

Part B of Application Form for the Landfill Sector: Inert.

Note: Your completed application will consist of:

- the completed application form,
- the plans and drawings that are specified in the form, and
- the site specific hydrogeology, stability and landfill gas risk assessments on which the design, construction, operation and monitoring of the Permitted Installation are based.
- The Operation, Monitoring and Control Plan and the Plan for Closure and Aftercare Procedures which inform the development of the appropriate Management Plans.
- Sections A & F of PPC Application Form.

Name of the Permitted Installation (Repeated from Question A1.2)

Notes to the Applicant – please read before completing this Form:

1. The Part B Form is designed so that you can provide the necessary information from your proposed programme of risk-based design, construction and operation for your Permitted Installation. The Form tells you the information we need and the way in which we need it to be provided.
2. Before you complete the form:
 - You should have developed a conceptual model of the site in relation to its environment, on the basis of a desk study and necessary site investigation
 - This conceptual model should have informed the site specific risk assessments (e.g. hydrogeological, stability, landfill gas) which should have been used to propose a design for the construction and operation of the Permitted Installation.
3. When you complete the Form:
 - The Form includes outline guidance on the standards required under the Landfill (Scotland) Regulations 2003 (“the Landfill Regulations”) and you should also refer to the Landfill Regulations themselves as you complete the form. Complete the boxes while referring to the guidance for the standards expected.
 - You will be asked to provide specified drawings, risk assessments and appropriate management plans with the completed form.
4. For the purposes of the determination of this application:
 - The Operation, Monitoring and Control Plan means: the methods and measures, proposals and procedures which the applicant/operator intends to implement at the installation throughout its lifecycle to ensure that the permitted activities, when permitted, do not compromise the protection of the surrounding environment, in particular groundwater and surface water; protect and maintain environmental protection systems; protect and maintain the desired waste stabilisation processes within the landfill and protect against human health hazards. The Operation Monitoring and Control Plan is required to be submitted in terms of Schedule 6 (3) (15) of the Landfill (Scotland) Regulations 2003 which amend the Pollution Prevention and Control (Scotland) Regulations 2000 (“the 2000 regulations”). The Plan shall inform the core production of Management Plans for the installation.
The methods and measures identified shall detail and define that waste has been accepted for disposal only if it fulfils the relevant waste acceptance criteria; that the processes within the landfill proceed as required; that environmental protection systems are functioning fully as intended and that the conditions of the landfill permit will be fulfilled.

- Plan for Closure and Aftercare Procedures means the methods and measures, proposals and procedures which the applicant/operator intends to implement at the installation throughout its lifecycle to ensure that the permitted activities, when permitted, reference the standards for the initiation of the closure of the permitted installation, detail and define the means of ensuring definite closure of the permitted installation and demonstrate the maintenance of all necessary infrastructure until such time as the installation can be deemed to no longer pose any hazard to the environment. The Plan for Closure and Aftercare Procedures is required to be submitted in terms of Schedule 6 (3) (15) of the Landfill (Scotland) Regulations 2003 which amend the 2000 regulations. The Plan shall inform the core production of Management Plans for the installation.
- Management Plan means- the management plan identified at the time of application for issue of a permit and any subsequent amendments made to it in accordance with the conditions of the permit. A Management Plan remains the applicant's/operators document detailing and defining the steps he intends to take to secure compliance with the relevant legislation and any subsequently conditioned matters and through which such compliance is easily demonstrated. It will therefore include performance criteria for the site based upon the relevant and necessary standards of operation. The Permitted Installation shall be operated at all times in accordance with the conditions of the Permit and using the techniques and in the manner described in the appropriate management plans adopted for the installation. These adopted management plans shall be designed, structured and sufficiently detailed to allow compliance with all of the relevant requirements of the Permit. Where a permit condition conflicts with any appropriate management plan, the permit condition shall take precedence.

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1. WASTES TO BE ACCEPTED AT THE LANDFILL

1.1. Waste types and quantities

Regulation 11 of the Landfill (Scotland) Regulations 2003 defines the types of wastes that are prohibited from being accepted at landfills.

Regulation 12 defines the types of waste that may be accepted in the different classes of landfill, with reference to the relevant waste acceptance criteria set out in Schedule 2 of the Regulations. Schedule 2 also describes general principles for the acceptance of waste into the various classifications of landfill.

The Scottish Ministers, under the Environment Act 1995, gave a Direction which may be cited as the Criteria and Procedures for the Acceptance of Waste at Landfills (Scotland) Direction 2005 which came into force on 16 July 2005. Attached at Appendix 1, in as far as it applies to inert waste.

1.2. Waste acceptance criteria and procedures

Regulation 14 of the Landfill (Scotland) Regulations 2003 requires you to ensure that wastes delivered to your Permitted Installation can be accepted according to the permit conditions and the waste acceptance criteria. This must be shown by documented waste acceptance procedures that cover a basic characterisation of the waste prior to delivery to the installation, and compliance testing and on-site verification on arrival at the installation.

An outline of the interim waste acceptance criteria is set out in Schedule 1 of the Landfill (Scotland) Regulations 2003 which has been further supplemented by the Council Decision and Scottish Ministers Direction.

Complete the Table below, indicating the means by which you will ensure that you comply with the relevant Waste Acceptance Criteria for an Inert Landfill and how you will monitor and record your compliance.

Documented waste acceptance procedures require to be in place which:

Specify the waste acceptance criteria for the installation?

Specify and detail:

Specify the procedures for Basic Characterisation of wastes and recording of results.

Specify and detail:

Specify the procedures for Compliance testing of wastes & recording of results.

Specify and detail:

Specify the procedures for On-site Verification of wastes & recording of results.

Specify and detail:

Specify the sampling plan, including methods and procedures for sampling and testing of wastes and recording the results.

Specify and detail:

Specify the procedure for checking whether the waste has been treated before delivery to the installation.

Specify and detail:

Specify procedures to ensure that waste is stored and handled properly prior to final deposit.

Specify and detail:

Specify procedures to ensure that wastes that have been rejected during the acceptance procedures are removed from installation.

Specify and detail:

Specify procedures to ensure that SEPA is notified as soon as reasonably possible if a waste delivery is rejected?

Specify and detail:

2. CONCEPTUAL MODEL OF ENVIRONMENTAL SETTING AND INSTALLATION DESIGN WITH SUPPORTING RISK ASSESSMENTS

2.1. Environmental setting and installation design

You must provide a conceptual model for your installation. The conceptual model should provide an understanding of the proposed installation in its environmental setting and should address the source terms of the risk (i.e. waste), all pathways and receptors. The conceptual model must be based on the drawings listed below. One drawing can provide the information for more than one of the following, providing the drawing is clear.

Provide scale plan(s) showing the following:

Scale drawing(s) showing the defined boundaries of the installation in relation to local environmental receptors, emission sources and monitoring points:

1. Conceptual model

- | | |
|---|---|
| a) A plan of the Permitted Installation showing the phasing, and summarising the wastes to be deposited in each cell or phase. | <i>Identification number of scale drawing showing these features:</i>
<input type="text"/> |
| b) A plan showing the distance from the Permitted Installation boundary to all surrounding built property, waterways and water bodies (up to 500m). | <i>Identification number of scale drawing showing these features:</i>
<input type="text"/> |
| c) A plan and vertical cross-sections adequately characterising the local and regional geology. | <i>Identification number of scale drawing showing these features:</i>
<input type="text"/> |
| d) A plan showing the local topography (given for at least 500m from the Permitted Installation boundary). | <i>Identification number of scale drawing showing these features:</i>
<input type="text"/> |
| e) A plan identifying the Aquifer type, abstractions including private water supplies and the vulnerability of the groundwater in the vicinity of the Permitted Installation. | <i>Identification number of scale drawing showing these features:</i>
<input type="text"/> |
| f) A plan showing the local and regional groundwater flow directions with groundwater contours. | <i>Identification number of scale drawing showing these features:</i>
<input type="text"/> |

g) A plan identifying the areas of natural or cultural heritage and nature protection zones within the vicinity of the site (2km or 5km – see Section 9.4). *Identification number of scale drawing showing these features:*

h) A plan identifying all the potential receptors of emissions to all environmental media (groundwater, surface water, land and air). *Identification number of scale drawing showing these features:*

i) A plan identifying all the potential pathways to the identified Permitted Installation specific receptors. *Identification number of scale drawing showing these features:*

2. Landfill gas management and monitoring

a) Position of in-waste gas wells and monitoring points, including perimeter boreholes. *Identification number of scale drawing showing these features:*

3. Sub-surface structures

The routing of all Permitted Installation drains and subsurface pipework, subsurface sumps and storage vessels. *Identification number of scale drawing showing these features:*

4. Surface water management and monitoring

a) Surface water collection, drainage and discharge. *Identification number of scale drawing showing these features:*

b) The location of all surface water monitoring points relative to the plan of the Permitted Installation and its environment. *Identification number of scale drawing showing these features:*

c) The location of any discharge points from the Permitted Installation to surface water relative to the plan of the Permitted Installation and its environment.. *Identification number of scale drawing showing these features:*

5. Groundwater management and monitoring

a) The location of all groundwater monitoring points relative to the plan of the Permitted Installation and its environment. *Identification number of scale drawing showing these features:*

b) Vertical cross-section(s) showing constructional details and depth(s) of each groundwater monitoring point relative to the Permitted Installation and hydrogeology. *Identification number of scale drawing showing these features:*

These drawings must be to recognised scales sufficient to show the following details as specified.

