaminated land sites and is subject to exclusions relating to information of national security and commercial confidentiality.

² It must be noted that the register is not designed to be a register of sites that may be contaminated land but is a record of the prescribed particulars relating to contaminated land sites.

A proportion of the information collated by The Council as part of the investigation and assessment of sites will be of a sensitive nature. The Council will ensure that all relevant parts of the Data Protection Acts will be complied with as part of the collation and storage of information. The Data Protection Act 1998 applies to any personal data that is processed, for example information on the ownership of land. The Council will consider the implications of any database being established as part of the implementation of this strategy to ensure the requirements of the Data Protection Act are being met.

6.1 Disclosure of information to internal groups

Access to the contaminated land information will be available to other departments within The Council upon request. Information contained on the register will primarily be of interest to departments responsible for development and, land sales and acquisitions.

6.2 Access to the Public Register

The Contaminated Land Regulations state that the Council is required to keep a public register of all sites. The register is a full and permanent record that is available for public inspection.

An electronic version of the register is available via the Breckland council website. Alternatively any member of the public may view the register at any time during normal office hours (Monday - Thursday 9.00am - 5.00pm, Friday 9.00am - 4.30pm). The register will be held at The Council offices at Elizabeth House in Dereham (refer to s.7.2 for contact details).

7.0 Liaison Procedures

7.1 Internal Liaison

Procedures have been put in place to advise other council departments on possible contamination issues when consulted by them. Some of the departments that look at these issues frequently are development control, land charges and building control. Any department in the council which believes they may have a contamination problem is advised to consult the Environmental Protection Team.

7.1.1 Planning

Contaminated Land is a material planning consideration as outlined in planning legislation and planning policy produced by the Department of Communities and Local Government (DCLG). Therefore the development control process will be used to ensure that any proposed development is rendered suitable for its intended future use; where necessary suitable site assessment and removal of any potential risks will be regulated by imposing planning conditions.

The Contaminated Land Team will act as technical consultee for planning. The Contaminated Land Officers priority is to deal with Part IIA work therefore some minor contaminated land issues relating to the planning process will be dealt with by the planning department.

All land search questions regarding contamination are also referred to the Environmental Protection Team.

7.2 Breckland contact for further information on the Contaminated Land Strategy

Environmental Protection
Breckland Council
Elizabeth House
Walpole Loke
Dereham
Norfolk
NR19 1EE

Telephone: 01362 656870
Fax: 01362 693733
E mail: envprotect@breckland.gov.uk

7.3 Other organisations

Other organisations hold information that will be relevant in considering whether a particular site is likely to be contaminated. These may include, but not be limited to, organisations such as:

- The Environment Agency
- Natural England (previously English Nature)
- English Heritage
- Norfolk County Council
- Town and Parish Councils

All of these were consulted on the content of the original version of this strategy. As part of the site investigation process the lead officer will contact any of the above as appropriate to obtain further information.

Specific liaison arrangements have been made between The Council and the Environment Agency. The contact details for the Environment Agency are:

Central Area Office The Environment Agency Bromholme Lane Brampton Huntingdon Cambridgeshire PE28 4NE	Eastern Area Office, The Environment Agency Cobham Road, Ipswich, Suffolk, IP3 9JD
Telephone: 0370 8506506	0370 8506506

7.4 Communication with affected parties

In cases where a Detailed Desk Study (Stage 4, Appendix 6) identifies that a potentially contaminated site requires an intrusive (physical) investigation, the Environmental

Protection Team will make contact with the parties outlined in Section 78H(1) of Part IIA i.e. land occupiers, owners and any other persons identified as stakeholders. Each stakeholder shall be advised of the decision to carry out an investigation. They will also be informed of what action is required by The Council, allowing them to comment on the proposal and inform The Council of anything they may know about the condition of the site.

8.0 Review and reassessment of the contaminated land inspection process

A strategy is by design a dynamic document. As such it is essential that the contents of the strategy are reviewed on a regular basis to ensure that it remains up to date and relevant. It is The Council's intention to continue to employ best practice methods to identify and investigate potentially contaminated land sites. Any changes will be reflected in a periodic review of the strategy.

Appendices

Appendix 1 - The regulatory context of the Contaminated Land Regulatory Regime

Contaminated land is a prime example of how, historically, the sustainable use of land has not been a consideration when land was developed. The Government has stated that its primary objective is to prevent the creation of new contaminated land. This is being enforced through a number of pieces of legislation. These are:

- **The Town and Country Planning Act 1990**
- **Pollution Prevention and Control Act 1999**
- **Environmental Permit Regulations 2006**
- **Environmental Protection Act 1990 (Amended)**
- **Water Act 2003**
- **Environmental Damage Regulations 2009**
- **Contaminated Land Regulations 2006** as amended in 2012

Along with the above legislation there is also the need to identify and assess the legacy of land that has been contaminated by historic land use. The Contaminated Land Regulations 2006 (as amended) are aimed at tackling the most seriously contaminated sites which are affecting, or could affect human health or the environment as a whole, as a result of the current state of the land.

