A STRATEGY FOR THE IDENTIFICATION, INSPECTION AND ASSESSMENT OF CONTAMINATED LAND

ENVIRONMENTAL PROTECTION ACT 1990, PART IIa

Revision 1

April 2003

LONDON BOROUGH OF NEWHAM
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FORWARD BY SIR ROBIN WALES, THE MAYOR OF NEWHAM

Newham is an exciting place to live and work and the Council is fully committed to providing a sustainable environment for its current and future populations.

The social and economic regeneration has been at the heart of Newham's successful growth over recent years. Newham's future prosperity depends on the work that the council is doing to breathe new life into parts of the borough that have suffered from the decline of old industries.

A major effort is now underway to transform many areas of Newham. Already a large number of regeneration projects are reshaping the borough as new investment from the Government, Newham and the private sector is transforming Newham for the better.

Newham Council is successfully attracting new homes, new infrastructure for public transport links, providing an ideal business location, developing areas for leisure and recreation, combined with real initiatives to make Newham's streets a safer and cleaner.

Newham's legacy of historical industrial uses and large-scale developments by gas, water, electricity, railway and port functions have left a complex pattern of land pollution. With the post-war demise in this industrial base large tracts of land remained vacant, derelict and under-utilised, offering huge development potential. More recently, an increasing amount of land has been brought back into beneficial use with the aid of Newham's Unitary Development Plan and a strong, positive commitment to regeneration activity and partnership working.

This strategy ensures that efficient controls are in place for ensuring that land contamination does not pose a risk to the public, surface waters and groundwaters in Newham. As this contaminated land strategy makes clear, as far as is reasonably practicable, the polluter will be made to pay for the mitigation of any immediate and unacceptable risks, effectively meaning those who pollute will pay the price.

I welcome this contaminated land strategy as yet another contribution of our commitment to bring real benefits for residents and business and to provide a more sustainable, high quality physical and social environment in line with my vision for Newham.

Sir Robin Wales – Mayor of Newham

April 2003

STATEMENT OF COPYRIGHT

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EXECUTIVE SUMMARY

The Council is required under Part IIa of the Environmental Protection Act 1990 to prepare and from, time to time, revise a strategy on contaminated land. Newham's strategy was published in July 2001. This is the first revision based on over a year's experience of the new regime.

Section 1.0 gives the legal framework to Part IIa. In particular the limited legal definition of *statutorily* contaminated land.

Section 2.0 outlines some facts about the borough and the development of the strategic policy framework. The section also discusses how the contaminated land strategy relates to this framework and contributes towards the promotion of sustainable regeneration within the Borough. This section also outlines the main aims and objectives of this strategy document and explains how the London Borough of Newham will approach the assessment and identification of contaminated land. This section also outlines the roles and responsibilities for the control and enforcement of contaminated land and details the projected timeframes for the completion of various components of the strategy.

Section 3.0 introduces the environmental and built characteristics of the Borough. Much of this data is derived from a Geographical Information System (GIS). This section describes the Borough's historical land-uses, from pre-1900 to the present day, highlighting areas where industry, commercial and utilities land-uses have prevailed. The section also outlines the Borough's current land-uses, including open areas (playing fields and allotments), ecology, current surface waters and other hydrological and hydrogeological characteristics.

Section 4.0 introduces the specific components of the Borough's strategy, developed to ensure that London Borough of Newham meets the requirements of Part IIa. This section also describes land contamination issues in the Borough and outlines what actions have already been taken to deal with land where contamination is known or believed to exist. The section also summarises the development of the GIS and describes the basis of Newham's prioritisation and categorisation procedure for the assessment of contaminated land.

Section 5.0 provides the details of the London Borough of Newham's inspection methodologies for the assessment of land that is known or is believed to be contaminated. This includes details of inspection techniques and provides a summary of how contaminated land will be assessed.

Section 6.0 outlines the procedures for liaison and communication, and details when consultations will be necessary. This section also describes the appropriate parties, persons, groups and agencies that will need to be involved in our communications procedure, depending on the site / property being assessed. The section also briefly outlines the consultations that have been carried out.

Section 7.0 sets out the procedures adopted for dealing with inquiries and information, specifically with regards to Part IIa. This section also outlines the

provisions for access to environmental information, the types of enquiries received, exclusions, and London Borough of Newham's register of contaminated land.

Section 8.0 outlines the adopted review and audit procedures and the principles of data management. This section details how reviews will be carried out, and what components of the strategy need to be reviewed. The section also details how London Borough of Newham will exchange and provide information to the Environment Agency.

1.0 INTRODUCTION

In the UK, the legacy of contaminated land from industrial, mining and waste disposal activities is a significant challenge for future development. However, only a small proportion of that land poses an immediate threat and unacceptable risk to human health and the environment and the true nature of this legacy can only be determined through detailed site investigation and risk assessment. This, in turn, is dependent on how contaminated land is defined and on the methods and procedures that are employed to prioritise and categorise such land for the appropriate investigation and remediation.

The Secretary of State for the Environment has expressed the opinion that contaminated land should be brought back into beneficial use and so provide sites for redevelopment and the associated regeneration of inner city areas. The increased scarcity of land resources, and the existence and continued development of Government policies to protect the Greenbelt and to promote brownfield developments, has ensured that the effective management of contaminated land resources is essential and should be sustainable. For local authorities to successfully control and manage their contaminated land resources the efficient management of contaminated land data is required.

1.1 Environmental Protection Act 1990, Part IIa

The Environment Act 1995, Section 57 amends the Environmental Protection Act 1990, by inserting a new Part IIa enacted on 01 April 2000. The Environmental Protection Act 1990, Part IIa has now become the new Statutory Framework for dealing with contaminated land in England. Part IIa comprises 26 sections (Sections 78A-78YC) which for the first time introduces a definition of contaminated land, contained within Section 78A(2) as;

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

a) significant harm is being caused or there is significant possibility of such harm being caused, or
b) pollution of controlled waters is being or is likely to be caused".

This means that the identification and subsequent remediation of land on which contamination is causing unacceptable risks to human health or the wider environment should take place. It does not intend that all land where contamination is present should be addressed. Land where contamination poses a risk to a new development should remain a 'material planning consideration'.

Part IIa allocates new statutory powers to Local Authorities in terms of identifying land that meets the above definition and confers powers to the Secretary of State to make Regulations, orders, give directions and issue guidance.

1.1.1 Role of the local authority

Under Part IIa, local authorities have a duty to inspect their area from time to time in order to identify statutorily 'contaminated land'. If land is identified as 'contaminated land', the local authority must determine whether the land constitutes a 'special site'. Where a site is identified as being contaminated land by the local authority and in consultation with the Environment Agency, is determined to be a special site, Regulations 2(1) and 3 means that the Environment Agency becomes the enforcing authority (see section 1.2 below).

Where a site meets the definition of 'contaminated land' the local authority is required to make a formal determination that the land is contaminated. Where this land is not determined to be a special site the local authority retains control and subsequently has to notify the owners, occupiers, the Environment Agency, and the 'appropriate persons'. Appropriate persons are either Class A persons (persons who caused or knowingly permitted the presence of the pollutants) or Class B persons (persons who are current owners or occupiers). This notification then triggers a three-month consultation period before a remediation notice can be served. During this period a voluntary agreement may be reached which will secure the remediation of the land. If this agreement is not reached, or is at any time breached, the local authority will be under a duty to serve a remediation notice. The recipient(s) of the notice will be under an obligation to assess the land, undertake works and monitor post-remediation effects.

The local authority needs to apply a series of exclusion tests and apportion the costs and liabilities amongst the appropriate persons, who may belong to a number of liability groups. The local authority must also consider any hardship the apportionment may cause and consider its cost recovery, through charging notices. The local authority may also be liable for land it owns, or has previously owned, where it has caused or knowingly permitted pollutants to be present. It also takes responsibility for orphan sites in instances where no Class A or Class B persons can be found. The local authority is required to maintain a register and prepare a strategy for the inspection of land in its area ensuring that actual threats to human health and the environment are identified and dealt with.

The local authority also has powers to inspect land immediately outside its area with a view to identifying contaminated land where a receptor is being caused significant harm or where the pollution of controlled waters is occurring, by nature of the condition of the land outside its area.

1.1.2 Source-Receptor-Pathway

Part IIa introduces a 'source-receptor-pathway' risk assessment approach to identifying and assessing contaminated land. After the identification of a source, a pathway is required which provides a means for the contaminant to migrate and impact on a receptor. Such receptors are listed in Chapter A, Tables A and B of Department of Environment, Transport and the Regions (DETR) Circular 02/2000, which define the categories of significant harm and categories of significant possibility of significant harm.

Generally, the purpose of defining what harm is regarded as significant, the receptors are subdivided into:-

- humans,
- any ecological system, or living organism forming part of that system,
- property such as crops, allotments, livestock, and
- property in the form of buildings.

Section 78A(4) defines harm as being;

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

Before the local authority can make the judgement that any land appears to be ‘contaminated land’ on the above basis, the authority must be reasonably satisfied that a pollutant linkage is present on the site. The existence of a pollutant linkage means that each of the following has been identified: a contaminant, a receptor, and a pathway. Where all three exist, the pollutant linkage then becomes a ‘significant pollutant linkage’ (SPL). For controlled waters, the local authority has to make the determination that a significant pollutant linkage is present and that the controlled waters form the receptor.

To be able to carry out the risk-based assessment of source-receptor-pathway, information is required from:-

- historical records,
- existing site investigation information,
- historical and current Ordnance Survey maps,
- the properties of underlying geology and hydrogeology
- the proximity of receptors.

1.1.3 Inspection of land

The local authority needs to take a strategic approach to the inspection of its area and to concentrate resources where the most serious problems are likely. This strategic approach needs to be ordered, rational and efficient and be proportional to the seriousness of any actual or potential risks.

The authority may identify a particular area of land where it is reasonably satisfied that a pollutant linkage exists. The local authority then needs to decide whether to carry out a detailed inspection to make the determination that the land is contaminated land. The local authority should only authorise an intrusive investigation where it considers that it is likely, rather than only reasonably possible, that a contaminant and a receptor are present. Under Section 108 of the Environment Act 1995, the local authority has specific powers to authorise suitable persons to carry out any such investigation, including conferring these powers to an authorised officer from the Environment Agency.

1.2 Role of the Environment Agency

The local authority needs to determine whether land found to be contaminated land would need to be designated a special site. If so, arrangements need to be made with the Environment Agency to carry out the inspection of the land on behalf of the local authority.

For the purposes of Part IIa, special sites include:

- Wholesomeness of drinking water (Regulation 3(a)) - Where contaminated land affects controlled waters used or intended to be used for the supply of drinking water,
- Surface water classification (Regulation 3(b)) - Where contaminated land affects controlled waters so that those waters do not meet or are not likely to meet relevant surface water criteria,
- Major aquifers (Regulation 3(c)) - Where particular difficult pollutants, (as set out in List 1 of the Groundwater Directive) are affecting major aquifers,
- Integrated Pollution Control (Regulation 2(1)(d)) - Sites which are regulated under Part I of the Environmental Protection Act 1990 and which have become contaminated. Additional sites will be added with the introduction of the Integrated Pollution Prevention and Control Directive (96/61/EC), and

It remains the task of the local authority to determine whether such land is contaminated land or not and the enforcing activity of the Environment Agency will begin after that determination has been made. The Environment Agency may also provide information to the local authority relevant to the identification of contaminated land. In particular where the pollution of controlled waters is, or is likely to be caused, or where the Environment Agency considers that any land should be designated a special site.

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2.0 LONDON BOROUGH OF NEWHAM - STRATEGIC POLICY FRAMEWORK

London Borough of Newham is located in East London and is bordered by London Borough of Tower Hamlets, London Borough of Waltham Forest, London Borough of Hackney, London Borough of Redbridge, and London Borough of Barking and Dagenham. Newham is the most ethnically diverse Borough in the UK and is categorised by DETR as the second most deprived local authority in the UK (DETR, Index of Local Deprivation, 1998). Newham's challenges and opportunities reflect to some extent its historical position within London's economy, particularly as a location for smokestack industries and heavy industry, utilities and transport infrastructure. The demise of much of this traditional industrial base has left large areas of land suitable for redevelopment.

Newham's land-use development strategic framework is underpinned by a strong, positive commitment by the Council to promoting sustainable regeneration underpinned by partnership with key stakeholders such as landowners, developers, voluntary groups, the community and other interested parties. Due to the historical nature of the Borough as a host to major transport and utilities industries and current and previous land ownership patterns, there is a significant opportunity for sustainable regeneration in the Borough, made possible by the existence of large areas of brownfield land and the recent upgrading in the strategic transport network.

The objective to achieve real environmental improvements involves the following;

- Pursuit of a safe and attractive environment which will promote sustainable communities,
- Development of a high quality physical and social environment to attract new investors and residents,
- Improve opportunities and quality of life for existing residents, and
- Develop relationships and partnerships across service areas.

In 1997, London Borough of Newham adopted a Vision, which states that:

> **"By 2010 Newham will be a major business location and a place where people will choose to live and work."**

This Vision promotes a general commitment to improve economic, social and environmental conditions and give local people the opportunity to benefit from these improvements.

Since 1997 there has been significant progress towards achieving the Vision in Newham. The resultant benefits of development can already be seen, particularly in the broadly positive direction of key economic indicators suggesting greater economic activity and opportunities for local people, and the physical remediation and restoration of large areas of previously contaminated and derelict land for beneficial end uses. Newham's 'Vision' for 2010 (1997) is continually being

developed and refined to incorporate broader sustainability objectives and this is reflected in the Boroughs' Corporate Plan, 2001/2 which combines the strategic purpose of **'Making Newham a Better Place' with the overall objective of 'Creating an attractive, well-maintained, safe, accessible and sustainable environment in which people wish to live and invest'.** Improving economic, social and environmental conditions in Newham will be determining factors in persuading people to live and work in the Borough and promoting the Borough's sustainable development and social regeneration. The delivery of this Contaminated Land Strategy is intended to support the above overall objective by ensuring that the Borough's legacy of contaminated land is addressed sustainably and promotes the release and reuse of brownfield sites for high quality development that meets Newham's needs.

2.1 Newham's Corporate Regeneration Strategy

In March 1997, the London Borough of Newham adopted an outline regeneration strategy which has a number of strategic goals, including the creation of a high quality physical and built environment. These goals will be pursued by all sections of the Council, where appropriate through strategic partnerships with interested stakeholders and other local authorities. However, priorities relating to the physical regeneration of the Borough are being focussed on 3 connected areas known collectively as the 'Arc of Opportunity'. These include the Stratford Raillands, the Lower Lea Valley and key Dockside and Thamesside sites (the 'Royals'). These regeneration areas have been earmarked for flagship development projects that are considered essential for sustaining economic growth, addressing social and employment needs, and transforming the environmental quality of the Borough, all key aims of the Borough's Regeneration Strategy. A number of strategic projects and partnerships have been formed to develop upon the existing strategy, and these are described below.

2.1.1 Royal Docks Partnership Board

The development of the Royal Docks is entering a critical stage in that many projects that have been planned for a long time are now nearing completion. For example, the ExCel International Exhibition and Conference Centre and associated contractor villages, hotels and amenities. To ensure that regeneration is sustained and that positive benefits are brought to residents, business and the environment both locally and across East London, Newham has established a joint project team with EP (English partnerships). This team, since the demise of the London Docklands Development Corporation (LDDC), will continue to promote the Royal Docks in partnership with local businesses, for example, City Airport, ExCel, and University of East London.

During 2000-2001 EP became part of the LDA (London Development Agency) which was established in July 2000. Close liaison is being initiated with the LDA and the Newham 2010 Partnership to further develop its remediation strategy for land that it currently owns or is marketing for developer interest. During 1999-2000 a new investment framework and program was established, which focuses on 3 main centres of activity;

1) Phase 2 of West Silvertown,
2) The development of the Royals Business Park and continued expansion of the Thames Gateway Technology Transfer Centre to create a 'knowledge dock', and
3) Development of the Albert Dock south basin.

2.1.2 Urban renaissance – Stratford to Thameside 'Arc of Opportunity'

The area extending along the Lee Valley and the Jubilee Line Extension from the site of the proposed Stratford International Passenger Station (IPS) to Thameside comprises approximately 600 acres of developable land making it the largest linked set of development sites in western Europe. Much of this area consists of brownfield sites and the challenge of this strategic project is to transform the physical and built quality of the area and give real benefits to the communities.

A recent government Urban White Paper, formed from the report of the Urban Task Force, suggests that a flexible approach to urban development should be adopted and that this will facilitate mixed home, work, and leisure uses that can be adapted over time. The project from Stratford to Thameside will encompass these new government initiatives. The IPS and Channel Tunnel Rail Link will began construction in 2001 and this is expected to be the catalyst for the 'Arc of Opportunity' mixed-use developments.

An International Design Competition in 1998 sought to secure the continued regeneration of this area and this design team, led by MBM Architects will develop the framework for the Stratford Rail Lands and the links into the south of the development area. To take this forward a new body will be established which would include representatives from London Borough of Newham, LDA, and key landowners to create the 'Urban Renaissance'.

2.1.3 Stratford Development Partnership

Stratford Development Partnership (SDP) had been set up originally to deliver a project known as 'Stratford City Challenge' and following the success of this in March 1998, SDP is now delivering SRB programs throughout East London. The success in bidding for and achieving SRB funds principally focused on specific neighbourhood areas in the Borough, Borough-wide areas, and cross Borough programs.

2.1.4 Other partnerships

London Borough of Newham is a full member of two sub-regional partnerships created in the mid-1990s with the major objective of regenerating their areas.

The partnerships are as follows;

- Thames Gateway London Partnership – emerged as a result of government initiative promoting the development potential of this area to the east of the capital. A sub-regional partnership was established that included ten London Boroughs, one Essex District, one Kent District and EP, and

- The London Lee Valley Partnership – consists of five London Boroughs and London Lee Valley Regional Park. A large proportion of the London Lee Valley Partnership is within the European Regional Development Fund (ERDF) Objective 2 area and in 1998 the City Corporation and two private sector organisations also became members.

2.2.1 Roles and responsibilities

The implementation of the contaminated land strategy and the enforcement responsibilities under Part IIa of the Environmental Protection Act lie with the Pollution Control Unit of the Environmental Management Services.

The Pollution Control Unit leads the East London Contaminated Land Officers Group. This group was set up in 2001 to disseminate information & good practice on dealing with contaminated land in East London. The group includes representatives from Barking & Dagenham, Redbridge, Havering, Waltham Forest; Barnet and Enfield Councils. It also includes representatives from the local Environment Agency offices.

2.2.2 Pollution Control Unit

The Pollution Control Unit within the Environment & Regeneration Department has the overall responsibility for delivering the Contaminated Land Strategy. The contaminated land responsibilities of the Unit fall into two main parts. There is a duty on the Council to inspect its area for the presence of land that may be statutorily contaminated (see section 1.1 above). The Pollution Control Unit uses historical land use data to identify land that may be contaminated and then employs external consultants to assess the potential risk.

The Pollution Control Unit has, in co-operation with the British Geological Survey (BGS) produced a Geographical Information System (GIS) that amalgamates the huge amount of data that existed upon contaminated land. This system collated all existing information and provided a database, which relates to the natural and built environment in Newham. This is an essential data management tool to fulfil Part IIa requirements.

Consultation and liaisons have been carried out with a number of bodies prior to the drafting of this document (see section 6.1). Specific consultation with the Environment Agency and the LDA took place in January 2001, and relevant comments have been incorporated into the final document (Revision A). With regards to adoption, several internal procedures have been followed, the Director of

Environment and Regeneration Department has approved this document under London Borough of Newham's delegated powers and adoption was finalised by the Environment Front Bench on 15 February 2001.

2.2.3 Statutory Land Use Planning

The statutory landuse planning system controls development and the use of land in the wider public interest. Contamination of land may threaten public health and safety, the environment, the built environment and economic activities through its impact on the users of the land, and neighbouring users.

Statutory development plans set out land-use policies of individual local authorities. In preparing their development plans and policies, and in future, new style local development frameworks appropriate to their areas, the local planning authority (LPA) needs to take account of national land-use planning policies. The Government has proposed in its Green Paper on Planning in December 2001 some major changes to the system of development plans and how they are prepared, but land contamination will be a material consideration in the preparation of plans in any future arrangements, as it under the current ones. General guidance in Planning Policy Guidance (PPG) Note 12 on Development Plans (1999) notes that: "Development plans should be drawn up in such a way as to take environmental considerations comprehensively and consistently into account.". It identifies a range of such considerations, including pollution and the need to protect groundwater resources from contamination. In preparing and revising their development plans, local authorities therefore need to take into account any potential implications for land contamination. This applies both to including appropriate policies and proposals, the remediation of land contamination, and to dealing with the implications of actual or potential land contamination on other policies and proposals. There is a positive role for development plans in this regard. Steering development onto previously developed land, some of which may be affected by contamination, will protect urban greenspace from development. It can therefore help bring about sustainable improvements in the condition of the land as a whole, provided that development is appropriately carried out and that any contamination implications are identified and properly dealt with.

Land contamination, or the possibility of it, is therefore a material planning consideration in the preparation of development plans, including policy formulation, in identifying opportunities or considering proposals for particular kinds of development in different parts of the Borough, and in the decisions on planning applications. These considerations are currently addressed through a range of policies in the London Borough of Newham Unitary Development Plan (UDP), which was adopted in June 2001. In broad terms, the Council's current knowledge of the extent and whereabouts of contaminated land or land suspected of being contaminated has helped inform locational policies outlining the broad range of acceptable uses, taking into account current constraints such as land contamination (please refer to the UDP's Urban Regeneration Chapter for further information). Other 'control' policies, especially in the Environmental Quality chapter of the UDP, most notably Policy EQ49, sets out the broad planning and sustainability issues relating to the assessment of developments on land which is known or reasonably

suspected of being contaminated, and related requirements for remediation and future monitoring.

For land which has previously been developed and other land which may be affected by contamination, the key sustainable regeneration objectives of the planning system are:

- to encourage the redevelopment and beneficial reuse of previously-developed land, both to bring about the social, economic and environmental regeneration of that land and the surrounding area, and also to reduce unnecessary development pressure.

- to ensure that any unacceptable risks to human health, buildings and the environment from contamination are identified and properly dealt with, no new development and land-uses proceed.

The potential of contamination is clearly widespread in Newham and its presence on a site may add to the difficulty and cost of developing that site, affecting the viability of different types of land use. For example, housing development is likely to require a higher standard of remediation as there is a greater possibility that sensitive groups (e.g. small children) may come into contact with soil; whereas for a commercial or industrial development the contaminated soil might be covered by hard-standings, and sensitive groups are less likely to be present. If sufficient information is available, it may therefore be sensible to locate less sensitive development into areas where any contamination is likely to be more problematic. Dependent on the state of demand locally for different types of development, those types may be more or less able to absorb the cost of land reclamation and remediation. For example, housing land may attract a higher end-value in some areas than commercial land, meaning that it may be easier for a developer to take forward a profitable housing development by absorbing the costs of necessary remediation in the betterment arising from creating a higher-value use.

2.2.4 Forward Planning and Transportation

Awareness of the above is necessary at all stages of the planning process. The Council's Forward Planning section of the LPA now hold detailed information about the likely extent and location of contamination in the Borough, and it is therefore imperative that in preparing and revising the Council's development plan, the UDP, that any potential implications of land contamination are taken into account in accordance with the above. In addition, the Pollution Control Unit will be closely consulted on revisions to the existing UDP. More detailed guidance on the planning of particular sites or areas, which are also a 'material consideration' in the assessment of applications and often provide an update of the Council's preferred approach to the development, needs to take account of the implication of existing contamination. Early liaison between the Forward Planning / Regeneration Projects sections of the LPA on the one hand and the Pollution Control Unit Environmental Health services on the other, is necessary to ensure that land contamination issues are taken into account in the production of Supplementary Planning Guidance, incorporating Urban Framework Plans for Major Opportunity Zones and design

Masterplans for major sites, as well as development briefs for smaller sites. Similarly, external consultants commissioned by the Council to carry out this work must be properly briefed by Council officers of this requirement. All SPGs and development briefs where covering sites where contamination is likely to be an issue will also contain an informative advising potential developers to contact the Council's Environmental Health section at the pre-application stage to discuss their proposal and gain an early indication of the possible requirements for remediation etc.

2.2.5 Regeneration Projects

The Pollution Control Unit will also liase closely with the Regeneration Projects Team when advice is sought on the suitability of land for specific end uses, or when information on contamination is sought in relation to the marketing of sites. Where necessary, the Pollution Control Unit will engage and supervise external consultants if required for particular projects.

2.2.6 Development Control

The management of contaminated land is closely linked to the redevelopment process and the control of contamination through the Town and Country Planning Act 1990. Contamination risks may affect the current and future use of land. The basic role of Development Control is to ensure that where development is proposed on land which may be affected by contamination, any unacceptable use is identified and dealt with effectively through the development process, in accordance with the policies, principles and procedures contained within the Newham UDP and Government Planning Policy Guidance note PPG13.

Before granting permission, the LPA's development control team will ensure that the developer takes full account of the condition of the land concerned and appropriate remediation is carried out by the developer to deal with unacceptable risk, through the use of planning conditions attached to the consent.

As part of the planning process, Development Control consults with Environmental Health as to any conditions that to be placed on the development including any concerning contaminated land. A number of model conditions have been prepared in conjunction with Development Control and the Environment Agency which cover most of the usual contamination conditions.

A leaflet for developers has been prepared that will give information to them on their responsibilities and the Council's requirements with regard to contaminated land. It will also provide information on how the developer can best address the issues of potential land contamination. This leaflet is available from the Pollution Control Unit and is referred to when planning consent is granted for the development of sensitive sites.

There are large areas of the borough that are becoming available for redevelopment as land use changes. Where appropriate, the Council requires an Environmental Impact Assessment. The Pollution Control Unit will work closely with the developers

in scoping the assessment to ensure that land contamination (and any necessary remediation) is included in any development project at an early stage.

Close liaison with Development Control will ensure that information upon contaminated land is available of where land has a potential developer interest, where an outline planning application or full planning application exists, where outline or full planning consent has been given. Such sites, and contamination if found, will be controlled under the Town and Country Planning Act 1990 and will ensure that such sites will not require future action under Part IIa.

2.2.7 Asset Management

Liaison and exchange of information have been agreed to ensure that the council's financial resources are effectively utilised and its legal liabilities controlled when both buying and selling land that is, or may be, contaminated.

2.2.8 Land Charges

Procedures are in place to ensure that enquires from prospective purchasers of land in Newham (or their representatives) are accurately informed of any legal notices served regarding contaminated land, or whether the site features upon the contaminated land register (see 7.1.2). Persons who make land charges inquiries are informed of further information available on contaminated land via the Pollution Control Unit.

