

**SOUTH HAMS DISTRICT COUNCIL**

**ENVIRONMENTAL PROTECTION ACT, PART  
IIA**

**STRATEGY FOR THE INVESTIGATION AND  
REMEDICATION OF CONTAMINATED LAND**

**REPORT NO. CLSTRAT REV. 2 (FINAL)**

**PREPARED BY  
SOUTH HAMS DISTRICT COUNCIL**

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## TABLE OF CONTENTS

<b>1.0</b>	<b>INTRODUCTION</b>	<b>4</b>
1.1	Enforcement	4
1.2	Public Access To Information	5
1.3	Consultation	5
1.4	Central Government Re-Organisation	5
1.4.1	DTLR	6
1.4.2	DEFRA	6
1.4.3	Implications For This Document	6
<b>2.0</b>	<b>LEGISLATIVE BACKGROUND</b>	<b>7</b>
2.1	Relationship Between Part IIA And Other Controls	10
2.1.1	Planning and Development Control	10
2.1.2	Environmental Protection Act 1990 Part III – Statutory Nuisance	10
2.1.3	Integrated Pollution Control (IPC) and Pollution Prevention and Control (PPC)	11
2.1.4	Waste Management Licensing (Part II of EPA 1990)	11
2.1.5	Water Resources Act (WRA) 1991	11
2.2	Principles Of Pollutant Linkage And Risk Assessment	11
<b>3.0</b>	<b>DEVELOPMENT OF THE STRATEGY</b>	<b>13</b>
<b>4.0</b>	<b>CHARACTERISTICS OF THE SOUTH HAMS AREA</b>	<b>15</b>
4.1	General Description	15
4.2	Current Land Use Characteristics	16
4.2.1	Protected Locations	17
4.3	Details Of LA Ownership Of Land	18
4.4	Key Water Resource/Protection Issues	18
4.5	Known Information On Contamination	18
4.6	Past Industrial History	18
4.6.1	Extractive Industry	18
4.6.2	Manufacturing And Processing Industry	19
4.6.3	Military Activity in The South Hams	19
4.7	Geological Characteristics	19
4.7.1	Hydrogeology	19
4.7.2	Major Aquifers	20
4.7.3	Minor Aquifers	20
4.8	Local Background Effects	20
<b>5.0</b>	<b>SOUTH HAMS DISTRICT COUNCIL STRATEGY – OVERALL AIMS</b>	<b>22</b>
5.1	Policy Statement	22
5.1.1	Key Strategy Objectives	22

5.1.2	The Council's Priorities	22
<b>5.2</b>	<b>Timetable For Implementation</b>	<b>23</b>
5.2.1	Draft Consultation Strategy and Internal Consultation.	23
5.2.2	Consultation	23
5.2.3	Publish Final Inspection Strategy	23
5.2.4	Identify Historical Information Sources	23
5.2.5	Establish A Database	23
5.2.6	Evaluate Existing Environmental Health Data	24
<b>5.3</b>	<b>General Approach To Inspection</b>	<b>24</b>
5.3.1	Prioritisation of Areas For Inspection	24
5.3.2	Detailed Inspection (January 2002 – Jan 2003)	24
5.3.3	Threats To Controlled Waters, Protected Areas Of The Environment And Buildings	25
5.3.4	Prioritisation of Sites For Remediation	25
<b>6.0</b>	<b>RESPONSIBILITIES</b>	<b>26</b>
<b>6.1</b>	<b>Internal Management Arrangements For Inspection And Identification</b>	<b>26</b>
6.1.1	Site Investigation And Inspection	26
6.1.2	Determination of Contaminated Land	26
<b>6.2</b>	<b>Procedure For Dealing With Special Sites</b>	<b>27</b>
<b>6.3</b>	<b>Contaminated Land And Development Control</b>	<b>27</b>
<b>6.4</b>	<b>Dealing With Urgent Sites</b>	<b>28</b>
<b>6.5</b>	<b>Considering Local Authority Interests In Land.</b>	<b>28</b>
6.5.1	Existing Land Holdings	28
6.5.2	Land Acquisitions and Adoption	29
6.5.3	Disposals	29
6.5.4	Cross Boundary Contamination	29
<b>7.0</b>	<b>INFORMATION COLLECTION AND MANAGEMENT.</b>	<b>30</b>
7.1.1	Public Register	31
<b>7.2</b>	<b>Information And Complaints</b>	<b>33</b>
7.2.1	Complaints	33
7.2.2	Confidentiality	33
7.2.3	Voluntary Provision Of Information	33
7.2.4	Anonymously Provided Information	33
<b>8.0</b>	<b>INFORMATION EVALUATION – RISK ASSESSMENT.</b>	<b>34</b>
<b>8.1</b>	<b>Phase 1 - Hazard Identification</b>	<b>34</b>
<b>8.2</b>	<b>Phase 2 - Hazard Assessment</b>	<b>34</b>
<b>8.3</b>	<b>Phase 3 - Risk Estimation</b>	<b>34</b>
<b>8.4</b>	<b>Phase 4 - Risk Evaluation</b>	<b>35</b>
<b>9.0</b>	<b>GENERAL LIAISON AND COMMUNICATION STRATEGIES</b>	<b>36</b>
<b>9.1</b>	<b>Statutory Consultees</b>	<b>36</b>
<b>9.2</b>	<b>Non-statutory Consultees</b>	<b>36</b>

<b>9.3</b>	<b>Communicating With Owners, Occupiers And Other Interested Parties</b>	<b>36</b>
<b>9.4</b>	<b>Risk Communication</b>	<b>37</b>
<b>9.5</b>	<b>Provision Of Information To The Environment Agency</b>	<b>37</b>
<b>10.0</b>	<b>REVIEW MECHANISMS</b>	<b>38</b>
<b>10.1</b>	<b>Introduction</b>	<b>38</b>
<b>10.2</b>	<b>Triggers For Reviewing Inspection Decisions</b>	<b>38</b>
<b>10.3</b>	<b>Review of the Inspection Strategy</b>	<b>38</b>
	<b>GLOSSARY</b>	<b>40</b>
	<b>REFERENCES</b>	<b>42</b>
<b>TABLE OF TABLES</b>		
	Table 1 Principal Centres of Population	15
	<b>Table 2 Summary of Protected Areas</b>	17
	Table 3 Families or groups of substances listed for the purposes of regulation 3(c)(i)	53
	Table 4 Rock Formations listed for the purposes of regulation 3(c)(ii)	53
	Table 5 Information Sources For The Indetification Of Potentially Contaminated Land In The South Hams	56
<b>APPENDICES</b>		
<b>APPENDIX A TIMETABLES</b>		
<b>APPENDIX B POTENTIAL SOURCES OF CONTAMINATION</b>		
<b>APPENDIX C EXTERNAL CONSULTEES</b>		
<b>APPENDIX D SCHEDULES</b>		
<b>APPENDIX E INFORMATION SOURCES</b>		

## **1.0 INTRODUCTION**

The Council's vision, is to "Support and enhance our quality of life and distinctive environment" from this four key objectives have been developed:

- Well Being - Secure a safe, clean, healthy way of life.
- Prosperity - Maintain and enhance the prosperity of business, communities and individuals.
- Environment - Maintain and enhance the distinctive quality of the environment and secure long-term environmental gains.
- Sustainability - Secure sustainability in all things – communities, development, business and the environment.

Maintaining a healthy and safe environment is a key part of improving the quality of life for people in the South Hams District. However, there are many pressures on the environment, and environmental issues are becoming increasingly important. The challenge will be to balance the need for employment and demands of business with protecting and enhancing the environment for future generations.

South Hams District Council, in support of its commitment to sustainable development, has adopted an objective to protect and enhance the district's environment and deal with competing pressures in a balanced way. The South Hams face a particular challenge in relation to the provision of land for new housing; The Devon Structure Plan identifies the need to allocate 11,500 dwellings within the South Hams between 1995 and 2011, and the DETR has set a target of concentrating more than 60% of new housing development on brownfield sites. The development of brownfield sites will generally be regulated via the Development Control process and not the contaminated land regime. However, guidance coming forward to assist with the implementation of the contaminated land regime will be used to ensure that these sites are brought into safe use.

### **1.1 Enforcement**

As the principal regulators under Part IIA of the EPA, the Council will play the lead role in enforcement. The Environment Agency (EA) has an important complementary regulatory role to play with specific responsibilities. The EA will take the lead role in situations where sites are designated as SPECIAL SITES (see Schedule 2, Appendix D).

South Hams District Council (SHDC) has adopted the Cabinet Office Enforcement Concordat, which commits the authority to good enforcement policies and procedures. Part IIA of the Environmental Protection Act (1990) [EPA] will be enforced in an equitable, practical and consistent manner which will meet the principles set out in the Enforcement Concordat.

It will be the approach of the Council when dealing with contaminated land to seek "voluntary" remediation of sites before enforcement action is considered. This approach follows the guidance laid out in the regulations and it is hoped this will prove to be the most effective way of achieving remediation.

As the enforcing authority the Council will, where appropriate, serve [remediation] notices as a means of achieving the remediation of land. REMEDIATION NOTICES will specify the action needed in order to achieve the appropriate standard of clean-up.

## **1.2 Public Access To Information**

The management and release of information on contaminated land is a very difficult issue to handle appropriately. If the process is not undertaken carefully it will cause property blight. SHDC is committed to a policy of openness, provided that the correct information is being provided to an appropriate person, and for a proper purpose.

It will be particularly difficult to manage the provision of information on sites which are under investigation as *potentially* contaminated, but have not yet been determined to be CONTAMINATED LAND.

The Environmental Health Service will continue to respond to specific written requests for information held by the Service on historic land uses and investigation data. A disclaimer is added to any written response making it clear that the information provided is that which is available to the Authority at that time. The approach will be consistent with the requirements of the Environmental Information Regulations (as amended) 1992. The Contaminated Land Officer will be the lead officer and primary point of contact within the Council on contaminated land issues.

Where information or reports on sites are provided by a third party, the status of the information (i.e. whether it is considered confidential or subject to national security consideration) will be determined and confirmed at the outset where possible. Third party information will be made publicly available where it is appropriate to release the information in accordance with the above regulations.

The authority expects to collect and organise a considerable volume of information in the process of inspecting its area. Storing, cataloguing and managing the appropriate release of this information can only effectively be achieved by the use of computer technology. A prime objective of the project will be to establish a Geographical Information System (GIS) to fulfil this objective.