The Governments objectives for the Contaminated Land Regulations are set out in Contaminated Land Statutory Guidance 2012 as being:

- To identify and remove unacceptable risks to human health and the environment
- To seek to ensure that contaminated land is made suitable for its current use
- To ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of sustainable development.

Part IIA places a statutory duty on all local authorities to inspect their area for contaminated land. The district councils hold the role of the enforcing authority for the Contaminated Land Regulations 2006 (as amended). Part IIA requires The Council to:

- Cause the district to be inspected to identify contaminated land
- Determine whether any particular site is contaminated land
- Act as the enforcing authority for all sites identified as contaminated land that is not designated as a 'special site'.
- Require the remediation of contaminated land in its area.
- Ensure that all sites are remediated to a level that makes them suitable for their present use.

For land that is designated a 'special site', the Environment Agency is the enforcing authority. The Environment Agency also advises The Council on best practice methods of identifying and assessing contaminated land, particularly where the risk to controlled water must be considered.

Section 78A (2) of the Environmental Protection Act 1990 defines contaminated land for the purposes of Part IIA as being:

“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 –

- significant harm is being caused or there is a significant possibility of such harm being caused, or*
- pollution of controlled waters is being, or is likely to be caused”*

Therefore, land may be polluted but unless it presents a significant risk of harm to a receptor (for example human beings, controlled waters or agricultural land) or is causing harm, it is not Contaminated Land as defined in Part IIA. The presence of a pollutant in, on or under land does not automatically classify the site as contaminated land. A pollutant linkage must first be proven.

The Contaminated Land Regulations are designed to run in conjunction with the other methods of environmental protection stated previously. The aim is to ensure that all contaminated land is identified and, where necessary, remediated by use of the most appropriate means.

Appendix 2 - Statutory Guidance

Following the review of the contaminated land regime in April 2012 including public consultation, revised Statutory Guidance has now been issued under Part 2A of the Environmental Protection Act 1990.

The purpose of the revised Statutory Guidance was to maintain the right balance between the need for a precautionary approach and empowering regulators to make quicker decisions about whether or not land is contaminated under Part 2A preventing costly remediation operations being undertaken unnecessarily.

It also offers a more focused approach on protecting against potential health impacts by concentrating on the sites where action is actually needed. A new four-category test has been developed to clarify when land does and does not need to be remediated. Ministers have argued that by reducing regulatory uncertainty, this policy aims to make the regime target higher risk land more efficiently.

The changes will be supported by technical tools, which will be developed by the land contamination sector to increase consistency over time. The new guidance is available from the DEFRA website:

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223705/pb13735cont-land-guidance.pdf

Radioactive contamination of land is covered by separate statutory guidance (2012, DECC) and, once designated as contaminated land, is regulated by the Environment Agency.

Appendix 3 - Baseline Characteristics of Breckland Area

Geology

The geology of the Breckland area is very diverse. The majority of drift geology is from the Quaternary period and comprises Brickearth, various clays and silts, various river terrace deposits and post glacial fluvial deposits. The solid geology of the area is primarily Cretaceous Chalk. The geology is recorded by the British Geological Society and is available on their website.

Natural Environment

The variety in the geology of the area has allowed several types of natural habitat to develop. Breckland is home to a large number of nature reserves and nature conservation areas. There are also a number of Sites of Special Scientific Interest (SSSI's) and Environmentally Sensitive Areas covering a significant proportion of the land area in Breckland. In addition one area to the south of the district close to Lopham has been designated a Ramsar, an internationally important bird reservation area. The district also contains a large number of historic properties and ancient monuments, which, like natural habitats, are considered in the contaminated land legislation as statutory designated receptors (refer to Appendix 4).

Water Resources

There is a strong link between the groundwater within an area and the hydrogeology of that area. The regulatory authority for controlled waters has a duty to protect the quality of groundwater. In terms of the Part IIA legislation this would be the Local Authority's responsibility or The Environment Agency if the site is determined a special site. The Environment Agency recognises 3 clear divisions for groundwater; Principal, Secondary and Unproductive Strata. The summary of these divisions is shown below:

The Environment Agency describes Principal Aquifers as "layers of rock or drift deposits that have high inter-granular and/or fracture permeability – meaning they provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale".

Secondary Aquifers are divided into two types:

"Secondary A – permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

Secondary B – predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

Secondary Undifferentiated – has been assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type".

