



Revised
Contaminated Land
Inspection Strategy

Environmental Protection Act 1990
Part 2A

July 2009

EXECUTIVE SUMMARY

Throughout the Borough of Worthing there are a significant number of sites that may have been contaminated by previous use. This is often associated with industrial processes or activities that have now ceased, but where waste products or remaining residues could cause land contamination.

A regime for Local Authorities to deal with contaminated land within their areas was brought in by Part 2A of the Environmental Protection Act (EPA) 1990; this regime was introduced by section 57 of the Environment Act 1995 and came into force in the UK on the 1st April 2000.

These provisions required Local Authorities to develop and publish a strategy document detailing the manner in which they will inspect their area for contaminated land.

Worthing Borough Council's first Contaminated Land Strategy was formally adopted by the Environmental Services Committee in May 2001. That strategy document detailed the general background to the contaminated land regime and indicated, in light of the particular characteristics of Worthing and the Council's priorities, how the regime would be implemented.

This revised document updates, clarifies and expands upon the information detailed within the May 2001 strategy, documents the work undertaken in accordance with the strategy and details a work plan to further advance the implementation of the strategy.

CONTENTS

Executive Summery	1
1. Introduction	4
1.1 General Policy of Worthing Borough Council	4
1.2 Regulatory Context	4
1.2.1 What is Contaminated Land	5
1.2.2 How is Contaminated Land Identified	6
1.2.3 Regulatory Role of the Local Authority	7
1.2.4 Regulatory Role of the Environment agency	8
1.2.5 Local Authority and Environment Agency Co-Operation	8
1.3 Policy on Remediation – The Suitable for Use Approach	8
2. The Character of the Worthing Borough	10
2.1 Location	10
2.2 The History of Worthing	10
2.3 The Distribution of Population within Worthing	11
2.4 Current Land Use Characteristics	12
2.5 Industrial History	12
2.6 Protected Locations	14
2.6.1 Sites of Special Scientific interest (SSSI)	14
2.6.2 Areas of Outstanding Natural Beauty	14
2.6.3 Sites of Nature Conservation Importance	14
2.7 Key Property Types	15
2.8 Water Resources	15
2.9 Worthing’s Geology	16
2.10 Hydro-geology	16
2.11 Council Owned Land	17
2.12 Known Information on Contamination in the Borough	17
3. Aims and Objectives of the Inspection Strategy	19
3.1 Aims of the Strategy	19
3.2 Objectives of the Strategy	19
4. Review of the Implementation of the 2001 Contaminated Land Strategy	21
4.1 GIS Database Creation and Data Compilation	21
4.2 Site Prioritisation	21
4.3 Initial Site Inspections	21
4.4 Reprioritisation of Sites	22
4.5 Sites Identified Outside the Implementation of the Strategy	22
5. Work Programme and Timescales	23
5.1 Maintenance of GIS Database	23
5.2 Dealing with Urgent Sites	23
5.3 Provide BVPI to Central Government	23
5.4 Undertake Detailed Site Investigation	23

5.5	Reviewing the Strategy	24
6.	Organisational Arrangements	25
6.1	Internal Management Arrangements	25
6.2	Borough Council Owned Land	25
6.3	Complaints	25
6.4	Anonymous Complaints	26
6.5	Interaction between Regulatory Regimes	27
	6.5.1 Planning and Development Control	27
	6.5.2 Water Pollution	27
	6.5.3 Pollution Prevention and Control (PPC)	27
6.6	Powers of Entry	28
6.7	Determining Land as Contaminated Land	28
6.8	Risk Assessment	28
	6.8.1 CLEA Guidelines	28
6.9	Records of the Determination that Land is Contaminated	30
6.10	Land that may be a Special Site	30
6.11	Orphan Sites	31
6.12	Emergency Incident Report	31
6.13	Responding to Local Land Charge Enquiries	31
6.14	Environmental Information Enquiries	31
7.	Liaison and Communication Procedure	32
7.1	Strategy Consultation	32
7.2	Communication with Owner Occupier and Other Interested Parties	32
7.3	Risk Communication	33
7.4	The Public Register	34
7.5	Provision of Information to the Environment Agency	34
8.	Site Inspection Arrangement	36
8.1	Arrangements for Carrying out Detailed Inspections of the Land	36
8.2	Contaminated Land Grant Programme	37
8.3	Health and Safety Issues	38
8.4	Arrangements for Appointing External Consultants	38
9.	Review Mechanisms	39
9.1	Triggers for Undertaking Inspections	39
10.	Other Supporting Information	40
Appendices		
A	Table A: Categories of Significant harm	42
	Table B: Significant Possibility of Significant Harm	45
B	Special Sites	47
C	Sites of Nature Conservation Importance	50
D	Glossary of Terms	56
E	References and Bibliography	59

1. Introduction

Part 2A of the Environmental Protection Act 1990 introduced a new regulatory role for Local Authorities aimed at controlling the threats from land contamination. This new legislation came into force in April 2000 and required Local Authorities to publish a strategy document detailing the approach they would take to inspect their areas for contaminated land.

Worthing Borough Council's Contaminated Land Strategy was formally adopted on 31 May 2001. Detailed within the strategy were a number of priority actions and deadlines which provided a framework for meeting the Council's statutory responsibilities for contaminated land.

This document updates, clarifies and expands upon the information detailed within the May 2001 strategy, documents the work undertaken in accordance with the strategy and details a work plan to further advance the implementation of the strategy.

1.1 **General Policy of Worthing Borough Council**

Worthing Borough Council has expressed its commitment to the people of Worthing through its vision:

For Worthing to be a thriving Borough where people want to live, work and invest.

In order to realise this vision, Worthing Borough Council is working towards four strategic objectives, which are to:

- To protect and enhance priority services.
- To promote a clean and green environment.
- To revitalise, regenerate and create lively economies.
- To support and contribute to the health, safety and wellbeing of the area

Contaminated Land and the implementation of this Strategy impacts on the strategic objectives and will work alongside existing Council policies to aid the efficient and effective delivery of these priorities. In laying out the detail of the contaminated land regime and the manner in which it interacts with other policy areas will aid the efficient delivery of service in Worthing.

1.2 **Regulatory Context**

Part 2A of the Environmental Protection Act 1990 was introduced by section 57 of the Environment Act 1995 and came into force in England on the 1st April 2000. It contains the long-awaited provisions on contaminated land in the UK and includes a new statutory definition outlined later in this section.

What follows is a simple introduction to the main aspects of the legislation applying to land contamination and an explanation of some terminology that will be used later on in the document. Please note that this section provides a summary and explanation of the main provisions of the contaminated land legislation. It is not a definitive or exhaustive guide, and it has no legal force. Please refer to the Environmental Protection Act 1990 Part 2A, Defra Circular 01/2006 (the "statutory guidance") and the Contaminated Land (England) Regulations 2000 (the "regulations") for a full description.

1.2.1 What is Contaminated Land?

In general terms, contaminated land usually means land where industrial or other human activities have resulted in the presence of substances in the ground with the potential to cause harm to human health, the environment or structures. However, in English law the term “contaminated land” means something more specific than this. The duties and powers of local authorities extend only to land that falls within the statutory definition of contaminated land - enforcement action cannot be taken where land is not legally “contaminated land”. The definition of contaminated land from the Environmental Protection Act 1990, Part 2A, section 78A (2) is:

“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;...”

On the 4th August 2006 the contaminated land regime was extended to include land contaminated with radioactive substances (radioactive contaminated land). The extended regime provides a system for the identification and remediation of contaminated land, where such land is causing lasting exposure to radiation to any person or where there is significant possibility of exposure. The duty of the Local Authority to inspect its area is restricted to circumstances where there are ‘reasonable grounds’ for believing land is radioactively contaminated. All sites determined as contaminated land wholly or partially by virtue of radioactivity will be treated as a ‘special site’ and regulated by the Environment Agency.

Radioactive contaminated land is defined in section 78A (2) (as modified) 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) harm is being caused; or

“(b) there is a significant possibility of such harm being caused;..”

The meanings of the terms within the definitions are important. The statutory guidance gives detailed explanations of what each term in the definition means. Below, a brief summary is given to aid understanding of the statutory meaning of contaminated land.

“Harm”

‘Harm’ is defined in Section 78A (4) as:

“Harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property”

OR with respect to radioactive contamination defined in Section 78A (4) (as modified) as:

“Lasting exposure to any person resulting from the after effects of a radiological emergency, past practice or past work activity”

“Significant harm”, defined in Table A, Appendix A, includes:

- ⦿ Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions in humans
- ⦿ Irreversible adverse change, or threat to endangered species, affecting an ecosystem in a protected area (e.g. site of special scientific interest)
- ⦿ Death, serious disease or serious physical damage to pets, livestock, game animals or fish
- ⦿ A substantial loss (at least 20%) in yield or value of crops, timber or produce
- ⦿ Structural failure, substantial damage or substantial interference with right of occupation to any building

The statutory guidance provides that unless significant harm is being caused, or there is significant possibility of significant harm being caused, then land is not to be classed as contaminated.

“Significant possibility of significant harm”

In deciding whether the possibility of harm being caused is significant the Council must take into account the following factors

- ⦿ The nature and degree of harm
- ⦿ The susceptibility of the receptors
- ⦿ The timescale in which the harm might occur.

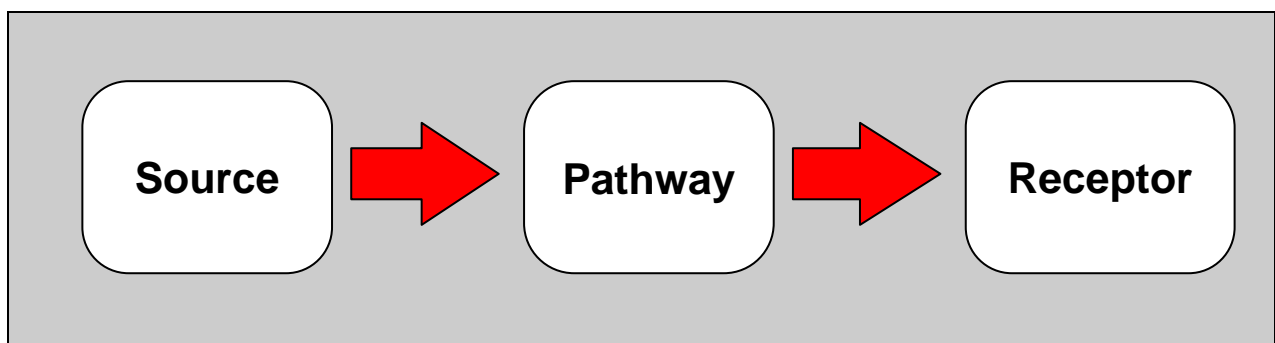
The conditions under which significant possibility of significant harm may occur are outlined in Table B, Appendix A.

Pollution of Controlled Waters

“Controlled waters” are all natural inland and near coastal waters, including groundwater. In general all lakes, rivers, streams, estuaries and coastlines are controlled waters. Pollution of controlled waters means the addition of any “poisonous, noxious or polluting matter or any solid waste matter”.

1.2.2 How is Contaminated Land Identified?

In order to be sure that any harm or pollution is a result of the presence of substances in, on or under the land, the local authority will investigate to see whether there is a demonstrable or plausible means for the substance (termed the “contaminant”) to come into contact with something that may be harmed (the “receptor”). This means of contact is termed the “pathway”. This pathway does have to be a physical connection, it could occur through the inhalation of toxic substances, take up by plants or other means. Where a contaminant, a receptor and a pathway exist together, we call this a pollutant linkage. When deciding whether land is contaminated, the council must identify a significant pollutant linkage i.e. one that is resulting in significant harm being caused to the receptor, resulting in the pollution of controlled waters, or likely to result in such pollution. If there is no pollutant linkage, the substance cannot cause harm and the land can not be determined as contaminated land.



The following meanings are set out in statutory guidance:

1. The **source/contaminant** must be a substance which is in, on or under land and which has the potential to cause harm or to cause pollution of groundwater.
2. The **receptor** must be either:
 - ⊙ a living organism, a group of living organisms, an ecological system or a piece of property which is listed in Table A, Appendix A and which is being (or could be) harmed by a contaminant; or
 - ⊙ controlled waters which are being (or could be) polluted by a contaminant.

(N.B. The Council is advised to disregard any receptor not likely to be present given the current use of any land under investigation. The current use of a site is deemed to include any use currently made, or likely to be made, that is consistent with existing planning permission. However 'current use' does include any likely informal recreational use of the land)

3. The **pathway** must be one or more routes by which a receptor is being (or could be) exposed to or affected by a contaminant.

If all three components are present, or are thought to be present at a site, then a pollutant linkage exists. When a pollutant linkage is established, a formal risk assessment will be undertaken to determine whether the linkage is a significant pollutant linkage either by virtue of the receptors being harmed or actual (or potential) pollution of controlled waters. This forms the basis for the determination of contaminated land and will trigger further investigations and remedial works to break this linkage.

In the case of radioactively contaminated land, the pollutant linkage is resulting in harm so far as attributable to radioactivity being caused to a person or significant possibility of harm so far as attributable to radioactivity being caused to any person in the pollutant linkage.

It is very important to realise the mere presence of a harmful substance on a site is not sufficient for the site to be called 'contaminated land' within the meaning of the legislation.

For example, consider an industrial site that has become contaminated with arsenic (a toxic metal). The receptor of concern is the people that work on the site. To be harmed by the arsenic, the people must be able to come into physical contact with the soil that contains the arsenic – they must be able to inhale soil dust, or get soil in their mouths. If all the contaminated soil is covered by buildings, concrete and tarmac, the people cannot contact the soil. There is no pollutant linkage, and no risk of harm. In this case, even though a potentially harmful substance was present, the site would not legally be contaminated land.

1.2.3 Regulatory role of the Local Authority

Local authorities have gained significant new responsibilities for contaminated land.

