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AppAName	Timetables
AppB	Appendix B
AppBName	Potential Sources of Contamination
AppC	Appendix C
AppCName	Consulted
AppD	Appendix D
AppDName	Schedules
AppE	Appendix E
AppEName	Information Sources

TEIGNBRIDGE DISTRICT COUNCIL

STRATEGY FOR THE INVESTIGATION & REMEDIATION OF CONTAMINATED LAND, ENVIRONMENTAL PROTECTION ACT, PART IIA

REPORT NO. CLSTRAT 2006 REV1

Prepared By

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REVISED AUGUST 2006

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(Signature & Date)	

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EXECUTIVE SUMMARY

- The Council has a statutory duty under Part IIA of the Environmental Protection Act (EPA) 1990 to identify and deal with contaminated land. This came into force on 1st April 2000. The Council approved and adopted this Contaminated Land Strategy document on 6th August 2001. The Strategy is being implemented.

- The Council's priorities are to:

  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
  6. To encourage voluntary remediation
  7. To encourage re-use of brown field sites

An implementation timetable is included as Appendix A. The authority aimed to be in a position of completing the inspection process and identification of sites which require remediation by mid-2003. Certain aspects of the timetable were difficult to predict. It is considered that it may need to be substantially revised as information about the nature and extent of contaminated land in the district emerges.

- The strategy is intended to identify that land which is currently unsuitable for use by virtue of contamination in, on or under that land, and bring about its remediation to a condition which no longer presents a risk of significant harm to human health or the environment.

- Mechanisms are proposed for improving the overlap with, and effectiveness of, other relevant regulatory regimes (e.g. planning) and for improving the flow of information between the relevant Council Departments and other interested parties.

- The Teignbridge District has some unusual characteristics which are addressed by the strategy:

  - The district is largely rural, with no major centres of heavy industrial activity, but contains a large number of sensitive environmental receptors for contamination such as streams, rivers, estuaries, SSSI's and other protected habitats.
  - The area includes part of the Dartmoor National Park.
  - Parts of the district are underlain by geology which may contain significant concentrations of naturally-occurring "contamination", such as arsenic and lead.

- Any comments relating to the Strategy should be forwarded to the Contaminated Land Officer, Environmental Health Department, Forde House, Newton Abbot, South Devon, or by e-mail to: envc@teignbridge.gov.uk .

1.0 INTRODUCTION

1.1 Mission Statement

Our Aim was to:

"Make the district of Teignbridge a better place to be for all its inhabitants and visitors, by:

- Meeting the needs of the local community
- Caring for the environment
- "Promoting a healthy economy"

These objectives were further reinforced by the Environmental Health Department Business Plan 2000-2001:

- "We aim to observe, monitor survey, investigate and inspect in order to make comparisons against established and evolving standards in Environmental Health."
- "We aim to intervene where necessary and encourage both businesses and individuals to achieve and maintain accepted standards in Environmental Health. Additionally, we will assist those who wish to develop beyond those standards."
- "We aim to provide an efficient, effective and economic service to meet the needs of our customers."
- "We aim to work in partnership with other Agencies and the Voluntary Sector to improve the health and welfare of the people of Teignbridge."

Maintaining a healthy and safe environment is a key part of improving the quality of life for people in the Teignbridge 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.

Teignbridge 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. Teignbridge faces a particular challenge in relation to the provision of land for new housing; The Department of the Environment, Transport and the Regions (DETR) has set a target of concentrating more than 60% of new housing development on brown field sites. The development of brown field sites will generally be regulated via the Development Control process and not the contaminated land regime. However, guidance ward to assist with the implementation of the contaminated land regime is be used to ensure that these sites are brought into safe use.

1.2 Enforcement

As the principal regulators under Part IIA of the EPA, the Council plays the lead role in enforcement. The Environment Agency (EA) has an important complementary regulatory role to play with specific responsibilities. The EA takes the lead role in situations where sites are designated as SPECIAL SITES (see Schedule 1, Appendix D).

Teignbridge District Council (TDC) Environmental Health Dept. 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] is enforced in an equitable, practical and consistent manner to meet the principles set out in the Enforcement Concordat.

It is 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 proving 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.

1.3 Public Access to Information

The management and release of information on contaminated land is a very difficult issue to handle appropriately. Much information is currently available through commercial environmental searches, it can cause property blight. TDC is committed to a policy of openness, and our aim is to publish verified information on our web site as soon as is practicable.

It will be particularly difficult to manage the provision of information on sites which are under investigation as ***potentially*** contaminated.

