RECYCLING MANUAL

REVISED JANUARY 2013

RECYCLING MANUAL	LEITHS

Contents	
A	Recycled Product List
B	Acceptable Wastes (Waste Management Exemptions Paragraph 13 and 24)
C	Waste Carriers Licences
D	Waste Transfer Note Guide
E	Production and Sampling Protocol
F	Waste Recycling Process (Exemption Paragraph 13 and 24)
G	Factory Production Control Recycled Type 1 Sub-base
H/I	Duty of Care
J/K	Asphalt Planings Recycling (Summary and QPA/SEPA Guidance)
L	WRAP Quality Protocol
M	WRAP Checklist and Checklist Guidance
N	Site Specific Organogram
O	**FORMS** Inspection Report Refusal Report Production Details
Site Specific Information	

Manual Reviewed by	Gordon Williamson	Date	January 25th 2013

Review Schedule
Manual is reviewed on an annual basis, next review date January 2014.

RECYCLING MANUAL – Revision List	LEITHS

Revision / Revision Details	Revised By	Date
Version 1 Issued	G. Williamson	March 2012
Recycled Products List *(Revised Product Codes)*	G. Williamson	18/01/2013
Recycled Materials Production Days LAB1001/Issue 1/Jan 2013 *(Form Added to Manual)*	A.Trickett-Bell	23/01/2013
Table of Contents *(Added following January 2013 Audit)*	G. Williamson	25/01 2013
Waste Carriers Licences *(Added following January 2013 Audit)*	G. Williamson	25/01 2013
Production and Sampling Protocol *(Revised following January 2013 Audit to include statement on Non-Compliant Material)*	A.Trickett-Bell	25/01 2013
Site Specific Organogram *(Site Manager responsibilities revised, personnel updated)*	G.Williamson	29/01/2013
Note – Revision sheet will be reissued following any revisions to the recycling manual		

Recycled Products

Weighsoft Code	Product Description	*Alternative (Old) Description*
R901	Recycled 100/150mm Aggregate	*100/150mm Recycled Aggregate*
R902	Recycled 50/100mm Aggregate	*50/100mm Recycled Aggregate*
R903	Recycled 0/100 All-In Aggregate	*0/100 All-In Recycled Aggregate*
R904	Recycled 0/80mm All-In Aggregate	*0/80mm Recycled Aggregate*
R905	Recycled 0/40mm Crusher Run Aggregate	*0/40mm Crusher Run Recycled Aggregate*
R906	Recycled 0/40mm Concrete Aggregate	*0/40mm Crusher Run Recycled Concrete*
R907	Recycled 0/20mm All-In Aggregate	*0/20mm All-In Recycled Aggregate*
R908	Recycled 0/20mm All-In Concrete Aggregate	*0/20mm All-In Recycled Concrete Aggregate*
R909	Recycled 4/20mm Aggregate	*4/20mm Recycled Aggregate*
R910	Recycled 4/20mm Concrete Aggregate	*4/20mm Recycled Concrete Aggregate*
R911	Recycled 10/20mm Aggregate	*10/20mm Recycled Aggregate*
R912	Recycled 10/20mm Concrete Aggregate	*10/20mm Recycled Concrete Aggregate*
R913	Recycled 0/10mm All-In Aggregate	*0/10mm All-In Recycled Aggregate*
R914	Recycled 4/10mm Aggregate	*4/10mm Recycled Aggregate*
R915	Recycled 4/10mm Concrete Aggregate	*4/10mm Recycled Concrete Aggregate*
R916	Recycled Type 1 Unbound Material (Subbase)	*Type 1 Recycled Subbase*
R917	Recycled Type 2 Unbound Material (Subbase)	*Type 2 Recycled Subbase*
R918	Recycled Type 3 Unbound Material (Subbase)	*Type 3 Recycled Subbase*
R919	Recycled Class 6F1 Selected Granular Material (Fine)	*Recycled Class 6F1 Selected Fine Capping*
R920	Recycled Class 6F2 Selected Granular Material (Coarse)	*Recycled Class 6F2 Selected Fine Capping*
R922	Recycled Class 6N Fill to Structure	*Recycled Class 6N Fill to Structures Material*
R923	Recycled Class 1A General Fill	*Recycled Class 1A Graded General Fill* *Recycled Granular Fill (Fine)* *Recycled Granular Fill* *Recycled Aggregate Hardcore*
R927	Recycled Asphalt Planings (6F3)	*Recycled Asphalt Planings* *Recycled Crushed Asphalt*
R929	Recycled Building Stone	*Recycled Building Stone*
R930	Recycled Topsoil (5B)	*Recycled Topsoil*
R932	Recycled 10/50mm Aggregate	*10/50mm Recycled Aggregate*
R933	Recycled Unbound Material	
R934	Recycled Washed Fine Sand (0/2mm)	*Recycled Washed fine sand*
R935	Recycled Washed Coarse Sand (0/4mm)	*Recycled Washed Coarse sand*
R940	Recycled 75mm Crusher Run (6N)	*Recycled 75mm Crusher Run*
R941	Recycled 0/225mm Crusher Run	*Recycled 225mm Crusher Run*
R942	Recycled 6F4 Selected Granular Material (Fine)	
R942	Recycled 6F5 Selected Granular Material (Coarse)	

Updated 18th January 2013

SEPA Exemptions Registered REPLACE FOR EACH SITE

Site	Concrete **Paragraph 24**	Road Planings / Demolition / Excavations **Paragraph 13**	Wood Chipping etc **Paragraph 21**
Achilty	WML/XS/1031012	WML/XS/1031022	n/a
New Forres	WML/XS/1031010	WML/XS/1031019	n/a
Bluehill	WML/XS/1031011	WML/XS/1031020	n/a
North Lasts	WML/XS/1031025	WML/XS/1031023	n/a
Blackhills	WML/XS/1031013	WML/XS/1031014	n/a
Lochton	WML/XS/1030999	n/a	n/a
Lochhills	n/a	n/a	WML/XS/1031005

All Exemptions listed above registered on 4th September 2008

Updated March 2012

Site	Concrete **Paragraph 24**	Road Planings / Demolition / Excavations **Paragraph 13**	Wood Chipping etc **Paragraph 21**
Torrin(1)	WML/XS/1031208	WML/XS/1031209	n/a
Newtongrange(2)	n/a	WML/XS/1032012	n/a
Kishorn(3)	WML/XS/1035974.	WML/XS/1035975	n/a
Torlundy (Dornie) (4)	WML/XS/1079014	WML/XS/1079015	n/a
Edston (5)		WML/XS/1099101	n/a
Mid Lairgs (6)	WML/XS/1101415	WML/XS/1101414	

(1) Torrin Exemptions were registered on 12th September 2008

(2) Newtongrange registered on 9th October 2008

(3) Kishorn Exemptions were registerd on 9th March 2009

(4) Torlundy Exemptions were registered on 23rd October 2009

(5) Edston Exemption (Para. 13) registered on 9th December 2011

(6) Mid Lairgs (Para 13 and 24 Exemptions) registered on 19th March 2012 (also paragraph 9 exemption (WML/XC/1026804))

Updated March 2012

Paragraph 13 Waste Management Exemption
Manufacture of Specified Goods from Specified Wastes

Summary

This Waste Management Exemption allows import of **SUITABLE** waste for **RECYCLING** which arises from demolition or construction work, tunnelling or other excavations or waste which consists of rock, bricks, blocks, roadstone, soil, soil substitutes or aggregate provided the waste used is non-hazardous.

One restriction in the paragraph 13 exemption is the amount of waste that can be stored on a site before it is recycled.

The limit is 20,000 tonnes which is increased to 50,000tonnes for road planings for roadstone manufacture.

The exemption allows screening but not pre-sorting of material.

SUITABLE WASTES

The principal wastes normally encountered are listed in the table below

EWC Code	Description	Restrictions
01 04 08	Waste Gravel and Crushed Rock	Waste gravel and crushed rocks which do not contain dangerous substances
17 01 01	Concrete	
17 01 02	Bricks	
17 01 03	Tiles and ceramics	
17 01 07	Mixtures of concrete, bricks, tiles and ceramics	Mixtures of concrete, bricks, tiles and ceramics which do not contain dangerous substances
17 03 02	bituminous mixtures other than those mentioned in 17 03 01	Mixtures containing coal tar (17 03 01) are a hazardous waste and are not included
17 05 04	Soils and stones	Soil and stones not containing dangerous substances
20 02 02	Soil and stones	Only from gardens or parks (includes cemetery waste)

For full details of the Waste Management Exemption please refer to the SEPA Guidance note which refers to the Paragraph 13 exemption as detailed in The Waste Management Licensing (Scotland) Regulations 2011.

Paragraph 13 in Schedule 1 from The Waste Management Licensing (Scotland) Regulations 2011 states

13.—(1) The manufacture from—

(a) waste which arises from demolition or construction work or tunnelling or other excavations; or

(b) waste which consists of ash, slag, clinker, rock, wood, bark, paper, straw, crushed glass, gypsum, digestate consisting only of biodegradable waste or compost consisting only of biodegradable waste, of timber products, straw board, plasterboard, bricks, blocks, roadstone, soil, soil substitutes or aggregate.

(2) The treatment of waste soil or rock or digestate consisting only of biodegradable waste or compost consisting only of biodegradable waste which, when treated, is to be spread on land under paragraph 7 or 9, if—

(a) it is carried out at the place where the waste is produced or the treated product is to be spread; and

(b) the total amount treated at that place in any day does not exceed 100 tonnes.

(3) The storage of waste which is to be submitted to any of the activities mentioned in sub paragraphs (1) and (2) if—

(a) the waste is stored at the place where the activity is to be carried out; and

(b) the total quantity of waste stored at that place at any time does not exceed—

(i) in the case of the manufacture of roadstone from road planings, 50,000 tonnes; or

(ii) in any other case, 20,000 tonnes.

(4) In this paragraph—

"digestate" means a stable, sanitised material converted from the inputs to the process of controlled decomposition of waste under managed conditions where free oxygen is absent, at temperatures suitable for naturally occurring mesophilic or thermophilic anaerobe and facultative anaerobe bacteria species;

"compost" means a stable, sanitised material resulting from the autothermic and t hermophilic biological decomposition and stabilisation of biodegradable waste in controlled aerobic conditions.

Paragraph 24 Waste Management Exemption
Size Reduction of Bricks, Tiles or Concrete.

Summary

This Waste Management Exemption allows crushing or other size reduction of **SUITABLE** waste for **RECYCLING.** The wastes likely to be encountered are principally concrete and reinforced concrete although the exemption also applies to bricks and tiles.

Where the processing takes place at a location other than where the waste is produced (eg on concrete taken on to quarry under an exemption) then crushing or other size reduction is only permitted to allow recovery or reuse of the waste.

Paragraph 24 exemptions are restricted to storage of up to 20,000 tonnes at the location where processing is to be undertaken.

SUITABLE WASTES

The principal wastes normally encountered are listed in the table below

EWC Code	Description	Restrictions
17 01 01	Concrete	
17 01 02	Bricks	
17 01 03	Tiles and ceramics	
17 01 07	Mixtures of concrete, bricks, tiles and ceramics	Mixtures of concrete, bricks, tiles and ceramics which do not contain dangerous substances

For full details of the Waste Management Exemption please refer to the SEPA Guidance note which refers to the Paragraph 24 exemption as detailed in The Waste Management Licensing (Scotland) Regulations 2011.

Paragraph 24 in Schedule 1 from The Waste Management Licensing (Scotland) Regulations 2011 states

24. —(1) Crushing, grinding or other size reduction of waste bricks, tiles or concrete, under an authorisation granted under Part I of the 1990 Act, to the extent that it is or forms part of a process within paragraph (c) of Part B of Section 3.4 (other mineral processes) of Schedule 1 to the 1991 Regulations or under a permit under the 2000 Regulations, to the extent that it is or forms part of an activity within paragraph (a) of Part B of Section 3.5 (other mineral activities) of Part 1 of Schedule 1 to the 2000 Regulations.

(2) Where any such crushing, grinding or other size reduction is carried on otherwise than at the place where the waste is produced, the exemption conferred by sub paragraph (1) only applies if those activities are carried on with a view to recovery or reuse of the waste.

(3) The storage, at the place where the process is carried on or the activity is carried out, of any such waste which is intended to be so crushed, ground or otherwise reduced in size, if the total quantity of such waste so stored at that place does not at any time exceed 20,000 tonnes.

Paragraph 9 - The reclamation or improvement of land

What the legislation says:

9. —(1) Subject to the following provisions of this paragraph–

(a) the treatment of land (including the restoration of quarries) with any of the wastes listed in Part I of Table 3;

(b) the treatment of land (including the restoration of quarries) with any of the wastes listed in Part II of that Table where such treatment results in benefit to agriculture or ecological improvement;

(c) the secure storage, at the place where it is to be used and for a period not exceeding 6 months, of waste intended to be used in reliance upon the exemption conferred by paragraph (a) or (b).

