

## Environmental Permitting Regulations (England and Wales) 2010

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**Regulatory Guidance Series, No EPR 13**

# Defining Waste Recovery: Permanent Deposit of Waste on Land.

Version 1.0

## Record of changes

Version	Date	Change
1.0	29 March 2010	Issued to clarify our emerging position on what constitutes a recovery operation for this type of waste activity and to support implementation of the new standard rules for use of waste in construction as a result of the waste exemption review.

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## **A Quick Guide**

This regulatory guidance sets out our approach to determining whether an activity involving the permanent deposit of waste on land is waste recovery or waste disposal.

Our position is based upon a legal test derived from the Waste Framework Directive and European case law. We believe that this test is best carried out by answering a series of questions which are set out in this guidance.

All the questions must be addressed when deciding whether an activity is waste recovery.

Examples of typical activities that could be waste recovery help explain how our position is implemented in practice.

This guidance must be referred to by applicants seeking a recovery permit for the permanent deposit of waste on land. We require a justification that an activity is a waste recovery operation ('A Waste Recovery Plan') to be submitted with their permit application to ensure they apply for the right permit. If it is decided that an activity is not recovery then a disposal permit will be required.

A checklist is provided in Appendix 3 that sets out the key information we would expect to see included in a Waste Recovery Plan.

Operators seeking to register an exemption involving the permanent deposit of waste should also satisfy themselves with reference to this guidance that their proposal meets the definition of waste recovery.

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# 1) Purpose

This guidance is to assist applicants and our staff to decide whether a proposal to permanently deposit waste on land is a **recovery or disposal** activity.

# 2) Introduction

We strongly support genuine waste recovery and encourage recovery of waste rather than its disposal, but it is important to clearly distinguish between recovery and disposal operations to ensure they are properly permitted and subject to the right legal and environmental controls.

This guidance describes the differences between waste recovery and disposal, and sets out a number of questions that need to be addressed to help in deciding into which category a particular activity falls.

To help in understanding how to address these questions, a number of examples of what we consider to be typical activities that can be classed as waste recovery are provided in Appendix 1. These examples provide an indication of the information we would expect to see in support of a particular recovery scheme.

We refer to the justification supporting an application for a recovery permit as a **Waste Recovery Plan**. Appendix 3 provides a checklist for applicants which sets out the key issues we would expect to see addressed in a waste recovery plan.

# 3) Recovery and disposal of waste.

Whether an activity constitutes disposal or recovery depends on a legal test derived from the Waste Framework Directive and European case law. This guidance sets out our understanding of the test.

## What is Waste Recovery?

Waste recovery is about using waste to replace other non-waste materials to achieve a beneficial outcome in an environmentally sound manner.

The clearest indicator of waste recovery is when it can be shown that the waste used is a suitable replacement for non-waste materials that would otherwise have to be used to achieve the end benefit.

The European court has said that “the essential characteristic of a waste recovery operation is that its principal objective is that the waste serve a useful purpose in replacing other materials which would have had to be used for that purpose, thereby conserving natural resources.”<sup>1</sup>

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<sup>1</sup> Abfall Service AG (ASA) C-6/00

In other words, a material that would otherwise be disposed of is put to a beneficial use, which saves the use of non-waste materials.

Most disposal and recovery operations will require an Environmental Permit, but the standards and measures that apply to each type of permit are different. An environmental permit for a disposal operation would normally contain more rigorous conditions than a recovery permit and would therefore be more costly.

### **What is waste disposal?**

Waste disposal operations are about getting rid of waste in a safe and environmentally sound manner.

The purpose of a disposal operation is to get rid of waste. If this is the primary reason for a proposed operation, it cannot be a recovery operation, even if there is some secondary benefit. A waste activity must be classified as either recovery or disposal: it cannot be both. Guidance on disposal operations can also be found in [DEFRA guidance on the Waste Framework Directive](#).

The Landfill Directive ([Directive 1999/31/EC on the landfill of waste](#)) applies to disposal of waste to land. This requires specific controls to be applied through the permits. We must ensure that these requirements are applied where waste is being disposed of to land.

### **3.1 Planning permission**

We cannot grant a permit for a specified waste management activity unless appropriate planning permission is in force, or the planning authority have given their approval to the scheme by another means.

If a site has planning permission, this is likely to demonstrate that there is a need for the proposed development, but it does not in itself indicate that an activity is recovery. In some cases the planning permission may indicate that the proposed development is a disposal operation. Where the planning permission requires waste to be used this would be a factor tending to indicate that the proposed operation is more likely to be a disposal operation because it is difficult to then argue that use of natural resources was ever a possibility or envisaged.

This decision must be based the legal test, which is set out in section 4 of this guidance.

### **3.2 The Waste Framework Directive**

The Waste Framework Directive ([WFD; Directive 2006/12/EC on waste](#)) lists a number of operations that are either disposal (Annex IIA), or recovery (Annex IIB).