Unproductive Strata

"These are rock layers or drift deposits with low permeability; they have negligible significance for water supply or river base flow".

(Environment Agency, 2010)

The chalk aquifer that underlies Breckland is the main source of water for domestic and industrial use in East Anglia. The definition of contaminated land in Part IIA states that pollution of controlled waters (both surface and ground waters) from substances contained in, on or under the land would define the site as contaminated. It is imperative that this water supply is protected from contamination. The depth of the aquifer from the surface varies significantly throughout the district making it increasingly vulnerable to contamination the closer it comes to the surface.

Breckland contains a large number of rivers, mainly tributaries of larger rivers beyond the district. The protection of this water not only affects the habitats in the Breckland area, but also those in other areas through which the rivers pass.

Appendix 4 - Types of Receptor that must be considered as part of the Assessment Process

The assessment process and categorisation of contaminated land is described in great detail in the Contaminated Land Statutory Guidance, April 2012 (Defra 2012).

Significant harm

The Local Authority should first consider whether significant harm is occurring - sections 4.3 – 4.6 of the statutory guidance sets out what constitutes significant harm to human health.

Significant possibility of significant harm

Where it is decided that harm is occurring but is not significant the local authority should then consider whether or not significant possibility of significant harm to human health is occurring. This is outlined in sections 4.10 – 4.18 and the categorisations described sections 4.19 – 4.29 must be used by the local authority. Categories 1 and 2 would encompass land which is capable of being determined as contaminated land on grounds of significant possibility of significant harm to human health (SPOSH). Categories 3 and 4 would encompass land which is not capable of being determined on such grounds.

In considering non-human receptors, the local authority should only regard receptors described in Tables 1 and 2 (pages 24 & 25 of the guidance) as being relevant for the purposes of Part 2A (e.g. harm to an ecological system outside the description in Table 1 should not be considered to be significant harm). Similarly, in considering whether significant harm is being caused or there is a significant possibility of such harm, the authority should only regard the forms of harm described in Tables 1 and 2 as being relevant.

The statutory guidance is available from the DEFRA website

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223705/pb13735cont-land-guidance.pdf

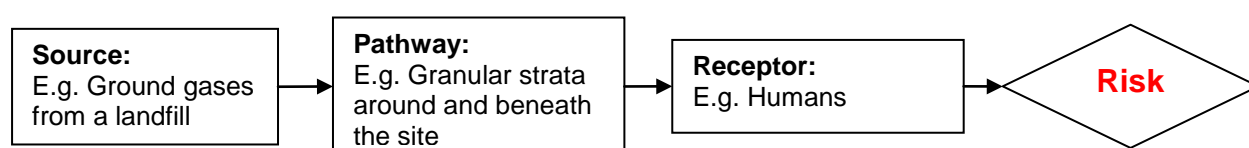
Appendix 5 - Risk Assessment and Pollutant Linkages

The definition of contaminated land is based upon the principles of risk assessment with the statutory guidance defining risk as a combination of:

- The probability, or frequency of occurrence of a defined hazard; and
- The magnitude of the consequences.

The fundamental principle of a contaminated land risk assessment is the demonstration that a pollutant linkage is present. This involves establishing that a source, pathway and receptor exist:

Figure 2. The 'Source – Pathway – Receptor' approach to contaminated land



A site is only statutorily defined as a risk, when evidence is available that there is a contaminant, a relevant receptor and a pollutant pathway between the two (Defra, 2012). If this causal chain is broken then no risks will occur, even if the contaminant present has a particularly high hazard rating.

Appendix 6 - Staged Assessment of Potentially Contaminated Sites

Introduction

Each site that is considered to have a potential for land contamination will undergo the following 6 stage process in order to make a decision whether the site should be determined as contaminated land under Part IIA. The fundamental stage of these processes is Risk Assessment based on the potential pollutant linkage (Appendix 5).

The 6 stages are:

1. Initially identify potentially contaminated sites
2. Establish the potential hazard of sites
3. Carry out *preliminary* desk study to establish the potential risk
4. Undertake a detailed desk study to further quantify this risk
5. Carry out intrusive investigation(s) with interpretation
6. Determine whether the site is contaminated land and needs remediation

As the sites pass through each of the above stages the detail and information required increases. At any stage if sufficient information becomes available to indicate that potential land contamination is not likely then the process will be stopped (Figure 3).

Stage 1 – Initially identify potentially contaminated sites

The initial stage of the process was to identify sites where a past use may have given rise to potential land contamination. This was carried out by using the following methods:

- The information held in-house on land contamination, such as national land use data reports.
- A review of past and current land use from historic maps carried out by an external consultant.
- Information provided by statutory consultees.
- Information provided by the general public and any other sources.