The Environmental Health Dept will continue to respond to specific written requests for historic land use and investigation data held by the Department. 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 access to information legislation. The Contaminated Land Officer is the 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 do so 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 was to establish a Geographical Information System (GIS) to fulfil this objective.

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

1.4 Consultation

The draft strategy was circulated to the statutory consul tees as detailed in the Department of the Environment, Transport and the Regions (DETR) guidance (listed in Appendix C). The document is published on the council's web site in order to encourage and enable public comment.

2.0 LEGISLATIVE BACKGROUND

Part IIA of the Environmental Protection Act (1990) [EPA], 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 general good practice approach to managing land contamination. The regulatory regime set out in Part IIA is based on the following activities:

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

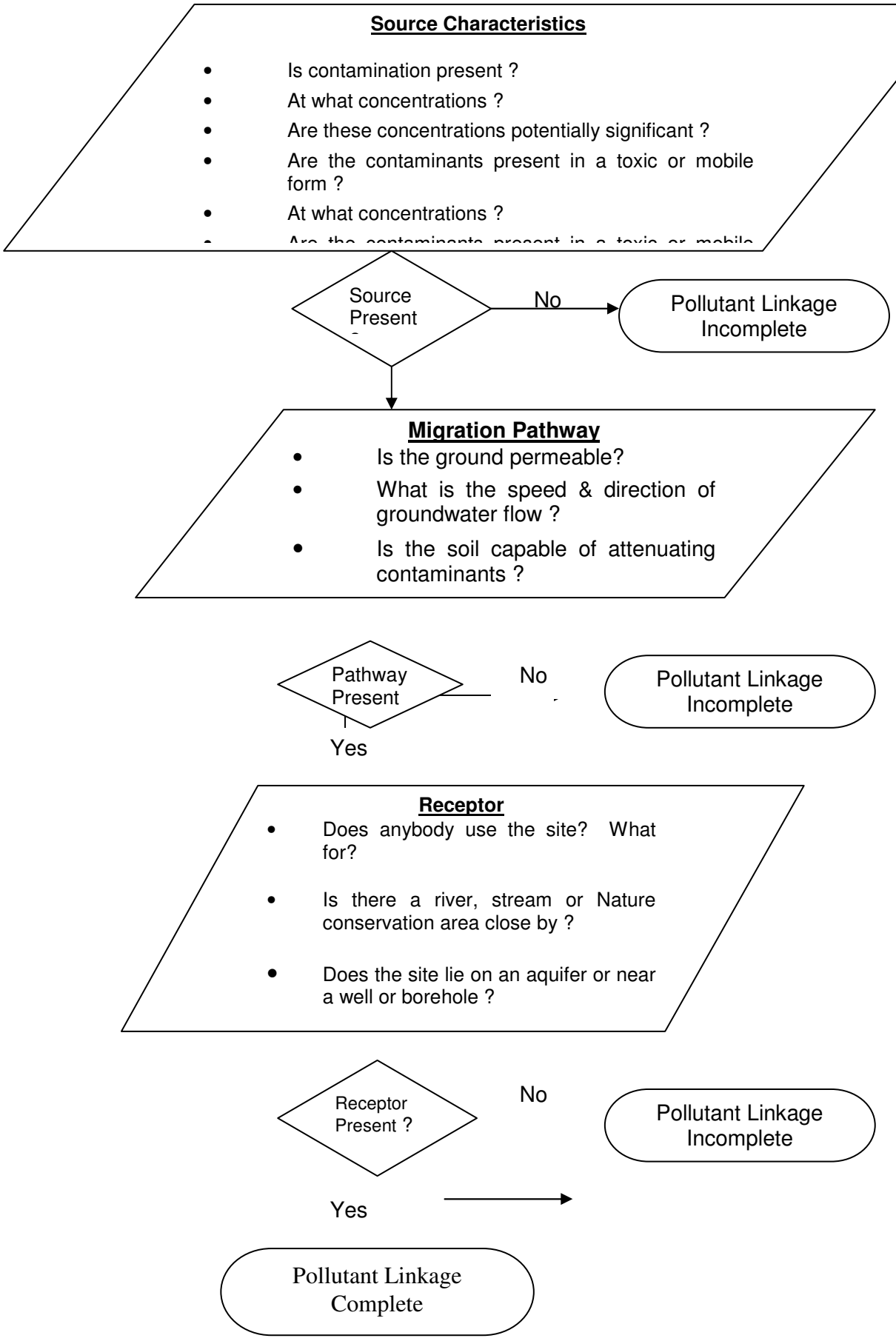
Section 78A(2) of the Act defines Contaminated Land for the purpose of Part IIA as:

> ***"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 Contaminant Linkages is illustrated in Figure 1.