Each drawing must have a label that includes:

- *title of drawing;*
- *name of the Permitted Installation;*
- *name and address of the Applicant and Operator;*
- *date the drawing was made;*
- *drawing identification number; and*
- *scale of the drawing.*

3. RISK ASSESSMENTS

3.1. Introduction

This section provides the information on risk assessments and impact assessments that you have carried out and that are the basis for the detailed design and proposed operation of your Permitted Installation.

The Scottish Environment Protection Agency has published the following guidance on risk assessments for landfill, to which you should refer for guidance on best practice:

SEPA Framework for Risk Assessment for Landfill Sites: Geological Barrier, Mineral Layer and Leachate Sealing and Drainage.

SEPA Technical Guidance Note: Hydrogeological Risk Assessment For Landfills and the Derivation of Control and Trigger Levels,.

In addition to answering the questions in this section, you must provide the following detailed and site specific risk assessments with your application.:

- *Hydrogeological risk assessment;*
- *Stability risk assessment; and*
- *Landfill gas risk assessment.*

3.2. Hydrogeological risk assessment

The hydrogeological risk assessment must demonstrate compliance with the Groundwater Regulations 1998 (“the Groundwater Regulations”) over the lifetime of the Permitted Installation and establish the technical measures necessary to comply with the Landfill (Scotland) Regulations 2003 and the Groundwater Regulations.

Carry out desk study and site investigation to establish the geological, hydrogeological and other environmental conditions and considerations (e.g. depth to water table, permeability of the unsaturated zone etc) on site.

Assess whether the site poses a potential hazard to the environment. The Directive permits that if the landfill poses no potential hazard to soil, groundwater or surface water then the geological barrier and leachate collection and sealing requirements of the Directive could be reduced and a site specific design agreed.

This should be based only on an assessment of the type of waste and the location.

Stage A

Preliminary risk assessment stage (Paragraph 2 of Annex 1 of the Landfill Directive) (Paragraph 2 of Schedule 3 of the Landfill Regulations).

Is there a potential hazard to the environment?

Where there is no potential hazard to the environment, based upon the above criteria, then a site specific design may be proposed and agreed. The water control and leachate management arrangements detailed in Paragraph 2 of Schedule 3 of the Landfill (Scotland) Regulations do not apply to inert landfills.

A site specific hydrogeological risk assessment must still be developed to inform the development of the Permitted Installation; reference will require to be made towards the operation of future cells accepting defined Inert waste and to existing areas included within the Permitted Installation boundary, previously used for the disposal of waste to landfill under an earlier permission.

For inert waste landfills, the hydrogeological risk assessment should not normally have to progress beyond the risk screening stage. New inert landfills ought not to pose a hydrogeological hazard; the emphasis in the risk assessment should therefore be placed on the Waste Acceptance Procedures and particularly the waste characterisation and compliance monitoring measures introduced to ensure that only inert waste is deposited at the site. If these measures can be shown to be robust then any hydrogeological impact should be demonstrably negligible.

For existing sites, previous deposits of non-inert waste introduce a greater level of complexity and will require a more detailed level of assessment. Where PPC applications cover previously landfilled areas, the historic waste inputs are unlikely to conform to the strict requirements for inert landfills developed under the Landfill Regulations. Assessment of the source term should be based on records held of the wastes accepted and the results of monitoring previously conducted. During the risk screening process, the following outputs will be required for waste already deposited within the site and subsequent installation.

- Dates of landfill commencement and any cessation of deposits (both temporary and final).
- A summary of waste types and quantities accepted in broad categories e.g. inert, based on the Landfill Regulations definition; inert based upon the existing waste types under any existing waste management licence; construction and demolition etc.
- An estimate of the biodegradable fraction of any waste previously deposited.
- A summary of all of the hydrogeological monitoring records held in relation to the site within the waste body and relevant to the perimeter.

Please provide your hydrogeological risk assessment for the Permitted Installation which must address the following key issues:

Provide the following information:

Permitted Installation details:

Location, including grid reference.

Permitted Installation maps and plans (as specified in section 1 above).

Historical activities.

Operational phasing.

Landfill classification

Nature of wastes to be accepted.

Section/page number of hydrogeological risk assessment and any comments:

Documented conceptual model which contains:

Geology

Section/page number of hydrogeological risk assessment and any comments:

Hydrology, topography, climate.

The monitoring programme which has been used to develop the conceptual model.

Hydrogeological conditions

Source term characteristics

Receptors

Engineering and active management:

Capping.

Section/page number of hydrogeological risk assessment and any comments:

Groundwater management systems (if appropriate).

Risk assessment:

Justification for methodology used.

Section/page number of hydrogeological risk assessment and any comments:

Likely/plausible worst case impacts on existing and potential Receptors.

A Stability Management Plan, summarising and satisfying the above items should be included in the application. Indicate the Title, Date and Reference of the Management Plan in the box below. Any Stability Risk Assessment prepared and submitted will require to be certified by a competent third party. The Stability Management Plan, appropriately detailed and prepared may, under certain circumstances, be referenced in the Permit when issued.

3.4. Landfill gas generation and risk assessment

The Landfill Gas Management Plan provides a framework for the management of landfill gas based on the site characteristics and the nature and extent of the gas control system. The plan will provide a clear and auditable route-map setting out the methods, procedures and actions to be implemented at the site for the duration of the PPC permit, up to the point of surrender. The Landfill Gas Management Plan will be prepared as a stand-alone document incorporated into the documented site operational details and procedures as part of the PPC application. Applications for Permits will be required to include 'the proposed operation, monitoring and control plan' and the gas management plan will be an integral part of any submission.

The Landfill Gas Management Plan will be developed by the operator using risk assessment. The plan will clearly set out the risk factors and then illustrate how these risks are to be minimised and monitored. The plan should be used as a tool to demonstrate that the gas control system is appropriate for the site conditions during site development, operation, closure and post-closure stages. The Landfill Gas Management Plan is a live document and will require regular reviews and updates to ensure that adequate controls are in place to meet the identified standards and objectives.

For inert waste landfills, the landfill gas risk assessment should not normally have to progress beyond the risk screening stage. New inert landfills ought not to pose a landfill gas hazard; the emphasis in the risk assessment should therefore be placed on the Waste Acceptance Procedures and particularly the waste characterisation and compliance monitoring measures introduced to ensure that only inert waste is deposited at the site. If these measures can be shown to be robust then the landfill gas source should be demonstrably negligible.

Provision for the monitoring of landfill gas within the waste body will normally remain to be required at inert waste landfills.

For existing sites, previous deposits of non-inert waste introduce a greater level of complexity and will require a more detailed level of assessment. Where PPC applications cover previously landfilled areas, the historic waste inputs are unlikely to conform to the strict requirements for inert landfills developed under the Landfill Regulations. Assessment of the source term should be based on records held of the wastes accepted and the results of landfill gas monitoring previously conducted. During the risk screening process, the following outputs will be required for waste already deposited within the site and subsequent installation.

- Dates of landfill commencement and any cessation of deposits (both temporary and final).
- A summary of waste types and quantities accepted in broad categories e.g. inert, based on the Landfill Regulations definition; inert based upon the existing waste types under any existing waste management licence; construction and demolition etc.
- An estimate of the biodegradable fraction of any waste previously deposited.
- A summary of all of the landfill gas monitoring records held in relation to the site within the waste body and relevant to the perimeter.

This information will allow an initial assessment of existing waste deposits and their contribution to landfill gas generation.

