

Environment Act 1995  
Contaminated Land Strategy  
for the  
London Borough of Croydon

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## **EXECUTIVE SUMMARY**

Section 57 of the Environment Act (1995) inserted Part IIA into the Environmental Protection Act (1990) and created a new statutory regime for the identification and remediation of land defined as 'contaminated'.

Local authorities are the primary enforcers of the regime, which came into force in England on 1<sup>st</sup> April 2000. One of the duties the law places on local authorities in England is to prepare a strategy for the identification and inspection of contaminated sites within their areas.

In this strategy Croydon Council has applied the principles set out in statutory government guidance and guidance and best practice from other organizations across the contaminated land sector.

The Council has acknowledged that the process of identifying contaminated sites is an iterative one and has largely relied on information taken from archived street directories. These directories give information about the presence and location of land uses which, in the past, may have caused contamination. This information has been input into a database.

To aid in its task of identifying potentially contaminated sites, the Council also engaged the services of BGS (British Geological Survey). The function of BGS was to provide the Council with historical land use mapping and information sources and to help link any contamination data highlighted within the borough to the Council's Geographical Information System.

A risk model, specifically designed with the characteristics of the borough in mind, has been created by the Council. This risk model assesses the nature of a site's potential for contamination and the sensitivity of the current receptors on, under and adjacent to the site, for example people living on or using the site and the sensitivity of 'controlled waters'. The model provides a prioritization score for all the identified potentially contaminated sites within the borough and, in so doing, has allowed the Council to target its investigations to those areas where the most serious contamination could be present.

Once potentially contaminated sites have been identified, the Council will then carry out further, more detailed, investigations. This will initially involve a more detailed review of a site, which will include the assessment of any investigative reports associated with it. If contamination is still felt to be possible, the Council will then visit the site to confirm the information available to it, initiate communications with the site owner and other stakeholders and after reviewing any additional information will, where appropriate, carry out an intrusive site investigation. These more detailed assessments will be necessary to confirm the presence or absence of 'a significant pollutant linkage'.

If, after reviewing all the evidence available to it, the Council considers that the site, in its current state, is causing or is likely to be causing

significant harm or pollution to controlled waters, it will then identify it as being contaminated and will seek the appropriate remediation. Wherever possible, the Council will seek a voluntary approach to remediation, but will use its statutory powers where necessary.

In investigating potentially contaminated sites the Council will also, where necessary, consult with other relevant bodies such as the Environment Agency, Department of Environment, Food and Rural Affairs (Defra), the Health Protection Agency (HPA) and Natural England. At all times the Council will advocate a clear and transparent approach with all the site's stakeholders.

All information detailing sites identified as contaminated will be available on a public register available from Taberner House.

Copies of this strategy are available in the Croydon Central Library in Katharine Street, Croydon and at Access Croydon, Taberner House, Park Lane, Croydon. Copies are also available on Croydon Online at [www.croydon.gov.uk](http://www.croydon.gov.uk)

Further copies can also be obtained by sending a cheque for £20 made payable to the "London Borough of Croydon" to the Pollution Team at the above address.

## 1. INTRODUCTION

- 1.1 Under the *Environment Act 1995* and associated Government guidance<sup>1</sup>, local authorities were given 15 months from 1<sup>st</sup> April 2000 to prepare a strategy for the inspection of possible contaminated sites in their area.
- 1.2 This strategy is the first stage of Croydon Council's commitment to identify, inspect and ensure the appropriate remediation of contaminated land within the borough. This revised strategy updates and replaces the Council's original contaminated land strategy<sup>2</sup>, first published in June 2001.

### **Background**

- 1.3 Land contamination is likely to have arisen from the activities of past industrial and waste disposal practices. Elevated levels of heavy metals, oils, pesticides, asbestos or landfill gas are a few examples of substances or materials which could be considered contaminants and which, where not properly managed, could cause harm to health or the environment.
- 1.4 Today, controls in the planning system aim to ensure that the effects of historical contamination do not cause any harm to the future users of a site. Provisions in the planning process ensure that, where contamination is an issue on a site, it is cleaned up or *remediated* before or as part of its redevelopment. Because of these procedures, contaminated sites can be redeveloped into uses such as housing, schools and hospitals etc.
- 1.5 By permitting the redevelopment of derelict and sometimes contaminated sites, the principle of 'sustainable development' can be applied, meaning that derelict 'brownfield' sites are developed as opposed to rural 'greenfield sites'.
- 1.6 Before the introduction of the *Environment Act 1995*, there were instances where the previous controls dealing with contamination were not so effective, and going back further in time, controls were, themselves, limited or non-existent. This may have resulted in contamination not being addressed or satisfactorily dealt with prior to or during the site's development. It is these sites that the 1995 legislation aims to deal with by ensuring that, where contaminated sites do exist, they are identified and cleaned up.

### **The Implementation of Part IIA & Legal Framework**

- 1.7 Section 57 of the *Environment Act 1995* inserted Part IIA into the *Environmental Protection Act 1990*, which created a new statutory regime for the identification and remediation of land defined as 'contaminated'. The regime imposed a duty on local authorities to be its primary regulators.

### **Croydon Council's Objectives Under the Regime**

- 1.8 Croydon Council's objectives are summarized in Table 1.1

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<sup>1</sup> Defra Circular 01/2006, *Environmental Protection Act 1990: Part 2A Contaminated Land*, September 2006

<sup>2</sup> *Inspection Strategy for Contaminated Land*, London Borough of Croydon, June 2001

## **Definition of Contaminated Land**

1.9 Whilst a site may contain elevated levels of 'contaminants', it may or may not be defined in legislation as contaminated land. The legislation defines contaminated land as:

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

- a) significant harm is being, 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”<sup>3</sup>.**

1.10 Harm is defined in section 78A (4) of the *Environmental Protection Act 1990* 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”.

1.11 When attributable to radioactivity harm is 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”

1.12 A more detailed description of what defines significant harm and the types of receptors which must be affected for the land to be defined as contaminated is given in Defra Circular 01/2006 and is attached to this strategy as Appendix 1.

**Table 1.1**

<b>CROYDON COUNCIL'S STRATEGIC OBJECTIVES</b>
1. To prepare and publish an inspection strategy (completed June 2001)
2. To inspect and identify contaminated land in the borough of Croydon (in progress)
3. To consult with the Environment Agency and other relevant bodies
4. To refer Special Sites to the Environment Agency
5. To determine who the 'appropriate persons' are
6. To review and apportion appropriate person liabilities
7. To review the Council's own contaminated land liabilities

<sup>3</sup> s.86 of the *Water Act 2003* has amended the current definition of pollution to controlled waters to introduce a test of significance. The amended definition now reads: 'significant pollution of controlled waters is being caused or there is a significant possibility of such pollution being caused. This section of the Act has not yet been enacted and Croydon will therefore consider the amended definition of pollution to controlled water when s.86 comes into force.



8. To inform the appropriate persons of their responsibilities to remediate the site through the serving of a notification that the site is contaminated land
9. To negotiate a remediation strategy with the appropriate persons
10. To review cases of Orphan Sites and Hardship Provisions
11. If appropriate, to serve remediation notices
12. To ensure the remediation of land identified as contaminated
13. If necessary, to carry out the remediation of a site itself and then recover the costs from the appropriate persons
14. To consider appeals
15. To compile and maintain a Public Register
16. To review periodically contaminated land within the borough

- 1.13 Defra Circular 01/2006 states that “the definition of contaminated land is based upon the principles of **risk assessment.**” Risk is defined in the guidance as an estimation of the probability of a defined hazard occurring, as well as an estimation of the magnitude of the consequences. A risk assessment is based on the site’s *current*, rather than any future or proposed, use.
- 1.14 For a site to be defined as contaminated, the risk assessment must determine that a *significant pollutant linkage* exists on the site. As such, a source, a pathway and a receptor must all be present, resulting in either significant harm, the significant possibility of harm to defined receptors, and/or pollution to controlled waters. If there is a break in this pollutant linkage (i.e. there is a source and a receptor, but no pathway) the site cannot be defined as contaminated.
- 1.15 In the Defra Circular, source, pathway and receptor are defined as follows:

**Table 1.2**

<b>COMPONENT OF POLLUTANT LINKAGE</b>	<b>DEFINITION</b>
<b>Source or Contaminant</b>	Is a substance which is in, on or under the land and which has the potential to cause harm or to cause pollution to controlled waters.
<b>Receptor or Target</b>	Is either: a living organism, a group of living organisms, an ecological system or a piece of property which: <ul style="list-style-type: none"> <li>i. is in a category listed in appendix 1 as a type of receptor, and</li> <li>ii. is being, or could be, harmed by a contaminant; or</li> </ul> are controlled waters which are being, or could be, polluted by a contaminant.
<b>Pathway</b>	Is one or more routes or means by, or through, which a receptor <ul style="list-style-type: none"> <li>a) is being exposed to, or affected by, a contaminant, or</li> <li>b) could be so exposed or affected</li> </ul>

1.16 **It is the responsibility of a local authority to determine whether it considers the site to be contaminated.** However, where the contaminated land is due to pollution of controlled waters it is stated in the Defra Circular that “the local authority, acting under the new regime, should consult the Environment Agency before determining that the land is contaminated”.

1.17 Part IIA also provides for sites which are likely to present the greatest threat to health or the environment. These sites are defined in the legislation (Appendix 2) and are referred to as Special Sites. Once identified by a local authority, Special Sites will become the responsibility of the Environment Agency.

**Interaction with Planning Controls**

1.18 In addressing contamination, it is recognised that retrospective remedial actions, carried out after a site has been developed, will be significantly more expensive and difficult, than if the remediation is carried out prior to or as part of a site's development.

1.19 Because of this, when a site is to be developed, local authorities will seek to ensure that any issues of contamination are addressed through the imposition of planning conditions prior to its development. By the use of planning conditions relating to contamination, the authority places a requirement on the developer to assess and deal with any contamination which may be present on the site. *The Town and Country Planning Act (1990)* and the Government's *Planning Policy Statement Note 23: Planning and Pollution Control* have made contaminated land a *material consideration* in the planning process.

- 1.20 Today, in the borough of Croydon, if a site is to be developed for a sensitive end use (i.e. domestic residences) or if the planning application indicates a reason for further investigation, the Council will place a condition on a permission, which ensures that any issues of contamination are investigated and then dealt with as necessary.
- 1.21 Such planning conditions will initially require a historic and environmental site search to be carried out on a site. The site search assesses whether any potentially contaminating activities have occurred on the site in the past and uses information gleaned from old Ordnance Survey maps, street directories, aerial survey photographs, land use surveys, previous planning applications and information supplied by the British Geological Survey (BGS). In addition to this environmental information such as the geology, hydrogeology, surface water and any other factors that may affect the movement of contaminants should also be included. Should this search indicate a risk from potentially contaminating land uses, an intrusive investigation will then be required. All site investigations are carried out at the expense of the developer.
- 1.22 Findings of the intrusive site investigation require the involvement of the Council's contaminated land staff, who will review all intrusive site investigation reports relating to contamination. Should a report indicate that contamination is present, an officer will assess the report's recommendations and confirm that the remediation strategy proposed is appropriate or specify further requirements, if necessary. The officer will visit the site to confirm first hand that various stages of the remediation strategy are being carried out as well as reviewing duty of care transfer/Special Waste consignment notes to confirm the appropriate disposal of waste soil and verification tests on treated and/or imported soil. Once remediation is completed the officer will revisit the site and confirm that the remediation has been carried out to his/her satisfaction. Only when the officer is satisfied that there are no outstanding contamination issues surrounding a site, will he/she inform the Council's planning department that the planning conditions relating to site contamination may be discharged.
- 1.23 By using planning controls, it is therefore possible to proactively assess and ensure the remediation of a site prior to, or as part of, its development. Planning controls also allow the Council to review a site with respect to its functions under Part IIA and ensure that any remediation is done through the provisions of planning conditions as opposed to those of the new regime.
- 1.24 Appendix 2 provides a detailed review of the Council's requirements for contaminated land as part of the planning process.

#### **Interaction with Other Regimes**

- 1.25 The new contaminated land regime does not apply to sites that are currently controlled under the Environmental Permitting regime. Where contamination occurs through activities associated with the above, powers within these regimes ensure that appropriate remediation is carried out.

1.26 Section 161 of the *Water Resources Act 1991* also empowers the Environment Agency to serve a works notice specifying what remediation actions are to be carried out when a site is causing pollution to controlled waters. It is recognised that there may be some overlap between the provisions of section 161 and the contaminated land regime. However, when the source of the contamination has been removed and pollution to the controlled water is still present, then the requirements of section 161 will apply.

## 2. CHARACTERISTICS OF THE LONDON BOROUGH OF CROYDON

### **Introduction**

- 2.1 The borough of Croydon is currently made up of 24 wards. With an estimated population of 341,800 Croydon has the largest population of all the London boroughs. Croydon Council is a unitary authority.
- 2.2 With an area of 8,662 hectares the borough contains a particularly wide diversity of land uses. The north of the borough is dominated by housing and associated infrastructures, whilst the centre is a major commercial area of regional significance, which possesses one of the largest office and shopping centres in England. To the south of the borough, the land becomes more rural and much of its metropolitan green belt and open land is located here.
- 2.3 Whilst the borough would not be considered an area of heavy industrialization, it nevertheless possesses a wide range of industrial uses which may have, in the past, resulted in land contamination.

### **Historic Land Uses**

- 2.4 The Council has records of industrial land uses which have occurred in the borough and which date back over 150 years. Whilst these records show a diversity of industrial activities located all over the borough, they do not highlight the dominance of any particular industry.
- 2.5 Early industrial development was situated around local centres and along or near Factory Lane. Since the construction of Croydon Airport, industrial activities have concentrated along Purley Way. Smaller commercial centres are located at Bensham Grove, Union Road, Gloucester Road, Selsdon Road, Vulcan Way, New Addington and Marlpit Lane, Coulsdon.
- 2.6 Reviewing the borough's historic land uses has nevertheless indicated the potential for contamination from a number of industries. Whilst some may appear quite obvious with respect to their contaminating potential (i.e. the borough has three former gasworks sites, well known for producing potentially harmful coal tars, phenols and cyanides) others have less obvious potential to cause contamination. It is the sites associated with these smaller 'cottage' industries such as hat makers (which use mercury as a patina finish) which are more likely to have remained undetected, and therefore unremediated.

### **Current Land Uses**

- 2.7 Appendix 4 details the breakdown of the borough's current site uses, where possible on a ward by ward basis.

### **Solid & Drift Geology**

- 2.8 Information about the borough's solid and drift geology is important determining whether potentially contaminated sites are likely to have any impact on the underlying groundwater or adjacent sites. Sites which are underlain by low permeability clays are likely to pose less of a risk to groundwater or adjacent areas than sites underlain by more permeable sandstones, gravels or chalk. Areas where there may be naturally high levels of methane and carbon dioxide may also be determined by reviewing the

locations of those sedimentary deposits high in organic matter. The geology of the London Borough of Croydon is summarised in Appendix 5.

### **Surface Waters**

- 2.9 The River Wandle is one of less than a dozen small and often culverted waters which flow across the borough. These waters have a low discharge and are frequently dry during the summer months. There are approximately 30 small to medium sized ponds and one lake (South Norwood Lake) located in the borough.

### **Hydrogeology & Groundwater Vulnerability**

- 2.10 Groundwater is the primary source of drinking water within the borough. The borough has 27 groundwater abstraction points within or close to its boundaries, of which 22 are abstracted for potable water. Details of the borough's hydrogeology and groundwater vulnerability provide information on the nature and sensitivity of its groundwater, including the locations of major aquifers (used for abstraction for public supplies), minor aquifers (possibly important as local supplies of water) and non-aquifers within the borough.
- 2.11 The susceptibility of groundwater to pollution has been classified by the Environment Agency who, in making its classifications, have considered the sensitivity of the groundwater to pollution by reviewing factors like the nature of the overlying soil, the area's geology and the actual importance of the aquifer. The borough's groundwater vulnerability is considered in the Council's risk model, which is discussed in more detail in chapter 3.
- 2.12 The Agency has also supplied the Council with digital information relating to Groundwater Source Protection Zones. These are described in the Environment Agency's booklet 'Groundwater Source Protection Zones'<sup>4</sup> as "designated zones around public water abstractions and other sensitive receptors". Zones are categorised by the estimated time it would take for a pollutant which enters the aquifer to reach a public water abstraction or discharge point. Zones are defined as either:
- Zone I** (50 days for the pollutant to reach an abstraction/discharge point)
  - Zone II** (400 days for the pollutant to reach an abstraction/discharge point)
  - Zone III** (the total catchment area)
- 2.13 As any contamination within Zone I areas will carry the greatest potential risk to sensitive groundwater sources, the Council will use the information detailing the location and extent of Groundwater Source Protection Zones in its strategy. Appendix 6 shows the locations of Source Protection Zones in the borough

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<sup>4</sup> Environment Agency Booklet: Groundwater Source Protection Zones

### **Known Information on Contamination**

- 2.14 Croydon Council has information relating to sites where it is possible that contamination may still be present. These records are held by the Community Services Departments. As part of implementing its duties the Council is reviewing all these sites.
- 2.15 Further, a review of eight Council owned sites by the Environmental Consultants Aspinwall and AERC was carried out on behalf of Croydon Council in 1996 and 1997. Monitoring of landfill gas continued to 2000 in five of these sites. A further risk assessment of these sites reduced monitoring to just the former landfill site at Merstham.
- 2.16 The findings from these inspections highlighted several areas where contamination may have been present. In keeping with the spirit of the contaminated land regime, the Council responded to the most pressing cases first and this resulted in the removal of risks associated with the consumption of potentially contaminated allotment produce at one site. No further works were needed on the remainder of the sites at the time. Further investigations were however also carried out in 2009 and 2010 on one of the sites due to changes in guideline values.
- 2.17 Nevertheless a further, more detailed, review of some sites may need to be carried out with respect to the Council's commitments to the new regime, although this will be based on the Council's prioritisation approach (see chapter 3).

### 3. THE INITIAL STAGES OF THE STRATEGY

#### **Strategic Approach to Inspection**

3.1 In line with Part B.9 of the DETR Circular<sup>5</sup> in force at the time the Council prepared its initial contaminated land strategy and in keeping with the current Defra Circular, the Council has taken and will continue to take a strategic approach towards identifying land which merits more detailed individual inspection. This approach will:

- a) “be rational, ordered and efficient;
- b) be proportionate to the seriousness of any actual or potential risk;
- c) seek to ensure that the most pressing and serious problems are located first;
- d) ensure that resources are concentrated on investigating areas where the authority is most likely to identify contaminated land and;
- e) ensure that the authority efficiently identifies the requirements for the detailed inspection of particular areas of land”.

3.2 The initial approach of the inspection strategy will therefore be to:

- a) **identify sites of potential contamination;**
- b) **assess whether sensitive receptors are occupying or are located near to these sites.**

3.3 Identifying sites where potentially contaminating activities have occurred in the past and then determining whether these sites are currently occupied by or located near to defined receptors (people, crops, protected environments, controlled waters etc.) is the first stage of the Council’s inspection strategy.

3.4 In confirming the presence of two parts of a pollutant linkage (source and receptor) the Council will then be able to refine its investigations to determine whether a *pathway* actually exists between any residual historic contamination on the site and the receptors which currently occupy or are located near it. If a pathway is found to be present, which results in a significant pollutant linkage being present, the site would then be defined as ‘contaminated’.