According to Defra Circular 01/2006 Local Authorities must:

- ⊙ Ensure that their areas are inspected to identify contaminated land

- ⊙ Determine whether any particular site is contaminated land
- ⊙ Act as enforcing authority to ensure that contaminated land is remediated appropriately (except where the site is a special site, in which case the Environment Agency acts as enforcing authority)

It is important to note that the enforcement role applies only to sites that are statutorily identified as contaminated land.

When such a site is identified, the Authority will:

- ⊙ Establish who is responsible for the contamination
- ⊙ Decide what remedial action is required
- ⊙ Ensure that the remedial action is carried out - either through agreement with the person responsible for the contamination, or by serving a remediation notice.
- ⊙ Determine who should bear what proportion of the costs of the remediation
- ⊙ Record information about the regulatory action on a public register

In carrying out its duties, the Authority is required to act in accordance with the statutory guidance.

1.2.4 Regulatory role of the Environment Agency

The Environment Agency has four important functions in regulating contaminated land:

- ⊙ To assist local authorities in identifying contaminated land, particularly where water pollution is involved
- ⊙ To provide site specific guidance to local authorities on contaminated land
- ⊙ To act as enforcing authority when a site is designated as a Special Site
- ⊙ To publish periodic reports on contaminated land

A Special Site is a site that meets one of the statutory definitions for Special Sites in the regulations; these are shown in Appendix B. In general, Special Sites have had uses where the Environment Agency is likely to already have a regulatory responsibility, for example Integrated Pollution Control sites. Special Sites are not necessarily more contaminated than other kinds of site. Examples of Special Sites are nuclear sites, MOD sites, oil refineries, and sites that may be causing pollution of drinking water resources.

1.2.5 Local Authority and Environment Agency Co-Operation

Although the above areas of responsibility are legally defined, the effective regulation and management of contaminated land requires that both bodies work closely together. Additionally, they will rely on information from each other in order to discharge their own responsibilities. Both parties agree (through the Local Government Association) that communality of approach to the operation of Part 2A is desirable and that full and timely consultation will help ensure proportionate and appropriate regulatory control.

1.3 Policy on Remediation – The Suitable For Use Approach

It is Government policy that land should be remediated to a standard where it is suitable for its current or proposed use, and significant harm or pollution of controlled waters can no longer occur. This is to be achieved by considering the pollutant linkages that have been identified and ensuring that each is treated such that the linkage is broken – for example:

- (i) Remove or treat the contaminant (the pollutant)
- (ii) Break or remove the pathway
- (iii) Protect or remove the receptor

In addition, remedying any effects that had already occurred as a result of the pollutant linkage would be required. When identifying the best method for remediation, the local authority will use the concept of “best practicable technique”. Such techniques will have proven effectiveness, be practical to achieve in the particular circumstances of the site, and will be durable over a timescale appropriate to the problem. The authority will also consider the cost of the remediation in proportion to the severity of the harm or water pollution.

2. The Character of Worthing Borough

Across the United Kingdom there are marked differences in geography, industrial activity and the prevalence of vulnerable 'receptors' such as protected wildlife and water resources. The manner in which contaminants have been deposited, have moved and have affected (or threatened) vulnerable receptors can vary even between localities a few miles apart. The Council has considered the character of the Borough when developing priorities and objectives for inspecting land that may be contaminated.

2.1 Location

Worthing Borough is located on the coastal plain between the Sussex Downs, an Area of Outstanding Natural Beauty, and the English Channel. Worthing is approximately 60 miles from London to the North and 15 miles from Brighton in the East. The Borough borders only two other authorities, Adur to the East and Arun to the West, and covers an area of approximately 3,300 Hectares.



Map One: Worthing's Location

2.2 The History of Worthing

The earliest known settlement in the Borough of Worthing is the Iron-Age hill fort at Cissbury Ring, carbon dated to 4000- 3000 BC, which is believed to have been used as a mine to extract flints from the underlying chalk. To date, over 100 mine shafts have been recorded at the site which can claim to be the oldest industrial scale production centre in England (White, 2000). These early communities replaced the nomadic hunter gatherers and started stable settlement in the area based on agriculture.

Being located close to the major Roman settlement at Chichester, the Worthing area underwent rapid development during the period of Roman occupation. The Roman economy was based on the ability of their agricultural systems to produce a surplus that could then be used for trade. Roman field patterns have been discovered under much of the modern town (Kerridge and Standing, 2000).

Evidence of Roman development has been found in many areas of the town including under the site currently occupied by the Museum on Chapel Road. Prior to the outbreak of the Second World War an excavation was undertaken on the remains of a Roman Bath House at Highdown, unfortunately the outbreak of War ended the investigation which has never been resumed (White, 2000).

Worthing itself first appears on a map by Robert Morden dated 1695 (White, 2000). The settlement, comprising a tiny village, continued to survive with its economy based on fishing and agriculture experiencing only modest growth until the fashion for sea bathing increased the profile and popularity of the town in the late 18th Century.

Worthing's development began in earnest when in 1798 Princess Amelia visited the town to take advantage of the climate and sea bathing during a period of convalescence (White, 2000). Worthing received another boost with the arrival of the railway in 1845 which served to greatly improve access to the town from London. From the mid 19th Century Worthing took further advantage of its moderate climate and a booming market gardening economy made the town famous for its tomatoes, cucumbers and grapes. In 1905 the industry was so important to the town that a goods yard was constructed at West Worthing Station to handle the produce grown in the glass houses in the area (White, 2000).

Worthing was granted its Royal Charter in 1890 and at the time the Borough covered an area of less than 1,000 Hectares and had a population of just 16,000. The modern town of Worthing has evolved from in-filling between the surrounding established settlements such as Tarring, Broadwater and Goring by sea, which in the past were more significant settlements than Worthing itself.

After the First World War the Borough Council announced their intention to double the size of the town by providing social housing and encouraging investment in private housing. There followed a period of extremely rapid expansion of the town with the associated displacement of the market gardening industries. In 1929 the incorporation of the parishes of Goring and Durrington into the Borough increased the amount of land available for development and by the Second World War the aim of doubling the size of the town had been achieved.

Worthing has historically had little heavy industry and production industries such as agriculture have declined in significance as Worthing has grown to cover the majority of the land area of the Borough. Today Worthing is the largest town in West Sussex with a population of 100,000. The economy of the town is now based mainly on service industries such as tourism, retailing and Insurance and Finance.

2.3 *The Distribution of Population in Worthing*

Worthing, being a largely urban Borough without any large industrial or agricultural areas has, in comparison to many other areas, a relatively uniform population distribution. The protection of human health is the main priority of this strategy and therefore Worthing Borough Council will prioritise and inspect the borough giving equal priority to all areas.

Map two illustrates how the Borough is divided into wards and the table one provides the total ward populations taken from the 2001 Census.



Map Two: Worthing's Electoral Wards and their Boundaries

Ward	Population
Broadwater	8,475
Castle	7,895
Central	7,467
Durrington	5,519
Gaisford	8,620
Goring	7,803
Heene	7,336
Marine	7,688
Northbrook	5,041
Offington	7,411
Salvington	8,561
Selden	7,715
Tarring	8,037

Table One: Total Ward Population in 2001

2.4 Current Land Use Characteristics

Worthing's current land use is predominantly residential; the town of Worthing itself covers the majority of the Borough, with only small areas adjacent to the western boundary still being used for agriculture. Several small commercial trading areas are located throughout the borough, the locations of which are indicated on Map Three. The largest of these estates is located in East Worthing and includes a large Pharmaceuticals manufacturing facility.

2.5 Industrial History

In the past there has been only limited heavy industry in Worthing and therefore only a limited number of larger sites exist which may have been contaminated by a previous industrial usage. The following industries, among many others, have been identified as potentially contaminative land uses that at some time have taken place in Worthing. A description of the processes and potential contaminants are detailed below.

This list does not attempt to provide an exhaustive reference, it is provided for context only. Full reference should be made to relevant guidance documents for specific details.

Gas Works

A very large number of sites throughout the country have been used to produce town gas. Production usually began in the middle of the 19th Century and continued until the introduction of natural gas in the 1970's. Producing town gas involves heating coal in the absence of air to separate the volatile and liquid components from the coke. Before being distributed to customers, the gas needed to have the tar, ammonia, cyanides and various other impurities removed. The liquid component comprised tars and ammoniacal liquors. It is these liquid by-products and substances removed from cleaning the gas that are the source of contamination at many gas works sites.

Railway Land

Railway land includes historic track routes, sidings and goods yards etc. Contamination may have occurred due either to material being spilled whilst being transported by train or from locomotive fuel spills and other petroleum oils used for hydraulics or lubrication. Due to the wide variety of material with potential to cause contamination that are transported by railway it is not possible to be more prescriptive about likely sources of contamination.

Sewage Treatment Works

Sewage treatment works produce a solid waste termed 'cake' in addition to the liquid discharges. In the past the solid waste which was produced at many sites was disposed of by spreading the sewage cake or liquid slurry on land surrounding the works. The sludge 'cake' or slurry is often rich in contaminants such as heavy metals and concentrated disposal over many years on the same piece of land can result in elevated levels of contaminants in the soil.

Brickfields

A large part of the geology under Worthing comprises a layer of Brickearth overlying chalk. Brickearth as the name implies is highly suitable for making bricks and the rapid expansion of the town and others in the area created a large brick making industry. A number of different methods have been used in the past to manufacture and fire bricks. Some sites are referred to as brickworks or brickyards, these sites were in longer term operation and had kilns. The term brickfield implies a more temporary site where clamp burning was used to fire the bricks. The importance of brick manufacture to contaminated land is not the processes that were undertaken in the manufacture of bricks, but the holes left following the extraction of clay which are likely to have been filled with waste material and may represent historic landfill sites.

Landfill Sites

Landfills are sites where waste materials are deposited for the purposes of final disposal. In the past these sites were essentially holes in the ground; recent legislation has now imposed tight controls on the development and operation of landfill sites. This disposal option is still the most popular disposal route for waste in the UK. Landfill sites are significant because of the production of landfill gas and leachate by the decomposing waste. Landfill gas is usually composed, in varying ratios, of Methane and Carbon dioxide. Leachate is the liquid portion of the products of decomposition of the waste, and its composition will change according to the material deposited in the site. Landfill gas in the right concentrations and under the right circumstances presents an explosive risk whilst the leachate often contains toxic substances which can affect

ground and surface water. Both landfill gas and leachate have the ability given the right geological site conditions to migrate off site.

2.6 Protected Locations

2.6.1 Sites of Special Scientific Interest (SSSI)

Cissbury Ring in the north of the Borough and some of the surrounding area is classified as a Site of Special Scientific Interest (SSSI) under Section 28 of the Wildlife and Countryside Act 1981. The site, covering over 80 hectares, has been designated as a SSSI because it is an area of unimproved grassland that provides valuable habitats for migrant birds and butterflies in addition to harbouring many indigenous herbaceous species. Cissbury Ring SSSI is indicated on Map Three.

2.6.2 Areas of Outstanding Natural Beauty (AONB)

Worthing being a largely urban borough has a limited amount of rural land, however the countryside that is within the Borough is of particular importance and quality. Most of the countryside to the north of the A27 lies within the Sussex Downs Area of Outstanding Natural Beauty, see Map Three. The Sussex Downs will shortly form part of the South Downs National Park, the current status is National Park, designated but not yet confirmed.

2.6.3 Sites of Nature Conservation Importance (SNCI)

There are 11 Sites of Nature Conservation Importance (SNCI) in Worthing, see Map Three. These sites have been identified on account of the special interest of their flora and/or fauna; they are sites with very considerable wildlife value. They have been designated to protect them from harmful land uses primarily through use of the development control regime (Planning). See Appendix C for full descriptions for each site.

Site ID	Site Location	Habitat
1	The Gallops and No Mans Land	Chalk grassland, scrub and semi-natural woodland
2	The Millers Tomb, Goring	Chalk Grassland and scrub
3	The Sanctuary, High Salvington	Chalk grassland, scrub and semi-natural woodland
4	Titnore and Goring Woods	Semi-natural woodland, much of ancient origin
5	Ham Farm Wood, Goring	Semi-natural woodland
6	Offington Cemetery	Chalk grassland and scrub
7	Worthing and Hill Barn Golf Courses	Chalk grassland, scrub and woodland
8	St. Michael's Graveyard	Neutral grassland and scrub
9	Tenants Hill and Reservoirs	Chalk grassland, scrub and dewpond
10	Clapham Wood	Semi-natural woodland
11	Long Furlong and Church Hill	Chalk grassland, scrub and semi-natural woodland

Table Two: Sites of Nature Conservation Importance (SNCI) in Worthing Borough



Map Three: SSSI's, SNCI's and the Sussex Downs AONB

The Sussex Downs will shortly form part of the South Downs National Park, the current status is National Park, designated but not yet confirmed.

2.7 Key Property Types

There are approximately 400 listed buildings in Worthing and 26 conservation areas which serve to greatly enhance the character of the Borough. Worthing also has Cissbury Ring (described in section 2.2) and the Bowl Barrow, which are scheduled ancient monuments under the Ancient Monuments and Archaeological Areas Act 1979. Following Worthing's long and varied history there are 40-50 archaeologically sensitive areas in Worthing designated by West Sussex County Council.

In certain circumstances the historic use of a site, for example underground fuel storage, may have caused extensive ground disturbance which is likely to be incompatible with the survival of any but the most deeply buried archaeological features. In highly contaminated sites, the levels of toxicity within the ground may preclude archaeological investigation due to health and safety considerations.

2.8 Water Resources

There are two main water courses within Worthing Borough, the Ferring Rife which runs west from its source into Arun District Council's area to the South of Littlehampton Road and the Teville Stream which runs from its source south of Westlake Gardens towards Chesswood allotments where it joins with the River Ditch. From this confluence the stream flows through a culvert towards East Worthing Sewage Works and emerges in the north end of Valley Gardens at Brooklands. Brooklands is a small balancing lake situated on the south-eastern boundary of the Borough. In addition to its primary flood defence function the lake is also used for recreation and amenity uses. The marine bathing waters along Worthing's coastline are indicated on Map Four below.