Part IIA of the EPA 1990 requires that a public register is created and made publicly accessible, recording information on sites where, for example, notices have been issued or a formal REMEDIATION STATEMENT has been prepared in line with the Act.

## **1.3 Consultation**

The draft strategy has been circulated to the statutory consultees as detailed in the guidance issued by the Department of the Environment, Transport and the Regions (DETR) (listed in Appendix C ), prior to its adoption by the Council. It is the Council's intention to publicise the document in order to encourage and enable public comment.

## **1.4 Central Government Re-Organisation**

Following the general election, held on 7<sup>th</sup> June, the returning Labour administration announced alterations in the structure of several Government departments, including the (former) Department for the Environment, Transport and the Regions (DETR).

The re-organisation resulted in the disappearance of the DETR and MAFF, and the formation of new departments under the following names:

#### **1.4.1 DTLR**

Department for Transport, Local Government and the Regions retains its transport and regional government responsibilities, however its Environmental Protection and Countryside functions (including contaminated land) have transferred to the Department for Environment, Food and Rural Affairs.

#### **1.4.2 DEFRA**

The Department for Environment, Food and Rural Affairs has retained the functions of the former MAFF, but has assumed control of the Environment Protection Group and Wildlife and Countryside Directorate of the former DETR. This includes the Environment Agency, and thus regulation of most issues relating to contaminated land.

#### **1.4.3 Implications For This Document**

The preparatory work for Part IIA of the Environmental Protection Act 1990 was undertaken by the former DETR, prior to its disappearance in June 2001. Most of the legislation, guidance and documentation bears the name of the DETR.

References to specific documents and activities, published or undertaken by the former DETR prior to 9<sup>th</sup> June 2001, have been left un-altered. Where functions and responsibilities have wholly transferred to DEFRA, reference to DETR has been removed. In certain instances (for example where the publication of guidance is an on-going process), reference is made to "DETR/DEFRA" and indicates that current documents may bear the DETR identity but that future publications will change to DEFRA.

## 2.0 LEGISLATIVE BACKGROUND

Part IIA of the Environmental Protection Act 1990 (Environmental Protection Act 1990), which is introduced by section 57 of the Environment Act 1995, requires an overall risk-based approach to dealing with contaminated sites, which is consistent with the general good practice approach to managing land contamination. The regulatory regime set out in Part IIA is based on the following:

- identify the problem
- assess the risks
- determine the appropriate remediation requirements
- consider the costs
- establish who should pay
- secure remediation

Section 78A(2) of the Act defines Contaminated Land for the purpose of Part IIA as:

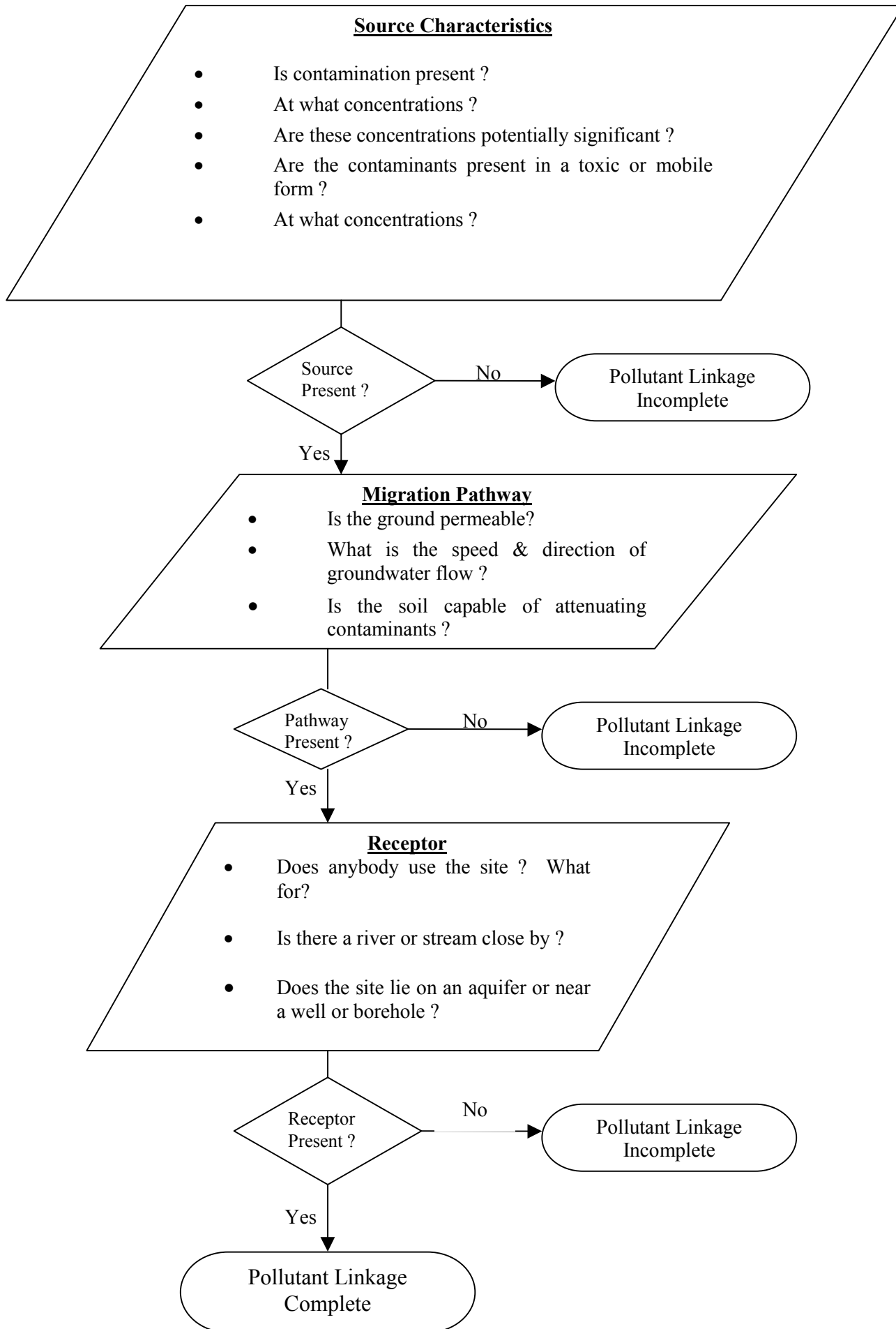
***“any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land, that-***

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

The basis of the definition is complex and incorporates the concept of risk assessment. This involves identification of a contaminant source, pathway and receptor with the essential establishment of pollutant linkages by which the contaminant issuing from the source can reach the receptor via the identified pathway with the possibility to cause SIGNIFICANT HARM or the POLLUTION OF CONTROLLED WATERS.

The Source ⇔ Pathway ⇔ Receptor risk assessment procedure for the determination POLLUTANT LINKAGES is illustrated in Figure 1. It should be noted that the possible linkages shown are for example only and that other receptors and pathways are possible under the definitions set out in Part IIA.

**Figure 1 Contaminant Linkages**



In addition to the primary legislation, the Part IIA regime is implemented through Regulations and through Statutory Guidance which covers:

- local authority inspection strategies
- identification and designation of contaminated land
- remediation requirements
- exclusion from, and apportionment of, liability
- measures for cost recovery

The Contaminated Land (England) Regulations 2000 set out further requirements, particularly in respect of:

- categories of land which are to be designated as SPECIAL SITES
- the form and content of REMEDIATION NOTICES
- appeals
- compensation for access
- public REMEDIATION REGISTERS

The principal regulators for Part IIA are the local authorities (District and Unitary Councils) whose role has been defined as follows:

- Prepare and publish an INSPECTION STRATEGY.
- Inspect their area to identify and where appropriate determine CONTAMINATED LAND.
- Consult the Environment Agency (EA) on areas where the Environment Agency has particular expertise, in particular with respect to the POLLUTION OF CONTROLLED WATERS.
- Ensure remediation of land identified as CONTAMINATED LAND.
- Transfer SPECIAL SITES to the EA.
- Maintain REMEDIATION REGISTERS.
- Provide information to the EA for inclusion in the State of Contaminated Land report.

The EA has a complementary regulatory role under the regime including:

- Provision of relevant information, held by the EA, to local authorities.
- Regulation of SPECIAL SITES.
- To ensure remediation of SPECIAL SITES.
- Maintenance of a PUBLIC REGISTER of regulatory action for SPECIAL SITES.
- Preparation of a national report on the state of contaminated land.
- Provision of advice to local authorities on identifying and dealing with POLLUTION OF CONTROLLED WATERS.
- Provision of site-specific advice to local authorities on the remediation of contaminated land.

## **2.1 Relationship Between Part IIA And Other Controls**

### **2.1.1 Planning and Development Control**

Part IIA will not normally apply where land is being managed within the normal cycle of land redevelopment and regeneration, where the planning and development control regime will continue to be the primary means of control.

Land contamination, or the possibility of it, is a material consideration for the purposes of town and country planning. Current planning control on contaminated land is set out in Planning Policy Guidance: Planning and Pollution Control (PPG 23). DEFRA is currently preparing further planning guidance on land contamination, which will amplify the guidance in PPG 23 and will explain the interface with the Part IIA regime from a planning perspective. In the meantime, the guidance contained in PPG 23 remains valid, although it should be noted that reference to the term “contaminated land” in PPG 23 should be interpreted in the general sense rather than according to the definition used for the purposes of the Part IIA regime.

It is convenient to consider the two regulatory regimes in the following way:

- The Planning & Development process is intended to ensure that at any appropriate point (such as the construction of new buildings, or at change of land use), the land is assessed for contamination, and that it is judged to be “fit for [the proposed] use”.
- The Part IIA regime is intended to identify that land which is (within the terms of the legislation) *not* “fit for use” in its current usage.

In addition to the planning system, the Building Regulations 1991 (made under the Building Act 1984) may require measures to be taken to protect the fabric of new buildings, and their future occupants, from the effects of contamination. Approved Document Part C (Site Preparation and Resistance to Moisture) gives guidance on these requirements.

In any case where new development is taking place, it will be the responsibility of the developer to carry out the necessary remediation. In most cases, the enforcement of any remediation requirements will be through planning conditions and building control, rather than through a remediation notice issued under Part IIA.