The objective of the Landfill Gas Management Plan is to:

Bring together all aspects of gas management considered during the risk assessment and any proposed and necessary operational controls.

This will be achieved by consideration of landfill gas generation, production and migration thereafter introducing site specific measures to demonstrate control over landfill gas is achieved. This will include the provision of monitoring infrastructure sufficiently robust and sufficiently maintained to demonstrate maximum control and minimum risk.

The assessments and the design and operation of the landfill gas management system must provide the basis for the landfill gas monitoring plan for your installation.

<p>Submit details of the Landfill Gas Risk Assessment for the Installation and the informed Landfill Gas Management Plan arising from said assessment.</p>	<p><i>Reference/Attachment Details:</i></p>
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3.4.1. Landfill gas monitoring

This section provides the specification for your landfill gas monitoring programme. This specification must be justified by the landfill gas risk assessment you provided.

Use this table to demonstrate that documented systems, procedures and work instructions will be in place for all cells or areas generating landfill gas following the issue of the permit. These must ensure that landfill gas monitoring on your installation meets the specifications set out in your answers to the other questions in this section.

Documented systems, procedures and work instructions for landfill gas monitoring in place for the installation, that include the following:

Design and construction of gas monitoring installations:

- a) in waste boreholes;
- b) perimeter boreholes;
- c) location of all in-waste, gas monitoring installations and perimeter boreholes.

Specify and detail:

Construction Quality Assurance:

- a) roles and responsibilities;
- b) quality assurance principles;
- c) as built documentation;
- d) validation report.

Specify and detail:

Monitoring measurements and schedules:

- a) installation reference (internal, external, perimeter);
- b) monitoring frequency;
- c) parameters

Specify and detail:

Monitoring techniques:

- a) in waste and perimeter boreholes;
- b) off-site monitoring in the event of migration.

Specify and detail:

Data management and reporting procedures:

Specify and detail:

- a) methods of recording and maintaining monitoring data;
- b) reporting routine data to SEPA;
- c) annual reporting of monitoring data.
- d) reporting in the event of exceedance of a trigger level;
- e) records of complaints.

Documented systems, procedures and work instructions for landfill gas monitoring ensure that:

Specify and detail:

- a) perimeter monitoring is adequate to cover the pathways of migration to identified off-site receptors;

3.4.2. In-waste landfill gas monitoring

Sub-surface monitoring of landfill gas within the Permitted Installation is needed for the following reason:

- to check on the quantity and constituents of gas generated within the installation;

Is routine monitoring to be undertaken for:

If 'No' provide justification.

If 'Yes' provide proposed control level / action level.

No Yes

Methane

Oxygen

Carbon dioxide

3.4.3. Perimeter landfill gas monitoring – sub-surface emissions

Sub-surface monitoring of landfill gas at the installation perimeter is needed to check on any lateral migration of gas through the sides/perimeter of the installation, and particularly on any explosion hazard.

As a minimum, methane and carbon dioxide must be monitored for. Other gases should be measured, as required, according to the composition of the waste deposited. Use the table below to indicate the perimeter monitoring proposed for the installation.

Compound	Yes	No	Sampling frequency	Proposed trigger level	Example trigger level concentrations (% v/v)
Methane					1% above agreed background concentrations 1
Carbon dioxide					1.5% above agreed background concentrations 2
Other					

1. based on 20% of the LEL (lower explosion limit)
2. based on 20% of the 8 hour British Occupational Exposure Standard (OES)

3.4.4. Landfill gas monitoring action plan

The landfill gas monitoring action plan must identify appropriate actions to be taken if:

Doc reference/page no:

- abnormal changes are observed in collected monitoring data

4. WASTE DEPOSIT AND EMPLACEMENT

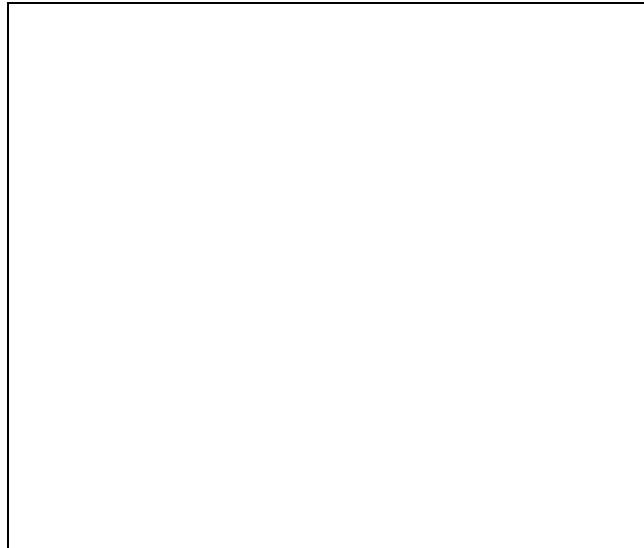
Table 1: Waste deposit and emplacement procedures

Waste deposit and emplacement procedures should be in place for operational and new cells of the installation, which ensure the following:

1. Waste is emplaced in each cell in such a way as to ensure stability of the mass of waste and associated structures, particularly in respect of avoidance of slippages.
2. The maximum and minimum gradients are specified and complied with for the working face, intermediate slopes and the final slopes of the landform.
3. Waste is discharged prior to placement in the appropriate operational areas, in a manner that prevents the releases to the environment of dusts, aerosols, litter and odour.
4. Waste is not discharged in adverse weather conditions that may give rise to the production of airborne materials such as litter or dust.
5. Waste is placed and compacted in the appropriate operational areas, to ensure stable surfaces and slopes and to minimise dirt being carried from the installation.

Specify and detail: Doc reference/page no

6. Appropriate handling and compaction plant and techniques are used.
7. The size of the operational area is defined to accommodate the placement of the waste.
8. Wastes requiring specific disposal methods are handled in such a manner as not to give rise to unstable ground or surface conditions or other nuisances.



5. SURFACE WATER MANAGEMENT AND MONITORING

5.1. Surface water management

Surface water management plan

A documented surface water management plan should be in place for the installation that includes the following:

-
- | | <i>Specify and detail: Doc reference/page no</i> |
|---|--|
| <ul style="list-style-type: none">• the designs and CQA plan?• precipitation and flood risk calculations?• details of engineered drainage systems?• connection pipework configurations and alignments?• details of the mechanical control systems (e.g. weirs, penstocks)?• details of surface water treatment methods?• details of system monitoring, during preoperational, operational, closure and after care phases (volume, meteorological conditions and quality)?• details of control strategies, including phasing of operations?• operation, inspection and maintenance procedures? | |

The surface water management plan should ensure that the surface water collection, drainage and discharge system will have sufficient capacity to handle the maximum predicted rate of rainfall for the installation.

Specify and detail: Doc reference/page no

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5.2. Surface water monitoring

This section provides the specification for your surface water monitoring programme. This specification must be supported by the hydrogeological and other risk assessments.

Surface water monitoring

Surface water monitoring provided for your landfill.

Management of surface water provided for your landfill

Specify and detail: Doc reference/page no

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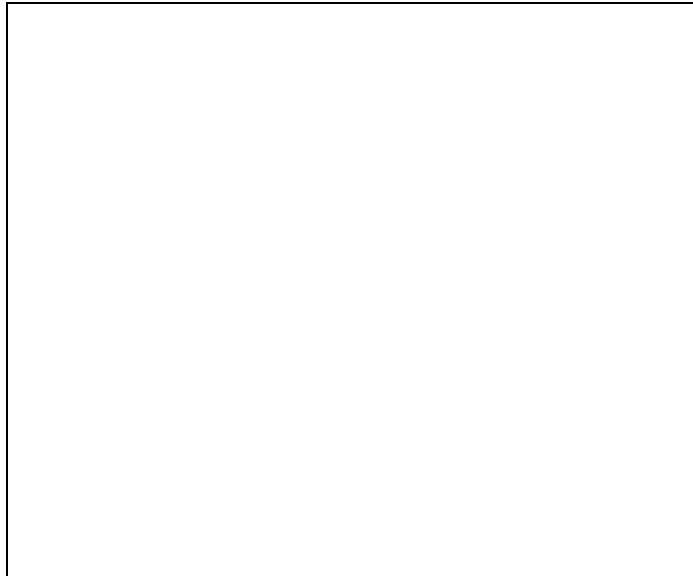
A surface water monitoring plan should be in place for the landfill, which answers the following questions:

1. Are the surface water monitoring locations and schedules specified?
2. Do the monitoring schedules specify:
 - the surface quality determinands to be monitored?
 - the assessment and compliance levels or criteria?
 - the surface water flows to be measured?
 - the frequency of sampling?
 - the units, accuracy and detection limits for each determinand?
3. Are monitoring and sampling of surface water carried out under quality controlled procedures in the field and the laboratory?