The sites were then prioritised according to the level of hazard by using the methodology in Stage 2.

Stage 2 – Establish the potential hazard of sites

Identification of the potential hazard for each site to be considered under Part IIA legislation was carried out.

Originally a modified version of a risk assessment tool, developed by Stephanie Pickford (Pickford, 2001) was adopted by The Council. However, this method was found to be laborious, too detailed and time-consuming; it involved site visits of all the potentially contaminated sites (2000+ sites).

Consequently a different 'assessment tool', developed by STM Environmental has been used by The Council. This simpler method has been used to assess all potentially contaminated sites to produce an initial 'Potential Hazard Score' for each site according to the past and present use of the site. This method has been simple and quick to complete. The sites have been grouped into four categories according to the 'Potential Hazard Score', of high, medium, low and negligible, focussing on the potential hazards to the human health receptor.

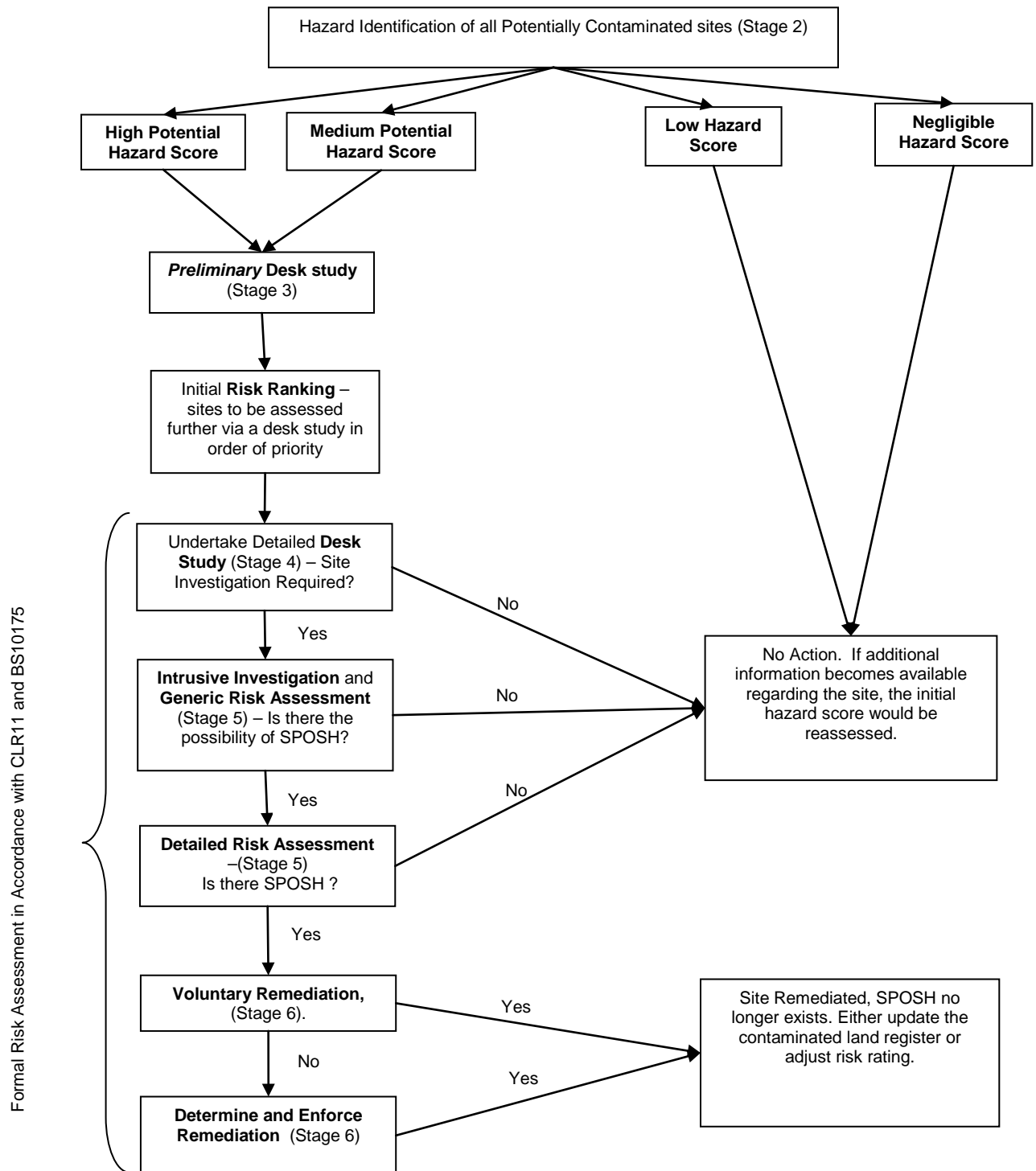
Following this, the sites with the highest 'potential hazard sites' will be the first to undergo further risk assessment starting with the conversion of the initial potential hazard score into a risk score using the method outlined in Stage 3 and then onto a formal risk assessment (Stages 4 to 6) if required. When the risk assessment of the highest potential hazards sites have been completed the same process will be followed for the 'Medium Potential Hazard Sites' (Figure 3).