#### **Geographic Information Systems (GIS) Approach**

3.5 The Council has used a GIS as the platform for its contaminated land database and risk model. A GIS enables different ‘layers’ of information to be stored, analysed and presented spatially and is therefore an extremely effective tool. A GIS enables a large volume of complex data to be reviewed in order to identify potentially contaminated sites in the borough.

#### **Sourcing Sites of Potential Contamination**

3.6 The initial exercise under the Council’s Part IIA commitments was to identify sites in the borough which have in the past been used for industrial purposes or waste disposal. As there are no identifiable areas where potentially contaminated land uses are concentrated in the borough, the Council has, in its strategy, avoided focusing its efforts on specific localized areas. Rather, as

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<sup>5</sup> Department of the Environment Transport & The Regions Circular 02/2000



an initial measure, it has adopted a 'holistic' approach to identifying all the potentially contaminating land uses throughout the borough.

### **Ward/Kelly's Street Directories**

- 3.7 The primary source of information which the Council has used to determine the location of potentially contaminating sites in the borough was archived Ward/Kelly's Street Directories (Croydon, Purley and Coulsdon). These street directories detail the names, addresses and types of commercial and industrial enterprises which were in operation within the borough in any particular year (1849-1972). These directories were available, in part, within the Planning and Transportation Department and also within the local studies section of the Croydon Central library.
- 3.8 An iterative review of these directories allowed the collation of commercial and industrial locations between the years 1849 and 1972. For practical reasons, given the huge volume of data which had to be reviewed, it was decided that only directory information taken at intervals of 5 -10 years would be collated (1849, 1855, 1862, 1869, 1874, 1880, 1885, 1892, 1899, 1905, 1912, 1918, 1924, 1929, 1939, 1953, 1967, 1972).
- 3.9 Information detailing industrial uses within the borough in the years 1977, 1982, 1987, 1992 and 1997 were obtained from archived telephone directories (*Yellow Pages*) and this information augmented the information which was provided by the Ward Street Directories.
- 3.10 After gaining copies of the relevant directories, the Council reviewed all these directories and determined which industrial/ commercial uses listed below could have resulted in the contamination of the site. Table 3.1 lists the industrial/ commercial uses which were selected by the Council.

**Table 3.1**

<b>INDUSTRIAL USES HIGHLIGHTED AS BEING POTENTIALLY CONTAMINATING</b>	
1.	Industries detailed in the DoE Industrial Profiles (1995)
2.	Industrial uses detailed in the DoE Consultation paper (1991) relating to section 143 of the <i>Environmental Protection Act 1990</i>
3.	Industries felt by the Council to be potentially contaminating although not listed in 1 or 2

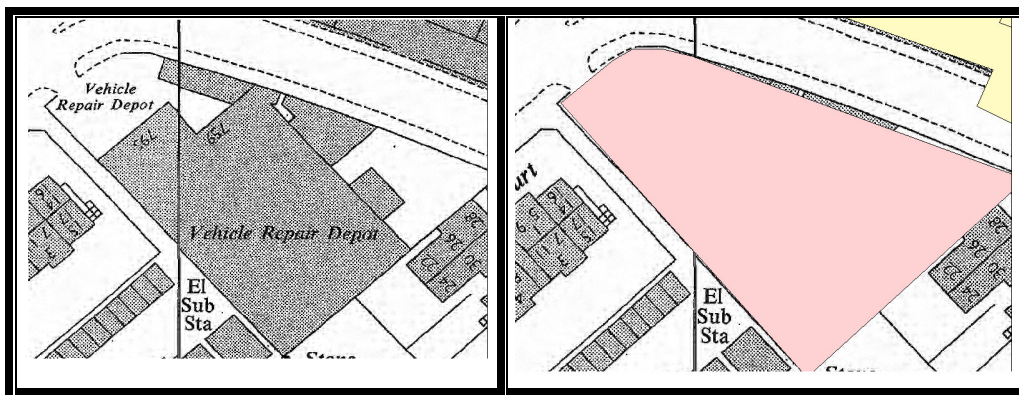
- 3.11 4,000 land uses were identified as having potentially contaminating uses and this information was entered onto Microsoft Excel spreadsheets, which took approximately six months. Whilst the use of Ward Street Directories was regarded by the Council as an extremely useful source of information, the following points needed to be considered:
- a) the numbering of street locations only became common practice towards the latter part of nineteenth century.
  - b) street numbers often changed with time. Consideration needed to be given to the fact that the street number at the time of entry into

the directory may be different to its current number (i.e. 40 Smith Street in 1905 may now be 80 Smith Street).

- c) borough boundaries also change with time. Therefore it was necessary to review Ward Street Directories, which at the time of issue, related to industries which were outside of the borough. Sources of contamination currently outside the borough are considered in paragraph 7.4

- 3.12 Once the Ward Street information was input onto the Excel database, a polygon needed to be created on the GIS to show where the site was actually located on a map.
- 3.13 To enable the accurate georeferencing of sites identified by street directory information on its GIS, the Council commissioned a company (Geosense) to scan and then georeference all of its historical Ordnance Survey maps (pre-war maps dated 1868, 1890, 1910, 1933, 1940 together and post-war maps Series A, B, C and D maps). Appendix 7 shows the historical map record of central Croydon.
- 3.14 Polygonization of the 24,000 land uses continued between 2001 and 2003. In August 2003, the Council completed the polygonization of all known former industrial and waste sites in the borough. Over 7,600 polygons were created during this period. Whilst 24,000 land uses were initially determined, many of these land uses occupied the same site, resulting in only 7,600 sites being polygonized. Each polygon displayed a full known chronological history of the site.
- 3.15 Quality assured procedures were set out to ensure that potentially contaminating sites were accurately transposed into a digital form. At each stage of data input/data digitization the Council ensured that a quality audit was carried out to confirm the reliability of its database.

**Figure 3.1 Illustrating the creation of a polygon from a vehicle repair depot**



### Other Sources of Information

- 3.16 Additional information, detailed in Table 3.2, was also used by the Council to determine the location of potential contamination in the borough.

**Table 3.2**

<b>SOURCING SITES OF POTENTIAL CONTAMINATION</b>	
1.	Review of historic borough maps to determine the locations of larger public industrial works not detailed in the Ward Street Directories. These include gas works, sewage & water treatment works, military locations and rail yards.
2.	Archived information from the London Fire & Emergency Planning Authority (LFEPA). The information details the location of current and historic underground petroleum storage tanks.
3.	Croydon Council-owned sites which were identified during the review of its potential contaminated land liabilities. These sites were initially highlighted from desktop reviews. The sites of most concern were then investigated further through intrusive ground investigations (Ref paras 2.15-2.18)
4.	Digital information supplied by the Environment Agency
5.	BGS information on landfill sites (1973 review)
6.	Information received from BGS detailing the locations of made and worked ground within the borough*
7.	Information made available from baseline investigations required as part of the newly implemented IPPC regulations
8.	Information received from the public, NGOs and businesses
9.	Information from the local history society

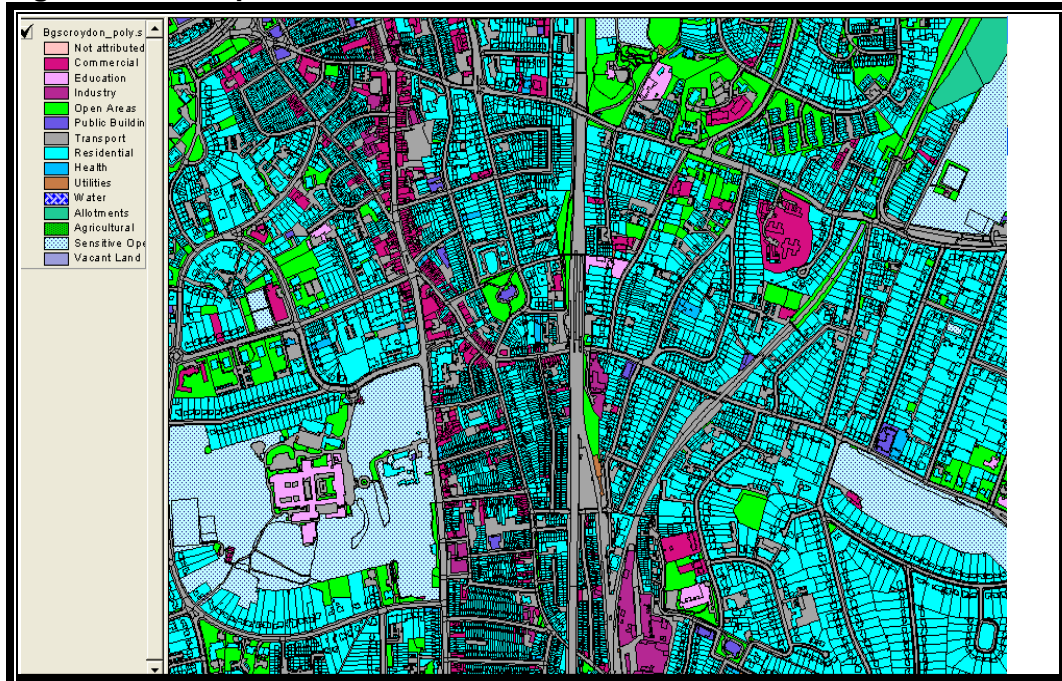
\*Made Ground: is mapped where material (of unspecified type) generally in excess of 1.5m thickness has been deposited on the original ground surface. Worked Ground: shows areas of excavation in quarries, pits and cuttings, which at the time of the survey remained unfilled. Infilled Ground: Exists where the natural ground surface has been removed and the void partly or wholly backfilled with manmade deposits

### Sourcing Sites of Potential Receptors

- 3.17 After determining the location of sites where historic contamination may have occurred, it was necessary for the Council to determine what the site is currently used as, as well as the environmental sensitivity of the site's settings.
- 3.18 Defined receptors are listed in Appendix 1 (Table A) and may include human beings, controlled waters, specified ecological areas, crops (commercial and domestic), livestock, domesticated animals, specified wild animals and scheduled ancient monuments (SAMs). As there was no breakdown of land uses of the borough available in digital form, provision of this information was commissioned from Soligical Solutions. This enabled an immediate review of the current land uses in the borough to be undertaken through the interrogation of the GIS.
- 3.19 The breakdown of land-uses are: agriculture, allotments, commercial, education, health, industry, open areas, public buildings, residential (including

gardens), sensitive open areas, transport, utilities, vacant land and water. With respect to other possible receptors, Table 3.3 gives information on where details were taken from.

**Figure 3.2 Example of break-down of the land-uses on the GIS**



**Table 3.3**

<b>SOURCING SITES OF POTENTIAL RECEPTORS</b>	<b>SOURCE</b>
Digital Ordnance Survey data	Croydon Council
Unitary Development Plan (UDP) information	Croydon Council
Location of Controlled Waters: Surface Water & Aquifers	Environment Agency/Croydon Council/BGS
Borehole locations/ Abstraction points/ Groundwater Source Protection Zones	Environment Agency/BGS/Thames Water
Groundwater Vulnerability Maps	HMSO
Drift Geology	BGS
Solid Geology and Specific Borehole Data	BGS
Sites of Special Scientific Interest (SSSI)/ Nature Reserves etc	Croydon Council/ English Nature
Agricultural land	Croydon Council / MAFF
Sites and Monument Records (SMRs)	Croydon Council/ English Heritage (GLAAS)

## **Functions of BGS**

3.20 The following services were purchased from British Geological Survey (BGS) to aid in the task of identifying potentially contaminated sites within the borough:

- a) the supply of solid geology maps;  
drift geology maps;  
artificial deposit maps;  
groundwater vulnerability maps;  
permeability of drift and solid geology information;  
polygonization of industrial sites identified in the 1890, 1930 and 1950's maps

(N.B. these were supplied in Arc View compatible formats to enable a more detailed risk assessment of the borough).

- b) acting as agent for the Council with respect to the digitization of defined receptor land-uses in Arc View compatible formats (see Chapter 3)
- c) linking all the site specific information on the Council's Excel 'database' onto the site polygons created
- d) running the Council's prioritization model
- e) providing technical support.

## **A Risk-based Model**

3.21 It is stated in the Defra Contaminated Land Inspection Strategy Document: Technical Advice For Local Authorities<sup>6</sup> that 'dealing with inspection and remediation of land will be a progressive activity'. In line with Part B.9 of the Statutory Guidance (01/2006) (section 78B(1)), the local authority must seek to ensure that the most pressing and serious problems are located first.

3.22 Whilst the identification of sources and receptors does not make a 'pollutant linkage' as defined in paragraph 1.14, the initial purpose of the exercise has been achieved, in that definable sites have been highlighted which could warrant further attention.

3.23 To aid the Council in prioritising its efforts, it developed a risk assessment model. The Council's risk model considered the presence and nature of a potentially contaminating site use on or adjacent to an area of land. The model considers the information given in the prevailing DoE Contaminated Land Research Report 6<sup>7</sup>(CLR 6) and the professional judgment of key staff

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<sup>6</sup> Local Authority Guide to the Application of Part IIA of the Environmental Protection Act 1990 Issue 01, July 2001

<sup>7</sup> Department of the Environment: Contaminated Land Research Report: Prioritisation and Categorisation Procedure for sites which may be contaminated CLR Report No 6.

in order to allocate a score of 1-33 for a particular industrial use and its likelihood to cause contamination (Appendix 8).

- 3.24 A score of 1-12 was also given to the industrial use based on the length of time the site was occupied by that industry (Appendix 9). Although a maximum total score of 45 was provided for an industrial use (33+12) if the site had a history of different industrial uses a factor was added to the time score to consider these other industrial uses.
- 3.25 A pathway score of 1-10 was provided based on the solid geology type. Consideration was given to the presence or not of a drift geology cover (e.g. if a chalk deposit had a drift cover of clay with flints, a negative score was provided).
- 3.26 The sensitivity of the receptor was also taken into account. The model considers the information given in CLR 6 and allows for the professional judgement of key staff to review the sensitivity of a particular receptor. A breakdown of 'sensitivity' scores allocated to each receptor is detailed in Appendix 10. Receptors were scored on values of 0-35 based on risks to human health and 0-10 based on risks to controlled water. Consideration is given as to whether the aquifer is a major or minor aquifer and whether the site was within a source protection zone (SPZ).

The permeability of the underlying geology and the sensitivity to pollution of any controlled waters (Appendix 11) is considered in the pathway scoring component of the model.

- 3.27 Croydon has allocated a scoring system of 1-100 with higher risk sites receiving a higher numerical scoring. A breakdown of risk scores is provided with sites scoring as follows:

0-15	very low risk
15.25-30	low risk
30.25-45	medium low risk
45.25-60	medium risk
60.25-75	medium high risk
75.25-85	medium high risk
85.25-100	high risk

### **The Prioritisation of Efforts**

- 3.28 Whilst a high score will not confirm that a site is contaminated, it does enable the Council to prioritize its efforts to those locations within the borough where the risk of site contamination is considered to be greatest.
- 3.29 The Council will adopt a policy where sites which may be causing harm to human health will be treated with a higher priority than those which may be causing adverse effects to other receptors (i.e. groundwater).
- 3.30 If further investigation produces information which confirms that a site is not contaminated, this information will be relayed back into the risk model and a more appropriate score rating allocated to the site.

- 3.31 Whilst the risk-based prioritisation approach dictates that sites with the highest scores are investigated first, it is proposed at this stage, not to set score 'thresholds' whereby sites below a certain risk score will not be investigated. However, it is likely that the resources available to the Council will dictate the extent to which lower scoring sites are investigated, provided always that the Council is satisfied that such sites will not pose any risk of being contaminated.

### **Appraisal of the Risk-based Model**

- 3.32 In adopting the risk-based model the following considerations must be made:
- a) The information producing the risk model is largely based on the professional judgment of the person(s) devising the model. It is therefore important to realise that information arising from its application should be used as a guide rather than as a definitive rating.

Whilst the risk model is based around the definitive boundaries of a site, it is possible that contamination may have migrated to adjacent areas. This will also need to be considered (paragraph 5.8).

### **Radioactive Contaminated Land**

The contaminated land regime has been extended to include radioactivity under the Radioactive Contaminated Land (Modification of Enactments) (England) Regulations 2006, brought into force in August 2006. The extended regime provides a system to identify and remediate contaminated land where such land is causing a lasting exposure of radiation to any person or where there is a significant possibility of such exposure. The definition of contaminated land has been modified and it now the duty of the local authority to inspect its area for circumstances where there are reasonable grounds for believing land to be radioactively contamination land.

In March 2006 Defra published an Industry Profile for industries which have used radioactive materials as part of their processes. Several industries have been identified as being capable of producing radioactive contamination greater than 3 millisieverts/year above local natural background levels. However, it is not thought that the London Borough of Croydon has currently or historically housed any of these industries. Therefore it is at present not deemed necessary to include radiation in the risk based model, but radiation will continue to be considered during the site walkovers for desk studies.

#### 4. OTHER SOURCES OF INFORMATION AT PRESENT NOT AVAILABLE TO THE COUNCIL

##### **Complaints From the Public, NGOs And Businesses**

- 4.1 Together with the Council's duties under the new contaminated land regime, it will also respond to concerns raised by the general public, businesses and other non-governmental organisations, about issues concerning possible land contamination.
- 4.2 Croydon Council will respond within 24 hours of all complaints/concerns received from the above. It will then, where appropriate, carry out further investigations to determine whether a site is potentially contaminated. The information gathered from these investigations will be added to the Council's contaminated land database and reviewed in its inspection strategy.

##### **Environmental Permitting Baseline Investigations**

- 4.3 Under the *Pollution Prevention & Control Act 1999* and associated Regulations, industrial sectors designated under the environmental permitting regime must apply for a permit from the Environment Agency or local authority before they are able to operate. As part of the permit conditions, an investigation must be carried out to assess any baseline contamination of the site. Information from these investigations which is given to the Environment Agency will be conveyed to the local authority.

##### **Pre-Acquisition Investigations**

- 4.4 Due to the principles of *caveat emptor* (buyer beware) a company/person will often request that a pre-acquisition site investigation be carried out before purchasing a site. A pre-acquisition survey would provide the purchaser with the opportunity to review any contamination issues which may surround the site and for which, on purchasing, he may become responsible.
- 4.5 This information, whilst initially not available to the Council, will be used, wherever it can be obtained, to provide further information should the site be highlighted as a potentially contaminated site (paragraph 5.13).
- 4.6 Whilst the Council anticipates that it will be in the interests of the site owner to disclose any information to it which relate to previous investigations, the Council can enforce information disclosure by applying S108 of the *Environment Act 1995*.



## 5. PROCEDURES TO BE PUT IN PLACE ONCE POTENTIALLY CONTAMINATED SITES HAVE BEEN IDENTIFIED

### Introduction

- 5.1 Once a potentially contaminated site has been identified, the Council will adopt a four staged approach to carrying out more detailed investigations. At each stage it is anticipated that more information will be gathered about a site and, from this, the real risks associated with it more accurately determined.
- 5.2 As discussed in paragraph 3.1, the Council will adopt a prioritisation approach to its investigations. Sites which have had the most serious historic contaminating activities and which are currently occupied by the most sensitive receptors will be investigated first.
- 5.3 If at any stage the Council receives information which confirms that contamination is not present or has been remediated, the site will be assigned an appropriate priority category score.

