

# Building on Brownfield

Towards more effective regulation of brownfield development





# Table of contents

- 1. Foreword..... 1
- 2. Building on brownfield land will help resolve the housing crisis..... 3
- 3. Brownfield land can be safely cleaned up for new development..... 3
- 4. The regulatory system is not properly enforced..... 4
  - How the regulatory system should work
  - How regulatory enforcement has deteriorated
- 5. Recommendations..... 10

# Foreword

The words “contaminated land” have been used for years to mean a whole plethora of different things. They invoke a number of reactions from individuals, both professionals and the general public dependent on their knowledge and experience. In reality the use of “Brownfield sites” is seen as positive whilst “Contaminated land” is seen as negative, and professionally the whole area is seen as an “opportunity” or a “threat” depending on which side of the divide one sits and “costs” associated with the management of such sites are normally seen as risks and obstructive to the process of development.

Over the past 20 or so years government policy has attempted to square the circle by encouraging brownfield development from a viewpoint of maximising value. Bringing such derelict sites into convenient re-use and managing local expectations by providing developments where they are needed and expunging the older derelict sites which are seen as eyesores. Many extremes of this policy have been seen from “there was a shed there once” to highly contaminated ex-industrial sites, rightly designated as “Part 2A”. But we are now in a position to correctly manage these various types of sites and ambitions to both a professional and public advantage.



Add into the mix the current concerns within the construction sector and we have a recipe to undo the good that has been done developing these various complementary policies and practices. Developing contaminated or brownfield, land requires a partnership between the regulatory and development industries where both feel that their concerns are addressed. For too long the pendulum has been swung one way, with regulatory funding cut and overworked regulators have naturally been reticent to approve solutions being thrust upon them by overly assertive developers. Equally developers have felt that their pragmatic approaches have been unnecessarily scrutinised and delayed by regulators who are seen as “inconsistent and slow”. We need to unpick this adversarial relationship and utilise the current regulatory regime to best effect for all.

This report explains some of the challenges and offers some ideas as a starting point for solutions to solve this impasse. We need more development in appropriate places, we need the derelict sites to be brought back into economic use and we need the public to see this as advantageous. Professional remediation solutions exist and are as varied as the problems they solve. The aim then must be a regulatory system which requires explicit confirmation that the correct solutions have been called for, designed in, applied and above all been successful. Cutting corners may offer short term gains, but can destroy the development of an innovative solutions for decades. The best solution is one that works for all stakeholders. I hope this report starts a debate and I look forward to hearing the views and thoughts of stakeholders.

**Peter Atchison, Managing Director PA Geotechnical,  
Chair of the EIC Contaminated Land Working Group**



# Building on brownfield land will help resolve the housing crisis

Britain faces a housing crisis. The Government has set a target of 300,000 new homes a year to enable the housing market to cope with population and socio-economic pressures.

Building many of these homes on brownfield land means delivering them in areas which already have infrastructure and where the demand for housing is already high. It also eases pressures on councils to release greenfield land and prevents unnecessary loss of the countryside and Britain's natural capital.

A February 2018 analysis of Brownfield Land Registers estimates that there is enough space on brownfield land to build at least one million new homes, with more than two-thirds of these homes deliverable within the next five years<sup>1</sup>. This means that three of the next five years' worth of Government housing targets could be met through building homes on brownfield land that has already been identified. The areas of England identified as having the highest number of potential "deliverable" homes on brownfield include London, the North West and the South East with the new registers giving minimum housing estimates of 267,859; 160,785 and 132,263 respectively.

## Brownfield land can be safely cleaned up for new development

Brownfield land by definition has been previously used for some sort of development. In some cases this could have resulted in serious contamination from industrial chemicals or hazardous materials such as asbestos, but equally it may simply be the inert remains of former buildings that need safely clearing away so that preparation for new development can begin.