These Annexes are intended to identify disposal and recovery operations as they occur in practice. They are not precise descriptions of the operations, nor are they definitive lists of recovery or disposal activities. Other activities that do not appear on the lists can still be classed as recovery or disposal operations dependent upon the circumstances.

It will be clear from the Annexes that similar sorts of operations can in some cases be disposal operations and in other cases recovery operations. Land treatment, for example may be a recovery operation where it results in benefit to agriculture or ecological improvement (R10) but a disposal operation (D2) where it results in biodegradation of liquid or sludgy discards in soils, etc.

Simply looking to find a description of the proposed operation as one of the 'D and R' codes, within those Annexes, will not always help decide the status of an activity. In all cases, the tests set out below must be applied.

However, when a permit application is submitted, you must describe the proposed operation using one of the codes in the Annexes that best fits the operation you are proposing.

### **3.3 The use of Quality Protocol compliant material.**

If a waste derived material meets the requirements of a Quality Protocol, including the associated aggregate and/or engineering standards, then they are considered to be recovered and no longer waste, and can be used without the need for waste controls.

It is up to the end-user of that material to check they have purchased a genuine product that complies with all the requirements of a Quality Protocol. If the material does not comply with the requirements, it will normally be waste and waste controls will apply.

One of the key requirements of a quality protocol is that the end use of the quality protocol compliant material is a recovery operation. Like any non-waste material, if Quality Protocol compliant material is discarded it will be a waste. Therefore if such material is disposed of then this will be a waste disposal activity.

For more information on the Quality Protocols project, including links to our regulatory position statements see below.

<http://www.environment-agency.gov.uk/business/topics/waste/32154.aspx>

## **4) Establishing whether an activity is recovery or disposal.**

Whether an activity is recovery or disposal will often be, however there will be cases where it is not.

In Appendix 1 are some examples of typical activities involving the permanent deposit of waste to land that we consider may qualify as recovery activity. These examples show the information needed and why it is necessary for making the decision.

The following questions will help decide whether a proposed operation is a recovery operation, and should be read in conjunction with an example from Appendix 1 that best fits the proposed activity. Any justification for a recovery activity must include responses to **all** questions.

### **1) Is there a clear benefit from the activity?**

For an activity to be considered waste recovery there must be a clear benefit. Waste deposited with no resulting benefit is disposal.

Waste can therefore only be recovered if it is put to a beneficial use. You must set out clearly what the benefit is, and show certainty of benefit when the proposal is completed.

It is not therefore sufficient to show that the construction of a track for example, would give rise to benefit. We would need to see that there was a need for the track at that location and that it would be used when completed.

We would require evidence to show that the quantity of waste proposed is proportionate to the benefit. If a proposal involves the deposit of a large quantity of waste material where the benefit derived from the scheme was small, it would tend to indicate the activity is disposal.

It is possible that a scheme could use high quantities of materials and still be a genuine recovery. We would need to be satisfied that the level of benefit achieved warrants an operation on that scale.

### **2) Is the recovered waste material suitable for its intended use?**

In Appendix 2 we list examples of the types of waste that may be recovered on land. The table identifies which wastes are likely to be appropriate for a particular use. In sensitive environmental settings, a limited range of waste types will be appropriate. In the most sensitive settings, only strictly inert materials will be acceptable.

Where wastes other than inert wastes are proposed in you must demonstrate that their deposit does not pose an unacceptable risk to the environment or human health. Refer to Chapter 3 of the guidance: [Standards and Measures for the Deposit of Inert Waste on Land](#): for more information on assessing environmental risk.

Where it is proposed to accept wastes from contaminated sites these sites should be clearly identified. If additional sites are identified once the work has

commenced you should notify the local area Agency Office prior to accepting wastes from these sites.

The waste must be suitable for the intended purpose. You must provide information and evidence from an appropriately qualified person on the chemical and engineering properties of the waste material to show that it is suitable for the end use.

The materials would not be suitable for recovery if, once deposited, they posed a risk to human health or the environment.

If the material to be used is a direct replacement for a similar non-waste material, then the specification of the waste must be comparable with that of the non-waste material.

However, it is still possible to present a case for recovery if the waste material is being used to replace materials which are not at all similar (for example, an earth noise bund being proposed as a replacement for a brick built screening wall).

### **3) Is the minimum amount of waste being used to achieve the intended benefit?**

You must show that the amount of waste proposed is no more than is needed for the scheme.

You will need to include evidence that the structure is not bigger than it needs to be for the purpose it is to be used for.

For example, a bund to screen from road noise will need to be a certain height and thickness to achieve the required noise attenuation. Its base will need to be wide enough to support the upper structure and the slope of the bund would be designed to prevent slippage. It may also be finished to be aesthetically pleasing for the setting that it is in or to prevent degradation and therefore be covered with soils suitable for growing plants on.

You will need to provide plans and cross-sections showing original and planned final levels. They must be provided at a scale appropriate to the size of the project and must be sufficiently detailed so that they can clearly be understood and checked on site. The levels must be shown relative to Ordnance Datum.

