

The Definition of Waste: developing greenfield and brownfield sites

1. Introduction

The purpose of this guide is to assist those involved in construction works including remediation and building on greenfield and brownfield sites in determining whether or not they are handling waste and if so their legal obligations. This guide has been developed as part of the work being undertaken by the government sponsored Remediation Licensing Task Force (RLTF).

This guide identifies a number of issues that are still being considered. In Section 2E and in section 3 we refer to areas of work where the interaction between the Planning Authority and the Environment Agency need to be clarified. This interaction must be clarified before industry can take advantage of this position. This work is now being progressed through the [National Brownfield Strategy](#).

This guide will be updated as the outstanding issues are decided, and before relying on this guide you are advised to check the Environment Agency's website to ensure that you have the latest version. For this reason, hard copies will not be produced.

This guide does not cover any requirements of the Local Planning Authority in accordance with PPS23 [Planning Policy Statement 23: Planning and Pollution Control](#). Other legislative requirements may also apply such as the Groundwater Regulations and Part IIA of the Environmental Protection Act 1990. Further information and best practice is available in [Model Procedures for the Management of Land Contamination \(CLR11\)](#)

This guide is no substitute for obtaining independent legal advice or for consulting with the Environment Agency. In particular, decisions on the definition of waste must be made in the light of all the specific circumstances of an operation or activity and in accordance with the current case law. As case law develops, this guidance may need to be updated.

On 4th September 2004 the European Court of Justice issued judgement in the Van der Walle case (C-1/03). The European Commission and UK Government is currently considering the implications of this judgment and will be commenting further once that consideration is complete. This guide therefore does not take the Van der Walle judgement into account.

April 2006

2. Establishing if substances or objects are waste

"Waste" is defined in Article 1(a) of the European Waste Framework Directive (WFD) as *'any substance or object ... which the holder discards or intends or is required to discard'*.

It is the responsibility of the holder¹ of a substance or object to decide whether or not they are handling waste. The Environment Agency is the authority responsible for enforcing waste management legislation in England and Wales, but where there is a disagreement as to whether or not something is waste it is ultimately a matter for the courts to decide.

Since the publication of the WFD, the courts have identified various factors that assist in determining whether or not something is waste. These factors are only indicative and each decision must be made based on all the facts and having regard to the aim of the WFD which is *"the protection of human health and the environment against harmful effects caused by the collection, transport, treatment, storage and tipping of waste"*.

The Government issued guidance on the interpretation of the definition of waste in 1994 (Government Circular 11/94 and 26/94, Annex 2). Since then there have been a number of judgments by the European Courts and our national Courts on the definition's interpretation, which are not reflected in the Circular. The Government is currently revising its guidance to take these judgments into account; and has given a commitment to engage with stakeholders before publication of its revised guidance.

In determining whether a substance or object is a waste or is not a waste, a number of key tests have to be used to determine whether the material is being, is required to be, or is intended to be, discarded. These tests have been laid down by the Courts but are not repeated in detail here. Instead, this note sets out a number of examples and gives guidance as to whether or not the materials are likely to be considered waste, having regard to the tests that the Courts have used and to the aims of the WFD. Whether or not in any individual case materials *are* waste will depend on all the specific circumstances, and in each case it is important to consider the nature of the material, how it was produced and how it will be used.

Uncontaminated material

A. Construction activities carried out for the purpose of producing a suitably engineered soil would not generally be regarded as a waste management activity. Examples include lime stabilisation, vibratory techniques and piling and further details of these activities are contained in Appendix A. The same may be true of other activities carried out on such soils for this purpose.

¹ The Directive defines the "holder" as "the producers of the waste or the natural or legal person who is in possession of it"; and the "producer" as "anyone whose activities produce waste..and/or anyone who carries out pre-processing, mixing or other operations resulting in a change in the nature or composition of this waste."

- B. Where uncontaminated materials produced on site during construction works (including excavated soils and materials resulting from demolition) are used on site, particularly where the use is in accordance with the planning permission, the Environment Agency would not generally regard them as being discarded, provided
- (i) they are suitable for that use and require no further treatment,
 - (ii) only the quantity necessary for the specified works is used (otherwise it becomes a disposal activity), and
 - (iii) their use is a not a mere possibility but a certainty.