### Stage 1: Initial Desktop Investigation

- 5.4 The initial desktop investigation will encompass a more detailed review of the information available within Croydon Council, as outlined in Table 5.1.

**Table 5.1**

<b>MORE DETAILED SITE REVIEW: DATA SOURCES</b>	
1.	In co-operation with the Planning, Regeneration and Conservation Department, reviewing their data bank of intrusive site investigation reports. These reports will have been written by independent environmental consultants as part of a site's planning conditions.
2.	In co-operation with the Building Control team, reviewing any reports dealing with site contamination.
3.	Reviewing the Community Services Department's own catalogue of intrusive site reports
4.	In reviewing the above, determining the extent to which remedial action has already been carried out or is likely to be carried out as part of a redevelopment

- 5.5 The contents of this table highlights the requirement for inter-departmental co-operation. As part of its strategy the Council has improved its inter-departmental communications systems concerning its contaminated land commitments by making its Contaminated Land Officer its central point of contact.
- 5.6 In reviewing any remedial measures which have been carried out in the past, the Council will also take into account the fact that measures felt to be appropriate 10-15 years ago may, today, not be adequate.

## **Stage 2 : Site Walkover**

- 5.7 The stage 2 phase of the investigation will involve an initial site walkover around the site to validate the information which has been highlighted in the investigation to this point.
- 5.8 In carrying out a site walk over, the Council will visit the site to note whether the information provided by the GIS is the same as that actually on the site. Consideration will also be given to adjacent areas and the likelihood that these areas have also been affected by contaminant migration.
- 5.9 The walkover will also consider the presence of defined receptors (i.e. humans, controlled water, SSSIs etc) as well as the presence of pathways – routes by which receptors could be harmed by any contamination present. This walkover will also assess whether there is any visual evidence of contamination. A site review form is provided in Appendix 12.
- 5.10 Based on site walkover findings, any additional information will then be reviewed and the site will be placed into one of five priority categories which will indicate whether further works need to be carried out. The priority categories are explained further in Appendix 14.

## **Stage 3 : Initial Intrusive Investigation**

- 5.14 If stages 1 and 2 still show that there is sufficient likelihood that a significant pollutant linkage is present, then an intrusive site investigation will be required to confirm that this is the case.
- 5.15 Before affected residents are contacted, communications will be made with Executive Directors and Directors, Cabinet Members, Ward Councillors, the Press Office and Legal Department. This will ensure that all the bodies concerned are appropriately informed and prepared.
- 5.16 Once the above have been contacted the affected local residents would then need to be informed that a site investigation involving the sampling of their surface and near surface soils is to be carried out. The initial form of contact would be through a letter.
- 5.17 The letter would provide details of the Council's statutory duties under Part IIA and give reasons as to why it needs to carry out a more detailed investigation. The Council will also provide a contact name and number should the occupiers have any concerns. The letter may also include a Question and Answer sheet which will aim to anticipate and answer the concerns of the residents. The reasons for the investigation would be explained although at this stage the Council will reiterate that the investigation is in its provisional stage.
- 5.18 Whilst it is anticipated that a voluntary approach will be adopted by the landowner, the Council could implement S108 of the *Environment Act 1995*, which provides it with a power of entry to undertake a site investigation, where necessary.

- 5.19 As appropriate, full consultation will also be carried out with other relevant bodies (Environment Agency, Natural England etc).

#### **Stage 4: Intrusive Site Investigation**

- 5.20 The intrusive site investigation may simply involve sampling of the garden soil using an auger or it could be a much more detailed investigation involving the sinking of boreholes and/or the excavation of trial pits and taking of appropriate soil and water samples. Monitoring standpipes may also be installed to assess levels of landfill gas and/or the presence of groundwater pollution. The intrusive site investigation should establish whether a significant pollutant linkage is actually present on the site.
- 5.21 The extent of the intrusive site investigation would be considered on a site specific basis and will be carried out in accordance with the requirements of the British Standard 10175 'Investigation of Potentially Contaminated Sites – A Code of Practice' (1999).
- 5.22 The scope of the intrusive site investigation will be limited to confirming whether a site is contaminated or not and this will be carried out at the Council's expense and/or using government contaminated land grant funding.
- 5.23 The Council will follow the Defra Circular which states that "the local authority should carry out any intrusive investigation in accordance with the appropriate procedures for such investigations. It should also ensure that, when carrying out an intrusive site investigation, it takes all reasonable precautions to avoid harm, water pollution or damage to natural resources or features of historical or archaeological interest".
- 5.24 Where a site is the responsibility of a statutory body (e.g. Natural England), the scope of the investigation will be agreed between the Council and the relevant body, prior to any works being carried out.
- 5.25 The intrusive investigation will draw on the technical and practical experience of Council staff to carry out the necessary site investigations. However, in support of these functions, services may be contracted out.
- 5.26 Laboratories will be selected on the basis of their UKAS accreditation and their specific expertise in the analysis of particular contaminants. The contaminants selected for analysis will be based on the information given in the relevant DoE Industry Profiles or the R&D Publication CLR 8<sup>8</sup> which detail the contaminants most likely to be present from a particular industrial use.

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<sup>8</sup> Defra R&D Publication CLR 8: Potential Contaminants for the Assessment of Land

## 6.0 DETERMINATION OF CONTAMINATED LAND

### Introduction

- 6.1 If, after reviewing all the information available to it, the Council is of the opinion that the site is causing or is likely to be causing significant harm or pollution to controlled waters, it will then designate the site as 'contaminated land'.
- 6.2 In reaching its decision on whether there is a significant risk of significant harm or pollution to controlled waters, the Council will carry out a risk assessment to determine whether there are any *significant pollutant linkages* associated with the site.
- 6.3 In carrying out its risk assessment, Croydon Council will give close consideration to:
- a) the definition of harm (Appendix 1),
  - b) the nature, degree and location of the contamination on the site,
  - c) the routes by which the contaminants would affect defined receptors on the site,
  - d) the susceptibility of these receptors on the site and
  - e) the timescale within which harm may occur (i.e. is the current use of the site likely to remain for a long period of time?).
- 6.4 To further aid the Council in making its determination, it will draw upon the CLEA (Contaminated Land Exposure Assessment) and SNIFFER models. With respect to groundwater risks it will also rely on the Environment Agency's p20 groundwater model.

### The CLEA (Contaminated Land Exposure Assessment) Model

- 6.5 CLEA is a probabilistic model which has been developed by the Environment Agency to assess whether contamination will have a harmful effect on human health.
- 6.6 The model considers a range of different site uses: residential with plant uptake, residential without plant uptake and commercial/ industrial uses. It then considers the exposure pathways through which harm may occur.
- 6.7 The exposure pathways are included in the CLEA model and these are detailed in Table 6.1.

**Table 6.1 Pathways Considered by the CLEA Model**

<ol style="list-style-type: none"><li>1. Outdoor ingestion of soil</li><li>2. Indoor ingestion of dust</li><li>3. Consumption of home grown vegetables</li><li>4. Ingestion of soil attached to vegetables</li><li>5. Skin contact with outdoor soil</li><li>6. Skin contact with indoor dust</li><li>7. Outdoor inhalation of fugitive dust</li><li>8. Indoor inhalation of fugitive dust</li><li>9. Outdoor inhalation of soil vapour</li><li>10. Indoor inhalation of soil vapour</li><li>11. Ingestion of drinking water from mains supply</li><li>12. Skin contact with mains water during showering and bathing etc.</li><li>13. Inhalation of vapour during showering and bathing and from ambient vapours otherwise derived from mains water</li></ol>
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**Other Considerations**

- 6.8 Prior to designating the site as contaminated, the Council will also seek consultation with the Health Protection Agency about a contaminant's toxicological nature and the likelihood of significant harm occurring. Further, the severity of hazard associated with a contaminant is likely to have a direct bearing on the type and degree of remediation to be carried out.
  
- 6.9 When the Council has gathered sufficient information for it to determine that a specific site is 'contaminated', a written record will then be made in a Record of Determination. The Record of Determination sets out all the relevant information about the site and the Council's reasoning why the site is contaminated.

## 7. LIAISON WITH OTHER BODIES

### Environment Agency

- 7.1 Local authorities and the Environment Agency are both intimately involved in the contaminated land regime. To ensure its effective implementation, close liaison and co-operation is essential between these two bodies. The Council has therefore established effective liaison with the Environment Agency area contact. Table 7.1 indicates areas where co-operation between the two regulators is required:

**Table 7.1**

<b>ENVIRONMENT AGENCY → LOCAL AUTHORITY</b>
<ol style="list-style-type: none"> <li>1. The Agency will provide information detailing locations and information about potentially contaminating industries and the quality of controlled water in the borough</li> <li>2. The Agency will provide advice to the Council on identifying and dealing with pollution of controlled water</li> <li>3. The Agency will supply details of environmental permit baseline investigations to the Council</li> <li>4. The Agency will provide advice to the Council on the remediation of contaminated land</li> </ol>
<b>LOCAL AUTHORITY → ENVIRONMENT AGENCY</b>
<ol style="list-style-type: none"> <li>1. The Council provided a draft copy of its contaminated land strategy to the Environment Agency. The Environment Agency reviewed and commented on this submission. Following liaison, the Council then submitted a final copy of its strategy to the Agency.</li> <li>2. The Council will consult and then hand over regulatory control to the Agency with respect to Special Sites located in the borough.</li> <li>3. The Council will submit notifications of contaminated land and remediation notices to the Agency. This will provide the Agency with information for its annual report on contaminated land.</li> </ol>

### Liaison with Other Bodies

**Table 7.2**

<b>CONSULTEE</b>	<b>ROLE</b>	<b>ISSUE</b>
Natural England	Is a Government agency with responsibility for conserving England's wildlife and natural landscapes.	<p>There are a number of sites within the borough where Natural England has an involvement (e.g. Sites of Special Scientific Interest). The locations of Natural England sites are detailed in appendix 4</p> <p>When contamination is suspected or confirmed on a site where Natural England has an involvement, the Council will liaise with it to gather more</p>

		detailed information about the nature of the site and also the receptors which are most likely to be affected. From this the most appropriate form of investigation and/or remediation strategy can be agreed.
Department for Environment, Food and Rural Affairs	A total of 4.7% of land in the borough is agricultural land. The Governmental Dept responsible for agricultural land is Defra	If it is felt that harmful or potentially harmful levels of contaminants are present on the agricultural land, the Council will liaise with Defra.
Food Standards Agency	Responsibility for Advice on Food Safety	Ensuring the safety of consumers from any food that may be affected by land contamination.
English Heritage	English Heritage is a statutory body responsible for protecting the country's historical buildings, landscapes and archaeological sites.	Where contamination by aggressive ground conditions is causing or thought to be causing significant harm to English Heritage buildings or sites, the Council will liaise with E.Heritage's Greater London Archaeology Advisory Service (GLAAS) to agree the most appropriate form of investigation and/or remediation strategy. Further, some former industrial activities are of archaeological significance and E.Heritage state that the presence of contaminants may also constitute some archaeological interest. Remedial strategies would need to consider this.
Homes and Communities Agency/ London Development Agency (LDA)	Homes and Communities Agency and the LDA are bodies involved in the regeneration and development of impoverished sites in the UK.	As some Homes and Communities Agency or LDA developments may have contamination issues surrounding them, the Council will liaise with them to discuss whether the development proposals could cause significant harm or pollution to controlled waters.
Health &	The Health and	Should remediation of a

Safety Executive (HSE)	Safety Executive is a statutory body involved with issues of safety concerning larger industry, building works and local government operations.	contaminated site be carried out, the Council would require that the developer discuss any health issues with the HSE to ensure that there will be no risk to human health during its remediation. The Council would expect the developer to follow the requirements of the HSE document 'Protection of workers and the General Public during the development of Contaminated Land' (1991). Should the Council have cause to suspect that this has not taken place, then the Council will contact the HSE.
Health Protection Agency	The Health Protection Agency (HPA) is a national organisation for England and Wales dedicated to protecting people's health and reducing the impact of infectious diseases, chemical hazards, poisons and radiation hazards.	The local office of the HPA (the SW London Health Protection Unit) will be consulted by the Council where it is thought that contamination may be having an adverse effect on public health or a perception of such effect. It will also be consulted in individual cases where support in determination of significant pollutant linkages with respect to human health is required.
Thames Water	Thames Water is a statutory undertaker providing essential water supply and wastewater services	Thames Water will be consulted where it is thought that an area of potentially contaminated land might have affected, or may affect, water quality at a public groundwater or surface water abstraction.
Sutton and East Surrey Water	Sutton and East Surrey Water is a statutory undertaker providing essential water supply and wastewater services	Sutton and East Surrey Water will be consulted where it is thought that an area of potentially contaminated land might have affected, or may affect, water quality at a public groundwater or surface water abstraction.



## **8. DETERMINATION OF SPECIAL SITES**

- 8.1 In carrying out its investigation duties, the Council will consider whether a site meets any of the criteria which designates it as a Special Site (Appendix 2). If a site is designated as a Special Site, the Environment Agency will take over the responsibility from the local authority as its regulator.
  
- 8.2 The Council, in consultation with the Environment Agency, will make the determination of whether any site is likely to be a Special Site as soon as possible. This is to ensure that regulatory actions are not duplicated between itself and the Agency. The Council will supply the Agency with all the available information about a site in order to help it with its regulatory duties.

## 9. PROCEDURES IF CONTAMINATED LAND HAS BEEN IDENTIFIED

### **The Appropriate Persons**

- 9.1 Where a site is found to be contaminated, the Council will determine who the appropriate person is (the person or company who will be responsible for carrying out remediation). The appropriate person may be either:
- a) An appropriate person class A: The person (s) who caused or knowingly permitted a pollutant to be in, on or under that land or
  - b) An appropriate person class B: The owner or occupier of the site. These persons are responsible for any necessary remediation only in the event of the class A person(s) not being found.
  - c) The Council will give notice to all those considered by definition to be appropriate persons in accordance with legislation and statutory guidance.
- 9.2 Where there is more than one appropriate person associated with a site, the Council will apportion liability to reflect the amount of contamination that each may have caused. Exclusion from and apportionment of liability will be considered on a site specific basis in accordance with the Defra Circular. All information concerning exclusion from and apportionment of liability will be given to the appropriate person.

### **The Voluntary Approach**

- 9.3 Through the process of negotiation the Council will, wherever possible, seek a voluntary agreement between itself and the appropriate person. It is anticipated that the appropriate person, in discussion with the Council, will agree an acceptable remediation strategy without the need for a remediation notice being served.
- 9.4 The appropriate person must submit a remediation plan to the Council which will specify particular remediation actions to be carried out and the timescales within which they are to be performed. All details about the site will then be stored on a public register created by the Council.
- 9.5 However, the Council will apply its enforcement powers under the *Environment Act 1995* to ensure that “where the appropriate remediation is not being carried out, or where agreement cannot be reached on the remediation actions required” it will serve a remediation notice on the appropriate person(s).
- 9.6 A period of 3 months is given for the appropriate person to agree with the Council a suitable remediation strategy prior to the Council serving a remediation notice.

## The Remediation Notice

- 9.7 In the interests of consistency and to minimise preparatory work, a standard remediation notice letter will be drawn up by the Council. Table 9.1 details the contents of this remediation notice.

**Table 9.1**

<b>CONTENTS OF A REMEDIATION NOTICE</b>
1. Who the appropriate person is
2. The nature of the problem
3. The basis for the Council's actions
4. What the appropriate person is to do by way of remediation
5. The timescale for the remediation
6. Rights of appeal
7. That in the event of an appeal being made, the remediation notice will be suspended
8. Other relevant information
<b>Further, if there is more than one appropriate person, the notice will also detail:</b>
1. The details of the other appropriate persons
2. The proportion of costs which each appropriate person will bear in carrying out the remediation

- 9.8 A copy of the remediation notice will also be sent by the Council to:
- The owner/occupiers of the site
  - A body or person who will be required to grant rights over the site or waters to enable the remediation work to be done
  - The Environment Agency
- 9.9 If remediation is still not carried out after the submission of a remediation notice, the appropriate person may be subject to fines of up to £20,000 and subsequent daily fines of up to £2,000 until the appropriate person complies with the remediation notice.
- 9.10 If it is felt by the Council that the site, in its current state requires immediate remediation it may, as a matter of priority, carry out the remedial work itself. After remediating a site, the Council will then recoup the costs incurred from the appropriate person.

## **10. LAND WHICH IS THE RESPONSIBILITY OF THE COUNCIL**

### **Council Owned Sites**

- 10.1 It is apparent that a significant proportion of Council owned land is linked to sites which are of a particularly sensitive nature (e.g. allotments, schools, public open spaces). Further, it is estimated that the Council also owns 11.5% of the residential dwellings within the borough.
- 10.2 Given this information it is possible that there may be sites within the borough which may be owned by the Council which are contaminated. It is also possible that the Council may have, in the past, caused or knowingly permitted contamination to have occurred on sites within and outside of the borough.
- 10.3 Previous investigations carried out by the Council have highlighted a number of Council owned sites (most notably former landfill sites) where the issue of contamination has been raised (Paragraphs 2.14-2.17). In the interests of public confidence, the provisions of the Part IIA will apply equally to Council owned land as it will to privately owned sites. The Council takes its responsibilities in this respect seriously.
- 10.4 Where it is considered that sites currently or previously owned by Croydon Council have issues of contamination, the Council will actively review these areas and, where appropriate, devise an appropriate remediation strategy.

### **Orphan Linkages**

- 10.5 D103 of the Defra 01/2006 circular details where an orphan linkage may arise:
- a) where 'the significant pollutant linkage relates solely to the pollution of controlled waters (and not to significant harm) and no class A person can be found'
  - b) where no class A or class B persons can be found. Those persons who would otherwise be liable are exempted by statutory provisions.
- 10.6 In the event that orphan sites are determined, the Council will bear the cost of carrying out the appropriate remediation.

### **Hardship Provisions**

- 10.7 Having determined that a site is contaminated, the Council will need to consider whether the hardship provisions apply when assessing whether the costs of remediation should be borne by the appropriate person. Such decisions would be made in accordance with the guidance in Defra Circular 01/2006.
- 10.8 S78P (2) of the 1990 Act provides that a local authority, in making its decision as to whether an appropriate person should pay the costs of remediation, must consider the hardship which may be caused to the person in question.

- 10.9 Although the meaning of hardship is not defined in Part IIA, para 10.8 of the Defra Circular provides that hardship should carry its usual meaning in that “hardness of fate or circumstances, severe suffering or privation” would be caused.
- 10.10 In making its decision on whether to apply hardship provisions, the Council will have regard to the following principles:
- i. It will aim for a *fair and equitable result* (whilst considering national and local tax payers);
  - ii. The polluter pays principle; the authority should therefore consider the degree and nature of the appropriate person’s responsibility;
  - iii. With respect to Class B persons, the Council will consider waiving or reducing its cost recovery if that person demonstrates to the Council’s satisfaction that remediation costs are likely to exceed the value of the land;
  - iv. Whether, when the person purchased the site, he took steps to determine the presence of contamination on the land or could not have reasonably have been expected to have been aware of its presence.
- 10.11 Should the Council already have carried out the remedial works and be seeking to recover the costs from these works, the guidance provides that the local authority should waive or reduce the recovery of the remedial costs to the extent that it considers appropriate and reasonable in order to avoid any hardship. However, before the Council consents to a waiver or reduction of remediation costs, it is the responsibility of the appropriate person to present any information to the authority which will support their request not to pay.
- 10.12 In order to promote transparency, fairness and consistency, the Council has published a policy statement about the general approach it intends to follow in making cost recovery decisions. The full policy statement is included in Appendix 13. However the basic principles of the Council’s policy statement are that:
- i. Householders are unlikely to be liable for cleanup costs if they can show that they purchased their property with no knowledge that it was adversely affected by the presence of a pollutant.
  - ii. Householders will generally be liable for some or all of the cleanup costs if they purchased their property with knowledge of the presence of pollutants, and having this knowledge, did not carry out any further investigations.
  - iii. Housing Associations are unlikely to be liable for cleanup costs if they purchased the land without knowledge of the contamination issues surrounding the site. The Council will however assess whether the housing association carried out reasonable investigations prior to purchasing the site, and may hold them liable if they failed to carry out reasonable investigations.