Figure 1 Pollutant Linkage Example



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 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

It is recognised that the key to successful implementation of the strategy is the establishment and maintenance of a good database. This will enable the Development Control process to be used effectively to address contamination issues prior to development, to a high standard, and usually at no cost to the public purse.

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 is 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

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 “fit for [the proposed] use”.

- The Part IIA regime is intended to identify that land which is a significant risk (within the terms of the legislation).

- The standard to be expected of a new development will be much higher than the enforcement standard

In addition to the planning system, the Building Regulations (made under the Building Act 1984) 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 do not 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 does 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 does 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 1st May 1994, are not be covered by the waste management licensing regime and 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 a 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, or 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

If the three elements (contaminant – pathway – receptor) 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 was prepared having regard to the DETR Technical Advice for Local Authorities – Contaminated Land Inspection Strategies.

The responsibility of managing the process was placed with the Environmental Control Manager, and a Contaminated Land Officer (CLO) was been appointed to undertake the work.

The CLO post was initially a joint appointment with South Hams District Council (SHDC). Efficiency savings were made as result of a shared, common approach, and limited task sharing between the authorities. Teignbridge now has a part time contaminated land officer who now assists South Hams occasionally.

A number of other officers are involved. 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.

4.0 CHARACTERISTICS OF THE TEIGNBRIDGE AREA

4.1 General Description

The Teignbridge District covers an area of approximately 674 km2 or 67,400 Hectares of predominantly rural South Devon. The total population in 2001was approximately 123,500 with ~66% living in the communities listed below:

Table 1 Principal Centres of Population

Community	*Approximate Population*
Newton Abbot	24,282
Teignmouth	15,004
Dawlish	12,959
Kingsteignton	10,900
Ashburton	3,774
Bovey Tracey	6,447
Kingskerswell	4,730
Exminster	3,299
Rural Areas	42,105
Total Population	123,500

The River Teign and its tributaries traverse the district, the River Dart is to the South, and the Exe Estuary is to the North. The surface watercourses 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 several major and numerous minor, licensed, groundwater abstractions. The Permian conglomerates and Breccias are listed in Schedule 1 of the Contaminated Land (England) regulations 2000 (See Appendix D). Devonian limestone outcrop or sub crop in a broad swath from Ipplepen and Newton Abbot in the south-west to Harcombe in the northeast, and extending as far as Brixham and Torquay in the 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.

The authority is aware of approximately 500 private domestic water supplies. These include surface waters, and wells sunk into recent superficial deposits and into both sedimentary and granitic rocks within the District. It is likely that there are a significant number of other supplies serving single properties.

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 exist in rural areas, in proximity to dwellings and 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 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 may be entered on a the PUBLIC REGISTER as such.

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 rural areas other sensitive environmental receptors (e.g. streams and rivers) are prevalent, although contamination sources are 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 natural sources of “contamination” include radon gas, trace levels of uranium metal, and elements such as arsenic, lead, tin, and zinc. Abandoned metals mines are common within the National Park and over 60 are recorded within the Teignbridge District.

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 (e.g. arsenic smelters), 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 exerted an influence over the preliminary research and screening techniques that the authority employs to quickly focus effort on potentially contaminated sites; it was not possible to eliminate geographical areas from the search for contaminated land. Low-risk land uses are being eliminated at an early stage 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.

The authority's 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.

Approximately 40,000 hectares (excluding the Dartmoor National Park) of land (~95% of the Authority's area) are designated as 'Green Areas' which are protected from inappropriate development though the local plan. These areas include the Teign Valley, Haldon Ridge, Bovey Basin, the Exe Estuary, and the majority of the Authority's coastline.

4.2.1 Protected Locations

The Teignbridge District contains 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 Sites of Nature Conservation Importance (SNCIs) and Sites of Local Interest for Nature Conservation (SLINCS).

The Exe Estuary is designated as internationally important wetland areas under the RAMSAR Convention on Wetlands and as a Special Protection Areas under the E.C. Birds Directive. There are 39 SSSIs in the Teignbridge District, a proliferation of SNCIs, which have nature conservation value at a regional/county level, and SLINCS, which are important at the local level.

Also protected by the local plan are the Districts 17 Regionally Important Geological Sites (RIGS).

The Teignbridge District currently contains 113 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 belowground remains. Within the AAI, there is a legal requirement to give the County 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 Local Plan.

4.3 Details of LA ownership of land

The Council has interests in a significant acreage of land in the Teignbridge District. This includes employment land, offices, and development land acquired in the interests of urban regeneration.

