CITY OF Lincoln COUNCIL

Contaminated Land Inspection Strategy 2022-2027

LOCAL AUTHORITY INFORMATION AND CONTROL SHEET

Document Status and Approval Schedule

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This document supersedes all previous Contaminated Land Inspection Strategy reports of the City of Lincoln Council

Executive Summary

The industrial history of our country has left a legacy of land where there is a potential for contamination to exist. This contamination may pose a risk to human health and/or the environment.

Part 2A of the Environmental Protection Act 1990 places a duty on local authorities to address these possible risks through the contaminated land regime. However enforcement under this legislation should be used when there is no other appropriate alternative and other mechanisms used in preference where possible. These include the development control and building control processes as well as voluntary action taken by landowners which helps to minimise the unnecessary burdens placed on taxpayers, businesses and individuals.

This strategy is a requirement under the contaminated land regime, as set out in Statutory Guidance, for local authorities who are the primary regulator. Strategies are to be reviewed at least every 5 years and therefore this document will be reviewed in 2027 unless there are any significant changes to the regime before this time.

Due to the withdrawal of the funding system from central Government for contaminated land work, the Council will now focus on addressing sites where contamination may exist predominantly through the development control process.

This document details further how this is already achieved and how we continue to work to drive standards and improve consistency in regulation across the region and further afield.

Contents

1. Introduction

The legal definition of contaminated land is set out in Section 78A(2) of Part 2A of the Environmental Protection Act 1990 (EPA 1990)[1]:

'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) Significant pollution of controlled waters is being caused or there is a significant possibility of such pollution being caused;'

In relation to radioactivity, as per Regulation 5(1) of The Radioactive Contaminated Land (Modification of Enactments) (England) Regulations 2006[2]:

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

(a) harm is being caused, or

(b) there is the significant possibility of such harm being caused;'.

Part 2A of the Environmental Protection Act 1990 (EPA 1990) and Contaminated Land (England) Regulations 2006[3] and subsequent amendments, detail the specifics of the contaminated land regime. Statutory Guidance[4] is issued by the Department for Environment, Food and Rural Affairs (Defra) which provides more detail on the regime and the duties of local authorities. Separate regulations and statutory guidance exist to cover radioactive contaminated land.

The Statutory Guidance sets out the responsibilities of local authorities who are the primary regulators for contaminated land. One of which is to set out the authority's approach to carrying out its duties under Part 2A of the EPA 1990, in a written strategy, which should be periodically reviewed at least every five years. The City of Lincoln's Inspection Strategy has been updated in line with these documents and supersedes any previously issued.

The latest Statutory Guidance for non-radioactive Contaminated Land was issued in April 2012 and Statutory Guidance for Radioactive Contaminated Land[5] was issued in June 2018.

It is important to note that Part 2A should only be used where no other appropriate solution exists. Other regimes which can be used to address potential contamination of land are discussed later in this document.

The term ‘contaminated land’ is sometimes used when referring to land which could be affected by contamination but has not been investigated to confirm or deny its presence or land which might have been investigated but levels of contamination are not sufficient to meet the statutory definition. The Council uses the term ‘contaminated land’ to mean any land which has been statutorily identified as contaminated land. Land where contamination might be present, as a result of a previous use of the land or from spills or leaks of chemicals for example, is referred to as ‘land possibly affected by contamination’. In many cases until sampling and chemical analysis of soils and/or water has been undertaken, it is impossible to determine whether contamination is present. Sampling results must also be risk assessed to establish if there is any risk and how significant it maybe.

A site cannot be identified as contaminated land simply by the presence of a contaminative substance being present in, on or under the land. In order for a site to be defined as contaminated at least one significant ‘contaminant or pollutant linkage’ must be demonstrated to exist. A linkage is comprised of three components:

Contaminant
The contaminant, a solid, liquid or gas, which is in, on or under the land that has the potential to cause significant harm or significant pollution of controlled waters.

Pathway
The means by which a contaminant can reach the receptor, this can be through soil, groundwater, surface water etc. For example by directly handling soil, breathing in dust from soil, ingesting soil attached to vegetables.