### **2.1.2 Environmental Protection Act 1990 Part III – Statutory Nuisance**

Statutory nuisance provisions will no longer apply where the nuisance arises in relation to land being in a ‘contaminated state’. However, nuisance provisions could still apply where land gives rise to a nuisance (such as an odour) that is an offence to human senses but which is not covered under the various categories of harm set out in the Contaminated Land Statutory Guidance.

### **2.1.3 Integrated Pollution Control (IPC) and Pollution Prevention and Control (PPC)**

Part IIA will not apply where the Environment Agency powers under IPC provisions of the EPA 1990 can be used to take action to remedy contamination resulting from the breach of a process authorisation. Similar arrangements will apply to processes authorised under PPC.

### **2.1.4 Waste Management Licensing (Part II of EPA 1990)**

Part IIA will not normally apply where contamination has resulted from land subject to a waste management licence, although it may apply where adverse effects arise from causes other than a breach of licence conditions or from activities that are permitted under the licence. Licences are regulated and issued by the Environment Agency. Former landfill sites, for which the site license was surrendered prior to May 1994, will not be covered by the waste management licensing regime and will therefore fall under the terms of Part IIA.

### **2.1.5 Water Resources Act (WRA) 1991**

The WRA 1991 gives the Environment Agency powers to take action to prevent or remedy the pollution of controlled waters. Decisions about the most appropriate regime in any particular case will be handled through consultation between the Council and the Environment Agency.

## **2.2 Principles Of Pollutant Linkage And Risk Assessment**

The definition of significant harm is based on the pollutant linkage being present. A pollutant linkage consists of three parts:

- A CONTAMINANT is a substance which is in, on or under the land which has the potential to cause harm or to cause pollution of controlled waters.
- A PATHWAY is one or more routes or means by, through, which a receptor is being exposed to, or affected by, a contaminant, or could be so exposed or affected.
- A RECEPTOR is specified in the DETR guidance (see below).

Receptors recognised as being potentially sensitive are:

- **Human beings**
- **Ecological systems or living organisms forming part of a system within certain protected locations including:**
  - Sites of Special Scientific Interest (SSSI's)
  - National Nature Reserves
  - Marine Nature Reserves
  - Special Areas of Conservation (SAC's)
  - Special Protection Areas (SPA's)
  - Candidate SAC's
  - RAMSAR sites

- Areas of special protection for birds
  
- **Property in the form of buildings**
  
- **Property in other forms:**
  - Livestock
  - Crops
  - Home-grown produce
  - Owned or domesticated animals
  - Wild animals subject to shooting or fishing rights
  
- **Controlled waters:**
  - Drinking water abstractions
  - Surface waters (e.g. rivers, lakes, streams)
  - Source protection zones
  - Groundwater\* – private abstractions
  - Groundwater\* – major aquifers

\* The statutory definition of groundwater (Water Resources Act 1991) covers all water below the water table, and not just the examples shown above.

If the three elements are present for the pollutant linkage, a risk assessment must be undertaken to determine the likelihood of significant harm being caused to one of the specified receptors. Having identified the pollutant linkage and undertaken a risk assessment which indicates that significant harm is being caused, or is likely to be caused, to a receptor, the land can then be classified as CONTAMINATED LAND.

### **3.0 DEVELOPMENT OF THE STRATEGY**

Local authorities are responsible for preparing Inspection Strategies for their district. The Statutory Guidance requires that the approach adopted should:

- Be rational, ordered and efficient
- Be proportionate to the seriousness of any actual or potential risk
- Seek to ensure that the most pressing and serious problems are located first
- Ensure that resources are concentrated on investigating areas where the authority is most likely to identify contaminated land
- Ensure that the local authority efficiently identifies requirements for the detailed inspection of particular areas of land

This document has been prepared having regard to the DETR Technical Advice For Local Authorities – Contaminated Land Inspection Strategies.

Contaminated land falls under the remit of the Chief Environment and Development Services Officer, and the responsibility of managing the process has been placed with the Divisional Environmental Health Officer (DEHO) (Environmental Control). A Contaminated Land Officer (CLO) has been appointed to undertake the preparation and implementation of the Strategy.

The CLO post is a joint appointment with Teignbridge District Council (TDC). It is intended that efficiency savings will be made as result of a shared, common approach, and through task-sharing between the authorities.

Although the role of managing the process falls to the DEHO, there are a number of officers within the Council who will have a role in the process of the Strategy development, inspection and enforcement. Much of the information needed for, and resulting from, inspection is pertinent to other local authority functions, for example land use planning and development control, environmental protection and economic development. Therefore an internal Contaminated Land Working Group has been formed, lead by the CLO.

The Working Group includes representatives from the following Functions or Service Groups:

- Planning (Development Control)
- Forward Plans
- Estates
- Legal
- Community Services (Architects/Engineers)
- Building Control
- Leisure (Recreation & Outreach)
- IT
- Finance
- Coast & Countryside
- Customer Operations (Harbour & Ferry)

The Group members assisted the CLO to prepare the draft strategy document for consultation.

## 4.0 CHARACTERISTICS OF THE SOUTH HAMS AREA

### 4.1 General Description

The South Hams District covers an area of approximately 905 km<sup>2</sup> of predominantly rural south Devon. The total population is approximately 83,200 with ~45% living in the communities listed below:

**Table 1 Principal Centres of Population**

<i>Community</i>	<i>Approximate Population<sup>1</sup></i>	<i>Approximate Development Area (km<sup>2</sup>)</i>
Ivybridge	11,900	Total Development Area ~9.5 km <sup>2</sup>
Totnes	7,600	
Kingsbridge	5,700	
Dartmouth	6,000	
Salcombe	2,250	
South Brent	2,750	
Modbury	1,500	
Rural Areas	45,500	~896 km <sup>2</sup>
Total Population	83,200	

<sup>1</sup>Projected census data, published in South Hams District Council Corporate Plan 1999/2000.

The district is traversed by the Rivers Dart, Avon, Erme and Plym and their tributaries, and includes a small section of coastline adjoining the Tamar Estuary. The surface water courses are numerous and generally of a high quality, supporting salmonid fish populations and sensitive ecosystems.

The regional geology is predominantly sedimentary rocks of Devonian, Carboniferous and Permian age, with the granite intrusion of Dartmoor and its metamorphic aureole to the north. The sedimentary rocks are host to a number of licensed groundwater abstractions. Devonian limestones outcrop or subcrop in a broad swath from Plymouth in the south-west to Totnes in the north-east. These rocks are classified regionally as major aquifers, signifying their status as potential groundwater resources. Soils in the upland areas of Dartmoor will be thin and are unlikely to have significant capacity for the attenuation of contamination. There are approximately 900 private domestic water supplies of which the authority is aware, drawn from a variety of sources including surface waters, and wells sunk into recent superficial deposits and into both sedimentary and granitic rocks within the District. The Council analyses approximately 350 samples annually from these supplies.

Possible contaminative land uses are set out in Appendix B. There will be a higher incidence of potentially contaminative land uses in urban, industrialised areas, however many potential point sources of contamination may exist in rural areas, possibly in proximity to sensitive environmental receptors such as streams and rivers, and groundwater source protection zones.

For a land parcel to be defined as CONTAMINATED LAND, it must represent a source of contamination for which there is an identifiable RECEPTOR, and a proven (or likely) pathway connecting the two. If such a CONTAMINANT LINKAGE can be defined, then the site in question may be defined as CONTAMINATED LAND under Part IIA and any enforcement and remediation actions may be entered on the PUBLIC REGISTER.

It is a primary objective of the strategy to target effort and resources on areas likely to contain contaminated land sites.

The more densely populated settlements are likely to be a focus for industrial activities, with a greater likelihood for potentially contaminative land uses to have been concentrated in these areas. Similarly these areas have higher population densities, with greater development pressure increasing the likelihood of bringing the public into contact with contaminated land. There is therefore a greater potential for there to be contamination sources present close to human health receptors in these areas.

Conversely, in other, rural areas, other sensitive environmental receptors (e.g. streams and rivers) are prevalent, although contamination sources may be more widely distributed.

The granite intrusion that underlies, and outcrops within, the Dartmoor area adds its own complications; naturally occurring concentrations of substances are in places present in rocks, soil, surface and ground water that may be capable of giving rise to public health effects. These include trace levels of uranium metal, and elements such as arsenic, lead, tin and zinc. Abandoned metals mines are common within the National Park and several are recorded within the South Hams area. Radon gas in the ground is also a feature of many parts of the South Hams District, however, this is not addressed by the provisions of Part IIA.

The net risk to any receptor is determined by the potential severity of the harm that may be caused to that receptor, combined with the likelihood that that harm will occur. It may be that the contaminated land parcels which are the most potentially harmful to human health are located in areas where the probability of human exposure may be low. Conversely, less hazardous sites may be located in areas where the likelihood of public access is much greater.

These factors will exert an influence over the preliminary research and screening techniques that the authority employs to quickly focus effort on potentially contaminated sites; it may not be possible to eliminate geographical areas from the search for contaminated land, but rather to eliminate low-risk land uses at an early stage, and to focus effort on potential high risk historical land uses.

## **4.2 Current Land Use Characteristics**

The local economy is centred mainly around agriculture, quarrying, commerce, light industry and tourism, with heavy industry being largely confined within the Plymouth city boundaries.

The authorities area includes part of the Dartmoor National Park, and the south Devon Coast including areas of Outstanding Natural Beauty, Great Landscape Value and parts of the South Devon Heritage Coast.

#### 4.2.1 Protected Locations

The South Hams District contains a significant proportion of sensitive landscapes and habitats, designated and protected under various legislation. These are summarised in **Table 2**.

**Table 2 Summary of Protected Areas**

<i>Designation</i>	<i>Number of Sites/Areas</i>	<i>Approximate Area within South Hams District Council boundary (km<sup>2</sup>)</i>
Dartmoor National Park	-	165
Sites of Special Scientific Interest (SSSI)	30	80
Special Area of Conservation (SAC)	4	-
Area of Outstanding Natural Beauty (AONB)	2	345
Area of Great Landscape Value (AGLV)	-	219
Urban Conservation Areas	52	-
Coastal Protection Area	-	200
Designated Development Areas	90	20
County Geological Sites	46	-
County Wildlife Sites	245	-
Local Wildlife Sites	270	-

The South Hams contain a rich variety of wildlife habitats, due to the interaction of geology, topography and coastal geography. Protected sites include internationally and nationally recognised RAMSAR sites, Special Protection Areas and SSSIs as well as sites of local interest including County and Local Wildlife Sites.