### **4) Is the waste being used as a substitute for a non-waste material?**

Showing that the proposal would have a realistic likelihood of being undertaken using non-waste materials would be a strong indicator that the activity is a recovery operation.

The clearer the case that waste is actually being used to replace non-waste materials, the stronger the argument for recovery.

Demonstrating recovery is more difficult where a proportionate amount of waste would be put to a beneficial use where it is not possible to state that it will actually replace a non-waste material. This is likely to be relevant to proposals where the cost of importing the necessary non-waste materials would make the proposal unviable, and the works, although needed, would not take place for this reason.

The same proposal might however become viable if a waste material could be used as a suitable alternative to the non-waste. Provided that the need for the proposal is clear, and that the use of waste achieves all that the non-waste would have done, and subject to the other tests, we might consider this to be recovery.

The arguments for recovery are therefore reduced, (but not removed) where it can only be shown that the waste replaces non-waste materials that *could* have been used to do the work, rather than actually replacing non-waste that *would* have been used were the use of waste not possible.

In deciding whether such a proposal is recovery we need to consider all of the other tests and in cases where it is not possible to show direct replacement, the test for benefit/need becomes particularly important. As the deposit of waste can generate income, we must be confident that there is a real need for the work to take place, and this is the reason the scheme is being progressed, not simply financial gain.

#### **5) Will the proposal be completed to an appropriate standard?**

It is important that any justification for a recovery operation has been well thought through, and has been designed to give an effective and lasting benefit.

The justification must show that scheme has been designed to achieve the stated benefit, and that it has, where appropriate, been built to last. Consideration must be given to how it will be constructed, finished off and where necessary, maintained.

A particular consideration for large scale deposits is that they are designed and will be constructed in such a way that the operation does not cause soil erosion, pollution or increase flooding risk to the surrounding area.

The [Construction Code of Practice for the Sustainable Use of Soils on Construction Sites](#) provides further advice on methods of managing schemes involving the importation or excavation of soils.

#### **Summary**

All of the questions set out above must be answered. Decisions about recovery require an overall view to be taken of these responses rather than focussing on a limited number of them.

## **Appendix 1: Applying the Recovery Test in Practice.**

The following examples illustrate where we consider a particular activity could be a recovery operation.

In all cases, the questions set out in this guidance must be applied to the proposed scheme.

### **1) Bunds**

In deciding whether use of waste in a bund is a recovery activity, the first step is to demonstrate that there is a need for, and a real benefit derived from its creation.

Bunds can be created for a number of purposes (e.g. noise screening, containment, visual screening, flood defence). Evidence must be presented that shows the bund is needed. This would include setting out the benefits that would be derived when the work is completed, and justifying that there was a genuine need for the bund. If a planning permission requires a bund to achieve a given purpose e.g. to shield houses from motorway noise this would be an indicator that the scheme will have a beneficial use.

If the need for the bund is such that it could be shown that the work would have been carried out to an appropriate standard using non-waste materials anyway, that is a very strong indicator of recovery. It is recognised however that for many large bunds this may be a difficult case to argue, and it does not always have to be relied upon to show waste recovery.

If a very large bund is proposed, but the benefits derived from installing it are marginal, this would point more towards a disposal operation.

The bund must be no larger than it needs to be, and a justification for the proposed dimensions of the bund must be provided. For a bund to attenuate noise for example, a case setting out why it was necessary to achieve a given noise level would be needed, and this would have to be supported by noise modelling which showed the bund had been designed to be no bigger than it needed to be to achieve that purpose.

Detailed scheme drawings (plans/cross-sections) must be submitted showing original and final levels so that we can judge the volume of waste to be used. Drawings must be prepared to a suitable standard, and at a sufficiently detailed scale that it will be possible to verify compliance with levels as the scheme progresses.

Any waste used in construction of the bund must be suitable for use. The justification must set out the types of waste that will be used in the scheme, and show that these will be fit for purpose. This must include risk assessment to show that proposed wastes to be deposited will not present any environmental risk or risk to health once the works have been completed, and evidence that they have suitable engineering properties.

We would expect the waste to meet the minimum standards of an engineering fill material. The standards necessary will vary depending upon the nature of the bund. The specification for materials used in a noise bund for example might have less stringent engineering requirements than bund for flood defence purposes.

The permit will limit use to those appropriate waste types included in the recovery justification unless any changes are agreed with us first.

We would expect to see evidence that the scheme had been properly designed, and that the completed bund would be effective, stable and permanent. This would include details of the engineering design, (stability, drainage etc) and techniques to be employed when constructing the bund.

We will need to consider the way in which the scheme has been completed. Bunds can result in large areas of exposed soil which can be unstable, and prone to erosion. It is essential that proposals include measures to mitigate this, for example a planting scheme. We would be unlikely to accept surrender of a permit if the proposed scheme does not show that it will be finished to an appropriate standard.