- iv. Businesses will not be liable for cleanup costs if they purchased the site without knowledge of the contamination issues surrounding the site. The Council will however assess whether the business carried out reasonable investigations prior to purchasing the site, and may hold them liable if they failed to carry out reasonable investigations.
  - v. Businesses may not be liable for full cleanup costs if full payment would cause the business' insolvency which would have an adverse affect on the local economy.
- 10.13 It should be emphasised that prior to making any decisions relating to hardship, the Council will need to have regard the circumstances of each individual case. The policy statement should not be regarded as an interpretation of the Council's legal obligations, but rather as a guide to the approach it will take in implementing its discretionary powers and government guidance.
- 10.14 The Council has incorporated its policy on this into this revised strategy, which is contained in Appendix 13.

### **Funding**

- 10.15 The Council anticipates that additional funding from Defra for the remediation of sites for which it is responsible or partly responsible will become available to address problems associated with contaminated sites through the Contaminated Land Grant
- 10.16 The Council will submit bids for individual schemes of work under the grant programme on an annual basis.
- 10.17 Limited funding is also available through the Council's revenue support grant which is allocated to the Council each year by Central Government to deal with contaminated land issues.

## 11. COMMUNICATIONS STRATEGY

### Introduction

- 11.1 Once a contaminated site has been found, there is then the difficult task of communicating the relevant issues to the people who may be affected by its identification.
- 11.2 In drawing up its strategy, the Council acknowledges that contaminated land is potentially a very emotive issue, in which a number of different and often conflicting interests are involved.
- 11.3 The 'stakeholder' is a term for the person or group of people who have a particular interest in a contaminated site. The stakeholder(s) could include local residents, landowners, industrial companies, site employees, lawyers, journalists, developers, community action groups etc. In order to respect confidentiality, the Council will not normally place in the wider public domain information about individual sites under investigation until they are determined as contaminated unless there is an overriding public interest in doing so, or unless the Council is required to do so by law. In such cases the Council will consult with the appropriate stakeholders before doing so.
- 11.4 In reviewing its communication strategy the Council has acknowledged that a contaminated site is not just a concern of the site owner but is also an issue which may impact on the wider community.

### General Approach

- 11.5 The Council will adopt a timely, transparent and accessible approach when relaying information about a contaminated site to the stakeholders concerned.
- 11.6 The Council will follow the principles set out in the SNIFFER (Scottish & Northern Ireland Forum for Environmental Research) document 'Communicating Understanding of Contaminated Land Risks'<sup>9</sup>. This document outlines the basic principles to adopt when communicating with interested parties concerned with contaminated land. The document also raises the issue of contaminated site perception, where a lack of understanding surrounding a contaminated site can lead to high concern by stakeholders and the 'blight' of an area if issues are dealt with in an uncontrolled way.
- 11.7 The Council acknowledges that an appropriate information exchange strategy must therefore be implemented to allow those stakeholders involved to be aware of the salient issues surrounding a particular site.
- 11.8 As part of its communication strategy, the Council will therefore involve all its relevant internal departments and, where appropriate, the Health Protection Agency.

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<sup>9</sup> Scotland & Northern Ireland Forum for Environmental Research: Communicating Understanding of Contaminated Land Risks (1995)

- 11.9 The Council will also draw on its previous experience when dealing with contaminated sites and will implement communication exercises which have, in the past, been found to be successful.

#### **Initial Communications**

- 11.10 All sites are unique and because of this, the Council will not adopt a standard, inflexible approach to communication. Whilst an early and transparent approach is advocated, the Council at the same time, does not wish to highlight potential hazards about a site which further investigations show do not exist.
- 11.11 Therefore the Council will adopt the following communication strategy. If the earlier stages of the investigation outlined in section five of this strategy warrant further review (i.e. the landowner giving permission for a site walkover or supplying the Council with additional information), the landowner alone will be informed of the requirement for more information. The initial communication will be in a written form and will detail why the site is being investigated and the reasons why more information is required. The communication will also include a 'frequently asked question/answer' sheet. The correspondence will give the contact name and telephone number of the Council's contaminated land staff.
- 11.12 The Council will listen to and consider the concerns and viewpoints of the landowner.
- 11.13 Should further investigation of a site confirm the requirement for an intrusive site investigation, consideration will then be given to informing stakeholders other than the landowner.

#### **Communications Once Contaminated Land Has Been Identified**

- 11.14 Once the Council has identified that a site is contaminated, it will determine who the appropriate person is (Paragraph 9.1) and then issue them with a notice.
- 11.15 In subsequent communications the Council will adopt a helpful, open and communicative approach with the appropriate person. At this stage, communication will involve informing the appropriate person what contamination is present on the site, how it is causing or is likely to be causing significant harm to receptors/pollution to controlled waters and that appropriate remediation will be required. Information concerning the person's right to appeal will also be supplied at this stage.
- 11.16 If it is felt to be necessary, the Council will recommend that the appropriate person carries out a more detailed intrusive site investigation to confirm the full nature and extent of contamination on the site. Once this has been done and the full extent of contamination known, it will then be possible to negotiate the most suitable and reasonable remedial action.
- 11.17 The Council may also seek information from the Health Protection Agency about a contaminant's toxicological nature. This information will then be relayed to all the appropriate stakeholders so that an appreciation of the



hazards posed by a particular contaminant can be gauged. The severity of the hazard associated with a contaminant will have a direct bearing on the type and degree of remediation carried out.

- 11.18 The Council will also discuss remedial action with environmental consultants who may be commissioned to carry out the site investigations on behalf of the appropriate person. This information will generally be shared with the other stakeholders involved with the site.
- 11.19 On acceptance of the remediation strategy, the Council will agree in writing that the remedial approach and timescales to be adopted are satisfactory. Once remediation has been carried out, the Council will require verification tests to confirm that the site no longer poses a risk to human health or the environment. Further, it will be the Council's policy to visit the site to confirm that remediation is being carried out satisfactorily.
- 11.20 At all stages of the negotiation the Council will be available to discuss and listen to the concerns and view points of the appropriate person/his environmental consultants and any other interested stakeholders, and will have regard to these when making its decisions.

#### **Other Stakeholders**

- 11.21 Once a contaminated site has been identified, it is likely that stakeholders other than the landowner will also become involved.
- 11.22 If members of the general public are affected by the location of a contaminated site, the Council will need to set up procedures to keep them informed.
- 11.23 The Council initially anticipates that all or some of the following approaches will be applicable when communicating with the public about a specific contaminated site:

**Table 11.1**

<b>COMMUNICATION STRATEGY</b>	
1.	Supply of information sheets to affected residences
2.	Meetings to discuss the relevant issues
3.	The provision of a telephone contact at the Council and/or at the Health Protection Agency

- 11.24 All the information supplied to the public will detail the relevant points in a sensitive manner which is non-technical and easily understood.
- 11.25 Further, in line with the Council's open communication strategy stakeholders will be informed, as soon as practically possible, when new information becomes available about a specific site.

## 12. ESTABLISHMENT OF A PUBLIC REGISTER FOR CONTAMINATED LAND

### Introduction

- 12.1 The new legislative regime requires the Council that creates a comprehensive information base relating to all sites designated as contaminated within its borough. This register will be available to the public and will be stored in the Council's Taberner House building. The register will be available on request at the Council's 'Access Croydon' service. It will also be a source of information used by the Land Charges, and Planning, Regeneration and Conservation Departments.
- 12.2 A public register as outlined in section 78 of the *Environmental Protection Act 1990* shall contain all the relevant information given in section 78R, supporting the land's designation as a contaminated site.
- 12.3 Sites which are defined as contaminated and subsequently remediated to the satisfaction of the local authority and/or the Environment Agency will remain on the register with details given of the remediation carried out.

### Contents of the Register

- 12.4 The Contents of the Register are detailed in Table 12.1:

**Table 12.1**

<b>CONTENTS OF THE REGISTER</b>	
<b>The Site</b>	Location and extent of the contaminated site which will include its address, a site plan and a National Grid Reference Why the site is contaminated The substances present in, on or under the site If there has been any migration of contaminants to adjacent areas, which areas have been affected Reference to reports carried out on the site The current use of the site
<b>Remediation</b>	The name and address of the person or company on whom the notice has been served The remediation to be carried out and the timescales it is to be achieved by
<b>Details of appeals and apportionment of liability</b>	

### Exclusions to Public Access

- 12.5 The *Environmental Information Regulations 2004* grants general rights of public access to environmental information held by public bodies.
- 12.6 The Council will adopt as open and transparent a policy to public access as possible. However, there is an extensive list of exemptions which are listed in sections 78S and 78T of the *Environmental Protection Act 1990*.

- 12.7 Exclusion from the register will be on grounds of national security and commercial confidentiality subject to the conditions given in the Defra Circular.
- 12.8 With respect to exclusion on the grounds of commercial confidentiality, any exclusion from the register will be subject to a review every four years.
- 12.9 The Council may also omit from the public register any details about a site when information relating to it is incomplete.

**Public Access**

- 12.10 The public will be informed about the availability of a contaminated land register through a press release in the local papers and updates on the Council's website
- 12.11 Should a request be made to the Council to access information about a specific contaminated site, a summary 'information package' will be made available for review. Table 12.2 details the summary points.

**Table 12.2**

<b>SUMMARY INFORMATION GIVEN TO THE PUBLIC</b>
Site details Why the site has been designated as contaminated land Scanned executive summaries from investigations carried out on the site Summary details of contaminated land notices, remediation notices, remediation statements and Council's actions.

- 12.12 Should more detailed information be requested, all the publicly available paperwork associated with the site (except confidential/security documents) will be photocopied and supplied to the person. This service will be chargeable.
- 12.13 As a matter of routine, when submitting information to the public, the Council will include a disclaimer indicating that the information provided is only accurate at the time of its provision and interested parties may wish to make their own independent enquiries about a specific site.
- 12.14 Access to the Arc View GIS system and its accompanying database, or information relating to sites highlighted in the initial stages of the investigation but found not to be contaminated, will not be available to the public.

**Internal Access**

- 12.15 Central records about contaminated sites will be kept within and made available by the Pollution Team within the Council and will be available to members of staff with legitimate need to access the database as part of their official duties.

**13. DATA MANAGEMENT**

**Introduction**

- 13.1 It is anticipated that in carrying out its regulatory duties the Council will accrue a large amount of information. In order that this information is readily

available, an efficient and organized data management system will need to be used.

- 13.2 All filed information will be centralised within the Pollution Team. Digital information will also be stored on the Council's server although, for security reasons, access will be limited to specified staff only.
- 13.3 Once identified, information will be stored in site-specific files with appropriate copies of relevant information supplied to the Land Charges and the Planning, Regeneration and Conservation Departments. Updated procedures within the Community Services Department will ensure that a file carries all the current information about a specific site.

#### **Procedures**

- 13.4 The Senior Environmental Consultant will be the central point of contact within the Council, and it will be the responsibility of this officer, together with associated administration staff that the records on each contaminated site are kept up to date.
- 13.5 To ensure that these records remain within the Community Services Department, only photocopies of paperwork will be removed from this location.
- 13.6 Any information considered to be confidential/have security issues will be marked as such and stored in an associated red folder. Confidential information will not be available for public scrutiny or unapproved access by staff within the Council.

#### **Dissemination of Information**

- 13.7 Photocopies of all the appropriate paperwork (subject to confidentiality/security provisions) will be supplied to the relevant departments within the Council and the Environment Agency.

## 14. IMPLEMENTATION TIMESCALES

- 14.1 Under Part IIA, local authorities had until 1<sup>st</sup> July 2001 to prepare, formally adopt and publish a strategy to inspect contaminated land within their area. The Council published its strategy in June 2001. Local authorities have to detail how they propose to carry out the strategy.
- 14.2 It is the responsibility of the individual authority to ensure that contaminated land functions are carried out in accordance with the legislation and within the timetables set out in their strategies.
- 14.3 Croydon Council therefore adopted the following timescales to implement its contaminated land responsibilities.

**Table 14.1**

<b>ACTION</b>	<b>TIMESCALE</b>
Review and purchase appropriate GIS/Risk model software to aid in the implementation of contaminated land responsibilities	Sep 2000-Apr 2001
Consult with appropriate bodies	Sep 2000 onwards
Draft Council's strategy for inspecting contaminated land	Sep-Mar 2001
Input Ward Street Directory Information into Microsoft Excel Data Base	Jan 2001 onwards
Submit Council's strategy for inspecting contaminated land for internal review	Feb 2001
Public Consultation on contaminated land strategy	Mar-May 2001
Publish strategy	Jun 2001
Polygonization of the 24,000 land uses detailed in the excel database	Dec 2001-Aug 2003
Run risk model: review and prioritize highlighted sites	Sep 2003 onwards
Carry out site walkovers. Provisional assessment of possible sources, pathways and receptors. Where appropriate, the taking of surface samples	Apr 2004 onwards
Carry out more detailed desktop investigations of selected sites	Aug 01 onwards
Refine GIS system through additional information gathered	Apr 2004 onwards
Carry out more detailed discussions with the landowner and appropriate bodies	Aug 2004 onwards
Where appropriate, carry out intrusive	Sep 2004 onwards

site investigations	
Set up public register in accordance to S78 of the <i>Environmental Protection Act</i>	Dependent on register entries being necessary
Review and purchase appropriate GIS/Risk model software to aid in the implementation of contaminated land responsibilities	Sep 2000-Apr 2001

14.4 On identifying a contaminated site, the Council anticipates that appropriate remediation will be carried out within 6 months from the notification of the appropriate person.

## 15. REVIEW AND UPDATE PROCEDURES

15.1 Whilst sites will be continually under inspection, a systematic review every 3 years (i.e. September 2012, 2015 etc.) will be carried out to ensure that:

- a) The Council is made aware of potentially contaminated sites which did not exist on its database when the strategy was originally implemented.
- b) The presence of receptors not recognised in the initial review of a potentially contaminated site is investigated (e.g. persistent trespassing by children on derelict industrial land).
- c) Any incidence of adverse health effects associated with a specific area is investigated.
- d) Any development in the understanding of contaminant behaviour, toxicity and effects, which may cause a review of currently 'acceptable' values, is assessed. An example of this would be the recent emergence of endocrine disrupting substances and their possible effects on aquatic (and terrestrial) systems.
- e) Future information from the Environment Agency or Thames Water relating to poor/loss of water quality, or deterioration in quality at an abstraction point, is investigated. Water pollution may be associated with site developments which can produce migration pathways for previously immobile contaminants (i.e. unsuitable piling designs may produce conduits for contaminant migration to groundwater).

15.2 The Council will on an on-going basis ensure compliance with contaminated land planning conditions. It is possible that planning conditions may not be implemented as required. Therefore the Council may take action under Part IIA as well as through planning enforcement.

## **16. DISTRIBUTION OF THE STRATEGY**

The following organisations have been notified of the publication of this revised strategy and were made aware of the main changes to it, as well as being given details of the website address from which a full copy can be downloaded.

Defra  
Environment Agency  
Natural England  
English Heritage  
Food Standards Agency  
English Partnerships  
The Health Protection Agency

# Appendix 1

## Definition of Harm

Table A – Significant Possibility of Significant Harm	
Descriptions Of Significant Harm (As Defined In Table A)	Conditions For There Being A Significant Possibility Of Significant H
<ul style="list-style-type: none"> <li>• Human health effects arising from</li> <li>• the intake of a contaminant, or</li> <li>• other direct bodily contact with a contaminant</li> </ul>	<p>If the amount of the pollutant in the pollutant linkage in question:</p> <ul style="list-style-type: none"> <li>• which a human receptor in that linkage might take in,</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>• 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.</li> </ul> <p>Such an assessment should take into account:</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• the relative contribution of the pollutant linkage in question to the likely aggregate intake of, or exposure to, the relevant substance or substances; and</li> <li>• the duration of intake or exposure resulting from the pollutant linkage in question.</li> </ul> <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>Any ecological system, or living organism forming part of such a system, within a location which is:</p> <ul style="list-style-type: none"> <li>• an area notified as an area of special scientific interest under section 28 of the Wildlife and Countryside Act 1981;</li> <li>• any land declared a national nature reserve under section 35 of that Act;</li> <li>• any area designated as a marine nature reserve under section 36 of that Act;</li> <li>• an area of special protection for birds, established under section 3 of that Act;</li> <li>• any European Site within the meaning of regulation 10 of the Conservation (Natural Habitats etc) Regulations 1994 (i.e. Special Areas of Conservation and Special Protection Areas);</li> <li>• any candidate Special Areas of Conservation or potential Special Protection Areas given equivalent protection;</li> <li>• 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</li> <li>• any nature reserve established under section 21 of the National Parks and Access to the Countryside Act 1949</li> </ul>	<p>For any protected location:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• 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.</li> </ul> <p>In addition, in the case of a protected location which is a European Site (or 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> <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>Property in the form of:</p> <ul style="list-style-type: none"> <li>• crops, including timber;</li> <li>• produce grown domestically, or on allotments, for consumption;</li> <li>• livestock;</li> <li>• other owned or domesticated animals;</li> <li>• wild animals which are the subject of shooting or fishing rights.</li> </ul>	<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 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>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 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>

<b>Table B Significant Possibility of Significant Harm</b>	
<b>Descriptions Of Significant Harm (As Defined In Table A)</b>	<b>Conditions For There Being A Significant Possibility Of Significant Harm</b>
<p>Human health effects arising from</p> <ul style="list-style-type: none"> <li>• the intake of a contaminant, or</li> <li>• other direct bodily contact with a contaminant</li> </ul>	<p>If the amount of the pollutant in the pollutant linkage in question:</p> <ul style="list-style-type: none"> <li>• which a human receptor in that linkage might take in, or</li> <li>• 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.</li> </ul> <p>Such an assessment should take into account:</p> <ul style="list-style-type: none"> <li>• 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;</li> <li>• the relative contribution of the pollutant linkage in question to the likely aggregate intake of, or exposure to, the relevant substance or substances; and</li> <li>• the duration of intake or exposure resulting from the pollutant linkage in question.</li> </ul> <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>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>

**Table B Significant Possibility of Significant Harm**

	<ul style="list-style-type: none"> <li>• that type of pollutant linkage, or</li> <li>• that type of significant harm arising from other causes.</li> </ul> <p>In making such an assessment, the local authority should take into account levels of risk which have been 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"> <li>• would be irreversible or incapable of being treated;</li> <li>• would affect a substantial number of people;</li> <li>• would result from a single incident such as a fire or an explosion; or</li> <li>• would be likely to result from a short-term (that is, less than 24-hour) exposure to the pollutant.</li> </ul>
All ecological system effects.	<p>If either:</p> <ul style="list-style-type: none"> <li>• significant harm of that description is more likely than not to result from the pollutant linkage in question;</li> <li>or</li> <li>• 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.</li> </ul> <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>
All animal and crop effects.	<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 the type of pollutant linkage, particularly in relation to the ecotoxicological effects of the pollutant.</p>
All building effects	<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>

## Appendix 2

### Definition of Special Sites

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-

(1) 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 or 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 III of the Water Industry Act 1991 (water supply)

(2) 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 description of waters specified in regulations made under section 82 of the Water Resources Act 1991 (classification of quality of waters); or

(3) 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 the Contaminated Land (England) Regulations; and

(ii) the waters, or any part of the waters, are contained within underground strata which comprise wholly or partly any of the formations of rocks listed in paragraph 2 of Schedule 1 to the Contaminated Land (England) Regulations.