The Tamar Sound & estuary complex Estuaries are designated as internationally important conservation areas. There are 30 SSSIs in the South Hams District, and a proliferation of County Wildlife Sites which have nature conservation value at a regional/county level.

Also protected by the local plan are the District's 46 County Geological Sites (CGS).

The South Hams District currently contains 9244 archaeological sites recorded on the Devon County Sites & Monuments Register. Of these 934 enjoy statutory protection as Scheduled Monuments (SMs) designated under the Ancient Monuments and Archaeological Areas Act 1979. Permission for any works within SMs which involves disturbing the ground, tipping on it, or flooding it, requires consent from the Secretary of State for Culture, Media and Sport; a process which can take 3 months. Consent will not generally be granted for works which will damage the monument or its below-ground remains. Within the Area of Archaeological Interest (AAI), there is a legal requirement to give the Council 6 weeks prior notice of similar works, including geotechnical site

investigations greater than 600mm in depth. Depending on the likely impact on archaeological remains, an archaeological watching brief may be required. The SMs and AAI are mapped in the Draft Local Plan First Review.

### **4.3 Details Of LA Ownership Of Land**

The authority owns or has interests in a significant area of land in the district. No specific figures are available at this time, however, the Authority's Asset Register will be consulted at an early stage of the implementation of the Strategy.

### **4.4 Key Water Resource/Protection Issues**

The water for domestic and industrial supplies are taken from several reservoirs within the South Hams District boundary. There are numerous (~900) private water supplies in the South Hams District, used for drinking water supply. Some of these supplies each serve a single household, and there may be a significant number of others of which we are not yet aware. Water quality is routinely monitored by SHDC in compliance with its obligations under Section 77 of the Water Industries Act 1991.

### **4.5 Known Information On Contamination**

The Council holds limited information on land contamination within the South Hams District, primarily submitted as part of the development control process. Where sites come forward for development and there is concern that the land may be contaminated due to a previous use, a condition will normally be attached to any consent requiring a site investigation and any remediation deemed necessary. The planning records will be extensively used during the inspection process.

The council has prior knowledge of some areas of potentially contaminated land, compiled under earlier work undertaken in anticipation of previous legislation (Section 143 of the EPA 1990), which was never enacted.

The Environmental Control Team have previously consulted the Parish Councils within the district to enquire of any known historical contamination sources. The responses are held by the Environmental Control Team, but have not yet been collated or further investigated.

### **4.6 Past Industrial History**

#### **4.6.1 Extractive Industry**

The granite intrusion underlying the Dartmoor and its surrounding metamorphic aureole have long been mined as a source of minerals. The following extractive industries have at one time or another formed an important part of the local economy:

- Quarrying/mining – stone, china clay, ball clay, metals (arsenic, copper, lead, zinc and tin)
- Smelting

#### **4.6.2 Manufacturing And Processing Industry**

There is no strong tradition of heavy manufacturing in this area of South Devon, however, traditional rural trades such as tanning and the wool trade may have resulted in locally significant soil and groundwater contamination. There is evidence of lime kilns and metals smelting in parts of the district.

#### **4.6.3 Military Activity in The South Hams**

The City of Plymouth was (and indeed remains) a major maritime centre in the UK, and is home to a significant proportion of the British Fleet. Potential land contamination associated with the dockyards, and ancillary storage activities is however, thought to be largely confined within the boundaries of the City of Plymouth. The city was extensively bombed during the WWII and it is certain that stray ordnance has fallen on the South Hams. This is not thought to represent a major source of potential contamination.

Dartmoor remains an important training area for the British Army, and there is a military barracks within the South hams at Bickleigh. The Royal Naval establishments HMS Cambridge and Britannia College lie within the district. Responsibility for the investigation of these sites (where a pollutant linkage is suspected) falls to the EA under the terms of Regulation 2(f).

A section of coastline at Slapton Sands was historically used as a military training ground during preparations for the Allied invasion of Normandy in 1943. This will be reviewed for potential contaminated land impacts. There may be other historical military sites within the district.

#### **4.7 Geological Characteristics**

The South Hams District is underlain by contrasting rock formations which exert a strong influence over land use.

To the North & West, the district is underlain by Devonian & Carboniferous sediments. To the north, the Dartmoor Granite of Carboniferous age intrudes through the sediments giving rise to a local metamorphic aureole and associated mineralisation. The mineralisation is extensive, historically supporting a metaliferous mining industry, recorded on the BGS sheet as “mineral lodes”. Silver, arsenic, copper, lead, and tin were all worked within the South Hams.

Minor igneous (diabase) intrusions, orientated in a north-east to south-west direction are present to the south of Modbury and the Plym estuary. These are associated with local metamorphism and the Dartmouth Slate.

Devonian Limestones outcrop near Plymstock and westwards towards Yealmpton. These are classified locally as Major Aquifers of intermediate or high vulnerability.

##### **4.7.1 Hydrogeology**

For the purposes of Part IIA, groundwater is regarded as all water present below the ground surface. It may be abstracted from boreholes, wells and springs for many uses including public water supply, river augmentation and also for private uses such as

agriculture and commercial purposes. Groundwater is also essential for the maintenance flow of rivers, streams and wetland features and provides a base flow to many rivers throughout the year.

Geological strata that contain groundwater that may be exploited by man are termed aquifers. Aquifers vary in their characteristics and can be classified according to their general and hydraulic properties. These properties, particularly in the upper unsaturated zones, form the basis of groundwater vulnerability assessments.

All groundwaters are controlled waters but for convenience they can be classified into two types:

#### **4.7.2 Major Aquifers**

Major Aquifers are highly permeable strata usually with a known or probable presence of significant fracturing. These are usually capable of supporting large abstractions for public supply and other purposes.

#### **4.7.3 Minor Aquifers**

Minor Aquifers can be fissured and fractured rocks that usually do not have a high primary permeability or formations of variable permeability including unconsolidated deposits. These seldom yield large quantities for public supply but can be important sources of local supplies and of base flow to rivers.

In the South Hams area both Major and Minor Aquifers are present. No areas within the district are underlain by rocks classified as non-aquifers. The Dartmoor Granite is recorded as a minor aquifer of variable permeability and low vulnerability.

The granite and its thin superficial soils support approximately 900 private water supplies within the South Hams (see Section 4.4). Water quality is routinely monitored by SHDC in compliance with its obligations under Section 77 of the Water Industries Act 1991.

The Devonian and Carboniferous sediments sub-cropping approximately to the North of the A38 are generally classified as minor aquifers of variable permeability and high to intermediate vulnerability.

To the south of the A38, there are significant areas underlain by Devonian limestones which are classified regionally as major aquifers of high and intermediate vulnerability. The limestone outcrops or sub-crops in a broad swath from Abbotskerswell, Ipplepen, Totnes, Brixham, Torquay and Paignton. Carboniferous limestone, also classified as a major aquifer, outcrops near Yealmpton and to the south of Plympton.

### **4.8 Local Background Effects**

The South Devon area is well known for the mineralisation associated with the Dartmoor granite intrusion. The local soil and groundwater characteristics are strongly influenced by the chemistry of the underlying rocks. Naturally occurring, elevated levels of metals including arsenic and uranium are known to occur in parts of the district due to the

underlying geology. (Webb, J.S. and others, 1978; The Wolfson Geochemical Atlas of England and Wales. Oxford: Clarendon Press).

There is currently no specific guidance available on the issue of naturally-occurring contamination, and in particular the apportionment of liability for such land, if it is shown to be CONTAMINATED LAND.

## **5.0 SOUTH HAMS DISTRICT COUNCIL STRATEGY – OVERALL AIMS**

The legislation requires a risk-based approach to dealing with contaminated land, which is consistent with the established good practice approach to managing land contamination.

### **5.1 Policy Statement**

The Council's policy on contaminated land is as follows:

*“To ensure the protection of the land environment by the pro-active identification and management of contaminated land, through the adoption of a rational and transparent strategy implemented (where possible) in partnership with landowners, developers and other relevant parties”*

#### **5.1.1 Key Strategy Objectives**

The key objectives of the strategy are:

- To protect health and the environment.
- To ensure compliance with, and enforcement of, the legislation.
- To encourage voluntary remediation of sites by polluters or other appropriate persons.
- To ensure that procedures are in place for the open provision of information to the public and other interested parties.
- To address the liability issues associated with the Council's existing land holdings and avoid any new liability issues associated with land acquisitions.

In addition to the above objectives that directly address the requirements of Part IIA, the strategy seeks to reinforce the existing planning provisions for the management of contaminated land.

- To deal with the legacy of contaminated land using the “suitable for use” approach in an ordered and prioritised way.
- To ensure that where redevelopment of sites take place within the District, that the planning process deals effectively with any land contamination.
- To encourage market confidence in the redevelopment of brownfield sites and therefore promote the use of brownfield, rather than greenfield, sites.

#### **5.1.2 The Council's Priorities**

Dealing with contaminated land is a complex issue and must be dealt with in a consistent manner. It is therefore important to state the Council's objectives clearly (see above) and outline the Council's priorities. In relation to contaminated land the Council's order of priorities will be:

1. To protect human health
2. To protect controlled waters
3. To protect designated ecosystems

4. To prevent damage to property
5. To prevent further contamination of land

## **5.2 Timetable For Implementation**

### **5.2.1 Draft Consultation Strategy and Internal Consultation.**

The strategy was developed in consultation with an internal Council working group.

### **5.2.2 Consultation**

A draft strategy document was put to the Council for approval, and forwarded to the consultees detailed in Appendix C .

### **5.2.3 Publish Final Inspection Strategy**

The final strategy document was adopted by the Council on 21<sup>st</sup> June 2001, and a copy forwarded to DEFRA and the EA. The strategy is to be published on the Council's web site (<http://www.south-hams-dc.gov.uk>).

### **5.2.4 Identify Historical Information Sources**

Work is underway to identify appropriate sources of relevant historical, land use and other information that may indicate the presence and location of potentially contaminated land. Details of these information sources are listed in Appendix E.