4.4 Key Water Resource/Protection Issues

Some of the water supplies for Teignbridge District, Torquay, and Parts of Exeter are taken from within the Teignbridge District boundary, drawn from both surface

and ground water. There are over 500 private water supplies in the Teignbridge District, licensed for drinking water, plus a significant number of unrecorded single dwelling supplies.

Eight Source Protection Zones (SPZs) are present within the District, for potable abstraction boreholes located close to Starcross in North East of the District.

4.5 Known Information on Contamination

The Council held limited information on land contamination within the Teignbridge District, 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 normally attached to any consent requiring a site investigation and any remediation deemed necessary. The planning records are 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.

4.6 Past Industrial History

4.6.1 Extractive industry

The granite intrusion underlying the Dartmoor and its surrounding metamorphic aureole has 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 limekilns and metals smelting in parts of the district.

4.6.3 World War II

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 Teignbridge District. The main railway line passing through Newton Abbot was a strategic military target and was extensively bombed during the war. This is not thought to represent a major source of potential contamination.

Dartmoor remains an important training area for the British Army, and there are military stores within the Teignbridge District at Heathfield. Responsibility for the investigation of these sites falls to the EA under the terms of Regulation 2(f).

4.7 Geological Characteristics

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

The South and West of the district are 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 mineralization. The mineralization 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 Teignbridge district.

Devonian Limestone outcrops near Ipplepen and Newton Abbot and eastwards at Torquay and Brixham. These are classified locally as Major Aquifers of intermediate or high vulnerability. The limestone contains a significant number of caves and potholes, which may be of archaeological importance.

The Permian Sandstones underlying the North of the District are named in Schedule 2, Regulation 3c of the Contaminated Land Regulations 2000. Sites underlain by these strata may be classified as Special Sites depending on the nature of the contamination present. Close liaison will be maintained with the Environment Agency when investigating sites in these areas to ensure effective regulation is maintained.

4.7.1 Hydrogeology

Groundwater is water contained below the water table within underground strata. It may be abstracted from boreholes, wells, and springs for many uses including public water supply, river augmentation and for private uses such as agriculture and commercial purposes. Groundwater is also essential for the maintenance flow of rivers and 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 in 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 locally for local supplies and base flow to rivers.

In the Teignbridge area, both Major and Minor Aquifers are present. Rocks classified as non-aquifers underlie no areas within the district. The Dartmoor Granite is recorded as a minor aquifer of variable permeability and low vulnerability.

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 limestone, which are classified regionally as major aquifers of high and intermediate vulnerability. The limestone outcrops or sub-crops in a broad swath from Ipplepen and Newton Abbot to Brixham, Torquay, and Paignton.

The area to the North and East of Newton Abbot, extending to the coast at Teignmouth and bordering the Exe Estuary as far as Exminster, is underlain by Permian and Triassic (Dawlish) sandstones and Breccias which are classified regionally as major aquifers of generally high (locally intermediate) vulnerability.

4.8 Local Background Effects

The South Devon area is well known for the mineralization associated with 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).

5.0 TEIGNBRIDGE 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

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 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 the process deals effectively with any land contamination.
- To encourage market confidence in the redevelopment of brown field sites and therefore promote the use of brown field sites rather than greenfield sites.
- 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.

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
6. To encourage voluntary remediation
7. To encourage re-use of brown field sites

5.2 Timetable for Implementation

5.2.1 Draft Consultation Strategy and Internal Consultation.

Prior to distributing the strategy for formal consultation, a draft of the document was circulated to the Council's working group for comment.

5.2.2 Consultation

The amended draft of the strategy document was then put to the Council for approval, and forwarded to the consul tees detailed in Appendix C . The document placed on the Council's website (www.teignbridge.gov.uk) in order to encourage the public to comment on the document (June 2001).

5.2.3 Publish Final Inspection Strategy

The third draft of the strategy document was then placed before the Council's Environment Overview and Scrutiny Committee at which the recommendation was made for the Council to formally adopt the strategy. The strategy was formally adopted at a meeting of the full Council on 6th August 2001. The final version of the strategy was published on the Council website.

5.2.4 Identify Historical Information Sources

Work is ongoing 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 was to search local historical information sources and historical maps to identify land, which may have subject to potentially contaminative use. This exercise has identified a larger number of ***potentially*** contaminated sites, which is being refined to a manageable list for further assessment. 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 is being compiled from sources listed in Appendix E. It is clear that the identification of potentially contaminative historic uses is the most urgent task. The use of the database is an integral part of the Development Control process, which is the most effective way of securing remediation.

The collation and management of such a large volume of data is most practically accomplished using GIS.