Receptor
A receptor is something which can be significantly impacted upon by the contaminant. The legislation identifies four main receptors:

a) Human beings
b) An ecological system within various designations and/or protection identified in Table 1 of the Statutory Guidance
c) Property in the form of buildings, crops and livestock, identified in Table 2 of the Statutory Guidance
d) Controlled waters

When all three components are present and risk assessment has concluded that significant harm is being caused or there is potential for significant harm to be caused, or significant pollution of controlled waters is or is likely to occur, this is then termed a ‘significant contaminant/pollutant linkage’.

Part 2A works on a risk-based approach of the likelihood of harm or pollution of water occurring and the scale and seriousness if such occurred.

2. Aims & Objectives

The aim of this document is to outline how the Council will implement the contaminated land regime within the city, in a proportionate and cost-effective manner. It is not the intention to reiterate the specifics set out in the legislation and Statutory Guidance or other guidance available which covers the many aspects involved when assessing land for contamination. A brief outline of the regime is provided on GOV.UK and on our own website.

Section 78B(1) of the EPA 1990 states:

'Every local authority shall cause its area to be inspected from time to time for the purpose –

(a) of identifying contaminated land; and
(b) of enabling the authority to decide whether any such land is land which is required to be designated as a special site.'

The objectives of the Part 2A regime, as detailed in paragraph 1.4 of the Statutory Guidance, are

(a) To identify and remove unacceptable risks to human health and the environment.
(b) To seek to ensure that contaminated land is made suitable for its current use.
(c) To ensure that the burdens faced by individuals, companies and society as a whole are proportionate, manageable and compatible with the principles of sustainable development.'

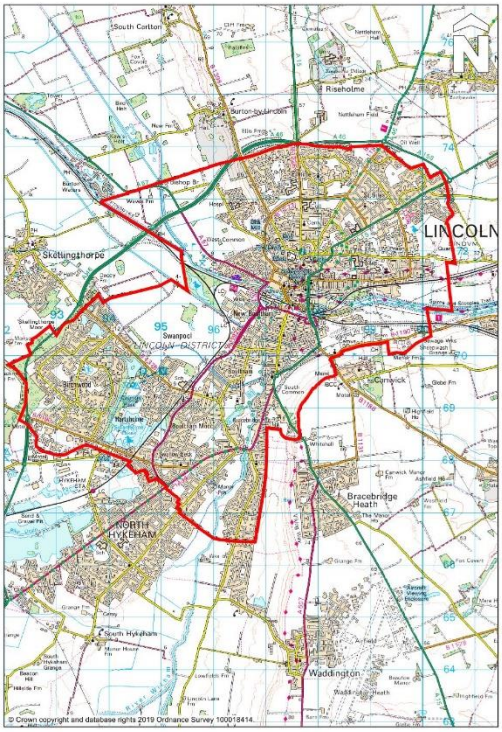
It is the local authority's responsibility to meet these requirements. This Council believes the best way of achieving these objectives is through its development management and regeneration roles, only using its powers under Part 2A of the EPA 1990 where it is necessary and proportionate to do so.

The planning policies for the growth and regeneration of Lincoln are detailed within the Local Plan for Central Lincolnshire[6]. The development of land affected by contamination is covered under policy LP16.

In addition land affected by contamination can be voluntarily addressed by the landowner and the Council would welcome the opportunity to discuss this with any person/bodies wishing to do so.

3. Characteristics of Lincoln

The City of Lincoln Council's administrative area covers 3,571 hectares with a population of 99,039[7]. It is an urban environment with few Greenfield sites, leading to a focus on brownfield sites for development.



Set in the largely agricultural area of Lincolnshire, Lincoln has been an important settlement since Roman times and with the historic cathedral and castle, Lincoln has a rich cultural heritage. Through the mid-18th Century the commercial centre of the city grew along the water courses of the Fossdyke, River Witham and Brayford Pool with maltings, warehousing, coal and timber yards for example.

The introduction of the railway in the 19th Century and heavy engineering industry brought more growth to the city. Products included agricultural machinery, locomotives moving to military tanks and aircraft in the early 20th Century. Several excavated areas exist from gravel extraction in the southwest of the city to limestone and ironstone in the northeast. A number of these former excavated areas have subsequently been used for waste disposal.