Due to Britain's long industrial heritage, we have a world class contaminated land and brownfield remediation sector, comprising both expert consultancies and specialist contractors. We also have an extensive regulatory system covering the clean-up of brownfield and contaminated land, including Part 2A of the Environmental Protection Act, elements of the Water Framework Directive, use of planning conditions in the land use planning system and Building Regulations.

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<sup>1</sup> CPRE, State of Brownfield 2018

# The regulatory system is not properly enforced

## How the regulatory system should work

Identifying and remediating contaminated land usually takes place through two main regulatory routes. Land that is significantly contaminated, can be designated as contaminated land under Part 2A of the Environmental Protection Act. The local authority may then pursue the historical polluter for the costs of clean up (government grants were also available in the past for such clean up but this funding has been cut).

More commonly however, a developer sees development potential in a piece of brownfield land and applies for planning permission to develop it. In preparing brownfield land for new development the developer would then go through a series of stages, drawing on the expertise of competent specialists, as follows.

- 1. Preliminary Risk Assessment (PRA):** A PRA (sometimes referred to as a Phase 1 investigation) is carried out to provide a preliminary qualitative assessment of risk from any contamination by interpreting information on a site's history, considering the likelihood of contamination being present and making an initial hazard assessment. The PRA would typically consist of a desk study, site reconnaissance, development of a conceptual model and a basic hazard assessment, and is expected to meet the criteria outlined in British Standard (BS) 10175 (2011) Investigation of Potentially Contaminated Sites – Code of Practice. A key outcome is the identification of any potentially unacceptable risks that will require physical investigation and testing to assess whether remediation is required and what methods would be suitable. A second key outcome is the scoping of appropriate physical surveys, investigations and testing required to resolve any unacceptable uncertainties. Assuming the developer wishes to proceed with the development, the PRA will be submitted with the planning application either to demonstrate that no Phase 2 investigation is warranted or to enable the local authority to approve the proposed scope of Phase 2 investigations
- 2. Planning permission/planning conditions:** If the PRA had indicated some contamination, the local authority would usually require a more in depth investigation to be carried out. The involvement of the Environment Agency in scrutinising the planning application, depends on the type of site and degree of perceived risk. The Agency may also request conditions for water protection that would form part of planning.
- 3. Site investigation:** The developer would then conduct, (usually through a specialist firm), a site investigation which aims to reduce the uncertainties identified in the initial conceptual model by quantifying potential contamination at the site. The data obtained will be used to inform a decision as to whether the site is in any way potentially harmful. The investigation process should seek to clearly identify and characterise plausible source-pathway-receptor linkages at the site and provide information for the refinement of the initial conceptual model.
- 4. Remediation Strategy:** If the site investigation confirms the presence of contamination that will require remediation prior to the site being suitable for its intended use, the developer then submits a remediation strategy - a document detailing what action is to be carried out so that contamination no longer presents a risk to site users, property or ecological systems. It may include measures such as the removal of contamination, encapsulation of the contaminants, treatment of the contaminants or measures to break the pollution linkages. This statement should include full details of how the contamination problem at the site will be addressed and a verification plan setting out details of how it will be subsequently demonstrated to the local planning authority that the required remediation work has been successfully completed.
- 5. Remediation works and verification report:** The remediation strategy must be approved by the Local Planning Authority (LPA) before any remedial actions at the site commence. Remediation work can then start, and when completed the developer will be required to submit and receive approval of a verification report usually as a pre-occupation condition. In certain circumstances it may be necessary for the developer to conduct post-completion monitoring. This should be undertaken to the approval of the LPA and results of the monitoring should be submitted for review. For limited remediation works or protective works a verification statement alone may be acceptable. The verification report should provide confirmation that all measures detailed in the verification plan have been successfully completed, including where appropriate, validation testing.
- 6. Discharge of conditions:** Once the local authority has received and is satisfied with the verification report, it will discharge the contaminated land conditions and the site is safe for its new intended purpose.