5.2.6 Evaluate Existing Environmental Health Data

In the early 1990's 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 within the Environmental Control Team. Details of these "contaminative uses" were obtained from old maps, Trade Directories, and consultation with the local Parish Councils. This information was based on previous draft guidance, which has been superseded by the current guidance. These sites have been assessed and where appropriate included on the database of potentially contaminative historic uses.

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 and areas of open space for example, playing fields, allotments etc will be included. A prioritised list of areas for further, more detailed, investigation will be compiled.

Some contaminated land parcels which are the most potentially harmful to human health (e.g. metal mines and smelters) are located in areas where the probability of human exposure may be low (e.g. in the North-West of the district on the edge of Dartmoor). It is therefore not be possible to eliminate geographical areas.

5.3.2 Detailed Inspection

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 process includes the risk ranking of potentially contaminated sites to aid the prioritisation for sites further investigation.

5.3.3 Threats to Controlled Waters, Protected Areas of the Environment and Buildings.

During the initial inspection of the District, a number of sites were identified which pose potential contamination threats to the above receptors. Information may be forthcoming from the EA or other agencies. If the information indicates a need for urgent action this will be 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

The original strategy stated:
"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 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 fixed upon, and will be kept under periodic review throughout the implementation of the strategy, since research and development in this area by the EA is on-going. "
By the time of the 2006 revision, it was apparent that intrusive investigation and enforced remediation would only be used in exceptional circumstances.
The enforcement process is complex and requires a high level of legal and technical expertise.
It is recognised that much more can be achieved by dissemination of information and persuasion.
Environmental searches are .an integral part of property transactions and can cause property blight. Early release of information obtained during prioritisation and investigative work will usually be beneficial.

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 Section of the Environment Health and Housing Services Department. The Contaminated Land Officer (CLO) within the Environmental Control Section is the lead officer and is responsible for the day-to-day implementation of the strategy. The Head of Environmental Health and Housing Services, and Environmental Control Manager have delegated powers to sign Remediation Notices, the CLO and other officers will serve the Notices after consultation with Legal Services where appropriate. Members will be updated via the Community Scrutiny Committee. 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

Area prioritised task list is detailed in Appendix A. Due regard is paid to technical guidance issued by DETR and Environment Agency and to accepted good practice in the field
It is considered appropriate to appoint outside contractors or consultants for parts of the inspection process. Should there be a need to undertake an intrusive site survey the County Council's Archaeology Officer will be consulted where appropriate prior to commencing any work on site.

Key Guidance in Connection with Site Investigation is available from the Environment Agency Web 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 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 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 Head of Legal Services.

The CLO will be responsible for ensuring that:

- The Environment Agency is notified that land has been designated as CONTAMINATED LAND.
- Required information is placed on the PUBLIC REGISTER, which will be maintained on the Council Web site 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 the 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 holds 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 would 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 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 brown field sites come forward for redevelopment. Consultation between the Environmental Control Team and Planning Teams takes place in relation to contaminated land issues, to ensure that no site falls between the two control regimes. The procedures outlined below is used to address contamination issues without the need to use the powers set out in Part IIA.

The CLO screens all Teignbridge Area applications received at Dartmoor National Park and Teignbridge Planning Departments. 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". On completion of the survey and remediation of the site, the applicant is required to submit to the Planning Department a remediation statement detailing 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 Building Control Section of the Planning Directorate should soon have a graphic information system, which will alert them to the location of potentially contaminative land uses

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, the case will be referred to the Head of Environmental Health and Housing Services and the appropriate Committee. No financial provision has been made for the investigation or remediation of potential contaminated land sites. Executive authorisation will be needed for any expenditure.

6.5 Considering Local Authority Interests in Land.

When dealing with Council owned land it is important that there is close liaison between all the relevant Services for example, Environmental Health, Property, Legal, Engineers and Planning prior to acquisitions or disposal.

6.5.1 Existing Land Holdings

As detailed in Section 5.3 above an initial desktop study has been undertaken to determine the likelihood of any council-owned land being contaminated. Urgent remediation was undertaken at the former Dawlish Gas Works (Now owned by the Council and forming part of Barton Hill Car Park). A further investigation is in hand. Funding is being sought for work to two other council owned sites. The Council promotes "putting its own house in order" as a priority.

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 for which no financial provision has been made. 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 Services to agree with the individual developers.

6.5.3 Disposals

The contaminated land review process detailed above enables the Council, as landowner, to make more informed decisions about its land dealings and the steps it needs to take in either disposing of, or letting land. 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 council has a very good working relationship with neighbouring authorities and is confidant that any cross boundary issues are likely to be given the attention they warrant.