Up to 80% of the public water supply in many parts of the South of England is extracted from underground aquifers, Worthing is located over a major aquifer and the protection of this resource is highly important.

The importance of protecting water resources is reflected in the priority afforded to controlled waters in the aims of the strategy, being second only to direct threats to human health. There are four public water supply abstraction points in Worthing and the Environment Agency have defined source protection zones around each abstraction point. Worthing Borough Council is not aware of any private water supplies within the Borough currently being used for human consumption.

2.9 Worthing's Geology

Cretaceous chalk underlies most of the Borough and is bisected by a Northwest – Southeast orientated formation of Tertiary clays. The solid Geology is overlain in most of the Borough by Quaternary deposits of variable composition.

2.10 Hydro-Geology

Aquifers

The Environment Agency describes Major aquifers as: *“These highly permeable strata generally have a known or probable presence of significant fracturing. They may be highly productive and able to support large abstractions for public supply and other purposes”*

Minor Aquifers are described as: *“fractured or potentially fractured rocks, which do not have a high primary permeability, or formations of variable permeability including unconsolidated deposits. Although these aquifers will seldom produce large quantities of water for abstraction, they are important both for local supplies and in supplying base flow to rivers. Major aquifers may occur beneath minor aquifers.”*

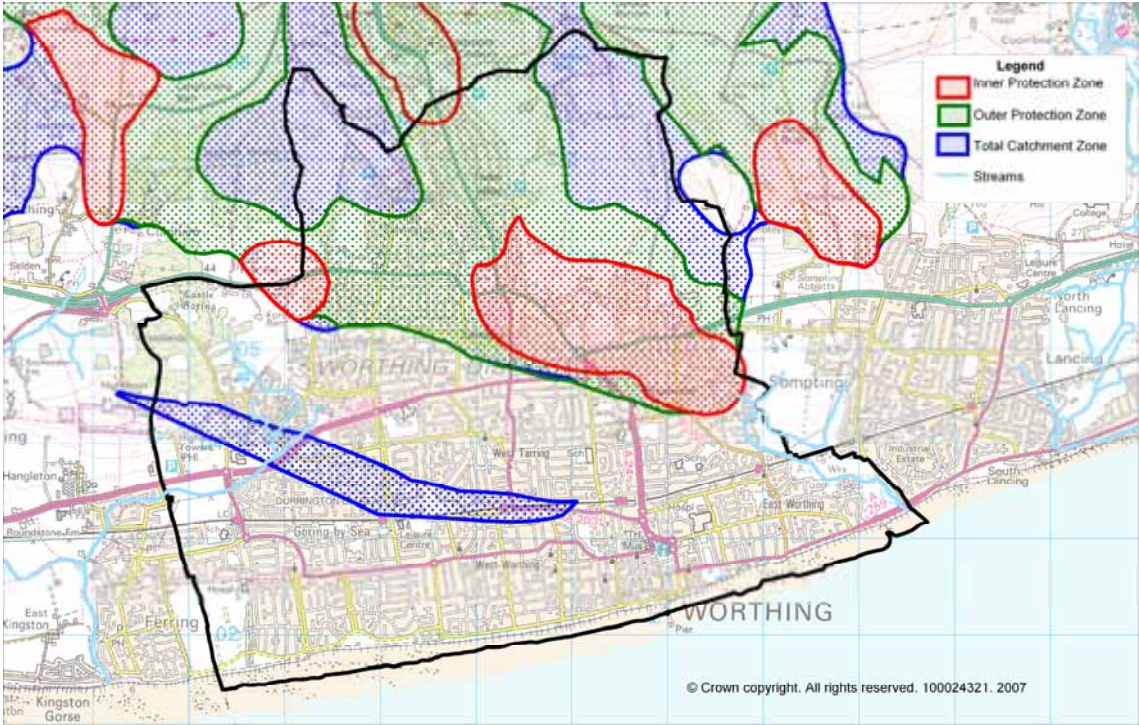
The published Environment Agency Policy and Practice for the protection of ground water classify the underlying strata of England and Wales into major, minor and non aquifer depending upon their potential for uses as portable water supplies. The majority of the Worthing Borough is classed as being a major aquifer by the Environment Agency with an area classed as a minor aquifer bisecting the Borough in a Northwest – Southeast orientation.

Source Protection Zones

The Environment Agency has defined Source Protection Zones as: *“The parts of the aquifers which, according to current techniques and methodologies, are considered to form the catchments to public water supplies and certain other private supplies have been defined as Source Protection Zones. They relate purely to groundwater flow below the water table and do not take account of the nature and thickness of the overlying unsaturated zone and cover which may have an important influence on groundwater vulnerability”*.

Source protection zone maps show the position of the sources and all subdivisions of their protection zones (Inner, Outer and Total Catchment) as referred to in the statements and matrices in the PPG document. These are shown in a form which represents a precautionary approach to the protection of groundwaters. They incorporate practical consideration of uncertainty in the underlying data and manual adjustments to take account of local circumstances.”

The permeable chalk geology under Worthing holds large volumes of water that is abstracted by Southern Water and used to supply drinking water to the locality. Four public water supply abstraction points are located in the Borough. The Environment Agency has designated Source Protection Zones around all these points which collectively cover about 30% of the area of the Borough, mainly in the north, see Map 4, (Environment Agency, 2000).



Map Four: The Location of Source Protection Zones and Surface Water Features in Worthing

2.11 Council Owned Land

Worthing Borough Council currently owns something in excess of 500 sites and buildings throughout the Borough. Land holdings include a total of 160 hectares of agricultural land, approximately twenty industrial sites, a large number of parks, open spaces and recreation areas, eight allotment sites and two cemeteries. Worthing Borough Council also owns some land outside the Borough, including Worthing crematorium to the north of the Borough in Arun District council’s area.

In 1999 The Council completed a Large Scale Voluntary Transfer (LSVT) of its housing stock to a newly formed registered social landlord, Worthing Homes Limited.

2.12 Known Information on Contamination in the Borough

The Council holds some information concerning land contamination within its area. This has primarily originated from reports undertaken by third parties, which were submitted as part of the development control process. From these records and a number of other sources of information, the Council has built a substantial GIS based database that holds information regarding the possible presence of land contamination within its Boundary and is using this information to assist with amongst other things, decision making regarding the prioritisation and inspection of potentially contaminated sites in the Borough. Details of how these actions are being undertaken are provided in following sections of this strategy.

A contaminated land register has been held since April 2000 and is available for inspection at the Council Offices at Portland House, Richmond Road, and Worthing. However, there are currently no entries in the register.

3 Aims and Objectives of the Inspection Strategy

Worthing Borough Council wishes to identify contaminated land present in its area in the most practical and efficient manner and ensure that the most serious problems are addressed first. With this in mind, the Council has identified the following aims and objectives.

3.1 Aims of the Strategy

The Council Aims to:

- ⦿ Identify potential and actual contaminated sites within the Borough by rational, ordered and efficient investigation, to remove unacceptable risks to human health and the environment giving due regard to the conservation of wildlife and natural features and prevent the creation of new contaminated sites.
- ⦿ Reinforce a 'suitable for use' approach enabling land owners and developers to design and implement appropriate and cost effective remediation schemes as part of the redevelopment of contaminated sites, encouraging sustainable remediation techniques and alternatives to 'dig and dump' where possible, thereby enabling contaminated land to be brought back into beneficial use.
- ⦿ Identify sites which do not fall under Part 2A of the Environmental Protection Act 1990, but which may still pose a risk from contamination, to ensure that the land can be made suitable for its current or intended future use, were a receptor introduced to the site.

3.2 Objective of the Strategy

In order to ensure that the aims of this strategy are met, the following objectives have been identified.

- ⦿ To prioritise resources for the investigation of potentially contaminated sites by relating it to the potential risk to any receptor, with receptors normally being prioritised in the following order:
 - Protection of human health
 - Protection of controlled waters
 - Protection of habitats of importance and Ancient Woodland
 - Protection of property
- ⦿ Determine whether the sites are contaminated sites as defined under Part 2A of the Environmental Protection Act 1990, by identifying all its receptors as set out in Tables A and B of Appendix A, and all controlled waters within the District by means of local knowledge and plans and contact with other agencies such as the Environment Agency, DEFRA, Natural England and English Heritage and relevant statutory undertakers such as Southern Water.
- ⦿ Investigate sites not owned by the Council to establish who should bear responsibility for the remediation, and contact the owners/managers of the sites with information on the current regime and what it means for them, also requesting additional information of the particular site.

- ⦿ Complete an assessment of all actual and potentially contaminated land within the Borough where the Council has responsibilities by virtue of its current or former ownership or occupation
- ⦿ Consider all available evidence that significant harm to a receptor or pollution of controlled waters is actually being caused in accordance with the principles of the contaminant – pathway – receptor linkage
- ⦿ Evaluate the information gained from the assessment of actual and potentially contaminated sites and prioritise them in accordance with their individual risk
- ⦿ Justify inspection of particular areas established as contaminated sites under Part 2A
- ⦿ Decide after consultation with all interested parties, what remediation is required in relation to the site, either through agreement with the appropriate persons or by serving a remediation notice.
- ⦿ Establish a liaison with other authorities and agencies for information exchange
- ⦿ Make information on all regulatory action taken by the Council with regard to contaminated land available to the public by way of public register

4 Review of the Implementation of the 2001 Contaminated Land Strategy

Since the adoption of the Council's contaminated land strategy in April 2001, considerable progress has been made in its implementation. A summary of the key actions and the achievements is presented below.

4.1 GIS Database Creation and Data Compilation

In order to store, manipulate and interrogate the large amounts of information generated by the implementation of the contaminated land strategy, a database was built using a GIS software program. Information on all current and historical potentially contaminative land uses was collated and inputted into this database. Initially, the major source of information was a university project entitled 'A Preliminary investigation into potentially contaminated Sites within the Borough of Worthing' which was undertaken during 1997. This information was ratified and expanded upon through examining other sources of relevant information such as historic Ordnance Survey maps, trade directories and Council held records. Approximately 450 potential sites had been identified by January 2003. This number has since increased to in excess of 640 in July 2009, the main reason for this significant increase being the purchase of post war mapping at a scale of 1:1250 in 2006, which has highlighted a large number of previously unknown sites.

4.2 Site Prioritisation

An in-house methodology to prioritise the inspection of the identified potentially contaminated sites in the borough was developed using an ordered, rational and efficient approach based on the principle of risk assessment.

Desktop analysis was undertaken to identify the proximity of potential sources and receptors of contamination. The borough was subdivided by overlaying a 500m grid onto a map of the borough. Each grid square was then classified into one of three categories depending upon the locations of sources in relation to possible human receptors. This is detailed in the table below:

Classification	Land Use
High Priority	Grid squares containing residential areas or current allotments which occupy current or former potentially contaminative land uses
Medium Priority	Grid squares incorporating trading areas and major employment areas as documented in the Worthing Local Plan
Low Priority	The remaining grid squares

The southeast of the borough was designated as a rational starting point as the greatest density of high priority squares was located here and the majority of Worthing's current and historical industry as well as a significant percentage of the boroughs population is located towards the south and east of the borough.

This prioritisation exercise was completed on the 31st January 2003.

4.3 Initial Site Inspections

Within each 500m grid square, the identified sites were inspected and assessed on an individual basis. The inspections aimed to establish the current use of the site and where possible establish whether it was obvious that a pollutant linkage existed or was likely to exist at a site. In undertaking these inspections best practice guidance was

consulted and information ascertained from the inspection inputted into the contaminated land database.

The high priority inspections were completed in November 2003 after the inspection of 267 sites. Inspections of the 193 Medium priority sites were completed in July 2004. Additional initial site inspections have since been undertaken where sites not previously identified have been uncovered.

4.4 Reprioritisation of Sites

Information ascertained from the initial site inspections was used to direct the reprioritisation process and look more closely at sites where the potential for a pollutant linkage to exist was greatest. In undertaking this task it became apparent that there were three distinct groups into which the inspected sites fell, these were:

- Sites where a potential pollutant linkage has been identified;
- Sites where a linkage has not been identified, but a linkage is likely to be created if the land were to be developed for a more sensitive land use; and
- Sites where a potential pollutant linkage does not exist.

Sites that have been identified as not having a potential pollutant linkage are not considered to have any current land contamination concerns and warrant no further investigation.

Sites where it is likely that a pollutant linkage will be created should they be developed are being addressed through the development control process. A Land Contamination Assessment must be submitted with the planning application to show that the site has been appropriately investigated, and where necessary remediated, to the approval of the Authority. Failure to supply an appropriate Land Contamination Assessment is likely to result in a planning application being refused.

Sites where a potential pollutant linkage has been identified are to be subjected to further investigations. In order to determine the priority in which these sites should be addressed, each of the sites has been assigned its individual ranking by using a method based on the "PG01: Risk Prioritisation Methodology for sites of potentially contaminated land" developed for the Manchester Area Pollution Advisory Council (MAPAC). This methodology has been adopted by many local authorities in their prioritisation work. Each potentially contaminated site is risk scored depending on its past and current use as well as various other environmental factors. Following completion of the risk scoring, the sites are ranked into order to give a final prioritised list of sites. Detailed inspection of sites will then proceed with the site ranked highest in the prioritised list and will continue until all sites have been assessed.

4.5 Sites Identified Outside the Implementation of the Strategy

From time to time sites have been drawn to the Authority's attention from sources other than the inspection strategy. Typically, such sources have been information arising from the development control process, through environmental information enquiries or through complaints to the environmental health section. Once highlighted, these sites have been assessed to determine the most appropriate method to deal with them. Whilst it is not possible to predict how many of these sites the Authority is likely to uncover in the future, it is likely that more of these sites will be discovered.