In addition flexibility will be needed in this method. Thus, at times it may be necessary to amend the list based on other factors such as known areas of concern coming to light from additional information sources or indeed other council driving factors.

It should be noted that sites to be prioritised are not definitive. Further sites may be added to the prioritised list because of information being brought to the council's attention from other sources e.g. members of the public along with other statutory agencies, such as the Environment Agency. At times it may be necessary to deal with these sites as and when they are brought to The Council's attention.

Once the sites, have been assessed it may be necessary to move onto the next stage of investigation.

Figure 3. Flow chart depicting the determination process.



SPOSH – The Significant Possibility of Significant Harm (See Appendix 4)

Stage 3 - Preliminary Desk Study to establish potential risk

In order to assess the risk, the likelihood of the potential hazard needs to be established. The proposed method is to carry out *Preliminary* Desk Studies. The *Preliminary* Desk Studies will be set out in a report format in a clear and transparent manner using the following sources of information, although not all may be required:

- Review of historic maps available in the Environmental Protection records, through the internet and at Gressenhall Historical Environment Record Office and Norwich Archive Records Office
- Review of planning history associated with the site and surrounding area
- Discreet site walkover
- Assessment of aerial photographs where available
- Assessment of geological and hydrogeological maps held in Environmental Protection
- Review any environmental databases freely available.
- The format of the preliminary desk study is set out in Appendix 7.

Risk Scoring Method

Once all the *Preliminary* Desk Studies for the 'High Potential Hazard' sites have been completed a Risk Scoring exercise will be undertaken. The following method will be used to calculate the Risk Score:

1. All the sites will first be compared to give a 'Likelihood Score'. The Likelihood Score will be 1-5 and based on a number of designated criteria, for example see Table 1 using planning history as a criterion. Appropriate criteria will be chosen by the Contaminated Land Officer(s) dependent on the information gathered for each site. If there is more than one criterion, the sum of the score for each criterion will be divided by the number of criteria to give a final 'Likelihood Score'.

$$\text{Likelihood Score} = (A + B + C + D) / n$$

2. To produce a Risk Score the 'Potential Hazard Score' will then be multiplied by the 'Likelihood Score',

$$\text{Risk Score} = \text{'Likelihood Score'} \times \text{'Potential Hazard Score'}$$

The above exercise will identify which sites need further assessment (Stages 4-6) by prioritising them according to risk; an example is shown in Table 2. This will focus available resources on the highest risk sites first, fulfilling the requirement of the statutory guidance (Defra, 2012).

Table 1 Example of 'Likelihood Criterion'

Planning History	Score
Assessment undertaken and no remediation required	1
Assessment undertaken and remediation post 1994	2
Assessment undertaken and remediation pre 1994	3
Some assessment undertaken but not conclusive	4
No assessment or no remediation	5

Once the Preliminary Desk Studies have been undertaken and the risk evaluated for the 'High Potential Hazard' sites, the 'Medium Potential Hazard sites' will then go through Stage 3.

Table 2 Example of Risk Prioritisation

Site	Past Use	Current Use	Hazard Score ¹	Likelihood Score ²	Risk Score ³
X	Gasworks	Residential	48	4	192
Y	Landfill	Residential	54	3	162
Z	Timber yard	Residential	48	2	96

Formal risk assessment first



¹Hazard Score: This score is based on the potential harm from the past use of the site relative to the current use of the site (Stage 2, hazard prioritisation)

²Likelihood Score: This is the likelihood of potential contamination on the site causing harm to human health. This value is based on the information gathered through the *Preliminary Desk Study*, such as planning history (Table 1)

³Risk Score: The 'Risk Score' is calculated by multiplying the 'Hazard Score' and 'Likelihood Score'. The higher the risk, the higher the priority for the site to be assessed further, Stages 4 to 6.

Stage 4 – Detailed Desk Study

Detailed Desk Studies will then be produced for the sites with the highest risk scores, identified in Stage 3 above.

These Desk Studies will follow contaminated land guidance document Contaminated Land Report 11 (Environment Agency, 2004) and expand on the information gathered from the *Preliminary* Desk Study stage to produce a Conceptual Site Model. The Conceptual Site Model will provide further information to refine the risk assessment of each site.