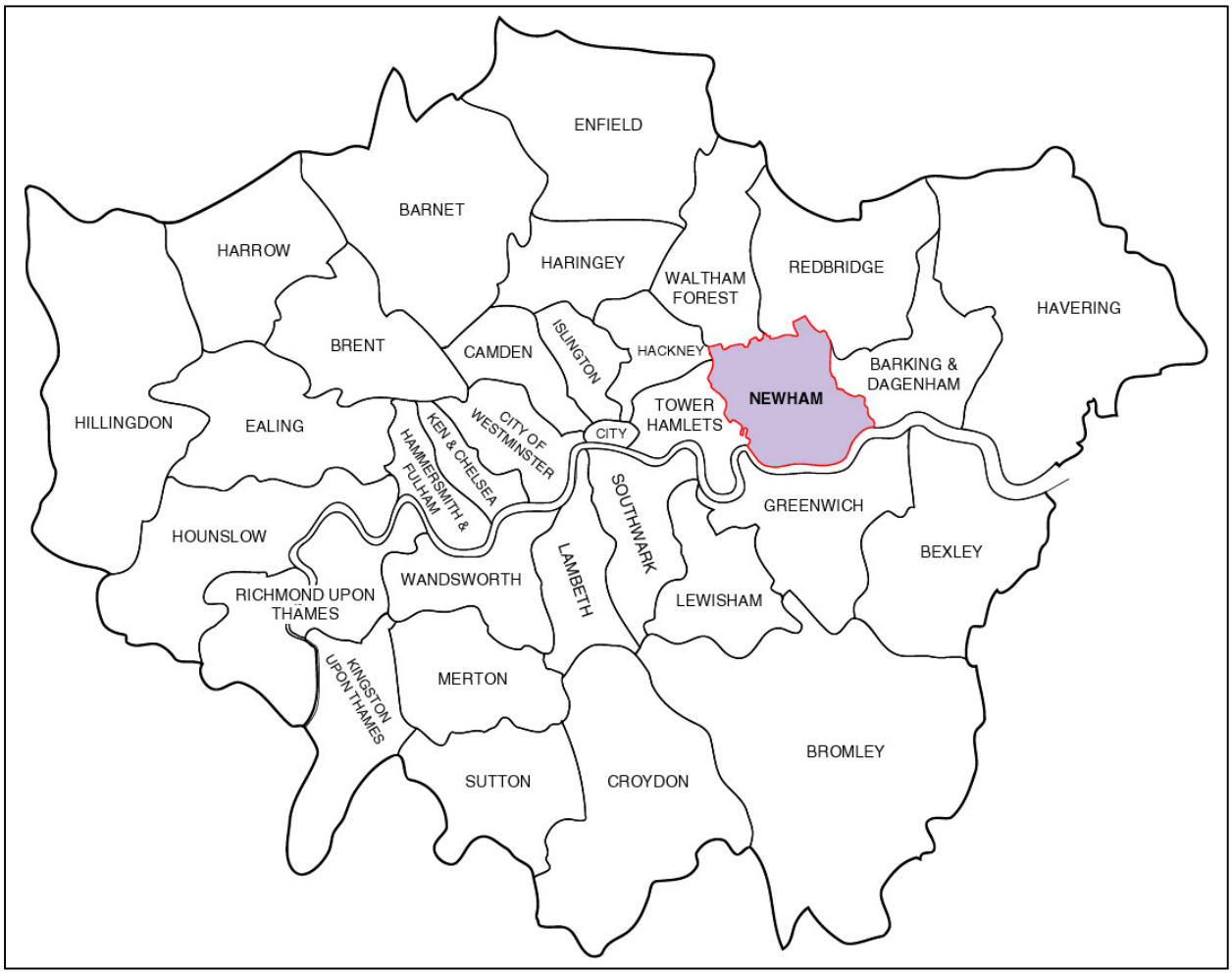
2.2.9 Building Control

The Pollution Control Unit will maintain close links with Building Control. Advice will be given on all aspects of land contamination in particular the control of natural and landfill gas contamination.

3.0 LONDON BOROUGH OF NEWHAM

London Borough of Newham is located at the heart of East London where the Lea Valley, the M11 motorway and the East Thames Corridor converge. The Borough is bordered by the A406 in the east and north, the River Thames in the south, the River Lea to the west and the River Roding to the east (Figure 1).

Figure 1: Location of London Borough of Newham



(Source: London Borough of Newham, Environment Department, 2000)

Newham covers an area of 3,637 hectares and has a population size of just over 230,000, of which different ethnic minorities contribute more than 50%. In 2000, London Borough of Newham had 86,300 households with 9.7% unemployment and approximately 6% of Newham's land area was identified as developable land.

Heavy industry in the form of gasworks, chemical works, tanneries, dye works, paint works, colour works, distilleries, railways and docks, combined with domestic refuse tipping, has left Newham with a legacy of land and water pollution. The majority of this affected land, and associated groundwaters, is located adjacent to the River Lea Valley and south of the A13. A legacy of developments by gas, water and electricity utilities, combined with heavy industry and heavy port and railway functions, world-

war two bombing and post-war demise of the industrial base has created a complex pattern of land pollution with large tracts of vacant, derelict and under-utilised land.

3.1 Land-use characteristics

Regeneration has been occurring in Newham since the early 1980's when the government established Urban Development Corporations under the Local Government Act 1985. In Newham, the LDDC gained planning and development control over eight square miles of land, in the south of the Borough, and it sought to bring about physical, social and economic regeneration through acquiring, managing and disposing of this land.

Much of the areas of former heavy industrial use was developed under the jurisdiction of the LDDC, but large areas of vacant land, in particular in the regions of the Royal Docks, still exist. Since the demise of the LDDC in March 1998, the ownership of this land has passed from the LDDC to Newham, to English Partnerships and to the recently formed LDA.

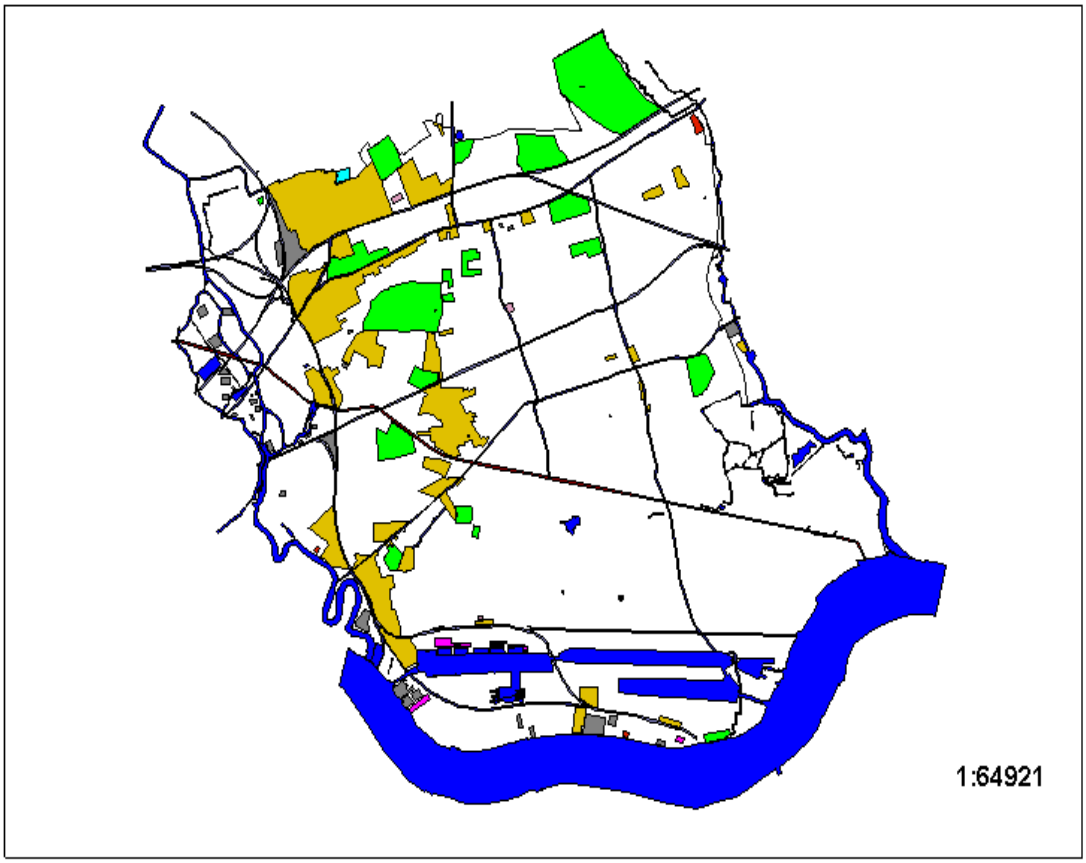
Newham has developed a range of modern infrastructure that has enabled this regeneration to occur. The Borough is home to London City Airport, the Jubilee Line extension, East London River Crossing, Docklands Light Rail, and the Channel Tunnel Rail Link, which co-exist with prime development land. Such land occupies approximately 6% (400 hectares) of Newham's land area and is situated mainly within the Royal Docks, Stratford, Beckton and the Lea Valley corridor.

3.1.1 Pre-1900 land-use

In the beginning of the 20th Century, Newham was predominantly undeveloped, with a number of major roads and railways traversing the Borough and some residential areas in the north (Figure 2). Some industrial and commercial areas existed at this time and the Royal Victoria Dock and associated finger docks had been constructed. The main industries were located predominantly along the River Lea and in the south-west corner of the Borough, near to or bordering the River Thames.

Such industries included iron works, manure works, sugar refinery works (Tate & Lyle), petroleum works, steam works, naphtha works, oil works, lime works, tar and printing ink works, tar and turpentine works, phosphogenic gasworks and a number of mills.

Figure 2: Pre-1900 land-use



(Source: London Borough of Newham, Environment Department, 2000)

3.1.2 1920's land-use

By the 1920's the land-use in Newham had changed dramatically and much of the Borough had been developed for a range of uses, mainly for residential, and a large variety of commercial, industrial, and utility uses (Figure 3). Some areas of the Borough had also been developed for agriculture and these were particularly associated with the areas of low-lying marshland in the south and south-east of the Borough. An important development was the Beckton Gasworks and associated Tar and Liquor works and Gas Light and Coke Companies. Beckton Gasworks continued to expand and became the largest coal carbonisation plant in Europe until its closure in the late 1960's.

In the 1920's a sewage works had also been developed, which expanded and became known as Beckton Sewage Works, and which currently receives wastes from the majority of London. The Royal Albert Docks had also been constructed and a variety of commercial uses existed in close proximity to these existing and new dock areas. Throughout the Borough roads and railways (with associated railway lands) had been extensively developed and some areas of the Borough had remained vacant and as open lands. Much of the land area adjacent to the River Thames and River Lea had been extensively developed for a range of heavy industrial uses

3.1.3 1960's land-use

By the 1960's Newham's land-use had changed with distinct areas of heavy industry on land adjacent to the River Thames and River Lea and in the south-east of the Borough in the form of the Beckton Gasworks and Beckton Sewage Works. In the north-west of the Borough, the Bromley-By-Bow Gasworks and the West Ham Power Station had been developed (Figure 4).

3.1.4 Current land-use

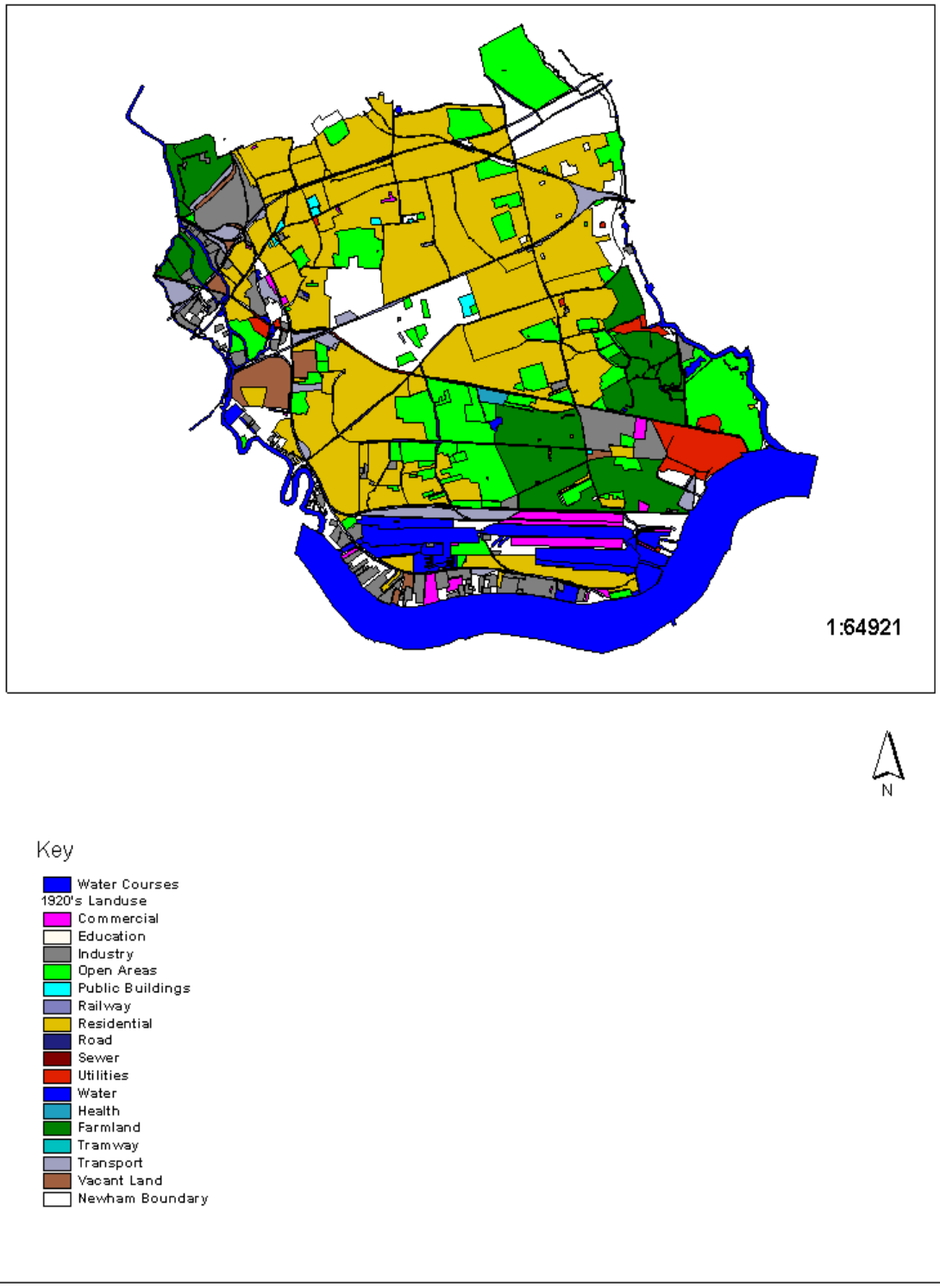
Newham's current land-use is a complex mixture of residential, heavy and light industrial and commercial uses. Much of the Borough, north of the A13 road, is predominantly in residential use, with the main industrial uses still in existence on sites adjacent to or near the River Thames and within the River Lea corridor along the south-west boundary.

London Borough of Newham experienced a post-war demise in its industrial base, and with the demise of the dock areas as working docks, Newham has large tracts of vacant, derelict and under-utilised land. This land is mainly in the south-west, south, and south-east of the Borough and within the River Lea corridor

Current open areas in the Borough comprise a number of allotments, playing fields, and parks and general green space, including Newham City Farm (Figure 6). These current open areas also include land that is vacant. In the Borough, known areas of

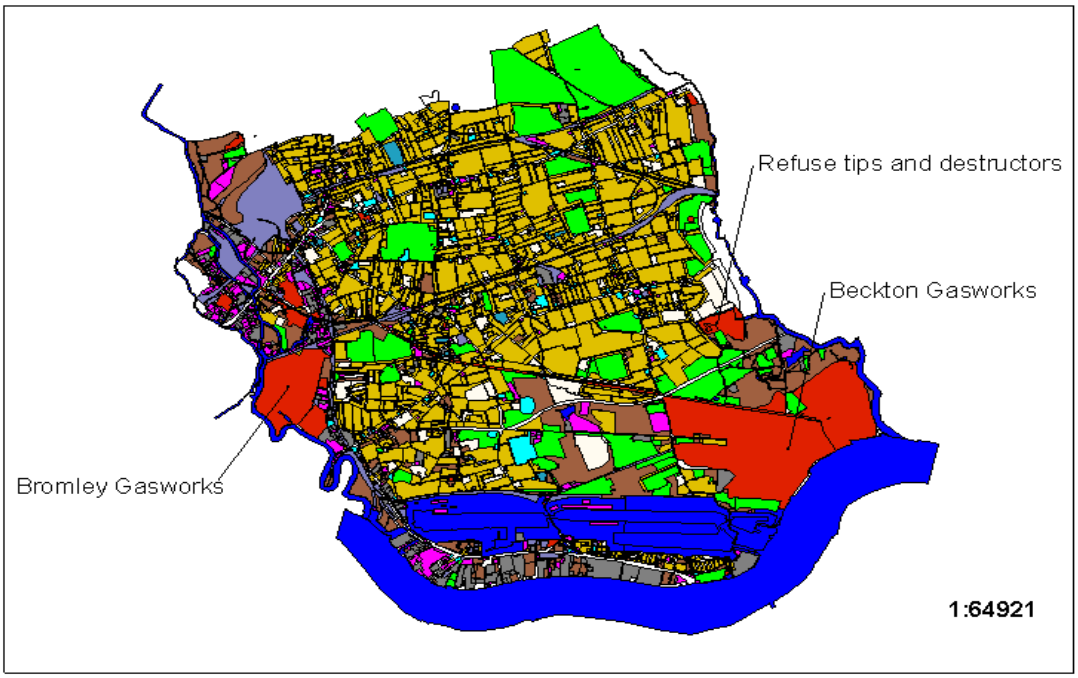
vacant land includes mainly ex-industrial land, for example, in the region of the ex-Beckton Gasworks and land around Stratford Rail Lands.

Figure 3: 1920's land-use



(Source: London Borough of Newham, Environment Department, 2000)

Figure 4: 1960's land-use



Key

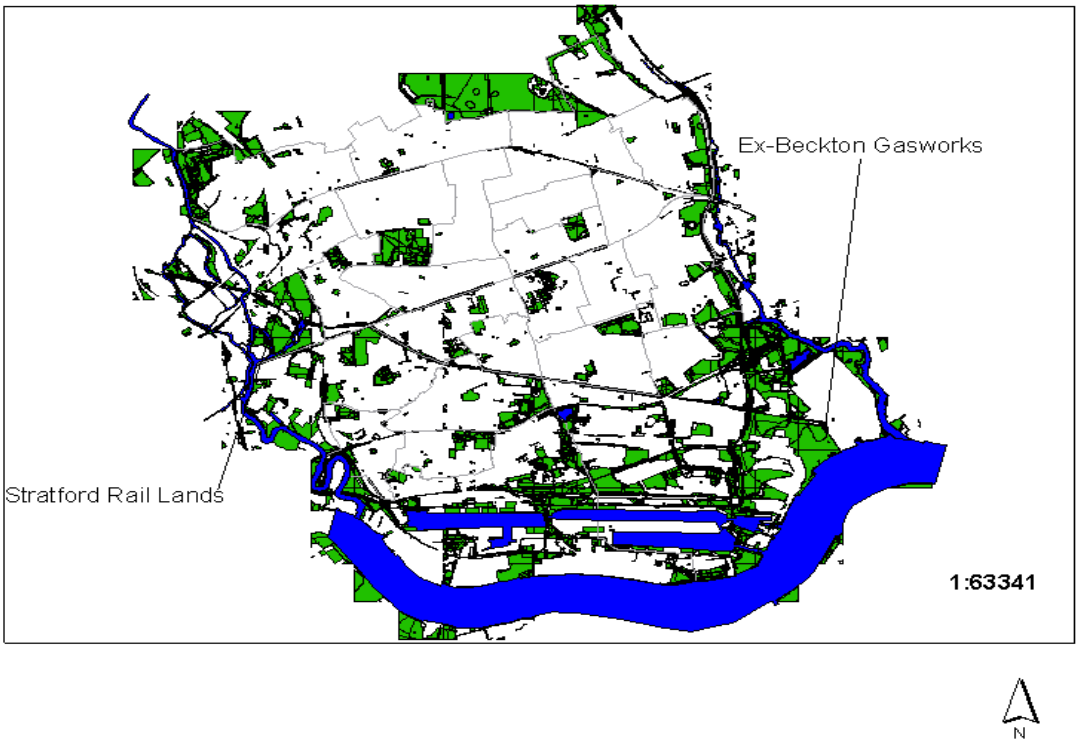
- Water Courses

1960's Landuse

- Commercial
- Education
- Industry
- Open Areas
- Public Buildings
- Transport
- Residential
- Health
- Utilities
- Vacant Land
- Water
- Newham Boundary

(Source: London Borough of Newham, Environment Department, 2000)

Figure 6: Current open areas



(Source: London Borough of Newham, Environment Department, 2000)

London Borough of Newham has 6 registered landfill sites (Control of Pollution Act 1974), which are now closed. These old landfill sites are located and known as: Channelsea Creek, Upton Park Goods Yard, Folkestone Road, Winsor Terrace, Royal Albert Dock and Western Entrance Lock. Information with regards to waste types, whether the landfills are lined and whether there are any leachate or gas control will need to be obtained from the Environment Agency, on a site by site specific basis. Information has also been made available by the Environment Agency with regards to the location of current licensed waste management facilities.

3.1.5 Current land ownership

In Newham land ownership patterns have been fairly complex throughout the last 30 years with a variety of ownership patterns. In the past the biggest landowners have been associated with the gas and electricity utility companies, such as British Gas plc (now Transco), and associated with the LDDC. In the Borough there is land that is currently owned by the LDA and such land (and related LBN projects) is located mainly in the south of the Borough, at sites associated with the former docks. Besides individual ownership of currently developed land, Newham, the LDA, Lea Valley Regional Park Authority (LVRPA) or Transco owns either the majority of vacant and under-utilised land.

Land that is currently owned by Newham or land where Newham holds an interest through leasehold and freehold arrangements is currently difficult to accurately determine as there is no available corporate digitised database. The information that does exist with regards to past and present ownership is currently held within a paper based 'Terrier' system where such land is indicated on Ordnance Survey maps as hand-drawn polygons and points. The subsequent determination of land ownership will need to involve close liaison between the Pollution Control Unit, Land and Property Services and Estates and Valuations. A future review of the strategy will aim to incorporate this information.

3.2 Environmental characteristics

London Borough of Newham's natural environment is dominated by the presence of three rivers, the River Lea and associated tributaries, River Roding and the River Thames and the characteristics of Newham's present day geology has been strongly influenced by fluvial periods and by marine transgression and regression over geological time. The continual re-positioning of the River Thames, over the last 18,000 years, to its present day location has also influenced Newham's geological characteristics.

3.2.1 Geology

Chalk is present across the whole of the Borough, reaching a thickness of up to 220m in places. Overlying this Chalk are strata of clay and sand representing a succession of marine transgressions. The Thanet Sands are the lowest beds and are known as the Woolwich and Reading Beds, which in Newham are undifferentiated and sometimes referred to as the Lambeth Group (Figure 8). Overlying these beds is a thick sequence of marine muds known as London Clay (Figure 8a).

The geological structure across the Borough is a broad south-west to north-west trending syncline, with small periclines resulting in the Chalk being closer to the surface or outcropping close to the River Thames. In Newham there are clearly defined windows where the London Clay is absent, and in some cases where the Woolwich and Reading Beds are also absent, resulting in the Thanet Sand and Chalk being closer to the surface and covered only by superficial deposits. The

absence of London Clay and the Woolwich and Reading beds has implications in terms of the protection of the underlying Chalk aquifer from contamination.

Figure 8: Solid geology

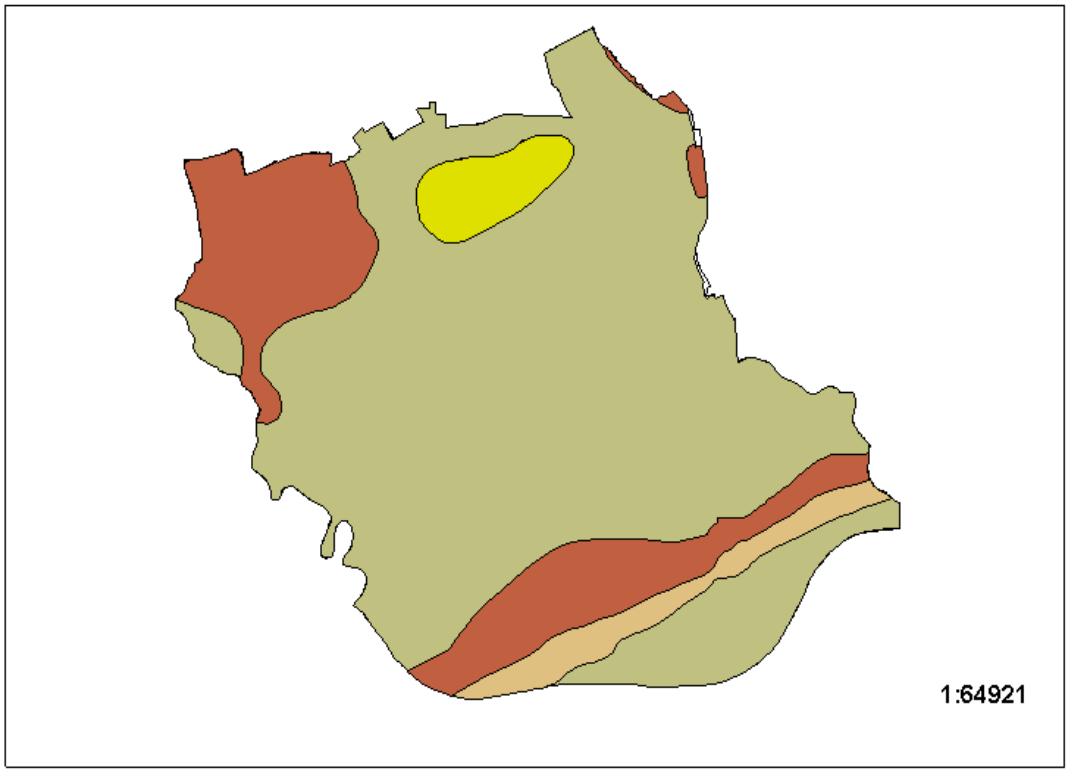
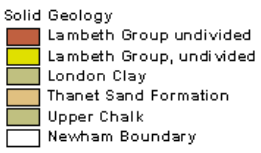
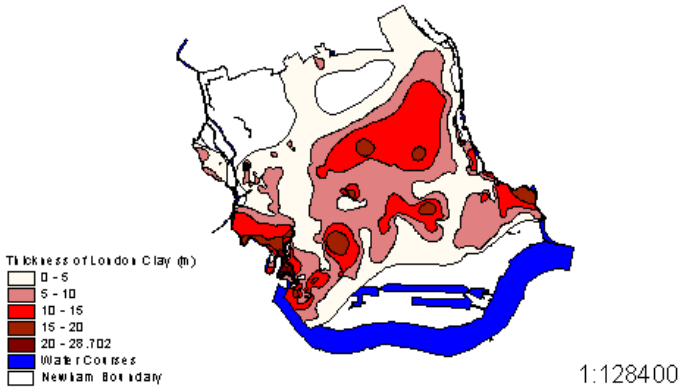


Figure 8a:Thickness of London Clay (m)

Key





(Source: London Borough of Newham, Environment Department, 2000)

Superficial deposits overly the solid geology that are a series of fluvial sands and gravels deposited as terraces about 2-5m thick that overlie benches cut largely into the London Clay by the River Thames. These are known as the Hackney Gravels, Taplow Gravels and the Kempton Park Gravels. The present day River Thames is tidal throughout London and is retained by artificial flood embankments on a floodplain of alluvial deposits. This alluvial sequence is composed of layers of organic peat separated by silts and clays derived from marine or estuarine environments.