## How regulatory enforcement has deteriorated

In practice, though, the regulatory system described above is struggling with a loss of resources (both financially and in terms of expertise) and constant economic pressures on developers which push them towards the lowest-cost options. The upshot is the risk of low quality remediation putting our communities and the environment at risk.

These issues are discussed further below and set out visually in Figure 1.

**Reduction in specialist Contaminated Land Officers (CLOs):** Traditionally contaminated land assessment and regulation had been seen as an important local authority function, with dedicated CLOs with deep expertise being employed. EIC members have reported that this has become steadily less common, and the evidence backs this up.

A 2014 study by Cranfield University reported that 52% of local authorities were reporting a loss in CLO resources since 2007, with 53% of those authorities losing over 0.5 full time equivalent posts in this area<sup>2</sup>.

To track developments since the Cranfield report, EIC sent Freedom of Information requests to English councils to find about resources and practices in this area, with 134 councils from both rural and urban areas responding. 39% reported that they had no dedicated “Contaminated Land Officer”, and 23% said that they had no in-house specialist resource at all for contaminated land (some – but not all – of these Councils were using external consultants to fill the gap).

The result is that at a time when there is, rightly, strong encouragement to build on brownfield land, councils’ resources to ensure this is done properly are more and more stretched – one major city council we contacted told us that their CLO is now responsible for assessing 400 planning applications on contaminated sites a year, compared to 150 a year in 2013.



**Fewer site visits to check remediation works:** While in some cases councils will be able to cover this loss of in-house expertise through using consultants, it does appear to mean that the amount of site visits conducted by local authorities is decreasing. Only 13% of councils perform routine site visits to check remediation work on brownfield sites, and while many will do so on request or in certain cases, 3% said they never undertook any site visits. Given the Cranfield report found that councils tend naturally enough to fund inspections from their own budgets, and that the National Audit Office found that local authorities had faced a real-terms reduction in ‘spending power’ of 28.6% since 2010, this is not surprising<sup>3 4</sup>.

### CASE STUDY

*“From my extensive experience in the past in the public sector with a large Midlands local authority, with the Environment Agency and in more recent years as an independent environmental consultant, I have observed the devastating decline in the numbers of specialist Contaminated Land Officers (CLOs) directly employed by the local authorities and the way in which whilst at one time each large authority or group of smaller authorities had its own such officer such expertise is no longer universally available.”*