5 Work Programme and Timescales

5.1 Maintenance of GIS Database (Ongoing)

Having built an extensive contaminated land database around GIS, to hold all information on sites with potentially contaminative uses, it is necessary for the information held in this database to be continually reviewed and updated as and when new information regarding existing and new sites comes to light.

5.2 Dealing with urgent sites (Ongoing)

Throughout the process of prioritisation and inspection, if any sites are strongly suspected of causing significant harm then these will need to take priority. If any site is identified as a special site, these will be passed onto the Environment Agency for their regulatory role subject to their agreement referred by the Environment Agency for determination as a special site then these will need to take priority.

5.3 Provide Best Value Results to Central Government (April 2008)

2007/08 was the last time that the Authority was required to submit figures for BVPI 216a and 216b. Selected information stored in the GIS database was updated and checked for accuracy and then the system queried in order to produce these figures for April 2008.

Although the Best Value Performance Indicators for contaminated land are being withdrawn, it is anticipated that a new performance indicator will be installed for contaminated land; however no further details regarding this have been released by central government.

In the absence of a national indicator for contaminated land, Worthing Borough Council has adopted a local indicator. This annual indicator will show the councils progress in gathering and considering information to identify sites of potential concern with respect to land contamination, and the progress in making decisions about those sites.

5.4 Undertake Detailed Site Investigations (April 2008 - Onwards)

Having undertaken initial site walkovers, the Authority identified and ranked eighty sites where it believes potential contamination could be impacting upon at least one receptor. In order to ensure that the most pressing and serious problems are dealt with first, it is in the order of the ranking that the sites will be dealt with by undertaking detailed investigations.

Detailed investigations at each individual site will involve the compilation of a desktop study to include all of the information that has been ascertained about a particular site in one document. The Authority will make contact with the land owners and/or occupiers and make arrangements to undertake site walkovers, where information presented in the desktop study may be used to highlight areas that may be subjected to small scale sampling. The information presented in the desk study, the results of the walkover and analysis of any samples taken will be used to determine whether it is necessary for intrusive investigations on a much larger scale are to be undertaken. Whilst undertaking such actions the Authority will be mindful of statutory as well as other best practice guidance and may be required to use their statutory powers to gain access to sites.

Some of the sites to be subjected to the detailed site inspections are either Council owned or have been potentially contaminated by the actions of the Council. In such circumstances members of the environmental services team will need to liaise closely

with appropriate officers within the Authority responsible for the management of these sites throughout the planning and undertaking of the detailed investigations.

5.5 *Reviewing the Strategy* (2013 or as detailed in Section 9)

The Authority will routinely assess the contents of its inspection strategy to ensure that it is fulfilling the Authority's obligations under Part 2A of the Environmental Protection Act 1990 and that it remains appropriate to the needs of the Authority. Should a review not have taken place before 2013, then a full scale review will be undertaken at this time. Review mechanisms are detailed in Section 9

6 Organisational Arrangements

Procedures have been drawn up by the Authority to describe how contaminated land issues will be dealt with both within the Local Authority and the level of service that will be provided to the population of Worthing.

6.1 Internal Management Arrangements

Within the Authority the Pollution team has the responsibility for the implementation of Part 2A of the Environmental Protection Act 1990. As part of the Pollution Team, the Environmental Health Technician specialising in contaminated land is the lead officer for contaminated land, reporting to the Environmental Health Manager.

This Environmental Health Technician will be responsible with dealing with the day to day implementation of the strategy but will also be responsible for liaising with a number of different departments, ranging from legal services, to development control, to technical services in undertaking this role. Elected members will also need to be informed of actions such as the designation of an area of Local Authority owned land, or where the Local Authority is the “appropriate person” and may be liable for remediation costs.

6.2 Borough Council Owned Land

Worthing Borough Council recognises the importance of addressing the responsibilities it may hold in respect of its present and previous ownership of land that may be contaminated. The approach to prioritising and inspecting Council land is detailed below.

Worthing Borough Council’s land holdings are divided between several Departments, each of which have responsibilities for the management of the sites under their control. Close liaison will take place between Environmental Services and Council Officers working in the various land holding sections who may hold relevant information on previous uses of Council land.

Assessment of Council land to determine the priority for detailed inspections will be undertaken by Environmental Health using the same procedures as for private land. Where the prioritisation process identifies an area of land for inspection which the Council owns, Environmental Health will liaise with the appropriate officers responsible for the management of that land and inform them of the need to undertake an inspection. Arrangements will then be made for further work to be initiated. The relevant officers will ensure that members are kept informed of action relating to council owned land.

6.3 Complaints

Complaints regarding land contamination will be dealt with using the same service standards as statutory nuisance complaints. Complainants can expect a written record to be made of their concerns, and to be contacted within three working days by the officer dealing with the complaint.

Complaints will be investigated by an experienced officer and all reasonable steps will be taken to determine the validity of the complaint.

It is not feasible to undertake intrusive investigations or to take samples for analysis for every complaint received. Where information is provided by a complainant, this information will be considered, along with other available information to determine if the

priority of the site should be increased and the detailed inspection of the site brought forward. Complainants will receive a full justification of the Councils determinations and actions in response to their complaint.

As with all Statutory Nuisance complaints, all complaints regarding land contamination will be dealt with in a confidential manner, except where the legal process of taking enforcement action dictates that confidentiality can not be maintained, for example where a remediation notice is appealed in court.

Complaints will be resolved quickly and efficiently where possible, however there are a number of practical/legal difficulties which may occur and which would prevent speedy resolution of problems, such as:

- i. In order to make a formal designation of contaminated land there must be proof of a viable pollutant linkage which might only be possible with detailed investigation
- ii. Before designation as contaminated land there must be prior consultation with interested parties
- iii. There must be a 3 month period between designation and serving of a remediation notice
- iv. The enforcing authority must make every effort to identify the original polluter of the land (or Class A person).

The regulations allow the conditions (ii) and (iii) to be waived in extreme cases but not conditions (i) and (iv).

6.4 Anonymous Complaints

It is possible for a variety of reasons that complaints will be made anonymously. The Environmental Health Department have a general procedure for dealing with anonymous complaints the main points of which are summarised below. This procedure will be followed when dealing with anonymous complaints regarding land contamination.

- i. When taking complaints by phone, officers will encourage the complainant to provide their details, whilst stressing the fact that their details will not be passed to any third parties without their express consent.
- ii. If the complainant is still not willing to provide contact details, or the complaint is received by letter, the complaint will be logged and passed to the relevant officer.
- iii. The investigating officer will need to have regard to the possible reasons why the complaint has been made anonymously. Reasons for making a complaint anonymously may range from a fear of retaliation should their details be disclosed, to a vindictive or malicious element to the complaint.
- iv. The investigating officer will make a decision on how seriously to treat the anonymous complaint, based on the specific circumstances. Where complaints relate to situations which may involve a significant risk to human health the complaint should be investigated, but with a degree of caution bearing in mind the fact that the complaint may not be genuine. In cases where no action is taken a record of the basis for this determination should be recorded.
- v. Where individual officers are in doubt about the action to be taken in response to an anonymous complaint the situation should be discussed with their line manager.

Environmental Health will not be the only contact point by which anonymous complaints may be received; however the above approach outlines the principles that will be adopted when complaints regarding land contamination are received.

6.5 Interaction between Regulatory Regimes

Part 2A of the Environmental Protection Act 1990 has been designed to operate alongside and compliment several other pieces of legislation. Part 2A will not be used where existing legislation may be enforced providing this legislation adequately deals with the issues of contaminated land, or where contamination has arisen due to a breach of an existing license. The role of the existing legislation in respect of contaminated land and the potential integration with Part 2A is explained in this section.

6.5.1 Planning and Development Control

Local Authorities have been advised by Central Government to utilise the development process to help to remediate land affected by contamination. It is advised in Annex 2 of Planning Policy Statement 23 (PPS 23) that information on potential land contamination must be provided by the applicant where this is likely to be a material factor in the determination of an application for planning permission. In the addition to such submissions, the Planning Department may require a Land Contamination Assessment to be submitted with the planning application requiring the investigation and possibly the remediation of contaminated sites. Staff of the Environmental Health Department are consulted by the Planning Department on the appropriateness of the information provided and whether the provision of further information is required or remediation is necessary.

Under the Building Regulations 2000 there are now requirements relating to land contamination, whereby applications for modifications and erections and demolitions of buildings are applied for. These applications may be dealt with by a number of regulatory organisations including the Local Authority, the NHBC and Approved Building Inspectors. In cases where the Local Authority is the regulator, potentially contaminated land sites may become subject to such an application and staff from the Environmental Health department will be consulted on the appropriateness of the application and the necessity to undertake remediation. The majority of these sites will have already been considered and addressed under a planning application and will not normally be reconsidered under a Building Control Application.

6.5.2 Water Pollution

The Water Resources Act 1991 gives the Environment Agency powers to take action to prevent or remedy the pollution of controlled waters. Where it is considered that pollution of controlled waters is, or potentially could occur as a result of contaminated land, Part 2A may be used in preference to the Water Resources Act 1991. It is therefore important for the Local Authority and the Environment Agency to communicate effectively and agree which legislation will take priority on each individual case.

Where the Local Authority proposes to address water pollution incidents under Part 2A, the Local Authority will consult with the Environment Agency before designating any contaminated land as a result of there being a risk to controlled waters, and will take into account any comments made with regard to remediation.

6.5.3 Pollution prevention and Control (PPC)

Under the Pollution Prevention and Control Regulations 2000, operators of certain sites are required to undertake site condition surveys before they are issued with a permit to operate. These surveys establish a baseline against which any subsequent pollution

arising from the permitted site can be measured. Prior to the closure of operations at these installations, remediation of any contamination at the site to the pre-determined baseline will be ensured through PPC legislation. If contamination on site is recorded below the baseline level but is deemed to have the potential to cause significant harm to a receptor, this will be addressed by Part 2A

6.6 Powers of Entry

In the event of coming across uncooperative owners and occupiers of sites which require investigation, Local Authorities have been granted powers of entry to carry out intrusive investigations under Section 108(6) of the Environment Act 1995. At least seven days notice will be given of proposed entry to any premises, unless there is an immediate risk to human health or the environment. Where the site involved is likely to be a special site, the council will consider authorising a person nominated by the Environment Agency to exercise the above powers on behalf of the council.

6.7 Determining land as 'Contaminated Land'

The Council will determine whether land is contaminated land under the statutory definition where:

1. It has carried out scientific and technical assessment risks arising from the pollutant linkage, according to relevant appropriate, authoritative and scientifically based guidance on such risk assessments; and
2. The assessment carried out shows that the statutory definition has been satisfied.

Where, having followed all relevant guidance and procedures the land is determined as contaminated land, all the relevant persons including the current owner and occupier, and all persons who may be 'appropriate persons' will be informed by letter of the determination. It will be clearly stated in what capacity the person or organisation is being informed (as landowner, polluter etc) a request will be included that remediation works are arranged informally without the need for the service of a remediation notice.

Where no agreement on informal remediation can be reached, and information has not been presented or come to light which changes the likelihood of the land being contaminated, within a reasonable period of time a remediation notice will be served on all appropriate persons. The remediation notice will be passed to the Head of Legal Services for approval prior to service.

It is possible that the Council may become liable for the remediation of a site where no appropriate persons can be found, or where hardship has been demonstrated, in circumstances where this may occur, the Head of Legal Services will be informed and a report will be presented to members.

6.8 Risk Assessment

All information on substances in, on or under the ground that may cause significant harm or pollution will be evaluated against current governmental guidelines.

6.8.1 CLEA Guidelines

Until recently the 'Trigger Values' in the ICRL standards developed in the late 1970's and early 1980's were seen as the backbone of the contaminated land regime in the UK by which the risk posed by contaminants at a particular site could be assessed (ICRL, 1987). These were withdrawn in Dec 2002 as they were seen by Defra as not being

'suitable for assessing significant possibility of significant harm to human health' in the context of the Part 2A regime.

In 2002 guidance was published in the form of The Contaminated Land Exposure Assessment (CLEA) protocol. These guidelines consisted of a series of guidance documents; Contaminated Land Reports (CLR) 7-10, soil guideline values (SGVs) and Toxicological Reports (TOX) issued by the Environment Agency on behalf of Defra which gave details of the levels of contaminants that may pose a hazard to health. However, in August 2008 the Environment Agency withdrew all of the current CLR7 – 10 documents and all existing SGV reports since they were no longer considered to fully reflect the current approach.

A revised version of the CLEA framework was published by the Environment Agency in January 2009 with the aim of helping in the assessment of potential risks to human health from long-term exposure to soil contamination. The revised CLEA guidance includes:

- 'Human Health Toxicological Assessment of Contaminants in Soil' (the TOX Guidance Report), which replaces CLR9.
- 'Updated Technical Background to the CLEA Model' (the CLEA Report), which replaces CLR10 'The Contaminated Land Exposure Assessment (CLEA) model: technical basis and algorithms'.
- A review of body weight and height data used within the Contaminated Land Exposure Assessment model (CLEA)'.
- CLEA Software Version 1.04 and 'CLEA Software (Version 1.04) Handbook' that assessors can use to help estimate exposure and assess risk.

Defra and the Environment Agency have withdrawn all existing SGV reports since they are no longer considered to reflect the current approach. Practitioners will be able to develop their own generic and site specific assessment criteria using the CLEA software and handbook.

Soil Guideline Value reports and Toxicological reports are being published shortly using the new approach for a number of priority substances. As new substance specific TOX reports are issued using the new approach, the relevant existing report will be withdrawn.

These updated guidance documents are intended to provide regulators, developers, land owners and other interested parties with relevant, appropriate, authoritative and scientifically based information and advice on the assessment of risks arising from the presence of contamination in soil.