7.0 INFORMATION COLLECTION AND MANAGEMENT

A wide range of information sources is being 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 should record its' provenance.
- Historical information comes from old maps, drawings and photographs, which need to be accurately transformed to overlay the current OS map projection. This is achieved using GIS software.
- The system is capable of quickly and efficiently retrieving information for a range of purposes including:
    - Responding to planning consultations.
    - Responding to building regulations consultations.
    - 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.

Historical data was purchased from Ordnance Survey and the Landmark Information Group Ltd., And the complete set of Historic Maps held by Ordnance Survey in digital format have been purchased.

Historical land use database – some work had already been undertaken to identify potentially contaminative land uses, however this was undertaken in response to previous guidance and was reassessed prior to being transferred to the GIS.

Geological maps – Digital maps were purchased but the contract has not been renewed due to the substantial increase in the licence fee.

Environment Agency – information provided by the EA has been evaluated and where appropriate added to GIS.

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

Environmental Protection Act (EPA) 1990 – Part 1 – Public Register – details of industrial processes authorised in accordance with the EPA are held on a register by the Council and will soon be transferred to the Councils Web site.

The GIS record of potentially contaminative land uses is now available across the Council, It forms 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 contaminated land identified.
- Copies of survey reports received either through the planning process or because 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 is accessible to other Services via the Council's Intranet on a read only basis. As the system evolves, consideration will be given to 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 environmental information regulations. An appropriately designed database will enable this to 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 Health Department.

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

- REMEDIATION NOTICES - including:
  - Name and address of the [APPROPRIATE] 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 government 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 influence 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

Where there is potentially a serious risk of serious harm complaints relating to contaminated land will be dealt with following the procedure adopted by the Council for dealing with public health nuisances:

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 initially 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. Occasionally the council will be obliged to identify a complainant.

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 because 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 information received may 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 are followed during the investigation and evaluation of each site:

8.1 Phase 1 - Hazard Identification

Identification of contaminant 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 (a "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 will 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.

8.3 Phase 3 - Risk Estimation

Estimation of the risk that identified receptors will suffer adverse effects from contaminant sources. Risk estimation involves consideration of the likelihood, nature and extent of, and the effects which may occur if 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 screening criteria, such Contaminated Land Exposure Assessment (CLEA) and various Environment Agency publications will be used to determine the significance of any chemical concentrations detected. 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.

8.4 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 are detailed in Appendix 2. A copy of the initial draft strategy was forwarded to the above for comment. Copies were also forwarded to the following non-statutory consultees; Mid Devon District Council, East Devon and South Hams District Councils, Torbay Borough Council, and Exeter City Council; the Ministry of Defence, Friends of the Earth, Chamber of Commerce, Trade and Industry, the Exeter Business Forum, the Institute of Civil Engineers and the Chartered Institute of Water and Environmental Management.

9.3 Communicating With Owners, Occupiers and Other Interested Parties

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

The CLO is 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 miss-interpretation of words such as “contamination”, “risk” and “hazard” in order to effectively convey the desired message.

9.5 Provision of Information to the Environment Agency

The Environment Agency is required to prepare and publish 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 CLO co-ordinates 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)
- 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 is responsible for assessing the implications of any of the above “triggers” received 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 Inspection Strategy will be kept under review by the Environmental Protection Manager and will be redrafted when significant change is necessary

GLOSSARY

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

BGS British Geological Society

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 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)
- Groundwater (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 of the Environment, Transport and the Regions (superseded by DLTR/DEFRA in 2001)

DLTR **Former** Department of Local Government, Transport and the Regions

DEFRA Department of the Environment, Food and Rural Affairs

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 (Superseded in 2001 by DEFRA)

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

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

SSSI Sites of Special Scientific Interest

TDC Teignbridge District Council

USEPA United States Environmental Protection Agency

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)

5. Communicating Understanding of Contaminated Land Risks, Scotland and Northern Ireland Forum for Environmental Research, 1999.

APPENDICES

APPENDIX A PRIORITISED TASK LIST

Completed by 31.03.06

A Purchase a GIS (computer based mapping system

B Establish a data base
- a) Purchase data from Landmark
- b) Purchase a set of historic maps
- c) Evaluate landmark data and plot on the GIS using historic mapping to determine likely boundaries
- d) Update with information from office records
- e) Update with information from recent OS maps. E.g., garage, works, factory…
- f) Update with information from the Environment Agency. E.g. Mines, Landfills, Major vulnerable Aquifers …
- g) Include Nature Conservation Areas
- h) Purchase large-scale digitised historic maps, and check for historic uses.
- I) Obtain information of Landfill sites from Devon County Council

C Set up a procedure for checking planning applications and recommending appropriate Conditions.

D Identify Council Assets, which are, near historic uses and liaise with property services.