Technical Evaluation

The Contaminated Land Officer will evaluate all the Detailed Desk Studies subjectively and create a short briefing document detailing which sites are considered more of a priority compared to others for intrusive investigation. This will involve considering the specific pathways relative to the contaminants likely to be present on the site.

This is not a prescriptive process because the circumstances of each site need to be considered on a site specific basis. However the reasons behind all decisions will be clearly documented as mentioned above.

Following on from the above a case conference will be held between the Contaminated Land Officers, management and councillors (if appropriate) to decide which sites to take forward for to Stage 5. The Contaminated Land Officers will provide the professional expertise via the technical evaluation (above) and all other factors such as socio-economic and resource allocation will be considered. The results of the case conference will be documented and clear reasons given for which sites need further assessment first.

The stages detailed above will reduce the number of sites requiring an Intrusive Investigation and identify the most serious and pressing problems first. This meets the requirements of the statutory guidance (Defra, 2012).

Stage 5 - Intrusive investigation with Interpretation

The requirement of an intrusive investigation will be dependent on the specific characteristics of the site being investigated. An investigation will generally require soil samples to be taken at various depths from a number of locations, testing of any ground water or surface water present on the site and possibly ground gas monitoring and vapour monitoring. The intrusive investigation may be conducted in several phases.

Upon completion of the intrusive investigation, selected soil and water samples will be analysed by a UKAS/Mcerts accredited laboratory. The types of analytes to be analysed for will depend on the site and the likely contamination.

Site Investigation

If a detailed desk study and technical evaluation identifies that an intrusive investigation is required, a communications strategy will be developed in order to ensure all owners and residents of the site and all other relevant parties including statutory bodies such as the Environment Agency and English Nature are contacted and consulted in relation to the detailed assessment of the site.

Ideally the intrusive site investigation will be carried out by the original polluter(s) or the site owner(s). However, if the appropriate person cannot be identified The Council may be responsible for the site investigation until information is available to determine the site.

Generic Quantitative Risk Assessment

The test result data will be initially assessed via a Generic Quantitative Risk Assessment (GQRA). This is an initial screening tool, whereby the results are compared against ascribed values, such as Category 4 Screening Levels (C4SLs), the Soil Guideline Values (SGVs), or against Generic Assessment Criteria (GAC) such as Suitable for Use Levels (S4ULs) produced by Land Quality Management (LQM) in cooperation the Chartered Institute of Environmental Health. Other generic criteria are available and may be used as necessary. These ascribed values represent a level of contamination below which there is considered to be no demonstrable adverse health effects. Therefore, if the test results record levels of contamination below these levels then the site would not be considered to represent a risk to human health and the determination process will be stopped. However, if the test results exceed the ascribed values then a Detailed Quantitative Risk Assessment is required.

Detailed Quantitative Risk Assessment

A Detailed Quantitative Risk Assessment (DQRA) would be undertaken to assess the results on a site specific basis. The DQRA would take into account the site's geology, the site use, the geo-positioning of the samples analysed, the type of contamination encountered and the likely pathway by which the contamination would affect the receptor(s). If after the DQRA the levels of contamination encountered during the site investigation are still considered to be elevated and are considered to be elevated at such a level that 'Significant Possibility of Significant Harm' (SPOSH) is present then remediation would be required. See Appendix 4 for more details on what constitutes Significant Possibility of Significant Harm.

Stage 6 – Determine whether the Site is Contaminated Land and Needs Remediation.

Once the site investigation has been completed and the potential risk(s) to the relevant receptors (see Appendix 4) has been assessed, the status of the site can be determined. If no significant risks are identified no further action will be taken under these regulations.

However, if the risk is found to be significant the site will be determined as 'contaminated land' in accordance with the legal definition as defined in Section 78A(2) of Part IIA, unless voluntary remediation can be agreed. If the site were to be Determined the relevant information would be entered on the public register (see Section 6 of the main text) and the appropriate actions would be taken. However, if voluntary remediation can be agreed with the polluter/owner it is possible for the site not to be Determined and no entry placed on the public register. All actions will follow the contaminated land legislative requirements and Government statutory guidance.

Once the site is in the position where it may be determined as Contaminated Land, it will be remediated. There are two courses of action; these are:

1. Voluntary remediation; and
2. Compulsory remediation.

The remediation options appraisal should identify what remediation work is required, together with details of the duration of the work. It should also identify what risks there are associated with the preferred method of remediation. The Council also intends to use this time to discuss with the appropriate persons whether a Remediation Notice needs to be served or whether the matter can be resolved by voluntary means.