## **2) Landscaping and recreational facilities such as golf courses.**

Any justification that creating or modifying a golf course or carrying out landscaping works is a recovery activity must demonstrate that a genuine benefit will be derived. However, it must not be assumed that a proposal to create a golf course for example will give rise to benefit simply because a golf course is a recreational facility that might be used for that purpose.

A golf course proposal should be presented as part of wider scheme that includes supporting infrastructure (for example a clubhouse parking facilities and vehicular access arrangements). An appropriate planning permission might indicate benefit and show that the golf course was part of a realistic overall proposal.

We would need strong evidence to show that no more waste material would be used than was genuinely needed to achieve the intended purpose. The design proposal would need to consider this question for individual features of the proposal. In particular, information to support the creation of high mounds and other areas of landraising must be provided to show that the quantities of waste used are reasonable and that these features are actually needed.

It will also be expected that the design will show that consideration has been given to using materials already on site for landscaping. We will need to be satisfied that all opportunities to do this have been identified to minimise the amount of waste material imported unnecessarily.

It strongly indicates recovery if it can be demonstrated that the scheme or parts of the scheme would have been carried out anyway to an appropriate standard through the importation of non-waste materials.

Detailed scheme drawings (plans/cross-sections) must be submitted showing original and final levels so that we can judge the volume of waste to be used. Drawings must be prepared to a suitable standard, and at a sufficiently detailed scale that it will be possible to verify compliance with levels as the scheme progresses.

The proposed waste types must be specified, all of which must be suitable for the intended use. Wastes proposed must meet the minimum standards of an engineering fill material. Where necessary, risk assessments must be provided to show that the waste types can be used without presenting a risk of harm to human health or to the environment. The permit will restrict the waste types to those specified unless any changes are agreed with us first.

We would also need to be satisfied that the works will be carried out effectively, and will give lasting benefit. The design of features should therefore give consideration to stability, the way in which they will be constructed, and any necessary remediation (for example planting proposals).

We would be unlikely to accept an application to surrender a permit until we were satisfied that appropriate remedial works are planned. Landscaping works will until finalised, result in large areas of exposed soil which could be unstable, and vulnerable to erosion. It is important that the scheme does not cause soil erosion, pollution or increase flooding risk to the surrounding area.

### **3) Making land safe**

The types of works that may be considered to be a recovery activity include using waste to stabilise or make safe quarry walls, or mine shafts.

Demonstrating the need for the work to be carried out is essential. If you are seeking to make safe a dangerous feature, a report from a health and safety professional or regulator highlighting the need to make it safe is a good indicator of the need. A chartered engineer's report may also present suitable evidence that the work might be beneficial in that land will be stabilised. It would need also to show that there was a real need for this work to take place.

We would need to be satisfied that the design of the scheme resulted in the minimum amount of material being used to achieve the intended purpose. If for example, a chartered engineer's report is submitted to justify the proposal, it should address the question of need and minimum quantity of material required. Their design brief should include a requirement to achieve the intended purpose using only the minimum amount of material.

Detailed scheme drawings (plans/cross-sections) must be submitted showing original and final levels so that we can judge the volume of waste to be used. Drawings must be prepared to a suitable standard, and at a sufficiently detailed scale that it will be possible to verify compliance with levels as the scheme progresses.

If it can be demonstrated that the scheme would have been progressed using non-waste materials (for example, because of a specific requirement of the Health and Safety Executive), this would point strongly towards a recovery activity.

The types of waste to be used must be specified, and all waste types proposed must be fit for their intended use. Where appropriate, risk assessments should be provided to show that the proposed waste types can be used without causing harm to human health or the environment. The permit will restrict the waste types to those specified unless any changes are agreed with us first.

The engineering properties of the waste will be particularly important for stabilisation work which will be a structure with a specific engineering purpose. Materials will therefore need to meet appropriate engineering standards.

We would need to be assured that the work was going to be undertaken to an appropriate standard to give an effective and lasting benefit, and the scheme design should reflect this by considering for example stability, drainage and construction techniques.

Plans must also include means of adequately finishing off the works. We would wish to see that any areas of exposed soil would be protected from erosion. It is important that the works do not cause soil erosion, pollution or increase flooding risk to the surrounding area.

#### **4) Tracks and hardstandings**

There must be a need to create the track / hardstanding, and this must be demonstrated in the justification. We would expect evidence that if a track /hardstanding were constructed, it would be used for the stated purpose and that the proposed level of use will be sufficient to warrant its construction.

For example, in the case of creating a new forest track for timber felling / woodland management we would wish to see detail of your proposed woodland operations with a clear statement of why the tracks were needed at the proposed locations as part of the overall scheme.

We would need to be satisfied that the design of the scheme resulted in the minimum amount of material being used to achieve the intended purpose. For example, an engineer's report may be submitted to justify the proposal, which should address the question of need and minimum quantity. Their design brief should include a requirement to achieve the intended purpose using only the minimum amount of material.