Specify and detail: Doc reference/page no

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4. Is a Contingency Action Plan, including possible corrective measures, specified if the relevant assessment criteria are exceeded?
5. Are surface water monitoring and sampling data and results recorded, and the records kept securely?
6. Will an interpretative report of surface water monitoring results be submitted periodically (at least annually)?



6. GROUNDWATER MANAGEMENT AND MONITORING

This section provides the specification for your groundwater management and monitoring programme. This specification must be justified by the hydrogeological risk assessment you describe in your answers to section 3.2.

Groundwater level management and monitoring

Is management of groundwater levels being provided for your landfill?

Specify and detail: Doc reference/page no
Give brief description of means, and reference to groundwater management plan

Groundwater monitoring plan

A groundwater monitoring plan should be in place for the landfill, which addresses the following issues:

<ol style="list-style-type: none">1. Are the groundwater monitoring locations and schedules specified2. Do the monitoring schedules specify:<ul style="list-style-type: none">• the groundwater quality determinands to be monitored?• the groundwater control and trigger levels?• the groundwater levels to be measured?• the frequency of sampling?• the units, accuracy and detection limits for each determinand?3. Are monitoring and sampling of groundwater carried out under quality controlled procedures in the field and the laboratory?	<p><i>Specify and detail:</i> Doc reference/page no</p> <div style="border: 1px solid black; height: 419px;"></div>
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4. Are the borehole logs from the construction of the monitoring boreholes recorded in the plan ? (Note that it is acceptable to include them in the Hydrogeological Risk Assessment report instead)?
5. Is a Contingency Action Plan, including possible corrective measures, specified if the relevant control and/or trigger levels are exceeded?
6. Are groundwater monitoring and sampling data and results recorded, and the records kept securely ?
7. Will an interpretative report of groundwater monitoring results be submitted periodically (at least annually)?
8. Is the monitoring risk based and will it specify the requisite surveillance monitoring requirements of the Groundwater Regulations 1998.

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The table below should be used to summarise your groundwater monitoring programme, and identify the groundwater control and trigger levels that were derived in your Hydrogeological Risk Assessment.

Groundwater monitoring

This table can be used for multiple sampling locations if appropriate, and should be reproduced for each location where the criteria are different.

Groundwater Monitoring Point(s) (e.g. BH 1, 2)				
Groundwater monitoring determinands * (e.g. ammonium, chloride, mecoprop)	Control Level (e.g. ammonium = 0.25 mg/L), detection limit and accuracy	Trigger Level (e.g. ammonium = 0.5 mg/L) detection limit and accuracy	Frequency of monitoring	Relevant section & page number of Hydrogeological Risk Assessment and any comments

*Note that you will not need to determine assessment criteria and compliance limits for every contaminant at your installation.

Groundwater Monitoring Control and Trigger levels

Please specify monitoring to be undertaken for groundwater				
Groundwater monitoring determinands	Monitoring frequencies	Units & accuracies	Control levels (include reference of the appropriate risk assessment and page/section or drawing which provides justification for each critical specification)	Trigger levels

7. RESTORATION AND AFTERCARE

An aftercare plan should be developed to ensure that the installation can be maintained to avoid any pollution risk up to the point of SEPA accepting the surrender of the permit when it is no longer likely to cause a hazard to the environment.

Procedures should be in place for existing closed cells and existing operational cells, and in place for new cells, to ensure that:

final pre-settlement waste levels are achieved and are not exceeded;

Specify and detail: Doc reference/page no

all above ground management systems are adequately protected from damage (including vandalism) to ensure their continued suitability for use throughout the aftercare phase;

all environmental management and monitoring infrastructure is maintained (and where necessary replaced) to ensure their continued suitability for use throughout the aftercare phase;

the security measures are in place and are maintained (and where necessary replaced) to ensure their continued effectiveness in controlling access to the installation and to detect and discourage illegal dumping at the installation throughout the aftercare phase;

the long and short term stability of the proposed landform including the waste deposits and associated structures such as the capping layer, drainage layer, soil cover.

The estimated costs of the closure and after-care of the installation for the predicted period over which the installation is likely to present a hazard are covered by the price to be charged for the disposal of waste in the installation.

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8. NUISANCES

8.1. Dust and aerosol formation risk assessment

Dust is defined as any coarse or fine particulate matter that may become suspended in air. Aerosols consist of fine water droplets, such as mist and fog. Dust and aerosols are characterised by the following criteria.

Particle size range:	<p><i>Large particles (>30 µm)</i> will mostly deposit within 100 m of the source</p> <p><i>Intermediate sized particles (10-30 µm)</i> are likely to travel up to 500 m</p> <p><i>Smaller particles (<10 µm)</i> can travel 1 km or more from the source</p> <p>Aerosols may generate fine particulates as water evaporates during dispersion</p>
Biological activity (bioaerosols):	Viable or total pathogens, bacterial toxins, bacterial endotoxins, cell-wall components, β-glucans, fungal spores, viruses
Chemical activity (solid associated contaminants):	e.g. Dioxins, Polyaromatic hydrocarbons (PAHs), metals (e.g. lead, nickel, cadmium, mercury)
Particle shape or phase (fibres):	e.g. asbestos, man-made mineral fibres (MMMMF)

Potential fugitive source (add rows or delete the examples/prompts below as appropriate)	Identify nature of emission (particle size, biological activity etc.)
Dust:	
Permitted Installation construction	
the deposit of waste (the nature of the waste)	
materials stockpiles	
waste pre-treatment operations	
vehicle movements along haul roads	
vehicle exhaust fumes	
Aerosols:	
dust suppression sprays	

8.2. Dust and aerosol monitoring

Documented dust and aerosol monitoring plans and Procedures should be in place for the installation, which ensure the following:

The location of any dust and aerosol monitoring points and boreholes for your installation are specified?

Dust and aerosol monitoring locations and schedules are specified and followed?

Monitoring and sampling of dust and aerosols are carried out under quality controlled procedures in the field and the laboratory?

The levels of specified dust and aerosol determinands are monitored and determined at least at the specified frequencies?

Levels of monitored dust and aerosol determinands that exceed the specified control levels are investigated?

Contingency actions and corrective measures are specified and implemented if the relevant control levels and trigger levels are exceeded?

Dust and aerosol monitoring and sampling data and results are recorded and the records are kept securely?

An interpretative report of dust and aerosol monitoring results shall be submitted periodically in accordance with the permit requirements?

Specify and detail: Doc reference/page no

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The Permit will require you to maintain a Dust and Aerosol Management Plan, summarising the actions to be taken to minimise odour under both normal and abnormal operating conditions. It also defines who is responsible for the actions described.

A Dust and Aerosol Management Plan, summarizing and satisfying the above items should be submitted. Include a copy to the application and indicate the Title, Date and Reference of the Management Plan in the box below.

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8.3. Odour risk assessment

The level of detail given should correspond to the risk of causing annoyance at sensitive receptors. The assessment is required to be site specific based upon the waste types you intend to accept at the inert landfill.

8.4. Birds, vermin and insects assessment

Source of nuisance and hazard	Birds	Vermin	Insects	Receptors and impacts on receptors

8.5. Birds, vermin and insects management

You should consider the following techniques, but not be limited to them:

- adequate compaction during waste emplacement, ensuring rapid waste emplacement;
- use of bird deterrent techniques such as intermittent gas cannons, pre-recorded distress calls, kites, helium balloons, birds of prey. Such techniques may be rendered ineffective due to habituation and therefore a selection of techniques should be used accordingly to ensure their overall effectiveness is maintained;
- in particularly sensitive locations e.g. within airport exclusion zones, the provision of a physical barrier in the form of a net may be necessary;
- placement of daily cover material as necessary;
- use of intermediate cover, as required;
- ensuring previously emplaced waste is not disturbed, exposed or moved;
- regular visual inspections of the installation; and
- regular visits by pest control contractors.

Source of nuisance and hazard	What measures are used to minimise nuisances arising from the installation in relation to birds, vermin and insects

The Permit will require you to maintain a Birds, Vermin and Insects Management Plan, summarising the actions to be taken to minimise the impacts of and nuisances arising from birds, vermin and insects under both normal and abnormal operating conditions. It also defines who is responsible for the actions described.