It is important to note that Health Criteria Values (which describe the level at which long term human exposure to chemicals in soil is tolerable or poses a minimal risk) and SGV's do not represent the trigger for an unacceptable intake; they are based on minimal risks to health. SGV's represent trigger values above which there might be a significant possibility of significant harm (SPOSH), with the significance linked to the margin of exceedance, the duration and frequency of exposure and other site specific factors that the enforcing authority may wish to take into account. In most cases further investigation and evaluation of risk will be required.

Other Generally Accepted Guidelines

In addition to the CLEA guidelines reference may also be made to other accepted sources, including:-

- Occupational exposure levels issued by the Health and Safety Executive
- Environment Agency - site-specific pollution prevention guidelines from authoritative sources
- Guidance issued by the Construction Industry Research and Information Association
- Other risk assessment tools such as SNIFFER, RBCA, Risk Human, etc.

Risk Assessment for Controlled Waters

Advice will be sought from the Environment Agency on risk assessment for controlled waters, such as rivers and underground resources (groundwater), where they are the receptors in a particular pollutant linkage. It is anticipated that risk assessments and remediation will be carried out in accordance with Environment Agency guidance, as laid down in "Methodology for the Derivation of Remedial Targets for Soil and Groundwater to Protect Water Resources" (EA R&D Publication 20 remedial Targets Methodology for Land Contamination Version 3.1).

6.9 Records of the Determination that Land is Contaminated Land

The Council will prepare a written record of any determination that particular land is contaminated. The record will include:-

- Identity of site and owner and or occupiers
- Date of site investigation/sampling
- A description of the particular significant linkage, identifying all three components - pollutant, pathway and receptor
- A summary of the evidence upon which determination is based
- A summary of a relevant assessment of this evidence
- A summary of the way in which the authority considers that the requirements of Chapter A of the Circular 01/2006 have been satisfied.

The above information will be used to inform all those with an interest in the land, including the local land charges section, of the evidence and reasoning on which the determination was made. The Part 2A legislation and guidance does not require this information to be placed on the public register.

6.10 Land that may be a Special Site

Worthing Borough Council will undertake close liaison with the Environment Agency regarding all land where there is a possibility of a determination of 'contaminated land'. This liaison is especially important where land may be a 'special site' and the Environment Agency therefore has a regulatory role. Effective communication with the Environment Agency will aid the early identification of potential special sites and ensure that, where appropriate, the transfer of regulatory duties can be undertaken in an efficient and coordinated manner. A list of land required to be designated as a special site as set out in 01/2006 is shown in Appendix B.

Where the Council, after appropriate consultation with the Environment Agency, has determined the land to be contaminated, and it also falls within the definition of a 'special site' then the Council will designate the land as a special site and notify the Environment Agency accordingly. Any notification will include a reasoned argument as to why the Council considers the site to be 'special'. Assuming the Environment Agency agrees with this designation, they will then become the enforcing authority for that land.

The Council will endeavor to advise and assist the Environment Agency upon request, for example when they prepare remediation proposals.

In the event that the Council and the Environment Agency cannot agree on the designation of a site, the matter will be referred to the Secretary of State for decision.

Where land is likely to be determined as contaminated land and also designated as a special site, the Council will make arrangements with the Environment Agency to carry out an inspection on behalf of the Council.

Where the Environment Agency is to carry out an inspection on behalf of the Council, the Council will authorise a person nominated by the Environment Agency to exercise the powers of entry conferred by Section 108 of the Environment Act 1995. Before the Council gives such authorisation, the Environment Agency will have to satisfy the Council that the conditions for the use of statutory powers of entry set out in statutory guidance are met (Circular 01/2006, Annex 3, paragraphs B.22-B.25).

6.11 Orphan Sites

Worthing Borough Council as the primary enforcing authority for Part 2A may have responsibilities for remediating land that in all other respects the Council has no duty over, due to the fact that no appropriate persons can be found to bear remediation costs. In such a case the Council would have to undertake remediation at its own cost. Due to the potential financial burden on the council of this eventuality, elected members will be informed at the earliest opportunity where the possibility arises of remediation costs being borne by the Council.

6.12 Emergency Incident Response

Where an incident occurs which may have contaminated land implications which are considered as an emergency, the procedures in Worthing Borough Council's Emergency Plan will be followed. The Emergency Plan details contact points and procedures to be followed when dealing with incidents considered as an emergency.

6.13 Responding to Local Land Charge Enquiries

In order to respond to local land charge enquiries regarding contaminated land, Environmental Health will inform the Land charges section of all relevant regulatory action in writing. The Local Land Charges Section will then update their records accordingly. All sites where entries regarding contaminated land are made will be clearly identified along with the reasons for the entry being made.

6.14 Environmental Information Enquiries

During preparation and implementation of this strategy, large amounts of information on previous land uses and associated contamination issues will be collected covering large areas of the Borough. Some of this information will be sensitive and ultimately when in the public domain may have the potential to blight properties or areas of land. All information collected will be handled in a responsible and sensitive manner.

When responding to specific enquiries about land contamination and associated matters under the Environmental Information Regulations 1992, the Council will seek to respond as fully and promptly as possible and will act in full accordance with current legislation, however, a fee must be paid. The Council can give information on their findings under that search but only as a disinterested party and cannot be prejudiced or biased towards the results or consequences due to the provision of that information.

7. Liaison and Communication Procedures

7.1 Strategy Consultation

Worthing Borough Council is directed by statutory guidance to consult the following organisations to obtain their views on its draft contaminated land strategy prior to the revised strategy being formally adopted.

The public authorities consulted for this strategy are:

- Environment Agency – Solent and South Downs
- Natural England
- English Heritage
- West Sussex County Council
- Food Standards Agency

Further contact details for these organisations can be found in section 10.

During the consultation period for this revised strategy, a total of three responses were received from the Environment Agency, Natural England and West Sussex County Council. The responses were generally very constructive and the majority of the points that were raised have resulted in amendments to the revised strategy.

7.2 Communicating with Owners Occupiers and Other Interested Parties

Worthing Borough Council's approach to its regulatory duties is to encourage voluntary action before considering the need for enforcement. In dealing with issues of land contamination, this approach will be no different. This approach is supported by the regulations, which provide an incentive to undertake voluntary action in that any materials that require disposal as a result of voluntary remediation will be exempt from landfill taxes.

In adopting this approach, effective communication with the owners, occupiers and other interested parties will be required. The Environmental Health Technician dealing with contaminated land will be the central point for the authority on contaminated land issues and will ensure that all parties are kept informed at each stage of investigations, regardless of whether or not there is a formal designation of contaminated land.

In designating an area of contaminated land it will be necessary to undertake the following actions:

- Inform the owner and/or occupier of the land in writing at least five working days prior to designating the land, summarising the reason for designation.
- Write to the owner and/or occupier of the land explaining the land has been designated as contaminated land and seeking voluntary remediation is undertaken.
- Provide copies of the written risk assessments for the site within five working days of receipt of a request from an interested party.
- Write to the owner and/or occupier of neighbouring land or any other interested parties to inform them of the designation within five days of the land being designated.

Where voluntary remediation action is not forthcoming it will be necessary to:

- Provide a written remediation notice to the owner/occupier specifying the actions required to remediate the site.

- ⊙ Write to the owner and/or occupier of neighbouring land or any other interested parties within five days to inform them that a remediation notice has been served.

Upon completion of remediation, the Authority will enter details of the remediation into the public register.

7.3 Risk Communication

Contaminated land issues are often complex and present difficulties in presenting facts to members of the general public. As such, developments of effective methods of risk communication are essential. The Council will treat any concerns raised by a member of the public seriously and with respect, recognising the importance of the issue to the individual. In all instances, the Council will recognise and try to overcome the critical barriers to effective risk communication:

- ⊙ familiarity – increased concern about unfamiliar issues
- ⊙ control – increased concern if the individual is unable to exert any control over events
- ⊙ proximity in space – increased concern about nearby events
- ⊙ proximity in time – increased concern about immediate consequences rather than long term effects
- ⊙ scale – particularly in terms of media coverage, where one large incident appears much worse than several small incidents
- ⊙ “dread factor” – lack of understanding can lead to stress and make further explanation more difficult.

Good communication should be developed with those directly affected, through prepared information packs (Fact sheets, Q&A’s, Site History, etc.) and face to face communication from the outset. From an early stage, ‘door to door’ contact with the residents should be undertaken, with introduction to the consultants before commencement of the intrusive work. It is important to develop a good relationship with the residents.

Some key aspects with relation to communication during inspections:

- ⊙ To engage the community and stakeholders at least six weeks prior to the commencement of the investigation work to ensure that the project is fully understood.
- ⊙ To be *honest* and open and will make every effort to avoid raising false expectations.
- ⊙ To be *transparent* about how initial consultation responses will be considered and how they will impact on options considered within the draft strategy.
- ⊙ To be *clear* about what can and cannot be changed.
- ⊙ To *explain* that the partnership makes the final decisions but that we have and will continue to consider stakeholder input.
- ⊙ To look for *win:win* outcomes but recognise that some difficult decisions may need to be made.
- ⊙ To provide *feedback*, including clear explanations with evidence on how decisions have been made, why and how concerns have been taken into account.
- ⊙ To be approachable and willing to respond to questions and concerns relating to the project.

These regulations grant only limited powers to local authorities to deal with materials present in, on or under the ground. Many members of the public believe that any

material that is not naturally present in the ground should be removed, especially if it is in the vicinity of their home. It will be critical to explain that this can only be done where there is a risk of significant harm or pollution, or likely pollution, of controlled waters.

It is important to appreciate that the expectations of some members of the public will not be met by the powers local authorities may exercise under contaminated land legislation.

7.4 The Public Register

Worthing Borough Council is obliged by section 78R of the Environmental Protection Act 1990 to hold and maintain a public register of all regulatory action taken under Part 2A. This is not a register of all contaminated land in the Borough; it is a register covering sites where formal determination of land as contaminated land has occurred. The information required to be held on the register is prescribed in section 78R of the Environmental Protection Act 1990, further information is presented in Annex 4 of Defra Circular 01/2006, paragraphs 71-92. The register is held by the Environmental Services Section of the Borough Council and is available for public inspection by contacting the Pollution Team at the following address:

Environmental Protection
Portland House
Richmond Road
Worthing
West Sussex
BN11 1HS

At present, no sites within the Borough of Worthing have been determined as 'contaminated land' or as 'special sites', and as such, there are currently no entries in the register.

7.5 Provision of information to the Environment Agency

The Environment Agency is required from time to time or at specific request of the Secretary of State to prepare and publish a report on the state of contaminated land in England and Wales. The Council is required to provide the Environment Agency with information on the condition of contaminated land in its area, including:

- A copy of the Council's Inspection Strategy
- The number and area of sites determined as contaminated land, including information on contaminants, receptors and current uses
- The number of designated special sites and potential special sites
- Information on sites where remediation is being, or has been, undertaken, including the appropriate persons and remediation timescales
- Other information, including the number of investigations undertaken and those not resulting in a determination.

As Local Authorities are the lead regulators on contaminated land, with the Environment Agency having responsibility for only some categories of sites, the national survey will clearly be reliant on information provided by Local Authorities. A memorandum of understanding has been drawn up between the Environment Agency and the Local Government Association that describes how information will be exchanged between the local authority and the Environment Agency. The Council will therefore provide

information to the Environment Agency following the guidelines agreed through this national forum.

As a pre-requisite the Local Authority has to give the Environment Agency all known information about the site in question. This will enable the Environment Agency to provide the foregoing, specific guidance. That information is information which the authority may have or may reasonably be expected to obtain having undertaken its specific Part 2A duties.

Under Section 78V site specific guidance will be given to the local authorities from the Environment Agency. *'The appropriate Agency may issue guidance to any local authority with respect to the exercise or performance of the authority's powers or duties under this Part in relation to any particular contaminated land; and in exercising or performing those powers or duties in relation to that land the authority shall have regard to any such guidance so issued.'*

The Local Authority must also provide information to the Environment Agency whenever a site is designated as contaminated land, and whenever a remediation notice, statement or declaration is issued or agreed. The Environment Agency has provided standard forms allowing this information to be provided in a consistent format and the Council will adopt these to fulfil its reporting requirements.

Evaluating information on actual harm or pollution of controlled waters

Advice will be sought from the Environment Agency on risk assessment if controlled waters are the potential receptor in a particular pollutant linkage. It is anticipated that risk assessments and remediation will be carried out in accordance with the Environment Agency guidance as laid down in "Methodology for the Derivation of Remedial Targets for Soil and Groundwater to Protect Water Resources" (EA R&D Publication 20 Remedial Targets Methodology for Land Contamination Version 3.1) or other appropriate guidance. In making any decision on whether or not pollution of Controlled Waters is, or is likely to be, occurring the Council will have regard to any advice provided by the Environment Agency.

Evaluating information on other receptors

Where a particular receptor under consideration falls within the expertise of an external statutory agency, such as Natural England (wildlife and ecosystems etc) or English Heritage (ancient monuments and archaeology etc) the advice of that body will be sought regarding the determination. Worthing Borough Council will have regard to these comments when making a determination.

8. Site Inspection Arrangements

8.1 Arrangements for carrying out detailed inspections of land

When inspecting land for contamination the Council will follow the approach set out in this strategy and act in accordance with the 'regulations' and the 'statutory guidance'. The aim of inspection is to determine whether a pollutant linkage exists and whether any land appears to be Contaminated Land as defined.

The Council will inspect the District to:

- identify land where pollutant linkages exist and which may be contaminated
- gather evidence that pollutants are actually present
- determine whether land appears to be contaminated
- decide whether any land should be designated as a Special Site

If it appears that any land in a neighbouring District or Borough may require investigation to ascertain whether it is contaminated land affecting the Worthing Borough, the Council will inspect that land for the purposes of Part 2A in consultation with the appropriate local authority. Where it is clear from information available that any particular land would be a special site, the Council will seek arrangements where the Environment Agency inspects the land.