Where creation of an embankment to support the track / hardstanding is proposed, the need for its inclusion must be justified. There is a need to show that there is a real need to achieve the stated track gradient or proposed level of the hardstanding, and that using less waste to more closely follow the natural contours of the land would not be a viable option. Any possibilities for reusing materials on

site as a means of reducing the amount of material imported ie cut and fill should also have been explored.

Detailed scheme drawings (plans/cross-sections) must be submitted showing original and final levels so that we can judge the volume of waste to be used. Drawings must be prepared to a suitable standard, and to a sufficiently detailed scale that it will be possible to verify compliance with levels as the scheme progresses.

We would need to see that the tracks would be constructed of a suitable material both in terms of the environmental risk it presents and its engineering properties.

The types of waste to be used must be specified, and all waste types proposed must be fit for their intended use. Where appropriate risk assessment should be used to show that the proposed waste types can be used without causing harm to human health or the environment.

Waste materials proposed must be shown to be of a relevant engineering specification for their intended use. This will include not only materials used in the track itself, but any fill material used in embankments.

We would need to be assured that the work was going to be undertaken to an appropriate standard to give an effective and lasting benefit, and the scheme design should reflect this by considering for example, stability, drainage and construction techniques.

The proposal should also include means of adequately finishing off the works, including selection of the right materials for the running surface and planting proposals for large areas of exposed soil. We would wish to see that any areas of exposed soil, were protected from erosion. It is important that the works do not cause soil erosion, pollution or increase flooding risk to the surrounding area.

If it can be demonstrated that the track would be constructed to an appropriate standard anyway using non-waste materials, then this would strongly suggest that the proposal is waste recovery.

## **5) Construction fill for drainage channels and soakaways**

The proposal must show that there is a need for the drainage channels / soakaways to be constructed. It should be straightforward to show that the use of construction fill within a drainage ditch or soakaway has a clearly defined purpose, but the benefit must be shown by demonstrating that it is part of a defined surface water drainage system.

The scheme design must demonstrate that only the minimum amount of waste material needed to achieve the purpose will be used. The drainage channels would constrain the quantity such that it should be easy to judge that the use of waste is proportionate.

Where the work does not involve overall raising of land levels, scheme plans will be required showing the area(s) where waste is to be used and the quantity of waste required. It will not be necessary to provide original and final levels.

For a soakaway, we would need to see that you had considered the flows that the soakaway would be receiving, and that the scheme had been designed around this. Although some margin might be appropriate, we would expect the soakaway to be only as big as it needed to be to deal with the expected flow.

The waste used must be a suitable engineering material that would be expected to meet the specification requirements of a non-waste material that would normally be used. This could include specifications of size distribution (in particular fines content), strength, chemical composition etc.

It should be possible to clearly demonstrate that the scheme would be carried out using non-waste materials since works of this type are often carried out using aggregates. This will be a strong indication that the proposed operation will be a recovery operation, but the other questions set out at section 4 still have to be addressed, for example you will still have to show benefit.

The types of waste proposed must be specified, and all waste types proposed must be fit for their intended use. Where appropriate, risk assessments should be carried out to show that the proposed waste types can be used without causing harm to human health or the environment.

The range of wastes that might be appropriate will be limited given the specific engineering properties required, and that the wastes may be acting as a drainage medium. You will be restricted to use of the waste types you specify in your recovery justification unless you agree any changes to this with us first.

## **6) Engineering preparation for Roads / Buildings**

The first step is to show the need for the scheme, and identify the benefits derived from carrying it out. Whilst it is easy to state that there will be a benefit from completed roads or building projects, we would need to see evidence that there was a need for a road / development at the proposed location, and that when constructed, it would be used, i.e. that there is a genuine purpose for the project.

Evidence of planning permission or a planning requirement may help to demonstrate that benefit would be derived.

We would need to be satisfied that the design of the scheme resulted in the minimum amount of material being used to achieve the intended purpose. If for example, an engineer's report is submitted to justify the proposal it should address the question of need and minimum waste use. Their design brief should include a requirement to achieve the intended purpose using only the minimum amount of material.

Evidence should be presented to show that the overall scheme design has explored opportunities to re-use wastes on site to reduce the quantities of waste imported.

Detailed scheme drawings (plans/cross-sections) must be submitted showing original and final levels so that we can judge the volume of waste to be used. Drawings must be prepared to a suitable standard, and to a sufficiently detailed scale that it will be possible to verify compliance with levels as the scheme progresses.

Waste materials proposed must be of a relevant engineering specification for their intended use and evidence must be presented to support this. The types of waste must be specified, and all waste types proposed must be fit for their intended use. Where appropriate, you should present risk assessments to show that the proposed waste types can be used without causing harm to human health or the environment.

We would need to be assured that the work was going to be undertaken to an appropriate standard to give an effective and lasting benefit. The scheme design should reflect this by considering for example, stability, drainage and construction techniques.

Your plans should also include means of adequately finishing off the works, including selection of the right materials for the running surface and planting proposals for large areas of exposed soil. Your proposal must include that any areas of exposed soil will be protected from erosion. It is important that the works do not cause soil erosion, pollution or increase flooding risk to the surrounding area.