Where the Permitted Installation is in the vicinity of an aerodrome (as defined by the Civil Aviation Authority (CAA)) there may be a requirement from the CAA or the Ministry of Defence to ensure adequate means of bird control. In such cases the use of totally enclosed netting systems should be considered at the time of the application should a Risk Assessment so indicate.

A Birds Vermin and Insect Management Plan, summarizing and satisfying the above items should be submitted. Attach a copy to the application and indicate the Title, Date and Reference of the Management Plan in the box below.

8.6. Litter assessment

The level of detail given should correspond to the risk of causing annoyance at sensitive receptors. Where receptors are remote and the risk associated with environmental impact is therefore low, the information that needs to be provided relating to sensitive receptors will be minimal. However, information relating to significant litter sources and how they will be controlled and their impact minimised will still be required.

The Permit will require you to maintain a Litter Management Plan, summarising the actions to be taken to minimise litter under both normal and abnormal operating conditions. It also defines who is responsible for the actions described.

A Litter Management Plan, summarizing and satisfying the above items should be submitted. Attach a copy to the application and indicate the Title, Date and Reference of the Management Plan in the box below.

8.7. Noise and vibration assessments

The level of detail given should correspond to the risk of causing harm in the form of offence to man's senses, or annoyance at sensitive receptors. Permitted Installations which are inherently quiet and are therefore low risk should be screened out at the outset. Where receptors are remote and the risk is therefore low, the information required will be minimal; although information relating to noise sources will still be required and noise reduction should be achieved as far as the balance of costs and benefits will allow.

Insignificant sources should be "screened out" qualitatively (giving justification) and detailed information need not be given.

Noise and vibration minimisation

In many cases the measures required to reduce the impact of noise and vibration will be very installation specific but the following gives some indication of good practices to prevent or minimise noise from the installation:

- construction of sound bunds/barriers around the "active" cell, further information is contained in BS 5228 1997 "Noise and vibration control on construction and open sites";
- regular and effective maintenance of plant by trained personnel;
- training of installation personnel in the need to minimise noise;
- modification of existing plant to reduce noise;
- replacement of older installation plant with modern quieter designs (this may also improve energy efficiency);
- siting of noisy equipment way from receptors and accounting for prevailing wind direction;
- where short term noisy operations have to be undertaken, there often has to be a trade off in terms of a higher noise level for a shorter period versus less noise but of longer duration. For example during installation preparation, working longer hours, or using more plant (or larger plant) may be preferable if it results in noisy operations being completed in a much shorter time;
- early notification of local residents or at least inform them in advance of work being started, likely timescale and telephone number if disturbance occurs; and
- regular maintenance of the access roads to repair "pot-holes"; this serves to significantly reduce noise generated by empty vehicles.
- Operators should ensure disposal of waste does not occur outside of the agreed operating hours specified in the Permit.

In some circumstances the Permit may require you to maintain a **Noise Management Plan**, summarising the actions to be taken to minimise noise under both normal and abnormal operating conditions. It also defines who is responsible for the actions described.

Have you prepared a Noise Management Plan, summarizing and satisfying the above items?

If so, please attach a copy to the application and indicate the Title, Date and Reference of the Management Plan in the box below.

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A condition will also be included in the permit to set an absolute standard. In the case where receptors were being affected or the condition was not being complied with, the operator would be required to submit an amended management scheme to SEPA for approval, failing which SEPA will amend the conditions of the permit accordingly.

9. OTHER ASSESSMENTS

9.1. Raw and auxiliary materials selection

Use this table to supply a list of the principal materials used, and any others that have the potential for significant environmental impact.

Raw material/ function	Chemical nature/ composition	Addition rates	Fate % to product % to water % to sewer % to waste/ land % to air	Environm ental impact where known (e.g. degradabi lity, bioaccum ulation potential, toxicity to relevant species)	Practical alternative s for those with significant impact potential and reasons why they are not used	Could the material be a significant accident risk by virtue of nature or quantity stored?
Vermin control	Insecticide s & pesticides					
Fuels						
Raw materials required for engineering; e.g. aggregate for roads, etc.						

9.2. Energy

The landfill sector is not considered to be a significant energy user and the opportunity for significant energy efficiency will be limited. However, a Permit Holder will be expected to have basic, low cost, physical techniques in place to avoid gross inefficiencies.

Basic energy requirements

Annual energy consumption of the activities must be presented in the Table below, broken down by energy source. Where energy is exported from the Permitted Installation, the Applicant should also provide this information. An example of the format in which this information should be presented is given in the table below.

Energy source	Energy consumption		
	Delivered, MWh	Primary, MWh	% of total
Electricity from public supply			
Electricity from other source*			
Gas		N/A	
Oil		N/A	
Coal		N/A	
Other (Operator to specify)			

* Specify source and conversion factor from delivered to primary energy. Note that the Permit will require energy consumption information to be submitted annually).

Identify and appraise all energy efficiency techniques applicable to the activities authorised by the permit by:

- *listing which energy efficiency techniques are applicable to the activities but have not yet been implemented. Include those listed under basic energy requirements AND in the further energy efficiency requirements overleaf; and*
- *stating the CO2 savings achievable by that technique over the technique or the Permitted Installation's lifetime.*

Energy efficiency measure	CO2 savings (tonnes)	
	Annual	Lifetime

Where other appraisal methodologies have been used, state the method, and provide evidence that appropriate discount rates, asset life and expenditure (£/t) criteria have been employed

9.3. Accidents and their consequences

Accident Management Plan

Complete this table for any event which could have significant environmental consequences.

Accident or abnormal release scenario	Likelihood of occurrence	Consequences of occurrence	Actions taken or proposed to minimize the chances of it happening	Actions planned if the event does occur
Flooding				
Fires				
Explosions				

Which of the above do you consider to pose the most critical risks to the environment?

9.4. Habitats risk assessment carried out under the Habitats Regulations

The **Conservation (Natural Habitats etc) Regulations 1994**, referred to as 'the Habitats Regulations', require SEPA, as the Competent Authority, to assess landfill activities and ensure that they do not cause an adverse effect on the integrity of any European Sites. European sites have been specifically designated to protect rare and significant habitats or species. These assessments are known as Appropriate Assessments and will be carried out as part of the re-permitting process under the Landfill Regulations.

This table is an initial investigation to determine whether your landfill site is affected by the Habitats Regulations. This is determined through its proximity to the European site – the buffer zones are explained within the SEPA Habitats Guidance note.

	Response	Document Reference
Is the landfill within the specified distance of any European Site? (in general – 2km, unless the site could attract gulls and falls within 5km of a SPA or other vulnerable site.)		
If yes, what is the distance from the landfill boundary to any European Site? If there is more than one relevant European Site, please reference each and provide separate information for each throughout this section.		
What are the designated features of the European Site?		

If your Permitted Installation may cause a significant effect on a European site, you will need to address relevant issues in the risk assessments provided in support of this application, for groundwater and surface water, landfill gas, dust and aerosols, birds / vermin / insects, litter, and disturbance (noise & vibration).

	Response	Document Reference
<p>Could the landfill be responsible for any likely significant effect* on the designated features of the European Site? Particularly considering the risk of the following hazards (see the SEPA Habitats Guidance note):</p> <ul style="list-style-type: none"> • toxic contamination; • nutrient enrichment; • habitat loss or physical damage; • siltation; • smothering; • disturbance; or • predation. 		

* A likely significant effect in this context is any effect that may be reasonably predicted as a consequence of a landfill activity that may affect the conservation objectives of the features for which the European site was designated, but excluding trivial or inconsequential effects.

For each hazard posing a likely significant effect, complete a copy of the following table and state which hazard it refers to. Scottish Natural Heritage will be able to provide information relating to conservation objectives, favourable condition targets etc of specific European sites.

	Response	Document Reference
What are the designated features of the European Site that are of relevance to this hazard?		
Determine the favourable condition target for the relevant feature (including range of natural variation) based on conservation objectives.		
What is the contribution of the feature to the ecological structure and function of the site?		
Determine how the management of the European Site or other unauthorised activities affects the condition of the feature.		
Determine whether the hazard, when considered alone, has an adverse effect on the European site and its relevant features.		

Determine whether the hazard, when considered in combination with other activities, has an adverse effect on the European site and its relevant features.		
Can adverse affects be avoided by modifying the landfill activity, or imposing restrictions on how the activity is undertaken?		

9.5. Environmental Monitoring

All landfills will require sufficient monitoring to be carried out to check:

- that the processes within the landfill proceed as desired;
- that environmental protection systems are functioning fully as intended; and
- that the conditions of the permit are fulfilled.