All of these historical industrial uses will have had the potential to have leave contamination in the ground or within streams or rivers etc. Iron and steel production will have generated large quantities of wastes containing arsenic, and lead and other heavy metals. Where works produced their own coke, waste tars, waste solids and waste waters resulted. Timber treatment works created waste sludge and contamination of the ground.

Railways were very prominent within the city with at one point two railway stations present in the centre. Various contamination can result from goods sheds, depots and the ash and clinker used to construct lines. The original gas works for the city was located on Newland before moving to a larger site on Newark Road. Gas works associated activities have the potential to produce a wide variety of contaminants.

Due to the density of development within Lincoln and the way the city has evolved, there is an increased probability of residents being in closer proximity to these former industrialised areas.

Currently the city is still home to some manufacturing industries but has also expanded in the service sector, with particularly strong growth in education. The University of Lincoln is rapidly expanding with the main campus built largely on former reclaimed and remediated industrial land.

Along with the risk to human health and the water environment from potential contamination, consideration must also be given to ecological systems and property. Many areas are of an archaeological importance. Within the City, there are currently 26 scheduled monuments (one of which covers a variety of sites around the Cathedral Quarter), 417 listed buildings and 3 parks and gardens. There are 2 Sites of Special Scientific Interest (SSSI's), Swanholme Lakes and Greetwell Quarry.

The geology and hydrogeology of an area plays an important part in understanding how contamination will behave in the ground and the risk to ground and surface waters. The rocks underlying Lincoln are from the Jurassic period including Mudstone and Sandstone from the Lias Group with designation of a Secondary B aquifer. The northeast of the city is underlain by the Lincolnshire Limestone which is a Principal Aquifer. This area also has classifications of Zone II and Zone III Groundwater Source Protection Zones.

Soils above bedrock are generally Alluvium sands and gravels with clay and silt and River Terrace Deposits of sands and gravels. In the northeast of the city, soils are quite shallow, with frequently mostly made ground above the limestone. The majority of soils in the remaining areas are classed as a Secondary A aquifer with some small unproductive strata in places.

Homes and businesses in Lincoln obtain their water from the public supply mains, with no private water supplies present within the city boundary. Quantities of water are however obtained from local surface waters for use in industry and agriculture, e.g. for cooling and irrigation.

The City is crossed by two main surface watercourses, the River Witham and the Fossdyke. There are also numerous smaller watercourses and drains, which eventually join the River Witham and the Fossdyke as they flow across the City. The Fossdyke and Witham meet at the Brayford Pool in the centre of Lincoln. Historically, industries set up along the watercourses as they provided the primary means for the movement of materials and goods.

4. Strategic Inspection & Prioritisation

The City of Lincoln Council has set out its ambitions for the city in its strategic plan, Vision 2025[8], which has five strategic priorities.

- Let's drive economic growth
- Let's reduce inequality
- Let's deliver quality housing
- Let's enhance our remarkable place
- Let's address the challenge of climate change

The Council's management of land affected by contamination has a role to play in most of these objectives from attracting investment by bringing brownfield land back into beneficial use, helping to make people safe in their communities, ensuring land is suitable for new housing and enhancing our natural environment.

Using predominantly historical maps supplemented with Council records and other local sources, a database has been compiled of sites where past uses may have led to the presence of contamination - these have been termed 'Sites of Potential Concern'. Using this, a manual method of prioritisation has been used to rank sites in order of priority for detailed inspection. Over 450 sites have been identified as Sites of Potential Concern. This ranges from large industrial sites, such as a former power station and domestic landfills, to very small, infilled ponds and warehouses of unknown use.

This list requires continued refinement to take into account those sites which have already been addressed through the planning process or voluntary remediation and as development on sites of potential concern continue.

This list of sites of potential concern is not made publicly available due to the potential to cause blight to an area which may appear on the list. These sites have not yet been investigated and have only been identified with a potential for contamination to be present due to known historical uses in order to rank into a priority order for possible inspection.

It is important to note that Part 2A addresses the risk based on the current land use. Whilst sites may have been noted as remediated or not requiring inspection this does not preclude work being required in the future should a more sensitive land use be proposed which might create a risk for end users.

Part 2A adopts a precautionary approach in terms of the risks posed by contamination. The Statutory Guidance provides more detail on the actual specifics of risk assessment and the procedures for deciding whether land meets the legal definition of contaminated land resulting in determination. Any inspection by the Council carried out under Part 2A would follow the requirements set out in the legislation and Statutory Guidance at that time.