In the Borough, made ground and worked ground exists across most of the Borough to various depths, where land has received various infill materials. Much of this made and worked ground is known to occur in the south of the Borough, but it is also found in isolated pockets in the north (Figure 9).

Figure 9: Made and worked ground

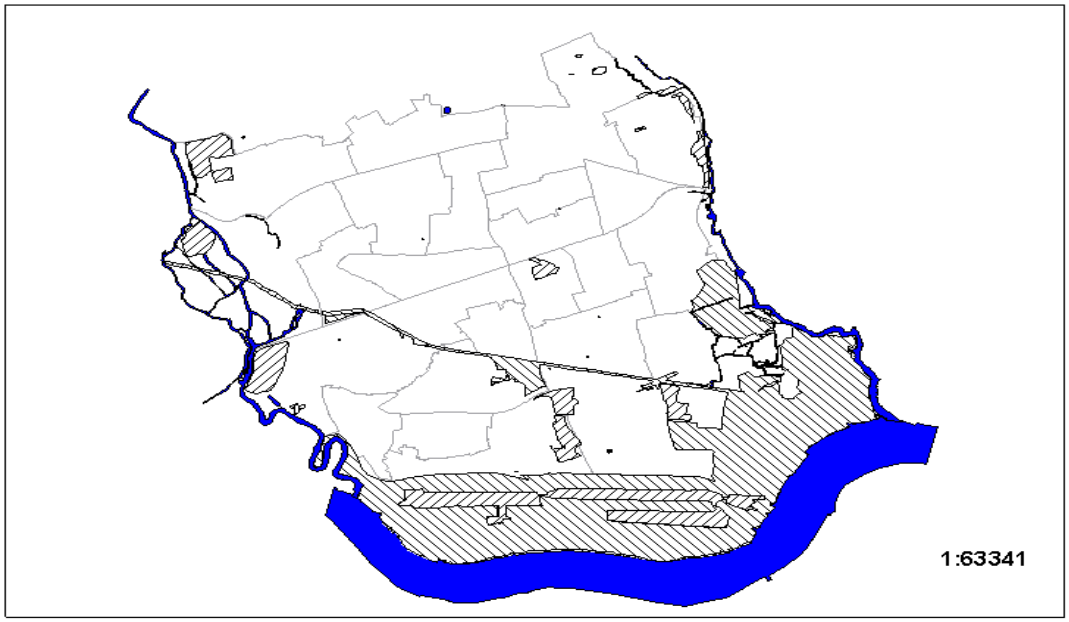
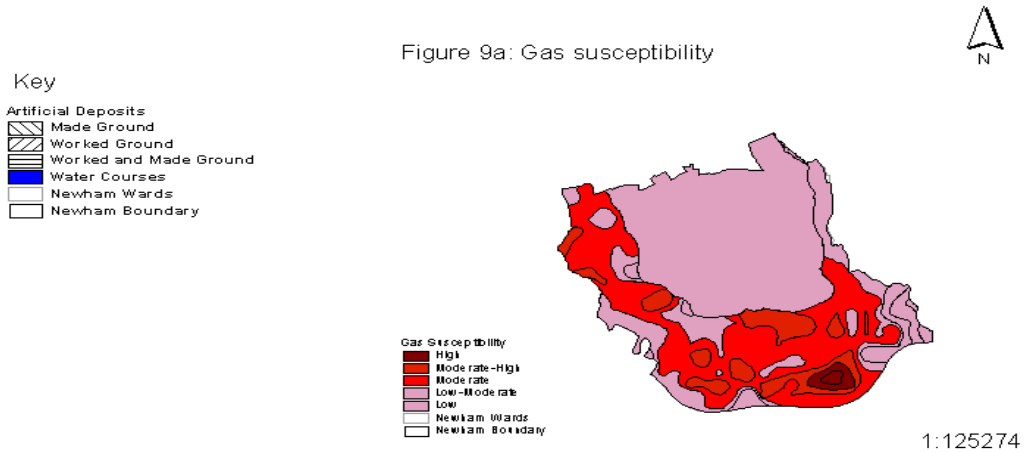


Figure 9a: Gas susceptibility



(Source: London Borough of Newham, Environment Department, 2000)

3.2.2 Gas susceptibility

In Newham the primary source of natural gas generation is from the organic peat deposits that are contained within the alluvial layer. The distribution, depth and thickness of these peat layers produces a guideline as to the susceptibility of an area to gas generation, from high to low (Figure 9a). Soil gases, such as methane, carbon dioxide and oxygen can also be derived from anthropogenic sources, for example, landfills and ex-industrial land. These are significant as they have implications for development that may require protective measures to minimise the risk of fire, asphyxiation and, in certain circumstances, explosion.

Gas susceptibility is also determined by considering the nature and characteristics of the overlying deposits and the depth of burial. A classification of Newham's gas susceptibility was completed by the British Geological Survey (BGS) by the analysis of 777 borehole records within the alluvial deposits.

3.2.3 Hydrology and hydrogeology

Surface and groundwaters in Newham are classified as controlled waters and are subject to Environment Agency controls under a variety of statutes, including the Water Resources Act 1991, where it is an offence under section 85 to cause or knowingly permit the entry of substances into controlled waters. The Environment Agency is also responsible for issuing discharge consents and abstraction licences and for ensuring that surface waters meet designated surface water quality objectives.

The Environment Agency surface water classification is based on surface water quality criteria, which includes a range of biological and chemical parameters and the classes range from A-E. In Newham, parts of the River Lea are classified by the Environment Agency as Classes C and D, whereas the River Thames and River Roding are currently unclassified. The Environment Agency has also classified surface waters in terms of General Quality Assessments (Gqa) which suggest that the Borough's rivers are of a generally poor quality.

Groundwater in Newham exists in three states, as perched groundwater within made or worked ground, as shallow groundwater in the minor aquifer (Gravels) and as deep groundwater in the major aquifer (Chalk) (Figure 10). The classification of Newham's hydrogeological characteristics is broadly based on the underlying geology, and is divided into Minor and Major aquifer, depending on the nature and characteristics of the London Clay, River Terrace Gravels, Thanet Sand and Chalk.

Generally, groundwater flow is towards the south-east with localised flows in upper groundwaters towards the nearest surface watercourse. In terms of groundwater quality, the groundwater contained within the gravels is contaminated to some degree in most areas of the Borough, whereas the overlying London Clay and Alluvium protects the underlying Chalk groundwater to a large extent from historical and present day contamination.

There are 18 abstraction points and 280 water wells within the Borough (Figure 11). These records are compiled from records held by the Environment Agency and in terms of abstraction points, the Environment Agency has determined which abstraction sources require protection from contamination. There is one Source Protection Zone (SPZ) located within Newham, and SPZ's located within Hackney and Tower Hamlets also impact in the north-west and the east boundaries of the Borough (Figure 10). These three water abstraction sources are protected due to the quality and use of the source. These abstractions are licensed to Lea Valley Regional Park Authority (E536000, N186500), for pond filling purposes and to Thames Water Utilities (E543700, N184200) for public water supply and public water supply emergency uses (E537400, N183900). The zones around the SPZ's show a 50-day and 400-day lagtime for a contaminant to reach the abstraction point.

Figure 10: Major and minor aquifers and location of Source Protection Zones (SPZs)

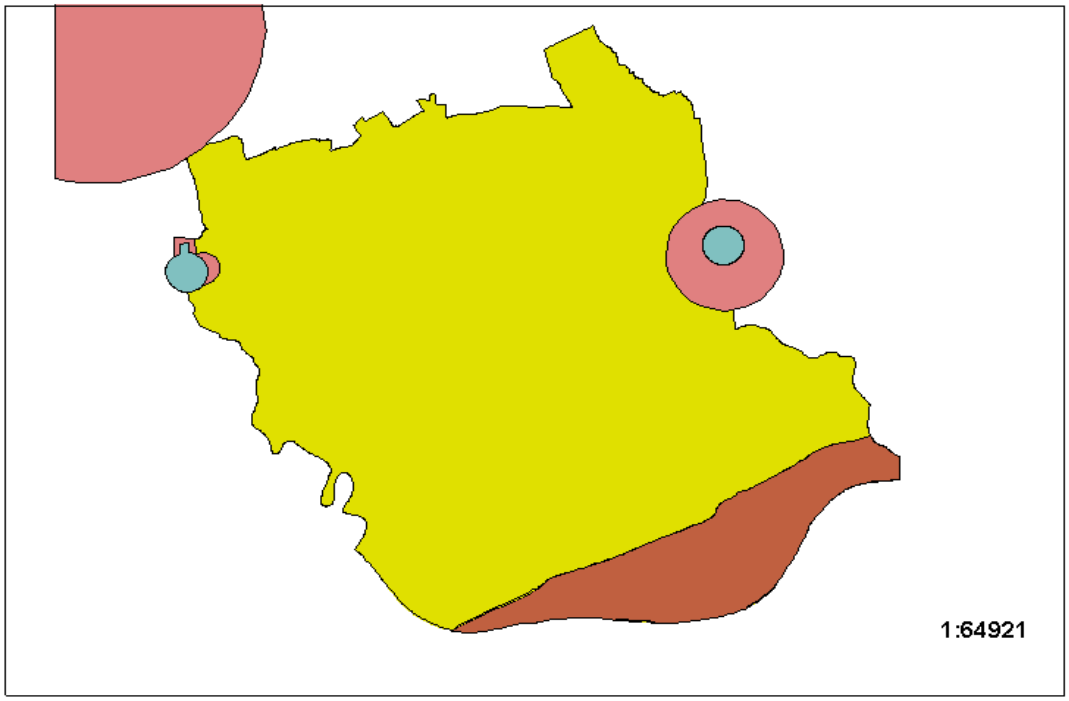
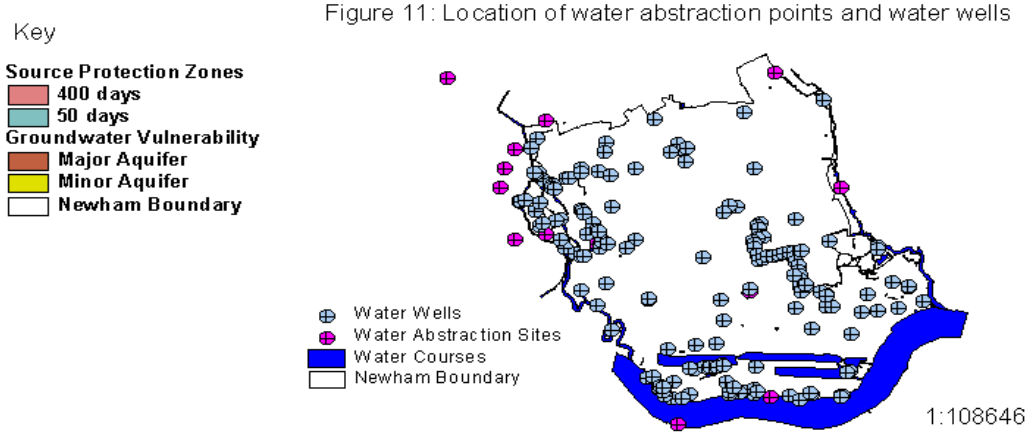


Figure 11: Location of water abstraction points and water wells



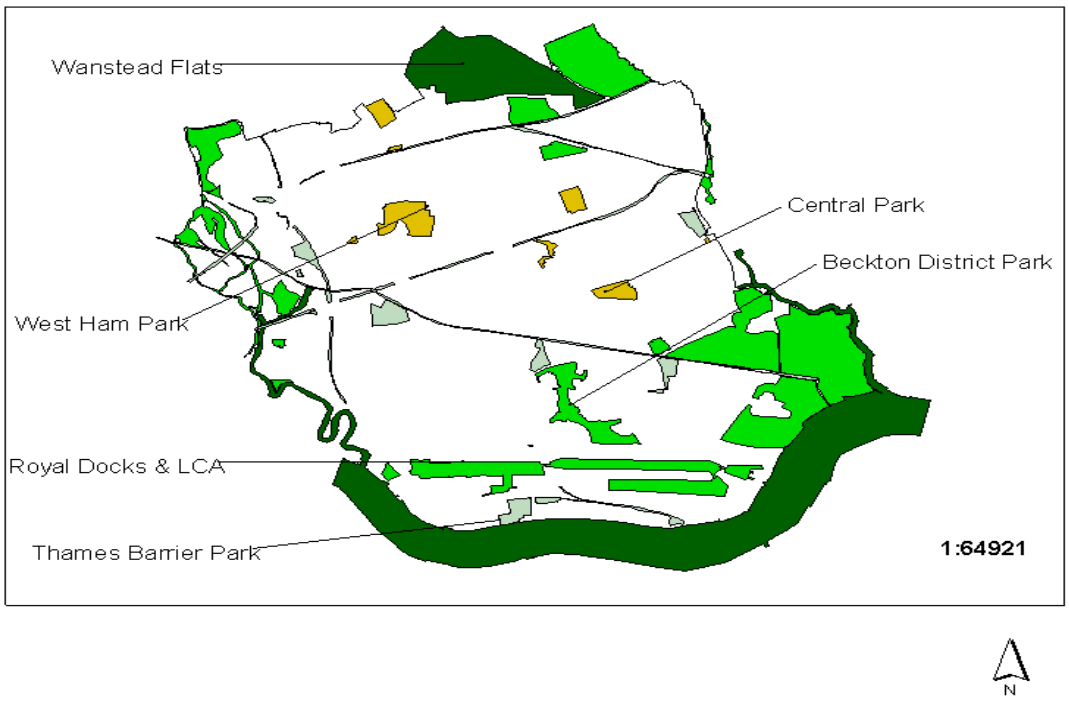
(Source: London Borough of Newham, Environment Department, 2000)

3.2.4 Ecology and protected locations

Newham's ecology is largely determined by the river corridors and the docks, and the location of the ponds and lakes within the Borough, and also in conjunction with areas of open space, for example, Wanstead Flats & Beckton District Park. Sites of ecological importance surround the Beckton Sewage Works and some of the land around the former Beckton Gasworks. There are no international, EU or UK statutory designated sites of ecological importance in Newham, such as Sites of Special Scientific Importance (SSSIs) or Special Protection Areas (SPAs). The sites

that do exist are regarded as sites of Metropolitan Importance, sites of Borough Importance and sites of Local Importance (Figure 12).

Figure 12: Ecology and protected locations



(Source: Adapted from London Ecology Unit publication, 1995)

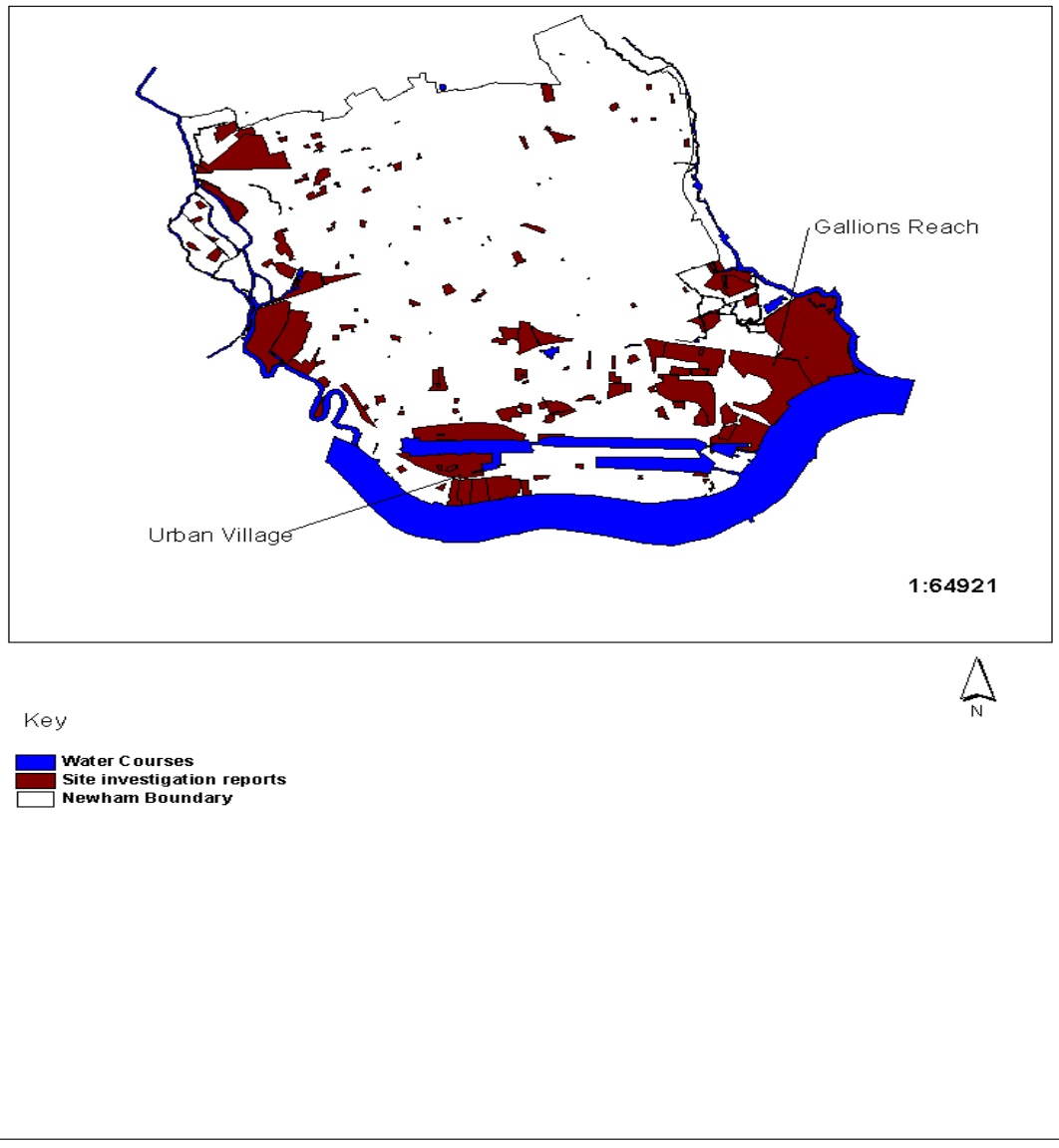
Consultations with English Nature has suggested that in Newham there are 4 areas that are potential Local Nature Reserves (LNRs) as designated under the National Parks and Access to the Countryside Act 1949, Section 21. These are Beckton District Park (TQ419 814), the site formerly known as the 'Beckton Alps' (TQ 431 819), East Ham Nature Reserve (TQ431 819) and Forest Lane Park (TQ 398 845).

Consultation with English Heritage has suggested that in Newham there are two designated schedule ancient monuments. These two sites are Stratford Langthorne Abbey (TQ391 835) and World War II gun emplacements in Beckton (TQ419 815).

4.0 LAND CONTAMINATION

London Borough of Newham has a complex land-use history and this has left a legacy of environmental pollution. Within the Borough there are areas where contamination is known to exist, or is believed to exist. There are also areas where geochemical data obtained indicates the levels and types of contamination found (Figure 13). Where geochemical results exist, such sites will have been subject to a planning condition relating to contamination, so these sites would have been subject to a remediation scheme, based on the proposed end-use. There are also areas within the Borough that are believed to have been remediated under the jurisdiction of the London Docklands Development Corporation (LDDC). This information has not been secured from the holding body.

Figure 13: Sites where geochemical data exists



(Source: London Borough of Newham, Environment Department, 2000)

4.1 London Borough of Newham's approach to contaminated land

London Borough of Newham's approach to the assessment and identification of contaminated land will consider the aims and objectives outlined in section 2.3, to ensure that London Borough of Newham meet the requirements of Part IIa.

Part of the Borough's approach is to continue to use a number of planning conditions that relate to land contamination and to deal with such issues when a change of use is proposed under the Town and Country Planning Act 1990. The Borough's approach is to prioritise and assess sites including those that may be posing an immediate and unacceptable risk to human health, groundwater, surface water and the wider environment (including important ecological receptors), where contamination is known or is believed to exist. Where contamination is known to exist, such sites will be prioritised for action where no outline planning consent, pending planning application, or developer interest has been indicated for that site, or where land is earmarked for regeneration activities. Therefore such land and any contamination found will not be tackled under the Town and Country Planning Act 1990.

The main components of London Borough of Newham's approach to the assessment and identification of contaminated land are

- To identify sources of contamination where consistent contaminative land-uses have prevailed, and where contamination is known to exist and to prioritise that land for further investigation,
- To categorise that land, based on suitable for current use, and take all relevant action to secure the remediation of that land so that it is suitable for its use, and to eliminate or reduce the actual and immediate risks to humans, groundwater and surface waters,
- To ensure that all data relating to contamination sources are assessed and in a readily available format,
- To ensure that the location of Newham's receptors are clearly identified and the proximity to any contamination source, and associated risks, are adequately assessed in terms of significant harm or the possibility of significant harm or the pollution of controlled waters,
- To ensure that sites where contamination sources are known are considered first and the risks to nearby receptors are identified,
- To use an appointed environmental consultant to carry out site investigations and assessments in the Borough and collate this information,
- To identify past and present land owners of the above sites, including sites where Newham has been or is the current owner/occupier,
- To liase with the LDA and all other land owners in Newham with regards to their land ownership and actions for investigation and remediation if required,
- To ensure that sites where there is developer interest, outline planning consent, planning permission or a planning application for consideration are known, and ensure that contaminated land is remediated through the TCPA, removing the need for further investigation under Part IIa, and
- To assess land which has already been remediated to ensure that remediation schemes remain effective.

4.2 Action taken to deal with contamination

Due to the nature of London Borough of Newham as a historically industrialised Borough and the current potential in terms of the regeneration of land, much work has already been completed with regards to land contamination. Considerable experience has been gained over a number of years to the extent that land contamination issues are dealt with on a proactive basis. The actions already taken with regards to land contamination are either work that has been completed due to the redevelopment of land and work that has been initiated in order to prepare for the commencement of Part IIa.

4.2.1 Consultants

Consultants have been employed by the Council to undertake work to achieve compliance with B19-21 of the government's statutory guidance on contaminated land.

4.2.2 Redevelopment of land

Over the last 10-15 years there has been major redevelopment of vacant and under-utilised land in Newham. The majority of this regeneration has occurred within the framework of the Town and Country Planning Act 1990, and contamination issues have been dealt with via planning conditions or Section 106 agreements. The results of these conditions and agreements has been the collation of a series of site investigation reports, which include a large variety of data on the geotechnical and geochemical status of sites that have undergone redevelopment. These sites are known areas in the Borough where contamination has existed or residual contamination exists in its current state and areas where limited or no contamination has been found. The information contained in these site investigation reports is held in a dataset on the GIS and this information provides some details of the remediation carried out. With reference to Figure 13, these sites will be prioritised by April 2002 but will be assessed in terms of residual contamination and the efficacy of the remediation scheme within the next 10-15 years on a rolling program, depending on the prioritisation allocated.

4.2.3 London Docklands Development Corporation

The LDDC was a major landowner in Newham during the 1980-1990s and was responsible for ensuring that contamination was dealt with during the redevelopment process. LDDC was both the landowner and planning authority for all of their land and records of the remediation schemes and the satisfactory completion and validation are not always complete. During the last 4 years, the Pollution Control Unit has endeavoured to acquire the data that was accumulated by the LDDC during their 13 year jurisdiction. The reports relevant to Newham are gradually being acquired as resources allow and will be added to the GIS. Where geotechnical and

geochemical information exists for currently vacant land this will form part of the baseline data used for the prioritisation of such sites.

4.2.4 London Development Agency

The LDA is currently one of the biggest landowners in Newham and is responsible for the majority of vacant and developable land in the areas around the docks and in the south of the Borough. The LDA, in liaison with staff in the Pollution Control Unit is currently working on a Remediation Options Statement (ROS) that refers to all of their land and outlines the requirements that will need to be met by the potential developers. This ROS has been developed in joint consultation and ensures that for all of the land currently awaiting redevelopment contamination will be considered and adequately dealt with and that the financial provisions for remediation will be costed by the developers.

The LDA and Pollution Control Unit have also been involved in discussions with regards to the LDA meeting its duties as a landowner of large tracts of land in the Borough where previous land uses are known to have been contaminative. This partnership working will ensure that the LDA's contaminated land strategy for dealing with their land will tie in with Newham's strategy. This will ensure that throughout the redevelopment process the risks from contamination will be dealt with and that such sites will not require further investigation under Part IIa.

4.4 Review of existing environmental data

The development of the GIS provides an instantly accessible database, collated from a large number of sources, of many of the environmental characteristics of the Borough. The GIS provides a facility for the archiving, retrieving, analysing, interpreting and presenting the relevant data and information as a support for decision making. The continual GIS development and enhancement has been carried out in accordance with government guidance and DETR Circular 02/2000.

The hierarchical structure of the GIS is sub-divided into;

- Source (the identification of actual or potential contaminants – Pre-1900, 1920s, 1960s historical land-use, site surveys and investigations and soil gas data),

- Pathways (identification and characterisation of pollutant pathways – geology, hydrogeology, soils and made ground), and

- Receptors (identification of actual or potential receptors – 2000 current land-use, surface waters, groundwaters and ecological receptors).

The unique location of a dataset within this structure provides an indication of what type of information may be derived from it in order to evaluate the reasonable possibility or the likelihood of the presence of a pollutant linkage or significant pollutant linkage.

The collation of data into the GIS has enabled the assessment of the majority of the available evidence on the location of Newham's receptors and sources of

contamination, based on current land-use. The variety of the types of data and information held within the GIS are important in terms of the method of prioritisation of land. The method adopted requires the majority of datasets to be interrogated at any one time to provide information that contributes to this risk-based assessment (Figure 14).