To successfully complete this part of the application, you will need to have prepared an environmental monitoring plan for your installation. Your environmental monitoring plan must be developed from the conceptual model of the installation and will be refined as knowledge of the hydrogeological and environmental setting of the installation increases.

Documented quality assurance programmes and procedures should be in place for your environmental monitoring, which ensure the following:

All environmental monitoring, sampling and analysis for your installation is carried out in accordance with recognised standards, methodologies and practices?

Specify and detail:

10. INSTALLATION INFRASTRUCTURE

10.1. Installation security

Describe the security arrangements on your installation in terms of:

- type of security;
- design standards for physical security, detailing design and specification, including access;
- operational standards for security, including operational and out-of-hours provisions; and
- maintenance and repair schedules.

10.2. Sub-surface structures (excluding landfill containment engineering)

For all subsurface pipework, sumps and storage vessels confirm that one of the following options is in place:

- a) secondary containment;
- b) continuous leakage detection;
- c) an inspection and maintenance programme, e.g. pressure tests, leak tests, material thickness checks or CCTV which are completed for all such equipment within the last 3 years and are repeated at least every 3 years.

Specify and detail:

--

10.3. Bunds

For each tank containing liquids whose spillage could be harmful to the environment confirm that it is banded and that the banding complies with each of the requirements in the table below. Where it does not comply provide the date by which it will. Enter appropriate tank references for your installation and repeat the table as necessary.

Requirement	Fuel storage tanks	Waste oil from on site maintenance	Other (please specify)
Confirm compliance or a date for compliance which must be prior to the acceptance of any waste under the permit for provision of:			
<ul style="list-style-type: none"> • Be impermeable and resistant to the stored materials 			
<ul style="list-style-type: none"> • Have no outlet (i.e. no drains or taps) and drain to a blind collection point 			
<ul style="list-style-type: none"> • Have pipework routed within bunded areas with no penetration of contained surfaces 			
<ul style="list-style-type: none"> • Be designed to catch leaks from tanks or fittings 			
<ul style="list-style-type: none"> • Have a capacity which is the greater of 110% of the largest tank or 25% of the total tankage 			
<ul style="list-style-type: none"> • Be subject to regular visual inspection and any contents pumped out or otherwise removed under • manual control after checking for contamination 			
<ul style="list-style-type: none"> • Where not frequently inspected, be fitted with a high-level probe and an alarm as appropriate 			

<ul style="list-style-type: none"> • Have fill points within the bund where possible or otherwise provide adequate containment 			
<ul style="list-style-type: none"> • Have a routine programmed inspection of bunds, (normally visual but extending to water testing where structural integrity is in doubt) 			

11. MANAGEMENT SYSTEMS OVERVIEW

11.1. Competence and Training Standard

The operator shall ensure that all relevant management and operational staff receive adequate training with regard to their responsibilities under the Permit. Particular attention should be given to the following:

- minimisation of all potential environmental effects from operations under normal or abnormal circumstances;
- prevention of accidental emissions and action to be taken when accidental emissions occur; and need to report deviation from the permit.

Has a training needs assessment been carried out which:

- identifies all posts for which specific environmental awareness training is required; and
- identifies the scope and level to which such training is to be given?

Are training systems in place for all relevant staff that cover the following factors:

*Document reference. Description of how you manage the issue:
Specify and detail*

- the regulatory requirements associated with the Permit as they affect their work activities and responsibilities;
- likely potential environmental impacts which may be caused by the activities under their control. This should cover both normal and abnormal circumstances;
- reporting procedures to inform supervisors or managers of deviations from permit conditions;
- procedures to be used by supervisors or managers for the reporting of deviations from permit conditions to SEPA; and
- prevention of accidental emissions and action to be taken when accidental emissions occur.
- The role that the part of the installation operations under their control plays in ensuring regulatory compliance.

Are the skills and competencies necessary for key posts documented and are records of training needs and training received maintained?

Are individual and organisational training needs reviewed on a regular (e.g. annual) basis?

11.2. Accident Management Plan.

The operator shall maintain an accident management plan which identifies potential events or failures which might lead to an environmental impact. The plan shall identify:

*Document reference. Description of how you manage the issue:
Specify and detail*

- the likelihood of, and the actions to be taken to minimise, these potential occurrences;
- the environmental consequences and an action plan to deal with such occurrences;
- the operator shall have a written procedure for handling, investigating, communicating and reporting incidents of actual or potential non-compliance including taking action to mitigate any impacts caused and for initiating and completing corrective action; and
- in the case of abnormal emissions the operator shall investigate and undertake remedial action immediately; promptly record the events and actions taken; and ensure SEPA is made aware, as soon as practicable.

Has the plan identified techniques where improvement is needed?

Where the need for improvement has been identified, does the plan include an implementation programme with acceptable timescales?

11.3. Statutory consultees

We will use the information in this section to identify who we must consult about your proposals.

1 In which local authority area is the installation located? *If premises are on a boundary please give names of all relevant authorities.*

2 In which Health Board area is the installation located? *If premises are on a boundary please give names of all relevant Health Boards:*

3 Could the installation involve the release of any substance into a sewer vested in a sewerage undertaker? No Yes

4 Are there any Sites of Special Scientific Interest (SSSIs) within 2 kilometres of the installation? No Yes
If 'Yes' please give names of the sites

5 Are there any other SSSIs which may be affected by emissions from the installation? No Yes
If 'Yes' please give names of the sites

6 Are there any European Conservation sites, as defined by regulation 10 of the Conservation (Natural Habitats etc.) Regulations 1994, which may be effected by emissions from the installation? No Yes
If 'Yes' please give names of the sites

7 Could the installation involve the release of any substance into a harbour managed by a harbour authority? No Yes
If 'Yes' please give names of the Harbour Authority:

8 Is the installation on a site for which:

- a nuclear site licence is required under section 1 of the Nuclear Installations Act 1965? No Yes

- A major accident prevention policy document is required under Regulation 5 of the Control of Major Accident Hazards Regulations 1999. No Yes

11.4. Planning status

Which of the following applies to the specified waste management activities identified above?

(We cannot issue a permit unless one of the following applies. We will need to see a copy of the relevant documents).

- You have planning permission

Document reference number:

- You have a certificate of lawful existing use or development.

Document reference number:

The Town and Country Planning (General Permitted Development) (Scotland) Order

- 1992 or other relevant orders applies.

Please give details:

Planning permission is not required (Please say why and enclose written confirmation from the planning authority.)

Reference Number:

11.5. Fit and proper person

Has the operator, or any other 'relevant person', been convicted of any 'relevant offence'?

A 'relevant person' includes each partner, director, manager, company secretary or any similar officer or can be an employee.

We need to make sure that whoever holds the permit is a 'fit and proper person' in relation to any specified waste management activities. This includes consideration of relevant offences, technical competence and financial provision. (Please read 'Waste Management Paper No. 4' before completing this section.)

No Yes

If 'Yes' please give full information:

Reference number for this information:

Details needed:

- *Full name of company or individual convicted.*
- *If an individual has been convicted please state their position at time of offence.*
- *Name of court.*
- *Date of conviction.*
- *Offence and penalty imposed.*
- *Date of any outstanding appeal lodged against conviction.*
- *Any additional information which the operator would like us to take into account in determining whether they are a 'fit and proper person'. For example, why the offence happened, and what has been done to prevent a similar event occurring.*

11.6. Technical competence

Are the specified waste management activities covered by the WAMITAB (Waste Management Industry Training Advisory Board) award scheme?

No Yes

WAMITAB installations

Who will provide the technically competent management of the specified waste management activities?

Please give details for each person and provide a copy of the WAMITAB certificate.

Please enter responsible person(s) below:

Full Name:

Position:

Level of WAMITAB certificate:

Date:

Reference for copy of certificate:

Please enter responsible person(s) below:

Full Name:

Position:

Level of WAMITAB certificate:

Date:

Reference for copy of certificate:

11.7. Expenditure plan

Please provide a plan of the estimated expenditure for each phase of the specified waste management activities.

The plan should include the likely costs of:

- *Development*
- *Operation*
- *Monitoring*
- *Restoration*
- *Aftercare*
- *Remedial action in the event of the failure of pollution control systems*
- *Demonstration of compliance with regulation 13 of the Landfill (Scotland) Regulations 2003*
- *Refer to SEPA guidance 'Estimate of Financial Provision for Landfill'.*

We recognise that this plan may need to be revised before the issue of the final permit.