Where land has been identified as meeting the statutory definition of contaminated land the local authority has a duty to ensure remediation of the land is undertaken.

Local authorities are required to provide written records relating to determinations of contaminated land and make such publicly available. Under Section 78R of Part 2A of the EPA 1990 enforcing authorities are required to hold a register detailing a variety of notices, appeals etc. in relation to securing the remediation of land which has been identified as contaminated. The City of Lincoln Council maintains such a register in hard copy which can be viewed at the Council's offices as well as an electronic version available on our website.

An annual measure has been calculated since 2016/17 of the 'Area of sites (m^2) of potential concern made suitable for use in the year', as an ongoing means of quantifying the amount of land addressed largely through the development control process. This is reported within the Council's performance system.

5. Detailed Inspection

Sites of Potential Concern are prioritised into an order for detailed inspection with the highest ranking sites being those to be inspected first as they are viewed as being the most likeliest to have contamination present.

Detailed inspection follows a phased approach, which is standard practice for investigating the presence of contamination. This will normally include intrusive investigations involving the collection of soil and water samples along with gas and groundwater monitoring, dependent on the type of contamination suspected.

All inspections must follow the Statutory Guidance, Environment Agency Land contamination: risk management (LCRM) guidance [9], and other up-to-date best practise and guidance.

To date the City of Lincoln Council has undertaken one inspection under Part 2A of the EPA 1990. This resulted in the determination of a number of properties as statutory Contaminated Land and remediation measures required. These details can be found on the Council's Register of Contaminated Land, available online.

The inspection of potentially contaminated land sites under the Part 2A regime is very resource intensive for the local authority, in terms of both time and money.

Defra previously provided a grant system to local authorities via a bidding system, to finance the investigations. The grant system could also be used by local authorities to remediate sites, where no other responsible party could be identified. This scheme was withdrawn in 2013 and no replacement funding mechanism has been provided to enable local authorities to undertake this work.

Intrusive investigations usually require the use of external environmental consultants and can cost tens of thousands of pounds with potentially further investigation required after initial results are received. Where remediation is required, the Council will always seek to identify those persons responsible for the contamination and therefore liable for the costs of remediation.

Remediation costs can reach hundreds of thousands of pounds and where no other person is found to be liable for the costs, this would fall to the City of Lincoln Council to fund and ultimately the taxpayer.

The Statutory Guidance states that local authorities must seek to minimise unnecessary burdens on the taxpayer. As such, in the absence of any external funding mechanisms and the financial risk that this creates, the City of Lincoln Council at this time, will not pro-actively undertake Part 2A detailed inspections of Sites of Potential Concern.

The Council will continue to use the favoured mechanisms detailed in the Statutory Guidance, such as the development control process and voluntary remediation, to ensure that historical contamination is appropriately and proactively dealt with. These alternative arrangements are described in more detail below.

The Council will, however, use its powers under Part 2A of the EPA 1990 to reactively deal with contaminated land where there is clear evidence that a problem exists or is likely to exist.

6. Broader Approach

Contaminated land is considered within the Development Control and Building Control regimes to ensure sites are suitable for their current and intended use. Each system has its own requirements.

Development Control

The latest National Planning Policy Framework (NPPF)[10] was published in February 2019 and revised in 2021. Paragraphs 183 onwards detail the requirements for addressing potential contamination in the development control process to ensure the site is suitable for its proposed use and, after remediation (where required), the land is not capable of being determined as Contaminated Land under Part 2A.

Environmental Health – Pollution Control act as a consultee within the planning process and work closely with Planning Officers to ensure issues of potential contamination are investigated and addressed where required, using conditions on planning consent notices, as appropriate.

Involvement continues throughout a development up to the point it is demonstrated that no remedial measures are required on a site or a final verification report is submitted and agreed to demonstrate remediation work has been successful. It is the responsibility of the developer and/or landowner to ensure the site is safe. The Council welcomes early communication on these matters so advice can be provided as to the requirements of addressing land contamination under the planning regime.

Addressing potential contamination through the development control regime is the best approach for addressing potentially contaminated sites. The high number of planning applications received per year in the city allows a much greater number of sites to be investigated than could be under the Part 2A regime. The use of other mechanisms to address potential contamination is supported by the Statutory Guidance.