## **7) Restoration of Former Mineral Workings (excluding operations using extractive waste under the Mining Waste Directive).**

Restoration of former mineral workings can in some cases be a recovery activity. Generally, backfilling a quarry is likely to be a disposal operation.

There should be a direct relation between the benefit will be derived from restoring a quarry and the work it is proposed to undertake. It is not generally accepted that backfilling a quarry to its original levels is in itself a benefit for the purposes of the waste recovery test. The benefit we look at is the end use of the restored mineral working, and the key test for recovery is what the minimum amount of waste is to achieve this benefit.

A restoration scheme will therefore be to achieve a beneficial end use for the restored mineral working, for example bringing land into agricultural use. Given that the benefit of the restoration is normally the production of the final surface use, the amount of waste used should be judged against what is necessary to achieve that use of the land, the key question being 'could the benefit be achieved using less waste than proposed?'. Additional fill above that needed to create the

desired end use would indicate a disposal activity. Any proposal must therefore have addressed the question of need and minimum waste use.

Detailed scheme drawings (plans/cross-sections) must be submitted showing original and final levels so that we can judge the volume of waste to be used. Drawings must be prepared to a suitable standard, and to a sufficiently detailed scale that it will be possible to verify compliance with levels as the scheme progresses.

The waste material must be suitable for its intended use. The range of wastes used in a mineral working restoration may be more restrictive than would be accepted at an inert waste landfill disposal activity. Not all wastes that may be suitable for disposal in a landfill, with pollution prevention provisions such as a geological barrier, may be suitable for infilling a particular mineral working. The recovery justification must address this through the selection of waste types, sources and the operator's proposed waste acceptance procedures.

Where the groundwater level is above or will return to above the base of the original excavation, there may be constraints on the hydrogeological characteristic of the fill material to ensure that any necessary characteristics of the groundwater flow are not disrupted by the fill. This may mean in some cases that, to be suitable for use, the waste material must have particular properties such as high permeability. This restriction on material suitability may be overcome by the use of higher permeable pathways including the use of pipework.

If it is possible to show that non-waste materials were being replaced, it would point towards the activity being recovery. The following evidence would support the consideration that a specific case may be a recovery activity:

- a technically and financially plausible, site specific source of non-waste material; and
- the quantities of non-waste material proposed and the timetable for infilling are realistic.

A planning permission which requires the restoration of an area before further mineral extraction can take place might support the contention that a non-waste material would have had to have been used but it must be supported by evidence of the type suggested above to show that this is indeed a realistic prospect. Where the requirement of the planning permission is to use waste for that purpose this tends to indicate that non-waste materials were never envisaged for the proposal and therefore the operation is likely to be a disposal operation.

## **8) Creation of a Lake / Wet Nature Reserve in a former Mineral Working.**

The creation of a recreational lake or a wet nature reserve in a former mineral working can be a recovery activity.

The proposal would have to make clear that the infilling was part of a genuine scheme for recreational or ecological use, and that the creation of the feature would have a clear purpose and benefit. For instance it is easier to judge the purpose and benefit with a scheme that proposed the infilling of a lake in conjunction with the provisions of other items such as access arrangements, footpaths, landing stages, facilities for users etc. Planning permission would often provide this supporting evidence.

The waste material must be suitable for use as a fill material. Due to the direct contact with water it is unlikely that the waste could be suitable unless it is free of any significant physical and chemical contamination. Part of the evidence to support this could be if the waste proposed comes from a consistent source with a low risk of contamination. The operator's proposed waste acceptance procedures would have to reflect the need for the waste to be suitable for this use.

We would need to see that the scheme had been designed to achieve the stated aim using the minimum amount of waste materials needed.

Recreational lakes must generally meet a number of criteria such as shallow shore slopes and overall depth whilst in a wetland area, the creation of the shoreline may require creating slopes to provide for a range of diverse habitats. Meeting these genuine criteria would define the quantities of waste required, and the need to create the proposed features must be clearly justified.

Detailed scheme drawings (plans/cross-sections) must be submitted showing original and final levels so that we can judge the volume of waste to be used. Plans must be prepared to a suitable standard, and at a sufficiently detailed scale that it will be possible to verify compliance with levels as the scheme progresses.

If it is possible to show that non-waste materials were being replaced, it would point towards the activity being recovery. The following evidence would support the consideration that a specific case may be a recovery activity:

- a technically and financially plausible, site specific source of non-waste material; and
- the quantities of non-waste material proposed and the timetable for infilling are realistic.

Where the quantity of waste required is very large it becomes more difficult to accept that a non-waste material would have been used. For example, if the mineral working is significantly deeper than the optimum depth for the proposed use it becomes less likely that the infilling would be undertaken with a non-waste material. Such a deep lake would simply not be considered suitable for such a development if a non-waste material would be required to infill the lake.

## **9) Land levelling / contouring and improving land quality.**

Hollows and dips in fields can affect the safe and effective operation of modern farm machinery or effect crop performance, and we would accept that use of waste to improve the contours of the land to address these issues can be a recovery activity.