The hand over of potential sites can be agreed with the Environment Agency prior to determination as contaminated land. The Environment Agency would prefer an ordered hand over of sites, as and when they are identified in the early stages of the contaminated land identification stage, rather than being handed over all at once at the end of the desk based study. A well argued case for why the Council considers each site to be potentially special should also be provided to the Environment Agency.

Detailed inspection may include:

- Collating and assessing documents and information from other organisations
- Visiting land to make visual inspections and, in some cases, limited sampling e.g. surface deposits
- Undertaking intrusive investigation of land, e.g. exploratory excavations

Where necessary inspections of land will be conducted using statutory powers of entry. Before doing so, however, the Council will satisfy itself on the basis of information already obtained that there is a reasonable possibility that a pollutant linkage exists on the land.

The Council will not conduct an inspection by means of intrusive investigation if:

- it has already been provided with adequate and satisfactorily detailed information on the condition of the land on which to base determination of whether the land is contaminated for the purposes of Part 2A; or
- a person offers to provide such information within a reasonable and specified time, and this information is provided within that time.

Any intrusive investigations will be carried out using appropriate technical procedures and taking all reasonable precautions to avoid harm, water pollution or damage to natural resources or features of historical or archaeological interest.

If at any stage the Council considers, on the basis of information from a detailed inspection, that there is no longer a reasonable possibility that a particular pollutant linkage exists, the Council will cease detailed inspection of that linkage.

The following steps may form part of an inspection:

- ⦿ Liaison with owners, appropriate persons, Environment Agency, Natural England, English Heritage and any other relevant bodies to obtain available information.
- ⦿ Preparatory research on the history of the site and its environment before the visit such as viewing maps, Part A Processes, Part B Processes, Landfill sites and other documentary sources to identify past uses.
- ⦿ Survey and evaluation of nature conservation interest at the earliest stage of an investigation and as appropriate during and after any remediation works, irrespective of the type(s) of pollution linkage considered, and including interest within the definition of 'eco-system' receptors.
- ⦿ Consider relevant Codes of Practice and other documentation available for identification of contaminated land
- ⦿ The visual identification of possible contaminants on the site visit i.e. geology, soil type and vegetation of the general area of the site, making notes for example, street names, boundaries and entrances, buildings, site debris etc.
- ⦿ Consider whether intrusive sampling is necessary (for example by exploratory excavations). The Local Authority will only carry out an intrusive investigation in accordance with appropriate technical procedures for such an investigation. The Local Authority will ensure that it takes all reasonable precautions to avoid harm, water pollution or damage to natural resources or features of historical or archaeological interest that might be caused as a result of the investigation. The Council will note any Site of Special Scientific Interest (SSSI) and consult Natural England on any action which would be required to be carried out by the owner or occupier of the land that may require the consent of Natural England under Section 28 of the Wildlife and Countryside Act 1981 (as incorporated by Countryside and Rights of Way Act 2000).
- ⦿ The Council will not carry out an inspection using statutory powers of entry that involves intrusive investigation when detailed information has been provided on the condition of the land by the Environment Agency or some other person (i.e. the owner of the land), which provides an appropriate basis for the Local Authority to determine whether the land is contaminated in accordance with the requirements of the guidance set out in Chapter B of Defra Circular 01/2006 Contaminated Land, or a person offers to provide such information within a reasonable and specified time and the information is then provided in that time.

8.2 Contaminated Land Grant Programme

Local Authorities can apply (bid) to Defra for financial support for intrusive investigations and in some cases remediation of contaminated land under the Contaminated Land Capital Projects Programme (CLCPP). The CLCPP is intended to support local authority work that falls under Part 2A of the Environmental Protection Act 1990. It does not cover work undertaken under the planning regime, work to facilitate the sale or development of the site

or contamination arising from a breach of waste or pollution control licensing which will be dealt with under The Environmental Damage (Prevention and Remediation) Regulations 2009.

8.3 Health and Safety Issues

- ⊙ The Council will follow good technical practice in carrying out, and recording, detailed inspection work. The Council will take appropriate steps to ensure such work does not harm people (site workers, local residents and the general public) or damage the wider environment.

- ⊙ If the history of the site indicates that it may pose threats to personal safety, the Council will undertake the necessary procedures regarding this matter and have regards to documentation such as BS 5930 (1981) regarding mining, quarrying and waste disposal sites and/or HSE HS (G) 66 Protection of workers and the general public during the development of contaminated land (1991) (HMSO).

8.4 Arrangements for Appointing External Consultants

The Council has the sole responsibility for determining whether any land appears to be contaminated. The Council will not delegate this responsibility (except insofar as may be permitted by legislation). The Council may choose from time to time to rely on information or advice provided by another body such as the Environment Agency, or by a consultant appointed for that purpose. This also applies when the Environment Agency carries out an inspection on behalf of the Council.

9. REVIEW MECHANISMS

This strategy will be reviewed every 4 years as a minimum. An earlier review will be conducted if: -

- ⊙ There is a significant changes in legislation;
- ⊙ There is a change in statutory guidance issued by the Secretary of State;
- ⊙ There is a change in key guidance in connection with site investigations;
- ⊙ There is significant change in proposed land use planning;
- ⊙ There is significant change in the local development plan.

The aim will be to conclude reviews within 6 months of any such change occurring.

9.1 *Triggers for Undertaking Inspections*

The strategy has already recognised there may be occasions where inspections may have to be carried out outside of the general inspection framework. Triggers for undertaking non-routine inspections will include:

- ⊙ **Proposed changes in the use of the land or surrounding land;**
- ⊙ **Unplanned changes in the use of land** - e.g. the introduction of new receptors during the persistent, unauthorised use of land by children or other members of the public;
- ⊙ **Unplanned events** - e.g. localised flooding, accidents, fires, spillages; where consequences cannot be addressed through other relevant environmental protection legislation;
- ⊙ **Reports of localised health effects** which appear to relate to a particular area of land;
- ⊙ **Reports of unusual or abnormal site conditions** from any source which are verified;
- ⊙ **New information is received** from other statutory bodies, owners, occupiers, or other interested parties;
- ⊙ **New information or guidance on contaminants, pathways, receptors**

Whilst these occurrences may trigger non-routine investigations, they should not be allowed to significantly interfere with the general inspection framework.

10. OTHER SUPPORTING INFORMATION

Contact points for consultation

Worthing Borough Council

Environmental Protection
Portland House
Richmond Road
Worthing
West Sussex
BN11 1HS
Tel: 01903 223060
E-mail: environmental.protection@worthing.gov.uk

Environment Agency – Solent and South Downs Area

The Environment Agency
Oving Road
Chichester
West Sussex
PO20 2AG
Tel: 08708 506506

West Sussex County Council

County Hall
West Street
Chichester
West Sussex
PO19 1RG
Tel: 01243 777100

Natural England

Conservation Officer
Natural England
Phoenix House
32-33 North Street
Lewes
East Sussex
BN7 2PH
Tel: 01273 476595

English Heritage - South East Region

English Heritage
South East Regional Office
Eastgate Court
195 - 205 High Street
Guildford
Surrey
GU1 3EH
Tel: 01483 252000

Food Standards Agency

Contaminants Division

Food Standards Agency

Aviation House

125 Kingsway

London

WC2B 6NH

Tel: 0207 238 5751

APPENDIX A

TABLE A - CATEGORIES OF SIGNIFICANT HARM

Type of Receptor	Description of harm to that type of receptor that is to be regarded as significant harm
<p>1 Human beings</p>	<p>Death, disease, serious injury, genetic mutation, birth defects or the impairment of reproductive functions.</p> <p>For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.</p> <p>In this Chapter, this description of significant harm is referred to as a "human health effect".</p>
<p>2 Any ecological system, or living organism forming part of such a system, within a location which is:</p> <ul style="list-style-type: none"> • an area notified as an area of special scientific interest under section 28 of the Wildlife and Countryside Act 1981*; • any land declared a national nature reserve under section 35 of that Act; • any area designated as a marine nature reserve under section 36 of that Act; • an area of special protection for birds, established under section 3 of that Act; • any European Site within the meaning of regulation 10 of the Conservation (Natural Habitats etc) Regulations 1994 (i.e. candidate Special Areas of Conservation and potential Special Protection Areas**); • any candidate Special Areas of Conservation or potential Special Protection Areas given equivalent protection; 	<p>For any protected location:</p> <ul style="list-style-type: none"> • harm which results in an irreversible adverse change, or in some other substantial adverse change, in the functioning of the ecological system within any substantial part of that location; or • harm which affects any species of special interest within that location and which endangers the long-term maintenance of the population of that species at that location. <p>In addition, in the case of a protected location which is a European Site (or a candidate Special Area of Conservation or a potential Special Protection Area**), harm which is incompatible with the favourable conservation status of natural habitats at that location or species typically found there.</p>

<ul style="list-style-type: none"> • any habitat or site afforded policy protection under paragraph 6 of Planning Policy Statement (PPS 9) on nature conservation (i.e. candidate Special Areas of Conservation, potential Special Protection Areas** and listed Ramsar sites); or • any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949. 	<p>In determining what constitutes such harm, the local authority should have regard to the advice of English Nature and to the requirements of the Conservation (Natural Habitats etc) Regulations 1994.</p> <p>In this Chapter, this description of significant harm is referred to as an "ecological system effect".</p>
<p>3 Property in the form of:</p> <ul style="list-style-type: none"> • crops, including timber; • produce grown domestically, or on allotments, for consumption; • livestock; • other owned or domesticated animals; • wild animals which are the subject of shooting or fishing rights. 	<p>For crops, a substantial diminution in yield or other substantial loss in their value resulting from death, disease or other physical damage. For domestic pets, death, serious disease or serious physical damage. For other property in this category, a substantial loss in its value resulting from death, disease or other serious physical damage.</p> <p>The local authority should regard a substantial loss in value as occurring only when a substantial proportion of the animals or crops are dead or otherwise no longer fit for their intended purpose. Food should be regarded as being no longer fit for purpose when it fails to comply with the provisions of the Food Safety Act 1990. Where a diminution in yield or loss in value is caused by a pollutant linkage, a 20% diminution or loss should be regarded as a benchmark for what constitutes a substantial diminution or loss.</p> <p>In this Chapter, this description of significant harm is referred to as an "animal or crop effect".</p>
<p>4 Property in the form of buildings.</p> <p>For this purpose, "building" means any structure or erection, and any part of a building including any part below ground level, but does not include plant or machinery comprised in a building.</p>	<p>Structural failure, substantial damage or substantial interference with any right of occupation.</p> <p>For this purpose, the local authority should regard substantial damage or substantial interference as occurring when any part of the building ceases to be capable of being used</p>

	<p>for the purpose for which it is or was intended.</p> <p>Additionally, in the case of a scheduled Ancient Monument, substantial damage should be regarded as occurring when the damage significantly impairs the historic, architectural, traditional, artistic or archaeological interest by reason of which the monument was scheduled.</p> <p>In this Chapter, this description of significant harm is referred to as a "building effect".</p>
--	---

Source: Defra Circular 01/2006 Annex A Part 3, Table A

* Amendments to the Wildlife and Countryside Act 1981 have occurred, the most recent being the Wildlife and Countryside Act (as amended by CRoW) Act 2000

** All Special Areas of Conservation and Special Protection Areas have full designation and are not candidate protection areas.

TABLE B - SIGNIFICANT POSSIBILITY OF SIGNIFICANT HARM

Descriptions Of Significant Harm (As Defined In Table A)	Conditions For There Being A Significant Possibility Of Significant Harm
<p>1 Human health effects arising from</p> <ul style="list-style-type: none"> • the intake of a contaminant, or • other direct bodily contact with a contaminant 	<p>If the amount of the pollutant in the pollutant linkage in question:</p> <ul style="list-style-type: none"> • which a human receptor in that linkage might take in, or • to which such a human might otherwise be exposed, as a result of the pathway in that linkage, would represent an unacceptable intake or direct bodily contact, assessed on the basis of relevant information on the toxicological properties of that pollutant. <p>Such an assessment should take into account:</p> <ul style="list-style-type: none"> • the likely total intake of, or exposure to, the substance or substances which form the pollutant, from all sources including that from the pollutant linkage in question; • the relative contribution of the pollutant linkage in question to the likely aggregate intake of, or exposure to, the relevant substance or substances; and • the duration of intake or exposure resulting from the pollutant linkage in question. <p>The question of whether an intake or exposure is unacceptable is independent of the number of people who might experience or be affected by that intake or exposure.</p> <p>Toxicological properties should be taken to include carcinogenic, mutagenic, teratogenic, pathogenic, endocrine-disrupting and other similar properties.</p>
<p>2 All other human health effects (particularly by way of explosion or fire)</p>	<p>If the probability, or frequency, of occurrence of significant harm of that description is unacceptable, assessed on the basis of relevant information concerning:</p> <ul style="list-style-type: none"> • that type of pollutant linkage, or • that type of significant harm arising from other causes. <p>In making such an assessment, the local authority should take into account the levels of risk which have been</p>

	<p>judged unacceptable in other similar contexts and should give particular weight to cases where the pollutant linkage might cause significant harm which:</p> <ul style="list-style-type: none"> • would be irreversible or incapable of being treated; • would affect a substantial number of people; • would result from a single incident such as a fire or an explosion; or • would be likely to result from a short-term (that is, less than 24-hour) exposure to the pollutant.
<p>3 All ecological system effects</p>	<p>If either:</p> <ul style="list-style-type: none"> • significant harm of that description is more likely than not to result from the pollutant linkage in question; or • there is a reasonable possibility of significant harm of that description being caused, and if that harm were to occur, it would result in such a degree of damage to features of special interest at the location in question that they would be beyond any practicable possibility of restoration. <p>Any assessment made for these purposes should take into account relevant information for that type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.</p>
<p>4 All animal and crop effects</p>	<p>If significant harm of that description is more likely than not to result from the pollutant linkage in question, taking into account relevant information for that type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.</p>
<p>5 All building effects</p>	<p>If significant harm of that description is more likely than not to result from the pollutant linkage in question during the expected economic life of the building (or, in the case of a scheduled Ancient Monument, the foreseeable future), taking into account relevant information for that type of pollutant linkage.</p>

Source: Defra Circular 01/2006 Annex A Part 3, Table B

Appendix B - Special Sites

Land required to be designated as a special site

Circular 02/2000 was replaced in 2006 by circular 01/2006 which extended the contaminated land regime to include contamination arising from radioactive material. Such sites would be designated 'special sites' as set out below, and dealt with by the Environment Agency.