### **5.2.5 Establish A Database**

The initial stage of the project aims to search local historical information sources to identify land which may have been subject to potentially contaminative use. This exercise will identify a large number of *potentially* contaminated sites, from which the detailed inspection process will identify a smaller subset of sites which are determined to be CONTAMINATED LAND.

Other information relating to the location and sensitivity of potential receptors will be compiled from sources listed in Appendix E.

It is envisaged that the collation and management of such a potentially large volume of data will be most practically accomplished using GIS. An information structure and specification for the database will be drawn up by the CLO, for development by the authorities IT Department. It is intended that close co-operation with the adjacent TDC will produce a common system, that shares key features and reduces establishment costs.

A period of six months has been allocated (June 2001 – Dec 2001), in which to identify and assemble the historical information, design and develop a GIS database, and to compile a list of *potentially* contaminated sites for further investigation.

### **5.2.6 Evaluate Existing Environmental Health Data**

In the early 1990's some work was undertaken to identify land on which a "contaminative use" had been undertaken in accordance with draft guidance issued by the then Department of the Environment. This information was placed on a set of base maps which are held by Planning Services and on a database in Environmental Health. Details of these "contaminative uses" were obtained by consultation with the local Parish Councils. This information was based on previous draft guidance which has been superseded by the current guidance. Sites originally included in the "register" may not meet the current definition of CONTAMINATED LAND, and are based upon solely upon anecdotal information, which will be re-assessed as the inspection of the district is progressed.

## **5.3 General Approach To Inspection**

### **5.3.1 Prioritisation of Areas For Inspection**

The Council's district is extensive and diverse in nature. It is a primary objective of the strategy to target effort and resources on areas likely to contain contaminated land sites. The Council's priorities are set out in Section 5.1.2 and the first priority is to protect human health.

The more densely populated communities are likely to be a focus for more industrial activities, with a greater likelihood for potentially contaminative land uses to have been concentrated in these areas. Similarly these areas have higher population densities, with greater development pressure increasing the likelihood of bringing the public into contact with contaminated land. There is therefore a greater potential for contamination sources to be present close to human health receptors.

In general, former industrialised areas that are now used for residential purposes will be investigated first. Areas of open space for example, playing fields, allotments etc. which have a history of a prior "contaminative use" will also be looked at as a matter of priority. During this period a prioritised list of areas for further, more detailed, investigation will be compiled.

It may be that the contaminated land parcels which represent the greatest potential harm to human health (e.g. arsenic smelters) are located in areas where the probability of human exposure may be low (e.g. in the North of the district on the edge of Dartmoor). It may therefore not be possible to eliminate geographical areas from the initial search for contaminated land, but rather to eliminate low-risk land uses at an early stage, and to focus effort on potentially higher-risk historical land uses.

### **5.3.2 Detailed Inspection (January 2002 – Jan 2003)**

The inspection programme will be implemented during this period. Initially a desktop study will be undertaken to determine the likelihood of the land being contaminated. This will include the risk-ranking of potentially contaminated sites to aid the prioritisation of sites for further investigation.

### **5.3.3 Threats To Controlled Waters, Protected Areas Of The Environment And Buildings**

During the initial inspection of the District, sites may be identified which pose potential contamination threats to the above receptors. If information (forthcoming from the EA or other agencies) indicates a need for urgent action, this will be assessed and where necessary action taken as soon as practicable. Otherwise these sites will be addressed in their due order of priority (as set out in Section 5.1.2).

### **5.3.4 Prioritisation of Sites For Remediation**

All sites included on the statutory REGISTER OF CONTAMINATED LAND will be allocated a relative priority. This will ensure that a clear order of priority for remediation work is established, and continually updated. This may be important if the process of identifying and assessing the last of the *potentially* contaminated land sites cannot be completed before (for example) funding is allocated for the remediation of the urgent or highest priority sites. Prioritisation will be based on a system of risk assessment and ranking. The risk assessment and ranking procedures have not yet been finalised, and will be kept under periodic review throughout the implementation of the strategy, since research and development in this area, funded by DEFRA, is on-going.

## **6.0 RESPONSIBILITIES**

### **6.1 Internal Management Arrangements For Inspection And Identification**

Implementation of the Contaminated Land regime is the responsibility of the Environmental Control Division of the Environment & Development Service Group. The Contaminated Land Officer (CLO) will be the lead officer and is responsible for the day-to-day implementation of the strategy. The Head of Environmental Health will have delegated powers to sign Remediation Notices, the Notices will be served by the CLO and other Officers after consultation with the Solicitor to the Council where appropriate. Where the Council is liable for remediation work a report will be presented to the Council's Executive prior to the commencement of any work.

#### **6.1.1 Site Investigation And Inspection**

The timetable for undertaking the inspection of the area is detailed in Appendix A. Due regard will be paid to technical guidance issued by DETR/DEFRA and Environment Agency and to accepted good practice in the field (See Appendix D for a reference list). It may be considered appropriate to appoint outside contractors or consultants for certain parts of the inspection process. Should there be a need to undertake an intrusive site survey Devon County Council's Archaeology Officer will be consulted where appropriate prior to commencing any work on site.

#### **6.1.2 Determination of Contaminated Land**

The Council has the sole responsibility for determining whether any land appears to be CONTAMINATED LAND. If as a result of the site investigation and inspection process, the three elements required to form a complete POLLUTANT LINKAGE are found to be present, a risk assessment will be undertaken to determine the likelihood of SIGNIFICANT HARM being caused to one of the specified receptors. If this demonstrates that SIGNIFICANT HARM is being caused, or is likely to be caused to a receptor, the land will then be classified as CONTAMINATED LAND. DETR/DEFRA guidance will be followed during this process, and other agencies will be consulted as appropriate. Details of the risk assessment tools that will be used to complete this determination have yet to be finalised. Research by the EA is on-going.

The CLO will prepare a written record of the determination. This record will specify the area of land, identify the components of the pollutant linkage, and summarise the evidence upon which the determination is based and the relevant assessment of this evidence.

During the site investigation and inspection process attempts will be made to identify the person(s) who might be liable for remediation. When appropriate, advice will be sought from the Solicitor to the Council.

The CLO will be responsible for ensuring that:

- The Environment Agency is notified that land has been determined as CONTAMINATED LAND.

- Required information is placed on the PUBLIC REGISTER, which will be maintained by the Environmental Control Team.
- Information for the Environment Agency State of Contaminated Land report is forwarded to the Agency.

## **6.2 Procedure For Dealing With Special Sites**

Where it appears to the CLO that a piece of land is likely to be determined as contaminated land, discussions will be held with the Environment Agency Contaminated Land Officer for Devon Area. Discussions will focus on the following:

- What further information the Environment Agency might hold.
- Advice relating to the severity of pollution of controlled waters.
- Site specific advice relating to pollution of controlled waters where appropriate.
- Whether any other powers the Environment Agency hold may be used or may be more appropriate to deal with the site.
- Whether the site should be designated a SPECIAL SITE.

Should the latter be the case consideration will be given to the need to require the Environment Agency to undertake a further investigation of the site. If this is required, the approval of the Council's Executive (unless delegated to senior Officers) will be sought to authorise the Environment Agency to exercise the powers of entry conferred by Section 108 of the Environment Act 1995. The scope of any site investigation to be undertaken by the Environment Agency, should be agreed with the District Council.

The determination of the land as CONTAMINATED LAND and, if appropriate, as a SPECIAL SITE will follow the procedures detailed in EPA 1990 and the DETR guidance.

## **6.3 Contaminated Land And Development Control**

Currently the majority of contaminated land issues are dealt with through the planning and building control regimes. This will continue to be the case as more brownfield sites come forward for redevelopment. Consultation between the Environmental Control Division and Planning Division already take place in relation to contaminated land issues, however a more formal approach is proposed to ensure that no site falls between the two control regimes. The procedures outlined below will be used to address contamination issues without the need to use the powers set out in Part IIA.

The Environmental Control Division screens all applications received by Development Control. Where an application relates to a site which has the potential to be contaminated, based on the past use of the land, standard contaminated land conditions are attached to any consent granted. These conditions require the applicant to undertake an appropriate survey to identify possible contamination and remedial works required to deal with any contamination found, thus rendering the site "fit for purpose". All such proposals are subject to the approval of the planning authority. On completion of the survey and remediation of the site, the applicant is required to submit a REMEDIATION STATEMENT detailing what contamination has been found and how it has been dealt with. The

applicant must also submit a statement confirming that the site is in a condition suitable for the proposed use. The CLO will evaluate all reports in line with the risk assessment procedures detailed below.

The process is potentially complicated by the fact that the Dartmoor National Park Authority are the Planning Authority for part of the South Hams District. There are however established links between the SHDC and Dartmoor Planning Departments, and SHDC are consultees to all planning applications falling within the South Hams District of the National Park. Thus, the process outlined above will suffice for all circumstances.

There are similar inter-department links between the CLO and Building Control Team also grouped within the Environment & Development Service Group, although these links need to be strengthened and formalised. Where Building Control Officers are made aware of land contamination the views of the CLO are sought and acted upon.

These linkages and procedures will be put in place by August 2001, and it is anticipated that they will effectively deal with any contaminated land issues arising on land subject to redevelopment.

The prompt establishment of an authoritative GIS data base will be important to the long term success of these internal consultation procedures.

#### **6.4 Dealing With Urgent Sites**

During the course of the implementation of the strategy, sites may come forward which require urgent attention. Where the APPROPRIATE PERSON is known they will be encouraged to carry out the investigation and remediation of the site if required. It is the Council's aim to encourage voluntary investigation and remediation of sites where possible. Formal action will, however, be taken if necessary.

Where the APPROPRIATE PERSON cannot be found, consideration will need to be given to the Council undertaking any required work in default. Prior to committing any expenditure each case will be referred to the Chief Environment & Development Officer and the Chief Finance & Administration Officer. Where it is considered to be an appropriate course of action, a report detailing what has been found and what action is required, will be prepared in order to seek approval and funds for the work.

#### **6.5 Considering Local Authority Interests In Land.**

6.17 When dealing with Council owned land it is important that there is close liaison between all the relevant Services (for example, Environmental Health, Estates, Legal and Planning), prior to acquisitions, change of use or disposal.

##### **6.5.1 Existing Land Holdings**

An initial desktop study will be undertaken (as detailed in Section 5.3) to determine the likelihood of Council-owned land being contaminated. Following these studies decisions will be made to determine whether further intrusive investigations are required. Should remediation be required, this will be progressed as a priority as the Council promotes "putting its own house in order".