Unproductive land can be brought into agricultural, conservation or forestry use through the importation of waste to create a new soil profile, and we would accept that this can be a recovery activity.

Any justification that an activity is recovery would need to clearly state the intended benefits of importing the waste, and demonstrate that there was a real need to carry out the work. We would also wish to see that the proposed benefits would be realised, and would need to see that the proposal included measures to ensure that the finished scheme would be brought into agricultural use.

This might include consideration of how the existing topsoil will be managed (ie whether it will be excavated prior to the deposit and then re-used), or evidence that the imported material will perform as well or better than the buried topsoil.

The quality of the waste materials imported is important, and in addition to providing assurances that they will pose no environmental or human health risk, we would need to be assured that the materials used would serve their purpose as a growing medium. It would be important too to show that where materials are used for infill (as opposed to the surface layers), they would have the appropriate engineering properties, and would be deposited using appropriate methods to ensure that the land remained usable, and was not prone to excessive settling.

In the case of importing materials specifically to improve land quality, we would need to see evidence that the land would actually benefit from the importation of waste. This may take the form of an agronomists report which sets out the existing and the proposed agricultural value of the land.

We need evidence that only the minimum amount of material is being used. For the growing medium, the proposed depth of materials should be no more than is necessary to be suitable for the proposed planting regime. This must be supported by evidence from an appropriately qualified person.

The proposed level of fill should be no more that is needed to deliver the end use. Whilst completely levelling a hollow could be presented as a requirement, this would need to be supported by information showing that it was really necessary. For example, if the benefit was making the land safe for the operation of machinery, could this be achieved by developing a land profile which involved the use of less waste?

The created profile must suit the geographical and topographical environment in which it sits, for example, a created soil profile must be able to drain and not pond or shed water excessively.

Detailed scheme drawings (plans/cross-sections) must be submitted showing original and final levels so that we can judge the volume of waste to be used. Drawings must be prepared to a suitable standard, and at a sufficiently detailed scale that it will be possible to verify compliance with levels as the scheme progresses.

## Appendix 2- Waste types that may be suitable in typical waste recovery to land uses.

Table 1: Waste types and typical uses in recovery schemes

Waste Types and uses			
Waste Code	Description	Typical uses(see key)	Additional Notes(see key)
<b>01 01</b>	<b>wastes from mineral excavation</b>		
01 01 02	Wastes from non metalliferous excavation	A,B,E,F	
<b>01 04</b>	<b>wastes from physical and chemical processing of non-metalliferous minerals</b>		
01 04 08	waste gravel and crushed rocks other than those containing dangerous substances	A,B,E,F	
01 04 09	waste sand and clays	A,B,E,F	
<b>02 02</b>	<b>waste from preparation and processing of meat, fish and other foods of animal origin</b>		
02 02 02	mollusc or crustacean shells from which the flesh has been completely removed	C	1
<b>02 04</b>	<b>wastes from sugar processing</b>		
02 04 01	soil from cleaning and washing beet	B,E,F	
<b>10 01</b>	<b>wastes from power stations and other combustion plants (except 19)</b>		
10 01 01	bottom ash and slag from power stations(Furnace Bottom Ash)	A	2
10 01 02	PFA from Power Stations	A,B	2
10 01 05	Gypsum (solid only)	E	
10 01 07	Gypsum (sludge only)	E	
10 01 15	Incinerator bottom ash and slag	A	8
<b>10 02</b>	<b>wastes from the iron and steel industry</b>		
10 02 01	waste from processing of slag	A	
10 02 02	unprocessed slag	A	
<b>10 09</b>	<b>wastes from casting of ferrous pieces</b>		
10 09 03	furnace slag	A	
<b>10 10</b>	<b>wastes from casting of non-ferrous pieces</b>		
10 10 03	furnace slag	A	
<b>10 12</b>	<b>waste from manufacture of ceramic goods, bricks, tiles and construction products</b>		
10 12 08	waste ceramics, bricks, tiles and construction products (after thermal processing)	A,B,D	
<b>10 13</b>	<b>wastes from manufacture of cement, lime and plaster and articles and products made from them</b>		
10 13 14	waste concrete and concrete sludge	A	
<b>17 01</b>	<b>concrete, bricks, tiles and ceramics</b>		
17 01 01	concrete	A,B,D	
17 01 02	bricks	A,B,D	
17 01 03	tiles and ceramics	A,B,D	
17 01 07	mixtures of concrete, bricks, tiles and ceramics	A,B,D	
<b>17 03</b>	<b>bituminous mixtures, coal tar and tarred products</b>		