4.4.1 Geoscience database

The datasets that comprise the GIS are currently as follows:

- Geology,
- Made ground and worked ground,
- Thickness of London Clay and Alluvium ,
- Hydrology and Hydrogeology,
- Water wells and abstractions, water courses and features,
- Historical land-uses (pre-1900, 1920, and 1960),
- Current 2000 land-use, including ecology and ancient monuments,
- Site investigations and closed landfills, and
- Subsurface gases and background geochemistry.
- Premises registered under the Part I of the Environmental Protection Act 1990
- Data supplied by the Environment Agency on landfills & source protection zones

The GIS will be enhanced to include datasets for:

- old OS maps to further refine potential areas of contamination
- aerial photographs of the borough to assess current land use
- land use data based on the OS 'Master Map' data.

These enhancements will be put in place as finance for the data becomes available

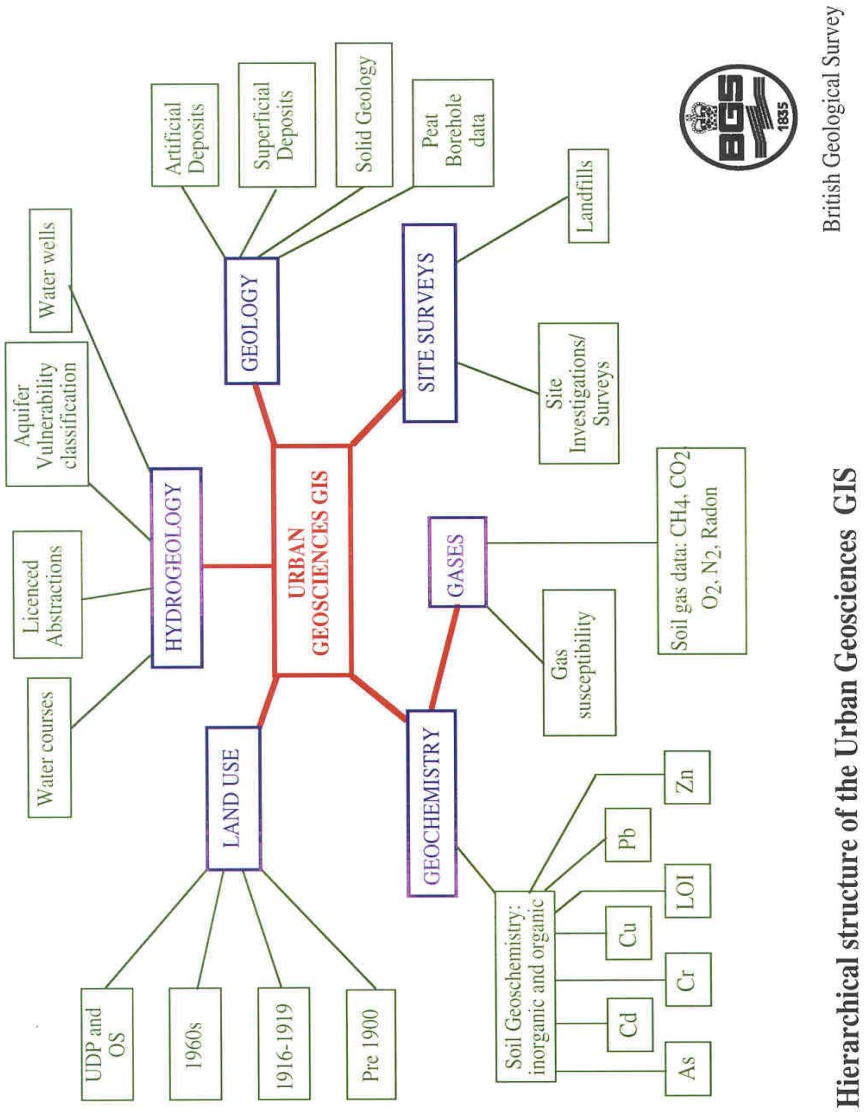
The GIS system will be reviewed from time to time to ensure that any new information or data that exists or is gained is taken into account in the prioritisation of sites in the Borough, so that a more detailed and Borough specific prioritisation can be developed. A service level agreement is in place between BGS and London Borough of Newham with regards to ensuring that datasets remain as up to date as possible and with regards to quality assurance of the data and for long-term reviewing of other dataset acquisition and updating of GIS technology. Staff in the Pollution Control Unit working in partnership with BGS have developed the functionality of the GIS to enable staff to evaluate the data that exists on the possible sources of contamination, pathways and receptors and to identify land that required further investigation and to allocate a priority for the assessment of such land.

4.5 Prioritisation and categorisation procedure

London Borough of Newham's initial prioritisation and categorisation procedure follows the broad approach of the DETR guidance document CLR6 (Contaminated Land Report number 6 'Prioritisation and categorisation procedure for sites which

may be contaminated', 1995) to assess the types of risks that may be present, to the types of receptors (Appendix 3). The initial automated prioritisation procedure enables all areas of the Borough to be covered in a preliminary assessment and ensures that evidence of actual harm or water pollution can be efficiently collated and reviewed for the suspected sites in the Borough (Chart 2).

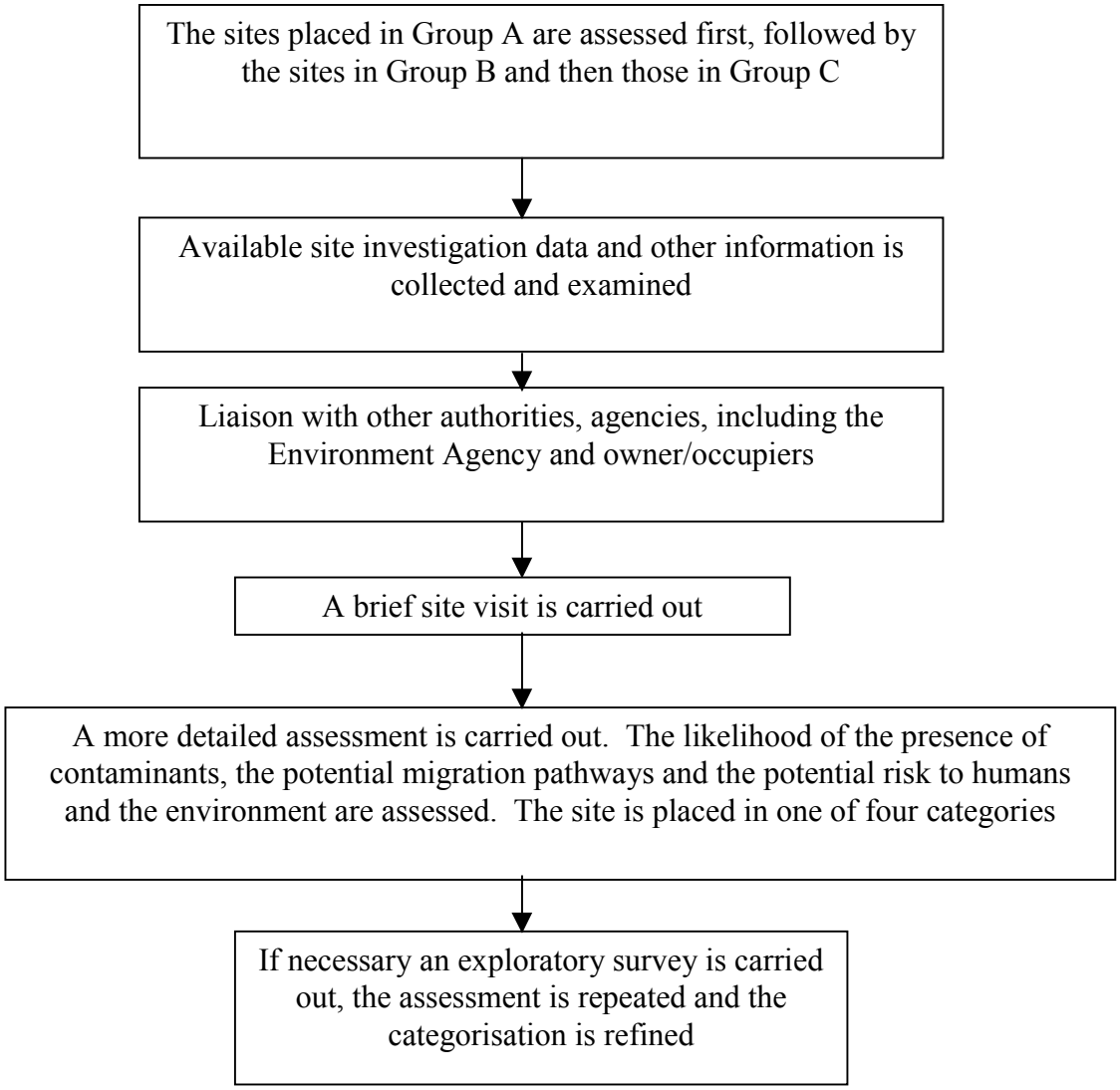
Figure 14: Hierarchical structure of the Geographical Information System



(Source: BGS, 1998)

Chart 2: Prioritisation and categorisation procedure (CLR6)

The sites are initially prioritised into one of Groups A, B, or C



(Source: Adapted from DoE, CLR6, 1995)

The likely existence of sources of contamination in Newham need to be identified, and these are areas where a variety of industrial, commercial, and utilities land-uses have occurred over a period of time. These specific areas may have been subject to one or all of the above contaminative land-use, either consistently or in part of its land-use history. Other known sources exist as landfill sites, areas where uncontrolled tipping or infilling has occurred or where present day industrial, commercial or utilities land-uses exist.

The receptors in Newham have been assessed and defined in accordance with CLR6 and are classified as either;

- Development – including residential, schools, playground, allotments, open areas, ecology
- Surface Water – drains, streams, ponds, canals, lakes, docks
- Groundwater – Minor and major aquifers and source protection zones

CLR6 was used as the guideline in the development of an initial risk assessment procedure for suspected sites in the Borough. The CLR6 document provides the most up to date government guidance for the investigation and identification of contaminated sites and advocates a risk assessment approach based on the proximity of sources to receptors and the linkages of sources to these receptors via pathways (Appendix 3).

CLR6 suggests that sites should be initially allocated an A, B, or C prioritisation and subsequently be assessed in terms of then allocating each identified site, starting with the highest risk priority A group, into either 1, 2, 3, or 4 category for action. These categories are as follows;

- Category 1 – Site is probably or certainly not suitable for its present use and environmental setting. Contaminants probably likely or certainly present and very likely to have an unacceptable impact on key targets. Urgent action is needed in the short term.

- Category 2 – Site may not be suitable for present use and environmental setting. Contaminants probably or certainly present and likely to have an unacceptable impact on key receptors. Action may be needed in the medium term.

- Category 3 – Site considered suitable for present use and environmental setting. Contaminants may be present but unlikely to have an unacceptable impact on key targets. Action unlikely to be needed whilst site remains in present use or otherwise undisturbed.

- Category 4 – Site considered suitable for present use and environmental setting. Contaminants may be present but very unlikely to have an unacceptable impact on key targets. No further action needed whilst the site remains in present use and remains undisturbed.

CLR6 suggests that in order to allocate a prioritisation to a site the site should be assessed in its current use based on the proximity of different receptor types to it. The automated GIS functions allow this initial prioritisation of all selected sites in the Borough. When the CLR6 prioritisation method for these receptors was carried out for the Borough the vast majority of land was allocated into Group A. Subsequently, the prioritisation was refined to be able to carry out an effective and workable risk assessment.

4.5.1 Prioritisation procedure

The GIS has been customised so that the user is able to choose a site for investigation and the system automatically searches the remaining datasets on the basis of the buffer zones suggested in CLR6 (50m, 250m and 500m) and counts the number of occurrences of the various types of receptors within each buffer zone. On this basis a prioritisation of the site for further investigation is allocated for Development, Surface Water and Groundwater receptors. An example of a prioritisation report is shown in Appendix 4. Once a site has been prioritised a

summary of that prioritisation is held as a dataset on the GIS and a copy is held by the Pollution Control Unit. The allocation of a priority of a site is without prejudice to the past and present ownership, ensuring that Newham owned land is treated the same as all other land where contamination is suspected.

Due to the historical nature of the Borough (where contamination may be found over a large area) and to ensure that all sites where contamination is likely are prioritised, a ranking system has been developed. Initially the GIS datasets have been interrogated to produce a subset of sites where contaminative land-uses have taken place (suspected sites) and the prioritisation procedure is to be carried out to produce a list of such sites, with an associated priority.

The prioritisation has been applied to landfills and areas of known infilling and will be applied to suspected sites, vacant sites, open areas (including allotments, playing fields and parks) and sites where geochemical data exists for a site that has undergone remediation. The specifically developed risk assessment based prioritisation procedure for each of the receptor types is considered below.

4.5.2 Development

For development receptors prioritisation, a specifically developed ranking system sub-divides the classifications of A, B, or C based on the number of the types of such receptors within specified distances of the contamination source. The more receptors close to a contamination source, the higher the ranking (Table 1).

Group A classification aims to allocate a higher priority for assessment to sites where contamination is known and believed to exist, and where it is believed that such sites may be posing an unacceptable risk to development receptors. Group A therefore allocates a higher priority for assessment to landfill sites, sites that have been infilled with wastes, where vacant land exists that has had previous industrial uses and for sites with geochemical data. Sites with geochemical data are eliminated initially from the assessment, as such sites would have been subject to a remediation scheme and therefore these sites are due to be assessed within a period of 5-10 years. This risk assessment aims to bring out the sites for further assessment where contamination sources are known or are believed to exist, and consider the types of receptors on and adjacent to such areas.

Table 1: Development receptors initial prioritisation

Category	on and within 50m	within 250m
Landfill (A)	2	
Beckton Alps, ex-Gas work sites, infilled areas, and other known contaminated sites (A)	2	
Current use is vacant land, with past industrial use and/or within 50 m of identified site (A)	2	
Sites where geochemical data exists (A)	1	
Residential (B)	2	
Schools (Education) (B)	2	
Open area (allotment, public open space) (B)	2	
Residential within 250m of a landfill site (B)		1
Residential within 250m (C)		2
Health (C)	2	
Commercial (C)	2	
Industrial (C)	2	
Transport (C)	1	
Utilities (C)	1	
Public buildings (C)	1	

(Source: London Borough of Newham, Environment Department, 2000)

4.5.3 Surface water

Surface water receptor prioritisation is also further subdivided based on buffer zones suggested in CLR6 and depending on the occurrences of each of the receptor types. For 'A' this has been further subdivided into controlled waters (rivers, canals, streams, ponds, lakes, water wells, water abstractions) where they are present at the site or within 50m (Table 2). For example, 'A' classification can range from A1-A5. The group A allocation proceeds to give priorities then to sites with only controlled waters (rivers, canal, streams, ponds, lakes, docks – A2), and then to only water wells and water abstractions (A3) and then to sites with only water abstractions (A4) and then to only water wells present at the site or within 50m (A5).

The same further subdivision is applied to groups 'B' and 'C', and these are subdivided on the same basis as group A, except where the receptors are present within 500m of the site, and where there are no significant water features and run-off

does not drain into surface waters. For example, 'B' classification ranges from B1-B3 and 'C' classification ranges from C1-C3.

Information from the Environment Agency with regards to general water quality (Gqa) is available, based on their classification of A-E. Such information, where it is present for a particular stretch of a watercourse, will enable an assessment of whether the surface water quality is poor or good. This will provide an indication of whether a suspected site next to a water course with poor quality will be investigated before a suspected site which is next to a water course with good quality. The information on the surface water quality is presented in parenthesis after the initial priority classification. The Gqa does not affect the prioritisation allocated, it only provides information on quality where it exists. More detailed site-specific information would be obtained from the Environment Agency on a site by site basis.

Table 2: Surface water receptors initial prioritisation

Category	
River, canal, streams, ponds, lakes, water wells, water abstraction points (controlled waters) are present on the site or within 50m of the site boundary	A1(Gqa)
River, canal, streams, ponds, lakes (controlled waters) are present on the site or within 50m of the site boundary	A2(Gqa)
Water wells, water abstraction points are present on the site or within 50m of the site boundary	A3
Water abstraction points are present on the site or within 50m of the site boundary	A4
Water wells are present on the site or within 50m of the site boundary	A5
River, canals, etc. (not controlled waters) are within 500m of the site boundary and run-off from the site drains to surface water features	B1(Gqa)
Water wells, water abstraction points are present within 500m	B2
Water wells are present within 500m	B3
No significant surface water features within 500m of the site boundary or run-off from the site does not drain into surface waters.	C1
No water abstraction points within 500m of the site boundary	C2
No water wells within 500m of the site boundary	C3

(Source: London Borough of Newham, Environment Department, 2000)

4.5.4 Groundwater

Groundwater receptor prioritisation is also further subdivided based on the buffer zones suggested in CLR6 and depending on the occurrences of each of the receptor types and considering the proximity of source protection zones (SPZs). Consultations with the Environment Agency with regards to the depth and thickness of the London Clay suggested that it was possible to incorporate this dataset on the depth and thickness of London Clay into the prioritisation classes for determining the risks to the groundwaters (Table 3).

For example, where a suspected site is within 50m or 500m of a SPZ and the lagtime for a contaminant to reach the protected source is 50 days then this will be a higher priority site (A1), than a site within the 400 day lagtime (A2). Both sites would still fall into group A classification.

With regards to the depth and thickness of London Clay and Alluvium, this has been further subdivided to consider the offered protection from such geological strata. For example, where a suspected site overlies a major aquifer but has depth of clay of more than 10m then this will be classified as 'C1'. The same site overlying a major aquifer with between 5-10m of clay will be classified as 'B2', and with less than 5m will be a 'B1'.

For minor aquifers, a suspected site overlying a minor aquifer with between 5-10m of clay will be classified as 'B4'. The same site overlying a minor aquifer with more than 10m of clay will be classified as 'C2'. There is also some protection to groundwaters offered by the presence of clay layers within the Alluvium. This will also be incorporated into the prioritisation, depending on whether the Alluvium is between 0-10m in depth or is 10m plus in depth. The Alluvium thickness will be able to suggest whether there is some further protection offered and this will be indicated in parenthesis after the initial prioritisation class, where (1) indicates 0-10m and (2) indicates 10m+.

Table 3: Groundwater receptors initial prioritisation

Category	
Source Protection Zone – 50 day lagtime at the site or within 50m or within 500m	A1
Source Protection Zone – 400 day lagtime at the site or within 50m or within 500m	A2
Site is located over a major aquifer with 0-5m of London Clay	B1 (m)
Site is located over a major aquifer with 5-10m of London Clay	B2 (m)
Site is located over a minor aquifer with 0-5m of London Clay	B3 (m)
Site is located over a minor aquifer with 5-10m London Clay	B4 (m)
Site is located over a major aquifer with more than 10m of London Clay	C1
Site is located over a minor aquifer with more than 10m of London Clay	C2

(Source: London Borough of Newham, Environment Department, 2000)

4.5.5 Projected timeframe for prioritisation

Each prioritised site, starting with the highest priority, will then be investigated in turn, using appropriate site investigations and risk assessments to allocate each site a category based on its suitability for current use. Investigation of each site is dependent on financial and staff resources. As each site is prioritised a search for land ownership will be initiated with Land & Property Services and/or Land Registry and this information will be recorded in the GIS. An assessment will then be made of:

- Costs of further investigations and risks assessments,
- Costs of any required remediation,
- Costs of any legal proceedings to secure remediation,
- Costs of dealing with sites that pose an immediate and unacceptable risk,
- Costs associated with sites where new information is presented and that information suggests that immediate actions are required, and
- Costs of dealing with orphan sites and sites where no appropriate persons can be found.

The progress made will be reviewed annually by the following:

- Reviewing information submitted from investigations and risk assessments undertaken by the appointed environmental consultant,
- Reviewing new information and datasets on sources, receptors and pathways and where necessary modifying the order of priority for further actions,
- Review the methods and techniques for site investigation and risk assessment and make modifications to the inspection methodology as necessary,
- Review the amount of land currently being remediated under the Town and Country Planning Act 1990 and the associated amount of land currently awaiting re-development, and
- Review the actions taken by landowners, industry, and developers with regards to dealing with land contamination, in terms of amount of land currently being developed, awaiting development, with developer interest, undergoing remediation (if any) etc.

4.5.6 Categorisation procedure

In order to allocate each site a category which is based on the site's suitability for its current use consultants will be appointed to carry out the appropriate investigations and risk assessments. The categorisation of the suspected sites again follows the guidance in CLR6, in that each site will be allocated a category 1, 2, 3, or 4 depending on whether the site is suitable for its current use and requires actions (short, medium or long-term) to eliminate risks (section 4.5).

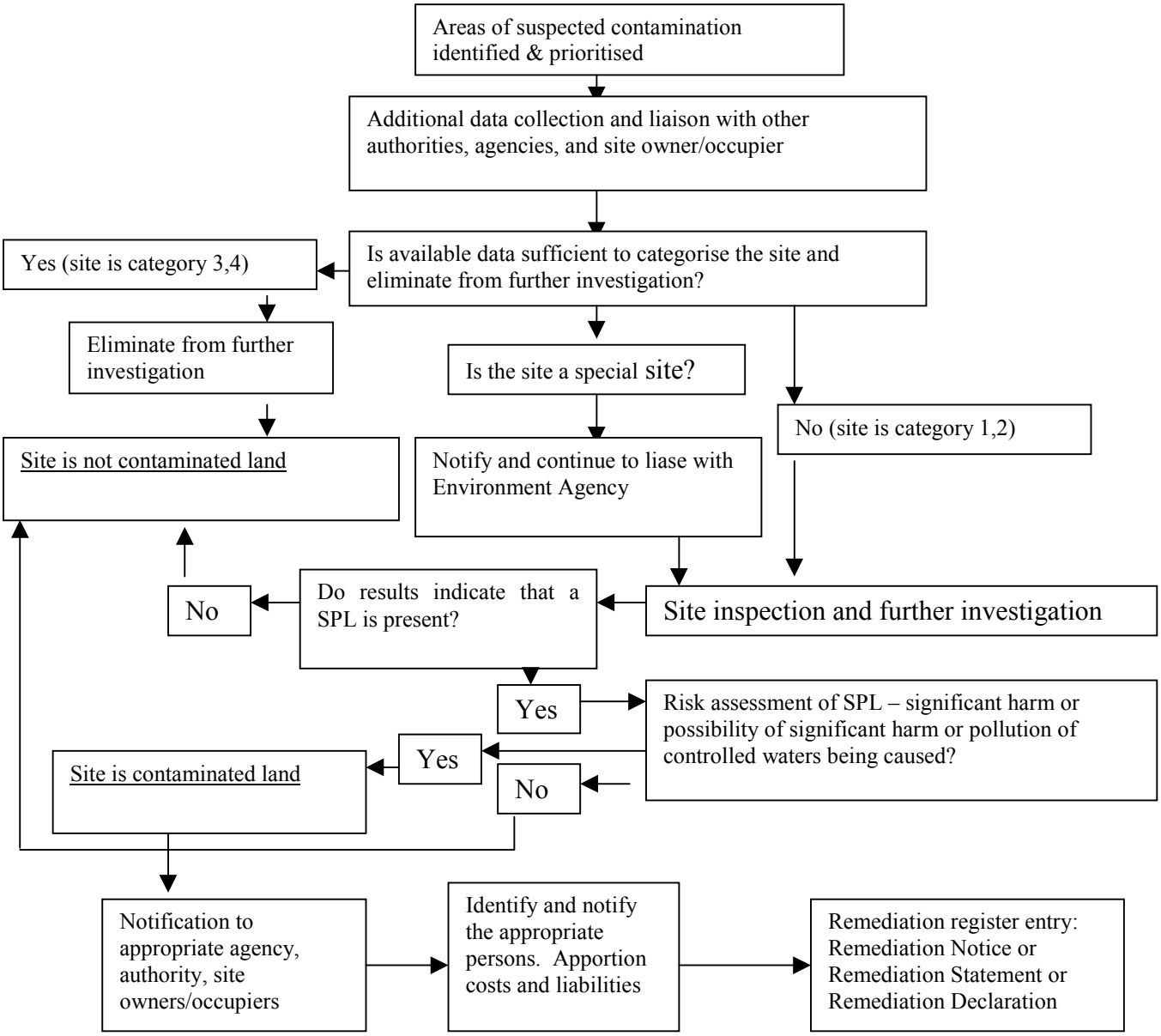
The placing of a site in a category will depend on the results of any further investigation and it is the role of the appointed consultant to carry out this further investigation and to provide information to enable a categorisation to be allocated. The categorisation will be allocated by the Pollution Control Unit, on the basis of the results of any further assessments. For each site that requires further assessment some degree of further investigation will be necessary to determine the categorisation. Such investigations would include walkover surveys, surface sampling and intrusive investigations with associated environmental monitoring and analyses.

5.0 INSPECTION METHODOLIGIES

5.1 Contaminated land assessment

The determination of whether land is statutorily contaminated land and whether such a site is a special site will be assessed through the previously outlined process of information and data gathering, liaison with appropriate agencies (including the Environment Agency), other authorities and owner/occupiers (Chart 4).

Chart 3: Contaminated land assessment flowchart



(Source: the author, 2000)

The additional data collection, as in Chart 3, is an essential part of the assessment of contaminated land and this data collection will include Land & Property Services searches, Land Registry searches, historical uses of the land / property, previous owners and occupiers and their activities and desk top studies (environmental setting). The additional data collection also include further assessments by the appointed consultant.

The information and additional data that is collected will lead to a number of scenarios;

- Where there is sufficient existing information and data to form the opinion that there is a reasonable possibility of the existence of a pollutant linkage, but on the balance of probabilities there is not sufficient information to suggest that the pollutant linkage is a significant pollution linkage, then further assessments (intrusive investigations) will be carried out. Such assessments will be in order to determine if the pollutant linkage is a significant pollutant linkage and the site falls into Categories 1 or 2, or Categories 3 or 4,
- Where there is already sufficient data and information to form the opinion, based on the balance of probabilities that the pollution linkage is a significant pollutant linkage, and the site falls into Categories 1 or 2,
- Where there is sufficient information and data to form the opinion, on the balance of probabilities that there is no possibility of a significant pollutant linkage, and the site falls into Categories 3 or 4.

It will be essential to have effective and efficient liaison and communication with all interested parties/persons, groups, authorities, agencies and owner/occupiers in the assessment of contaminated land, which will begin as indicated in Chart 3.

6.0 LIASION & COMMUNICATION

Liaison and communication with all parties and groups of persons is considered essential if the aim of remediation of contaminated land sites is to be achieved. Previous and current owners and occupiers of land will be found through Land Registry / Land & Property Services searches initiated after a site has been prioritised, and consultation with these persons will begin as soon as is practicable, with regards to higher priority sites.