Building Control

Regulation 6 of the Building Regulations 2010[11] identifies resistance to contaminants as being a requirement to certain material changes of use.

Approved Document C, 'Site preparation and resistance to contaminants and moisture'[12], provides guidance for addressing potential contamination within the Building Control regime.

Again the Pollution Control team works closely with Building Control Officers with regards to the requirements under the legislation and the subsequent remediation measures agreed for a site with the developer/landowner.

Environmental Permitting Regime

The Environmental Permitting (England and Wales) Regulations 2016[13' and subsequent amendments provides a regime for the regulation of prescribed industrial and waste management activities.

Where significant harm or pollution of controlled waters comes from a process regulated under the above regimes, a remediation notice under Part 2A of the EPA 1990 cannot be served if the powers are available under the relevant Environmental Permitting (EP) regime to address the harm or pollution of controlled waters.

Voluntary Remediation

The Council welcomes any discussions with landowners/occupiers who wish to address potential contamination on their land on a voluntary basis. This sometimes occurs where a landowner wishes to sell land, use it as equity, reduce the risk of damage to the environment or limit any future liability.

Regional Collaboration

The City of Lincoln Council is a member of the Yorkshire and Lincolnshire Pollution Advisory Group (YALPAG). This is a voluntarily run organisation comprised of a number of local authorities through the Yorkshire and Lincolnshire area. YALPAG works to provide support to local authority officers, encourage dialogue with the wider industry and deliver consistency in the regulation of environmental pollution matters.

The Land Technical Group within YALPAG has produced a guidance booklet, 'Development on Land Affected by Contamination'[14], primarily for use by developers in the planning process. It provides a useful overview of the stages involved when investigating land for potential contamination. YALPAG has also produced two further guidance documents on verification requirements for two common forms of remediation. These are widely known throughout the region and even nationally, being adopted by authorities outside the YALPAG region as well.

This is an important element of the Council's work in liaising further with environmental consultants and developers to improve standards of investigation and increase awareness of the requirements particularly within the planning process.

Glossary

Aquifer – A body of rock or sediment that is sufficiently permeable to store and transmit water under the ground, in quantities that permit use of the water.

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.

Controlled waters – as defined by Part 3 of the Water Resources Act 1991 which includes relevant territorial waters, coastal waters, inland freshwaters and groundwaters (any waters contained in underground strata). However, for Part 2A purposes groundwaters does not include waters contained in underground strata that are above the saturation zone.

Harm – as defined in section 78A(4);
'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.'
In terms of radioactivity as defined in section 78A(4)(as modified);
'lasting exposure to any person resulting from the after-effects of a radiological emergency, past practice or past work activity'.

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.

Pollution of controlled waters – as defined by section 78A(9) of Part 2A;
'the entry into controlled waters of any poisonous, noxious or polluting matter or any solid waste matter'.

Possibility of significant harm – in terms of human health the risk posed by one or more contaminant linkage(s) relating to land. As per section 4.11 of the Statutory Guidance it comprises:

(a) The estimated likelihood that significant harm might occur to an identified receptor, taking account of the current use of the land in question.
(b) The estimated impact if the significant harm did occur i.e. the nature of the harm, the seriousness of the harm to any person who might suffer it, and (where relevant) the extent of the harm in terms of how many people might suffer it.

Principal Aquifer – as defined by the Environment Agency
'These are layers of rock or drift deposits that have high intergranular and/or fracture permeability – meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer'.

Remediation – the doing of any works to prevent, minimise, remedy or mitigate against the risk of contamination.

Secondary Aquifer – as defined by the Environment Agency;
'These include a wide range of rock layers of drift deposits with an equally wide range of water permeability and storage. Secondary aquifers are sub divided into two types:
Secondary A – permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classed as minor aquifers
Secondary B – predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.'

Source Protection Zones – these relate to groundwater sources such as wells, boreholes and springs which are used for public drinking water. As described by the Environment Agency, 'these zones show the risk of contamination from any activities that might cause pollution in the area' which could be a risk to a drinking water supply. The closer such an activity might be to a source the greater the risk.

Unproductive Strata – layers of rock with such low permeability they can hold little water and therefore are not aquifers.

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