Examples of these activities include major site regrading and/or re-contouring (including cut and fill) involving uncontaminated soils and site generated demolition arisings; simple foundation excavation, with arisings spread and levelled locally or placed under the ground floor slab; and the combination of certain soils and geotextiles to form a retaining structure.

The Environment Agency recognises that as far as possible, developers try to ensure that all arisings generated on site are put to use on site. If this is done in accordance with the planning permission, it would generally satisfy criteria (ii) and (iii) above provided that such a mass balance approach is employed across different phases of a phased development, outline planning permission is in force for the whole development; and where there are different developers then a multi-phase mass balance approach is acceptable provided that the certainty of use test can be satisfied for example through the use of a collaboration agreement. These are legal documents giving the developers joint and several responsibility, including step in rights and provide a high confidence safeguard that materials would never be abandoned.

Where uncontaminated materials produced on site during construction works (including excavated soils and materials resulting from demolition) cannot meet the criteria specified above when used on-site, then they will generally be regarded as having been discarded and therefore waste. If materials are used on site in such a case, then that activity must comply with the waste regulatory controls. For example, if materials from demolition do require treatment before they can be used on the site where they were generated, then the processing of the demolition materials would require a WFD permit or exemption (see section 4 below). However the processed material may not be regarded as waste if it meets the standards set out in the [Quality Protocol for the production of aggregates from inert waste](#) referred to at C below. If this is not the case, then whether the use of the material would be covered by a waste management licence (WML) or an exemption from the requirement for a WML, would need to be assessed on a case by case basis. For example, if "land reclamation" is involved, then a paragraph 19A exemption could not be used.

C. Recovered aggregates produced in accordance with the WRAP "Quality Protocol for the production of aggregates from inert waste" are not likely to be waste.

Typical uses of recovered aggregate include pipe-bedding and selected backfill to sewer excavations; carriageway sub-base construction; and the construction of vertical, granular filled drains to aid consolidation of compressible clays.

D. Activities where solutions are being sought elsewhere e.g. Pulverised Fuel Ash, Blast Furnace Slag

The Environment Agency's view remains that PFA and BFS is waste and we are discussing the point at which they may cease to be waste with the relevant sectors and will be producing separate guidance. The Environment Agency therefore considers the use of these substances in development works to be outside the remit of this guide.

Contaminated material

E: The re-use of contaminated soils/materials on site

The Environment Agency has reconsidered its position on the regulatory controls that apply to development on contaminated sites as a result of the work that has been done through the Remediation Licensing Task Force. We had stated that contaminated soils become waste when they are excavated and a WFD permit must always cover their treatment and/or redeposit.

We accept the principle that contaminated soils not requiring treatment or containment could be considered suitable for use in the same way as uncontaminated soils, provided that there is no risk of pollution of the environment. This means that where contaminated materials produced on site during construction works (including excavated soils and materials resulting from demolition) are used on site in accordance with the planning permission that authorises the use of the material as part of the site development, we may not regard it as being discarded, provided

- (i) they are suitable for that use and require no further treatment,
- (ii) only the quantity necessary for the specified works is used (otherwise it becomes a disposal activity), and
- (iii) their use is not a mere possibility but a certainty

This can include activities such as site regrading and use of materials beneath cover layers, capping layers, buildings and hard standing.

In all cases we would need to be satisfied that such works can be carried out without the contaminants in the materials posing a risk to the environment. As part of this assessment, we may be able to take into consideration the extent and effect of planning controls in the Remediation Strategy - for example through the use of the implementation plan or Remediation Action Plan where that Plan has taken the Environment Agency's requirements into account. Further work needs to be done with industry and the Planning Authorities to determine how this could work in practice.

Containment

Where contaminated materials are not suitable for use and have to be excavated and placed in an engineered cell to prevent pollution of the environment or harm to human health, then this would fall within the definition of a landfill, and a Pollution Prevention Control (PPC) permit would be required.

F: The use of contaminated or uncontaminated materials off site

At the time of publication the Environment Agency considers that any soil taken off site is a waste and subject to the requirements of the WFD. However we are considering this position further and any changes will be reflected in updates to this guidance.

G: Contaminated or uncontaminated soils and materials that require treatment before it is suitable for use.

This will be considered to be a waste at the point that it is excavated, or is treated in situ and would need to be controlled through the waste regulatory regime.