(4) land which is contaminated land by reason of waste acid tars in, on or under the land;

(5) 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;

(6) 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 comprise solely things being done which are required by way of remediation;

(7) land within a nuclear site;

(8) 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, military or air force purposes;

(9) 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); 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;

(10) land comprising 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 1991 (arrangements for development etc of nuclear devices);

(11) land to which section 30 of the Armed Forces Act 1996 (land held for the benefit of Greenwich Hospital) applies; and

(12) 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.

## **Appendix 3**

### **Planning Applications: Requirements for Reviewing Contaminated Sites**

#### **Guidance for Developers**

The purpose of this Guidance Note is to explain what the Council's requirements are in relation to the investigation of potentially contaminated land and is based on the requirements given in the Planning Policy Statement 23 (PPS23) 'Planning and Pollution Control'.

#### **Introduction**

Land contamination may arise from the activities of past industrial uses. The principle of sustainable development requires that, where sites have in the past been used for potentially contaminative uses, they have to be cleaned up before sensitive new developments such as housing, schools and hospitals (as well as many other uses) can take place.

To ensure that no harm will occur to the end-users of a proposed development, an assessment of contamination is therefore carried out as part of the planning process.

In carrying out these duties local planning authorities have to consider whether there is or may be a contamination hazard on the site and whether the proposed use of the site could give rise to unacceptable risks to health. If this is found to be the case it will be necessary to determine what steps are to be taken to reduce these risks.

#### **How to use this Guidance Note**

This note explains the process the Council goes through when deciding whether to request a contaminated land site investigation needs to be carried out as part of a planning application. Typically a contaminated site investigation involves a staged or phased approach where, depending on the findings of each stage, further investigations or assessments may be required. The guidance note details the procedures required for each stage and what issues need to be addressed.

#### **The Planning Process**

##### Stage 1) Assessing the Planning Application

After a planning application is submitted to the Planning Department, the Contaminated Land Officer (CLO) will check the site address for all sensitive developments against information held on the Council's GIS database to see if there are potential pollutant linkages which could mean the land is contaminated.

##### Stage 2) Desk Top Review of the Site

If the site is identified as being potentially contaminated then the Planning Officer will write to you or your agent and request that an Environmental and Historic Site Review (EHSR) is completed for the site and sent to the CLO as part of the eight week determination process for the application. This can be done either by the Specialist Pollution Team at the Council (an example of the document that we would produce is given on the Pollution Control Pages) or by a private consultant but it must meet the following requirements;

- ❖ A description of the site and its immediate surrounds;
- ❖ A historic review of the land use on the site and its immediate surrounds;
- ❖ A review of the underlying geology, hydrogeology, groundwater and surface water vulnerability;
- ❖ A review of licensed abstraction and discharge points within 500m of the site;
- ❖ A review of current industry located within 250m of the site;
- ❖ A review of other relevant environmental information within 250m of the site;
- ❖ A review of the likelihood that contamination is present and from this and an assessment of the need for an intrusive investigation.

### Stage 3) The Intrusive Site Investigation

In cases where a desk top review of a site indicates the presence or potential presence for contamination on the site, an intrusive site investigation will be required by the CLO and a condition stating this will be attached to the planning permission, should it be granted.

The intrusive site investigation should be designed to confirm the presence, severity and distribution of contamination on the site and should identify the potential pathways for contaminants to move and adversely affect targets or receptors.

The site investigation should be carried out in accordance with the British Standard 'Investigation of potentially contaminated sites – A Code of Practice' (1999). As part of the intrusive investigation, sufficient excavations should be sunk and representative soil samples should be taken from all the horizons encountered. Soils must be assessed for the relevant potential contaminants associated with a previous industrial use (refer to the DoE Industrial Profiles). Mixing of similar soil types across the site to make-up composite samples for analysis is to be avoided. If possible, all excavations should extend to natural ground and samples of the underlying natural ground taken to determine whether contaminants have migrated.

Where appropriate, semi-permanent standpipe installations should be installed during the site investigation so that landfill gas (and groundwater) monitoring can be carried out.

**It is the responsibility of the applicant to propose the scope of the intrusive investigation. Before it is carried out its full scope must be agreed with the CLO.**

### Stage 4) Risk Assessment

Once all the relevant information has been gathered a risk assessment should be carried out to highlight the following:

- contamination hazards on the site (sources) identified during the intrusive site investigation;
- possible routes by which contaminants may move (pathways); and
- targets or receptors which may be affected by the contamination detected (e.g. the proposed users of the site).

#### Stage 5) Remedial Works

Where the risk assessment highlights unacceptable risks to receptors remedial works must be carried out as part of the site development to ensure that no harm is likely to occur to the construction workers or future occupiers of the site. The applicant is referred to the HMSO document 'Protection of Workers & the General Public during the Development of Contaminated Land'.

**It is the responsibility of the applicant to propose the scope of the remedial works. These works must be agreed in writing with the CLO prior to them being carried out.**

#### Stage 6) Validation of Remedial Works

To ensure that all remediation works have been carried out satisfactorily, the Council will require that verification tests are carried out on imported or remediated materials. Results of the verification tests will require the approval of the CLO.

We will need to review Duty of Care transfer notes associated with the removal of waste soil.

We will need to be notified prior to any remedial works being carried out. Pre-notification will enable the Council to visit the site and observe the remediation first hand.

**It is the applicant's responsibility to ensure that the Council is kept informed of progress with remediation works. Failure to inform the Council at key stages in the implementation of works may mean that the Council is unable to confirm that contamination on the site has been satisfactorily remediated.**

#### **4. Environmental Protection Act : Part IIA**

Caveat emptor (buyer beware) prevails under the UK planning system. The recent introduction of legislation surrounding contaminated land means that the owner of a contaminated site may become liable for remediation should the site be causing significant harm or the significant possibility of significant harm to receptors (receptors are detailed in Environmental Protection Act : Part IIA Contaminated Land).

The issue of the site causing pollution to controlled waters is also addressed in the legislation and it is therefore in the interests of the owner/developer of the site to review the 'full' contamination issues surrounding the site should legislation require (more expensive) post development remediation.

If you would like to discuss any of the information contained in this Guidance Note, please contact a member of the Specialist Pollution Team on 0208 760 5483.



## Appendix 4

### Current land Uses in the Borough

- (1) Source 1996 Open Land Audit : Total number of allotments in borough : 21
- (2) Source 1996 Open Land Audit: 376.79 Ha (96.4% is Council owned)
- (3) Source 1996 Open Land Audit: This source does not include all school or colleges, as some have no/so little open land that they were excluded from the designation in the UDP as Local Open Land.
- (4) The 1996 Open Land Audit includes the category 'wood'. This is defined as woodland in the metropolitan green belt, metropolitan open land and local open land only (and not part of a site of major or local nature conservation interest).
- (5) Conservation Areas are designated by the Council as those areas that it finds to be of special architectural or historical interest, the character or appearance of which it is desirable to preserve or enhance. Their locations are included in this appendix.

Local Areas of Special Character are designated by the Council as areas of individual character, quality and setting.

- (6) Sites of Major Nature Conservation Importance (SMNCIs). These sites may either encompass:

Sites of Special Scientific Interest (SSSI) which are of national importance.

Sites of Metropolitan Importance (SMI) which are sites of importance in the London area.

Sites of Borough importance (SBIs) which are significant in a Croydon context.  
Local Nature Reserves

Sites of Local Nature Conservation Importance are recognised by the Strategy Directorate Greater London Authority as sites of conservation importance although they have a lower conservation value than SMNCIs. The locations of Nature Conservation Sites are included in this appendix.

Whilst the location of all Conservation sites are included in this appendix, only Sites of Special Scientific Interest are listed in Table A (types of receptors affected by contamination).

#### **Residential Land**

The 1971 Land Use Survey states that 3682 hectares or 42.5% of land was residential. This excludes old people's homes, children's homes, hostels and other boarding accommodation. However, the changes in residential land since then have not been calculated.

## Water Bodies

The 1971 Land Use Survey states that 2.35 hectares or 0.02% of land was non-tidal water.

## SITES OF MAJOR NATURE CONSERVATION IMPORTANCE

### SITES OF SPECIAL SCIENTIFIC INTEREST (also SMIs)

Croham Hurst\*  
Farthing Downs, Devilsden Wood and Happy Valley\*  
Riddlesdown and the Rose and Crown Chalk Pit\*

### SITES OF METROPOLITAN IMPORTANCE

Addington Golf Course and Shirley Heath  
Addington Hills  
Coulsdon Memorial Ground\*part  
Croham Hurst\*  
Farthing Downs\*, Devilsden Wood and Happy Valley\*  
Frylands Wood  
Hall Grange

Hutchinson's Bank\* and Gushy Bank Shaw  
Kenley Common\*  
Kingswood  
Riddlesdown and the Rose and Crown Chalk Pit\*  
Roundshaw Downs\*  
Selsdon Wood\*  
South Norwood Country Park\*  
Spring Park and Threehalfpenny Woods

### SITES OF BOROUGH IMPORTANCE

Addington Court Golf Course  
Ashen Grove  
Bears Wood  
Beaulieu Heights  
Beulah Hill Pond\*  
Biggin Wood  
Bradmore Green Pond  
Bramley Bank\*  
Cane Hill Hospital  
Chipstead Chalk Pastures  
Convent Wood  
Coulsdon Common\*  
Coulsdon Court Wood and Betts Mead\*  
Coulsdon Woods  
Croham Hurst Golf Course, southeastern tip of  
Duppas Hill  
Foxley Wood\*  
Gloucester Rd Junction, land adjacent Roden Gardens  
Heavers Meadow and Norbury Brook  
Hooley Farm Pastures  
Kenley Aerodrome  
Kenley House Pastures  
Kingswood Shaw

Littleheath Woods  
Lloyd Park and Coombe Farm  
Long Lane Wood and Bird Sanctuary\*  
Mitchley Wood\*  
Mossyhill Shaw and Beech Way Woodland  
Purley Beeches  
Purley Downs Golf Course  
Rowdown Wood and Birch Wood  
Royal Russell School and Ballard's Plantation  
Sanderstead Plantation  
Sanderstead Pond  
Selhurst Railway Triangle  
Shirley Park Golf Course  
Shirley Triangle  
South Norwood Lake and part of the surrounding area  
Spring Park Ponds  
Spring Park Wood  
Stonyfield and Bleakfield Shaws (Coulsdon Coppice)\*  
The Glade\*  
The Lawns, Upper Norwood  
The Ruffet\*  
Whitgift School Wood  
Woodside Brickworks\*  
Woodside - Selsdon disused railway line

### LOCAL NATURE RESERVES

Bramley Bank\* (also SBI)  
Selsdon Wood\* (also SMI)  
South Norwood Country Park\* (also SMI)

## OTHER SITES OF NATURE CONSERVATION IMPORTANCE

### SITES OF LOCAL IMPORTANCE

Auckland Rise  
Croydon Cemetery Complex  
Grangewood Park  
Haling Grove Park  
Norbury Hall  
Norbury Park and Norbury Brook  
Norwood Grove and Nettlefold Field  
Oaklands, Kenley  
Parkfields Woodland

Park Hill  
Pinewoods  
Pollards Hill  
Upper Norwood Recreation Ground  
Waddon Ponds  
Wandle Park  
Westow Park  
Whitehorse Meadow

### SITES WHERE NATURE CONSERVATION IS THE PRIMARY CONSIDERATION IN MANAGEMENT DECISIONS

Copse Hill Spinney  
Stambourne Woodland Walk  
Temple Avenue Copse  
The Field, Gibsons Hill  
Whitehorse Meadow

Whitgift Pond, Mapledale Avenue

\*In addition, all the sites marked with an asterisk above are managed with nature conservation as the primary consideration in management decisions.

DESIGNATED URBAN  
CONSERVATION AREAS  
WITHIN THE BOROUGH OF  
CROYDON

Addington Village  
Bradmore Green  
Central Croydon  
Church Road, Upper Norwood  
Harold Road  
The Webb Estate  
Parish Church  
South Norwood  
Upper Norwood Triangle  
Upper Woodcote Village  
The Waldrons

## Appendix 5

### Geology

An examination of the geology of an area typically details its "solid" and "drift" components. Solid geology details the geology of an area once more recent 'superficial' deposits of drift are omitted. Drift geology is a term used for glacial, fluvio-glacial, alluvial and river terrace deposits.

The solid geology of the borough is exclusively sedimentary and was deposited during either the Tertiary or the Cretaceous periods.

#### ***Summary of the Borough's Solid Geology***

To the south of the borough, thick deposits of Upper Chalk of the Upper Cretaceous directly underlie much of the land. Deposits of Middle Chalk are also exposed at the base of Riddlesdown Quarry and along part of the Godstone Road. These formations of the Middle Chalk (87-90 million years BP) and Upper Chalk (82-86 million years BP) are the oldest sedimentary deposits in the borough. Although Chalk is the principle geology in the south of the borough, outlying deposits of Thanet and Blackheath Beds, of the Tertiary Period, are located around Selsdon and Addington.

Across the centre of the borough, narrow outcrops of Thanet Beds and the Lambeth Group effectively mark a boundary between the Cretaceous deposits of the Upper Chalk to the south, and the slightly younger Tertiary deposits to the north.

To the north of these thin outcrops of the Lambeth Group, deposits of Blackheath Beds are noted. These deposits are significant across the central and eastern parts of the borough.

Further north, London Clay becomes the principle solid geology of the area although an inlier of Blackheath and the Lambeth Group is located to the west of Woodside and to the north of Broad Green. Several outliers of London Clay are also present within the Blackheath Beds.

#### ***Summary of the Borough's Drift Geology***

All the drift geology located in the borough was deposited in the Quaternary Epoch (i.e. it has been deposited during the last 100,000 years).

Clay-with-flints forms the most important drift geology in the south of the borough and overlies the Upper Chalk over much of Coulsdon, Whyteleafe, Kenley and Kings Wood. Thin strips of dry valley deposits (lower River Terrace material) are also located to the south of the borough.

Deposits of lower River Terraces form significant deposits of drift material over the north and west of the borough and are especially apparent around Beddington and Wandle. These deposits overlie both the London Clay and Blackheath Beds. Further south, lower River Terrace deposits extend as a narrow arm down the west of the borough through South Croydon, Purley and Reedham.

To the north of the borough, around Upper Norwood and Norwood New Town, two distinct areas of high level terrace material are located overlying the London Clay.

**Solid Geology**

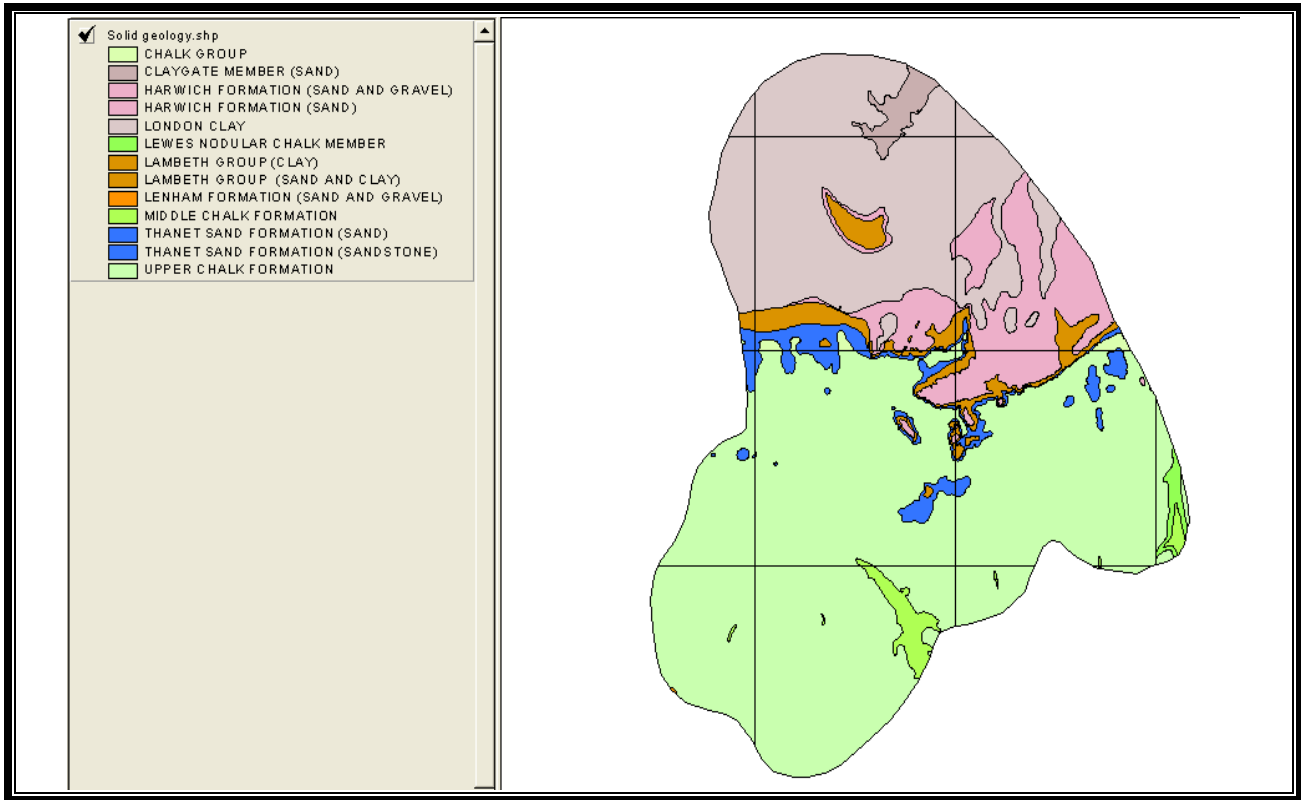
Solid Geology	Description
London Clay	Is a stiff dark grey to brown pyritous silty clay which, in parts, is sandy. The material contains nodular limestone and is of low permeability. London clay weathers to a brown or yellow brown colour near the surface.
Blackheath Beds	Is typically made up of pebbly sands. These pebbles are well rounded and entirely made up of flint.
The Lambeth Group (formerly Woolwich & Reading Beds)	Are laterally variable clays and sands overlying a bottom bed of glauconitic sand, loam and pebbles.
Thanet Beds	Consist of greyish green fine-grained glauconitic quartz sand with small amounts of clay.
Upper Chalk	Is made up of a soft white limestone with flints. Chalk beds dip very slightly to the north.