Table 2A	
Codes*	**Types of waste**
PART I Wastes from physical and chemical processing of non-metalliferous minerals (01 04)	
01 04 08	Waste gravel and crushed rocks**
01 04 09	Waste sand and clays
Wastes from sugar processing (02 04)	
02 04 01	Soil from cleaning and washing beet
Wastes from power stations and other combustion plants (except wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use) (10 01)	
10 01 01	Pulverised fuel ash***
Wastes from manufacture of ceramic goods, bricks, tiles and construction products (10 12)	
10 12 08	Waste ceramics, bricks, tiles and construction products (after thermal processing)
Wastes from manufacture of cement, lime and plaster and articles and products made from them (10 13)	
10 13 14	Waste concrete and concrete sludge
Concrete, bricks, tiles and ceramics (17 01)	
17 01 01	Concrete
17 01 02	Bricks
17 01 03	Tiles and ceramics
17 01 07	Mixtures of concrete, bricks, tiles and ceramics**
Soil (including excavated soil from contaminated sites), stones and dredging spoil (17 05)	
17 05 08	Track ballast**
Wastes arising from waste water treatment plants not otherwise specified (19 08)	
19 08 99	Wastes not otherwise specified (specifically stone filter media)
Wastes from the preparation of water intended for human consumption or water for industrial use (19 09)	
19 09 99	Wastes not otherwise specified (specifically slow sand filter sand)
Wastes from the mechanical treatment of waste (for example. sorting, crushing, compacting, pelletising) not otherwise specified (19 12)	
19 12 09	Minerals (for example sand, stones)
Wastes from soil and groundwater remediation (19 13)	
19 13 02	Solid waste from soil remediation**
Garden and park wastes (including cemetery waste) (20 02)	
20 02 02	Soil and stones

Table 2A	
Codes*	**Types of waste**
PART II Wastes from pulp, paper and cardboard production and processing (03 03)	
03 03 05	De-inked sludges from paper recycling
03 03 07	De-inked paper pulp from paper recycling***
03 03 09	Lime mud waste
Wastes from the manufacture, formulation, supply and use of fine chemicals and chemical products not otherwise specified (07 07)	
07 07 12	Sludges from on site effluent treatment other than those containing dangerous substances
Soil (including excavated soil from contaminated sites), stones and dredging spoil (17 05)	
17 05 04	Soil and stones**
17 05 06	Dredging spoil**
Wastes from aerobic treatment of solid wastes (19 05)	
19 05 03	Off-specification compost consisting only of biodegradable waste***
Wastes from waste water treatment plants not otherwise specified (19 08)	
19 08 05	Sludges from treatment of urban waste water
19 08 99	Wastes not otherwise specified (specifically stone filter media)
Wastes from the preparation of water intended for human consumption or water for industrial use (19 09)	
19 09 02	Sludges from water clarification
19 09 99	Wastes not otherwise specified (specifically slow sand filter sand)
Wastes from soil and groundwater remediation (19 13)	
19 13 04	Sludges from soil remediation**

* Codes referred to in the European Waste Catalogue.
** Wastes containing dangerous substances are not included.
*** The wastes listed do not include all of the wastes specified in the European Waste Catalogue under the code referred to.

(2) Sub paragraph (1) does not apply to the use of waste at a site designed or adapted for the final disposal of waste by landfill at any time when such disposal is the subject of a waste management licence or a permit granted under regulation 7 of the 2000 Regulations.

(3) Sub paragraph (1) applies only where–

(a) the waste is used for the purpose of reclamation, restoration or improvement of land which has been subject to industrial or other man made development;

(b) the waste is suitable for use for the purposes mentioned in sub paragraph (a);

(c) the waste is used in accordance with the requisite planning permission (if any);

(d) the waste is used to a depth not exceeding the lesser of 2 metres or the final cross sections shown on the plan submitted under regulation 18(8) of these Regulations; and

(e) the waste used does not exceed 20,000 cubic metres per hectare.

Registration Requirements:

Must be notified to SEPA using the appropriate form and enclosing the correct fee.

Registration "expires" after 12 months unless a renewal notice has been received and registered by SEPA. A renewal notice should be submitted to SEPA at least 21 days before the registration is due to "expire".

Paragraph 9 Exemption
The reclamation or improvement of land

1 INTRODUCTION

This document provides guidance, definitions, operational policy and strategy with regard registering a paragraph 9 exemption under Schedule 1 of the Waste Management Licensing (Scotland) Regulations 2011 ("the Regulations") for the reclamation or improvement of land.

2 SEPA'S OPERATIONAL POLICY CONCERNING PARAGRAPH 9 EXEMPTIONS.

2.1 What wastes can be used for a paragraph 9 exemption?

Only wastes listed in Part 1 of Table 3 of Schedule 1 to the Waste Management Licensing (Scotland) Regulations 2011 can be used for land treatment and only wastes listed in Part 2 of Table 3 of Schedule 1 to the Waste Management Licensing (Scotland) Regulations 2011 can be used for Agricultural benefit. Only waste which will be used for either land treatment or agricultural benefit can be stored, providing the storage is for less than or equal to 6 months. All the allowable wastes are reproduced in full in the notification form. No other wastes may be used under this exemption.

2.2 When can a paragraph 9 exemption not be used?

A paragraph 9 exemption must meet all of the following criteria otherwise the activity is not exempt:

- Wastes containing dangerous substances cannot be involved. Dangerous substances are taken to mean those identified within The Special Waste Regulations 1996 and the subsequent amendments The Special Waste Amendment (Scotland) Regulations 2004.
- The wastes to be used must be defined in Table 3 of Schedule 1 to the Waste Management Licensing (Scotland) Regulations 2011. Other wastes are not allowable under a paragraph 9 exemption.
- The waste cannot be used at a site designed or adapted for the final disposal of waste by landfill at any time when such disposal is the subject of a waste management licence or a pollution prevention control permit.
- The waste must be used for the purpose of reclamation, restoration or improvement of land which has been subject to industrial or other man made development. [Note: Agriculture is deemed not to be a suitable industrial or other man made development for the purposes of registering a paragraph 9 exemption].
- The use to which the land could be put must be improved by the use of the waste.
- The waste must be used in accordance with the requisite planning permission (if any).
- The waste is used to a depth not exceeding 2 metres or it is not used above the final cross sections shown on the plan submitted with the notification.
- The waste used cannot exceed 20,000 cubic metres per hectare.

2.3 What must be provided by the applicant?

- At least 21 days written notice of the date on which the exempt activity is first to be carried on shall be given to SEPA.
- The payment of the appropriate fee. (This can be found on the SEPA website www.sepa.org.uk under the current charging scheme or from the local SEPA office).
- A plan of each place at which the exempt activity is to be carried on showing-

  (a) the boundaries of that place; and

  (b) the locations within that place at which the exempt activity is to be carried on.
- The establishment or undertaking's name, address and telephone number and, if applicable, its fax number and email address.
- Where less than 2,500 cubic metres of waste are to be used, a description of the treatment, the type and quantity of waste to be used and the location of the treatment.
- Where 2,500 or more cubic metres of waste are to be used-

  (i) the total quantity of waste to be used;

  (ii) the type of waste to be used;

  (iii) the location of the land where the waste is to be used or stored, identified by reference to a map and a eight figure Ordnance Survey grid reference, including the name, address, telephone number and, if applicable, the fax number and email address of the landowner;

  (iv) a plan of the use with cross-sections showing the proposed levels of the land affected by the treatment;

  (v) the intended start and completion date of the use or storage.
- A certificate describing how the activity will result in benefit to agriculture or ecological improvement, which shall be prepared by or based on advice from a person who, in the opinion of SEPA, has appropriate technical or professional expertise.

2.4 What type of records does the establishment or undertaking need to keep?

Where the volume of waste used exceeds 2,500 cubic metres, records shall be kept of the quantity, nature, origin, destination and method of recovery or disposal of all waste used. The records must be kept for a period of at least 2 years and shall be made available to SEPA on request.

2.5 Is it an offence to carry out a paragraph 9 activity by doing most of what is required but, for example, not having the correct planning permission?

Yes! - A person who carries on an exempt activity in breach of the registration obligations shall be guilty of an offence and liable on summary conviction to a fine not exceeding level 5 on the standard scale.

2.6 What are the main reasons a notification will be taken off the public register?

Although not exhaustive there are several principal reasons why a notification would be taken of the register. These are:

- The operator is no longer carrying out the activity;
- The activity is being carried out in breach of any of the conditions or limitations of the relevant exemption;
- The operator fails to meet the Registration Obligations; and
- The type and quantity of waste submitted to the activity, and method of recovery are not consistent with the Relevant Objectives.

Schedule 4 (6) of the Waste Management Licensing (Scotland) Regulations 2011 specifies that it must be ensured that waste is recovered without endangering human health and without using processes or methods which could harm the environment and in particular without:

- Risk to water, air, soil, plants or animals; or
- Causing nuisance through noise or odours; or
- Adversely affecting the countryside or places of special interest.

An exemption is removed from the register when the activity is no longer being undertaken in accordance with the Regulations. The continuation of the activity without either a waste management license or registered exemption is an offence.

2.7 Is composted material still a waste and if it is to be used for land improvement or agricultural benefit, does it still require to be registered as an exempt activity?

The general principles with respect to composting standards and the definition of waste are set out in the National Waste Plan, launched and published (copy available on our website) by the Scottish Executive and SEPA in 2003.

"With regard to court decisions and the proposal for a directive on biodegradable waste, SEPA and the Scottish Executive consider that composts from source-segregated wastes that meet PAS100 or the Composting Association standards, and which are used as a product, will not be considered as waste. Until such time as standards are agreed for other composts, SEPA and the Scottish Executive will ensure that the regulation of mixed waste composting is proportional to the risks." (page 46)

This means that SEPA will accept that composted waste which meets the PAS100 standard is not waste - so long as there is a readily available market for the material and

so long as there is no subsequent discard of the compost. Materials which do not comply with the standard will be regulated - either under a license/permit or under exemption (e.g. paragraph 9 exemption).

The PAS100 standard is a British Standards Institute (BSI) Publicly Available Specification developed by BSI in association with Waste Resources Action Programme (WRAP) and the Composting Association (TCA). Compost not meeting Pas 100 standard is still regarded as waste but can be applied under a paragraph 9 exemption as waste code 190503 "off specification compost" providing no dangerous substances are present in the waste.

2.8 If any beneficial use can be made of land without treatment, then can a paragraph 9 exemption still be utilised?

At SEPA's Regulatory Management Team meeting of the 6 December 2002 the decision was taken that the interpretation that any beneficial use of brownfield land, such as industrial, precludes an exemption for soil or soil conditioner spreading was not in accordance with the intentions of the Waste Management Licence exemptions and would prevent any such activities on brownfield land.

Where soil or soil conditioner, such as sewage sludge is being spread on part of the site for a legitimate use, eg a tree screening belt or other landscaping, **and**, all relevant objectives are complied with, then an exemption is appropriate, even if the primary use is industrial buildings.

2.9 Is it possible to use waste more than two metres deep for part of the site as long as throughout the whole site no more than 20000m^3 of waste is used per hectare?

No, paragraph 9(3)(d) of schedule 1 to the Waste Management Licensing (Scotland) Regulations 2011 states that,

"the waste is used to a depth not exceeding the lesser of 2 metres or the final cross sections shown on the plan submitted under regulation 25(2) or 26(2) of these Regulations; and (e) the waste used does not exceed 20,000 cubic metres per hectare."

2.10 Can an exemption be registered if Planning permission is required but has not been granted?

Paragraph 9(3)(c) of schedule 1 to the Waste Management Licensing (Scotland) Regulations 2011 states that Paragraph 9(1) exempts the use of the listed wastes if "the waste is so used in accordance with the requisite planning permission (if any)". The phrase "if any" recognises that not all uses will need planning permission; however, if the use in question does require it, then activities under paragraph 9 would have to have planning permission in place to benefit from the exemption.

2.11 Can soil from a contaminated site be used?

Yes, but care is required to ensure that the soil is suitable for use and will not cause pollution or harm. To prove this sufficient evidence is required to show that the soil is

suitable. Wastes containing dangerous substances e.g. Special Waste, are not allowed to be used in a paragraph 9 exemption.

2.12 How often will a paragraph 9 exemption be inspected?

The Waste Management Licensing (Scotland) Regulations 2011 state that: "An initial inspection shall be carried out at the time when the exempt activity commences. Thereafter, periodic inspections shall be carried out at intervals not exceeding 12 months." In practice this means one inspection when registered and only inspect again upon renewal or if there is a complaint or incident.

2.13 How many farms can I apply for under one notification?

SEPA will accept:

- separate notifications for geographically separate farm units, even if IACS farm holding numbers are the same; or
- single notifications for multiple farms where the farms neighbour one another and are managed as one unit and which are, as a result of amalgamation of farm businesses, under the same IACS holding number.

This has been the approach taken by SEPA for farms regulated under the Groundwater Regulations since 1999.

2.14 How many soil samples do I require to show agricultural benefit?

SEPA require a sample for every field. Where fields are greater than 10 hectares we require a sample for each 10 hectare or part thereof. Where there are many small fields with the same soil type and crop requirements these may be amalgamated into 10 hectare areas.

2.15 How old can my soil analysis be?

In assessing benefit to agriculture the more recent analysis the better. Normally soil analysis should be no older than 12 months at the time of submission of the notification (including renewal). Older analysis up to three years prior to the submission of the notification is acceptable however provided documentary evidence is supplied to show how other wastes/fertilisers applied since that date have been accounted for in terms of calculated application rates.

2.16 How old can my waste analysis be?

For wastes that vary little in composition over the time in which they are produced, analysis up to 2 years prior to notification is acceptable. For waste streams that vary in composition over time, analysis within 6 weeks of submission of notification will be required.

To demonstrate that an analysis of the waste is representative (ie. to argue for the submission of data up to 2 years old) several samples of different batches should be supplied.

For renewals, where the wastes chemical composition does not change, analysis can be supplied up to every three years. Where the chemical composition is variable analysis should be within 6 weeks of submission of the renewal.

2.17 If the operator fails to treat the land as per the good agricultural practice specified in the PEPFAA code (Prevention of Environmental Pollution from Agricultural Activity) will the notification be taken off the public register by SEPA?

If it is identified that wastes are not being applied as per PEPFAA Code (ie. to waterlogged/frozen ground) and there is risk of pollution, the exemption will be taken off the public register and appropriate enforcement action taken.

In circumstances where enforcement action is being considered, the failure to follow the PEPFAA Code would be taken into account by SEPA.

2.18 What happens if SEPA deems that in general the notification is acceptable but that one or more of the fields the operator proposes to treat with waste is not acceptable?

In strict legal terms the whole notification should be refused as the operator is notifying SEPA of there intention to carry out an activity rather than applying to carryout an activity. However, SEPA intends to take a pragmatic approach. Where it is identified during full assessment of the notification that it is inappropriate to treat a specific field due to potential pollution risk SEPA will give the Operator five working days (where the 21 day time period allows) to amend and initial their notification. This is the reason a pollution risk assessment is required for each field.

2.19 What additional analysis of the soil and waste is required to show that the requirements of the Nitrates Directive are being complied with?