3. Establishing when an item ceases to be waste

If you are using a material that is a waste, you will need to establish the point when the item ceases to be waste and is no longer subject to waste regulatory control.

If you are treating a waste material to make it fit for purpose then it will only cease to be a waste when it has been completely recovered. This state of complete recovery can be reached when the treatment process is complete and the recovered material is suitable for an agreed use and can be used without posing a risk to the environment. On the other hand, if you are using unrecovered or partially recovered waste in the construction of your works, and it is used in compliance with a WML or an exemption (see below), complete recovery is achieved when the waste has been fully and permanently incorporated into the works.

Compliance with the Remediation Action Plan for a site will normally assist in demonstrating suitability for use (see further 2E above and H below).

Hub and cluster sites

Both Hub and Cluster methods offer an alternative treatment option for materials which would otherwise be consigned to landfill. These are authorised remote treatment sites that are used either where space or other constraints mean that it is not possible for mobile plant to operate on a site, or where time constraints mean that soils and materials requiring treatment need to be exported from site to another place for treatment.

Cluster sites are temporary and involve locating mobile plant on a contaminated site and importing contaminated soils from various other sites into the site for treatment and subsequent export, until finally the site where the mobile plant is located on is treated.

Hub sites are more permanent and operate like a transfer station/treatment plant.

The issue here is the point at which the contaminated soils that have been subjected to an authorised recovery process will cease to be waste.

The Environment Agency accepts the principle that contaminated soils processed to the extent that they are suitable for use at an identified site in accordance with the Remediation Action Plan for that site may cease to be waste when they leave the processing site. The recovered soils could then be used without the need for a WML or exemption. In all cases the Environment Agency would need to be satisfied through compliance with the Remediation Action Plan that there is no further need for regulatory control by us. Further work needs to be done with industry and the Planning Authorities to determine how this assessment will work in practice. Any guidance developed with industry and Planning Authorities will be circulated subsequently.

In some cases the contaminated soils taken to the hub or cluster site may not require processing as they are already suitable for use at an identified site in accordance with that site's Remediation Action Plan. In such cases the soils may also be regarded as having ceased to be waste when they leave the hub or cluster site, provided that the Environment Agency is satisfied there is no further need for regulatory control. The recovered soils could then be used without the need for a WML or exemption. Further work needs to be done with industry and the Planning Authorities to determine how this assessment will work in practice. Any guidance developed with industry and Planning Authorities will be circulated subsequently.

4. Waste management: key legal requirements

If the material is not a waste, then clearly waste management legislation does not apply. If the material is considered to be waste then the legislation will apply up to the point that it ceases to be waste.

Duty of Care: You need to ensure all waste is handled, recovered and disposed of responsibly, and that the waste is only handled by individuals, companies or groups that are authorised to deal with it. For example, you need to ensure that your waste is only collected by registered carriers or transporters. You must also regularly check the destination of all wastes leaving your site to ensure they are only being taken to an appropriately authorised waste management facility. You must keep a record of all wastes received or transferred through your system. These documents are called Waste Transfer Notes.

In addition, if you are receiving a third party's waste you must check its characteristics to ensure that you are licensed or have an exemption under which you can receive it and that it complies with the classification set out in the Waste Transfer Notes.

Waste Carrier or Transporter: You will need to register yourself as a waste carrier or transporter with the Environment Agency if you transport waste that others have produced or, in the case of waste arising from construction or demolition, if you transport your own waste. You must register even if you transport waste only once in a while and the requirement applies to self-employed carriers as well as partnerships and companies. If you are a voluntary organisation, charity or not-for-profit group then you can register free of charge as a *waste transporter*.

If you would like to register as a waste carrier or transporter you should contact your [local Environment Agency Office](#).

Waste Framework Directive Permits: It is normally an offence to undertake waste disposal or recovery operations without being in possession of a WFD permit which can be a WML or PPC permit. However there are a number of exemptions from waste management licensing, mainly for small-scale storage and waste recovery operations, but these are subject to certain limitations. These limitations are general rules under which the waste activity can take place and cover such details as the types and quantities of waste permitted, the methods of disposal or recovery and pollution control measures.