**Drift Geology**

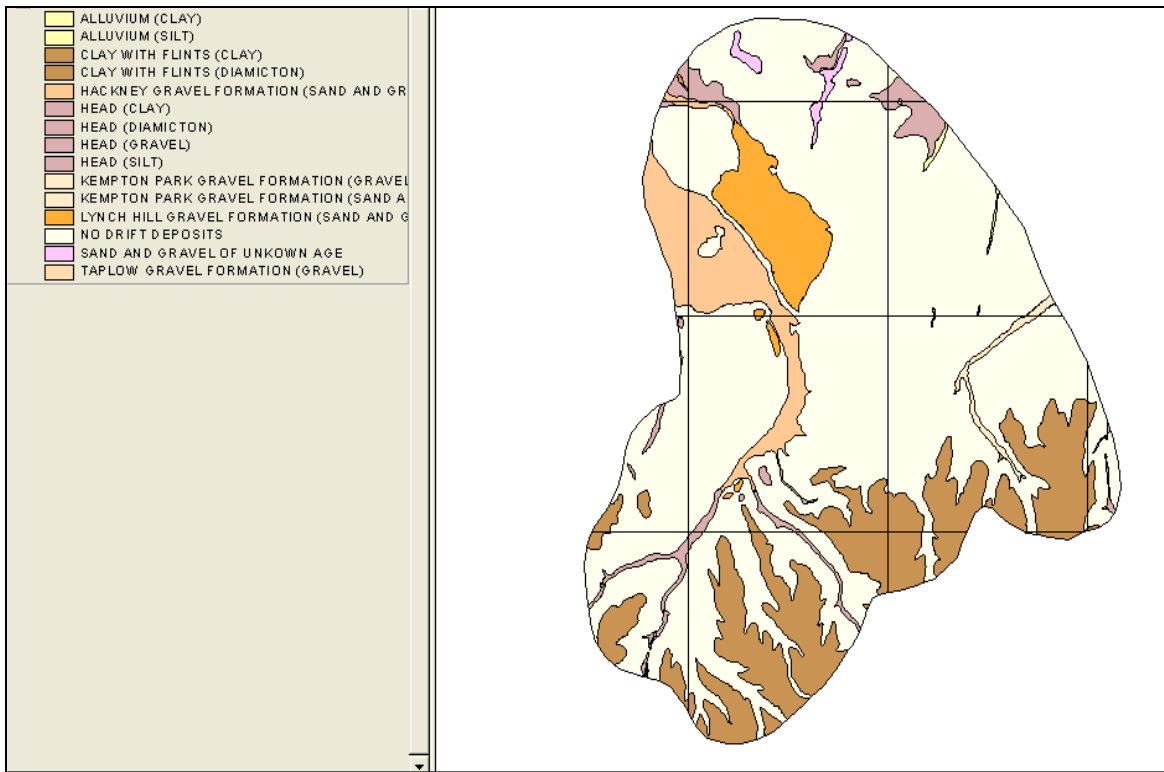
In the BGS Geological Map 1:50,000 (Sheet No 270) drift deposits in the borough are mainly fluviatile deposits – gravels and sands ‘which accumulated as part of the flood plain of the Thames and its tributaries at different stages of river development. Their formation has been governed by major changes in sea-level. In general the highest deposits are the oldest’.

Drift Geology	Description
High Level Terraces (Plateau Gravels)	Are relatively thin clayey gravels between 1.2-2.5m thick.
Lower River Terraces (1-4) (formerly Boyn Hill and Taplow Terrace)	These deposits are uncemented gravels and sands thought to be derived from the Woolwich and Reading Beds
Alluvium	Are made up of grey to blue silt and sandy clays with occasional bands of peat.
Clay-with-Flints	Are firm to stiff orange silty clay with numerous flints

# Solid Geology

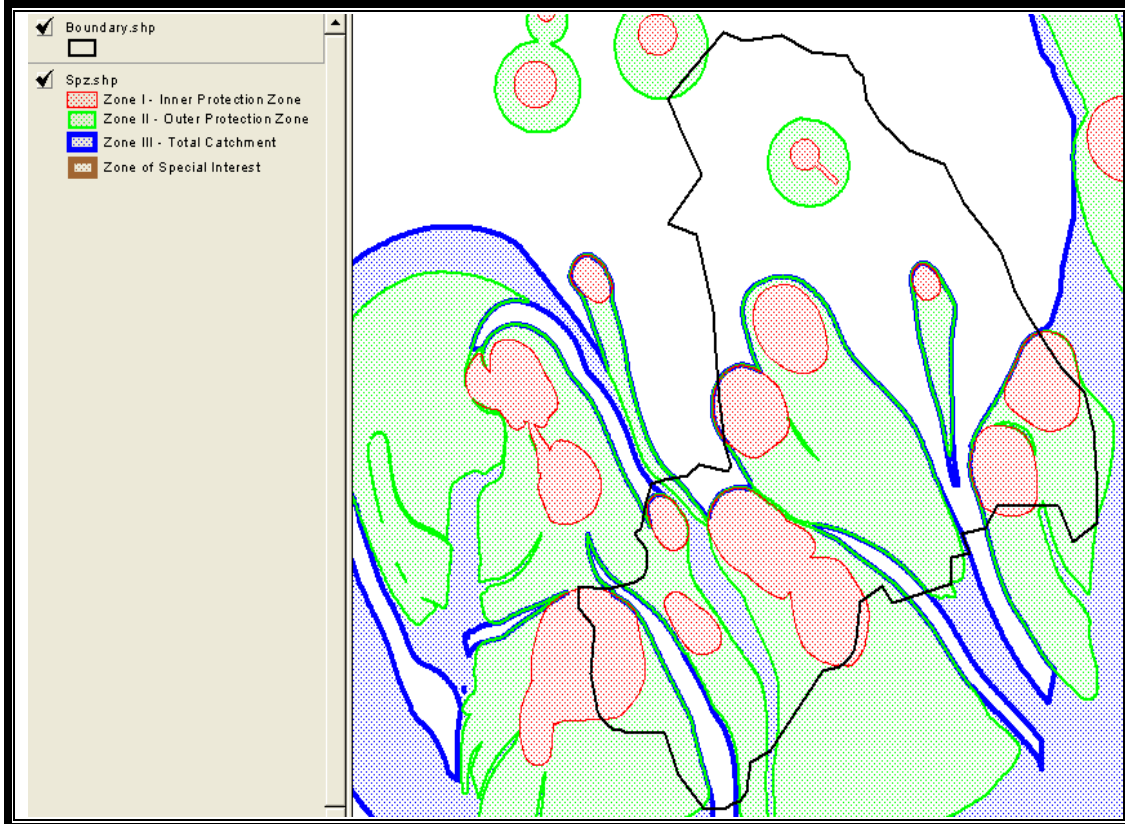


## Drift Geology



## Appendix 6

### Source Protection Zones



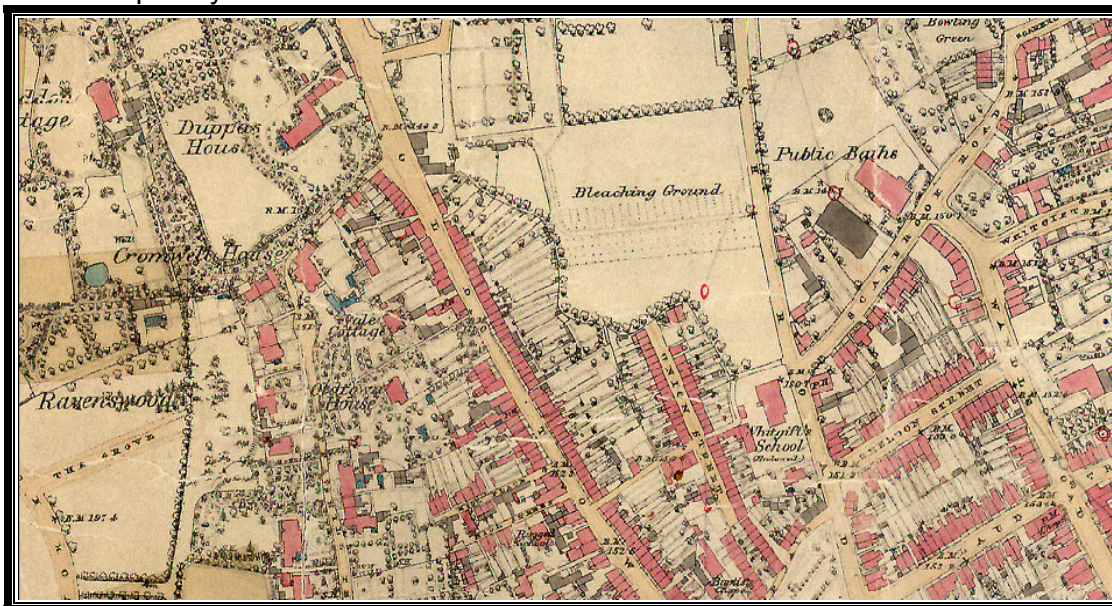
- Zone I** - 50 days for the pollutant to reach an abstraction/discharge point
- Zone II** - 400 days for the pollutant to reach an abstraction/discharge point
- Zone III** - the total catchment area



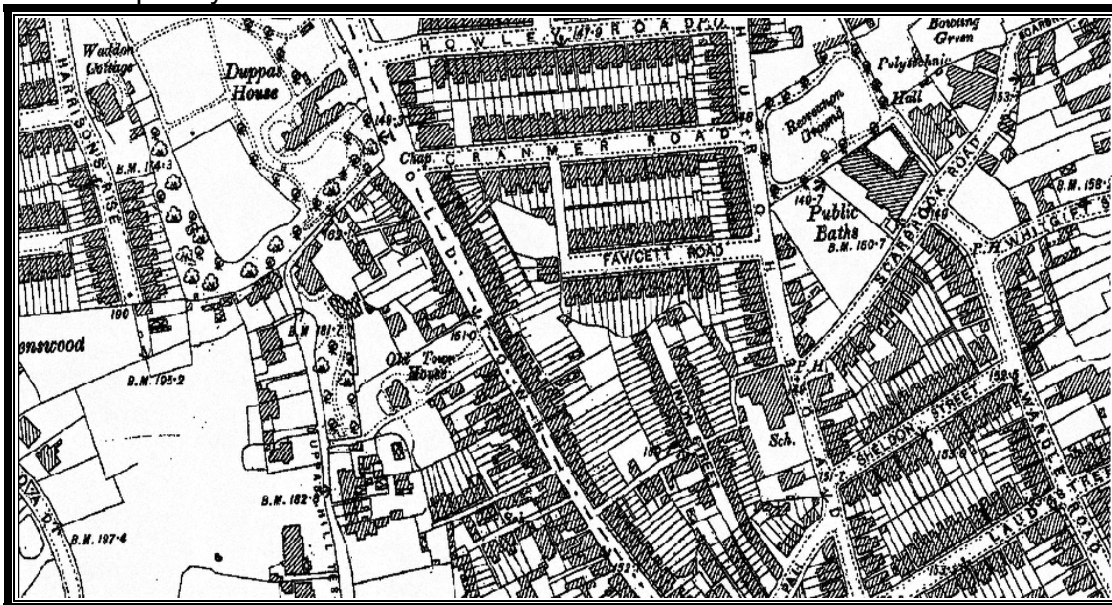
## Appendix 7

### Historical Map Reference of Croydon

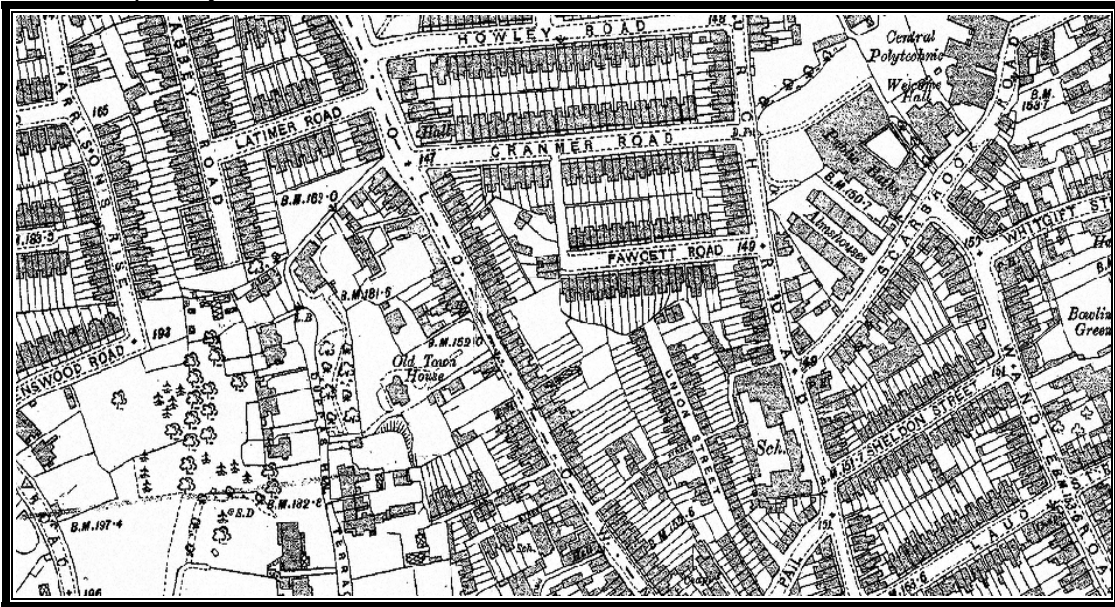
1868 Map Croydon



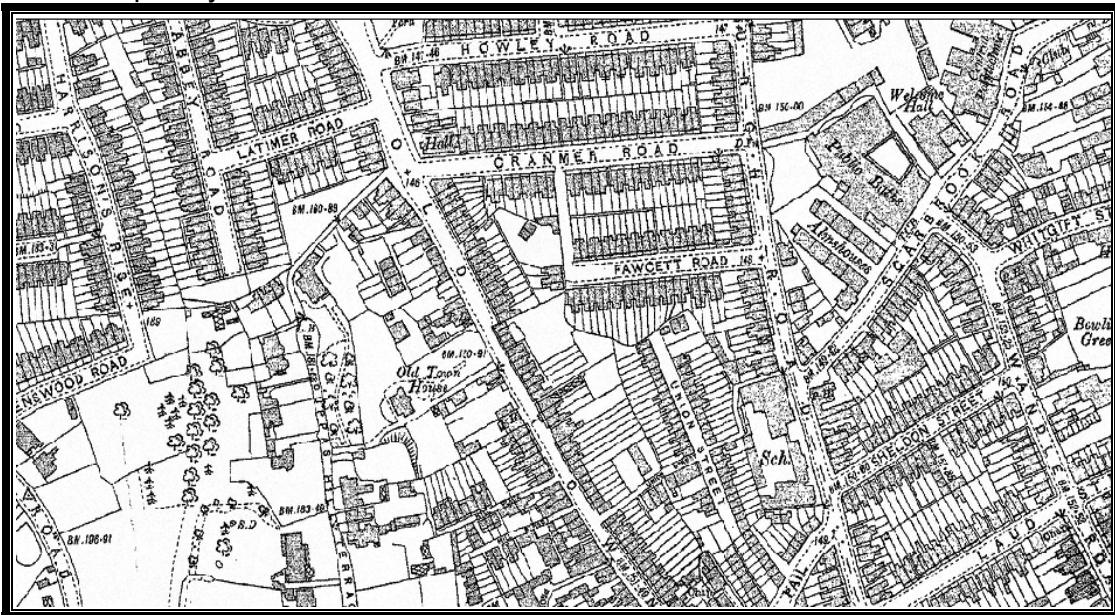
1890 Map Croydon



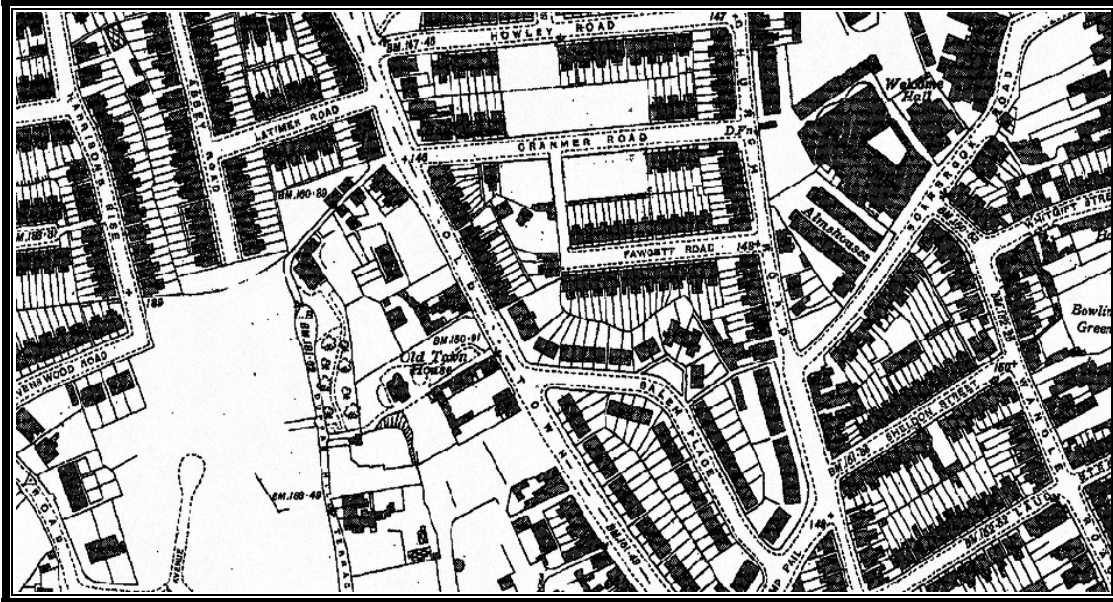
1910 Map Croydon



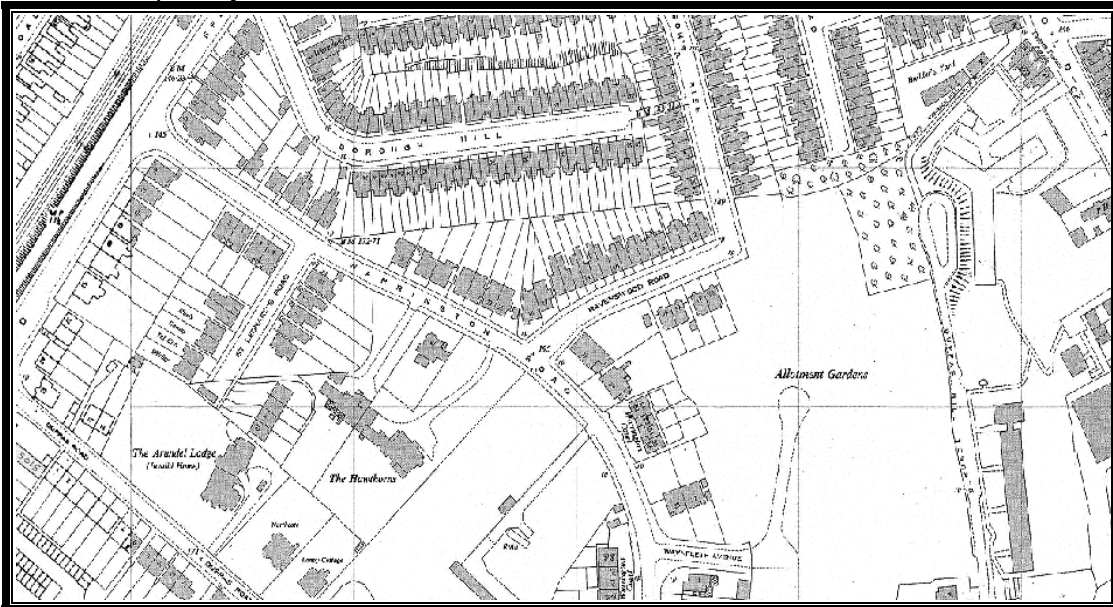
1933 Map Croydon



1940 Map Croydon



1950's Map Croydon



## Appendix 8

### Industrial Scores

Use listed As	Industrial Sector	Score/33
Water Engineers	Engineers Planning	1
Marine Engineers	Engineers Planning	1
Structural engineers	Engineers Planning	1
Engineers - Constructional	Engineers Planning	1
Engineers - Structural	Engineers Planning	1
Civil Engineers	Engineers Planning	1
Constructional engineers	Engineers Planning	1
Engineers - Civil	Engineers Planning	1
Florists & Seed Merchants (Shop)	Seed Merchants	1
Nursery, Seedsmen, Florists (Shop)	Seed Merchants	1
Nurserymen & Seedsmen (Nursery)	Seed Merchants	1
Glove maker	Hosiers/ Glove Makers	1
Yacht chandlers	Yacht chandlers	1
Hosiers	Hosiers/ Glove Makers	1
Wiring & Assembling Contractors		2
Wireworkers & wire weavers		2
Iron and Steel Erectors	Steel Erectors	2
Steel Erectors	Steel Erectors	2
Coin-Op Cleaners	Cleaning Services	3
Photographers	Photographic Processing Small Scale	3
Film processors (small)	Photographic Processing Small Scale	3
Film Processors/ Cinematograph Film Printers (small)	Photographic Processing Small Scale	3
Carpet Cleaners	Cleaning Services	3
Carpet, curtain & upholstery cleaners	Cleaning Services	3
Curtain cleaners	Cleaning Services	3
Factory & Mill Cleaners	Cleaning Services	3
Animal Clinic	Animal Clinic	3
Dog & Cat Grooming	Animal Clinic	3
Cattle & Medicine Depots	Animal Clinic	3
Carmen and Carriers	Depot Small	3
Boot & Shoe Makers	Leathergoods Mfr	3
Saddlers, Harness-makers & c	Leathergoods Mfr	3
Motor Factors small	Depot Small	3
Basket & Sieve Makers	Basket & Sieve Makers	3
Lighting conductors		3
Photo Process Engravers		3