Early consultation is required for a number of reasons, which includes;

- gaining access to land for any further investigations that may be required,
- for securing any voluntary provision of further data or information, and
- for ensuring that the successful and sustainable remediation of any contaminated land is carried out by the appropriate persons where a Class A person(s) cannot be found.

When the London Borough of Newham is of the opinion that land is potentially required to be identified as contaminated land, from the provision of information from parties, persons, authorities, agencies, and / or from the results of further assessments, specific internal and external consultations and liaisons will be

needed. Such internal consultations will involve the Pollution Control Unit consulting with:

- Legal Services
- Asset Management
- Land Charges
- Development Control
- Building Control
- Forward Planning & Transportation

This will initially involve communicating with such teams that an area of land or a property is under investigation with the potential that it may be identified as contaminated land. Where it is likely that a pollutant linkage exists and further assessments are required to establish whether the pollutant linkage is a significant pollutant linkage, then Legal Services will need to be advised and regularly updated. Development Control and Building Control will need to be informed where it is likely that a pollutant linkage is present at a site or property as access to their records will be essential to determine any development history of the land.

A series of standard templates for notification and notices have been developed in accordance with statutory guidelines to ensure that the correct and proper formal notifications are initiated with other bodies and agencies, where appropriate.

External consultations with the Environment Agency on a site-specific basis will begin in the following circumstances;

- as soon as London Borough of Newham is of the opinion that an immediate and unacceptable risk is occurring to human health or the wider environment,
- as soon as London Borough of Newham is of the opinion that the pollution of controlled waters is being caused, or is likely to be caused,
- as soon as London Borough of Newham is of the opinion that there is a reasonable possibility that a pollutant linkage exists, and further assessments (intrusive investigations) are required to determine the physical extent of the potentially contaminated land (where the receptor is of any of the types listed in Tables A & B), and that the pollutant linkage is a significant pollutant linkage, and
- as soon as London Borough of Newham is satisfied that a site falls potentially into a Category 1 or 2 and that further investigations are planned for a site in terms of providing more detailed information from boreholes and monitoring.

In such instances the Environment Agency can choose to provide site-specific advice with regards to carrying out further investigations, the protection of controlled waters from such investigations and in terms of requirements for monitoring of controlled waters. The Environment Agency may also hold further site-specific information, which could be obtained to further categorise the site, without the requirement for intrusive investigations. The Environment Agency also requires such details from local authorities with regards to fulfilling its statutory functions (see section 8.0).

Such external consultations will initially be on an informal basis, prior to any formal identification of contaminated land by London Borough of Newham.

Specific consultations may also be needed with English Nature and / or the London Ecology Unit and / or English Heritage as soon as London Borough of Newham is of the opinion that the receptor is an area of ecological importance and / or a scheduled ancient monument. Again, this consultation will initially be on an informal basis, prior to any formal identification of contaminated land by London Borough of Newham.

There may also be instances where significant harm or where there is a possibility of significant harm is being caused to human health. In such instances London Borough of Newham will need to consult with Newham Primary Care Trust with regards to providing toxicological assessments of any contamination found. If necessary, external toxicological expertise will be obtained. This consultation will enable London Borough of Newham to determine whether significant harm or the possibility of significant harm is being caused or is likely to be caused.

6.0.1 Risk communication

One of the most important factors to consider when making a decision about contaminated land, whether in the determination of a site as being contaminated or determining actions required under further assessments (intrusive investigations) or under a remediation notice, is the affect of this on the persons involved and on the wider community.

Risk perceptions about contamination need to be handled and effective communication of those risks is essential to the successful management of contaminated land. Contaminated land determination will involve consideration of the environmental impacts to air, land and water, health considerations, economic and social impacts.

Communication will start at the earliest stage possible (see Chart 3) where any additional data is being collected, where sites are required to have further assessments, and when the appropriate parties, persons and owner/occupiers have been identified. This stage will also involve liaison with our internal teams, the wider community and local environmental groups where appropriate.

By identifying and communicating with all the interested groups of people, their views can more easily be obtained and their risk perception and concerns can be dealt with. Involving the relevant groups of people at an early stage helps to prevent any misconceptions and misunderstandings and relays a continued level of understanding to the groups. For example, details about the remediation proposed, the length of time for this to occur, the environmental monitoring and validation works, and any actual risks.

During redevelopment works carried out under the Town and Country Planning Act 1990, early public relations is encouraged and considered essential for developers to undertake within the immediate local community and helps to prevent complaints being made and potential delays caused to the development.

6.1 Liaison with other bodies

Specific liaison has already been carried out with the Environment Agency, English Nature and English Heritage, East London and City Health Authority (ELCHA), London Development Agency, Lea Valley Regional Park Authority, and the Lower Lea Project Team. Specific internal consultations have taken place with Development Control, Building Control, Land and Property Services, Regeneration and Partnerships, and Corporate Policy Unit. London Borough of Newham has also consulted with the public via a public notification.

Liaisons have already taken place with the Environment Agency with regards to this strategy document and the prioritisation and categorisation procedure of land in the Borough. The development of the prioritisation method for surface and groundwater has met with their approval and specific discussions have been held with the Local Authority Liaison Officer for contaminated land. The nature of the GIS enhanced functionalities and the types of databases held, for example, the thickness of London Clay, General Quality Assessment data, SPZs, would ensure that the prioritisation and categorisation procedures adopted by Newham would highlight the sites where there was an immediate risk to these receptors.

English Nature and English Heritage were consulted with regards to the following;

- Any area notified as an area of special scientific interest under section 28 of the Wildlife and Countryside Act 1981,
- Any land declared a national nature reserve under section 35 of that Act,
- Any area designated as a marine nature reserve under section 36 of that Act,
- Any area of special protection for birds established under section 3 of that Act,
- Any European site within the meaning of Regulation 10 of the Conservation (Natural Habitats etc.) Regulations 1994 (i.e. Special Areas of Conservation and Special Protection Areas),
- Any candidate Special Areas of Conservation or potential Special Protection Areas given equivalent protection,
- Any habitat afforded policy protection under paragraph 13 of Planning Policy Guidance Note 9 on nature conservation, and
- Any nature reserves established under section 21 of the National Parks and Access to the Countryside Act 1949'.

English Nature confirmed that there are no such sites in Newham, but requested that we consider information produced by the London Ecology Unit with regards to local areas of conservation importance (section 3.2.4). The location of such ecological sites will be drawn to our attention during the prioritisation procedure and considered by our appointed consultant when categorising the site. Consultations will then be initiated with the London Ecology Unit when these sites are adjacent to such ecological areas and those sites require further assessment (intrusive investigation).

English Heritage was consulted with regards to the locations of scheduled ancient monuments in London Borough of Newham and for the purposes of Part IIa who suggested that there are two such monuments in Newham in the following locations:

- Stratford Langthorne Abbey (part of area within precincts), Bakers Row, West Ham, and
- Second World War anti-aircraft gun emplacements, Beckton.

As with the above described for ecological receptors, the location of these scheduled ancient monument will be highlighted in the prioritisation procedure and consultations will be initiated when sites adjacent to these require further investigation.

ELCHA have also been consulted with regards to procedures for specific liaison with the health authority in instances where there is the possibility of significant harm being caused to humans, or where there is a significant possibility of significant harm being caused to humans. This procedure will start where it has been identified that the receptor is humans (health). As discussed previously, this will involve providing toxicological assessments of contamination found.

7.0 DEALING WITH INQUIRIES AND INFORMATION

With regards to Part IIa and the receipt of information or inquiries from the public, voluntary organisations or businesses with interests in London Borough of Newham, appropriate guidelines will need to be followed that will determine the type and level of any further investigation and whether the complaint is justified.

Where an anonymous request for action or information is received where the supplier of the information is not disclosed then appropriate guidelines will be followed and the type of any further investigation and actions will be determined using the flow chart below. Where information is received from persons, authorities or owners/occupiers under a requirement of remediation notice, then this information will be entered on the register.

7.0.1 Inquiries with regards to Part IIa

In the Pollution Control Unit it is normal practice to respond to all inquiries received within a specified time frame as determined by the Service Plan. Where the caller is willing to leave their contact details, a response can be provided within this timeframe and the caller's details are always treated with confidentiality. This will also apply where information is received from a third party, excluding information obtained from further investigations or from persons volunteering to submit information on the land that they own or have occupied.

However, where a request for action or information is received (anonymous or otherwise), steps will still be taken to investigate the nature of the complaint, and in the cases of a complaint or information about contaminated land, appropriate guidelines will be followed (Chart 5).

Where the information raises a question as to the quality or state of a piece of land an environmental search will be carried out using the historical land-use datasets held on the GIS, in conjunction with a site walkover / visit (by the appointed consultant or Pollution Control Unit staff). The GIS environmental report and site walkover / visit will be used to check whether there are any known previous or existing contaminative uses.

The land / property in question will also be checked to see whether the land has been subject to a prioritisation and thus is waiting further investigation by the appointed consultant. At this time a search will be initiated with Land & Property Services Division and/or Land Registry search to establish the current and previous ownership.

Information obtained from the environmental report, site walkover and nature of the complaint or information received could present four different scenarios, ranging from indicating that there is an immediate risk to public health and / or the environment, and that immediate actions would be required to there being no actions required (in the short / medium term)

These scenarios are presented as follows;

Immediate threat to public health or the environment and site not prioritised (significant pollutant linkage most likely to exist)

- Carry out immediate site prioritisation
- Carry out Land Registry search / Land & Property Services search and inform appointed consultant for advice on immediate categorisation of the land, and to advise on further assessment (if required for the determination), and for remediation
- Advise Head of Service that we are of the opinion that a pollutant linkage is present, open communication channels with Legal Services, Land & Property Services, Land Charges, Development Control and Building Control, and other appropriate parties, persons, authorities and agencies. Send notices requiring provision of information (voluntary or under Section 108)
- If required and depending on amount of funding available authorise further investigation (surface and / or intrusive sampling) by appointed consultant to determine extent of the contamination, risk assessment, advice on remediation
- Determine if urgent remediation actions are required
- Determine after the further assessment whether land is 'contaminated land' and whether it is a 'special site'
- Notify appropriate person(s), owners/occupiers and the Environment Agency

Possibility of immediate threat to public health or the environment and site is already prioritised (significant pollutant linkage probably likely to exist)

- Send notice requiring information (voluntary or under Section 108)
- Inform appointed consultant for advice on categorisation, to advise on further assessment if required, and for remediation

Possibility of the existence of a contamination and site not prioritised (significant pollutant linkage not likely to exist)

- Carry out site prioritisation
- Carry out Land Registry search / Land & Property Services search
- Advise appointed consultant with regards to the additional site for investigation, and determine whether the site should be reprioritised
- Insert the site into the appropriate place in the further investigation list as appropriate

Possibility of the existence of contamination and site already prioritised (pollutant linkage probably likely to exist)

- Advise appointed consultant and determine whether site should be reprioritised
- Insert the site into the appropriate place in the further investigation list as appropriate

No possibility of contamination being present (pollutant linkage not present)

- No further action required

Where there is an immediate threat to public health or the environment and the site is not prioritised, once details on land ownership are received, a notice requiring information (voluntary or under Section 108) will be sent to current and previous owners for information about their occupation, activities and knowledge about the condition of the land.

Once this information is received London Borough of Newham will be in a position to make the formal determination if required, that the land is contaminated land and whether it is a special site, and to determine who are the appropriate person(s). This process will involve close liaison with Legal Services, in particular for advice from counsel where the local authority becomes an appropriate person, by reason of their current or previous interest in the land.

If the site has already been prioritised and the appointed consultant is aware of the site, then further information may lead to the prioritisation being reassessed and given a higher priority for further assessment. If this is the case the appointed consultant will advise on the further investigation required to allocate the site a category, if further assessment is required to determine whether a significant pollutant linkage is present, whether the land should be identified as contaminated land and whether it is a special site.

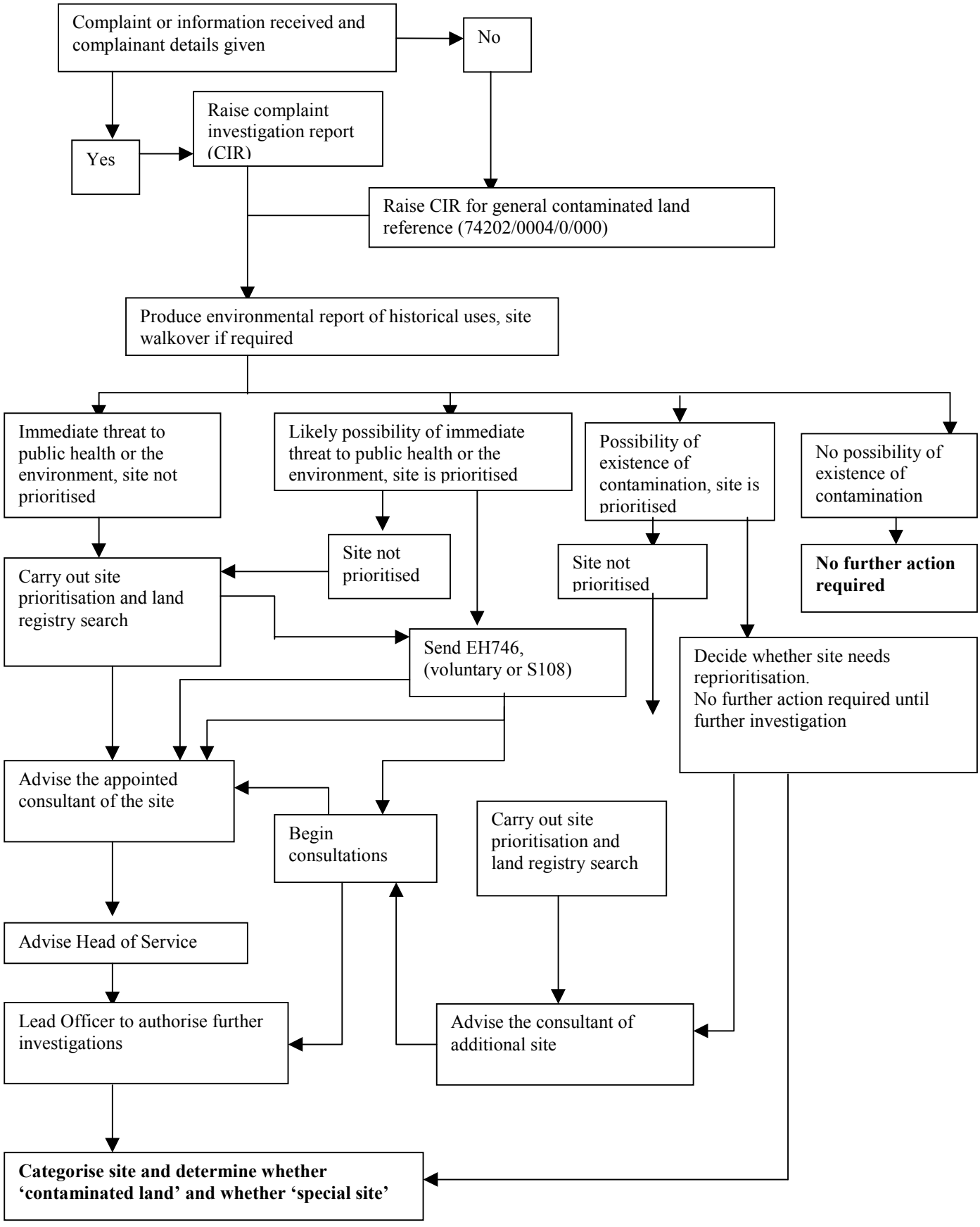
7.0.2 Report generator

Under the new provisions we will be required to respond to a number of enquiries from interested parties (see section 7.2.2). Such parties would be developers, lenders, insurers, other regulators, environmental consultants, surveyors and the public. The environmental information that we hold will need to be accessed and shared in an efficient and consistent manner.

The main objective is that the environmental information is available and is given in a consistent format. A report generator is one of the customised functionalities that has been developed by the Pollution Control Unit and BGS to fulfil this need to minimise staff time spent on these enquiries. The report generator allows the user to produce a report for a specific property or piece of land by specifying the datasets required to be searched and the required buffer distance (Appendix 8).

The authority will make a charge for the provision of such a report. Charges are reviewed annually as part of the authorities regular review of fees & charges. No charge will be made for reports supplied to enforcement agencies.

Chart 4: Flow chart showing the procedure for dealing with inquiries and information



7.1 ACCESS TO ENVIRONMENTAL INFORMATION

The Royal Commission on Environmental Pollution stated in 1974 that the public is entitled to know of any risks that they face from environmental pollution. However, initial steps to make disclosure more widespread did not occur until the mid-1980s and the introduction of the Environmental Protection Act 1990 and the Environmental Information Regulations 1992 meant that disclosure of environmental information in all sectors of pollution control became more extensive.

7.1.1 Exclusions

Under various statutes access to environmental information is restricted and these restrictions for disclosure are set out specifically within each Act. Generally these exclusions follow the principles of;

- Where information relates to actual or prospective legal proceedings until after the case is heard,
- Where information, according to the local authority or Secretary of State, would be contrary to the interests of national security, and
- Where information is considered to be commercially confidential, as determined by the local authority or the Secretary of State. The person(s) opposing the disclosure must substantiate that disclosure would prejudice to an unreasonable degree some person(s) or individuals commercial interest.

In the provision of information from third parties, London Borough of Newham will consider an application for exclusion for purposes of commercial confidentiality on a site by site basis. The third party would need to justify to London Borough of Newham as to why such information is considered to be commercially confidential (as regards to themselves or another person). The third party may object to the decision made by the London Borough of Newham and make appropriate representations. The third party may then also appeal to the Secretary of State. Where such information is deemed to be commercially confidential it shall remain for a period of 4 years as such, after which the third party will need to reapply.

7.1.2 Register for contaminated land

The Environmental Protection Act 1990, Section 78R now provides that each enforcing authority is to maintain a register containing information about contaminated land, for example, remediation notices. This includes remediation statements, appeals against remediation notices and charging notices, notices designating a special site, termination of designation as a special site, remedial steps taken, and prosecutions. Contained within these provisions are the above-mentioned exclusions for contrary to national security (Section 78S), or commercially confidential (Section 78T).

There is a right of appeal against a remediation notice, which must be within 21 days of receiving it (78L(1)). Once an appeal has been duly made, the remediation notice will be suspended.

7.1.3 Newham's register for contaminated land

The register required under the Environmental Protection Act 1990, Section 78R is held at the offices of the Pollution Control Unit, Environment & Commercial Standards Division at the contact address detailed in Appendix 6. The rules applied to the public register kept under the Environmental Protection Act 1990, Part IB also apply in this case. This register is available to be viewed at any reasonable time during normal office hours and is free of charge, although a prior appointment is necessary so that a member of staff can be available for any queries. There is a photocopying charge associated with making any copies of details on the register.

The content of the register will include the following;

- Remediation notices served by that authority,
- Appeals against any such remediation notice,
- Remediation statements or remediation declarations prepared and published under section 78H,
- Appeals against charging notices,
- Notices under section 78C, 78 D and 78Q in relation to special sites,
- Notifications given to the authority by persons – on whom a remediation notice has been served, who are or were required by section 78H to prepare and publish a remediation statement of what they claim has been done by way of remediation,
- Notifications given to the authority by owners or occupiers of land – in respect of which a remediation notice has been served or, in respect of which a remediation statement has been prepared and published,
- Convictions for such offences under section 78M above as may be prescribed, and
- Any other such matters as may be prescribed subject to sections 78S and 78T.

7.2 Environmental Information Regulations 1992

The Environmental Information Regulations 1992 require public authorities with responsibilities for the environment must make environmental information available to any person who requests it. Environmental Information is defined as information on the quality and state of air, water, soil, flora, fauna, natural sites and other land. It covers the activities that adversely affect these areas and measures used to protect them.

Individual rights under these Regulations include the following;

1) A response as soon as possible and within 2 months, and
2) The information or a refusal in writing that includes the reasons.

There can be a reasonable charge made for supplying this information (see section 7.2.2), which may include records, reports, computer records. A request made for information needs to be as specific as possible about the type of information required and may be required in writing for more complicated inquiries. Information

subject to exclusion status (as discussed above) will not be available for public access.

The Pollution Control Unit currently responds to two types of requests for information – those required by Local Land Charges Searches as part of a Service Level Agreement, and other enquiries that are received directly from the public, solicitors, potential purchasers, environmental consultants and lending bodies.

7.2.1 Local Land Charges

We respond to enquiries that are directed to the Pollution Control Unit from our Local Land Charges Section, and specifically under an amended Question 16A in light of Part IIa. Usual questions typically involve whether a site or property is within a specified distance from a registered landfill site. Local Land Charges Section has a deadline of 14 days in which to respond, and once the enquiry is received in the Pollution Control Unit, our response time is 5 days.

These further questions are contained within Form CON29 and involved answering the following information[1]:

- 16A.1 Register Entry. Please list any entries in the register maintained under section 78R(1) of the Environmental Protection Act 1990 in relation to the property?

- 16A.2 Notice of identification of contaminated land. Has the Council served or resolved to serve any notice under section 78B(3) in relation to the property?

- 16A.3 Consultation as to adjoining or adjacent contaminated land. Has the Council consulted, or resolved to consult, with the owner or occupier of the property under section 78G(3) in relation to anything to be done on the property as a result of adjoining or adjacent land being contaminated land?

- 16A.4 identification of risk from adjoining or adjacent land. Has any entry been made in the register, or has any notice been served or resolved to be served under section 78B(3), in relation to any adjoining or adjacent land which has been identified as contaminated land because it is in such a condition that harm or pollution of controlled waters might be caused on the property?.

7.2.2 Responding to other enquiries

The Pollution Control Unit has a procedure for dealing with inquiries from external organisations for information regarding contaminated land. This involves charging external organisations that are charging a fee to a client and requesting written inquiries only to ensure the standardisation of responses. Alternatively an appointment to view the information held can be made.

[1] Negative answers do not imply that the property or any adjoining or adjacent land is free from contamination or risk of it.

Enquiries are received from solicitors, acting on behalf of potential purchasers, requesting information with regards to London Borough of Newham's approval and warranty of remediation schemes. Other enquiries are received from environmental consultants, acting on the behalf of developers, requesting environmental information for a site, such as landfills, geochemical results, location of Part A & B prescribed processes etc. The customised GIS is used to answer such enquiries for environmental information.

The basic principles with regards to providing environmental information are as follows;

1) Enquiries should be submitted in writing and accompanied by a location map of the area(s) where required to identify the location,
2) Payments, or agreement to pay upon receipt of an invoice, are required in advance made payable to London Borough of Newham,
3) No responses are given by telephone unless no information exists, and
4) The information provided is subject to copyright law and a number of caveats for London Borough of Newham disclaiming any responsibility as to the accuracy and interpretation of the information and any maps provided.

7.2.3 Information with regards to Part IIa

Where an inquiry relates to specific information with regards to the contamination status of a site in terms of Part IIa, other than under Local Land Charges, a number of standard responses have been developed. Usual enquiries from solicitors (acting on behalf of potential purchasers) are with regards to a warranty from London Borough of Newham for the remediation schemes carried out at a site / property, and that the site / property or adjacent land will not be issued with a remediation notice in the future.

These standard responses are limited to the following;

"…remediation proposals were discussed in detail with the Developer and in principle met with our approval, however, enquiries need to be addressed to the Developer for confirmation that they have dealt with the issue of contamination in accordance with statutory regulations…", and

"…with regards to quality assurance, we consider that responsibility is solely down to the Developer and their consulting engineer and Environmental Health recommend that for brownfield development, a resident engineer is employed full time on the site….", and

".....with regards to serving a remediation notice, Environmental Health would need to make the determination that the site meets the strict definition as defined by the Environmental Protection Act 1990, Part IIa, and we would have to consider a risk assessment based on source-receptor-pathway…….and at the present time, Environmental Health are not considering / are considering serving a remediation notice….".

8.0 REVIEW AND AUDIT PROCEDURES AND DATA MANAGEMENT

To enable the assessment and identification of contaminated land, and to ensure that such land is remediated so that it is suitable for its current use, the principles contained within this document will need to be reviewed on a regular basis. To ensure that London Borough of Newham meets the aims and objectives previously outlined (Section 2.3), it will be necessary to examine new data and information that relates to the contamination status of land in the Borough, and to review the prioritisation allocated to land in order to determine whether a site is of a higher or lower priority for assessment. Such data and information may also enable a site to be more readily categorised as to whether it is considered suitable for its current use and what actions, if any, may be required in the short, medium or long-term.

This review will be conducted from time to time with regards to the following;

- Reviewing information submitted from investigations and risk assessments,
- Reviewing new information and datasets on sources, receptors and pathways and where necessary modifying the order of priority for further actions,
- Review the methods and techniques for site investigation and risk assessment and make modifications to the inspection methodology as necessary;
- Review any relevant developments in GIS technology;
- Review the amount of land currently being remediated under the Town and Country Planning Act 1990 and the associated amount of land currently awaiting re-development,
- Review the amount of land currently being remediated under Part IIa,
- Review the amount of land that Newham currently has an interest in, through ownership or leasehold/freehold, and
- Review the actions taken by landowners, industry, and developers with regards to dealing with land contamination.
- Review amendments in legislation & associated guidance and incorporate it in the strategy.

This review process will ensure that where additional information or data is received or new information on sources, receptors and pathways becomes available, these can be incorporated into the prioritisation and subsequent categorisation of the land. A trigger for an earlier review will be where information or data becomes available suggests that there is an immediate risk to public health or the environment. An early review of the strategy document would occur with changes in Government or London Borough of Newham's policies, including allocation of funding and resources to contaminated land.

8.1 Data management and exchange

An important part of implementing this strategy is the management of contaminated land data and the GIS will form the basis of our management tool for this information. The review procedure, the management of the datasets held, the processing of any additional data and information will be essential in order to provide such information as and when requested by the Environment Agency.

The Pollution Control Unit has developed a series of caveats in conjunction with our Legal Division that are attached to any information that is given out as a result of a request or enquiry (section 7.2.3). With regards to specific data management GIS will be regularly updated with regards to data and information received as a result of further investigations, data received from third parties, data highlighted through the review process and data obtained in site investigation reports.

8.1.1 Exchange of information with the Environment Agency

Data will be regularly supplied to the Environment Agency through an annual update of the information on our GIS system. This will detail any determinations of contaminated land, although this will have already been partly achieved due to the consultation and notification procedures adopted when identifying and assessing contaminated land. The data provided to the Environment Agency will relate to the following general indicators:

- Identification of contaminated land, and
- Remediation of contaminated land under Part IIa – both voluntary and regulatory.