The specific limitations for exempt waste activities are detailed in some forty-six exemptions paragraphs prescribed in Schedule 3 to the Waste Management Licensing Regulations 1994 (as amended). Establishments or undertakings should normally register exempt activities with the Environment Agency. Typical Schedule 3 exemptions used by the construction sector include:

- Schedule 3 Paragraph 9A- Land reclamation;
- Schedule 3 Paragraph 13 - Manufacture of construction and soil materials;
- Schedule 3 Paragraph 19A - Storage and use of waste for construction; and
- Schedule 3 Paragraph 24 - Crushing, grinding, or size reduction of bricks, tiles or concrete.

Guidance on how to register these and other exemptions is provided on the Environment Agency's [website](#).

Appendix A

Examples of activities carried out on uncontaminated soils for the purpose of producing a suitably engineered soil that would not generally be regarded as a waste activity.

- **Lime/Cement Stabilisation:** Stabilisation of soils with high moisture content to improve their compaction characteristics by mixing with lime-cement or cement only. If the lime is considered to be a waste material this may need to be reconsidered.
- **Vibro Compaction:** Vibratory techniques to improve the bearing capacity of weak soils (often made ground). These techniques use a vibratory poker that is lowered into the ground under its own weight. In most cases, stone is introduced into the ground either down the centre of the poker or into the hole when the poker is removed. The poker applies further compactive effort until adequate resistance is achieved. The combined effects of the vibration and the introduction of the stone result in an increase in the density of the soil and a consequent improvement in bearing capacity. This activity must be carried out in accordance with requirements of the Environment Agency's published guidance "Piling and Penetrative Ground Improvement Methods on Land Affected by contamination: Guidance on Pollution Prevention. NC/99/73".
- **Dynamic compaction:** This technique involves dropping a heavy weight from considerable height to compact weak soils (often made ground). A series of 'footprints' are formed which are subsequently filled with granular fill. This may either be a primary aggregate or a re-cycled material. Dynamic compaction is not a waste treatment activity (unless it is being done on a landfill site for example) and any risk to controlled waters must be addressed during the assessment of the Planning permission.
- **Surcharging:** This technique involves placing soils in a mound to compress weak soils thus reducing future settlement potential. If the material used for the surcharging is generated and then re-used on the site it should not require a WFD permit or exemption. However if the material is to be imported or exported from the site after use there may be requirements for waste permitting
- **Piling:** There are various forms piling which are used to transfer structural loads through weak soils to more competent materials at depth. These range from driven displacement, bored, and continuous flight auger bored piles. A WFD permit will not be required for this activity. The piling activity must be carried out in accordance with requirements of the Environment Agency's published guidance "Piling and Penetrative Ground Improvement Methods on Land Affected by contamination: Guidance on Pollution Prevention. NC/99/73".
- **Soil Reinforcement:** This technique involves the introduction of geo-textiles or 'geogrids' to layers of soil (often made ground) to improve load distribution and bearing capacity. This technique is also often applied to improve the slope stability of soils to facilitate construction of steep sided embankments. A variation, to improve the stability of cuttings, is the use of 'soil nailing' whereby rods are 'fired' into the ground at regular intervals.
- **Reinforced Concrete Raft Foundations.** This is a common foundation solution used on weak or potentially expansive soils. Certain ground conditions, in particular expansive clay soils require the foundation to be constructed on a bed of compacted granular material made from primary aggregate.

Examples

Industry also highlighted a number of other miscellaneous construction activities not involving moving or placement of soils and which are included here for completeness. These would not generally be regarded as waste activities. These include:

- **Bentonite slurry cut-off walls:** Bentonite / cement slurries are used to construct vertical barriers in the ground to prevent groundwater movement or to contain contaminants. Depending upon the site-specific circumstances, this would either not require a WFD permit or may comply with the Environment Agency's Enforcement Prosecution Policy Functional Guidelines.
- **Dewatering of excavations:** Where extractions have to penetrate below standing groundwater levels, dewatering will be required. A number of techniques ranging from sump pumping, to the use of external well points or deep wells can be used. Discharge of the pumped water may require a permit but the activity does not fall within the remit of the Waste Framework Directive.
- **Infiltration Drainage:** Sustainable urban drainage solutions (SUDS) often call for infiltration of collected surface water to maintain surface water discharges from a developed site as closely as possible to the rates prior to development. This can occur on Greenfield and brownfield sites, although we would not encourage this on contaminated sites. Discharge consents may be required but these activities do not fall with the Waste Framework Directive.