The regulations state that remediation is only required to make the land suitable for its current use. The Council is not legally able to require a remediation standard beyond that statutorily permitted under a Remediation Notice. Further remediation can be carried out voluntarily, or as part of the planning process.

Section 78H (1) of Part IIA requires The Council to try and consult with the following before serving a Remediation Notice:

- The person(s) on whom the notice will be served
- The owners of the land to which the notice relates
- Any person(s) in occupation of any part(s) of the land in question
- Any other persons as may be necessary (e.g. statutory consultees and other affected parties).

Section 78H (3) of Part IIA requires that a moratorium of a minimum of three months should be given between classification of the site as contaminated land and the commencement of the issuing of a Remediation Notice during which time consultation with the relevant parties should be carried out.

However, if The Council believes there to be imminent danger to a receptor from the contamination present on a site, consultation will take a lower priority and immediate action under Sections 78G(4) and 78H(4) of Part IIA would be taken to remediate the land.

Voluntary Remediation

Wherever possible, The Council aims to encourage remediation carried out by voluntary agreement, with Determination and the issuing of a Remediation Notice being served as a last resort. Section 78H(5)(b) of Part IIA states that no Remediation Notice can be served while the enforcing authority is satisfied that appropriate action is being taken or will be taken to remediate the land. For The Council to be satisfied of this the following would be required:

- Any proposed action, or action taking place is appropriate to address the risk to the receptor/s from the source via the pollutant linkage/s identified (Appendix 5), and
- That those measures are either already in progress or will take place and that they will be carried out satisfactorily within an acceptable timescale.

As part of the consultation process The Council will seek to ensure that all remediation proposals are appropriate to the conditions on that site. All remediation processes must be suitably effective and not have an adverse effect that could be equal to or even worse than the conditions already present.

The Council must be satisfied that remediation will be carried out in full without the need to issue a Remediation Notice in the future. The nature of the assurances required by The Council for this will be decided on a case by case basis. Once The Council has received all of the required assurances a written agreement will be made for acceptance by all parties. If no agreement can be reached, or if remediation is found to be inadequate, a Remediation Notice will be served and formal action taken to remediate the land. In cases where The Council is itself either the Class A or Class B person remediation would be carried out voluntarily. Please refer to ***Procedures for identifying the appropriate person*** below for the definition of these person classes.

Remediation Notices

In cases where, at the end of the three month consultation period, a voluntary agreement for the remediation of the site cannot be reached The Council is required to issue a Remediation Notice. This must state the name(s) of the appropriate person(s), the site to which the Notice relates and the work required to make the site fit for the current use, together with details of the timescale over which the work will be carried out. The Remediation Notice must provide enough information to enable the reader to identify the land in question and detail the type and extent of work required to remediate the site to the desired standard. Where the remediation works requested by a Remediation Notice does not take place, The Council has the ability to either carry out the necessary work and recover the costs from the appropriate person(s) or pursue legal action for non-compliance of the Notice.

Remediation Declarations

Under Section 78H (6) of Part IIA, where serving a Remediation Notice would be precluded on the grounds of unreasonableness, the authority is required to serve a Remediation Declaration. The Remediation Declaration must state why the local authority would have specified these actions, had a Remediation Notice been served, and the reasons why the Local Authority has been precluded from serving the Notice.

Remediation Statements

Remediation Statements are an alternative method of enforcement for use where a Remediation Notice cannot be served for legal reasons in accordance with section 78H (5) of Part IIA. In these cases the person responsible for the remediation work must prepare and publish the Remediation Statement. The Statement must record:

- things which are being, have been or will be done by way of remediation
- the name and address of the person(s) who have done, are doing, or will do the remediation work
- The period of time within which the works should be completed.

In cases where those responsible for the works do not produce a Remediation Statement the enforcing authority has the authority to prepare and produce the Statement and recover reasonable costs.

Procedures for identifying the appropriate person

The Regulations require all local authorities to ensure that the costs of any remediation

of a contaminated site are met by the appropriate person. Part IIA defines an appropriate person in section 78A (9) as:

“Any person who is an appropriate person, determined in accordance with section 78F, to bear responsibility for anything which is to be done by way of remediation in any particular case.”

The process of determining the appropriate person will involve two principal groups identified as Class A or Class B.

A ‘Class A’ person is defined in the Act under section 78 F (2). In summary:

A ‘Class A’ person is one who caused or knowingly permitted a pollutant to be in, on or under the land by reason of which the land is determined as contaminated.

A ‘Class B’ person is defined in the Act under section 78F (4) & (5). In summary:

A ‘Class B’ person is the owner or occupier of the land in circumstances where no Class A person can be found with respect to a particular remediation action.