Reference number for expenditure plan:

11.8. Financial provision

How does the operator intend to make financial provision for the specified waste management activities?

(ie in accounts, cash,)

You must provide evidence of the proposed measures and you must complete the certificate attached to this form.

Reference number for document and evidence financial provision proposals

INITIAL CERTIFICATE FOR FINANCIAL PROVISION

Scottish Environment Protection Agency
Erskine Court
Castle Business Park
Stirling
FK9 4TR

Dear Sirs

I/We, being [a director] *1 [directors] *2 of []*3 ("the Operator") considering that:-

1. the Scottish Environment Protection Agency ("SEPA") is the regulatory authority for the purposes of The Pollution Prevention and Control (Scotland) Regulations 2000 as amended ("the Regulations");
2. the registered number of the Operator is []*4, the registered office of the Operator is at []*4 and, if the Operator is not incorporated in Scotland, the principal place of business in Scotland of the Operator is at []*4;
3. the Operator has applied to SEPA pursuant to the Regulations for a permit ("the Permit") to carry out a specified waste management activity at an installation ("the landfill site");
4. the landfill site is at [] *5;
5. the Permit will require the Operator to ensure that financial provision as required by Regulation 4(3)(b) of the Regulations is maintained until the Permit is surrendered in accordance with the Regulations;
6. the Permit will require the Operator to ensure that the charges which the Operator makes for the disposal of waste at the landfill site cover:-
 - (i) the costs of setting up and operating the landfill site;
 - (ii) the obligations (including after-care provisions) arising from the Permit in relation to such specified waste management activity and any closure procedures required by the Permit in relation to that activity; and
 - (iii) the estimated costs for the closure and after-care of the landfill site for a period of at least 30 years from the closure of the landfill site

do hereby certify and confirm to SEPA that the directors of the Operator, applying and using such forecasts, projections, estimates and assumptions as the directors of the Operator consider reasonable, have considered and reviewed:-

- (a) the costs of setting up and the current and estimated future costs of operating the landfill site;

- (b) the charges received and estimated to be received by the Operator for the disposal of waste in the landfill site;
- (c) the estimated costs for the closure and after care of the landfill site for a period of at least 30 years from the closure of the landfill site; and
- (d) the assets, financial facilities, resources, obligations and liabilities which the Operator has and is expected to have

and that the Operator has made and is making adequate financial provision to ensure that:-

- (i) the obligations (including after care provisions) arising from the Permit in relation to such specified waste management activity at the landfill site are discharged; and
- (ii) any closure procedures required by the Permit in relation to that activity are followed.

We confirm that written details of the forecasts, projections, estimates and assumptions referred to above will be provided by the Operator to SEPA within 14 days of the receipt by the Operator of a request from SEPA for details of such forecasts, estimates and assumptions.

..... Director *6

..... Full Name

..... Date

..... Director *6

..... Full Name

..... Date

Completion Instructions

- *1 delete if the Operator is a company with more than one director
- *2 delete if the Operator is a company with only one director
- *3 insert here the name of the Operator
- *4 insert here the incorporation number of the Operator excluding Local Authorities (which can be obtained from the Operator's certificate of incorporation), the Operator's registered office and, if the Operator is not incorporated in Scotland, the Operator's principal place of business in Scotland
- *5 insert here the location/address of the landfill site
- *6 sign above against "Director" and add details of your full name and date of signing below your signature

12. APPENDIX 1

The Environment Act 1995

The Criteria And Procedures For The Acceptance Of Waste At Landfills (Scotland) Direction 2005

The Scottish Ministers, in exercise of the powers conferred by section 40(2)(a) of the Environment Act 1995(1) and having, in accordance with section 40(6) of that Act consulted the Scottish Environment Protection Agency (“SEPA”) and such other bodies or persons as they consider appropriate, hereby give the following Direction:

Citation and commencement

This Direction may be cited as the Criteria and Procedures for the Acceptance of Waste at Landfills (Scotland) Direction 2005 and shall come into force on 16th July 2005.

Interpretation

In this Direction–

“the 2002 Decision” means Council Decision 2003/33/EC(2) of 19 December 2002, establishing criteria and procedures for the acceptance of waste at landfills pursuant to Article 16 of and Annex II to Directive 1999/31/EC(3);

“the 2000 Regulations” means the Pollution Prevention and Control (Scotland) Regulations(4);

“the 2003 Regulations” means the Landfill (Scotland) Regulations 2003(5);

“relevant waste acceptance criteria” means, in relation to a landfill, the waste acceptance criteria under Parts 1 and 3 of the Schedule to this Direction which apply to the class of landfill to which that landfill belongs;” and

any other expressions used in this Direction which are also used in the 2003 Regulations shall have the same meaning as in those Regulations.

Conditions to be included in landfill permits

SEPA shall incorporate such further conditions in all landfill permits under regulation 10(3)(b) of the 2003 Regulations so as to reflect the requirements of the 2002 Decision, as set out in the Schedule to this Direction.

1 1995 c.25.

2 O.J. L 11, 16.1.2003, p. 27.

3 O.J. L182, 16.7.1999, p.1.

4 S.S.I. 2000/323 as amended by asp 8, Schedule 2, paragraph 7; S.S.I. 2002/493; S.S.I. 2003/146, 170, 221, 235 and 411; S.S.I. 2004/26, 110, 112 and 512; S.S.I. 2005/101 and S.S.I. 2005/340.

5 S.S.I. 2003/235 as amended by S.S.I. 2003/343.

A member of the staff of the Scottish Ministers

Victoria Quay
Edinburgh

July 2005

SCHEDULE

CRITERIA AND PROCEDURES FOR THE ACCEPTANCE OF WASTE AT INERT LANDFILLS

PART 1

GENERAL PRINCIPLES FOR THE ACCEPTANCE OF WASTE AT LANDFILLS

General principles for the acceptance of waste at all kinds of landfill

1. (1) The following criteria shall apply to the acceptance of waste at any landfill.
- (2) Waste may only be accepted at a landfill where its acceptance would not–
 - (a) result in unacceptable emissions to groundwater, surface water or the surrounding environment;
 - (b) jeopardise environmental protection systems (such as liners, leachate and gas collection and treatment systems) at the landfill;
 - (c) put at risk waste stabilisation processes (such as degradation or wash out) within the landfill; or
 - (d) endanger human health.
 - (ii) would not prevent the stabilisation of the landfill within its projected lifetime taking account of its after care period following closure.

PART 2

PROCEDURE FOR THE ACCEPTANCE OF WASTE AT LANDFILLS

Interpretation of Part 2

4. In this Part–

“installation” has the meaning given by regulation 2(1) of the 2000 Regulations;

“waste regularly generated in the same process” shall mean individual and consistent wastes regularly generated in the same process, where–

 - (a) the installation and the process generating the waste are well known and the input materials to the process and the process itself are well defined;
 - (b) the operator of the installation provides all necessary information and informs the operator of the landfill of changes to the process (especially changes to the input material);
 - (c) the waste comes from a single installation or if from different installations, it can be identified as single stream with common characteristics within known boundaries (eg bottom ash from the incineration of municipal waste); and
 - (d) there is no significant change in the generation processes, but shall not include wastes which do not require testing in accordance with paragraph 5(4)(a) or (c); and

“PAHs (Polycyclic Aromatic Hydrocarbons)” means Naphthalene, Acenaphthylene, Acenaphthene, Anthracene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(g,h,i)perylene, Benzo(a)pyrene, Chrysene, Coronene, Dibenzo(a,h)anthracene, Fluorene, Fluoranthene, Indeno (1,2,3-c,d)pyrene, Phenanthrene and Pyrene.