Nitrate Vulnerable Zones (NVZ's) are areas of land that are designated sensitive to nitrate pollution under the EC Nitrate Directive. Much of the East of Scotland is designated as an NVZ as is the Nith catchment in Dumfriesshire. To identify if the land you propose to treat is within an NVZ contact your local SEPA office or local Scottish Government Agricultural Office.

The soil and waste should be analysed for Available Nitrogen (NH_4-N) and Total Organic Nitrogen (Kjeldhal digestion). Note: This analysis maybe required to show agricultural benefit.

3 OTHER SOURCES OF INFORMATION AND GUIDANCE

Prevention of Environmental Pollution From Agricultural Activity Code of Good Practice (1997) The Scottish Executive.

Prevention of Environmental Pollution From Agricultural Activity Code of Good Practice. Dos and Don't Guide (2002) The Scottish Executive.

Technical Note T459: Use of Non-agricultural Wastes on Farmland (1997) Scottish Agricultural College.

Technical Note T481: Risks from Spreading Liquid Waste on Sloping Ground (1999) Scottish Agricultural College.

Code of Practice for Landspreading Paper Mill Sludge (1998) The Paper Federation of Great Britain.

The Waste Management Licensing (Scotland) Regulations (2011), Statutory Instrument 2011 No. 228

CERTIFICATE OF REGISTRATION UNDER THE CONTROL OF POLLUTION (AMENDMENT) ACT 1989

Regulation Authority

Name: SEPA - Aberdeen

Address: Inverdee House
Baxter Street
Torry
Aberdeen
AB11 9QA

Tel: 01224 266600 **Fax:** 01224 896657 **Telex:**
E-mail:

The following information is herby certified by the above mentioned Regulation Authority to be information which at the date of this certificate is entered in the register which they maintain under regulation 3 of the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991:

REGISTRATION NUMBER:	SNO/038471	Carrier
Name(s) of Registered Carrier:	Leith's (Scotland) Ltd	
Business Name (if any):	Leith's (Scotland) Ltd	
Address of registered carrier's principal place of business:	Rigifa Aberdeen AB12 3LR	

Tel: 01224 876333 **Fax:** 01224 876332 **Telex:**
E-mail:

Date of Registration:	31/01/1992
Date of Expiry of Registration*:	01/02/2016
Date of last amendment (if any) made to the carrier's entry in the register:	31/10/2012

Signature of authorised officer of the regulation authority: C Macdonald

NOTES
You can check whether there has been any change in the information contained in this certificate by contacting the regulation authority detailed above.

*Registration will expire on this date unless-
(a) it is revoked before expiry;
(b) The carrier requests the removal of his name from the register at an earlier time;
(c) an application for renewal is made within the six months ending on the expiry date and the application is still outstanding, or is the subject of an appeal on that date;
(d) in the case of a registered partnership, if any of the partners ceases to be registered of if anyone who is not registered becomes a partner.

CERTIFICATE OF REGISTRATION UNDER THE CONTROL OF POLLUTION (AMENDMENT) ACT 1989

Regulation Authority

Name: SEPA - Aberdeen

Address: Inverdee House
Baxter Street
Torry
Aberdeen
AB11 9QA

Tel: 01224 266600 **Fax:** 01224 896657 **Telex:**
E-mail:

The following information is herby certified by the above mentioned Regulation Authority to be information which at the date of this certificate is entered in the register which they maintain under regulation 3 of the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991:

REGISTRATION NUMBER: SNO/038403 Carrier

Name(s) of Registered Carrier: Joss (Aberdeen) Ltd

Business Name (if any): Joss (Aberdeen) Ltd

Address of registered carrier's principal place of business: Loch-Hill Quarry
Parkhill
Dyce
AB12 3LR

Tel: 01224 876333 **Fax:** 01224 876332 **Telex:**
E-mail:

Date of Registration: 19/11/1991

Date of Expiry of Registration*: 20/11/2015

Date of last amendment (if any) made to the carrier's entry in the register: 31/10/2012

Signature of authorised officer of the regulation authority: C MacDonald

NOTES
You can check whether there has been any change in the information contained in this certificate by contacting the regulation authority detailed above.

*Registration will expire on this date unless-
(a) it is revoked before expiry;
(b) The carrier requests the removal of his name from the register at an earlier time;
(c) an application for renewal is made within the six months ending on the expiry date and the application is still outstanding, or is the subject of an appeal on that date;
(d) in the case of a registered partnership, if any of the partners ceases to be registered of if anyone who is not registered becomes a partner.

CERTIFICATE OF REGISTRATION UNDER THE CONTROL OF POLLUTION (AMENDMENT) ACT 1989

Regulation Authority

Name: SEPA - Dingwall

Address: Graesser House
Fodderty Way
Dingwall Business Park
Dingwall
IV15 9XB

Tel: 01349 862021 **Fax:** 01349 863987 **Telex:**
E-mail:

The following information is herby certified by the above mentioned Regulation Authority to be information which at the date of this certificate is entered in the register which they maintain under regulation 3 of the Controlled Waste (Registration of Carriers and Seizure of Vehicles) Regulations 1991:

REGISTRATION NUMBER: SCO/334267 Carrier

Name(s) of Registered Carrier: Alexander Ross & Sons (S & G) Ltd

Business Name (if any): Alexander Ross & Sons (S & G) Ltd

Address of registered carrier's principal place of business: Midlairgs Quarry
Daviot
Inverness
IV2 6XN

Tel: 01463 772211 **Fax:** 01463 772321 **Telex:**

E-mail: enquiries@ross-quarry.co.uk

Date of Registration: 16/04/2009

Date of Expiry of Registration*: 15/04/2015

Date of last amendment (if any) made to the carrier's entry in the register: 30/11/2011

Signature of authorised officer of the regulation authority: C Macdonald

NOTES

You can check whether there has been any change in the information contained in this certificate by contacting the regulation authority detailed above.

*Registration will expire on this date unless-
(a) it is revoked before expiry;
(b) The carrier requests the removal of his name from the register at an earlier time;
(c) an application for renewal is made within the six months ending on the expiry date and the application is still outstanding, or is the subject of an appeal on that date;
(d) in the case of a registered partnership, if any of the partners ceases to be registered of if anyone who is not registered becomes a partner.

WASTE TRANSFER NOTES

A Waste Transfer Note shows carriers and site operators what waste they are handling.

Waste Transfer Notes ensure there is a clear audit trail for all waste from production to recycling or disposal.

There is no standard layout for a Waste Transfer Note.

The Leiths and Joss Transfer note has been designed to make completion relatively straightforward and is largely aimed at recycling of construction and demolition materials, as typically sent to a quarry site.

Most waste carriers produce their own generic versions; these require more input from all three parties (producer, transporter and disposer/recycler of the waste).

- A Waste Transfer Note must include the location producing the Waste.
- Where and When *(Date and Time)* each transfer took place.
  Normally this will be the location producing the waste and the disposal (or recycling) location.
- The names and addresses of both persons involved in the transfer
  The address will be the transfer address and hauliers address. Names will be name of representative of company producing waste, truck driver and member of quarry staff on receipt.
- Whether the person transferring the waste is the importer or the producer of the waste
  The quarry is the Importer of the waste.
- Authorisation Details for Each person / Company involved in the transfer
  Waste Carriers Licence Details for carrier. PPC permit, Waste Management Licence or Waste Management Exemption where appropriate for a Quarry or similar site.
- If appropriate, the name and address of any broker involved in the transfer of waste.
- Each Waste Transfer Note will include a detailed description of the waste
  Normally a brief description along with EWC or European Waste Code for the waste will suffice. The description must be sufficient to allow another person to handle the waste safely.
- The Quantity of Waste and Containment
  E.g. Whether loose or bagged, within truck or sealed skip. Quantity can be truck load, number of bags or number of skips etc.
- A Waste Transfer Note must be completed for every load of waste.
  The exception is where one truck is transferring multiple loads of the same material, from the same site, to the same location, on the same day. Then a single note may be completed for each truck. The transfer note will contain details on the total tonnage or number of loads transferred on that day.
  If there are two trucks on the job each truck requires a separate transfer note, If the job runs in to a second day a second transfer note is required for the second day.
  If the waste material changes then either this is noted on the transfer note or a separate note is completed.
- Each Waste Transfer Note must be completed and signed by :
  a) The person producing or sending the waste,
  b) The person collecting it *and*
  c) The person disposing or recycling it.
- Copies of all Waste Transfer Notes must be kept for a minimum of two years.
  Both persons involved in a transfer must keep a copy of the Waste Transfer Note. These must be produced on demand to SEPA or the local council, or you could be fined.
- Waste Transfer Notes MUST be completed for any Waste exported from the quarry.
  This includes any scrap metal produced as a by product of recycling.

JOSS Controlled Waste Transfer Note

No: [redacted]

A Current Holder/Producer of Waste (to be completed by site)

Site Name / Address: QUEEN MOTHER LIBARY BEDFORD ROAD ABERDEEN

Company Name / Address: LEITHIS SCOTLAND

Signed on behalf of Holder / Producer of waste

Signature: [signature] Full Name: C SHEARER Date: 2/2/12

B Description of Waste (to be completed by site)

☐ Concrete 17 01 01	☐ (Sub) Soil and Stones (from parks/gardens) 20 02 02		
☐ Mixed Concrete/ Brick/Tiles/Ceramics 17 01 07	☐ Top Soil 17 05 04	☑ Asphalt / Bitumous Cuttings / Planings 17 03 02	☐
☐ (Sub) Soil and Stones 17 05 04	☐ Top Soil (from parks/gardens) 20 02 02	☐	☐

Quantity (No. of loads, weight etc) _____ (for mulitple loads fill in at end of day)

Method of containment (skip, loose, bags, drums etc) LOOSE

C Carrier of Waste (to be completed by driver)

Joss (Aberdeen) Ltd.
Loch Hills Quarry, Parkhill, Dyce, Aberdeen
AB21 7AT
Registered Waste Carrier Reg. No. SNO/038403
Issued by SEPA

Signed on behalf of Carrier (driver)

Signed. [signature] Full Name DUNCAN ADAM

Vehicle Reg No. SV06 AUL Date. 2/2/12

D Receiver/Disposer of Waste (to be completed by receiver/disposer)

(✓ and Complete) For All Alternative Sites

☐ Site _____
Company Name / Address _____
_____
Licence Details (circle where applicable) _____
Waste Disposal / Waste Management / Waste Carrier _____
Reg No. _____
Issued By _____
Exemption Details _____
(where applicable) _____

(✓) For Loch Hills Quarry

☑ Joss Aberdeen Limited
Loch Hills Quarry
Parkhill
Dyce
Aberdeen
AB21 7AT
Waste Disposal Licence:
PPC/A/1008691
Issued by SEPA

Signed on behalf of Receiver / Disposer of waste

Signed. [signature] Full Name J EMSLIE Date. 2/2/12

E Further Information - if applicable

Top Copy - Current Holder/Producer | Second Copy - Receiver/Disposer | Third Copy - Carrie

EXAMPLE OF COMPLETED WASTE TRANSFER NOTE

LEITHS Controlled Waste Transfer Note

No:

A Current Holder/Producer of Waste (to be completed by site)

Site Name / Address _____

_____

Company Name / Address _____

_____

Signed on behalf of Holder / Producer of waste

Signature _____ Full Name _____ Date _____

B Description of Waste (to be completed by site)

- ☐ Concrete 17 01 01
- ☐ (Sub) Soil and Stones (from parks/gardens) 20 02 02
- ☐ Mixed Concrete/ Brick/Tiles/Ceramics 17 01 07
- ☐ Top Soil 17 05 04
- ☐ Asphalt / Bitumous Cuttings / Planings 17 03 02
- ☐
- ☐ (Sub) Soil and Stones 17 05 04
- ☐ Top Soil (from parks/gardens) 20 02 02
- ☐
- ☐

Quantity (No. of loads, weight etc) _____ (for mulitple loads fill in at end of day)

Method of containment (skip, loose, bags, drums etc) _____

C Carrier of Waste (to be completed by driver)

Leiths (Scotland) Ltd.
Rigifa, Cove, Aberdeen
AB12 3LR
Registered Waste Carrier Reg. No. SNO/038471
Issued by SEPA

Signed on behalf of Carrier (driver)

Signed. _____ Full Name _____

Vehicle Reg No. _____ Date. _____

D Receiver/Disposer of Waste (to be completed by receiver/disposer)

(✓ and Complete) For All Alternative Sites

☐ Site _____

Company Name / Address _____

_____

Licence Details (circle where applicable) _____

Waste Disposal / Waste Management / Waste Carrier _____

Reg No. _____

Issued By _____

Exemption Details _____

(where applicable) _____

(✓) For Loch Hills Quarry

☐ Joss Aberdeen Limited
Loch Hills Quarry
Parkhill
Dyce
Aberdeen
AB21 7AT
Waste Disposal Licence:
PPC/A/1008691
Issued by SEPA

Signed on behalf of Receiver / Disposer of waste

Signed. _____ Full Name _____

Date. _____

E Further Information - if applicable

Top Copy - Current Holder/Producer | Second Copy - Receiver/Disposer | Third Copy - Carrier

A. ROSS & SONS Controlled Waste Transfer Note

A *Current Holder/Producer of Waste (to be completed by site)*

Site Name / Address _____

_____

Company Name / Address _____

_____

Signed on behalf of Holder / Producer of waste

Signature _____ Full Name _____ Date _____

B *Description of Waste (to be completed by site)*

- ☐ Concrete 17 01 01
- ☐ (Sub) Soil and Stones (from parks / gardens) 20 02 02
- ☐ Mixed Concrete Brick / Tiles / Ceramics 17 01 07
- ☐ Top Soil 17 05 04
- ☐ Asphalt / Bitumous Cuttings / Planings 17 03 02
- ☐
- ☐ (Sub) Soil and Stones 17 05 04
- ☐ Top Soil (from parks / gardens) 20 02 02
- ☐
- ☐

Quantity (No. of loads, weight etc) _____ (for multiple loads fill in at end of day)

Method of containment (skip loose, bags, drums etc) _____

C *Carrier of Waste (to be completed by driver)*

A. Ross & Sons Ltd.
Midlairgs Quarry
Daviot
Inverness IV2 6XN
Registered Waste Carrier – Reg. No. SCO/334267

Signed on behalf of Carrier (driver)

Signed _____ Full Name _____

Vehicle Reg. No. _____ Date _____

D *Receiver/Disposer of Waste (to be completed by receiver/disposer)*

(✓ and Complete) For All Alternative Sites

☐ Site _____
Company Name / Address _____

_____

Licence Details (circle where applicable) _____
Waste Disposal / Waste Management / Waste Carrier _____
Reg. No. _____
Issued By _____
Exemption Details _____
(where applicable) _____

(✓ for Midlairgs Quarry)

☐ Midlairgs Quarry
Daviot
Inverness IV2 6XN
Waste Management Licence:
Issued by SEPA

- ☐ WML/XC/1026804
- ☐ WML/XS/1101414
- ☐ WML/XS/1101415

Signed on behalf of Receiver / Disposer of waste Full Name _____

Signed _____ Date _____

E *Further Information – if applicable*

Top Copy White – Current Holder / Producer Second Copy Pink – Receiver / Disposer Third Copy Green – Carrier

LEITHS

BUILT ON QUALITY

PRODUCTION, SAMPLING, TESTING AND COMPLIANCE PROTOCOL FOR RECYCLED MATERIALS

Responsibility and Authority

Quarry Manager

The on-site operations undertaken at the Quarry as detailed in the FPC (if applicable) are under the control of the Quarry Manager. The Quarry Manager is responsible for notifying Leiths Technical Services Department of materials to be sampled and any planned changes to the procedures for processing recycled aggregate which may affect the quality of the final product.