Following the site investigation, a subsequent risk assessment will indicate if there is a need for the remediation of the site to allow the continuation of the current use, or any proposed future use of the site. If the risk assessment process indicates the need for remediation, a further report will be prepared, seeking approval for the work. If appropriate, funding for the work will be sought from central government (via the Supplementary Credit Approval scheme) or from other funding bodies (e.g. SWRDA) and other possible agencies or partners. The identification of viable, alternative funding sources is an important objective.

### **6.5.2 Land Acquisitions and Adoption**

Prior to acquiring any new land, detailed investigations will be necessary to ensure that the Council is not inheriting a contamination liability. In some cases, specific site investigations will be necessary. Warranties may also be appropriate.

There will be a slightly different approach for the adoption of public open space:

The planning process, through Section 106 Agreements and planning conditions, will need to ensure that an appropriate level of site investigation has taken place prior to adoption. This will be a matter for Planning to agree with the individual developers, with input from the CLO.

### **6.5.3 Disposals**

The contaminated land review process detailed above will enable the Council, as landowner, to make more informed decisions about its future land dealings and the steps it needs to take in either disposing of, or letting land in future. In general terms the principal of *caveat emptor* applies, and the purchaser is liable to make his/her own enquiries. However, given its role in enforcing legislation related to contaminated land, the authority could be criticised if it did not act in an open and responsible fashion in dealing with contaminated land in its ownership.

### **6.5.4 Cross Boundary Contamination**

The Devon Chief Environmental Health Officers Group will discuss this issue in order to agree a protocol for dealing with cross local authority boundary contaminated land.

## **7.0 INFORMATION COLLECTION AND MANAGEMENT.**

A wide range of information sources will be used to assist with the process of the identification of sources of contamination and receptors. Heavy demands will be placed upon the system selected for managing contaminated land information. Some principal requirements are listed below:

- The determination of land as contaminated land will attract scrutiny and possible legal challenge. The geographical and historical data will need to be captured and recorded to an appropriately high degree of accuracy and provenance.
- Much historical information will come from old maps, drawings and photographs, which will need to be accurately transformed to overlay the current OS map projection. This can only realistically be achieved using appropriate GIS software.
- The system should be capable of quickly and efficiently retrieving information for a range of purposes including:
  - Responding to planning consultations.
  - Responding to building regulations consultation.
  - Responding to Local Searches received via the Land Charges Service.
  - The service of notices under the Contaminated Land Regulations.
  - Compiling a Public Register of contaminated land as required under the Regulations.
  - Providing information to the Council Members.
  - Providing information to the public and other parties, consistent with the Environmental Information Regulations, 1992.

These considerations can only be effectively addressed by a computer database linked to GIS. The authority will establish an appropriate database at an early stage in the project. The Authority currently operates a GIS package that meets the core requirements for this work.

The Council will purchase a set of historical ordnance survey maps at 1:10,000 scale in a digital format.

Historical land use database – some work was historically undertaken to identify potential former landfill sites, in the early 1990's. This was undertaken in response to previous guidance and will be reassessed and extended prior to being transferred to the GIS.

Geological maps – discussions will be held with the British Geological Survey to determine what information is available and can be used to assist with the characterisation of sources and pathways. Negotiations will be undertaken to determine in what form the information can be obtained for possible transfer to GIS.

Environment Agency – information provided by the EA will be evaluated and where appropriate translated for transfer to GIS, in particular with reference to surface and groundwater receptors and the location of possible SPECIAL SITES.

Council records – a number of Service Centres within the Council have information relating to land contamination surveys – for example Environmental Health, Planning and Development Control. This data will be reviewed for relevant information on the condition and/or previous remediation of sites. Relevant survey and remediation data will be transferred to GIS.

Environmental Protection Act (EPA) 1990, Part 1 – Public Register of Authorised Processes – details of industrial processes authorised in accordance with the EPA are held on a register by the Council. Details of these sites will eventually be transferred to GIS in order to assist with the identification of potential sources of contamination.

The compilation of a digital REGISTER OF CONTAMINATED LAND to be used across the Council will enable it to be kept up to date, and eradicate possible problems generated by different units or sections using different paper based maps.

Contaminated land information may form part of the proposed BS7666 compliant Land and Property Gazetteer.

The central contaminated land database will form the hub of the required consultation mechanisms with other service groups and external bodies.

The ultimate aim will be to ensure that all information gathered through the implementation of the Strategy is reviewed and filtered, and relevant data transferred to GIS. This will include such information as:

- The accurate boundaries of potentially and (actually) CONTAMINATED LAND identified.
- Details of survey reports received either through the planning process and as a result of site investigation or remediation.
- Outline planning conditions or development restrictions for identified contaminated land sites.
- Copies of statutory notices.
- Copies of statutory remediation statements.

Initially this information will be accessible to other Services via the Council's Intranet on a read only basis. As the system evolves, consideration will be given to formally publishing the information on the Internet.

Where information or reports on sites are provided by a third party, the status of the information, i.e. whether it is considered confidential or subject to national security consideration will be determined and confirmed at the outset where possible. Third party information may only be made publicly available provided consent has been obtained to release the information, unless otherwise dictated by the access to environmental information regulations. An appropriately designed database will enable this to be flagged and managed by the database.

### **7.1.1 Public Register**

The PUBLIC REGISTER of CONTAMINATED LAND will be compiled and maintained (on GIS) by the Environmental Control Division. A current, paper copy of the public register will

initially be held in the Environmental Health offices at Follaton House, alongside other public registers held by the Department.

Consideration will be given to discontinuing the paper copy register in favour of on-line publication of the register over the internet, at an appropriate time.

Schedule 3 of the DETR guidance requires the following information to be placed on the register:

- Remediation notices - including:
  - Name and address of the person on whom the notice has been served,
  - The location and extent of the contaminated land to which the notice relates,
  - The SIGNIFICANT HARM or POLLUTION OF CONTROLLED WATERS by reason of which the CONTAMINATED LAND in question is contaminated,
  - The substances by reason of which the land in question is contaminated and, if any substances have escaped from other land, the location of that other land,
  - The current use of the CONTAMINATED LAND in question,
  - What each APPROPRIATE PERSON is to do by way of remediation and the periods within which they are required to do each of the things
  - The date of the notice.
  
- Appeals against remediation notices including decisions
- Remediation declarations
- Remediation Statements
- Appeals against charging notices
- Designation of special sites
- Notification of claimed remediation
- Convictions for offences under 78M
- Guidance issued under section 78V(1)
- Other environmental controls

Information may be excluded from the public register on the grounds of national security or commercial confidentiality. The Secretary of State can give directions to the Council specifying information, or descriptions of information, which are to be excluded from the public register or referred to the Secretary of State for his determination.

The enforcing authority determines whether information should be excluded from the public register on the grounds of commercial confidentiality. There is a right of appeal to the Secretary of State if the decision is made that the information is not commercially

confidential. The CLO having regard to the DETR guidance and in consultation with the Heads of Environmental Health and Legal Services as appropriate, will determine issues relating to commercial confidentiality. Where information is excluded from the public register the review system proposed in Section 10.0 will be used to ensure that the decision is reviewed after four years as required by the legislation.

## **7.2 Information And Complaints**

Information and complaints may be received from members of the public, businesses, voluntary organisations and other interested parties. This information may impact on how the Council progress the implementation of the Strategy in a given area. The procedures detailing how complaints and information received by the Council will be dealt with are outlined below.

### **7.2.1 Complaints**

Complaints relating to contaminated land will be dealt with following the procedure adopted by the Council for dealing with public health nuisances:

- All complaints will be recorded
- Urgent incidents will be responded to within 24 hours
- Other incidents will be responded to within 2 working days
- Complainants will be kept informed of progress towards resolving the problem
- Where possible and appropriate, prompt enforcement action, within the constraints of the legal framework, will be taken

### **7.2.2 Confidentiality**

Complainants will be expected to provide details of their name and address and the address of the premises/land which has given rise to the complaint. As is the case with all complaints received by the Council, the identity of the complainant will remain confidential. In the event of the Council taking enforcement action, a complainant may be approached to provide a statement in support of the action.

### **7.2.3 Voluntary Provision Of Information**

Information may be received from members of the public, business or organisations relating to potentially contaminated land. This may take the form of anecdotal information. In these cases the information will be recorded and evaluated. The information provider will not automatically be kept informed of action taken by the Council as a result of the receipt of this information.

### **7.2.4 Anonymously Provided Information**

It is Council policy that anonymous complaints will not normally be investigated. However, in the case of contaminated land any information received will be recorded and evaluated by the CLO to determine the need for further investigation.

## **8.0 INFORMATION EVALUATION – RISK ASSESSMENT.**

The main conceptual stages of risk assessment are detailed below – these stages will be followed during the investigation and evaluation of each site:

### **8.1 Phase 1 - Hazard Identification**

Identification of contaminated sources, pathways and receptors and the potential for complete pollutant linkages to be present, taking into account the actual or intended use of the site and its environmental setting. This stage relies on desk-based research, including the review of documentary information and consultation with relevant parties (e.g. site owners, operators, and regulatory authorities). It will also involve site reconnaissance (“walk-over” survey) which can be used to confirm desk-based findings. The information obtained at this stage is used to develop a conceptual model that describes the possible pollutant linkages which may be relevant to the site.

### **8.2 Phase 2 - Hazard Assessment**

Consideration of the plausibility of pollutant linkages and determination of the potential for health and environmental risks. The purpose of this stage is to refine the conceptual model. This will involve additional desk studies and exploratory site investigation.

This stage should address in more detail the nature, likely location and behaviour of contaminants, and possible interactions with defined receptors. The potential for short-term and chronic exposure risks to health and the environment can also be assessed at this stage, assuming some information is available on the nature, concentration and location of contaminants.

In general, the local authority will be obliged to collect this information for itself. The Council will have to bear the costs associated with this investigation. In some circumstances, the landowner or occupier may already hold relevant information. Early dialogue with the relevant parties may reduce the requirement for additional site investigation and thus the financial burden on the Council.

The Council’s general strategy for liaison with land owners or occupiers is set out in Section 9.3.