17 03 02	road base and road planings other than those containing coal tar	D	4
<b>17 05</b>	<b>soil (including excavated soil from contaminated sites) stones and dredging spoil</b>		
17 05 04	soil and stones	A,B,E,F	3
17 05 06	dredging spoil (unless it contains dangerous substances)	B	6
17 05 08	track ballast, soil and stones other than those containing dangerous substances	A,B,D	5
<b>19 01</b>	<b>wastes from incineration or pyrolysis of waste</b>		
19 01 12	bottom ash and slag(incinerator bottom ash)	A	8
<b>19 08</b>	<b>wastes from waste water treatment plants not otherwise specified</b>		
19 08 02	washed sewage grit (waste from desanding) only	E,F	
19 08 99	stone filter media (if cleaned to remove sewage contamination) only	A, B, D	
<b>19 12</b>	<b>Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified</b>		
19 12 05	Glass	A	
19 12 09	minerals (for example sand, stones)	A,B	7
19 12 12	soil substitutes other than that containing dangerous substances only	E, F	
19 12 12	treated bottom ash including IBA and slag other than that containing dangerous substances only	A	
<b>19 13</b>	<b>Wastes from soil and groundwater remediation</b>		
19 13 02	solid wastes from soil remediation other than those containing dangerous substances	B	3
<b>20 02</b>	<b>Garden and park wastes(including cemetery waste)</b>		
20 02 02	soil and stones	A,B,E,F	

### Key to Table Codes

- A. Structural fill for building, stabilising ramps, drainage, road construction.
- B. Construction of noise bunds, screening bunds, flood defence bunds, containment bunds, golf courses. Landscaping associated with construction work. Restoration of mineral workings. General fill material.
- C. Surface treatment of roads, tracks etc. Drainage.
- D. Road/track construction and repair, hard surfacing, car parks etc.
- E. Agricultural Improvement schemes.
- F. Ecological improvements, wetland schemes, lakes

1. Only shellfish shells from which the soft tissue or flesh has been removed.

2. Pulverised fuel ash (PFA) and Furnace bottom ash (FBA) must be tested to confirm that they are not hazardous and do not exceed the limits in Appendix F of the WRAP /Environment Agency Technical report on Manufacture of products from PFA and FBA (See link below ).

[http://www.environment-agency.gov.uk/static/documents/Business/QP\\_PFAFBA\\_TechnicalReport.pdf](http://www.environment-agency.gov.uk/static/documents/Business/QP_PFAFBA_TechnicalReport.pdf)

The PFA/ FBA must also be suitable for the end use and comply with the standard BS EN 13242:2002 aggregates for unbound and hydraulically bound material for use in civil engineering work and road construction.

3. You must sample and analyse the waste from contaminated sites and undertake a site specific risk assessment.
4. Bituminous road planings must not be used at a depth greater than 2 metres.
5. Track Ballast must be free from significant oil contamination.
6. Dredgings must be dewatered prior to use.
7. Excluding residual “fines” from mechanical treatment of mixed wastes at transfer stations.
8. You must test for toxic metals.

## Appendix 3 – Checklist to aid production of a Waste Recovery Plan.

Questions	Answers
Have you prepared your waste recovery plan following our guidance? (RGN 13, Defining waste recovery: The permanent deposit of waste on land).  If you have not produced your plan in accordance with this guidance we may need to ask for more information to determine whether you have applied for the correct permit. This may delay our decision and therefore the issuing of your permit.	YES/NO
Does your waste recovery plan demonstrate that there is a need for the work to take place, and specify the benefit that will be derived when the scheme is complete?	YES/NO
Does your waste recovery plan show that if you were not able to carry out the activity using recovered waste, you would be able to do the work using non-waste materials?	YES/NO
Does your waste recovery plan show that the types of waste you are proposing are suitable for their intended use in terms of their chemical, physical and biological properties?	YES/NO
If you are proposing to use waste from a potentially contaminated site, is there sufficient information provided to demonstrate the suitability of that waste and minimise the risk of any pollution occurring from its use on site?	YES/NO
Does your waste recovery plan show the tonnage of waste that will be used to complete the scheme? You need to ensure that you give the maximum tonnage as this will affect the subsistence you need to pay or the type of permit you will require.	YES/NO
Does your waste recovery plan show that no more waste material will be used to complete the work than is needed?	YES/NO
Does your waste recovery plan include plans of the area to be permitted and cross sections of the scheme clearly showing the area(s) where the waste is to be used? (Levels must be shown relative to Ordnance Datum, and drawings to a suitable scale to be clearly understood and checked on site).	YES/NO
Does your waste recovery plan show that the scheme will be properly constructed, and will, when completed be suitable for the intended use?	YES/NO

### Explanatory notes to checklist

- We require a Waste Recovery Plan to be submitted with an application for any waste recovery permit for construction or land reclamation.
- This checklist applies to standard and bespoke permit applications.
- The Waste Recovery Plan may include material prepared for other purposes, such as planning applications and health and safety legislation.
- You must carry on your operations in accordance with the Approved Waste Recovery Plan – this will be checked through compliance inspections and audits of your operation.
- Failure to comply with the Approved Waste Recovery Plan will mean that you are in breach of your Permit condition.
- Any changes to your Waste Recovery Plan must be agreed with us in writing