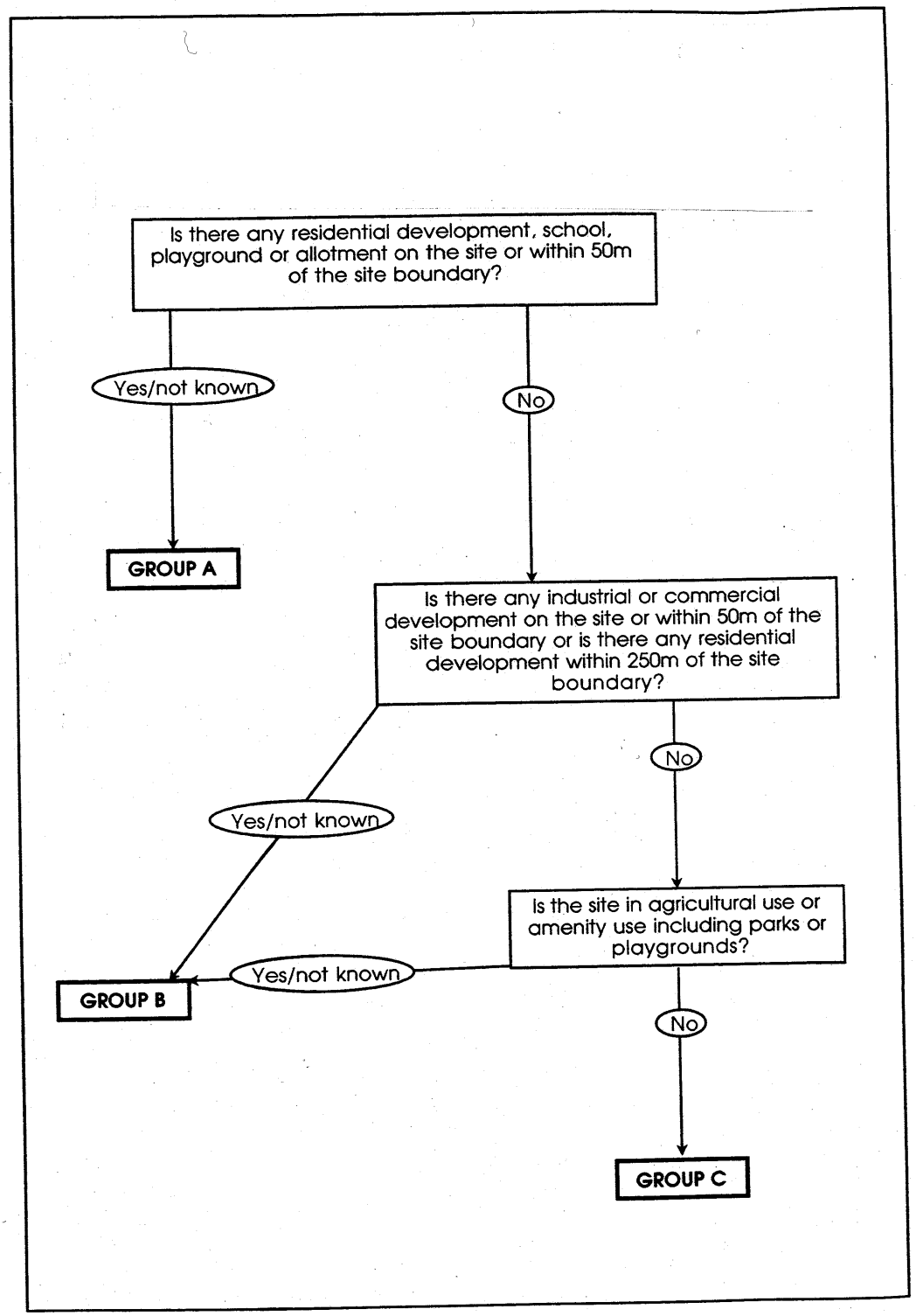
This exchange of information will be in line with the Environment Agency guidance document 'Suggested process for information exchange with local authorities for the contaminated land report' (July 2000) (Appendix 10).

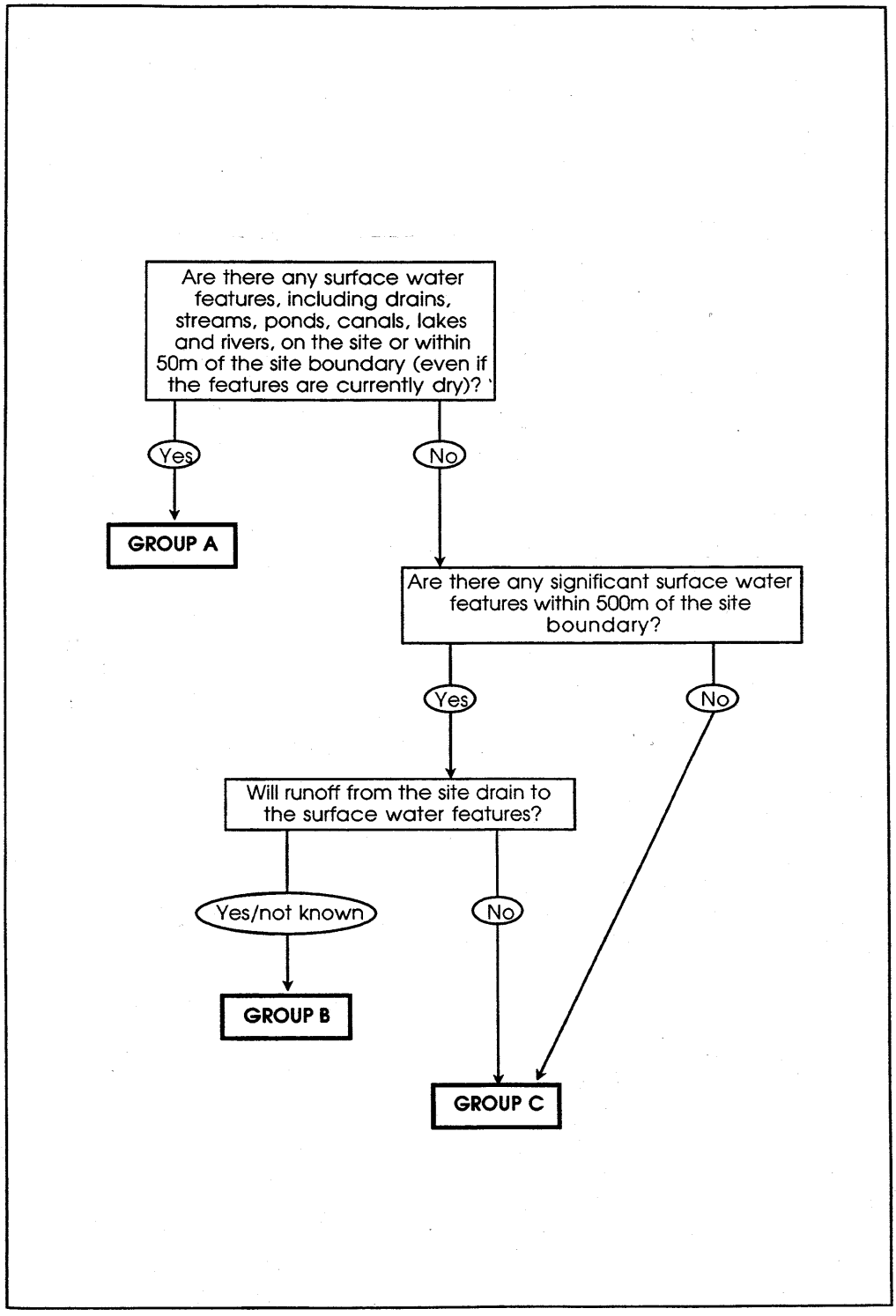
APPENDIX 1: ROLES AND RESPONSIBILITIES OF POLLUTION CONTROL UNIT STAFF

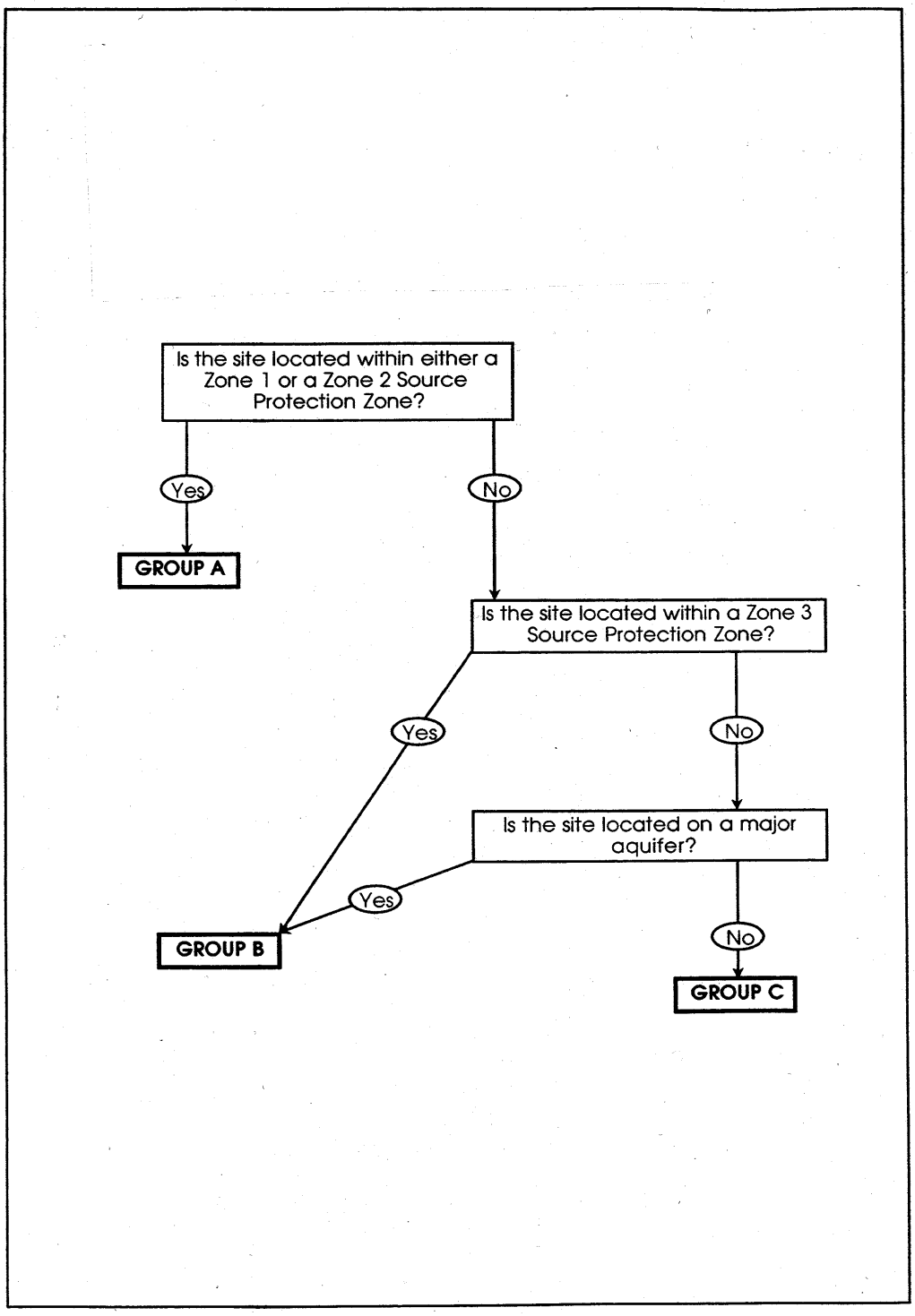
Currently the main areas of work specifically with regards to the management of contaminated land involve the following;

- assessment of planning applications with regards to attaching the appropriate contamination conditions,
- the evaluation of Phase I (desktop) and Phase II (intrusive) site investigation reports,
- advising Development Control and Building Control as part of the planning process,
- liaison with Developers and environmental consultants,
- liaison with the Environment Agency and other regulatory authorities,
- responding to requests for environmental information from solicitors, potential purchasers, and the public, and
- carrying out contaminated land site visits to ensure compliance with agreed remediation schemes and with regards to measures to ensure environmental protection, and
- responding to complaints and enquiries received with regards to general land and water pollution, for example, groundwater contamination, suspected land contamination and quality of drinking water supplies and recreational waters.
- Investigation of priority sites identified by the strategy
- Enforcement of Part II a of the Environmental Protection Act 1990
- Liaison with Asset Management with regard to the purchase or sale of land in Newham
- Maintenance of all contaminated land information
- Holding the Part II a Public Register.

APPENDIX 2: CLR6 PRIORITISATION METHOD FOR DEVELOPMENT, SURFACE WATER AND GROUNDWATER RECEPTORS





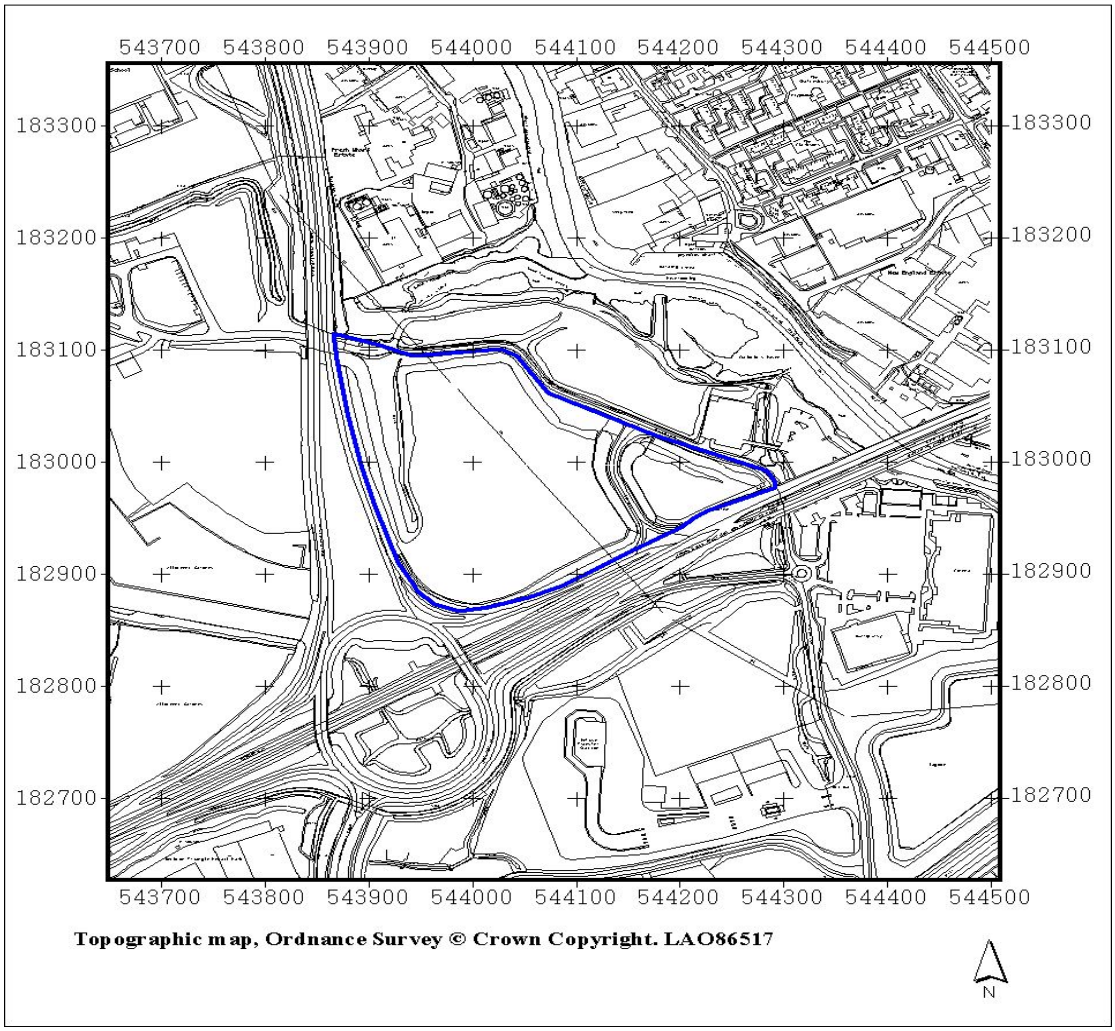


APPENDIX 3: EXAMPLE OF A PRIORITISATION REPORT

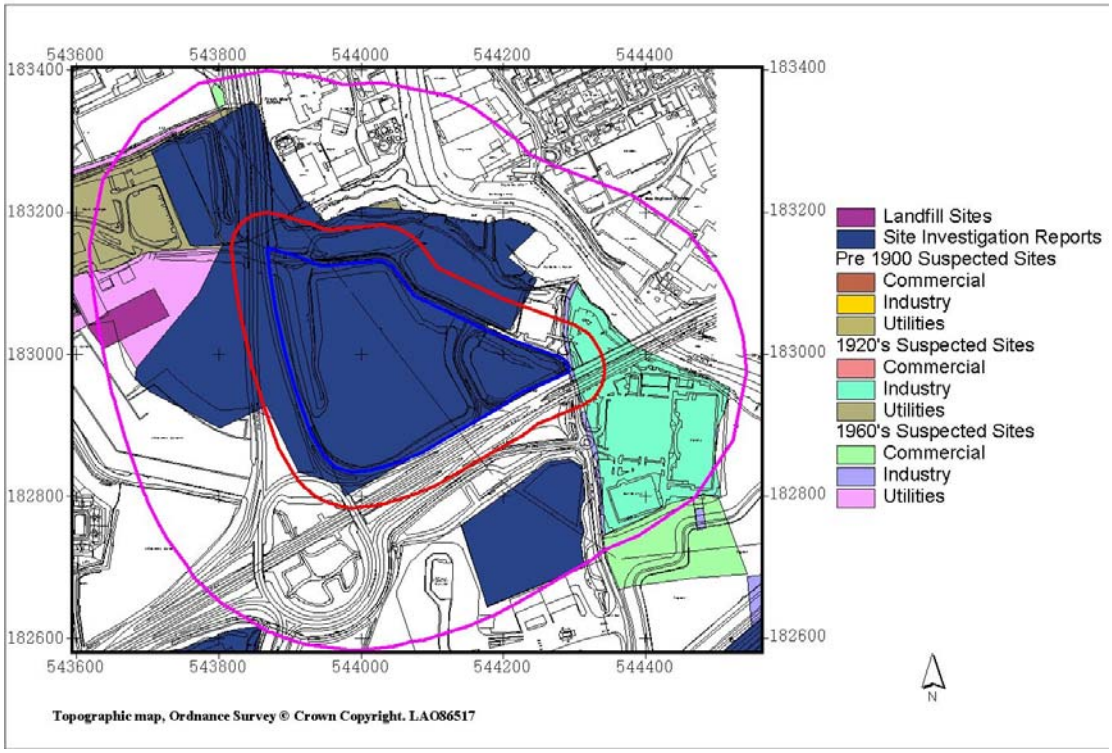
LONDON BOROUGH OF NEWHAM
ALICE BILLINGS HOUSE
2-12 WEST HAM LANE
LONDON
E15 4SF
TEL: 020 8430 2000 Ext. 25253/25287

Preliminary Site Prioritisation and Categorisation Report

Site Name: PEZ 1 Landfill
Grid Ref: (544079, 182991)



Development Classification



Map showing the selected site (blue). Buffers surrounding the site are shown at 50m (red) and 250m (purple)

High Risk (A score)

Number of landfills within 50m: 0

Number of site investigation reports within 50m: 3

-C015: P.E.Z.1 (543990,183034)
-C014: P.E.Z.2, P.E.Z.2 annex & Cuckolds Haven (543835,183248)
-C159: Jenkins Lane (544106,182983)

Currently vacant land, the number of past industrial sites within 50m: 5

-1920's : Varnish, colour and enamel works(544404,182924)
-1920's : Sewage works and installations(543757,183217)
-1960's : All industrial purposes(544410,182869)
-1960's : Refuse tips and destructors(543632,183125)
-1960's : All industrial purposes(544334,183032)

Geochemical data exists for the site: yes

Medium Risk (B score)

Residential areas within 50m of the site:
yes

Schools within 50m of the site: no

Open areas within 50m of the site:
yes

Residential areas within 250m of a landfill site: no

Low Risk (C score)

Residential areas within 250m of the site:
yes
Health sites within 50m of the site: no
Commercial sites within 50m of the site: no
Industrial sites within 50m of the site: no
Transport sites within 50m of the site:
yes
Utilities within 50m of the site: no
Public buildings within 50m of the site: no

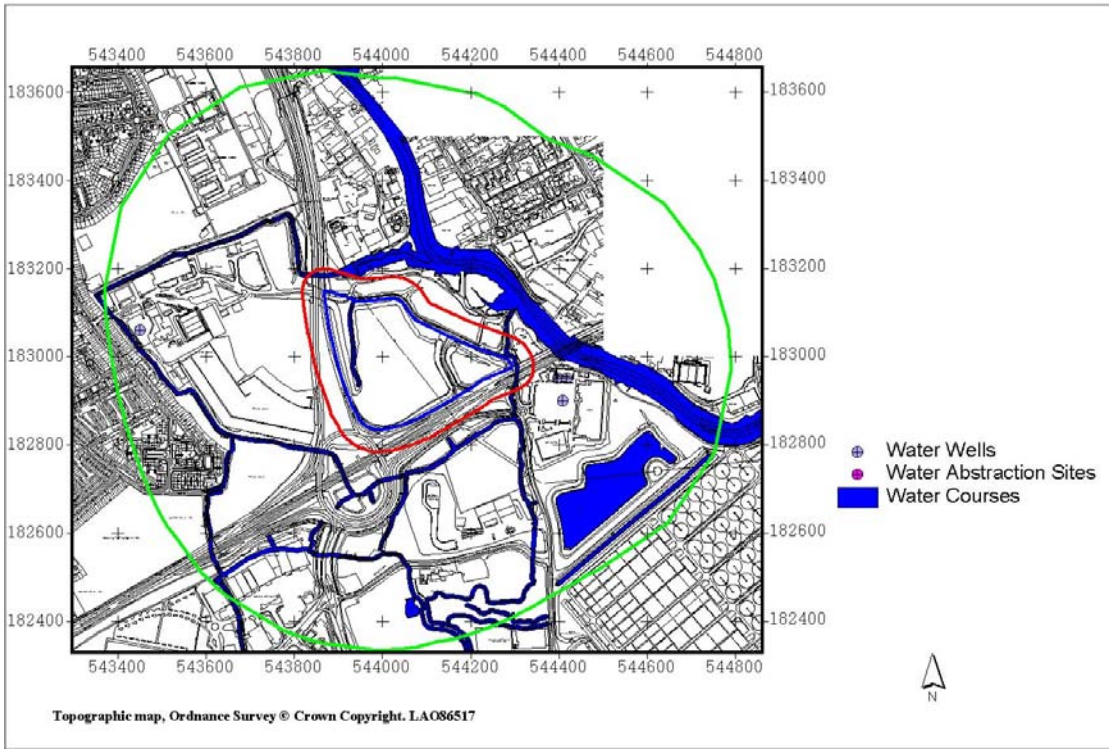
Conservation Sites with 250m of the Site:
-River Thames and tidal creeks
-Beckton Triangle and Cuckold's Haven
-Beckton Sewage Treatment Works

Final Development classification:

A5 B4 C3

See the Strategy Document for a description of how this classification was calculated

Surface Water Classification



Map showing the selected site (blue). Buffers surrounding the site are shown at 50m (red) and 500m (green)

Within 50m of site

Number of surface water features: 5
-Tidal water course, River Roding, unclassified
-Tidal water course, River Roding, unclassified
-water course, Drain, unclassified
-water course, Oakentrough Sewer, unclassified
-water course, Whitings Sewer, unclassified
Number of water wells: 0
Number of water abstraction sites: 0

Within 500m of site

Number of surface water features: 30
-pond, , unclassified
-pond, , unclassified
-pond, , unclassified
-pond, , unclassified
-pond, , unclassified
-pond, Beckton Sewage Wks, unclassified
-Tidal water course, River Roding, unclassified
-Tidal water course, River Roding, unclassified
-Tidal water course, River Roding, unclassified

-water course, Oakentrough Sewer, unclassified
-water course, Oakentrough Sewer, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Oakentrough Sewer, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Oakentrough Sewer, unclassified
-water course, Oakentrough Sewer, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Drain, unclassified
-water course, Oakentrough Sewer, unclassified
-water course, Whitings Sewer, unclassified
-water course, Whitings Sewer, unclassified

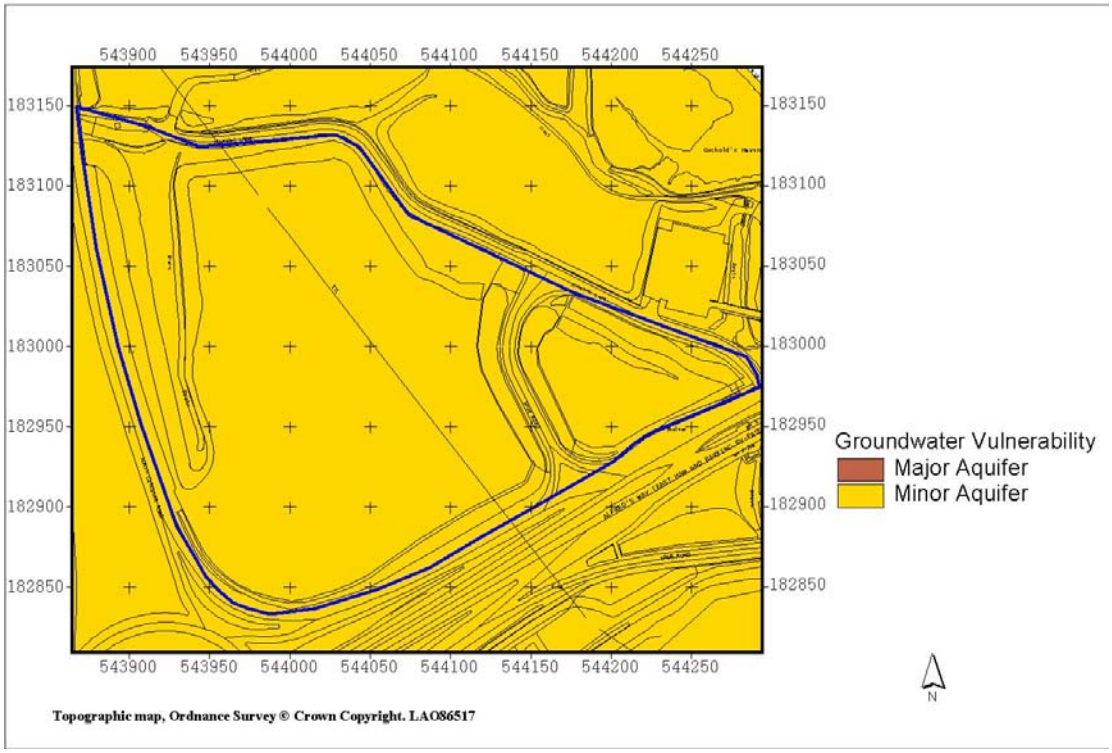
Number of water wells: 4
-TQ48/50: FOLKESTONE ROAD SEWAGE DISPOSAL WORKS, EAST HAM (543450,183060)
-TQ48/57A: JENKINS LANE, BARKING (544400,182950)
-TQ48/57B: JENKINS LANE, BARKING (544420,182950)
-TQ48/57C: JENKINS LANE, BARKING (544410,182900)
Number of water abstraction sites: 0

Final Surface Water classification:

A2 (unclassified)

See the Strategy Document for a description of how this classification was calculated

Ground Water Classification



Map showing the selected site (blue).