2. - (1) Contaminated land of the following descriptions is prescribed for the purposes of section 78C (8) as land required to be designated as a special site -
- (a) land affecting controlled waters in the circumstances specified in regulation 3;
 - (b) land which is contaminated land by reason of waste tars in, on or under the land;
 - (c) land on which any of the following activities have been carried on at any time-
 - (i) the purification (including refining) of crude petroleum or of oil extracted from petroleum, shale or any other bituminous substance except coal; or
 - (ii) the manufacture or processing of explosives
 - (d) land on which a prescribed process designated for central control has been or is being carried on under an authorisation where the process does not compromise solely things being done which are required by way of remediation;
 - (e) land on which an activity has been or is being carried on in a Part A(1) installation or by means of Part A(1) mobile plant under a permit, where the activity does not solely consist of things being done which are required by way of remediation;
 - (f) land within a nuclear site;
 - (g) land owned or occupied by or on behalf of -
 - (i) the Secretary of State for Defence;
 - (ii) the Defence Council;
 - (iii) an international headquarters or defence organisation; or
 - (iv) the service authority of a visiting force, being land used for naval or air force purposes;
 - (h) land on which the manufacture, production or disposal of -
 - (i) chemical weapons;
 - (ii) any biological agent or toxin which falls within section 1 (1) (a) of the Biological Weapons Act 1974 (restriction on development of biological agents and toxins) (b); or
 - (iii) any weapon, equipment or means of delivery which falls within section 1(1)(b) of that Act (restriction on development of biological weapons), has been carried on at any time;
 - (i) land compromising premises which are or were designated by the Secretary of State by an order made under section 1(1) of the Atomic Weapons Establishment Act of 1991 (arrangements for development etc of nuclear devices)(c);
 - (j) land to which section 30 of the Armed Forces Act 1996 (land held for the benefit of Greenwich Hospital) (a) applies;
 - (k) land which is contaminated land wholly or partly by virtue of any radioactivity possessed by any substance in, on or under that land; and
 - (l) land which -
 - (i) is adjoining or adjacent to land of a description specified in sub-paragraphs (b) to (i) above; and

(ii) is contaminated land by virtue of substances which appear to have escaped from land of such a description.

(2) For the purposes of paragraph (1) (b) above, “waste acid tars” are tars which -

(a) contain sulphuric acid;

(b) were produced as a result of the refining of benzole, used lubricants or petroleum; and

(c) are or were stored on land used as a retention basin for the disposal of such tars.

(3) In paragraph (1)(d) above, “authorisation” and “prescribed process” have the same meaning as in Part I of the Environmental Protection Act 1990 (integrated pollution control and air pollution control by local authorities)(b) and the reference to designation under section 2(4) (which provides for processes to be designated for central or local control).

(4) In paragraph (1)(e), “Part A(1) installation”, “Part A(1) mobile plant” and “permit” have the same meanings as in the Pollution Prevention and Control (England and Wales) Regulations 2000.

(5) In paragraph (1) (f), “nuclear site” means –

(a) any site in respect of which, or part of which, a nuclear site licence is for the time being in force; or

(b) any site in respect of which, or part of which, after the revocation or surrender of a nuclear site licence, the period of responsibility of the licence has not come to an end;

(6) In paragraph (5), “nuclear site licence”, “licensee” and “period of responsibility” have the meanings given by the Nuclear Installations Act 1965.

(7) For the purposes of paragraph (1)(g) above, land used for residential purposes or by the Navy, Army and Air Force Institutes shall be treated as land used for naval, military or air force purposes.

(8) In paragraph (1) (g) above-

“international headquarters” and “defence organisation” mean, respectively, any international headquarters or defence organisation designated for the purposes of the International Headquarters and Defence Organisations Act 1964 (d).

“service authority” and “visiting force” have the same meaning as in Part I of the Visiting Forces Act 1952 (e).

(9) In paragraph (1) (h), “chemical weapon” has the same meaning as in subsection (1) of section 1 of the Chemical Weapons Act 1996 (f) disregarding subsection (2) of that section.

Pollution of Controlled Waters

The circumstances to which regulation 2(1) (a) refers are where –

(a) controlled waters which are, or are intended to be, used for the supply of drinking water for human consumption are being affected by the land and, as a result, require a treatment process of a change in such a process to be applied to those waters before use, so as to be regarded as wholesome within the meaning of Part 3 of the Water Industry Act 1991 (water supply);

- (b) controlled waters are being affected by the land and, as a result, those waters do not meet or are not likely to meet the criterion for classification applying to the relevant descriptions of waters specified in regulations made under section 82 of the Water Resources Act 1991 (classification of quality of waters); or
- (c) controlled waters are being affected by the land and –
 - i) any of the substances by reason of which the pollution of the waters is being or is likely to be caused falls within any of the families or groups of substances listed in paragraph 1 of Schedule 1 to these Regulations; and
 - ii) the waters, or any part of the waters, are contained within underground strata which comprise wholly or partly any formation of rocks listed in paragraph 2 of Schedule 1 to these Regulations.

APPENDIX C

Sites of Nature Conservation Importance (SNCI) – Site Descriptions

The Gallops and No Man's Land, Worthing

This site is 19.8 hectares in area (National Grid Ref: TQ 124 069) and consists of areas of Calcareous grassland set within a mosaic of ranker grassland, scrub and secondary woodland. The species-rich chalk grassland forms valuable wildlife habitat as well as being a fragment of a much threatened habitat. The poorer habitats also present add to the diversity and thus the general wildlife interest of the site.

North of Bost Hill Lane, the grassland contains species associated with high quality calcareous grassland. These include Upright Brome, Red Fescue, Crested Dog's-tail, Yellow Oat-grass, Sweet Vernal grass, Rough Hawkbit, Salad Burnet, Lady's Bedstraw and Common Knapweed.

South of Bost Hill Lane and bordering it, is a bank of taller grassland which merges into closely mown grassland. Here are found much the same species as above, plus Fairy Flax, Mouse-ear Hawkweed, Bulbous Buttercup and Sheep's-fescue.

Further south are two small areas of very high quality grassland isolated within much poorer quality rank grassland. They contain Wild Common Knapweed, Field Scabious, Eyebright, Kidney Vetch, Squinancywort, Harebell, Small Scabious as well as many species listed above.

Amongst these grassy areas, scrub occurs both as scattered bushes and in clumps. Species include Dogwood, Elder, Hawthorn and Blackthorn. This scrub has developed into secondary woodland in places. Oak is abundant with frequent Ash, Bird Cherry, Crab-apple, Field Maple and Elms occur occasionally.

The Miller's Tomb

The Miller's Tomb SNCI comprises a small area of species-rich chalk grassland, it is 22.9 hectares in area (National grid ref: TQ 095 042). The site comprises relatively unimproved chalk grassland and scrub on the south facing scarp of a small outlier of the South Downs near Worthing. Although heavily used for informal recreation, the site supports several uncommon plants and animals.

The grassland has received fertiliser in the past when a hay crop was taken and is now mostly grass dominated with species such as Upright Brome, Red Fescue and Tall Fescue prominent. Despite this some typical chalk grassland herbs are present including Hairy Violet, Fairy Flax, Glaucous Sedge, the rare Round-headed Rampion and large quantities of Sainfoin especially on the reservoir. On the areas of deeper soil Bulbous Buttercup Salad Burnet Ribwort Plantain and Rough Hawk's-beard occur.

Chalk scrub is found around the old chalk pits and site boundaries, typically comprising Hawthorn, Ash, Dogwood, Elder, Privet, Buckthorn and Traveller's Joy. Associated with

the scrub are patches of taller grassland containing False Oat-grass, Hoary Ragwort, Wild Parsnip, Common Knapweed and Hemp Agrimony. A clump of trees including Beech, Holm Oak, Ash and Scots Pine is present on the hill fort.

The mosaic of short turf, taller herbs and scrub makes the site a valuable habitat for birds and invertebrates. Fauna recorded here include Carthusian snail, a Red Data Book species, Long-winged Cone-head, Common Lizard, Glow-worm, the scarce Chalkhill Blue and 17 commoner butterfly species and a range of birds including Long-tailed Tit, Whitethroat, Chiffchaff, Linnet, Bullfinch and occasional Nightingales.

The Sanctuary, High Salvington

This site is 19.5 hectares in area (National grid ref: TQ 117 067), it consists of a south-facing coombe and slope, located on the edge of High Salvington. The north and west part of the site is a mosaic of species-rich scrub, secondary woodland and chalk grassland, which is managed as a bird sanctuary. The rest is open, herb-rich grassland.

The site represents a scarce habitat in the Borough. Meadow Clary, a Red data Book species, occurs here in one of only two sites in West Sussex.

The bird sanctuary consists of woodland, scrub and grassland. Older woodland is dominated by Oak over Hazel coppice, with a fern-rich ground flora. More recent woodland has Oak and Ash, with a shrub layer of Hawthorn, Blackthorn, Elder and Holly and a sparse ground flora, due to dense shade. The scrub has similar species with Dogwood, Willow, Old Man's Beard and Dog Rose, and tall herbs on the margins. Species-rich chalk grassland occurs in rabbit-grazed clearings, supporting such typical species as Wild Basil, Harebell and Small Scabious.

The open grassland is divided into two fields by a hedge. It appears to be an old meadow with rye Grass seeded in, but supports a wide variety of species. The main grasses include Cock's-foot, Sweet Vernal grass, Crested Dog's-tail and Meadow Fescue. Typical herbs include Wild Carrot, Yarrow and Common Knapweed, with clumps of Bramble and Dog Rose. Coarser grassland occurs in areas of enrichment and disturbance.

The combination of grassland and scrub is important for birds and invertebrates.

Titnore and Goring Woods complex, Goring-by-Sea

This woodland complex is the largest in Worthing Borough. Much of it is ancient in origin, although its structure and species composition vary considerably, due to management. The site is of outstanding importance as a large area of semi-natural habitat close to a heavily built-up area.

The majority of the woodland is dominated by Oak with Ash, Elm, Birch and Beech. The shrub layer is very variable, with area of Hazel or Sweet Chestnut coppice or a mixture of Holly, Hawthorn, Blackthorn, Willow and Elder. The ground flora is predominantly Bramble, Bluebell and Bracken, with Wood Sage, Male Fern and Honeysuckle also typical. It tends to be sparse in dense shade. Ash occurs where the ground is damp and base-enriched, with Hazel and some Field Maple and Wild Privet under, and a ground flora of sedges, ferns, Yellow Flag and Dog's Mercury.

Old boundary banks support a rich flora, including ancient woodland indicators such as Primrose and Hart's-tongue Fern. Parts of the woodland have been thinned to occasional Oak standards over sown Rye-grass. Scots Pine is very occasional in parts of the wood.

Ham Farm Wood, Goring-by-Sea

The site represents the only area of ancient woodland within the built-up area of Worthing. Despite its proximity to housing it is remarkably undisturbed and is a valuable urban wildlife site.

The wood is surrounded by recently-built housing with an open area of parkland on its eastern boundary. The canopy is dominated by Oak, with Ash, Field Maple and English Elm. The shrub layer is mainly Hazel and Sweet Chestnut coppice, with some multi-stemmed Ash and Sycamore. Holly and Hawthorn are also present, and there are some very large old Field Maple coppice stools scattered. The ground flora is dominated by Bramble, Bluebell and Bracken, with Wood Sage, Honeysuckle and Male Fern. A small, dry pond in the north-east part of the wood supports Tufted Hair-grass, Yorkshire Fog and thistles. The ponds in the southern part of the wood are surrounded by Crack Willow, Grey Willow, Goat Willow and Hazel coppice over lush grasses and Yellow Flag.

The wood provides nesting sites and cover for a variety of birds.

Offington Cemetery, Worthing

This is the largest area of unimproved herb-rich calcareous grassland in urban Worthing. It is of great wildlife value to the Borough with cover for birds provided by scrub and large numbers of ant-hills scattered throughout it. It is also a fair-sized remnant of a nationally threatened habitat type.

This site comprises the south-western quarter of Offington Cemetery. It is bordered by the Cemetery on the north and east sides and by the A27 on the other sides. Although there are areas of grassland of equal value within the rest of the Cemetery, they are found on the banks of the main drive and they are too small and too difficult to delineate to be included in the SNCI.

The south-western quarter is a heavily horse grazed pasture with patches of Bramble, Dog Rose and Hawthorn scrub and scattered ant-hills. The ant-hills and many of the plants found are indicative of unimproved grassland. These include Common Bent, Crested Dog's-tail, Sweet Vernal grass, amongst the grasses. The herbs found include Yarrow, Mouse-ear, Hawkweed, Bulbous Buttercup, Meadow Buttercup, Common Sorrel, Common Knapweed and Oxeye Daisy.

The high grazing pressure means that much of this site is a tight, densely packed, short-leaved sward. The intimate mixture of herbs and grasses, the species present and the anti-hills reveal the unimproved nature of this site.

Worthing and Hill Barn Golf Courses, Worthing

Worthing and Hill Barn golf courses encompass significant areas (205.2 hectares) of unimproved chalk grassland, neutral grassland, mixed chalk scrub and woodland. Many of the fairways and areas of rough are of botanical interest with chalk flora including

Round-headed Rampion and Juniper. Invertebrates and birds of interest recorded on Worthing golf course including the Dark Green Fritillary, Green Hairstreak, Chalkhill Blue, Grey Partridge, Skylark, Stonechat and Corn Bunting.