Trunk & Bag Makers	Leathergoods Mfr	3
Bag, Briefcase & Handbag Manufacturers	Leathergoods Mfr	3
Picture Cleaners & Restorers	French Polishers	4
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Poultry Farmers	Poultry Farm	4
Aluminium stockholders	Metal / Wood Merchants	4
Iron & Steel Stockholders	Metal / Wood Merchants	4
Metal Merchants	Metal / Wood Merchants	4
Timber Company	Metal / Wood Merchants	4
Woodbrokers	Metal / Wood Merchants	4
Metal Products	Metal / Wood Merchants	4
Sawdust	Metal / Wood Merchants	4
Funeral Directors	Funeral Directors	4
Blind & Awning Manufacturers	Blind & Awning Manufacturers	4
Telephone Exchange	Telephone Exchange	4
French Polisher	French Polishers	4
Lacquerers & Bronzers	French Polishers	4
Fencing Contractors		5
Skip Hire	Depot	5
Demolition	Depot	5
Aircraft accessories	Mechanical Supplier	6
Aircraft Supplies	Mechanical Supplier	6
Electronic Components	Mechanical Supplier	6
Motor Car Accessories	Mechanical Supplier	6
Graveyards	Cemetary	6
Agricultural & horticultural sundriesmen	Horticultural Nurseries	7
Nursery Horticultural	Horticultural Nurseries	7
Metal Polishers	French Polishers	7
Photo Apparatus Manufacturers	Precision Manufacturers	7
Scale Makers	Precision Manufacturers	7
Animal Cage Manufacturers	Precision Manufacturers	7
Jewellers - Manufacturing & Wholesale	Precision Manufacturers	7
Asbestos removal	Asbestos removal	7
Clock Manufacturers	Precision Manufacturers	7
Dairies	Dairy	8
Joinery & Cabinet Works	Timber Mfr	8
Joinery Works	Timber Mfr	8
Turners, & c.	Timber Mfr	8

Kitchen Furniture Manuf.	Timber Mfr	8
Bathroom Furniture Manuf.	Timber Mfr	8
Cabinet makers	Timber Mfr	8
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Billiard Table Makers	Timber Mfr	8
Ladder & Barrow Makers	Timber Mfr	8
Bldrs. Plant, Ladder Mfrs/ Ladder, Step and Trestle Manuf./ Timber Merchants / Work Bench mfrs	Timber Mfr	8
Balustrade & Handrail Manufacturers	Timber Mfr	8
Cork Cutters	Timber Mfr	8
Cork Manufacturer	Timber Mfr	8
Electrical Engineers	Engineers off-site	9
Lift engineers	Engineers off-site	9
Umbrella Makers	Textiles	9
Sack & Bag Manufacturers	Textiles	9
Cotton Goods Manufacturers	Textiles	9
Canvas & Cotton Good Manufacturers	Textiles	9
Oil-cloth & Table-cover manuf.	Textiles	9
Bedding & Mattress Makers	Textiles	9
Clothing Manufacturers	Textiles	9
Tent Manufacturers	Textiles	9
Textile Factory	Textiles	9
Linen Manufacturers	Textiles	9
Mats & Matting Manufacturers	Textiles	9
Rope, Twine & String Manuf.	Textiles	9
Dyers (Small)	Textiles	9
Car trimming & upholstery mfrs	Textiles	9
Hessian Manufacturers	Textiles	9
Seating mfrs	Textiles	9
Coal & solid fuel merchants	Coal Store	9
Coal Agents	Coal Store	9
Coal and Smokeless Fuel Merchants	Coal Store	9
Corn Seed & Coal Mchts.	Coal Store	9
Cleaning materials-suppliers	Cleaning Materials - Supply	9
Floor Cleaning & Treatment	Cleaning Materials - Supply	9
Bird Stuffers & Dealers	Animal Treatment - small scale	9
Furriers	Animal Treatment - small scale	9
Furs - Manufacturing & Wholesale	Animal Treatment - small scale	9
Baby Lining Manufacturers	Textiles	9
Engineering Refrigerating	Engineers off-site	9
Engineers - Heating & Ventilating	Engineers off-site	9
Engineers - Inspecting & Testing	Engineers off-site	9
Heating Engineers	Engineers off-site	9
Engineers Telecommunications	Engineers off-site	9
Combustion engineers	Engineers off-site	9

Dust removal engineers	Engineers off-site	9
Printers & lithographers - small	Printers/ Small Scale	9
Printers And Stationers - small	Printers/ Small Scale	9
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Engineers-Radio & Television / Engineers	Engineers off-site	9
Engineers - Electrical	Engineers off-site	9
Boiler cleaning, maintenance & repairs	Engineers off-site	9
Ginger Beer Manufacturers	Food & Drink Mfr	10
Brewers	Food & Drink Mfr	10
Maltsters	Food & Drink Mfr	10
Chocolate & Cocoa Manuf./ Confectioners-Manufacturing & Wholesale	Food & Drink Mfr	10
Food mfrs & suppliers	Food & Drink Mfr	10
Ice Cream Company	Food & Drink Mfr	10
Jam Manufacturers	Food & Drink Mfr	10
Confectioners Manuf. And Wholesale	Food & Drink Mfr	10
Curry Powder Manufacturers & Importers	Food & Drink Mfr	10
Essences, Flavourings & Food Colourings	Food & Drink Mfr	10
Potato Crisps	Food & Drink Mfr	10
Sausage mfrs	Food & Drink Mfr	10
Soft drink mfrs & suppliers	Food & Drink Mfr	10
Spice Manufacturers	Food & Drink Mfr	10
Sugar Manufacturers & Refiners	Food & Drink Mfr	10
Dentists	Dentists	10
Baking Powder Manufacturers	Food & Drink Mfr	10
Animal feed stuff, concentrate & additives	Food & Drink Mfr	10
Oil & Coke Merchants	Oil Storage / Small Scale	10
Oil & Colour	Oil Storage / Small Scale	10
Oil & Colourmen	Oil Storage / Small Scale	10
Oilman	Oil Storage / Small Scale	10
Candles	Candle Mfr	10
Chandlers & Small Shopkeepers	Oil Storage / Small Scale	10
Oil Merchants	Oil Storage / Small Scale	10
Water Company	Water Company (Abstraction)	10
Water Works	Water Company (Abstraction)	10
Brush makers	Brush Makers	10
Hospital	Hospital	10
Oil Tank Cleaners	Oil Storage / Small Scale	10

<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Optical Goods Manuf. & Wholesalers	Optical Engineers	11
Optical Engineers	Optical Engineers	11

Optical Manufacturers	Optical Engineers	11
Contact lens mfrs	Optical Engineers	11
Made Ground	Made Ground	11
Motor Factors - larger depot	Haulage Depots	12
Haulage Contractors	Haulage Depots	12
Road Carriers	Haulage Depots	12
Road Haulage Contractors	Haulage Depots	12
Bus & coach services	Haulage Depots	12
Depots	Haulage Depots	12
Waste Disposal Contractors	Haulage Depots	12
Waste disposal services	Haulage Depots	12
Coach hire	Haulage Depots	12
Asphalt & Coated Macadam Laying Controls	Asphalt	13
Asphalt & macadam laying + Road Contractors	Asphalt	13
Asphalt Road Contractors/ Tar-Macadam Manufacturers & Tar Paving & Road Contractors/ Asphalt Road Contractors	Asphalt	13
Asphalt Roofing	Asphalt	13
Roofing Materials Manufacturers	Asphalt	13
Timber Preserving Contractors	Pest/ Damp Control	13
Damp proofing & control/ Woodworm Control/ Pests	Pest/ Damp Control	13
Wood Preserving Contractors	Pest/ Damp Control	13
Wood Preserving Contractors / Dry Rot Control/ Vermin Destroyers	Pest/ Damp Control	13
Woodworm, dry rot & damp control	Pest/ Damp Control	13
Pest and Vermin Control	Pest/ Damp Control	13
Pig Breeders & Dealers	Pig Breeders	13
Cooper	Cooper	13
Tennis Court Makers	Asphalt	14
Cement Manuf. & Merchants	LimeWorks/ Brick Manufacturers	14
Lime Burners	LimeWorks/ Brick Manufacturers	14
Lime Works	LimeWorks/ Brick Manufacturers	14
Brick and Tile Manufacturers	LimeWorks/ Brick Manufacturers	14
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Building component mfrs	LimeWorks/ Brick Manufacturers	14
Portable Building Makers	LimeWorks/ Brick Manufacturers	14
Pottery mfrs & suppliers	Ceramics	14
Firebrick & Firelay Goods Makers	Ceramics	14
Filter Manufacturers	Misc Mfr	14
Fishing Tackle Mnfr.	Misc Mfr	14
Label makers	Misc Mfr	14
Lamp Shade Manufacturers	Misc Mfr	14
Bottled Gas Manuf.	Misc Mfr	14
Bowls Manufacturers, Archery Equipment Manufacturers	Misc Mfr	14
Sports & Games Mnfr.	Misc Mfr	14



Toy & game mfrs	Misc Mfr	14
Tapes-magnetic	Misc Mfr	14
Plywood mfrs & suppliers	Wood Mfrs	14
Dry Cleaners	Dry Cleaners	15
Waterproof Material Manufacturers	Dry Cleaners	15
Waterproofing services	Dry Cleaners	15
Air Service (Airfields)	Airfields	15
Air Transport (Airfields)	Airfields	15
Carton Manufacturers & Suppliers	Paper	15
Paper bag mfrs & suppliers	Paper	15
Paper converters & finishers	Paper	15
Paper Industry	Paper	15
Packing Case & Box Makers	Paper	15
Cartons	Paper	15
Calendar Manufacturers	Paper	15
Envelope Makers	Paper	15
Letter File Manufacturers	Paper	15
Carpet & Linoleum Manufacturers	Linoleum Manufacturers	15
Rifle Ranges	Rifle Ranges	15
Tinmen, Zinc-workers, Braziers, &c.	Blacksmiths & Castings	15
Zinc Worker	Blacksmiths & Castings	15
Farriers	Blacksmiths & Castings	15
Wheelwrights	Blacksmiths & Castings	15
Hardware mfrs	Blacksmiths & Castings	15
Castings	Blacksmiths & Castings	15
Blacksmiths and Whitesmiths	Blacksmiths & Castings	15
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Aluminium fabrications	Blacksmiths & Castings	15
Use listed As	Industrial Sector	Score/33
Brass Plate Manufacturers/ Dairy Utensil Merchants & Manuf. & Stove & Mental Makers	Blacksmiths & Castings	15
Brass Wall Fitting Manuf.	Blacksmiths & Castings	15
Brass Workers	Blacksmiths & Castings	15
Brassware mfrs	Blacksmiths & Castings	15
Braziers and Tin-plate Workers	Blacksmiths & Castings	15
Coppersmiths	Blacksmiths & Castings	15
Decorative Hand Wrought Ironwork Manuf / Engineers -	Blacksmiths &	15

Prototype / Wrought Iron Workers	Castings	
Flashing & Bolts in Aluminium/ Aluminium Fabrications	Blacksmiths & Castings	15
Die Casting	Blacksmiths & Castings	15
Forge	Blacksmiths & Castings	15
Founders & finishers	Blacksmiths & Castings	15
Foundry	Blacksmiths & Castings	15
Ornament, Blacksmith	Blacksmiths & Castings	15
Smiths	Blacksmiths & Castings	15
Wrought Iron Workers	Blacksmiths & Castings	15
Ironworkers	Blacksmiths & Castings	15
Ornamental Iron Gate Mfrs.	Blacksmiths & Castings	15
Architectural Ironmongers	Blacksmiths & Castings	15
Architectural metal workers	Blacksmiths & Castings	15
Steel Fabrications	Blacksmiths & Castings	15
Light Alloy Bodies	Blacksmiths & Castings	15
Panel Beaters	Blacksmiths & Castings	15
Metal workers	Blacksmiths & Castings	15
Sheet Metal Workers	Blacksmiths & Castings	15
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Vulcanisers	Blacksmiths & Castings	15
Laboratories	Analysts	16
Analysts	Analysts	16
Bleacher	Bleacher	16
Horse Slaughterers	Abatoirs	16
Lic. Horse Slaughterers	Abatoirs	16
Windscreens-mfrs	Glass	17
Crystal Manufacturing	Glass	17
Glass Fibre Manufacturers	Glass	17
Glass mfrs	Glass	17
Isinglass Manufacturers/ Fining Mks.	Glass	17
Plate Glass & Mirror Mfrs.	Glass	17
Powder coating (Enamellers)	Glass	17
Label Printers	Printers	17
Letterpress & Lithographic Printers/ Printers	Printers	17
Screen process printers	Printers	17
T Shirt Printers	Printers	17

Engineers - Printers	Printers	17
Engineers/ Printers Mchnry. Mrfrs.	Printers	17
Book Binders & Machine Ruling	Printers	17
Bookbinder	Printers	17
Duplicating & Printing	Printers	17
Lithographic Printers-Trade	Printers	17
Printers	Printers	17
Printers & lithographers	Printers	17
Printers And Stationers	Printers	17
Spray Finishers	Paint Sprayers	17
Paint & cellulose spraying	Paint Sprayers	17
Paint and Cellulose Spraying	Paint Sprayers	17
Paint spraying & mixing eqpt	Paint Sprayers	17
Car painters & sprayers	Paint Sprayers	17
Paint stripping	Paint Sprayers	17
Service Station	Petrol Station	17
Petrol Filling Stations	Petrol Station	17
Oil companies	Petrol Station	17
Oil fuel distributors &suppliers	Petrol Station	17
Filled Land	Filled Land	18
Paper & board mfrs	Paper Mfr	19
Film processors (large)	Photographic Works	19
Film Processors/ Cinematograph Film Printers (Large)	Photographic Works	19
Car Accessory Manufacturers	Light Engineering	19
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Clutch mfrs	Light Engineering	19
Lawn Mower Manufacturers	Light Engineering	19
Oven Builders	Light Engineering	19
Screw mfrs	Light Engineering	19
Washer Manufacturers	Light Engineering	19
Wire goods mfrs	Light Engineering	19
Lock mfrs.	Light Engineering	19
Tube & section benders & manipulators	Light Engineering	19
Flow Control Equipment Manuf.	Light Engineering	19
Drying Plant & Machinery	Light Engineering	19
Air Conditioning Plant	Light Engineering	19
Cutlers, Tools Makers (incl cutlery)	Light Engineering	19
Oxygen Cutting Machine Mfrs/ Engineers and Millwrights	Light Engineering	19
Oxy-Acetylene Welding Equipment - Manufacturers & Stockists	Light Engineering	19
Bicycle Makers	Light Engineering	19
Hypodermic Equipment Engineers & Engineers/ Surgical Instrument Makers, & c.	Light Engineering	19
Engineering Works.	Light Engineering	19
Engineering Company	Light Engineering	19
Engineers & Millwrights	Light Engineering	19
Engineers	Light Engineering	19

Engineers/ Profiles Engineering/ Steel Fabrications	Light Engineering	19
Engineering Works.	Light Engineering	19
Induction Heating Equip. Manuf.	Light Engineering	19
Industrial Instrument Makers	Light Engineering	19
Air Compressor Manufacturers	Light Engineering	19
Ball & Roller Bearing Manufacturers & stockists/ Motor Access.	Light Engineering	19
Bearing mfrs/ Engineers	Light Engineering	19
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Diamond Tool Manufacturers	Light Engineering	19
Blacksmith's Equipment/ Pneumatic Engineers	Light Engineering	19
Engineers - Production, Tool Makers	Light Engineering	19
Engineers - Small Tools	Light Engineering	19
Engineers' Small Tools	Light Engineering	19
Engineers Tools & Instruments	Light Engineering	19
Engineers-Precision	Light Engineering	19
Engineers-Production / Engineers	Light Engineering	19
Fireplace Manuf.	Light Engineering	19
Grinders/ Machine Tool Manufacturers	Light Engineering	19
Heating Apparatus Manufacturers	Light Engineering	19
Machine Tool Makers	Light Engineering	19
Medical eqpt & machinery mfrs	Light Engineering	19
Metal spinning & pressing	Light Engineering	19
Metal Window Manufacturers	Light Engineering	19
Mould & Tool Makers	Light Engineering	19
Pipe Maker	Light Engineering	19
Pipe, tube & fitting mfrs- flexible/ Hose fitting & accessory mfrs	Light Engineering	19
Pistons & Piston Rings Manuf & Suppliers	Light Engineering	19
Plate work-riveted & welded	Light Engineering	19
Pos. Action Pump Makers/ Pump Makers	Light Engineering	19
Power Press & Sheet Metal Machinery	Light Engineering	19
Precision Engineers	Light Engineering	19
Pump Makers	Light Engineering	19
Radiator Manuf. & Repairers	Light Engineering	19
Roller shutter mfrs	Light Engineering	19
Saw mfrs & suppliers	Light Engineering	19
Scientific instrument mfrs	Light Engineering	19
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Testing apparatus mfrs	Light Engineering	19
Testing apparatus mfrs/ Engineers	Light Engineering	19
Tool Makers/ Cutlers	Light Engineering	19
Valve Makers	Light Engineering	19
Ventilator Manuf.	Light Engineering	19
Wire & cable mfrs-insulated	Light Engineering	19
Cycle Agents & Makers	Light Engineering	19
Gun Makers	Light Engineering	19
Pneumatic control eqpt	Light Engineering	19