Technical Services Department

Sampling and sample testing for the recycled material produced at the Quarry is the responsibility of Leiths Technical Services Department. Sampling will be undertaken in accordance with relevant standards. The Technical Services Department is responsible for reporting all test results to the Quarry Manager.

The Quarry Manager and Technical Services Department are jointly responsible for investigation and remediation of any technical non-compliance.

Management Representative for Factory Production Control

The Quarry Manager is responsible for ensuring that the onsite FPC requirements (or otherwise) are implemented and maintained.

The Technical Director is responsible for ensuring that the offsite (laboratory testing) requirements detailed in the FPC (or otherwise) are implemented and maintained.

Waste Inspection

All waste is inspected and classified before and after tipping. Material which is unsuitable for production is separated from suitable materials prior to reprocessing. Further inspection is also undertaken at all stages during the production process and any unsuitable material is removed during these inspections.

Sampling and Testing Stockpile

The stockpile produced is kept separate to ensure no contamination from different production streams. No materials should be sold / used from this stockpile until the classification is confirmed by the Technical Services Department. Confirmation is normally notified by issue of a formal test report. A representative sample will be taken from the material to confirm whether it meets the requirements. Each stockpile will be clearly labelled.

Testing Frequencies

The attached Quality Protocol from Zero Waste Scotland states test frequencies as either per year, per production week or per production month. In order to achieve and comply with these frequencies it is the responsibility of the Quarry Manager to keep a record of production and inform Technical Services when the production week or month has been reached.

Non Compliant Material

If on testing, a stockpile of Recycled material does not comply with the specification of its intended use it will either be re-classified or re-processed to achieve compliance. The decision to re-classify or re-process will be made through consultation between the Quarry Manager and Leiths Technical Services.

Summary of common testing requirements for aggregates produced in compliance with the Quality Protocol

1.0 Testing

- A test plan for production must be defined that includes:
  - the type of testing for each product; and
  - sampling and testing frequency (see 2.0 below for information about minimum test frequencies).
- Table 1 provides a summary of the frequencies required for the minimum testing requirements set out in the main standards.
- The test procedures must be appropriate to the end use of the recycled aggregates and testing frequencies must comply with the standards/specifications for the aggregate produced.
- Producers must have in place testing procedures to meet the testing requirements for each product. A summary of the frequencies required for the minimum testing requirements within the mainstream standards is provided in Table 1 (below).
- More detailed testing requirements are defined within the aggregate standards and application specifications.

2.0 Minimum Testing Requirements – Frequencies

- Tables 1 and 3 collate the minimum test frequencies required by common standards and specifications.
- Where frequencies are defined in terms of 'production week' or 'production month'. These periods should be defined by the producer depending on the throughput of the plant/equipment. The objective is to test to a unit production period, not a calendar period.
- Production week can be defined as the period of seven consecutive days comprising at least five production days or the period taken to complete five production days, whichever is longer.

3.0 Departure from Minimum Test Frequencies

- Where materials are known to be marginal or if initial test results show them as such, the frequency of testing should be increased.
- The producer must prepare a schedule of test frequencies taking into account the minimum requirements of the relevant FPC.

Table 1: Summary of testing requirements associated with particular end uses and standards
(Note: Testing frequencies should be increased where variability is identified through factory production control and where the measured value is close to the specified limit.)

End use	Standard (see table4)	Test	BS test reference	Minimum test frequency (see 2.0)
All end uses	BS EN 13242	Particle size Distribution	EN 933-1	1 per prod. week
	BS EN 12620	Particle density and water absorption	EN 1097-6	1 per year
	BS EN 13043	Resistance to fragmentation (LA)	EN 1097-2	1 per year
		Classification of constituents(see table 2)	EN 933-11	1 per prod. month

Tests listed are not exhaustive and reference should be made to relevant standards and specifications for additional requirements.

Table 2: Classification of constituents: testing to BS EN 933-11, classification groups

Code	Constituents
Rc	Concrete, concrete products, mortar, concrete masonry units
Ru	Unbound aggregate, natural stone, hydraulically bound aggregate
Rb	Clay masonry units (i.e. bricks and tiles), calcium silicate masonry units, aerated non-floating concrete
Ra	Bituminous materials
Rg	Glass
FL	Floating material in volume
X	Cohesive (e.g. clay and soil), metals, wood, plastic, rubber, gypsum plaster

Notes: Maximum permitted for constituent X: 1% by mass
Maximum permitted for constituent FL: ≤10 cm^3/kg unbound, ≤5 cm^3/kg aggregates for concrete

Table 3: Example of supplementary testing to meet Specification requirements

End Use	Standard and Specifications	Test	BS Test Reference	Minimum test frequency (see section B2.7)
Unbound: Fills Capping Sub-base	SHW Series 600, &800 SROH	California Bearing Ratio Plasticity of fines Frost Heave	1377: part 4 1377: part 2 812: part 124	1 per prod. month 1 per prod. week 1 per year

Tests listed are not exhaustive and reference should be made to relevant standards and specifications for additional requirements.

Table 4: Standards, specifications and quality controls for the use of aggregates

	Product and Use	**Standard**	**Specification**	**Quality controls**
1	Unbound recycled aggregate: Pipe bedding Drainage	BS EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	Highways Agency Specification for Highway Works (SHW): Series 500 Road Authorities and Utilities Committee (RAUC): Specification for the reinstatement of openings in roads (SROR)	BS EN 13242: Level 4 Attestation SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste SROR: Compliance with SHW
2	Unbound recycled aggregate: Granular fill General fill Capping	BS EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	Highways Agency Specification for Highway Works: Series 600 RAUC: Specification for the reinstatement of openings in roads BS EN 13285: Unbound mixtures: Specifications	BS EN 13242: Level 4 Attestation SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste SROR: Compliance with SHW

	Product and Use	Standard	Specification	Quality controls
3	Unbound recycled aggregate: sub base	BS EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	Highways Agency Specification for Highway Works: Series 800 RAUC: Specification for the reinstatement of openings in roads BS EN 13285: Unbound mixtures: Specifications	BS EN 13242: Level 4 Attestation SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste SROR: Compliance with SHW
4	Recycled aggregate for concrete	BS EN 12620: Aggregates for concrete	Highways Agency Specification for Highway Works: Series 1000 BS 8500-2: Concrete	BS EN 12620: Level 4 Attestation SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste
5	Recycled aggregate for asphalt	BS EN 13043: Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas	Highways Agency Specification for Highway Works: Series 900 RAUC: Specification for the reinstatement of openings in highways	BS EN 13043: Level 4 Attestation SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste SROR: Compliance with SHW
6	Recycled aggregate for hydraulically bound mixtures	BS EN 13242: Aggregates for unbound and hydraulically bound materials for use in civil engineering work and road construction	Highways Agency Specification for Highway Works: Series 800	BS EN 13242: Level 4 Attestation SHW: Quality Control procedures in accordance with the Quality Protocol for the production of aggregates from inert waste

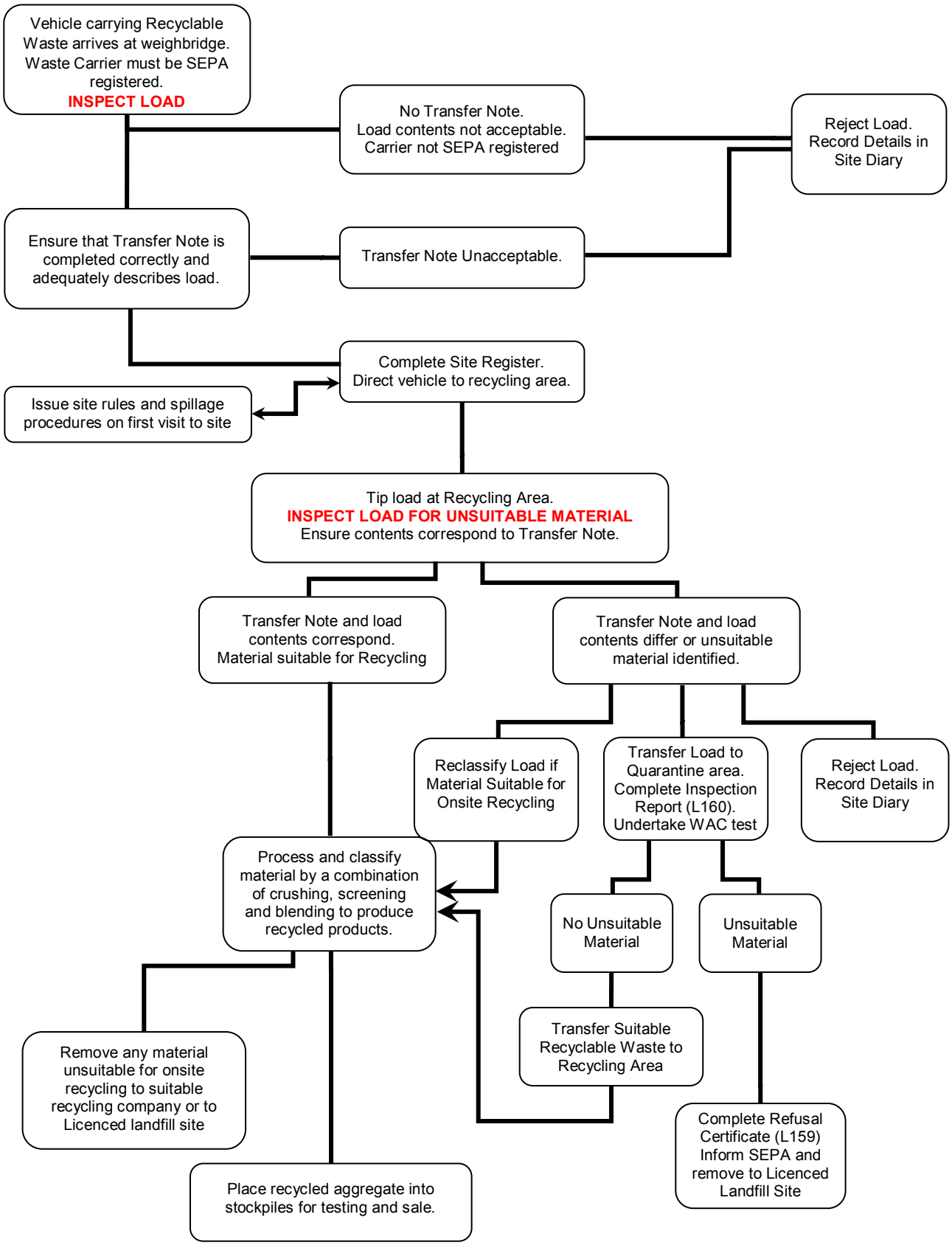
The British Standards Institute (BSI) publishes guidance documents that explain how the European Aggregate Standards are applied within the UK, the ones relevant to table B1 are:

- PD 6682-1 Aggregates for concrete. Guidance on the use of BS EN 12620
- PD 6682-2 Aggregates for bituminous mixtures and surface treatments for roads, airfields and other trafficked areas. Guidance on the use of BS EN 13043
- PD 6682-6 Aggregates for unbound and hydraulically bound materials for use in civil engineering works and road construction. Guidance on the use of BS EN 13242

All aggregates PDs and BS ENs can be purchased from BSI: http://shop.bsigroup.com

Waste Recycling Process

Flow Chart for Recycling suitable Waste Imported under Paragraph 13 or Paragraph 24 Exemptions(1)



(1) For details of Paragraph 13 and 14 Waste Management Exemptions refer to Schedule 1 of The Waste Management Licensing (Scotland) Regulations 2011

Revised December 2011

Recycled Type 1 Subbase

Factory Production Control

Gordon Williamson
December 2011

1 INTRODUCTION

1.1 Purpose

The Factory Production Control System (FPC) has been produced for production of Recycled Type 1 Subbase at Leiths quarries using a Paragraph 24 Waste Management Exemption. The FPC optimises the production process to meet the Type 1 Subbase specification defined in the Specification for Highway Works (SHW) Series 800. The FPC is designed to ensure that the Frost Heave limits defined in the SHW are met.

1.2 Legislative Background

The Factory Production Control System (FPC) is compiled in accordance with the requirements of EEC Construction Products Directive (CPD) 89/106/EEC, together with BS EN 13285: 2003, Unbound mixtures - Specification (Annex C). The Quarry produces a Type 1 Recycled Subbase which requires Level 4 attestation (BS EN 13285:2002 Annex C). The FPC is designed to surpass the requirements for Level 4 conformity attestation as defined in CPD 89/106/EEC annex 111.2.(ii). The FPC also meets the requirements of BRE Certification, incorporating LPCB Generic Factory Production Control Requirements PN111 Dec 2005.