Hill Barn golf course is a fairly small site, contiguous with the much larger Worthing golf course. It has woodland and scrub boundaries to the east and west comprising rich secondary woodland and scrub with a variety of trees and shrubs. These include Ash, Holm Oak, Hawthorn, Beech, Wild Privet, Elm, Holly, Wayfaring Tree and a locally rich ground flora that includes Spurge-laurel, Ivy, Traveller's Joy, Sweet Violet and Stinking Iris.

Unmown "wildflower" areas support a good range of plant species including Wild Carrot, Greater Knapweed, Harebell, Kidney Vetch, Field Scabious, Sainfoin and Yellow Rattle. The southern part of this course has distinctly neutral grassland, parts of which have been improved, though common herbs such as Common Bird's-foot-trefoil, Common Sorrel, Yarrow and Red Clover occur in places.

An unusually high proportion of Worthing golf course is not part of the playing area and is of potentially greater wildlife value. An area of scrub on the eastern side of the course supports a small number of Juniper bushes. Measures are underway to conserve and propagate this species under the guidance of Plantlife. It also occurs in Beech woodland in the north of the course.

Mount Carvey is an extremely valuable area of east facing unimproved chalk grassland that is managed by light sheep grazing. The turf is typically species rich and contains a good range of calcicoles including Harebell, Greater Knapweed, Squinancywort, Pyramidal Orchid, Eyebright, Field Scabious, Cowslip, Small Scabious, Wild Thyme and Round-headed Rampion.

Cissbury plantation contains numerous old Beech trees and a dense, regenerating shrub layer with herb rich, rabbit grazed glades. This woodland is valuable for invertebrates, including Silver-washed Fritillary, and birds such as woodpeckers.

St. Michaels Graveyard, Worthing

This is a small but vital oasis for wildlife in built-up Worthing. It supports a wide range of flowering plants, grasses, trees and shrubs. Despite the obvious disturbance it contains fragments of a much threatened habitat – the 'old meadow' community. Only 3% of such unimproved grasslands present in the 1940s still retain significant ecological interest.

This is a small (0.4 hectare) walled and fenced graveyard situated well within the built-up centre of Worthing Borough (National grid ref: TQ 136 026). The graveyard is no longer used and has been closed up for a number of years.

The graveyard supports a neglected grassy and herb-rich community. Away from the graves themselves the grassland contains plant species which are associated with unimproved herb-rich 'old meadows'. These include Oxeye Daisy, Common Knapweed, Greater Bird's-foot-trefoil and Upright Brome.

Neglect has led to coarser grasses and herbs taking over in much of the site as well as allowing the development of patches of scrub. Trees and shrubs present include Yew, Holly, Sycamore, English Elm, Goat Willow, Grey Willow, Hazel, Hawthorn and Buddleia.

The scrub supports large numbers of birds including Wrens, Chaffinches, Blackbird, Great Tits, Blue Tits, House Sparrows and Robins. Full bird surveys would reveal more of this site's vital role as a wildlife habitat.

Tenants Hill and Reservoirs, Broadwater

Tenants Hill has a steep east-facing slope of species-rich unimproved chalk grassland. The site is 16.8 hectares in area, National grid ref: TQ 150 070 & TQ 148 063. The two covered reservoirs have developed surprisingly rich chalk grassland floras. Small areas of species-rich grassland occur adjacent to both reservoirs. The flora immediately east of the southern reservoir is of exceptional interest. There are small herb-rich glades within the belt of scrub linking the two reservoirs.

The herb-rich flora of Tenants Hill includes Horseshoe Vetch, Round-headed Rampion, Yellow-wort, Kidney Vetch, Sweet Violet, Bladder Campion, Greater Knapweed, Common Milkwort, Yellow Rattle, Autumn Gentian and Carline Thistle. Upright Brome and Sheep's-fescue are the dominant grasses, with frequent Quaking Grass. The lower part of the slope has dense Hawthorn scrub, where Whitethroat, Lesser Whitethroat, Willow Warbler and Yellowhammer may all breed. There is a dewpond, which has recently been restored.

The flora of both reservoirs includes Salad Burnet, Wild Carrot, Oxeye Daisy, Wild Mignonette, Greater Knapweed and Quaking Grass. The southern reservoir has a particularly interest flora, including notable plants such as Autumn Lady's-tresses, Pyramidal Orchid, Squinancywort, Dwarf Thistle, Marjoram, Kidney Vetch and Common Milkwort.

Noteworthy plants found in the species-rich grassland just east of the southern reservoir include Common Restharrow, Horseshoe Vetch, Pyramidal Orchid, Bladder Campion, Common Broomrape, Slender Sandwort and Crested Hair-grass.

Clapham Wood, Clapham

Clapham Wood is an extensive, ancient semi-natural woodland on the undulating dip slope of the South Downs. The site is 155.8 hectares in area, National grid ref: TQ 105 070. The ground flora is rich and includes a number of interesting species. The wood was moderately affected by the storm of October 1987 and unfortunately several large blocks of woodland were subsequently cleared for pasture. Much of the wood is not managed but some areas are still coppiced.

Clapham Wood occupies a variety of soil types. On the hill top soils are mostly heavy clays with a fairly low lime content. This supports a woodland community consisting mostly of Oak standards over Hazel or Sweet Chestnut coppice. The ground flora is characterised by a carpet of Bluebells, with patches of Wood Anemone. Bramble and Bracken are also present.

The chalky soils of the hill slopes carry a very different flora. Oak, Ash, Field Maple and Hazel are most frequent, with patches of Dogwood, Spindle, Wild Privet and Wayfaring Tree. The ground flora is particularly rich. Bluebell and Wood Anemone are still common but with swathes of Dog's Mercury and patches of Sanicle, Primrose, Common

Dog-violet, Lesser Celandine, Wild Strawberry, Pignut, Stinking Iris, Nettle-leaved Bellflower and Early-purple Orchid.

The wood has many tracks and paths, some of which support interesting floras. Tuberosus Comfrey, a very rare plant in West Sussex occurs along a track.

Clapham Wood has a moderately diverse range of breeding birds, including Goldcrest, Chiffchaff, Blackcap, Treecreeper, Marsh Tit, Nuthatch, Cuckoo, Great Spotted Woodpecker and Green Woodpecker.

Long Furlong and Church Hill, Findon

Long Furlong is a steep north and west-facing slope between the A280 and Clapham Woods, supporting rich chalk grassland and scrub. Church Hill is a complex mosaic of chalk grassland, species-rich scrub and woodland. The site is 68.6 hectares in area, National grid ref: TQ 109 081.

Long Furlong and Church Hill form a large piece of contiguous habitat so have been included as one site. Clapham Woods is an ancient woodland of County-wide importance.

The upper slopes of Long Furlong have modified chalk grassland, with grasses and herbs normally associated with enriched soils. The lower slopes are extremely diverse, with typical species such as Quaking Grass, Cowslip, Stemless Thistle, Round-headed Rampion, Salad Burnet, Devil's-bit Scabious and Wild Thyme well represented. Ant-hills are scattered. Clumps of Burnet Rose and areas of scrub occur, and a small area of Oak and Ash woodland over dense shrubs borders Clapham Wood.

Church Hill's chalk grassland varies more in terms of species and structure. Short, species-rich turf occurs on steep slopes and banks; longer more grass-dominated sward is generally associated with enriched or ungrazed areas. The presence of ant-hills indicates a lack of recent disturbance. There are large areas of scrub with a good diversity of shrubs present, and secondary woodland, which is mostly Ash with Beech and Oak locally dominant, and Sycamore frequent, especially in areas of storm damage. Chalk grassland occurs in clearings and along tracks.

The diversity of habitats and vegetation structure makes the site important for a variety of birds and invertebrates.

APPENDIX D GLOSSARY OF TERMS

The following is a non-technical explanation of terms and acronyms used in the strategy, for a precise definition of terms; reference should be made to Statutory Guidance.

AONB	Area of Outstanding Natural Beauty
Appropriate Person	A person who is determined to have responsibility for conducting remediation works and bearing the costs of these works
Brownfield Land or Site	Previously developed land
Class A Person	A person who is the appropriate person by virtue of section 78F (2), that is because he has knowingly permitted a pollutant to be in, on or under the land.
Class B Person	A person who is an appropriate person by virtue of section 78F (2), that is because he is the owner or occupier of the land in circumstances where no Class A person can be found with respect to a particular remediation action.
CLEA	‘Contaminated Land Exposure Assessment’; an assessment tool for considering risks to human health.
CLR	Contaminated Land report, a series of key reports from Defra and the EA assessing the risk to human health from land contamination.
Contaminant	A substance which is in, on or under the land and which has the potential to cause harm or to cause the pollution of controlled waters.
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; (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.
Controlled Waters	These include (a) inland waters (rivers, streams, underground streams, canals, lakes and reservoirs)

- (b) groundwater (any water in underground strata, wells or boreholes)
- (c) territorial waters (seawater within the three-mile limit)
- (d) coastal waters (the sea up to the line of highest tide; tidal waters within the freshwater limit).

DEFRA	Department for Environment, Food and Rural Affairs
DETR	Department of the Environment, Transport and the Regions
EA	The Environment Agency (Solent and South Downs Office).
Eco-system	A biological system of interacting organisms and their physical environment
FSA	The Food Standards Agency
GIS	Geographical Information System - a storage and retrieval database capable of being interrogated on any level of pre-determined parameters.
Greenfield Site	An area which has not been previously developed
Groundwater	Any water contained in underground strata, wells or boreholes.
ICRCL	The Interdepartmental Committee on the Redevelopment of Contaminated Land
Orphan Linkage	A significant pollutant linkage from which no appropriate person can be found, or where those who would otherwise be liable are exempted by one of the relevant statutory provisions.
Part 2A	Part 2A of The Environmental Protection Act 1990, inserted by section 57 of the Environment Act 1995.
Pathway	One or more routes by which a receptor can become exposed to a contaminant.
Pollutant linkage	The relationship between a contaminant, a pathway and a receptor.
Receptor	or 'target' – something that could be affected by contamination, such as waters, a person's health, ecosystem or property type.
Regulations	Statutory Instrument (2000/227) The Contaminated Land (England) Regulations 2000.
Remediation	The carrying out of works to prevent or minimise the effects of contamination. In Part 2A this encompasses an assessment as to the condition of the land and monitoring subsequently.
Risk assessment	The study of the probability of a hazard occurring and the magnitude of the consequences.

Source	A substance in, on or under the ground with the ability to cause harm.
Source Protection Zone	Zones around groundwater abstraction points used for public water supply within which certain activities and processes are either restricted or prohibited.
Special Sites	Any contaminated land designated as special according to the criteria specified in Appendix B.
SSSI	Site of special scientific interest

APPENDIX E REFERENCES AND BIBLIOGRAPHY

- Beswick, M. (1993), Brickmaking in Sussex, Middleton Press, Midhurst, UK.
- Department for Environment, Food, and Rural Affairs (Sep 2006) Defra Circular 01/2006 Environmental Protection Act 1990: Part 2A – Contaminated Land.
- DETR, 1 (2000), Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990. HMSO. London.
- DETR, 2 (2000), Contaminated Land Inspection Strategies, Technical Advice for Local Authorities. DETR (Draft for comment).
- DETR, 3 (2000), Statutory Instrument (2000/227) Environmental Protection. The Contaminated Land (England) Regulations 2000. HMSO, London.
- DETR, 4 (2000), Revision of Planning Policy Guidance Note No.3: Housing. HMSO, London.
- DOE (1995), The Environment Act 1995, Section 78, HMSO, London.
- Environment Agency, (2000). Source protection Zone Map, Sheet 6. The Environment Agency.
- Kerridge, R. and Standing, M. (2000), Worthing: From Saxon Settlement to Seaside Town. Optimus Books, Worthing, UK.
- Office of the Deputy Prime Minister (2004) Planning Policy Statement 23: Planning and Pollution Control, Annex 2: Developing on Land Affected by Contamination
- Pickford, S. (2001), Risk Prioritisation Methodology for sites of potentially contaminated land – PG01 v3. MAPAC (Unpublished)
- Statutory Instrument (2006) No. 1379 Radioactive Contaminated Land (Modification of Enactments) (England) Regulations 2006
- Statutory Instrument (2006) No. 1380 The Contaminated Land (England) Regulations
- Urban Task Force (1999), Towards an Urban Renaissance. Report of the Urban Task Force Chaired by Lord Rogers SPON, London.
- White (Dr) S. (2000), Worthing Past, Phillimore and Co, Chichester, UK

Worthing Borough Council (2001), Blueprint For A Better Future, Worthing Borough Council.

Worthing Borough Council (2000), Local Plan; Revised Draft Deposit. Worthing Borough Council.

Department of the Environment Transport and the Regions (1998) Planning for Communities of the Future. Available at: (www.planning.detr.gov.uk/future/index/htm).

Environment Agency and National House Building Council (NHBC) (2000), Guidance for the Safe Development of Housing Affected by Contamination. HMSO, London.

Interdepartmental Committee on the Redevelopment of Contaminated Land "ICRCL" (1990) Notes on the redevelopment and after use of landfill sites.

Interdepartmental Committee on the Redevelopment of Contaminated Land "ICRCL" (1987) Guidance on the assessment and redevelopment of contaminated land.

Interdepartmental Committee on the Redevelopment of Contaminated Land "ICRCL" (1986) Notes on the redevelopment of gasworks sites.

Interdepartmental Committee on the Redevelopment of Contaminated Land "ICRCL" (1983) Notes on the redevelopment of sewage works and farms.

Scotland and Northern Ireland Forum for Environmental Research "SNIFFER" (2000) Communicating understanding of contaminated land risks. SNIFFER.