E Ensure the Database is available to property services when considering acquisitions

F Request that the Environment Agency investigate the site of the former Dawlish Gas Works at Barton Hill Road as a potential special site.

G Seek funding for investigation of the former refuse tip at Dawlish Business Park, Shutterton.

Current

1 Respond appropriately to information received on contamination issues, this will normally be noting the event and giving advice on remediation options. If there is significant risk of significant harm urgent action will be considered.

2 Check Planning Lists; make recommendations on conditions; advise on the appropriateness of remediation actions proposed and undertaken.

3 Maintain and update the data base,

4 Assist the Building Control Section with assessment of the data base information

5 Verify the data and make it available to the public.

6 Progress “High Risk Sites” by liaison with owners, developers, EA etc

7 Prioritise Sites
- a) Identify those sites where there is unlikely to be a problem (one or more of Source – Pathway – Receptor is likely to be missing). These sites will remain on the database and be monitored for any changes, planning applications, land

purchases etc; but will only be investigated if there is a change in circumstances or additional information is available.

b) Identify those sites where there is a high risk of significant harm. E.G. Highly contaminative historic use, presence of humans or controlled waters and probability of a pathway.

8 Obtain Ordnance Survey SIMs, SUSIs, and Large Scale National Grid Data

APPENDIX B SOME POTENTIAL SOURCES OF CONTAMINATION

Industry	*Remarks*
Airports	
Animal & animal processing works	
Asbestos manufacturing works	
Chemical works	
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	
Dockyards & dockland	
Engineering Works	
Aircraft manufacturing	
Electrical & electronic equipment manufacturing	Inc. works manufacturing eqpt. Containing PCB
Mechanical engineering & ordnance works	
Railway engineering works	
Shipbuilding, repair & ship breaking	
Vehicle manufacturing works	
Gas works, coke works & coal carbonisation plants	
Metal manufacturing, refining &	

Industry	***Remarks***
finishing works	
Electroplating & other metal finishing	
Iron & steelworks	
Lead works	
Non-ferrous metal works	Excluding lead
Precious metal recovery works	
Oil refineries & bulk storage of oil & petroleum products	
Power Stations	Exc. nuclear
Pulp & paper manufacturing	
Railway land	
Road vehicle fuelling & repair	
Garages & filling stations	
Transport & haulage centres	
Sewage works & sewage farms	
Textile & dye works	
Timber product manufacturing works	
Timber treatment works	
Waste disposal, treatment & disposal sites	
Drum & tank cleaning & recycling	
Hazardous waste treatment plants	
Landfills & other waste treatment or disposal sites	
Metal re-cycling sites	
Solvent recovery works	
Charcoal works	
Dry-cleaners	
Fibreglass & resins manufacturing works	
Glass manufacturing works	
Photographic processing industry	
Printing & bookbinding works	
Electricity transformer substations	

Industry	***Remarks***

APPENDIX C

Statutory Consultees	
Organisation and address	**Contact name**
Environment Agency Devon Area Exminster House Miller Way Exminster EX6 8AS	Tim Jenkins Contaminated Land Officer 01392 316190 tim.jenkins@environment-agency.gov.uk
English Heritage 29 Queen Square Bristol BS1 4ND	Duncan McCallum Regional Land Use Planner 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	Mr Martin Ross Environmental Planning Manager 01392 446688 http://www.swwater.co.uk/index.cfm?articleid=780&contactid=770
Department of Environment Food and Rural Affairs. Government Office for the South West 2 Rivergate Temple Quay Bristol BS1 6EH	 0117 900 1867 mailto:helpline@defra.gsi.gov.uk
Regional Development Agency, Sterling House, Dix's Field, EXETER, EX1 1QA	Sue Brownlow Head of Operations 01752 251071 sue.brownlow@southwestrda.org.uk
Food Standards Agency, Aviation House 125 Kingsway London WC2B 6NH	Consultation Process Office mailto:chris.harvey@foodstandards.gsi.gov.uk
Devon County Council. Environment Economy and Culture Department, Luscombe House, County Hall,	