Leiths (Scotland) Ltd Technical Services Department operate an independent UKAS accredited laboratory and as such meet the requirements as an approved body for conformity attestation. The Technical Services Department will undertake sampling and testing of aggregates produced at the quarry as required by the relevant standards listed in Table 1.

Table 1: Aggregate Standards and Attestation Levels

Standards	Attestation Level
BS EN 13285: 2003, Unbound mixtures - Specification (Annex C)	Level 4
BS EN 13242:2002, Aggregates for unbound and hydraulically bound materials. (Annex C)	Level 4
Specification for Highway Works (SHW) Series 800 Type 1 Subbase.	Not defined

2 ORGANISATION

2.1 Responsibility and Authority

Quarry Manager

The on-site operations undertaken at the quarry as detailed in the FPC are under the control of the Quarry Manager. The Quarry Manager is responsible for notifying Leiths Technical Services Department of any planned changes to the procedures for processing recycled aggregate which may affect the quality of the final product.

Recycled Subbase is normally produced periodically on a campaign basis, consequently the Quarry Manager is responsible for notifying the Leiths Technical Services Department when production of Recycled Subbase is taking place and when sampling / testing is required.

Technical Services Department

Sampling and sample testing for the recycled aggregate produced at the quarry is the responsibility of Leiths Technical Services Department. Sampling will be undertaken in accordance with BS EN 932-1:1997, Tests for general properties of aggregates, Methods for sampling. The Technical Services Department is responsible for reporting all test results to the Quarry Manager.

The Quarry Manager and Technical Services Department are jointly responsible for investigation and remediation of any technical non-compliance.

2.2 Management Representative for Factory Production Control

The Quarry Manager is responsible for ensuring that the onsite FPC requirements are implemented and maintained.

The Technical Director is responsible for ensuring that the offsite (laboratory testing) requirements detailed in the FPC are implemented and maintained.

2.3 Management Review

The FPC system will be reviewed when any significant changes are made to the production process or any non-conformities are identified during routine conformity testing. A record will be maintained of all reviews of the FPC system and changes made to the FPC system. An internal review of the FPC system should be carried out on a quarterly basis (BRE Certification, incorporating LPCB Generic Factory Production Control Requirements PN111 Dec 2005).

3 CONTROL PROCEDURES

3.1 Control Manual

The Factory Production Control System Method Statement of Production (MSP) is detailed in Section 4 and in Appendix 1.

3.2 Document and Data Control

The procedures for document control in Leiths (Scotland) Ltd. Quality Management System (QMS) apply to the Recycled Type 1 Subbase Factory Production Control System. A record of all copies of the FPC is maintained and superseded/obsolete documents will be removed from all points of issue. A list of all amendments or changes to the FPC is documented. The system for managing procedures is documented in the QMS. Leiths (Scotland) Ltd Technical Services Department is responsible for maintaining an up to date copy of all relevant National and International Standards which apply to aggregate production at the quarry.

3.3 Sub-Contract Services

Any sub-contract operations undertaken at the quarry as part of the processing operations are the responsibility of, and will be under the supervision of the Quarry Manager.

Leiths Technical Services Department is solely responsible for sub-contracting of any aggregate testing.

3.4 Knowledge of the Raw Material

The quarry recycles suitable Inert waste to produce a Recycled Subbase to meet the requirements of a Type 1 Subbase defined by the Specification for Highway Works (SHW) Series 800. Suitable Inert waste primarily comprises concrete and aggregate.

The quarry imports suitable Inert Construction and Demolition Waste for recycling; under a Paragraph 13 and Paragraph 24 Waste Management Exemption as detailed in the Waste Management Licensing (Scotland) Regulations 2011.

There are no dangerous substances as defined in EEC Council Directive 76/769/EEC within the Inert Waste accepted as suitable for recycling.

4 PRODUCTION MANAGEMENT

4.1 Background

Recycled Type 1 Subbase is produced by recycling suitable construction and demolition waste. In practice material suitable for Type 1 Subbase primarily comprises crushed concrete and aggregate.

4.2 Waste Input

The waste acceptance procedure used provides detailed information on all waste accepted for recycling at the quarry.

Through the waste transfer note supplied with all waste loads accepted in conjunction with the weigh-bridge records for each load details of the information below are recorded:

a) Source of Waste
b) Supplier
c) Contact Details
d) Producers Waste Licence
e) Carriers details (including licence details)
f) Description/Composition of Waste.
g) The EWC (European Waste Catalogue) code(s) applicable to the waste.
h) Quantity/Weight
i) Date

4.21 Waste Inspection

All waste is inspected and classified both before and after tipping.

Any material which is unsuitable for production of Type 1 Subbase is separated from suitable materials prior to reprocessing.

Further inspection is also undertaken at all stages during the production process and any unsuitable material is removed during these inspections.

4.22 Oversize Material

Any material which requires size reduction prior to crushing will be 'balled' by the excavator operator as part of the primary crushing process. There are occasions where the oversize fraction is removed by excavator and stockpiled separately for future processing.

Where the material contains a large portion of reinforced concrete a concrete muncher will be used to break up the concrete and remove the steel reinforcement.

During this process any obvious contamination e.g. wood or metal is also removed.

4.23 Stockpile Oversize for Further Processing

The oversize material is stockpiled separately for further processing.

4.24 Stockpile Material for Reprocessing

After any oversize material is removed the material suitable for Type 1 Subbase production is stockpiled until sufficient volume is accrued for further processing. All material added to this stockpile is controlled to ensure that only material suitable for Type 1 Subbase production is placed in the stockpile.

4.3 Reclaimer

Where required the bulk waste stockpile is processed through a Reclaimer to remove any undersize material (<10mm) prior to further processing.

It will depend on the quarry managers inspection of the bulk waste stockpile whether this process is required.

Prior to primary crushing the output from the reclaimer is inspected and any unsuitable material is removed (eg metal, wood or plastic).

The undersized material (<10mm) will be stockpiled for further processing and/or testing. This material is not used in the production of Type 1 Subbase.

4.4 Primary Crushing

Primary crushing is undertaken using a jaw crusher. The crusher is operated by an experienced operator and typically configured to output a nominal 100mm (4”) output for Recycled Subbase production.

Steel / Rebar

The primary crusher is fitted with an over-band magnet to remove any steel from the output belt.

Rebar and other ferrous metals produced as a by-product of aggregate recycling are sold to a licensed recycling company.

4.41 Screening

The output from the primary crusher may be processed through a separate screen, typically configured using a 40mm screen mesh. This allows production of a Type 1 Subbase from the <40mm fraction without further Tertiary Crushing.

The >40mm material will be stockpiled separately for Tertiary Crushing.

The quarry manager or nominated deputy is responsible for plant configuration. Plant configuration largely depends on the input material.

The output from the screen is inspected and any unsuitable material is removed (eg metal, wood or plastic).

4.5 Tertiary Crushing

Tertiary crushing is undertaken using a cone crusher. The cone gap is set to suit the ouput material and is determined by an experienced operator.

Where practical the tertiary crusher is set up to feed directly from the primary crusher output, this is only undertaken if the source material is sufficiently free from contamination. The decision on the plant configuration is made by the quarry manager or nominated deputy after inspecting the stockpile which will be used as an input to the primary crusher.

This configuration will be preferred since feeding the Tertiary Crusher directly from the Primary Crusher minimises extra handling of material.

4.51 Sampling

The stockpile produced is kept separate to ensure no contamination from different production streams. No Subbase should be sold / used from this stockpile until the classification is confirmed by the Technical Services Department.

A representative sample will be taken from the Recycled Subbase stockpile in accordance with BS EN 932-1:1997 for laboratory classification / analysis to confirm whether the Subbase meets the requirements for a Type 1 Subbase as defined by the Specification for Highway Works (SHW) Series 800.

Each stockpile will be clearly labelled.

5 INSPECTION, SAMPLING AND TESTING

5.1 Laboratory Analysis

Laboratory analysis of the Recycled Subbase produced at the quarry will be undertaken by Leiths (Scotland) Ltd Technical Services Department. The Technical Services Department operates an independent UKAS accredited laboratory.

Any test work sub-contracted by the Technical Services Department will be undertaken by approved laboratories and controlled by the Technical Services Department.

5.2 Laboratory Equipment Maintenance and Calibration

Equipment Maintenance and Calibration is the responsibility of Leiths Technical Services Department. Maintenance and Calibration is carried out in accordance with EN932-5. All sampling and testing equipment is assigned with a unique reference number to ensure maintenance and calibration records are maintained. Each sample taken from the quarry is assigned a unique reference number in accordance with the Technical Services Department standard procedures.

5.3 Sampling

5.31 Sampling Methodology

Sampling will be carried out in accordance with BS EN 932-1:1997, Tests for general properties of aggregates, methods for sampling. Sampling will be undertaken by the Technical Services Department and a Sample Certificate will be completed for each sample taken.

5.32 Sample Test Frequency

The Routine Test Frequency is one representative sample from each batch of Recycled Subbase produced. The minimum frequency is defined as one weeks continuous production or a stockpile of 5000tonnes whichever is reached first.

The routine sample frequency can be increased as required by either the Quarry Manager or the Technical Services Department.

5.34 Non Routine Sampling

Samples can be taken from any stage in the processing of Subbase at the quarry. All samples will be taken in accordance with BS EN 932-1:1997, Tests for general properties of aggregates, methods for sampling. A sample certificate will be completed for each sample.

5.4 Training

It is the responsibility of the laboratory manager to ensure all staff involved with sampling and testing aggregates from the quarry are both trained and experienced in the necessary operations.

6 LABORATORY TESTING FOR CONSTITUENT MATERIALS

6.1 Background

The laboratory inspection procedure is detailed in SHW Clause 710.
The procedure in SHW 710 is designed to calculate the composition of recycled aggregate used for road construction.

The procedure is summarised below and all testing should be carried out in compliance with the procedures detailed in SHW Clause 710.

6.2 Test Principals – Material Differentiation

The test relies on visual differentiation of the materials contained in a sample of Recycled Subbase.

6.3 Sample Preparation and Examination

- The bulk sample is reduced in size in accordance with the procedures specified in BS EN 932-1:1997.
- The sample should be dried at 40° C to a constant mass. To aid inspection the sample can be washed before drying.
- The oversize material retained on a 63mm sieve is discarded and the sample is reduced to provide two duplicate test portions.
- From each test portion the undersize material (passing an 8mm sieve) is removed and the mass of each test portion (8/63mm size) should be recorded as (M_{total}).
- Both remaining test portions are to be tested separately.
- Each portion should comprise more than 500particles. The mass required for 500 particles is shown in the table below[2].

Table 7/3, SHW Clause 710

Upper Aggregate Size D mm	Test Portion Mass (minima) (kg)
63	50
40	15
31.5	8
20	2
16	2
14	1

The principals of the procedure detailed in BS EN 13285. 2003 Unbound Mixtures-Specifications (Annex A) is similar to that in SHW Clause 710. The main difference is in the mass of sample required.
Type 1 Sub base is normally specified to meet the SHW specification and the procedure specified in the SHW is used because of this.

[2]In practice for Recycled Type 1 Subbase the sample size will be 8kg given that the upper aggregate size is 31.5mm (75 – 99% passing 31.5mm sieve).

The material is spread on to a flat surface and separated into the following categories.

Class A	Asphalt
Class B	Masonry (brick & block, other than lightweight block masonry)
Class C	Concrete and Concrete Products
Class L	Lightweight Block masonry and other particles with a particle density less than 1000kg/m3
Class U	Normal Weight Unbound Aggregate
Class X	Other materials such as metal, clay lumps, plastics, wood, glass etc.

SHW NG 710 gives details on differentiating between Masonry and Lightweight Block Masonry Categories by apparent particle density. If there is any doubt in the classification or identification of this material the procedure specified in NG710 should be followed.

6.4 Calculation

Each category will be weighed and the respective masses will be recorded as:

M_a (Class A)
M_b (Class B)
M_c (Class C)
M_l (Class L)
M_u (Class U)
M_x (Class X)

If the sum of the categories above differs by more than 1% from the total mass of the sieved test portion (M_{total}) the test should be repeated.

The percentage by mass P of each category shall be calculated using the following equations.

$P_a = M_a * 100 / M_{total}$
$P_b = M_b * 100 / M_{total}$
$P_c = M_c * 100 / M_{total}$
$P_l = M_l * 100 / M_{total}$
$P_u = M_u * 100 / M_{total}$
$P_x = M_x * 100\ M_{total}$

The results should be reported as a mean of the values obtained from the two test portions.

The values are recorded to the nearest 0.1% for Class X and to the nearest whole number for the other categories.

A copy of the worksheet from SHW Appendix 7/10 in included in Appendix 5.