### **8.3 Phase 3 - Risk Estimation**

Estimation of the risk(s) that identified receptor(s) will suffer adverse effects, if they come into contact with, or are otherwise affected by, contaminant sources under defined conditions. Risk estimation involves consideration of the likelihood, nature and extent of exposure (or of hazardous conditions) and the effects which may occur if exposure takes place, or hazardous conditions develop. The expression of risk may be in narrative (i.e. the risks are low or high) or (more rarely) quantitative terms. At this stage assessment screening criteria, such as Contaminated Land Exposure Assessment (CLEA) or Interdepartmental Committee on Redevelopment of Contaminated Land (ICRCL) guidelines and various Environment Agency publications which detail the risk assessment process for the aquatic environment, will be used to determine the significance of the chemical concentrations detected and whether further action is required. Where specific guidance [to England/UK] is not available, reference may be made to other screening

criteria e.g. HSE/WHO exposure levels or other authoritative sources of information, such as guidance adopted in other countries. Where a quantitative handling of the data is required, it may be appropriate to use risk assessment models and data from other sources (e.g. USEPA), provided that this remains consistent with the statutory guidance.

#### **8.4 Phase 4 - Risk Evaluation**

All of the above stages will be weighted and combined to produce a body of evidence upon which the need for risk management action (i.e. remediation) will be determined. This will pay due regard to the nature and scale of risk estimates, and the uncertainties associated with the assessment process. Where further action is required, the objectives, estimated costs and benefits of that remedial action will need to be assessed, before a determination is made.

## **9.0 GENERAL LIAISON AND COMMUNICATION STRATEGIES**

### **9.1 Statutory Consultees**

The statutory consultees are listed below, and full contact details are included in Appendix C .

- Environment Agency
- English Nature
- MAFF
- English Heritage
- County Council
- Statutory Regeneration Bodies (Regional Development Agencies)

### **9.2 Non-statutory Consultees**

Contact names and addresses of the non-statutory consultees are also detailed in Appendix C . Copies will also be made available in the main reception area of Follaton House.

The draft strategy will be publicised in the media and a copy placed on the Council's website to encourage and facilitate the public consultation process.

### **9.3 Communicating With Owners, Occupiers And Other Interested Parties**

The Council will seek to encourage voluntary action before initiating enforcement action. It is hoped that, by pursuing this approach, effective sustainable remediation will be achieved.

There can be no hard-and-fast rule concerning the appropriate point(s) in the investigation process at which to enter into discussions with the land owner, occupier, or other relevant parties;

Some land owners (e.g. larger corporate bodies) will hold relevant information that may enable an early determination to be made of the contamination status of the land, thus there may be advantages in entering into discussions with the land owner at an early stage.

Conversely, private householders are unlikely to hold such information, and it may be inappropriate to raise concerns over the contamination status of the land until sufficient information exists to present a coherent case for further investigation.

Thus the council will maintain a flexible approach, consistent with the objectives of seeking the voluntary investigation and remediation of contaminated land.

The draft timetable included in Appendix A, indicates that discussions with relevant parties may be an on-going process, throughout the investigation of each site.

The CLO will be the main contact point within the Council in relation to contaminated land issues.

## **9.4 Risk Communication**

The following checklist is proposed to ensure that all the key issues are addressed when considering providing information to any audience:

- Who will be interested in this information?
- What will providing this information achieve?
- Which other organisations might be partners?
- How can I create awareness that this information is available?
- How should I present this information?
- How can I make sure people have access to the information?
- Do all people have equal access to the information provided?
- When will be the best time to make this information available?
- How can I monitor the take-up of the information?
- How can I make sure I have achieved my goals?

Issues relating to contaminated land may affect a wide range of people and interests within the community. The risks which are thought to arise from contaminated land need to be clearly identified and communicated to those potentially affected. The above checklist will be referred to during the risk communication process.

In all communications, sufficient information will need to be provided to avoid the mis-interpretation of words such as “contamination”, “risk” and “hazard” in order to effectively convey the desired message.

During the implementation of the contaminated land strategy, regard will be paid to the guidance detailed in the publication from Scotland and Northern Ireland Forum For Environmental Research (SNIFFER) on Communicating Understanding of Contaminated Land Risks.

## **9.5 Provision Of Information To The Environment Agency**

The Environment Agency is required to prepare and publish a reports on the state of contaminated land in England. In order to do this the Agency will need to collate information it holds and gain access to information held by local authorities.

The Council will provide the relevant information using the standard forms produced by the Agency. Consideration will be given to providing information in other forms if requested.

The CLO will co-ordinate the provision of this information by the Council.

## **10.0 REVIEW MECHANISMS**

### **10.1 Introduction**

Part IIA of the EPA (1990) requires local authorities to inspect their areas *from time to time* for the purpose of identifying land which may fall within the statutory definition of contaminated land. This strategy details how the Council intends to undertake the inspection/identification of contaminated land within the District. In order to meet the re-inspection requirement of the legislation there is a need to identify triggers which will prompt the need for reviewing inspection decisions. Furthermore, as is the case with all Strategies, there is always a need for periodic reviews of the Strategy itself.

### **10.2 Triggers For Reviewing Inspection Decisions**

A need to review inspection decisions may arise as a result of the following triggers:

- Significant change in legislation
- Establishment of significant case law or other precedent
- Revision of guideline values for exposure assessment
- Proposed changes in the use of surrounding land
- Unplanned changes in the use of land (e.g. persistent, unauthorised use of the land by the public)
- Unplanned events (floods, spillages, landslides, fires etc.) which cannot be dealt with by other legislation
- Reports of localised health effects which appear to relate to a particular area of land
- Verifiable reports of unusual or abnormal site conditions received from business, members of the public or voluntary organisations
- Responding to information from other statutory bodies such as the Environment Agency or Health and Safety Executive
- Responding to information from owners or occupiers of land, and other relevant interested parties.

Should any of the above occur there may be a need to either bring forward a site for its initial inspection or alternatively prompt a re-inspection of a site. To assist the review process it is essential that all information associated with the inspection of the District is recorded in a consistent manner and that all decisions made, and the factors taken into consideration in the decision making process, are clearly documented.

The CLO will be responsible for assessing the implications of any of the above “triggers” and determining if there is a need to re-inspect a site or bring a site forward in the programme. The views of the other agencies or of Members may be sought prior to finalising a decision should this be considered appropriate.

### **10.3 Review of the Inspection Strategy**

The first review of the Inspection Strategy will be undertaken in January 2002, by which time the identification of “potentially contaminated land” should have been completed.

At this stage an assessment will be undertaken to determine if the inspection programme is reasonable and achievable based on existing resources. An assessment of the possible budgetary implications of the process (e.g. the cost of intrusive site investigations) will be undertaken, which may also affect the proposed inspection programme.

Once the inspection programme has been set the next review should be undertaken at 6 monthly intervals i.e. July 2002 and Jan 2003 etc. in order to assess progress. The CLO will produce a quarterly report for the Chief Environment & Development Officer. Should any marked deviations from the proposed programme be required, Members and the EA will be notified as necessary.

## GLOSSARY

**AAI** Area of Archaeological Importance designated under the Ancient Monuments and Archaeological Areas Act 1979.

**Brownfield Site** A site that has been generally abandoned or underused where redevelopment is complicated by actual or perceived environmental contamination. Only a small proportion of brownfield sites will meet the definition of contaminated land.

**CLEA** Contaminated Land Exposure Assessment; a methodology for carrying out a human health risk assessment.

**Contaminated land** “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:

1. significant harm is being caused or there is a significant possibility of such harm being caused; or
2. pollution of controlled waters is being, or is likely to be caused.”

**Controlled Waters** These include:

- Inland waters (rivers, streams, underground streams, canals, lakes and reservoirs)
- Groundwaters (any water contained in underground strata, wells or boreholes)
- Territorial waters (the sea within three miles of a baseline.
- Coastal waters (the sea within the baseline up to the line of highest tide, and tidal waters up to the fresh water line.

**DETR** Department for the Environment, Transport and the Regions (to 9<sup>th</sup> June 2001)

**DTLR** Department for the Transport, Local Government and the Regions (From 9<sup>th</sup> June 2001)

**DEFRA** Department for the Environment, Food and Rural Affairs (From 9<sup>th</sup> June 2001)

**EA** The Environment Agency

**EPA** Environmental Protection Act

**GIS** Geographical Information System

**ICRCL** Interdepartmental Committee on the Redevelopment of Contaminated Land

**MAFF** Ministry of Agriculture, Fisheries and Food

**MOD** Ministry of Defence

**Pathway** One or more routes by which a receptor can be exposed to a contaminant

**Pollutant linkage** The relationship between a contaminant, a pathway and a receptor

**RAMSAR Site** A site protected under an international convention on protection of wetlands of international importance, especially as habitats for waterfowl, named after the city in Iran where the convention was signed

**Receptor** Sometimes referred to as a “target” – the health of a person, waters, ecosystem or property type that could be affected by contamination

**Remediation** The carrying out of works to prevent or minimise effects of contamination. In the case of this legislation the term also encompasses assessment of the condition of land, and subsequent monitoring of the land

**RIGS** Regionally Important Geological Sites

**Risk assessment** The study of the probability, or frequency, of a hazard occurring and the magnitude of the consequences

**SAC** Special area of conservation

**SHDC** South Hams District Council

**SLINCS** Sites of local interest for nature conservation

**SNCI** Sites of nature conservation importance

**SNIFFER** Scotland & Northern Ireland Forum For Environmental Research

**SM** Schedule Monument designated under the Ancient Monuments and Archaeological Areas Act 1979.

**SPA** Special Protection

**Special Site** Any contaminated land designated due to the presence of:

- waste acid in tar lagoons
- oil refining
- explosives
- integrated pollution control sites
- nuclear sites

Statutory definition is more complete (See Section 78A(3) of the Contaminated Land Regulations 2000)

**SSSI** Sites of Special Scientific Interest

**USEPA** United States Environmental Protection Agency

**WHO** World Health Organisation

## **REFERENCES**

1. The Environment Act 1995, HMSO (1995)
2. SI 2000/227, Environmental Protection, England, The Contaminated Land (England) Regulations 2000, HMSO (2000)
3. DETR Circular 02/2000, Environmental Protection Act 1990: Part IIA Contaminated Land, HMSO (2000)
4. Contaminated Land Inspection Strategies, Technical Advice For Local Authorities, DETR (Draft April 2000)