It is worth adding that groups as well as individuals can be identified as Class A or Class B parties. It is also possible that different individuals or groups may be liable for different contaminants if more than one pollutant linkage (Appendix 5) is found on a site.

It is The Council’s intention, where possible, to identify the Class A person or group and ensure the ‘polluter pays’ principle is adopted when trying to locate the persons liable to pay for any remediation work that is required.

Appendix 7 – Preliminary Desk Study Format

A Detailed Desk Study (Stage 4, Appendix 6) is a commonly used method of collating as much information about a site as possible without using intrusive investigation work. The *Preliminary* Desk Study will generally use the same sources of information but in a reduced form. A *Preliminary* Desk Study would collect information on:-

- Site location
- Site history
- Current use
- Geology
- Hydrogeology
- Hydrology
- Water abstractions on or near to the site
- Pollution incidents on or near the site (this may aid in highlighting the reason why the site may be contaminated)
- Location of principal areas of concern
- Visual inspection of the site
- Environmental Health File Search
- Any other relevant and available information

If all of the above information is available it will be possible to produce a conceptual model and help determine what further work is required on the site. The *Preliminary* Desk Study will also be able to highlight if there is no significant risk to the target. The *Preliminary* Desk Studies will be carried out following the completion of the Hazard Assessment (Stage 2, Appendix 6).

Appendix 8 - Section 78R (1) to (9), "What Shall be Contained in the Register"

- 78R (1) Every enforcing authority shall maintain a register containing prescribed particulars of or relating to -
- (a) remediation notices served by that authority;
 - (b) appeals against any such remediation notices;
 - (c) remediation statements or remediation declarations prepared and published under section 78H above;
 - (d) in relation to an enforcing authority in England and Wales, appeals against charging notices served by that authority;
 - (e) notices under subsection (1)(b) or (5)(a) of section 78C above which have effect by virtue of subsection (7) of that section as the designation of any land as a special site;
 - (f) notices under subsection (4)(b) of section 78D above which have effect by virtue of subsection (6) of that section as the designation of any land as a special site;
 - (g) notices given by or to the enforcing authority under section 78Q(4) above terminating the designation of any land as a special site;
 - (h) notifications given to that authority by persons -
 - (i) on whom a remediation notice has been served, or
 - (ii) who are or were required by virtue of section 78H(8)(a) above to prepare and publish a remediation statement, of what they claim has been done by them by way of remediation;
 - (j) notifications given to that authority by owners or occupiers of land -
 - (i) in respect of which a remediation notice has been served, or
 - (ii) in respect of which a remediation statement has been prepared and published.
Of what they claim has been done on the land in question by way of remediation;
 - (k) convictions for such offences under section 78M above as may be prescribed;
 - (l) such other matters relating to contaminated land as may be prescribed;
- but that duty is subject to sections 78S and 78T below.
- (2) The form of, and the descriptions of information to be contained in notifications for the purposes of subsection (1)(h) or (j) above may be prescribed by the Secretary of State.
- (3) No entry made in a register by virtue of subsection (1)(h) or (j) above constitutes a representation by the body maintaining the register or, in a case where the entry is made by virtue of subsection (6) below, the authority which sent the copy of the particulars in question pursuant to subsection (4) or (5) below -
- (a) that what is stated in the entry to have been done has in fact been done;
or
 - (b) as to the manner in which it has been done.
- (4) Where any particulars are entered on a register maintained under this section by the appropriate Agency, the appropriate Agency shall send a copy of those particulars to the local authority in whose area is situated the land to which the particulars relate.
- (5) In any case where -
- (a) any land is treated by virtue of section 78X(2) below as situated in the area of a local authority other than the local authority in whose area it is in fact situated, and

- (b) any particulars relating to that land are entered on the register maintained under this section by the local authority in whose area the land is so treated as situated,

that authority shall send a copy of those particulars to the local authority in whose area the land is in fact situated.

- (6) Where a local authority receives a copy of any particulars sent to it pursuant to subsection (4) or (5) above, it shall enter those particulars on the register maintained by it under this section.
- (7) Where information of any description is excluded by virtue of section 78T below from any register maintained under this section, a statement shall be entered in the register indicating the existence of information of that description.
- (8) It shall be the duty of each enforcing authority -
 - (a) to secure that the registers maintained by it under this section are available, at all reasonable times, for inspection by the public free of charge; and
 - (b) to afford to members of the public facilities for obtaining copies of entries, on payment of reasonable charges;

and for the purposes of this subsection, places may be prescribed by the Secretary of State at which any such registers or facilities as are mentioned in paragraph (a) or (b) above are to be available or afforded to the public in pursuance of the paragraph in question.

- (9) Registers under this section may be kept in any form.

Appendix 9 - References/Relevant Information Sources

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