The permitted limits are included in the following table

SHW Series 800 Table 8/3

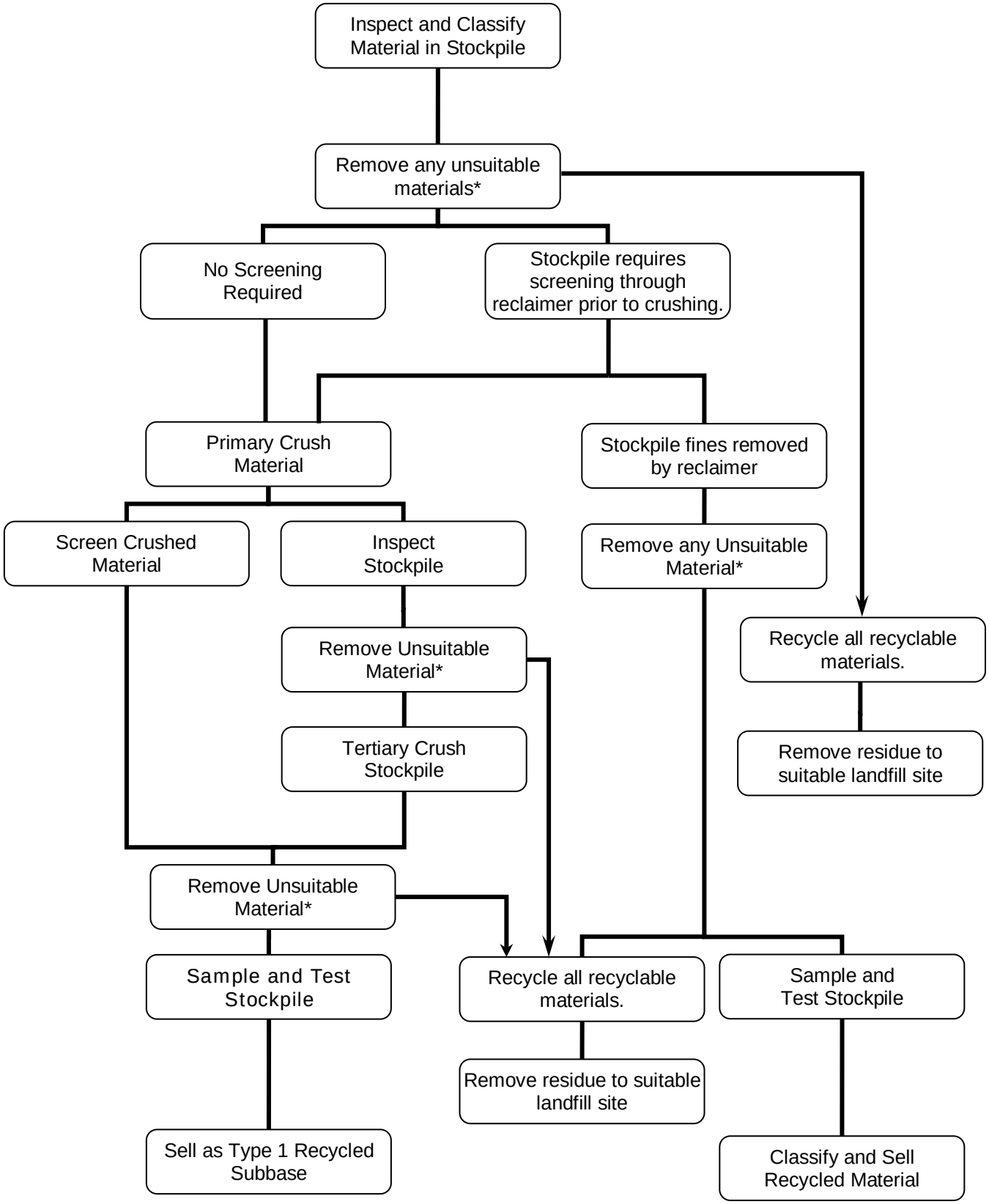
Other Materials	Maximum Permitted Content % by Mass
Asphalt Arisings – where permitted by Appendix 7/1	100
Asphalt – other mixtures	50
Foreign Materials including wood, plastic and metal	1

6.5 Limitations of Method

From SHW NG710

'This test method specifies a basic procedure for the examination of recycled aggregate and recycled concrete aggregate for the purpose of identifying and quantifying constituent materials. The test is designed to give a reliable go/no go decision rather than to provide a low relative error estimate of constituent contents'

Appendix 1 – Production Process



Unsuitable materials includes steel, plastic and wood contaminants

Appendix 2 - SHW Physical Property requirements

The table below is based on SHW Series 801 Table 8/2

Property	Test method	Requirement
Resistance to Fragmentation (Los Angeles value - LA)	BS EN 1097-2: 1998	LA_{50} see Note 1 (i.e. $\leq$ 50)
Resistance to Wear (micro-Deval test category - M_{DE})	BS EN 1097-1: 1996	M_{DE} NR (No requirement) The supplier shall state the value for the aggregate used.
Resistance to freezing and thawing - Magnesium Sulfate soundness (MS) category	BS EN 1367-2: 1998	MS_{35} (i.e. $\leq$ 35)
Water Absorption category (WA)	BS EN 1097-6: 2000	WA_{24}NR (i.e. no requirement) The supplier shall state the value for the aggregate used.
All other BS EN 13242 aggregate requirements	$Category_{NR}$	(no requirement)

Notes:

1) Aggregates with Los Angeles Values greater than 50, but less than 60 may be used where there is evidence of source compliance with the previous Type 1 requirement of 50 kN Ten Per Cent Fines Value and a history of satisfactory use.
2) Subject to the tolerances given in SHW table 7/1, material shall not be frost susceptible if used within 450 mm of the designed final surface of a road or paved central reserve area, or 350 mm if the Mean Annual Frost Index (MAFI) of the site is less than 50. Material shall be classified as non frost susceptible if the mean heave is 15 mm or less, when tested in accordance with BS 812-124: 1989 (amended in accordance with SHW clause 801.8).

Appendix 3 - Unbound Aggregate Test Frequency (BS EN 13285: 2003)

Recycled Type 1 Subbase Test Frequency

	Property	Clause	Test Method	Minimum Frequency[1]
1	Fines Content	4.3	EN 933-1 :1997	1 per week
2	Grading	4.4	EN 933-1 :1997	1 per week or 1 per 5000t
3	Laboratory Dry Density, optimum water content	5.3		1 per year
4	Water Soluble Sulphate Content	5.4	EN 1744-1	1 per year
5	Frost Susceptibility	4.5	-	-

[1]Weekly test frequencies relate to periods of Continuous Production.

Minimum test frequency taken from Table D1 in BS EN 13285: 2003 Unbound mixtures- Specifications (Annex C)

Further testing will be undertaken at the instruction of the Technical Services Department.

Appendix 4 - Unbound Aggregate Test Frequency (BS EN 13242: 2002)

Recycled Type 1 Subbase Test Frequency

	Property	Clause	Test Method	Minimum Frequency
1	Grading	4.3	EN 933-1 :1997	1 per week
2	Fines Content	4.6	EN 933-1 :1997	1 per week
3	Resistance to fragmentation (LA Co-Efficient) [2]	5.2	EN1097-2:1998	2 per year
4	Freeze-thaw resistance. (MSSV)	7.3	EN 1097-6 :2000 EN 1367-1:1999 EN 1367-2	1 per 2 years

Notes:-

Weekly test frequencies relate to periods of Continuous Production.

[2]Minimum test frequency taken from Table C1 in BS EN 13242: 2002 Aggregates for unbound and hydraulically bound materials. (Annex C)

Further testing will be undertaken at the instruction of the Technical Services Department.

Appendix 4 - SHW Series 801 Grading Requirements

Grading Requirements Table 8/1 Clause 803

Standard BS EN 13285: 2003 categories for Unbound material properties	
Mixture requirement category	Type 1 Unbound Subbase mixture
Designation	0/31.5
Maximum fines category (UF)	UF_9 (i.e. ≤ 9% by mass passing 0.063 mm)
Oversize category (OC)	OC_{75} (i.e. 75 to 99% by mass passing D)
Grading requirement category - Overall grading (G)	G_P

Table 8/5 Summary Grading Requirements for Type 1 Unbound Mixtures

Sieve size (mm)	Percentage by mass passing the sieve size shown		
	Overall grading range	Supplier declared value grading range	Tolerance on the supplier declared value
63	100	-	-
31.5	75 - 99	-	-
16	43 - 81	54 – 72	± 15
8	23 - 66	33 – 52	± 15
4	12 - 53	21 – 38	± 15
2	6 - 42	14 – 27	± 13
1	3 - 32	9 – 20	± 10
0.063	0 - 9	-	

Additional requirements for individual batches from a Factory Production Control (FPC) system are given below:

Grading of individual batches - differences in values passing selected sieves			
Retained sieve size (mm)	Passing sieve size (mm)	Percentage by mass passing the sieve size shown	
		Not less than	Not more than
8	16	7	30
4	8	7	30

NG SAMPLE APPENDIX 7/10 (11/04) WORKSHEET PRO FORMA FOR RESULTS OF TESTING FOR CONSTITUENT MATERIALS IN RECYCLED AGGREGATE AND RECYCLED CONCRETE AGGREGATE

(11/04) RESULTS OF TESTING FOR CONSTITUENT MATERIALS IN RECYCLED AGGREGATE AND RECYCLED CONCRETE AGGREGATE

Sample reference	
Date	
Tested by	

Mass of test portion, M_{total}, Duplicate 1	
Mass of test portion, M_{total}, Duplicate 2	

(05/04)

Category	Mass $M_{subscript}$		Percentage $P_{subscript}$		
	Duplicate 1	Duplicate 2	Duplicate 1	Duplicate 2	Mean
Asphalt (Class A)					
Masonry (Class B)					
Concrete and concrete products (Class C)					
Lightweight particles (Class L)					
Unbound aggregate (Class U)					
Other particles (Class X)					
Sum*					

*Sum is the total of $M_A + M_B + M_C + M_L + M_U + M_X$. If Sum is not within 1% of M_{total}, repeat the test.

DUTY OF CARE(1) - Summary

The duty of care applies to all Controlled Waste. Controlled waste includes commercial, industrial, construction and demolition waste.

- The Duty of Care applies to anyone who is a holder of controlled waste.
  This includes Producer, Carrier, Disposer or Recycler and if involved any Waste Broker. The only exception is householders and household waste.

- You must check that you only pass waste to someone who is authorised to take it.
  If you do not check, and the person you have passed your waste to disposes of it illegally, you could be held responsible, prosecuted and fined.

- You must keep records of all transfers of your waste.
  Records must be kept for a MINIMUM of two years.

- There is No Time Limit on Duty of Care.
  You are responsible for your waste from production until it is transferred to an authorised person. If you think that it is not being managed correctly you MUST take action to check and prevent this.

- You must use an Authorised Waste Carrier
  If your waste is collected by a Waste Carrier or Broker you must check that they are registered or exempt from registration. If you do not check and keep proof you could be held responsible if your waste is disposed of illegally. e.g. by fly-tipping.

- SEPA has an online register of Waste carriers and Registers

http://www.sepa.org.uk/waste/waste_regulation/waste_carriers_and_brokers/who_is_registered.aspx

- Anyone who recycles, treats, stores, reprocesses or disposes of your waste must have either: a Waste Management Licence or PPC permit or a registered Waste Management Licence Exemption for your type of waste.
  If there is any doubt about someone's authority to carry or dispose of your waste you must contact SEPA

- Waste Transfer Notes are integral to the Duty of Care regulations.

(1) *Duty of Care is defined in The Environmental Protection (Duty of Care) Regulations 1991*

Home
Guidance by business
Construction and building trades
All construction guidance
Your waste responsibility

Your waste responsibilities

Your business will produce waste and you have a responsibility to ensure that you produce, store, transport and dispose of it without harming the environment. This is called your **duty of care**.

What you must do

Comply with your duty of care

The duty of care applies to **controlled waste**. Controlled waste includes commercial, industrial and household waste, as well as hazardous/special waste, agricultural, construction and demolition waste.

You must make sure that you only pass waste to someone who is authorised to take it. If you do not check, and the person you have passed your waste to disposes of it illegally, you could be held responsible, prosecuted and fined.

You must **keep records** of all transfers of your waste.

The duty of care has **no time limit**. You are specifically responsible for your waste from when you produce it until you have transferred it to an authorised person. However, if you think that your waste is not being managed correctly you must take action to check and prevent this.

Apply the waste management hierarchy

In **England**, **Northern Ireland** and **Wales** you must apply the waste management hierarchy when you transfer waste. This means you must have reduced your waste production and then consider reusing, recycling or recovering the remaining waste before deciding to dispose of it. You should also apply the waste management hierarchy in **Scotland**, as it will help you to reduce your waste.

Find guidance on using the waste hierarchy in:

England on Business Link: Choosing a waste management option
Northern Ireland on NIBusinessInfo: Choosing a waste management option
Scotland on Business Gateway: Choosing a waste management option
Wales on Business.Wales.gov.uk: Choosing a waste management option

In **England** and **Wales** if you have an environmental permit for an operation which generates waste, you will have to apply the waste management hierarchy. In **Northern Ireland**, if you have a waste management licence for an operation which generates waste, you will have to apply with waste management hierarchy. This will be a condition of new permits and licences, and will be added to existing permits and licences when they are reviewed.

Use an authorised waste carrier

If your waste is collected by a waste carrier, or if you use a broker or dealer, you must check that they are **registered** or **exempt** from registration. If you do not check and keep proof of this you could be held responsible if your waste is disposed of illegally, for example by fly-tipping.

See our guidance on who can deal with your waste in:

England on Business Link: Who can deal with your waste?
Northern Ireland on NIBusinessInfo: Who can deal with your waste?
Scotland on Business Gateway: Who can deal with your waste?
Wales on Business.Wales.gov.uk: Who can deal with your waste?

Anyone who recycles, treats, stores, reprocesses or disposes of your waste must have:

- an environmental permit (**England** and **Wales**)
- a waste management licence or pollution prevention and control (PPC) permit (**Northern Ireland** and **Scotland**)
- a registered **exemption** from permitting for your type of waste and what they do with it.

Use our waste directory to find licensed recycling and waste disposal sites in your area.

Page Tools
Email
Print
Bookmark
Delicious
Digg
reddit
Facebook
StumbleUpon
Feedback

Related links
Find your nearest waste site
Guidance by environmental topic

External links
Site waste management plans - a simple guide

You can check your environmental regulator's register of carriers and brokers to see if a carrier is registered.

Environment Agency: Your right to know - public registers
Northern Ireland Environment Agency (NIEA): Public register
SEPA: Who is registered?

If you are in any doubt about someone's authority to carry your waste you must contact your environmental regulator

Contact your environmental regulator

Use waste transfer notes

You must complete a **waste transfer note** (WTN) for every load of waste you pass to others. This will include a detailed description of the waste.

You may be able to use a '**season ticket**' if you have regular collections of waste of the same type by a waste carrier. This is one transfer note covering a series of transfers over a year, for example weekly collections of waste from shops or commercial premises or multiple lorry trips to remove a large heap of waste.