## **APPENDICES**

## **APPENDIX A TIMETABLES**





## **APPENDIX B POTENTIAL SOURCES OF CONTAMINATION**

<i>Industry</i>	<i>Remarks</i>
<b>Airports</b>	
<b>Animal &amp; animal processing works</b>	
<b>Asbestos manufacturing works</b>	
<b>Chemical works</b>	
Cosmetics & toiletries manufacturing works	
Explosives, propellants and pyrotechnics manufacturing	
Fertiliser manufacturing	
Fine chemical manufacturing	
Inorganic chemical manufacturing	
Linoleum, vinyl & bitumen floor covering manufacturing	
Mastic, sealant and adhesive manufacturing	
Organic chemical manufacturing	
Pesticides manufacturing	
Pharmaceuticals manufacturing	
Rubber processing	
Soap & detergent manufacturing	
<b>Dockyards &amp; dockland</b>	
<b>Engineering Works</b>	
Aircraft manufacturing	
Electrical & electronic equipment manufacturing	Inc. works manufacturing eqpt. Containing PCB
Mechanical engineering & ordnance works	
Railway engineering works	
Shipbuilding, repair & shipbreaking	
Vehicle manufacturing works	
<b>Gas works, coke works &amp; coal carbonisation plants</b>	
<b>Metal manufacturing, refining &amp; finishing works</b>	
Electroplating & other metal finishing	
Iron & steelworks	
Lead works	
Non-ferrous metal works	Excluding lead
Precious metal recovery works	
<b>Oil refineries &amp; bulk storage of oil &amp; petroleum products</b>	
<b>Power Stations</b>	Exc. nuclear

<i>Industry</i>	<i>Remarks</i>
<b>Pulp &amp; paper manufacturing</b>	
<b>Railway land</b>	
<b>Road vehicle fuelling &amp; repair</b>	
Garages & filling stations	
Transport & haulage centres	
<b>Sewage works &amp; sewage farms</b>	
<b>Textile &amp; dye works</b>	
<b>Timber product manufacturing works</b>	
<b>Timber treatment works</b>	
<b>Waste disposal, treatment &amp; disposal sites</b>	
Drum & tank cleaning & recycling	
Hazardous waste treatment plants	
<b>Landfills &amp; other waste treatment or disposal sites</b>	
Metal re-cycling sites	
Solvent recovery works	
<b>Charcoal works</b>	
<b>Dry-cleaners</b>	
<b>Fibreglass &amp; resins manufacturing works</b>	
<b>Glass manufacturing works</b>	
<b>Photographic processing industry</b>	
<b>Printing &amp; bookbinding works</b>	
<b>Electricity transformer substations</b>	

## **APPENDIX C EXTERNAL CONSULTEES**

<b>Statutory Consultees</b>	
<b>Organisation and address</b>	<b>Contact name</b>
Environment Agency Devon Area Exminster House Miller Way Exminster EX6 8AS	Contaminated Land Officer, Devon Area  01392 316190  paula.burton@environment-agency.gov.uk
English Heritage Regional Land Use Planner 29 Queen Square Bristol BS1 4ND	Duncan McCallum  020 7973 3000  Duncan.McCallum@english-heritage.org.uk
English Nature (Devon Team) Level 2 Renslade House, Bonhay Road Exeter EX4 3AW	Mr. David Appleton, Conservation Officer,  01392 889770  devon@english-nature.org.uk
South West Water Peninsula House Rydon Lane Exeter EX2 7HR	M J Green Senior Estates Surveyor  01392 446688
Ministry of Agriculture, Fisheries and Food, Regional Service Centre (South West) Clyst House Winslade Park Clyst St Mary Exeter EX5 1DY	Miss Pauline Wilmot Emergency Planning Section  Mr. Mike Highman, Regional Director,  01392 266297
Regional Development Agency, Sterling House, Dix's Field, EXETER, EX1 1QA	
Food Standards Agency, PO Box 30077, Room 501A, Skipton House, 80, London Road, LONDON, SE1 6XZ	Dr. Patrick Miller Email:patrick.miller@foodstandards.gov.uk
Devon County Council. Mrs. Wendy Barrett, Principal Waste Management Officer, County Environment Department, Luscombe House, County Hall, Topsham Road, EXETER, EX2 4QW	

<b>Voluntary (non-statutory) Consultees</b>	
<b>Organisation and address</b>	<b>Contact name</b>
Torbay District Council, Environment Services Directorate, Roebuck House, Abbey Road, Torquay, Devon. TQ2 5EJ.	Mr. Steven Cox (Senior Environmental Health Officer)
Plymouth City Council, Environmental Regulation Service, Civic Centre, Royal Parade, Plymouth. PL1 2EU.	Mr. Les Netherton, (Head of Service)
Mid Devon District Council, Environmental Health Department, Lowman House, Lowman Green, Tiverton, Devon. EX16 6LA.	Mr. V. Pring (Environmental Health Service Manager)
West Devon Borough Council, Environmental Health Department, Kilworthy Park, Tavistock, Devon. PL12 0BZ.	Mr. David Banks, (Divisional Manager – Environmental Health)
Teignbridge District Council, Environmental Control Division, Forde House, Newton Abbot, Devon. TQ12 4XX.	Mr. Richard Cox, (Deputy Chief Environmental Health Officer)
Ministry of Defence, MOD Mount Wise, Devonport, Plymouth. PL1 2AA.	
Friends of the Earth, C/o 19 Salmon Pool Lane, Exeter, Devon. EX2 4SN.	Mr. Maurice Spurway, (Regional Organiser)
Chamber of Commerce, 16 Clifton Park, Bristol. BS8 3BY.	
The Institute of Civil Engineers (ICE), C/o Teresa Frost, Cornwall County Council,	Teresa Frost, (Branch Secretary, Devon & Cornwall).

<b>Voluntary (non-statutory) Consultees</b>	
<b>Organisation and address</b>	<b>Contact name</b>
Transport & Estates Department, Castle Canyke Road, Bodmin. PL31 1DZ.	
The Chartered Institute of Water & Environmental Management (CIWEM), C/o Mr. Barry Straughton Bristol Water plc, PO Box 218, Bridgewater Road, Bristol. BS99 7AU.	Mr. Barry Straughton (Secretary, South West Branch)

## **APPENDIX D SCHEDULES**

## SCHEDULE 1 SPECIAL SITES

**Table 3 Families or groups of substances listed for the purposes of regulation 3(c)(i)**

<i>Type</i>	<i>Description</i>
1	Organohalogen compounds or substances which may form such compounds in the aquatic environment.
2	Organophosphorus compounds
3	Organotin compounds
4	Substances which possess carcinogenic, mutagenic or teratogenic properties in or via the aquatic environment.
5	Mercury and its compounds
6	Cadmium and its compounds
7	Mineral oil and other hydrocarbons
8	Cyanides

**Table 4 Rock Formations listed for the purposes of regulation 3(c)(ii)**

<i>Type</i>	<i>Age</i>	<i>Description</i>
1	Pleistocene	Norwich Crag
2	Upper Cretaceous	Chalk
3	Lower Cretaceous	Sandstones
4	Upper Jurassic	Corallian
5	Middle Jurassic	Limestones
6	Lower Jurassic	Cottswold Sands
7	Permo-Triassic	Sherwood Sandstone Group
8	Upper Permian	Magnesian Limestone
9	Lower Permian	Penrith Sandstone
10	Lower Permian	Collyhurst Sandstone
11	Lower Permian	Basal Breccias, Conglomerates and Sandstones
12	Lower Carboniferous	Limestones

## SCHEDULE 2 REFERENCE DOCUMENTS

<i>Process</i>	<i>Document</i>	<i>Status</i>
<i>General Good Practice</i>	Model Procedures for the Management of Contaminated Land (CLR 11)	In preparation
	BS 10175:2001 Code of Practice for the Investigation of Potentially Contaminated Land	Available
	CIRIA Special Publication 103, Site Investigation and Assessment (1995)	Available
<i>Desk Studies</i>	Documentary Research on Industrial Sites, DETR, 1994, (CLR3)	Available
	DOE Industry profiles (47 in total)	Available
	Prioritisation and Categorisation Procedure for Sites which may be contaminated, DETR, 1995 (CLR 6)	Available
<i>Site Reconnaissance</i>	Guidance on Preliminary Site Inspection of Contaminated Land, DETR, 1994, (CLR2)	Available
<i>Intrusive Site Investigation</i>	Sampling Strategies for Contaminated Land, DETR, 1994, (CLR 4)	
	A Framework for Assessing the Impact of Contaminated Land on Groundwater and Surface Water, DETR, 1994, (CLR1)	
	Development of Appropriate Soil Sampling Strategies for Land Contamination, Environment Agency R&D Report HOCO 352	Available
<i>Risk Communication</i>	Communicating Understanding of Contaminated Land Risks, SNIFFER/EA Technical Report No. P142, 1999	Available

## **APPENDIX E INFORMATION SOURCES**

**Table 5 Information Sources For The Indetification Of Potentially Contaminated Land In The South Hams**

	<i>Description</i>	<i>Location / Owner / Details</i>
1	Ordnance Survey Maps	
	County Series, 1:10,000 Scale, First Edition 1885-1890	
	County Series, 1:10,000 Scale, Second Edition 1905-1906	
	County Series, 1:10,000 Scale, Third Edition	Digital Format for GIS – Supplied by various parties
	County Series, 1:10,000 Scale, Fourth Edition 1932-1939	
	Ordnance Survey National Grid Series, 1:10,000 Scale, 1945 onwards	
2	Public Register of Licensed Waste Management, Treatment and Disposal, Sites, Part I Environmental Protection Act 1990.	Environment Agency, Exminster
2	Public Register of Authorised Processes, Part I Environmental Protection Act 1990.	Environment Agency, Exminster
3	Premises registered for the storage of Hazardous substances under the Planning (Hazardous Substances) Act 1990.	South Hams District Council
4	Register of Licensed Petroleum Storage Sites	Petroleum Officer
5	British Geological Survey, 1:50k scale map sheets 349, 350, 355, 356 Solid & Drift	
7	Kelly's Trade Directory	
8	Parish Council Circular responses.	
9	Planning (Development Control) Archive – Historical Planning applications & supporting Information	
10	Environmental Health Archives	
11	Local Knowledge	
	Waste Collection Authority Personnel	
	Planning Enforcement Officer	
	Environmental Health Staff	
	Environment Agency Staff	