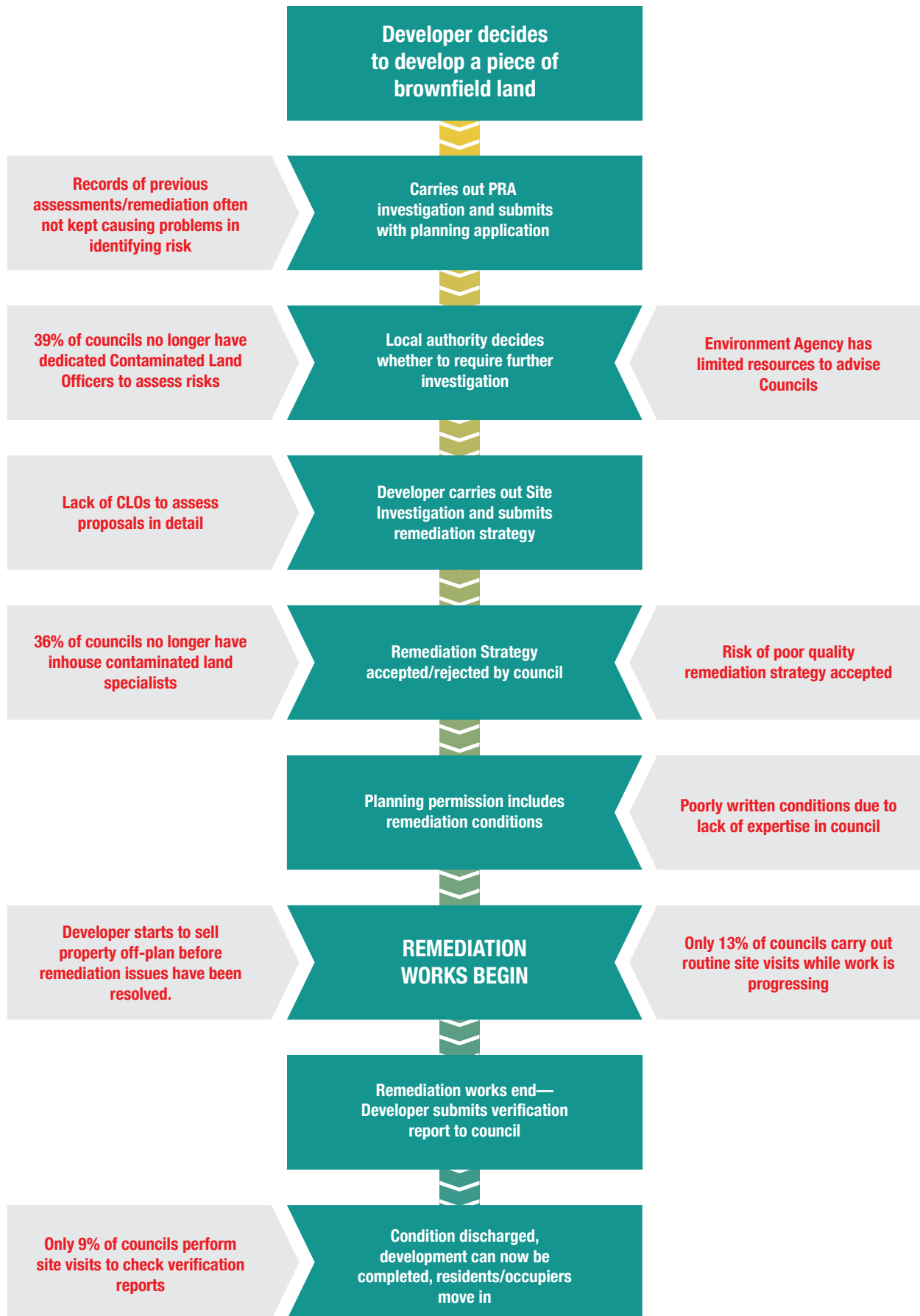
**Lack of scrutiny of verification and other reports:** A natural risk of having fewer council specialists with higher workloads is that proper scrutiny may not always be given to reports submitted by developers. In addition, EIC members report that important documents relating to previous remediation work or monitoring of a site are not always easily traceable (see Case Studies). The risk is that we are drifting towards a system that essentially relies on ‘self-certification’ in a way that was never originally intended when the regulations were drafted.

<sup>2</sup> Cranfield University (2014), An examination of contaminated land sector activity in England and Wales - SP1011

<sup>3</sup> National Audit Office (2018) Financial sustainability of local authorities 2018

<sup>4</sup> Cranfield University (2014), An examination of contaminated land sector activity in England and Wales - SP1011

Figure 1. Flowchart of the planning process for contaminated sites and potential areas of concern.



## CASE STUDY

*“A site was being transacted by an administrator and we provided due diligence on behalf of the purchaser at the request of the bank.*

*The site was in an industrial area on a chalk aquifer and near a principal river. It was redeveloped subject to a Contaminated Land planning condition for use as a Depot in 2000. Our review of the planning information identified letters that indicated there had been a significant oil spill which may have resulted in free product on the groundwater. Correspondence with the regulators identified further work and split remediation into two phases; soil remediation and groundwater remediation with ongoing monitoring. Both EA and LA were consulted although neither had retained the investigation reports.*