Basic characterisation

5. (1) Waste may only be accepted at a landfill if it is characterised by its producer, whom failing by any person responsible for its management, to ensure that all information necessary for safe disposal of the waste in the long term is available including at least the following information–
- (a) the source and origin of the waste;
 - (b) the process producing the waste (including a description of the process and the characteristics of its raw materials and products);
 - (c) the waste treatment applied in compliance with regulation 12 of the 2003 Regulations, or a statement of reasons why such treatment is not considered necessary;
 - (d) the composition of the waste, including where relevant, an assessment of it against the relevant limit values in Part 3 and, where necessary and available, its other characteristic properties;
 - (e) the appearance of the waste (including its smell, colour, consistency and physical form);
 - (f) the code applicable to the waste under the European Waste Catalogue;
 - (g) in the case of hazardous waste, the relevant properties which render it hazardous according to Annex III of the Hazardous Waste Directive⁽⁶⁾;
 - (h) evidence demonstrating that the waste is not prohibited under regulation 9 of the 2003 Regulations;
 - (i) the landfill class at which the waste may be accepted;
 - (j) the likely behaviour (including, where relevant, leaching behaviour) of the waste in a landfill and any additional precautions that need to be taken at the landfill as a consequence; and
 - (k) whether the waste can be recycled or recovered.
- (2) For waste regularly generated in the same process, the following additional information shall be provided–
- (a) the compositional range for the individual wastes;
 - (b) the range and variability of characteristic properties;
 - (c) if appropriate, the leachability of the wastes determined by a batch leaching test, a percolation test or a pH dependence test;
 - (d) identification of the key variables to be tested for compliance testing, the frequency of compliance testing and options for simplification of compliance testing;
 - (e) in the case of waste which is produced in the same process in different installations, the scope of the evaluation which must

⁽⁶⁾ OJ No. L 377, 31.12.91, p.20 as amended by Council Directive 94/31/EC (OJ L 168, 2.7.1994, p.28).

include a sufficient number of measurements to show the range and variability of the characteristic properties of the waste.

- (3) In order to characterise waste, it must be subject to prior tests in accordance with Part 4 of this Schedule to establish its composition and its leaching behaviour.
- (4) Testing is not required in the case of any of the following types of waste—
 - (a) waste which may be accepted without testing under paragraphs 10 or 13 of Part 3 of this Schedule;
 - (b) waste in respect of which SEPA is satisfied that all the necessary information for the characterisation under sub-paragraph (1) can be provided without testing; or
 - (c) waste in respect of which SEPA is satisfied by way of a documented justification supplied to it that—
 - (i) the waste is of a type where testing is impractical or appropriate testing procedures and acceptance criteria are not available; and
 - (ii) the waste is of a type which is acceptable at the landfill class in question.
- (5) Records of the information obtained for the purposes of characterisation under this paragraph shall be retained by the operator for at least two years after the date of characterisation.

Compliance testing

6.
 - (1) Waste regularly generated in the same process shall not require each batch to be tested as part of its basic characterisation but may instead be subject to compliance testing in accordance with this paragraph.
 - (2) Compliance testing shall consist of one or more of the tests applied in accordance with paragraph 5(3) above and shall include—
 - (a) testing of the key variables established under paragraph 5 so as to demonstrate that the waste meets the limit values for those variables;
 - (b) a batch leaching test using the same method as was used for the test undertaken under paragraph 5(3); and
 - (c) tests which demonstrate that the waste complies with the results of the characterisation carried out under paragraph 5 and the relevant acceptance criteria described in Parts 1 and 3 of this Schedule.
 - (3) Compliance testing shall be carried out at the times established in the characterisation but shall be no less frequent than once a year.
 - (4) Records of the compliance testing shall be retained by the operator for a period of not less than two years.

Wastes accepted without testing

7. Any type of waste which may be accepted without testing under paragraph 5(4) shall be subject to checking for compliance with its basic characterisation established under paragraph 5.

PART 3
WASTE ACCEPTANCE CRITERIA

Interpretation of Part 3

8. In this Part–
- “granular waste” includes all wastes that are not monolithic;
 - “a mono-fill landfill” means a landfill which is authorised to accept only a single waste type;
 - “L/S = 10 l/kg” means a liquid to solid ratio of 10 litres to one kilogram; and
 - “stable, non-reactive hazardous waste” means hazardous waste, the leaching behaviour of which will not change adversely in the long-term, under landfill design conditions or foreseeable accidents–
 - (a) in the waste alone (for example, by biodegradation);
 - (b) under the impact of long-term ambient conditions (for example, water, air, temperature, mechanical constraints); or
 - (c) by the impact of other wastes (including waste products such as leachate and gas).

Criteria for landfills for inert waste

9. Waste may only be accepted at a landfill for inert waste if it meets either the requirements of paragraph 10 (wastes acceptable without testing at landfills for inert waste) or paragraph 11 (limit values for waste acceptable at landfills for inert waste).

Wastes acceptable without testing at landfills for inert waste

10. (1) Subject to sub-paragraph (2), waste of the types set out in Table 1 may be accepted without testing at landfills for inert waste provided the waste is–
- (a) from a single stream waste of a single waste type (unless different waste types from the list in Table 1 are accepted together); and
 - (b) is from a single source.
- (2) Waste referred to in sub-paragraph (1) must be tested where there is suspicion of contamination or doubt that the waste meets the definition of inert waste in regulation 2 of the 2003 Regulations or the criteria in paragraph 11.
- (3) If such testing reveals contamination or the presence of other materials or substances such as metals, asbestos, plastics or chemicals, the waste must not be accepted at a landfill for inert waste if the extent of the contamination is such as to increase the risk associated with the waste sufficiently to justify its disposal in other classes of landfill.

Table 1

<i>EWC Code</i>	<i>Description</i>	<i>Restrictions</i>
10 11 03	Waste glass based fibrous materials	Only without organic binders
15 01 07	Glass packaging	
17 01 01	Concrete	Selected C&D waste only ^(a)
17 01 02	Bricks	Selected C&D waste only ^(a)
17 01 03	Tiles and ceramics	Selected C&D waste only ^(a)
17 01 07	Mixtures of concrete, bricks, tiles and ceramics	Selected C&D waste only ^(a)
17 02 02	Glass	
17 05 04	Soil and stones	Excluding topsoil, peat; excluding soil and stones from contaminated sites
19 12 05	Glass	
20 01 02	Glass	Separately collected glass only
20 02 02	Soil and stones	Only from garden and parks waste; Excluding top soil, peat

(a) Selected construction and demolition waste (C&D waste): with low contents of other types of materials (like metals, plastic, organics, wood, rubber, etc). The origin of the waste must be known.

No C&D waste from constructions, polluted with inorganic or organic dangerous substances, eg because of production processes in the construction, soil pollution, storage and usage of pesticides or other dangerous substances, etc., unless it is made clear the demolished construction was not significantly polluted.

No C&D waste from constructions, treated, covered or painted with materials, containing dangerous substances in significant amounts.

Limit values for waste acceptable at landfills for inert waste

11. The following limit values shall apply to waste accepted at landfills for inert waste other than waste which may be accepted without testing under paragraph 10–

- (a) the limit values for leaching set out in Table 2; and
- (b) the limit values for total content of organic parameters set out in Table 3.

Table 2

<i>Component</i>	<i>Symbol</i>	<i>L/S = 10l/kg</i> <i>mg/kg dry substance</i>
Arsenic	As	0.5
Barium	Ba	20
Cadmium	Cd	0.04
Total Chromium	Cr _{total}	0.5
Copper	Cu	2
Mercury	Hg	0.01
Molybdenum	Mo	0.5
Nickel	Ni	0.4
Lead	Pb	0.5
Antimony	Sb	0.06
Selenium	Se	0.1
Zinc	Zn	4
Chloride	Cl ⁻	800
Fluoride	F ⁻	10
Sulphate ^(a)	SO ₄ ²⁻	1,000
Phenol index	PI	1
Dissolved Organic Carbon ^(b)	DO	500
Total Dissolved Solids ^(c)	TDS	4,000

- (a) This limit value for sulphate may be increased to 6,000 mg/kg, provided that the value of C₀ (the first eluate of a percolation test at L/S = 0.1 l/kg) does not exceed 1,500 mg/l. It will be necessary to use a percolation test to determine the limit value at L/S = 0.1 l/kg under initial equilibrium conditions.
- (b) If the waste does not meet this value for Dissolved Organic Carbon (DOC) at its own pH value, it may alternatively be tested at L/S = 10 l/kg and a pH between 7.5 and 8.0. The waste may be considered as complying with the acceptance criteria for DOC, if the result of this determination does not exceed 500 mg/kg.
- (c) The value for Total Dissolved Solids can be used alternatively to the values for Sulphate and Chloride.

Table 3

<i>Parameter</i>	<i>Value</i>
	<i>mg/kg</i>
Total Organic Carbon (TOC) ^(a)	30,000
BTEX compounds (benzene, toluene, ethyl benzene & xylenes)	6
Polychlorinated biphenyls (PCBs) (7 congeners)	1
Mineral oil (C10 to C40)	500
PAHs (polycyclic aromatic hydrocarbons)	100

- (a) In the case of soils, a higher limit value may be permitted by SEPA, provided a Dissolved Organic Carbon value of 500 mg/kg is achieved at L/S 10 l/kg at the pH of the soil or at a pH value of between 7.5 and 8.0.