Diesel fuel injection	Light Engineering	19
Instrument makers & repairs	Light Engineering	19
Instrumentation engineers	Light Engineering	19
Meter mfrs	Light Engineering	19
Process engineers	Light Engineering	19
Petrol pump maintenance	light engineering	19
Coat and Dress Hanger Manuf./ Wire Workers and Weavers	light engineering	19
Typewriter Manufacturers - Sales	light engineering	19
Name & Number Plate Manufacturers	light engineering	19
Bakery Equipment Manuf.	light engineering	19
Labelling machine mfrs	light engineering	19
Numbering Machine Makers	light engineering	19
Costing Machines Manufacturing	light engineering	19
Counting & Measuring Instruments	light engineering	19
Door Gear (Sliding) Automatic Manufacturers	light engineering	19
Blast Cleaning Eqpt Manufacturers	light engineering	19
Weighing Equip Manuf	light engineering	19
Air filters	light engineering	19
Agricultural machinery dealers & repairs	Repair Garage	20
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Aircraft Engine Overhauls/ Engineers Overhaul	Repair Garage	20
Aircraft Engineers	Repair Garage	20
Aircraft Sales & Service	Repair Garage	20
Auto Engineering Works	Repair Garage	20
Auto Radiator Repairs	Repair Garage	20
Auto Repairs & Maintenance / Motor Coaches	Repair Garage	20
Auto Specialists	Repair Garage	20
Auto. Engineers	Repair Garage	20
Automobile Engineers & Agents	Repair Garage	20
Axle mfrs & repairs	Repair Garage	20
Body Repairs/ Automobile Engineers/ Body Repairs/ Motor Coaches	Repair Garage	20
Brake & Clutch Lining Manuf.	Repair Garage	20
Car breakdown recovery	Repair Garage	20
Car Radiator Manuf. & Repairers	Repair Garage	20
Caravan repairs & service	Repair Garage	20
Commercial vehicle repairs	Repair Garage	20
Cycle & Motor Engineers	Repair Garage	20
Cylinder boring & crankshaft grinding	Repair Garage	20
Electric Motor & Dynamo Repairers/ Generators	Repair Garage	20
Electric Motor and Dynamo Repairs	Repair Garage	20
Electric motor component mfrs	Repair Garage	20
Electric motor repairs	Repair Garage	20
Garage	Repair Garage	20
Mechanical engineers	Repair Garage	20
MOT testing	Repair Garage	20
Motor Engineers	Repair Garage	20

Engine reconditioning	Repair Garage	20
Engineers-Mechanical	Repair Garage	20
Engineers/ Mechanical engineers	Repair Garage	20
Motor Body Painters & Repairers	Repair Garage	20
Aircraft Sheet Metal Workers / Aircraft Sheet Metal Workers/ Aircraft Accessories	Repair Garage	20
Car body repairs	Repair Garage	20
Car Spraying & Sheet Metal Wks	Repair Garage	20
Engineers Mechanical	Repair Garage	20
Exhaust system dealers	Repair Garage	20
Car Electrical eqpt deals	Repair Garage	20
Car Windows Specialists	Repair Garage	20
Car engine tuning & conversion	Repair Garage	20
Coil winding Services	Repair Garage	20
Battery Sales & Service	Repair Garage	20
Armature Coil Re-Wndrs.	Repair Garage	20
Diesel Injection Repair Specialists	Repair Garage	20
Diesel engineers	Repair Garage	20
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Car & commercial vehicle dismantlers	Scrap Metal Yards	22
Iron, Steel & Metal Scrap Merchants	Scrap Metal Yards	22
Car Breakers	Scrap Metal Yards	22
Recycling	Scrap Metal Yards	22
Scrap Metal Merchants	Scrap Metal Yards	22
Hatters	Hatters	22
Cathode ray tube mfrs	Cathode ray tube mfrs	22
Insulation Materials Manuf. & Suppliers	Engineering/ Asbestos	23
Fireproof Doors	Engineering/ Asbestos	23
Plastic Mould & Tool Makers	Engineering, Plastics	23
Plastics-moulders	Engineering, Plastics	23
Containers - Plastic	Engineering, Plastics	23
Plastics-Finished Products	Engineering, Plastics	23
Plastics-Manuf and Suppliers	Engineering, Plastics	23
Plastics-vacuum forming	Engineering, Plastics	23
Bottle Stopper Makers	Engineering, Plastics	23
Cap Peak & Trim. Manuf.	Engineering, Plastics	23
Button Manufacturers	Engineering, Plastics	23
Artificial limb makers	Engineering, Plastics	23
Gramophone Records Manufacturers & Wholesalers	Engineering, Plastics	23
Bottle & Container Caps and Closures	Engineering, Plastics	23
Bottle Caps & Closures	Engineering, Plastics	23
Iron and Steel Manufacturers	Heavy Engineering	23
Car & Coach body builders	Heavy Engineering	23
Fork Lift Truck Manufacturers	Heavy Engineering	23
Motor Car Makers	Heavy Engineering	23
Carriage Builders	Heavy Engineering	23
Coachbuilder	Heavy Engineering	23

Use listed As	Industrial Sector	Score/33
Commercial vehicle bodybuilding	Heavy Engineering	23
Crane Makers	Heavy Engineering	23
Aircraft Component Manufacturers	Heavy Engineering	23
Tank, vat & cistern makers	Heavy Engineering	23
Hydraulic Engineers/ Engineers-industrial	Heavy Engineering	23
Hydraulic plant & eqpt mfrs	Heavy Engineering	23
Diecasting machinery & eqpt mfrs	Heavy Engineering	23
Hydraulic/Heraldic Engrs.	Heavy Engineering	23
Trailer Manufacturers	Heavy Engineering	23
Ducting Manuf.& Suppliers	Heavy Engineering	23
Propellers	Heavy Engineering	23
Railway (Portable) Manufacturers	Heavy Engineering	23
Motor Body Builders	Heavy Engineering	23
Car and Coach Body Builders	Heavy Engineering	23
Audio-Visual eqpt mfrs	Engineers Electronic	24
Air Blowers-Industrial / Hair Dryer Manufacturers / Engineers - Electrical/ Hairdressers Equip Manufacturers	Engineers Electronic	24
Audiovisual Equipment Manuf. & Suppliers	Engineers Electronic	24
Television & Radio Component Manuf.	Engineers Electronic	24
Television & radio mfrs	Engineers Electronic	24
TV & radio mfrs & suppliers	Engineers Electronic	24
Radio Receiver Manufacturers	Engineers Electronic	24
Elec. Equip. Manfrs./ Tinmen, Braziers, & c.	Engineers Electronic	24
Electronic Engineers	Engineers Electronic	24
Electric Drill & Power Tool Manufacturers / Lawnmower Manufacturers and Servicing	Engineers Electronic	24
Electric Lamp Makers & Factors	Engineers Electronic	24
Electrical components mfrs	Engineers Electronic	24
Electrical Control Gear Manufacturers	Engineers Electronic	24
Electrical Domestic Appliances_Manuf.	Engineers Electronic	24
Use listed As	Industrial Sector	Score/33
Electrical element mfrs	Engineers Electronic	24
Electrical instruments makers	Engineers Electronic	24
Electronic engineers	Engineers Electronic	24
Hi Fi Manufacturers	Engineers Electronic	24
High Fidelity Equipment Manufact.	Engineers Electronic	24
Automatic control eqpt	Engineers Electronic	24
Vacuum Cleaners Makers & Dealers	Engineers Electronic	24
Power tool mfrs, suppliers & repairs	Engineers Electronic	24
Power transmission engineers / Power Transmission Equipment	Engineers Electronic	24
Reprographic eqpt mfrs / Duplicating Equip & Accessories Manuf.	Engineers Electronic	24
Radar eqpt mfrs	Engineers Electronic	24
X-ray Apparatus Makers	Engineers Electronic	24
Hide & Skin Merchants and Tanners	Tanneries	24
Leather Manufacturers	Tanneries	24
Tanner	Tanneries	24

Curriers	Tanneries	24
Tallow Chandlers & Melters.	Tanneries	24
Pharmaceutical mfrs	Chemical Pharmaceutical	25
Aerosol Manufacturers & Suppliers	Chemical Cosmetics	25
Perfume	Chemical Cosmetics	25
Embrocation Manuftrs.	Chemical Cosmetics	25
Sewage Works	Sewage Works	25
Cellophane Bag Mnfrs	Plastic Mfrs	25
Foam products-plastic	Plastic Mfrs	25
Lubricant mfrs & suppliers/ Petroleum Services	Oil Processing	25
Polythene mfrs & suppliers	Plastic Mfr	25
Resins - Synthetic/ Plastics	Plastic Mfr	25
Fertilizer Manufacturers & Merchants	Chemical Agricultural (Fertilisers)	26
Rubber Manufacturers & Merchants	Rubber	26
Conveyor belting mfrs	Rubber	26
Tyre Manufacturers	Rubber	26
Dye mfrs & suppliers	Dye Mfr	26
Dyers (Factory)	Dye Mfr	26
<b>Use listed As</b>	<b>Industrial Sector</b>	<b>Score/33</b>
Dyestuffs Manuf.	Dye Mfr	26
Thermometer Manufacturers		27
Metal Conditioner & Lubrication Aids	Electroplaters	28
Electroplaters	Electroplaters	28
Electroplaters/ Bronzing & Lacquering, Stove Enamellers/ Printed Circuits	Electroplaters	28
Anti-corrosion treatments	Electroplaters	28
Coating-protective	Electroplaters	28
Corrosion prevention & control	Electroplaters	28
Metal Finishers	Electroplaters	28
Rust Proofing Service	Electroplaters	28
Join Compound Manufacturers	Chemical Works Misc	29
Vitriol manufacturer	Chemical Works Misc	29
Chemical Works/ mfrs & suppliers	Chemical Works Misc	29
Timber Preservatives	Timber Treatment	29
Emulsifying Agents	Paint/ Ink Mfr	30
Paint Manuf. & Exports	Paint/ Ink Mfr	30
Paint, Colour & Varnish Manufact.	Paint/ Ink Mfr	30
Paint, varnish & lacquer	Paint/ Ink Mfr	30
Paint & Varnish Manufacturers	Paint/ Ink Mfr	30
Ink mfrs	Paint/ Ink Mfr	30
Commercial Landfill	Landfill - Refuse	30
Rectifd. & Transfmrs.	Transformer Mfr	31
Tranformer Manufacturers	Transformer Mfr	31
Asbestos Building Materials & Asbestos Roofing	Asbestos	31
Gasworks	Gasworks	32



Agricultural chemical mfrs	Chemical Agricultural (Pesticides)	33
Sheep Dip	Chemical Agricultural (Pesticides)	33

## Appendix 9

### Time Scores

Only seen to occupy the site in 1 Ward Street Directory = 1 point

Site occupied for 2-10 years = 2 points

Site occupied for 11-20 years = 3 points

Site occupied for 21-30 years = 4 points

Site occupied for 31-40 years = 5 points

Site occupied for 41-50 years = 6 points

Site occupied for 51-60 years = 7 points

Site occupied for 61-70 years = 8 points

Site occupied for 71-80 years = 9 points

Site occupied for 81-90 years = 10 points

Site occupied for 91-100 years = 11 points

Site occupied for 101 years + = 12 points

## Appendix 10

### Receptor Scores

#### Scores / 35

##### Human Receptors

Residential	35
Allotments	35
Education	10
Open Areas	10
Agricultural	10
Sensitive Open Areas	10
Water	5
Commercial	0
Industry	0
Public Buildings	0
Transport	0
Health	0
Utilities	0
Vacant	0

#### Scores / 10

##### Groundwater

Major Aquifer	5
Minor Aquifer	2
Non Aquifer	0
SPZ Inner Protection Zone	5
SPZ Outer Protection Zone	2
SPZ Total Catchment	0

## Appendix 11

### Pathway Scores

#### Pathways – Geology / 10

##### Solid Geology

Chalk	10
Tertiary Sands & Gravels	5
Clay	0

##### Drift

No Drift	0
Sand/ Gravel	0
Clay	-3
Silt	-3

## Appendix 13

### HARDSHIP PROVISIONS POLICY STATEMENT

Chapter E of the DEFRA Circular 01/2006 provides that the enforcing authority will need to have regard to the circumstances of each individual case. However, in order to provide some clarity as to Croydon's approach to the hardship provisions provided under Part IIA (Section 10 of DEFRA Circular 01/2006) the following policy on hardship has been adopted by the Council. This policy statement should not be regarded as an interpretation of the Council's legal obligations, but rather as a guide to the approach it will take in implementing its discretionary powers and Government guidance.

In making its Hardship Provisions statement the Council emphasises the distinction between a Class A and Class B appropriate person.

**The class A appropriate person is a person who is an appropriate person by virtue of S78(F)(2); that is he caused or knowingly permitted a pollutant to be in, on or under the land.**

**The class B appropriate person is an appropriate person by virtue of S78F (4) or (5); that is because he is the owner or occupier of the site in circumstances where no class A person can be found with respect to a particular remediation action.**

The statements below make reference to the guidance provided in Chapter E of the DETR circular.

### **COST RECOVERY CONSIDERATIONS APPLYING BOTH TO CLASS A & B PERSONS**

#### **1. SMALL OR MEDIUM SIZED BUSINESSES**

In making reference to E.21 and E.22 where small or medium-sized enterprises are the appropriate person, or which are run by the appropriate persons, the Council is likely to waive costs (appropriate person class B) or may reduce costs (appropriate person class A) where :

- (a) the recovery of the full cost attributable to that person would mean that the enterprise is likely to become insolvent and thus cease to exist; and
- (b) if so, the cost to the local economy of such a closure is detrimental to the local community.

Where the cost of closure appears to be greater than the costs of remediation which the enforcing authority would have to bear itself, the Council is likely to waive or reduce its costs recovery to the extent needed to avoid making the enterprise insolvent.

- E.23 However, the Council will not waive or reduce its costs recovery where:
- (a) it is clear that an enterprise has deliberately arranged matters so as to avoid responsibility for the costs of remediation;
  - (b) it appears that the enterprise would be likely to become insolvent whether or not recovery of the full cost takes place; or
  - (c) it appears that the enterprise could be kept in, or returned to, business even if it does become insolvent under its current ownership.
- E.24 For these purposes, a “small or medium –sized enterprise” is as defined in the European Commission’s Community Guidelines on State Aid for Small and Medium-Sized Enterprises, published in the Official Journal of the European Communities (the reference number for the present version of the guidelines is OJ C213 1996 item 4). This can be summarised as an independent enterprise with fewer than 250 employees, and either an annual turnover not exceeding €40 million, or an annual balance sheet total not exceeding €27 million.
- E.25 The Council will take account in any such cost recovery decisions of any policies it may have for assisting enterprise or promoting economic development (for example, for granting financial or other assistance under section 33 of the Local Government and Housing Act 1989, including any strategy which it has published under section 35 of that Act concerning the use of such powers).

## **2. HOUSING ASSOCIATIONS**

- E.30 The Council is likely to waive (appropriate person class B) or reduce (appropriate person class A) its costs recovery if:
- (a) the appropriate person is a body eligible for registration as a social housing landlord under section 2 of the Housing Act 1996 (for example, a housing association);
  - (b) its liability relates to land used for social housing; and
  - (c) full recovery would lead to financial difficulties for the appropriate person, such that the provision or upkeep of the social housing would be jeopardised.
- E.31 The extent of the waiver or reduction should be sufficient to avoid any such financial difficulties.

## **3. SPECIFIC CONSIDERATIONS APPLYING TO CLASS A PERSONS**

In making reference to E.33, the Council will be less willing to waive or reduce its cost recovery in cases where , in the course of carrying on a business, that Class A person caused or knowingly permitted the presence of the significant pollutants, than in cases where he was not carrying on a business. This is

because in the former case he is likely to have earned profits from the activity which created or permitted the presence of those pollutants.

- E.34 In some cases where a Class A person has been found, it may be possible to identify another person who caused or knowingly permitted the presence of the significant pollutant in question, but who cannot now be found for the purpose of treating him as an appropriate person (e.g. where the company has been dissolved).
- E.35 The Council will consider waiving or reducing its cost recovery from a Class A person if the person demonstrates to the Council's satisfaction that:
- (a) another identified person, who cannot now be found, also caused or knowingly permitted the significant pollutant to be in, on or under the land; and
  - (b) if that other person could be found, the Class A person seeking the waiver or reduction of the authority's cost recovery would either:
    - i. be excluded from liability by virtue of one or more of the exclusion tests set out in Part 5 of Chapter D or
    - ii. the proportion of the cost of remediation which the appropriate person has to bear would have been significantly less by virtue of the guidance on apportionment set out in Part 6 of Chapter D.

#### **OWNER OCCUPIERS OF DWELLINGS**

In making reference to E.44, where a Class B person owns and occupies a dwelling on the contaminated land in question, the Council is likely to waive its costs recovery where that person satisfies the authority that, at the time the person purchased the dwelling, he did not know, and could not reasonably have been expected to have known, that the land was adversely affected by presence of a pollutant.

- E.45 Any such waiver or reduction will be to the extent needed to ensure that the Class B person in question bears no more of the cost of remediation than it appears reasonable to impose, having regard to his income, capital and outgoings. Where the appropriate person has inherited the dwelling or received it as a gift, the approach above should be applied with respect to the time at which he received the property.
- E.46 Where the contaminated land in question extends beyond the dwelling and its curtilage, and is owned or occupied by the same appropriate person, the above approach should be applied only to the dwelling and its curtilage.

## Appendix 14

### Prioritisation Categories

Once an initial investigation and desk study has been carried out on a site, the site will then be prioritized into one of five different categories.

#### **Priority Category 1:**

Site probably or certainly not suitable for current end use and environmental setting

Contaminants are likely or certainly present and are likely to have an unacceptable impact on key targets

Urgent action needed in the short term

#### **Priority Category 2:**

Site may not be suitable for current end use and environmental setting

Contaminants are likely or certainly present and are likely to have an unacceptable impact on key targets

Action needed in the medium term

#### **Priority Category 3:**

Site considered suitable for current end use and environmental setting

Contaminants may be present but are unlikely to have an unacceptable impact on key targets

Action is unlikely to be needed whilst the site remains in its current use or remains undisturbed.

#### **Priority Category 4:**

Site considered suitable for current end use and environmental setting

Contaminants may be present but are unlikely to have an unacceptable impact on key targets

Action is not needed whilst the site remains in its current use or remains undisturbed.



**Priority Category 5:**

The site has been removed from investigations as contaminants are unlikely to be present and will not have an unacceptable impact on key targets in either its current or any future states.

No further action will be needed for the site.

The original risk score calculated for the site will still remain in place and will enable The London Borough of Croydon to prioritise the sites for further investigation in order of risk within the categories.

The priority category for individual sites can be changed at any stage. Sites will also be assigned a priority category after completing investigation and remediation through the planning regime.

The priority categories generated by the London Borough of Croydon are based on those provided in the CLR 6 document "Prioritisation and Categorisation Procedure for Sites which may be Contaminated"

## **Appendix 15**

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