A WTN shows carriers and site operators who handle your waste what they are handling. WTNs also ensure that there is a clear audit trail for the waste from when it is produced until it is disposed of.

A WTN must be completed and signed by both the person sending the waste and the person collecting it.

You must keep copies of all your WTNs for at least **two years** and be able to produce them on demand to your environmental regulator or local council, or you could be fined.

For more information, see our guidance on completing waste transfer notes in:

England on Business Link: Completing waste transfer notes
Northern Ireland on NIBusinessInfo: Completing waste transfer notes
Scotland on Business Gateway: Completing waste transfer notes
Wales on Business.Wales.gov.uk: Completing waste transfer notes

Pre-treat waste for landfill

You must make sure that your waste is treated before it goes to a landfill site. This applies to most types of waste. You can either treat your waste yourself or make sure that a later holder of the waste will treat it before they send it to a landfill site.

For more information see our guidance on landfill in:

England on Business Link: Operating your landfill site
Scotland on Business Gateway: Operating your landfill site
Wales on Business.Wales.gov.uk: Operating your landfill site

Follow hazardous or special waste controls

Waste that is potentially harmful to humans and the environment is known as hazardous waste in **England**, **Northern Ireland** and **Wales**, and special waste in **Scotland**.

Most businesses produce some hazardous or special waste. Examples include some types of batteries, fluorescent tubes, computer monitors and certain paints.

You must:

- always keep hazardous or special waste **separate** from other waste
- store hazardous or special waste in **sealed, labelled** containers
- use designated, secure, labelled, waterproof **containment areas** to store hazardous or special waste
- **bund** containment areas for hazardous or special waste by building a secondary barrier around the main containment area to hold hazardous or special waste if the containers (eg drums) leak
- use a **consignment note** when hazardous waste is moved and keep copies of consignment notes for three years.

See our guidance on hazardous/special waste in:

England on Business Link: Managing your hazardous waste
Northern Ireland on NIBusinessInfo: Managing your hazardous waste
Scotland on Business Gateway: Managing your hazardous waste
Wales on Business.Wales.gov.uk: Managing your hazardous waste

Some types of waste electrical and electronic equipment (WEEE) are classed as hazardous/special waste.

See our guidance on WEEE in:

England on Business Link: Waste electrical and electronic equipment (WEEE)
Northern Ireland on NIBusinessInfo: Waste electrical and electronic equipment (WEEE)
Scotland on Business Gateway: Waste electrical and electronic equipment (WEEE)
Wales on Business.Wales.gov.uk: Waste electrical and electronic equipment (WEEE)

If you collect, treat, dismantle, reprocess, recycle or dispose of any waste materials yourself, you must have an environmental permit (**England** and **Wales**) or waste management licence (**Northern Ireland** and **Scotland**) or register an exemption.

In **England**, **Northern Ireland** and **Wales** you can currently take most waste produced by your own business, other than construction or demolition waste, directly to an authorised waste management site or recycling facility without registering as a waste carrier.

You must register with your environmental regulator as a waste carrier or broker if you:

- transport your own **construction** or **demolition** waste
- handle, transport, recycle or dispose of any waste **on behalf of** another business.

In **England** and **Wales**, you will have to register with the Environment Agency as a lower tier waste carrier by the end of December 2013 if you normally and regularly carry your own business waste. In **Northern Ireland** you will have to register with the NIEA as a lower tier carrier by the end of December 2013 if you normally and regularly carry your own business waste.

In **Scotland** if you normally and regularly transport waste produced by your own business, you must register with SEPA as a **professional collector or transporter of waste**. This is a new requirement for businesses. If you transport your own construction or demolition waste you must usually register as a waste carrier. You will soon be able to register online. SEPA recommends you delay your registration until the online system is available. If you need to register sooner, download the application form from the SEPA website.

SEPA: Application form to register as a professional collector or transporter of waste (Adobe PDF - 54KB)

See our guidance on waste carriers, brokers and dealers in:

England on Business Link: Waste carriers, brokers and dealers
Northern Ireland on NIBusinessInfo: Waste carriers, brokers and dealers
Scotland on Business Gateway: Waste carriers, brokers and dealers
Wales on Business.Wales.gov.uk: Waste carriers, brokers and dealers

Further information on your waste responsibilities

Environment Agency: Do you need an environmental permit?

In **Wales**, the Green Compass scheme and PAS 402 have been developed to help the construction and building industry select waste management contractors that can demonstrate sound waste management. When selecting a waste management contractor you could specify that they comply with PAS 402, verified by Green Compass inspection.

Green Compass

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Last updated: 04 May 2012

ASPHALT PLANINGS

Planings are covered in detail in the joint SEPA / QPA publication.

'Guidance on the Production of Fully Recovered Asphalt Road Planings'

This publication only covers planings not other asphalt materials removed from a road which are classed as WASTE where transfer note etc will always be required.

The two COMPLIANT USES under the guidance which are appropriate to quarry sites are:

Recovered asphalt road planings being used as feedstock in the manufacturing of new road surfacing can be stored at the manufacturing site for the new surface material as a non-waste.

Recovered asphalt road planings being stored in stock for onward sale/use at a permanent site involved in the day to day production/sale/distribution of virgin aggregate such as a quarry or depot is unlikely to be regarded as waste.

NON-COMPLIANT USES

Recovered asphalt road planings being stored at any location without an identified use will be regarded as waste.

The use of recovered asphalt road planings as infill/restoration material for quarries will require authorisation from SEPA and is not covered by this guidance.

Legal compliance

If the material has been fully recovered, there is certainty of use and thus is no longer waste its subsequent movement and use will not be subject to the requirements of the waste regulatory control. As such, the material would not have to be transported by a registered waste carrier or be accompanied by a controlled waste transfer note (CWTN).

Where waste planings have not complied with this guidance and have therefore not ceased to be waste the following will be required:

1. A CWTN must accompany movements of waste asphalt.
2. Hauliers/carriers must be registered waste carriers.
3. If you are transferring waste asphalt planings to an establishment with a relevant registered exemption from waste management licensing or a site holding a Waste Management Licence then it is your legal duty to ensure that the receiving undertaking, establishment or licensed site is permitted to accept such wastes.
4. Where the intention is to process the waste either at the site of production, though not utilising a road planer, or at any other site a Paragraph 13 exemption should be registered with SEPA.

All quality control records relating to the processing of waste asphalt must be maintained and available for inspection by SEPA for at least 2 years.

QPA Scotland
Providing Essential Materials

SEPA
Scottish Environment Protection Agency

GUIDANCE ON THE PRODUCTION OF FULLY RECOVERED ASPHALT ROAD PLANINGS

1 Introduction and summary

The Quarry Products Association (QPA) and the Scottish Environment Protection Agency (SEPA) have developed this document to promote the sustainable reuse of asphalt road planings. It provides an agreed methodology for demonstrating when aggregate produced from source segregated asphalt road planings has been fully recovered to the extent that it has ceased to be waste for a particular proposed use. This is for the purpose of encouraging the use of recycled aggregates through clarification of the waste legislation.

If producers and users of such materials comply with this guidance it is likely that the material they produce will be considered to be a product rather than a waste. Whilst producers and users are not obliged to comply with the guidance if they do not the processed material will remain to be classified as a waste and thus be subject to the requirements of the waste regulations.

This document also sets out the legislative requirements of the waste management licensing regime which are applicable to the processing of asphalt road planings. It is intended for use by both SEPA staff and those involved in the processing of asphalt road planings.

A flowchart is provided in Appendix A which provides a simple summary of this guidance. Whilst it provides an overview of the guidance it is **essential** that all users read the document in its entirety to ensure clarity.

2 Scope

This guidance applies solely to source segregated asphalt road planings covered by the European Waste Catalogue Code 17 03 02.

This document relates to asphalt road planings which are defined here as a dense mixture of bitumous binder and mineral aggregate. A road planer is a cold milling machine which uses a rotating milling drum to remove asphalt from a defective road and generates asphalt road planings as a result. It is this process that this guidance applies to, there are a variety of other means in which road materials can be removed and a variety of other wastes generated and these are not covered here. For further information about your operation you should contact your local SEPA office.

This document does not cover:

- **Tar bound aggregates. Tar pitches are derived from coal and are classed as special/hazardous waste, European Waste Catalogue Code 17 03 03. Where a road has a tar content it is the responsibility of the road owner/operator to identify and quantify this and make arrangements for its treatment/disposal at a suitably licensed facility.**
- **Asphalt and asphalt road planings contaminated with any other substances including, though not restricted to, plastics, glass, metals, and spilled liquids.**
- **Asphalt removed/processed by any other method other than by a road planer e.g. via pneumatic or hydraulic breakers.**

3 Process overview

When a road reaches the end of its functional life it must be replaced. There are a number of road failure mechanisms including foundation/structural failure, drainage failure, skid resistance failure, binder-aggregate adhesion failure and surface profile failure. These are generally caused by the number of vehicles that have passed over the road, changes in the drainage of the road or structural failure of the underlying formation. They are not caused by any chemical change in the material itself.

The road to be replaced can be removed in several ways, including the use of pneumatic and hydraulic breakers and road planers. The process of removal using a road planer changes the physical nature of the material from a continuous homogeneous body to a granular material by milling. There is no chemical change to the material when using this process.

When such a milling operation is undertaken on an asphalt road using a road planer it will primarily produce a material that complies with the selected granular material specification 6F3 (Specification for Highway Works (SHW) Volume 1 Series 600 table 6/1). It can also produce material that complies with other relevant specifications from the SHW as detailed in Table 1 (Section 4.2). Material meeting these specifications may be used in a number of different civil engineering applications, this can include: capping, sub base, basic running surfaces and use as a feedstock in the manufacture of new road surfacing materials.

4 When asphalt planings may be considered to be fully recovered

There are a limited number of cases where waste may be considered to be fully recovered and no longer subject to the requirements of waste legislation prior to its final use (for further information on this topic please see the SEPA guidance document *'Is it waste – understanding the definition of waste'*). When considering the status of asphalt road planings the following points need to be considered.

4.1 Environmental characteristics of bitumous asphalt road planings

The materials used in building a road will depend upon the date of construction and class of road. Bitumen-based surfacing materials predominate in present-day road construction in the UK, but coal-tar pitch based surfaces have been used in the past. Coal-tar pitches (derived from coal) contain a higher proportion of polycyclic aromatic hydrocarbons (PAHs), by several orders of magnitude, than bitumen (derived from crude oil, or occurring naturally). These present a much higher potential for the leaching of these substances.

The production of bitumen by refining crude oil is carried out in carefully temperature controlled conditions which avoids thermal degradation and the possibility of significant PAH formation. Furthermore, as the majority of the compounds have low boiling points and are removed during vacuum distillation in the refining process, PAHs are generally present in more limited amounts in bitumens than in the crude oils from which they are derived.

The environmental risk from PAH leaching from bitumen is extremely small. As such, milled uncontaminated bitumous asphalt road planings, can be used with the same environmental precautions as would be applied for virgin material.

4.2 Establishing the compliance to a recognised specification

In order for materials produced using a road planer to be regarded as having been fully recovered and therefore not subject to waste management legislation, a level of quality control is required. The processed asphalt road planings must be suitable for the proposed use and should be capable of being used in the same manner with the same level of environmental control as the material that it is substituting. Given the environmental information provided in 4.1, the engineering aspect of this requirement is fulfilled by sampling and testing the product (asphalt road planings) to the 6F3 specification. This should be done on a weekly basis, as a minimum, until consistency can be established. Another specification listed in the SHW Volume 1 may be used where appropriate provided that it is included in Table 1.

Table 1 – Specifications from SHW compliant with this guidance

SHW Table No.	Class (Specification)	Brief description
6/1	1A	Well graded granular material
	1B	Uniformly graded granular material
	1C	Coarse granular material
	2B	Dry cohesive material
	2C	Stony cohesive material
	6B	Selected coarse granular material
	6C	Selected uniformly graded granular material
	6E	Selected granular material
	6F3	Selected granular material
	7A	Selected cohesive material
	7D	Selected stony cohesive material
	7E	Selected cohesive material
	7I	Selected cohesive material
	8	Various from Class 1 and 2

4.3 Establishing the certainty of use for the milled asphalt road planings

It must be demonstrated that the manufactured aggregate (milled asphalt road planings) is certain to be used. Producers and users of recycled road planings should therefore note that, even if recycled asphalt planings have been produced to a relevant specification (see Table 1), it will be waste and subject to regulatory waste controls if it is stored with no identifiable end use or it is discarded after being produced.

Prior to commencement of planing operations the main contractor on the site, or the planing sub-contractor, must establish that there is an identified and certain end-use for the milled asphalt road planings.

Below are a number of examples which are deemed either compliant or non-compliant under this guidance, they should be used as a guide rather than as a definitive list.

Compliant uses

- Recovered asphalt road planings being used as feedstock in the manufacturing of new road surfacing can be stored at the manufacturing site for the new surface material as a non-waste.
- Recovered asphalt road planings which are to be used for farm roads will be regarded as a non-waste as long as the use is certain and identified.
- Recovered asphalt road planings which are to be used in the construction of roads in accordance with the Specifications for Highway Works will be regarded as non-waste.
- Recovered asphalt road planings being stored in stock for onward sale/use at a permanent site involved in the day to day production/sale/distribution of virgin aggregate such as a quarry or depot is unlikely to be regarded as waste.

Non-compliant uses

- Recovered asphalt road planings being stored at any location without an identified use will be regarded as waste.
- The use of recovered asphalt road planings as infill/restoration material for quarries will require authorisation from SEPA and is not covered by this guidance.

5 Legal compliance

Where the intention is to process the waste at the site of production through the use of a road planer, as described above, a **Paragraph 13 exemption** (as described in Schedule 3 of the Waste Management Licensing Regulations 1994) should be registered with SEPA. This exemption from the requirement to hold a waste management licence covers the activity of manufacturing aggregate and roadstone from various wastes.