*It appeared from correspondence that ground investigations and a remediation plan was formed. The top soils were removed and further groundwater work proposed. On the basis of a letter from the EA stating it was happy with the soil removal element, but more work was required on the groundwater, the Planner discharged the condition. At this point there is no further evidence suggesting that the groundwater remedial work was completed.”*

## CASE STUDY

*“A site was partially located on an ‘inert’ historical landfill pre 1974. It was developed as an office in early 1990s. Subsequently, it was subject to planning change of use to a hotel in the late 2000s. No contaminated land planning condition was applied, although ground investigation was still completed to classify waste arisings and monitor soil gas. The gas monitoring identified conditions commensurate with Situation 2 although claimed it was a Situation 4 classification. The recommendation of the ground investigation report was that active gas measures were installed.*

*However, there were no records of consultations with planners or building control and no evidence in the design drawings that any passive or active gas measures had been installed. No as built drawings were available and Building Control records had not been retained.”*

**Pressure on Environment Agency contaminated land advisory resources.** The Environment Agency faces its own resource constraints, with total number of staff falling by 3000 since 2009<sup>5</sup>. Anecdotal evidence from EIC members and from CLOs suggests that this has led to a reduction in the number of cases where the Agency is able to give Councils specialist advice on the remediation implications of planning applications<sup>6</sup>. It can also lead to delays where remediation projects require EA approval for environmental permits, which in turn can increase the cost of brownfield development.

**Limited inspection oversight of treatment of ‘waste’ materials during remediation:** Remediating a brownfield site almost always involves some excavating of quantities of earth which has some material contamination (such as old brick foundations or oily wastes). In theory, once excavated, this material is destined to become legally waste, and hence subject to waste regulations and, if disposed of at a landfill, landfill tax. There are many good environmental reasons to avoid such earth being landfilled, and to promote the reuse or treatment of excavated earth, and to encourage this regulators have sought to provide ways where such material need not be legally defined as waste and hence can be subject to lighter touch regulation, such as:

<sup>5</sup> Environment Agency Annual Reports 2009/10 – 2016/17

<sup>6</sup> “Written evidence submitted by anonymous Contaminated Land Officer” to Environmental Audit Committee Inquiry on Soil Health (2016)

- Use of the Definition of Waste Code of Practice, allowing excavated materials meeting an agreed standard to be reused on site or transferred to another brownfield site without ever being classified as waste.
- Crushing of clean demolition material for reuse on site.
- Use of registered waste exemptions.
- Sending material to inert landfills (still classified as waste but subject to only £2.50/t landfill tax).
- Depositing waste materials on land under a 'waste recovery to land' environmental permit. An example of this would be using soils and construction wastes to raise land levels for flood protection, cap industrial land, or construct golf courses - the material is legally deemed no longer to be a waste when placed on the receiving site.

These exemptions and low regulation options are usually subject only to limited regulatory oversight and checking. In most cases this does not matter as the systems are used by reputable firms for good environmental reasons around reuse and recovery. However the system does not prevent an unscrupulous or ill-informed minority of firms flouting the rules either to save time or gain a financial advantage, (such as deliberately miscategorising waste materials to enable them to be reused and escape landfill tax and haulage costs), resulting in environmental risk.

**Poorly drafted planning conditions:** Sometimes a local authority will place a planning condition on an approved application concerning the quality and type of remediation action required. Brownfield land remediation can be complex, and where these conditions are not clearly written and detailed then ambiguity can arise, which can make it harder to enforce the intention of the condition and guarantee clean-up has been completed to a satisfactory standard. Confusion can also arise over the potential overlap between Part 2A regulations and planning regulations.