Underlying aquifer type:
Minor Aquifer (variable permeable)

Source Protection Zones within site: None Recorded

Thickness of London Clay within site: 0 - 5m

Thickness of Alluvium within site: 5 - 10m

Final Ground Water classification:

B3(1)

See the Strategy Document for a description of how this classification was calculated

Important

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LB Newham LAO86517 1999

London Borough of Newham cannot under any circumstances be responsible for the accuracy of factual data where the work was commissioned or carried out by others. London Borough of Newham makes no warranty as to the accuracy of the any site investigation plan. London Borough of Newham does not accept any liability in connection with information provided and makes no assurances to any interpretation of the information contained herein.

APPENDIX 4: CONTACT INFORMATION

For further information about contaminated land issues in the London Borough of Newham please contact:

Pollution Control Unit,
Environment & Commercial Standards Division
Alice Billings House
2-12 West Ham Lane
Stratford
London
E15 4SF
Telephone: 020 8430 3791
Fax: 020 8430 4434

For general information about contamination and related pollution issues the following contacts can provide information:

Environment Agency
Apollo Court
2 Bishops Square Business Park
St Albans Road West
Hatfield
Herts
AL10 9EX
Telephone: 01707 632300
http:\\www.environment-agency.gov.uk

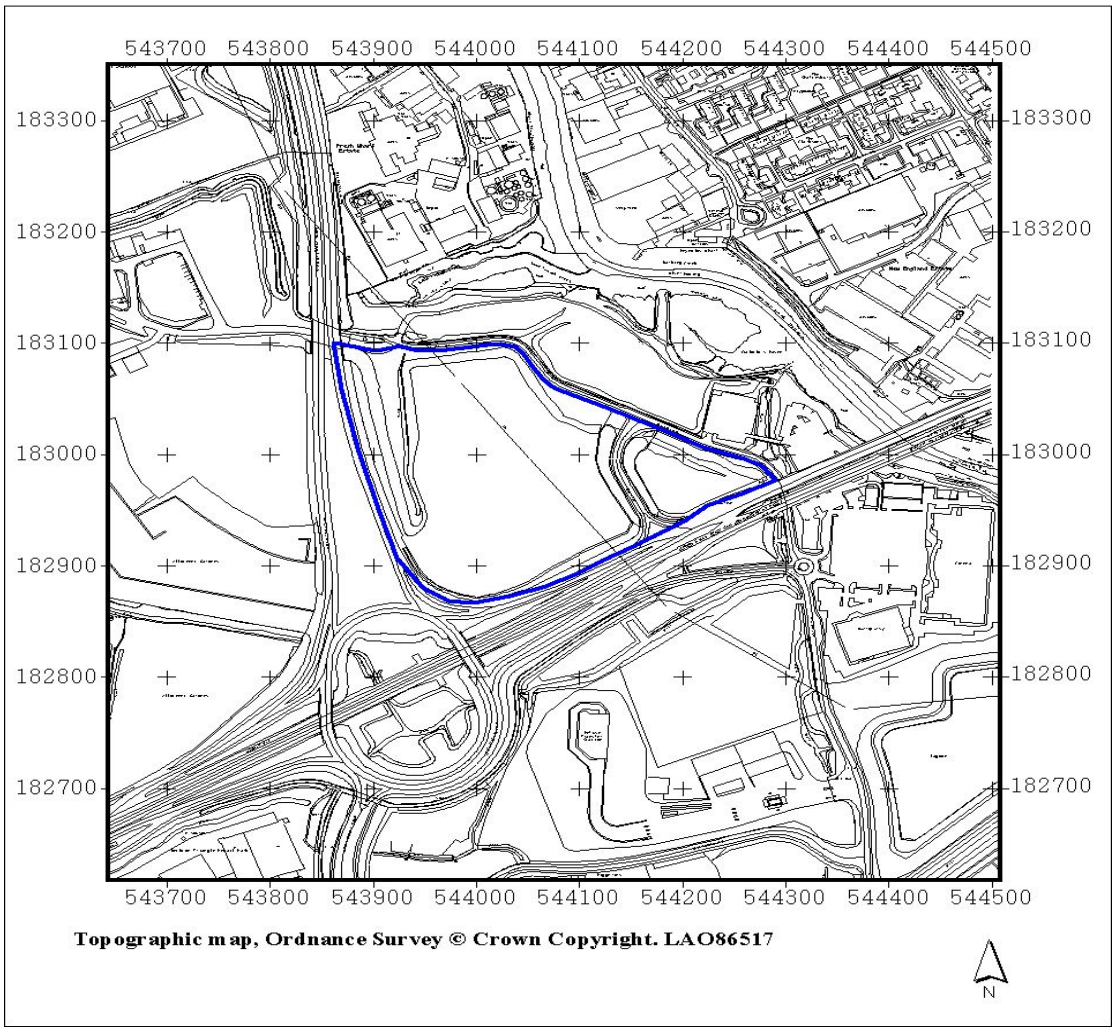
Contaminated Land & Liability Branch
Europe Environment Division
Department for Environment, Food & Rural Affairs
5/D9 Ashdown House
123 Victoria Street
London SW1E 6DE
Tel: 020 7944 5287
Fax: 020 7944 5279

APPENDIX 5: EXAMPLE OF AN ENVIRONMENTAL REPORT

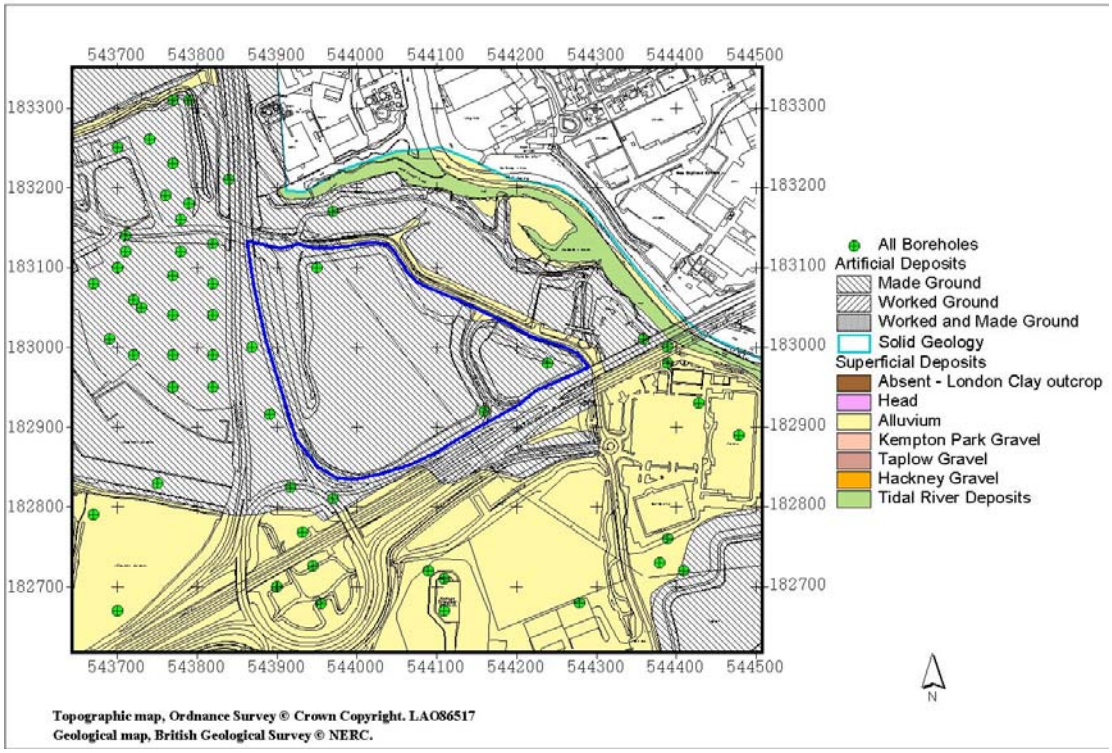
LONDON BOROUGH OF NEWHAM
ALICE BILLINGS HOUSE
2-12 WEST HAM LANE
LONDON
E15 4SF
TEL: 020 8430 2000 Ext. 25253/25287

Site Name: PEZ1 Landfill
Grid Ref: (544076, 182984)

Location of Site



Geology (Site Name: PEZ1 Landfill, Search Radius: 0m)



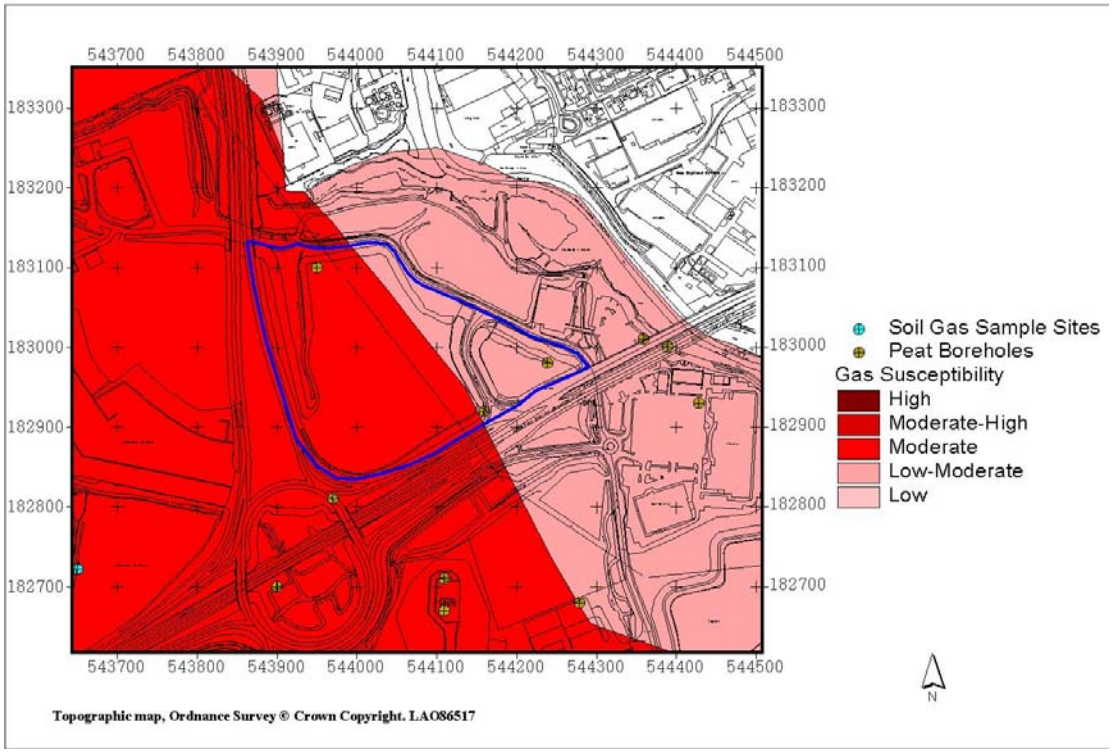
Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

Geology of Site

Solid: London Clay
Superficial Deposits: Alluvium
Artificial Deposits: Made Ground
Boreholes: See table below

REFERENCE	NAME	EASTING	NORTHING	LENGTH	CONF
TQ48SW270	NEWHAM B.C. BECKTON AREA BARKING NO.1	543950	0183100	12.65	N
TQ48SW288	C RING ROAD BH4	544160	0182920	21.34	N
TQ48SW289	C RING ROAD BH5	544240	0182980	21.34	N

Natural Contamination (Site Name: PEZ1 Landfill, Search Radius: 0m)



Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

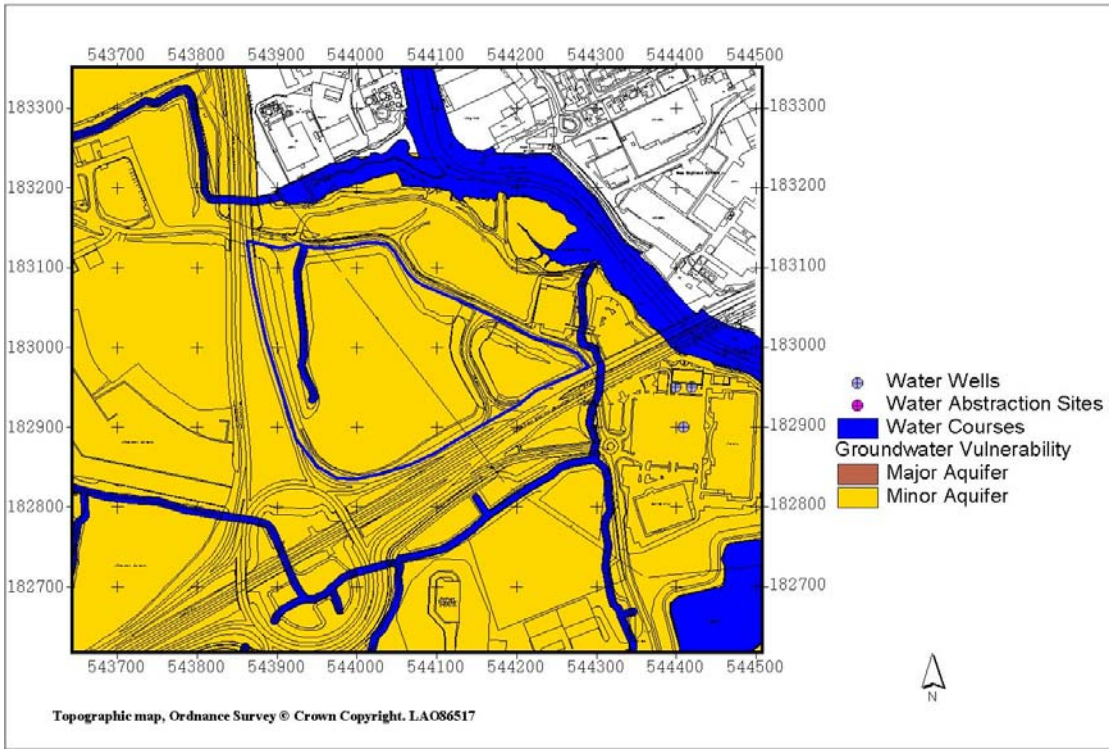
Gas Susceptibility of Site

Rating: Low-Moderate, Moderate
Soil Gas Samples: None
Peat Boreholes: See table below

REF	EAST	NORTH	ART_D	SUP_D	UPP_D	UPP_T	LOW_D	LOW_T
958	543950.0	183100.0	0.3	2.76	1.52	0.61	0.0	0.0
289	544240.0	182980.0	8.2	9.78	10.21	1.07	0.0	0.0
288	544160.0	182920.0	8.53	9.27	11.28	0.0	0.0	0.0

Art D: Depth of Artificial Deposits
Sup D: Depth of Superficial Deposits
Upp D: Depth of Upper Peat layer
Upp T: Thickness of Upper Peat layer
Low D: Depth of Lower Peat layer
Low T: Thickness of Lower Peat layer

Hydrogeology (Site Name: PEZ1 Landfill, Search Radius: 0m)



Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

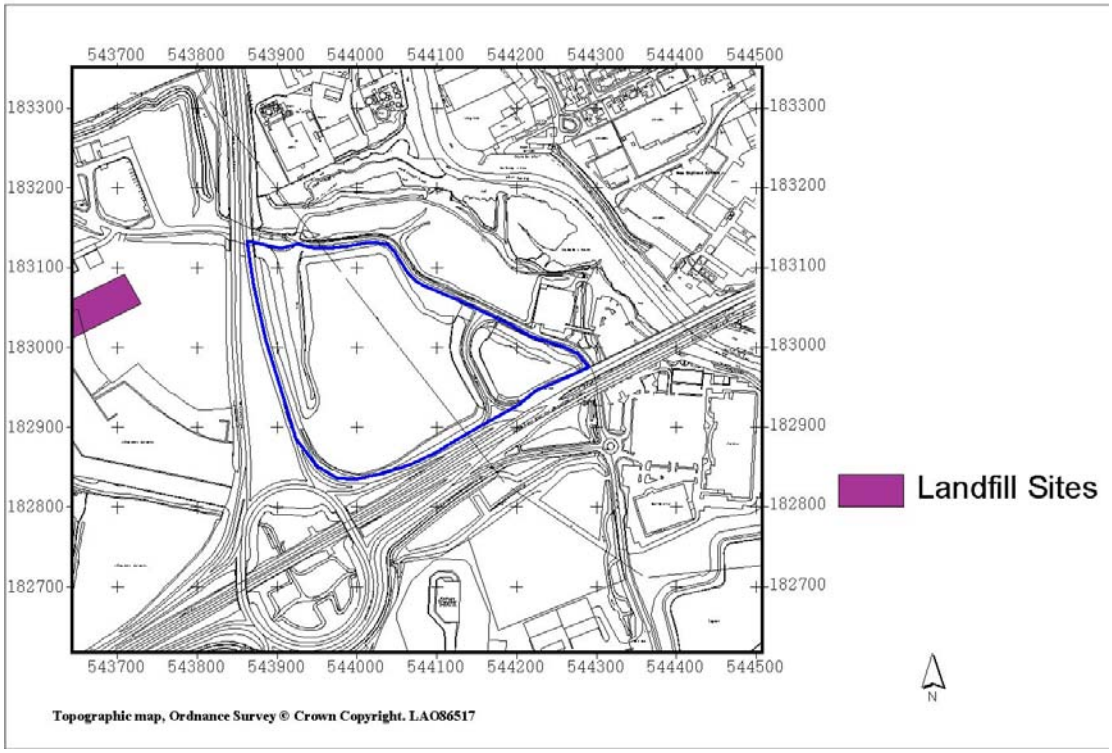
Hydrogeology of Site

Aquifer type: Minor Aquifer (variable permeable)
Water Courses: See table below

TYPE	NAME	QUALITY
water course	Drain	unclassified

Water Wells: None
Water Abstraction Sites: None

Landfill Sites (Site Name: PEZ1 Landfill, Search Radius: 0m)

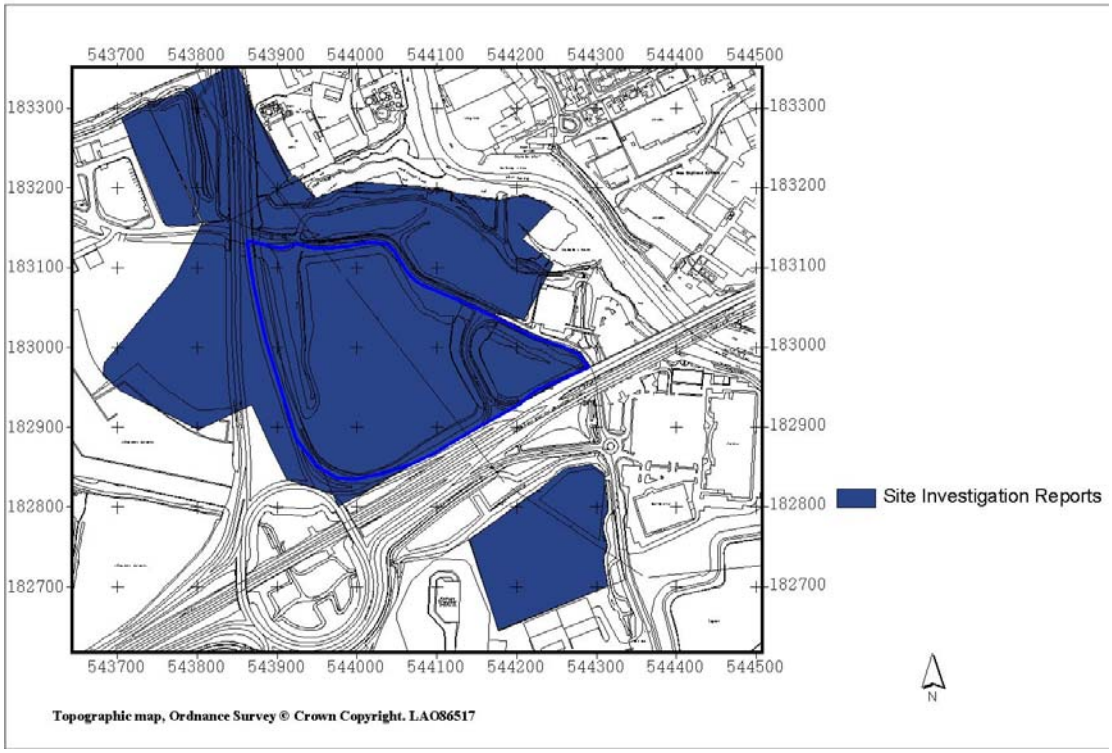


Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

Landfills within Site

None

Site Investigations (Site Name: PEZ1 Landfill, Search Radius: 0m)



Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

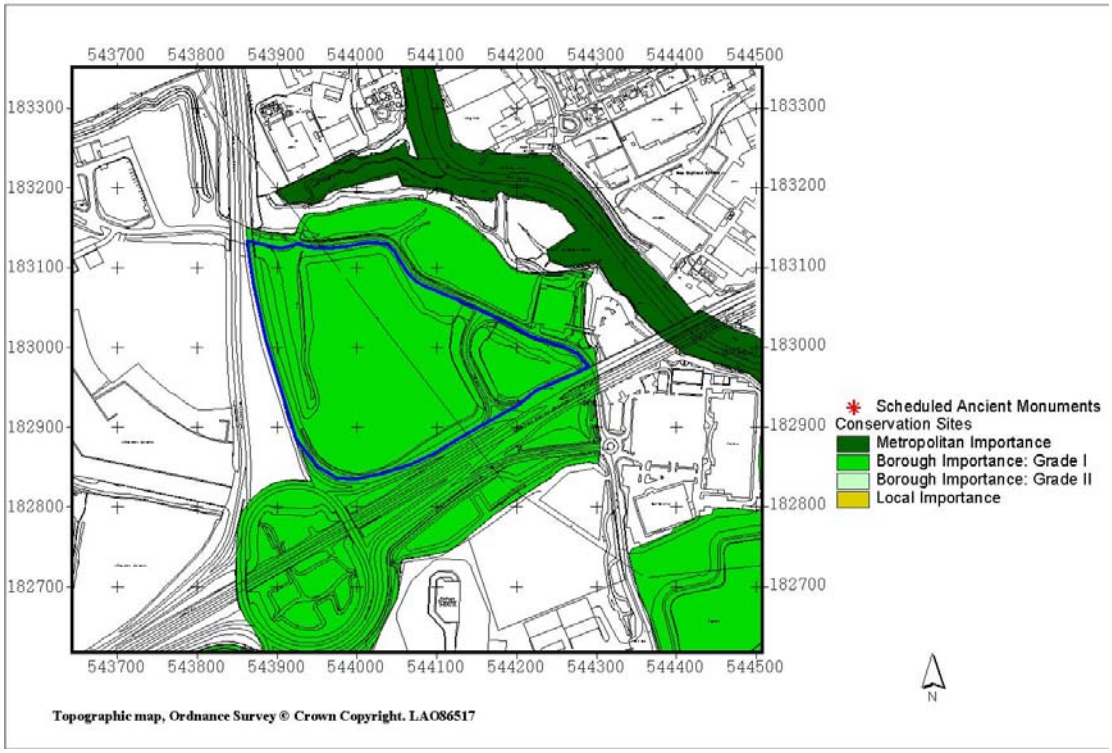
Site Investigation reports within Site

Site ID: C015
Site name: P.E.Z.1
Easting: 543990
Northing: 183034
Landuse1: Agricultural (paint works adjacent)
Date1: Up to 1920
Landuse2: General waste site
Date2: 1960's-1980's
Current landuse: Vacant
Contaminants: Soils: in isolated locations there are relatively high concentrations of heavy metals but the site as a whole is regarded as not seriously contaminated. Water samples from the drainage ditch to the west of the area did not show any significant contamination. (Tables of analytical results are available in the report by London Scientific Services).
Chemicals present: Up to Class 3 sulphate conditions exist and measures need to be taken to prevent sulphate attack of concrete foundations. pH levels are around neutral. Components to the made ground, the upper horizon being an inert capping
Gas: The lower horizon of the made ground has been found to

	be producing potentially explosive volumes of methane across most of the site.
Geology:	Alluvium containing peaty clay overlies river terrace material and London clay. This sequence is overlain by up to 10m of made ground. There are two components to the made ground, the upper horizon being an inert capping layer of sandy clay and brick rubble (approx. 3m thick) over a lower horizon of dense ash, rubble and refuse.
Boreholes:	Up to 30 or 40 boreholes are referred to by the various site reports.
Site report:	London Scientific Services in 1988. Kenchington Ford plc, August 1993, Geotechnical and Environmental Consultants, late 1993 Proposal for remediation by Aspinwall and Co, 1993
Planning:	Proposed development by Showcase Cinemas, in a small area for landscaping.
Remediation:	Recommended gas management including building protection and venting. A multi-barrier capping to the site is proposed.
Owner:	Greater London Council until 1988 then passed to the London residuary Body.
Comments:	1950s to 1960s site used for the tipping of domestic waste. In the early 1960s it was closed but highway rubble was tipped during the late 1960s and early 70s. More dumping of domestic waste occurred in 1987/89 including possible dumping of sludge from sewerage lagoons. Much of the later domestic waste was removed.