Topsham Road, EXETER, EX2 4QW	mailto:info@devon.gov.uk

Voluntary (non-statutory) Consultees	
Organisation and address	**Contact name**
Torbay District Council, Environment Services Directorate, Roebuck House, Abbey Road, Torquay, Devon. TQ2 5EJ.	Frances Hughes Frances.Hughes@torbay.gov.uk
Exeter City Council, Civic Centre, Paris Street, Exeter. EX1 1UN	Jayne Donovan jayne.donovan@exeter.gov.uk
Mid Devon District Council, Environmental Health Department, Lowman House, Lowman Green, Tiverton, Devon. EX16 6LA.	Mr. V. Pring (Environmental Health Service Manager) vpring@middevon.gov.uk
East Devon District Council, Council Offices, Knowle, Sidmouth. EX10 8HL.	Mr. Simon Smale, SSmale@eastdevon.gov.uk
West Devon Borough Council, Environmental Health Department, Kilworthy Park, Tavistock, Devon. PL12 0BZ.	Nick Payne - West Devon Borough Council npayne@westdevon.gov.uk
South Hams District Council, Environmental Control Division, Follaton House, Totnes, Devon. TQ9 5NE.	Ian Bollans - South Hams District Council ian.bollans@southhams.gov.uk
(Ministry of Defence Estates) **DE OPERATIONS SOUTH** Murrays Lane Building 1/150 PP19D HM Naval Base Portsmouth PO1 3NH	 south.info@de.mod.uk

Friends of the Earth, C/o 27 North Lodge Close Dawlish Devon. EZ7 9QD	David Bailey, (Teignbridge Group Contact) mailto:davidpbailey77_at_hotmail.com
Newton Abbot and District Chamber of Commerce, PO box 19 Newton Abbot TQ12 2UB.	NACOFT@freenet.co.uk
Dawlish Chamber of Trade 2 Brunswick Place Dawlish EX4 9PD	geofwills@btinternet.com
Moretonhampstead Business Association Unit 2 Gales Sawmills Court Street Moretonhampstead TQ13 8LQ	info@moretonbusiness.co.net
The Institute of Civil Engineers (ICE), 10 Newton Road Bishopsteignton Teignmouth TQ14 9PN	Barry Griffiths Regional Manager Barry.griffiths@ice.org.uk
The Chartered Institute of Water & Environmental Management (CIWEM), C/o Mr Jim Street 1 Woodland Court Truro Cornwall TR1 1XT.	Mr. Jim Street (Secretary, South West Branch) jim@jimstreet.wanadoo.co.uk

APPENDIX D SCHEDULES

SCHEDULE 1
SPECIAL SITES

Table 2 Families or groups of substances listed for the purposes of regulation 3(c)(i)

Type	***Description***
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

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

Type	***Age***	***Description***
1	Pleistocene	Norwich Crag
2	Upper Cretaceous	Chalk
3	Lower Cretaceous	Sandstones
4	Upper Jurassic	Corallian
5	Middle Jurassic	Limestones
6	Lower Jurassic	Cotswold 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

DEFRA maintain an excellent on line publication index and library at

www.defra.gov.uk/environment/land/contamination/index

SCHEDULE 3 INFORMATION SOURCES

Table 3 Information Sources For The Identification Of Potentially Contaminated Land In Teignbridge

	Description	***Location / Owner / Details***
1	Ordnance Survey Maps County Series, 1:10,000 Scale, First Edition 1885-1890	Purchase from landmark
	County Series, 1:10,000 Scale, Second Edition 1905-1906	
	County Series, 1:10,000 Scale, Third Edition	
	County Series, 1:10,000 Scale, Fourth Edition 1932-1939	
	Ordnance Survey National Grid Series, 1:10,000 Scale, 1945 onwards	
	*NB – Where necessary, 1:2500 or 1:1250 scale maps may be consulted	
2	Database of historic land uses	Purchase from Landmark
3	Environment Agency Database mines, vulnerable aquifers etc	Available on CD from EA
4	Public Register of Licensed Waste Management, Treatment and Disposal, Sites, Part I Environmental Protection Act 1990.	Environment Agency, Exminster
5	Public Register of Authorised Processes, Part I Environmental Protection Act 1990.	Environment Agency, Exminster
6	Premises registered for the storage of Hazardous substances under the Planning (Hazardous Substances) Act 1990.	Teignbridge District Council
7	Register of Licensed Petroleum Storage Sites	Petroleum Officer
8	British Geological Survey, 1:50k scale map sheets 349, 350, 355, 356 Solid & Drift	
9	Kelly's Trade Directory, Parish Files	Reference Library
10	Parish Council Circular responses.	Parish Council Secretaries
11	Planning (Development Control) Archive – Historical Planning applications & supporting Information	Teignbridge and Dartmoor National Park Planning Departments
12	Environmental Health Archives	
13	Local Knowledge	Waste Collection Authority Personnel; Planning Enforcement Officer;

		Environmental Health Staff; Environment Agency Staff
14	collection of trade directories	Devon Records Office, Exeter
15	Aerial photos	National Monuments record office
16	Newspapers Trewmans Exeter flying post	Westcountry Studies Library Exeter
17	Site owners, Occupiers, Agents, Developers	