**Financial pressures on developers and contractors:** Property developers can be under financial pressure due to factors such as market condition or project overruns. Equally remediation contractors may have to accept 'all risks' contracts whereby they have to cover the costs of any unexpected contamination or remediation problems. This can lead to unscrupulous developers or contractors exploiting the material reuse/recovery regulatory options outlined above. For example a site might accept substandard material onto its site under a 'waste recovery to land' permit because it can charge a gate fee for doing so, or a site might mix together clean and contaminated material to try to get it accepted at the lower landfill tax rate. Another practice reported anecdotally is that to improve cash flow, developers may start selling properties 'off plan'. A CLO in evidence to the Environmental Audit Committee commented that *'I have many examples of developments where housing lots are sold 'off plan' and occupied before the site has been adequately investigated or remediation works completed or validated.'*<sup>7</sup>

<sup>7</sup> "Written evidence submitted by anonymous Contaminated Land Officer" to Environmental Audit Committee Inquiry on Soil Health (2016)

# Recommendations

The housing crisis is one of the UK's greatest challenges, and brownfield development is central to solving it, but it is essential that it is carried out in a safe and secure manner.

In this section we set out some recommendations for how the brownfield regulatory and enforcement system could be strengthened. Our intention is to start a debate around the issues raised in this report, and we would welcome comments and ideas from stakeholders.

## **Recommendation 1: Make Building Control a meaningful component of the broader brownfield remediation regulatory system**

The Hackitt Review, commissioned in the wake of the Grenfell Fire tragedy, makes a series of recommendations about strengthening the role of Building Control Officers. The likely reforms in this area provide an opportunity to ensure that Building Control can support Councils' broader regulation of contaminated and brownfield land remediation.

Part C1 of the Building Regulations 2000 makes clear that the health and safety of individuals in and around buildings and the buildings themselves must be protected against the effects of contaminants. Building Control Officers are required by law to inspect sites both before and at various stages during building works.

While Building Control Officers do not have the expertise to act as Contaminated Land Officers, the two roles could better be linked. The Hackitt Review recommendations for better training and enforcement powers for Building Control Officers should be implemented and Officers should also be required to liaise with the Council so that they are aware of required remediation works and the expectations of the CLO or equivalent. They should then refer any concerns to the CLO or equivalent.

## **Recommendation 2: Increase resources for local authority contaminated land functions**

Given constraints on public spending, this additional resourcing could come from two possible sources:

- An uplift in developer fees (offset by an enhancement in the Land Remediation Tax Relief that developers can claim – see recommendation 3)
- Unspent Community Infrastructure Levy funds

## **Recommendation 3: Enhance Land Remediation Tax Relief**

Given the need to enable developers to make the economics of brownfield sites work, there should also be additional tax reliefs for developers dealing with contaminated land. This should be done through implementing EIC's previous recommendations on enhancing Land Remediation Tax Relief:

- Introduce a pre-tax credit for qualifying remediation costs, to operate in a similar way to the Research & Development Expenditure Credit (RDEC).
- Increase value of the Land Remediation Tax Relief from 150% to 175%.
- Change the date used to determine Derelict Land Relief from 1998 to 2008.
- For small sites of less than 25 units, enhance the relief to 200% provided the development is completed within 24 months of planning permission being granted.

More detail including full costings for EIC's proposals on Land Remediation Tax Relief can be found here:

[http://eic-uk.co.uk/wp-content/uploads/2018/02/EIC-Brownfield-First\\_Report\\_2016.pdf](http://eic-uk.co.uk/wp-content/uploads/2018/02/EIC-Brownfield-First_Report_2016.pdf)

## **Recommendation 4: Standard conditions**

There should be training and encouragement for councils to make more use of model planning conditions covering remediation issues, to reduce ambiguity.

## **Recommendation 5: Tougher fines**

Fines for consultants, contractors and developers who break the rules should be much higher.





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The Environmental Industries Commission (EIC), founded in 1995, represents the businesses which provide the technologies and services that delivery environmental performance across the economy. In short, we are the voice of the green economy. Our members are innovative and the leading players in their field, and include technology manufacturers, developers, consultancies, universities, and consulting engineers.