Site ID:	C159
Site name:	Jenkins Lane
Easting:	544106
Northing:	182983
Current landuse:	Large landfilled area - MSW, industrial, sewage sludge/Vacant
Contaminants:	See P.E.Z 1
Gas:	High generation of methane - varied flow rates High CO2, low O2
Geology:	Made ground <8.5m, Alluvium, sandy gravel, LondonClay
Boreholes:	6 - shell and auger rig
Trial pits:	18
Site report:	LSS Land Pollution Group 02/06/88
Remediation:	Methane emissions too high to allow for passive venting. Mechanical ventilation could be considered but have risk of failures which would lead to problems.
Water:	Groundwater at 9.5-9.8m.
Comments:	Requires regular monitoring of the gas over longer periods

Ecology (Site Name: PEZ1 Landfill, Search Radius: 0m)



Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

Environmentally Sensitive Areas within Site:

Conservation Sites:

Site Name: Beckton Triangle and Cuckold's Haven
Site Code: BI13
Classification: Borough Importance: Grade I
Easting: 543721
Northing: 182573

- Large areas of open land still remain undeveloped around Beckton, in the south-east of the Borough, containing a range of habitats and supporting a large population of birds

- The land has remained undeveloped due to the danger of flooding and because of its isolation

- The area described here extends from the Northern Outfall Sewer north to Cuckold's Haven, and is crossed by several main roads. The planned East London River Crossing road will also run across this land

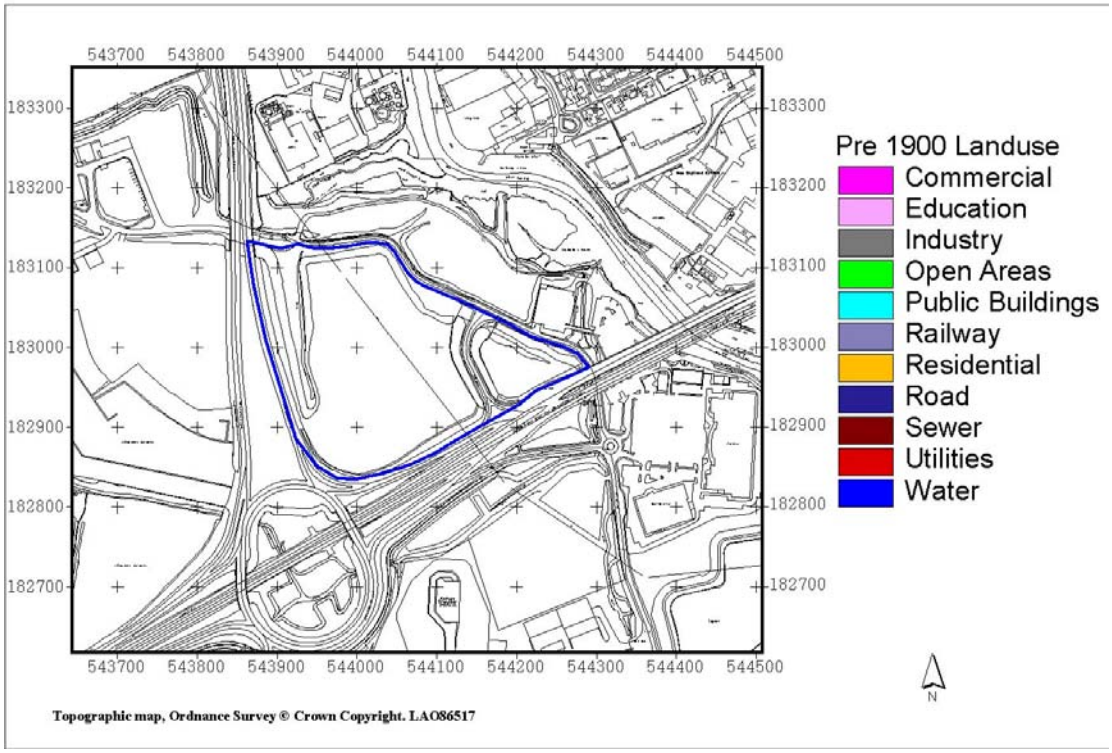
- Adjacent to the triangle are two more large areas of open land: Beckton Sewage Treatment Works and the Beckton Gas Works site. These compliment the site, increasing the area of habitat available to a number of birds typical of open countryside

- There is de facto public access to Cuckold's Haven, where the Borough proposes to create an educational nature reserve, and too much of the triangle. An extensive view over the area can be obtained from the top of Beckton Alps

- Cuckold's Haven is designated as Metropolitan Open Land

Scheduled Ancient Monuments: None

Pre 1900 Land Use (Site Name: PEZ1 Landfill, Search Radius: 0m)

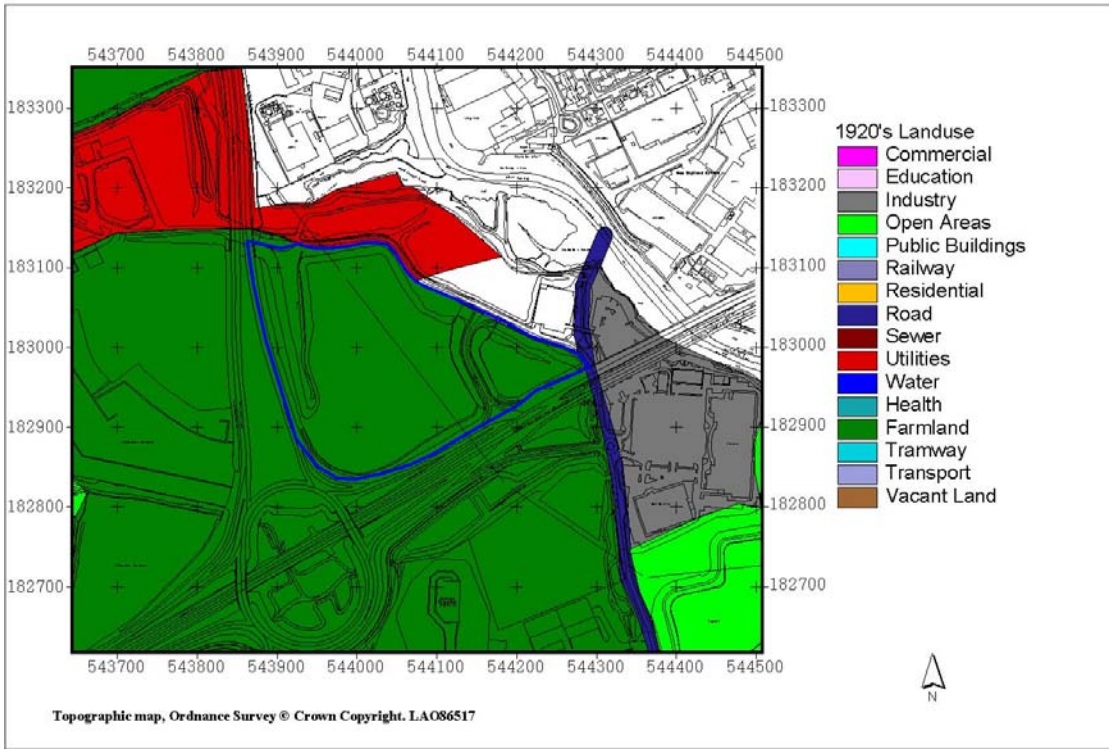


Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

Pre 1900 Land use within Site

None

1920's Land Use (Site Name: PEZ1 Landfill, Search Radius: 0m)

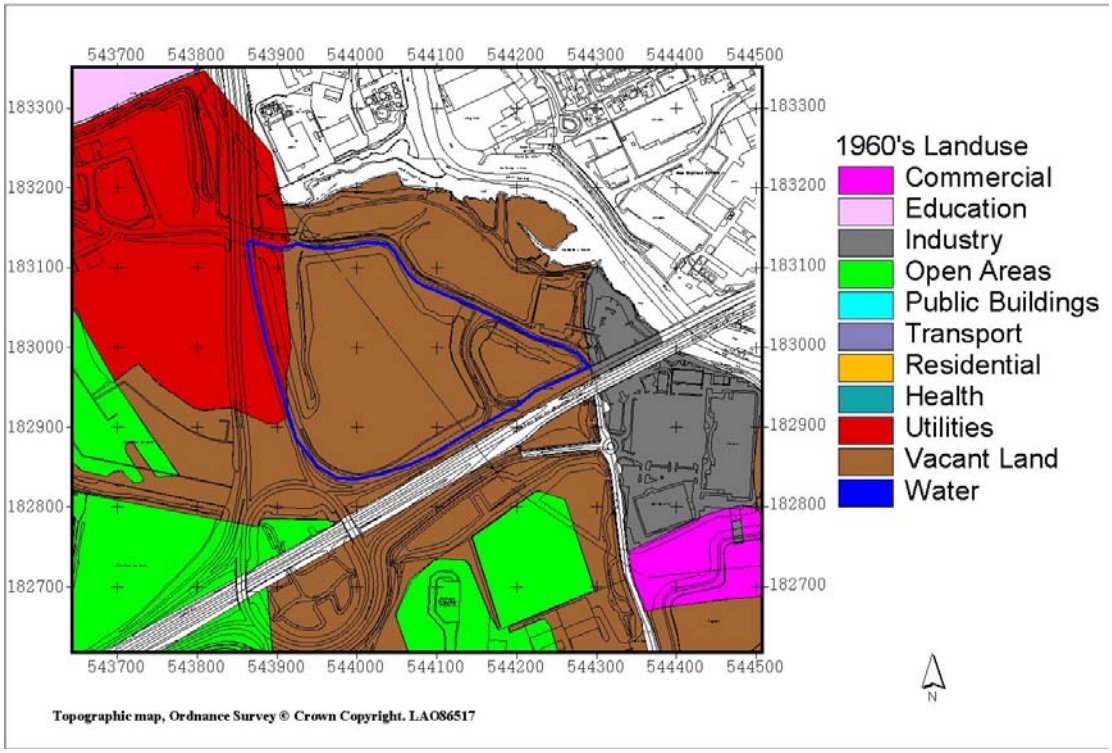


Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

1920's Land use within Site

MAIN_USE	DETAILS	COMMENTS	EASTING	NORTHING
Road	Jenkins Lane		544328.6	182854.0
Farmland	Farmland / Marshes		543839.1	182548.5
Utilities	Sewage works and installations		543757.3	183216.6

1960's Land Use (Site Name: PEZ1 Landfill, Search Radius: 0m)

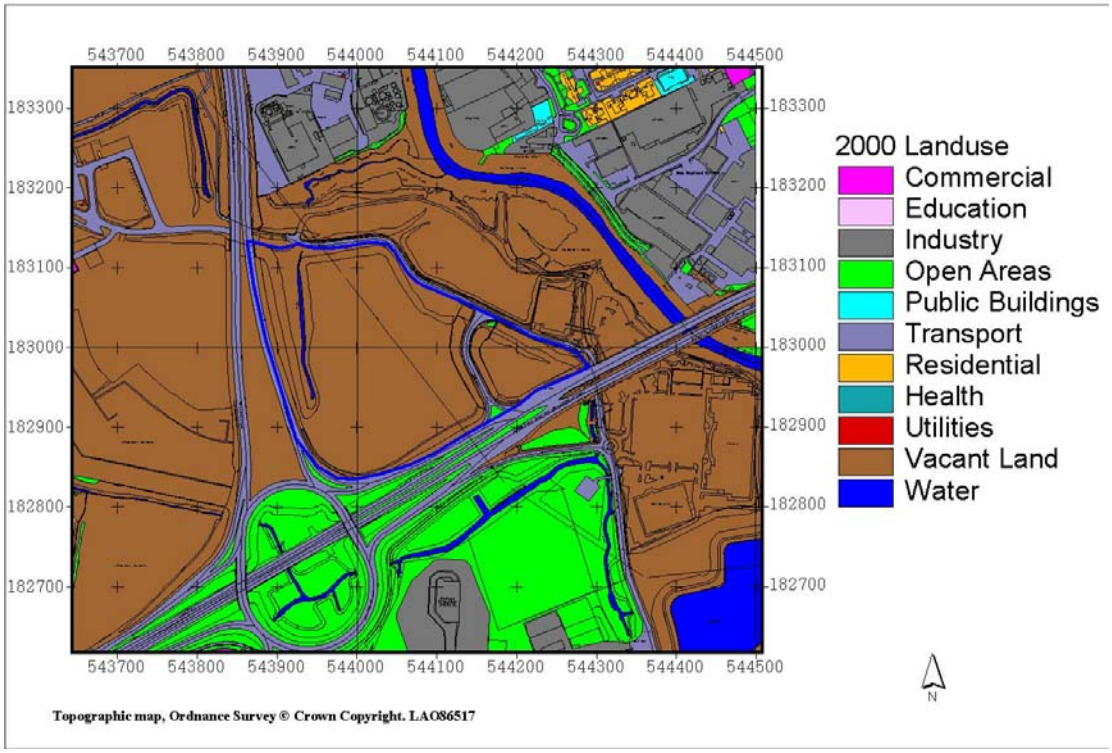


Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

1960's Land use within Site

MAIN_USE	DETAILS	COMMENTS	EASTING	NORTHING
Utilities	Refuse tips and destructors		543632.2	183124.9
Vacant Land	Hoardings	Marshy areas	544103.0	182996.5

2000 Land Use (Site Name: PEZ1 Landfill, Search Radius: 0m)

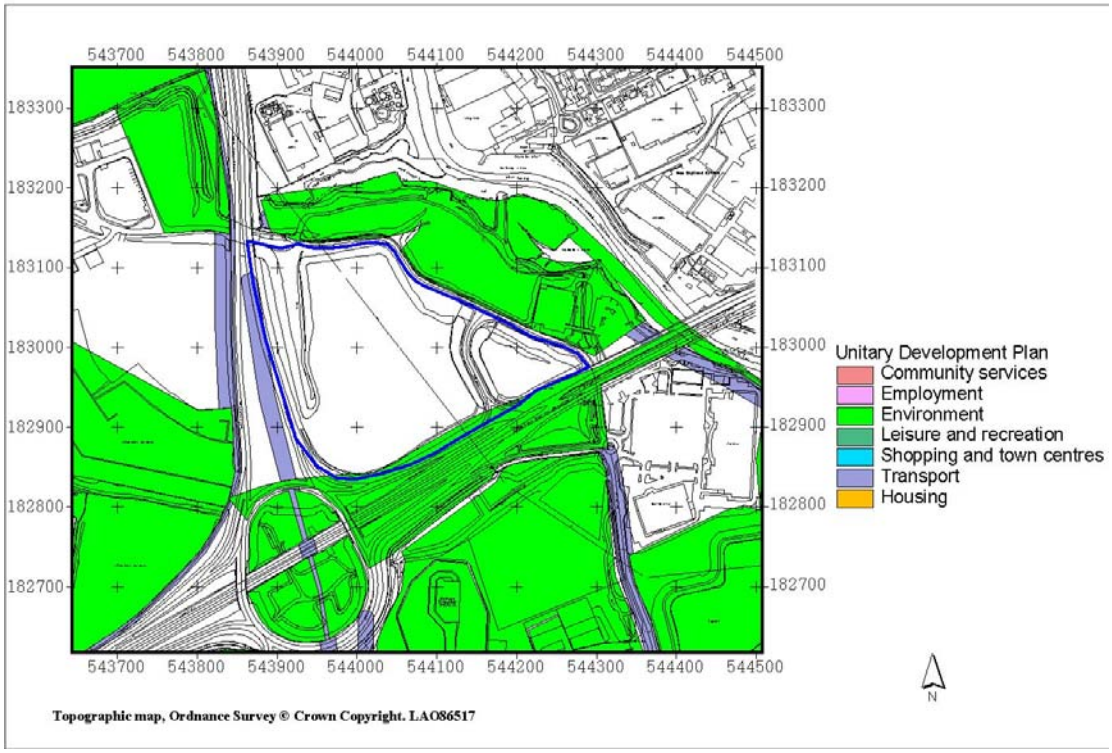


Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

2000 Land use types within Site

Transport
Vacant Land
Water
Open Areas
Residential

Unitary Development Plan (Site Name: PEZ1 Landfill, Search Radius: 0m)

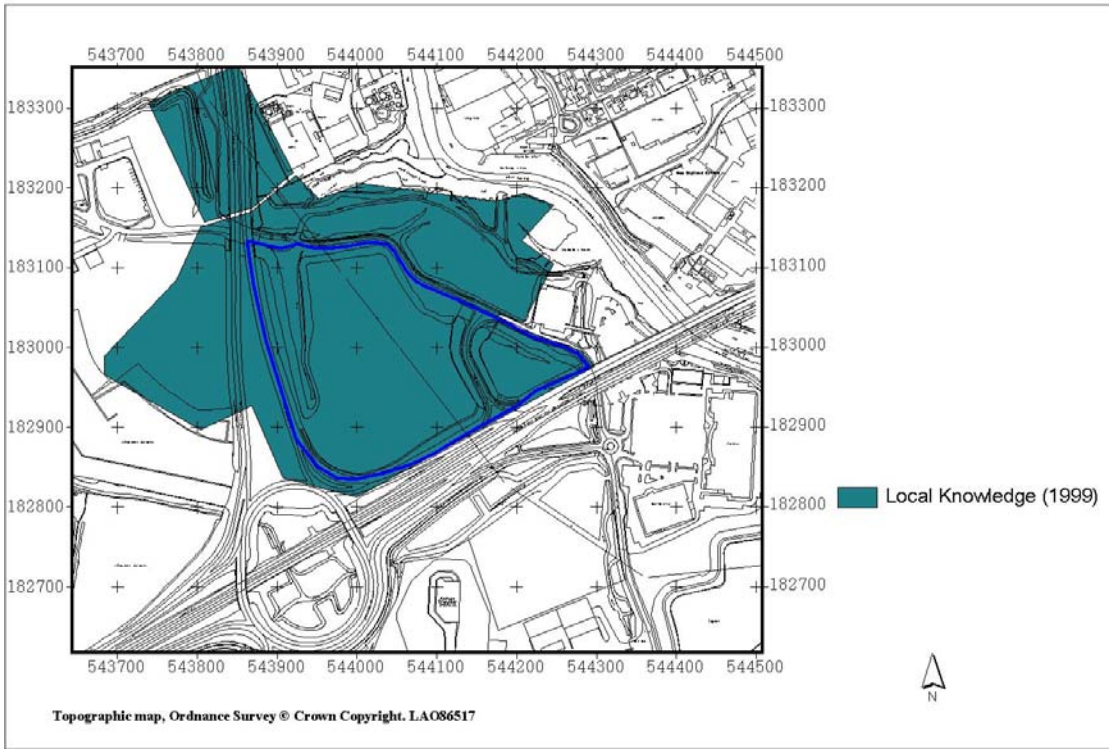


Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

Unitary Development Plan within Site

CATAGORY	LAND_USE	COMMENT	PROPOSAL	EASTING	NORTHING
Transport	New road proposal		t63	543976.5	182542.2
Major opportunity zone	Major opportunity zone	Also major leisure attraction	M.O.Z.14	544139.4	183032.6
Environment	Metropolitan open land (when not stated elsewhere)	Includes whole area enclosed by polyline		544128.7	182872.8

Local Knowledge (Site Name: PEZ1 Landfill, Search Radius: 0m)



Map showing the selected site (blue). The SITE search locates any feature completely or partly contained within the site boundary.

Local Knowledge within Site

Site Name: Principle Employment Zone 1 (PEZ 1)
Easting: 543994
Northing: 183036
Comments: This is an approximate site of the former East Ham Corp. waste tips. The entrance to Folkestone Road and the entrance to the Depot, and the area north of the A13, to Gooseley Lane covers the approximate area of tipping. Fill has been received in this area, which would include ash, cinders from the old East Ham Municipal incinerator which operated until 1954. Domestic refuse will have also been used to infill. The island created by Jenkins Lane and Spur Road is currently gassing very heavily, with refuse dumping ceasing around 1972-1973. The area will also have received sewage sludge. Much of the later refuse was removed.

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APPENDIX 7: GLOSSARY OF TERMS

The statutory guidance uses a number of terms which are defined in Part IIa of the Environmental Protection Act 1990, other Acts or in the guidance itself. The meanings of the most important of these terms are set out below, along with a reference to the section in the Act or the paragraph in which the relevant term is defined.

Apportionment: any determination by the enforcing authority under section 78F(7) (that is, a division of the costs of carrying out any remediation action between two or more appropriate persons). *Paragraph D.5(e)*

Appropriate person: defined in section 78A(9) as:

> "any person who is an appropriate person, determined in accordance with section 78F…, to bear responsibility for any thing which is to be done by way of remediation in any particular case."

Caused or knowingly permitted: test for establishing responsibility for remediation, under section 78F(2); see paragraphs 9.8 to 9.14 of Annex 2 for a discussion of the interpretation of this term.

Changes to Substances: an exclusion test for Class A persons set out in Part 5 of Chapter D. *Paragraphs D.62 to D.64.*

Charging notice: a notice placing a legal charge on land served under section 78P(3)(b) by an enforcing authority to enable the authority to recover from the appropriate person any reasonable cost incurred by the authority in carrying out remediation.

Class A liability group: a person who is an appropriate person by virtue of section 78F(2) (that is, because he has caused or knowingly permitted a pollutant to be in, on or under the land). *Paragraph D.5(a)*

Class B liability group: a liability group consisting of one or more Class B persons. *Paragraph D.5(c)*

Class B person: a person who is an appropriate person by virtue of section78F(4) or (5) (that is, because he is the owner or occupier of the land in circumstances where no Class A person can be found with respect to a particular remediation action). *Paragraph D.5(b)*

Contaminant: a substance which is in, on or under the land and which has the potential to cause harm or to cause pollution of controlled waters. *Paragraph A.12*

Contaminated land: defined in section 78A(2) as

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

"(a) significant harm is being caused or there is a significant possibility of such harm being caused, or;

(b) pollution of controlled waters is being, or is likely to be, caused."

Controlled waters: defined in section 78A(9) by reference to Part III (section 104) of the Water Resources Act 1991: this embraces territorial and coastal waters, inland fresh waters, and ground waters.

Current use: any use which is currently being made, or is likely to be made, of the land and which is consistent with any existing planning permission (or is otherwise lawful under town and country planning legislation). This definition is subject to the following qualifications:

(a) the current use should be taken to include any temporary use, permitted under town and country planning legislation, to which the land is, or is likely to be, put from time to time;

(b) the current use includes future uses or developments which do not require a new, or amended, grant of planning permission;

(c) the current use should, nevertheless, be taken to include any likely informal recreational use of the land, whether authorised by the owners or occupiers or not, (for example, children playing on the land): however, in assessing the likelihood of any such informal use, the local authority should give due attention to measures taken to prevent or restrict access to the land; and

(d) in the case of agricultural land, however, the current agricultural use should not be taken to extend beyond the growing or rearing of the crops or animals which are habitually grown or reared on the land. *Paragraph A.26.*

Enforcing authority: defined in section 78A(9) as:

(a) in relation to a special site, the Environment Agency;

(b) in relation to contaminated land other than a special site, the local authority in whose area the land is situated.

Hardship: a factor underlying any cost recovery decision made by an enforcing authority under section 78P(2)

Harm: defined in section 78A(4) as:

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

Industrial, trade or business premises: defined in section 78M(6), for the purpose of determining the penalty for failure to comply with a remediation notice, as:

> "premises used for any industrial, trade or business purposes or premises not so use on which matter is burnt in connection with any industrial , trade or business process, and premises are used for industrial purposes where they are used for the purposes of any treatment or process as well as where they are used for the purpose of manufacturing."

Inspection using statutory powers of entry: any detailed inspection of land carried out through use of powers of entry given to an enforcing authority by section 108 of the Environment Act 1995. *Paragraph B.21*

Intrusive investigation: an investigation of land (for example by exploratory excavations) which involves actions going beyond simple visual inspection of the land, limited sampling or assessment of documentary information. *Paragraph B.20(c)*

Liability group: the persons who are appropriate persons with respect to a particular significant pollutant linkage. *Paragraph D.5(c)*

Local Authority: defined in section 78A(9) as meaning any unitary authority, district council, the Common Council of the City of London, the Sub-Treasurer of the Inner Temple and the Under-Treasurer of the Middle Temple.

Orphan linkage: a significant pollutant linkage for which no appropriate person can be found, or where those who would otherwise be liable are exempted by one of the relevant statutory provisions. *Paragraphs D.12, D.14 and D.17*

Owner: defined in section 78A(9) as:

> "a person (other than a mortgagee not in possession) who, whether in his own right or as trustee for any other person, is entitled to receive the rack rent of the land, or where the land is not let at a rack rent, would be so entitled if it were so let."

Part IIa: Part IIa of the Environmental Protection Act 1990.

Pathway: one or more routes or means by, or through, which a receptor:

(a) is being exposed to , or affected by, a contaminant, or

(b) could be so exposed or affected. *Paragraph A.14*

Pollutant: a contaminant which forms part of a pollutant linkage. *Paragraph A.17*

Pollutant linkage: the relationship between a contaminant, a pathway and a receptor. *Paragraph A.17*

Pollution of controlled waters: defined in section 78A(9) as:

"the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter."

Possibility of significant harm: a measure of the probability, or frequency, of the occurrence of circumstances which would lead to significant harm being caused. *Paragraph A.27*

Receptor: either:

(a) a living organism, a group of living organisms, an ecological system or a piece of property which:
i. is in a category listed in Table A in Chapter A as a type of receptor,and
ii. is being, or could be, harmed, by a contaminant; or

(b) controlled waters which are being, or could be, polluted by a contaminant. *Paragraph A13*

Register: the public register maintained by the enforcing authority under section 78R of particulars relating to contaminated land.

Remediation: defined in section 78A(7) as

(a) the doing of anything for the purpose of assessing the condition of –
i. the contaminated land in question;
ii. any controlled waters affected by that land; or
iii. any land adjoining or adjacent to that land;

(b) the doing of any works, the carrying out of any operations or the taking of any steps in relation to any such land or waters for the purpose –
i. of preventing or minimising, or remedying or mitigating the effects of any significant harm, or any pollution of controlled waters, by reason of which the contaminated land is such land; or
ii. of restoring the land or waters to their former state; or

(c) the making of subsequent inspection from time to time for the purpose of keeping under review the condition of the land or waters.

Remediation declaration: defined in section 78H(6). It is a document prepared and published by the enforcing authority with regards to remediation actions which it would have specified in a remediation notice, but which it is precluded from specifying by virtue of sections 78E(4) or (5), the reasons why it would have specified those actions and the grounds on which it is satisfied that it is precluded from specifying them in a notice.

Remediation notice: defined in section 78E(1) as a notice specifying what an appropriate person is to do by way of remediation and the periods within which he is required to do each of the things so specified.

Remediation scheme: the complete set or sequence of remediation actions (referable to one or more significant pollutant linkages) to be carried out with respect to the relevant land or waters. *Paragraph C.8(c)*

Remediation statement: defined in section 78H(7). It is a statement prepared and published by the responsible person detailing the remediation actions which are being, have been, or are expected to be, done as well as the periods within which these things are being done.

Risk: the combination of:

(a) the probability, or frequency, of occurrence of a defined hazard (for example, exposure to a property of a substance with the potential to cause harm); and
(b) the magnitude (including the seriousness) of the consequences. *Paragraph A.9*

Significant Harm: defined in section 78A(5). It means any harm which is determined to be significant in accordance with the statutory guidance in Chapter A (that is, it meets one of the descriptions of types of harm in the second column of Table A of that Chapter).

Significant pollutant linkage: a pollutant linkage which forms the basis for a determination that a piece of land is contaminated land. *Paragraph A.20*

Significant possibility of significant harm: a possibility of significant harm being cause which, by virtue of section 78A(5), is determined to be significant in accordance with the statutory guidance in Chapter A.

Special site: defined by section 78A(3) as:

"any contaminated land –

(a) which has been designated as such a site by virtue of section 78C(7) or 78D(6)…;and

(b) whose designation as such has not been terminated by the appropriate Agency under section 78Q(4)…".

The effect of the designation of any contaminated land as a special site is that the Environment Agency, rather than the local authority, becomes the enforcing authority for the land.

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