To comply with the law, exemptions must be registered with SEPA. The simplest/easiest route for registering an exemption for non-fee paying exemptions is online at **www.sepa.org.uk/WMXReg**. Alternatively exemptions can be registered by phoning, e-mailing or writing to your local SEPA office with details of the proposed activity, the location, the timescales involved and the intended use of the processed material. There is no fee for a Paragraph 13 activity nor are they time limited.

Exemptions must be registered at each site where a waste recovery operation is undertaken prior to the activity taking place. This means that where such an activity is proposed it must be registered at every distinct road removal operation. This is because a registered exemption is for a distinct activity at a distinct location rather than for a particular piece of equipment. In most situations the boundaries of a site will be obvious however, as a rule of thumb, any site will be considered to be an identified phase of road replacement or, in exceptional circumstances, a number of overlapping (both in time and location) phases of road replacement. Whole road systems are not considered to represent one site.

> *Good Practice – when undertaking large road removal operations, prior to registering an exemption, operators should contact the local SEPA office covering the road replacement works to ensure local officers are aware of the activity.*

If the material has been fully recovered, there is certainty of use and thus is no longer waste its subsequent movement and use will not be subject to the requirements of the waste regulatory control. As such, the material would not have to be transported by a registered waste carrier or be accompanied by a controlled waste transfer note (CWTN).

Where waste planings have not complied with this guidance and have therefore not ceased to be waste the following will be required:

A CWTN must accompany movements of waste asphalt. Hauliers/carriers must be registered waste carriers. If you need further advice on what a CWTN should include or how to register as a waste carrier please contact your local SEPA office.

If you are transferring waste asphalt planings to an establishment or undertaking with a relevant registered exemption from waste management licensing or a site holding a Waste Management Licence then it is your legal duty to ensure that the receiving undertaking, establishment or licensed site is permitted to accept such wastes.

Where the intention is to process the waste either at the site of production, though not utilising a road planer, or at any other site a Paragraph 13 exemption should be registered with SEPA.

Should you require further details on the issues above please contact your local SEPA office. A list of local office contact details is provided at the back of this guidance.

6 Documentation

All quality control records relating to the processing of waste asphalt must be maintained and available for inspection by SEPA for at least 2 years. This should include details of:

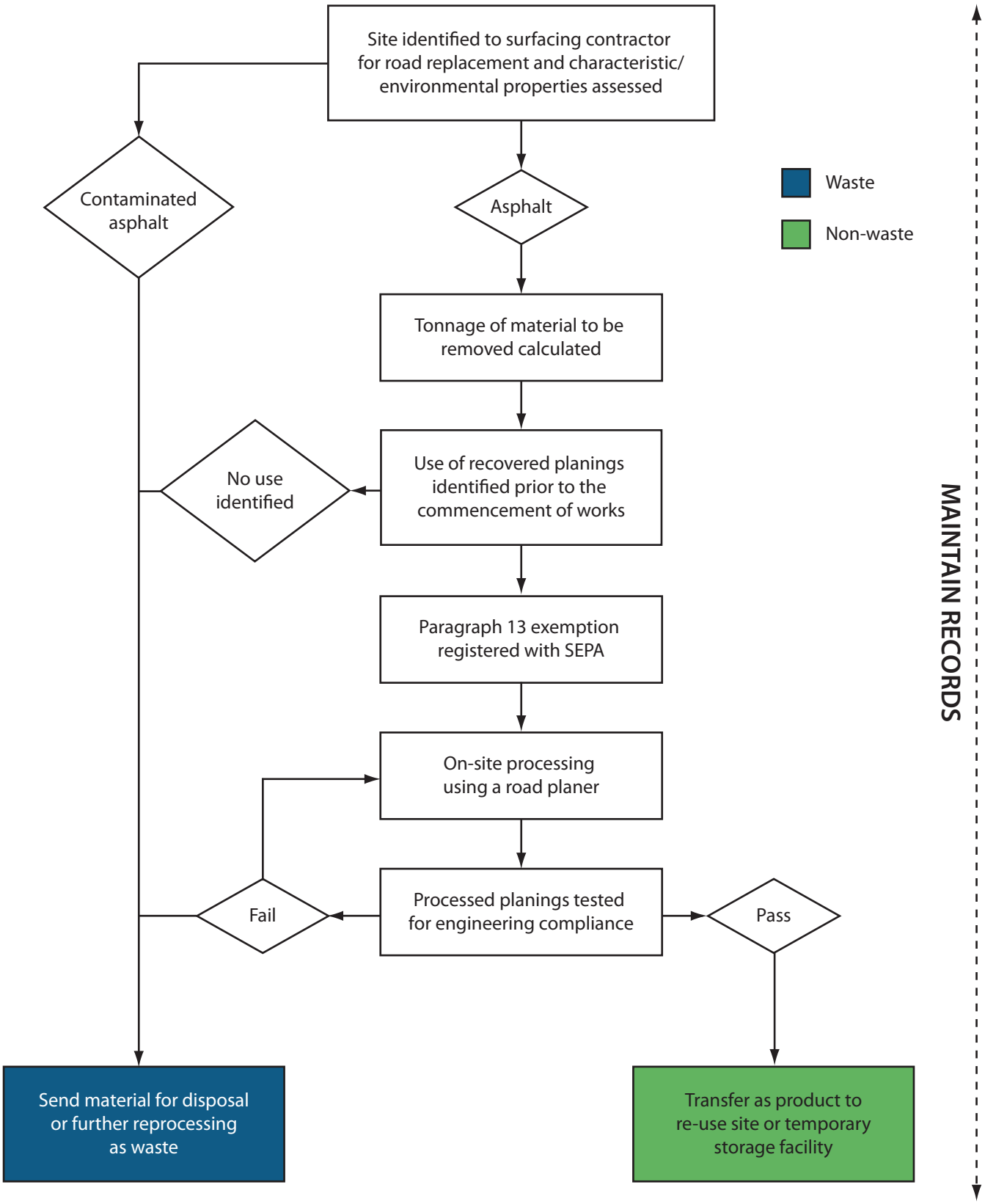
- The exemption registration number for the recovery of the asphalt planings.
- The assessment undertaken prior to the commencement of operations relating to the type of material (i.e. bitumous or tar content) and any contamination.
- Material leaving the site. Records must be kept of all aggregate recycled. These records must correspond to the contracts of supply issued to the customer. The following details of the destination of the material must be kept:
  - date;
  - quantity of weight/volume;
  - name and address of receiving business/establishment;
  - intended end use;
  - locations of end use;
  - grading content test records.

Where a road planing subcontractor is carrying out the above process it is their responsibility to maintain the above paperwork and have it available for inspection by the main contractor or other inspection bodies such as SEPA.

7 References and links

- Quarry Products Association: **www.qpa.org**
- SEPA website (general information): **www.sepa.org.uk**
  Waste Management Exemptions (including on-line registration facility): **www.sepa.org.uk/regulation/waste/exemptions.htm**
  Is it waste? - Understanding the definition of waste: **www.sepa.org.uk/guidance/index.htm#waste**
- The Waste Management Licensing Regulations 1994 (as amended): **www.netregs.gov.uk**
- Specification for Highways Work: **www.standardsforhighways.co.uk**
- Waste and Resources Action Programme: **www.wrap.org.uk**

Appendix: Flow chart for on-site processing of failed asphalt road surface



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the quality protocol

for the production of aggregates from inert waste in Scotland

SCOTS

QUARRY PRODUCTS ASSOCIATION

wrap

contents

foreword

Rulings by the European Court of Justice (ECJ) have provided some further guidance on how the definition of waste should be interpreted and applied by Member States and have led to the conclusion that more things are waste and remain waste for longer. This has an impact on the use and potential use of construction aggregates processed from inert wastes due to the uncertainty of when the inert waste could be considered to be fully recovered and no longer a waste. A key objective of the WRAP Aggregates Programme is to reduce the demand for aggregates from primary resources through promoting and increasing the use of more sustainable resources, therefore addressing the challenge resulting from these ECJ rulings became a WRAP priority.

After initial debate with a broad range of stakeholders from the construction supply chain attending the WRAP Aggregates Forum it was agreed that WRAP would facilitate a working group of Forum members with a brief to produce a guidance document for the producers and purchasers of aggregates produced from inert wastes. The objective was to establish a defined quality management scheme that controlled both the management of environmental risk from feedstock and the management of aggregate processing to established standards. This management scheme was called the Quality Protocol.

The purpose of the Quality Protocol is to provide a uniform control process for producers from which they can reasonably state and demonstrate that their product has been fully recovered and is no longer a waste. It also provides purchasers with a quality-managed product to common aggregate standards increasing confidence in performance. Furthermore the framework created by the Protocol provides a clear audit trail for those responsible for ensuring compliance with Waste Management legislation.

WRAP will continue to assist in the growth of the production and use of sustainable aggregates and is optimistic that the Quality Protocol will achieve this through giving greater confidence to producers, purchasers and regulators.

Introduction

This document is published by WRAP (Waste and Resources Action Programme) and has been developed for Scotland by WRAP, in consultation with stakeholders across the aggregates supply chain, as a formalised quality control procedure for the production of aggregates from recovered inert waste in Scotland. These are referred to in the document as "recovered aggregates". The document has two main purposes:

i. To assist in identifying the point at which the inert waste used to produce recovered aggregates has been fully recovered, ceases to be a waste and becomes a product. (Further information on the definition of waste and recovery is given section 2 below.)

ii. To give adequate assurance that recovered aggregate products conform to standards common to both recovered and primary aggregates.

This Quality Protocol is endorsed by the Quarry Products Association (QPA) Scotland and the Society of Chief Officers of Transportation in Scotland (SCOTS).

The Scottish Executive is a sponsor of the Waste and Resources Action Programme and supports the development of the Quality Protocol for Scotland by WRAP and Scottish stakeholders operating within that industry sector.

The protocol seeks to ensure that recovered aggregates meet the quality and conformity requirements for European Standards for Aggregates. If they do and there is no intention to discard then they are likely to be regarded as having been completely recovered and having ceased to be waste at that point. However, whether a substance or object is waste, in any particular situation, must still be determined in the light of all the circumstances, having regard to the aims of the Waste Framework Directive (75/442/EEC as amended by 91/156/EEC) and the need to ensure that its effectiveness is not undermined.

This document supersedes the Quality Control Protocol called 'Quality Control – the production of recycled aggregates', reference BR392 ISBN 1 86081 381 X.

1 the definition of waste

Waste is defined in the Waste Framework Directive as any substance or object that the holder discards, intends to discard or is required to discard. As a result of European and national case law over the last few years, the circumstances under which a substance or object may be said to have been discarded (or to be intended or required to be discarded) have broadened considerably.

Furthermore, it is considered that once a substance or object has become waste, it will remain waste until it has been fully recovered and it no longer poses a potential threat to the environment or human health. This will be the point when there is no longer any reason to subject it to the controls and other measures required by the Directive.

It is the responsibility of the holder of the substance or object to determine, on a case by case basis, whether it is waste or not.

This protocol will provide support in taking that decision i.e. if all the criteria specified in this protocol are met, then it would indicate that the material is probably no longer waste. Of course, whether a substance or object is waste is ultimately a matter for the Courts and the holder is advised to keep a record of any decisions made.

This paper represents the understanding of the law at the date of the document. The law may change and the reader must take account of future developments, for example, by checking the WRAP website to ensure that they are using the latest version.

2 other definitions

Aggregates recovered from processing inert wastes are defined within the European and British standards and specifications as illustrated in the definitions below:

Aggregate	Granular material used in construction. Aggregate may be natural, manufactured or recycled.
Recycled Aggregate	Aggregate resulting from the processing of inorganic material previously used in construction.
RA	A designation used in BS 8500 for recycled aggregate principally comprising crushed masonry (brickwork and blockwork).
RCA	A designation used in BS 8500 for recycled aggregate principally comprising crushed concrete.
RAP	Recycled aggregate consisting of crushed or milled asphalt. This may include millings, planings, returned loads, joint offcuts and plant waste.
Inert Waste	Refer to definition in Appendix C

3 | the quality protocol

3.1 | Factory Production Control

A system for factory production control (FPC) shall be set up in accordance with the Annex which is included in all BS ENs for aggregates. For example, Annex C of BS EN 13242 specifies a system to ensure that aggregates for unbound applications conform to the relevant requirements of the standard. PD 6682-6 provides further guidance for UK users of BS EN 13242. Both documents are available from the British Standards Institution.

In the UK, the required level of attestation of conformity to European Standards for aggregates is 4 (with the exception of aggregates for use in skid-resistant surfacings).

This means that the aggregate producer must operate a "first party" system of factory production control following initial type testing. Certification and surveillance by notified accreditation bodies ("third parties") are not required. Further details are provided in PD 6682 series, available from the British Standards Institution.

3.2 | Description of products being provided

Each product provided shall be described. When applicable, this description shall be the same as given to the product when produced with natural aggregates, e.g. 20/40 Type B filter drain material. In other cases the description shall, as far as possible, detail the product and use. The producer should note that the production of an aggregate to an established specification does not in itself ensure recovery from waste. It must also be demonstrated that there is a need and a market for the recovered waste and that it will not be merely stockpiled pending development of such a need or market.

3.3 | Reference to the specification requirements for aggregate products

Under the description of products the Specification to which these products conform shall also be included. In cases where there is no specification then the classification of, 'no specification', shall be used. Where an internal specification is used then reference shall be as such.

3.4 | Acceptance criteria for incoming waste

3.4.1 To ensure that only inert waste is accepted the producer shall have and maintain procedures in the form of 'Acceptance Criteria' specific to each site/location. All Statutory and regulatory requirements for the receipt of incoming waste shall be observed and included in the Acceptance Criteria. These requirements include those arising from a waste management licence or a registered licensing exemption and the duty of care.

The following shall also be included in the Criteria;

a) the types of waste that are accepted
b) the method of acceptance

3.4.2 Only waste that can meet the definition of inert (see Appendix C) shall be accepted.

3.4.3 A visual inspection shall be carried out on every load, on initial receipt and after tipping, to ensure compliance with the Acceptance Criteria. Where the percentage of any contaminant or foreign material is higher than that defined in the acceptance criteria, the consignment must be rejected.

3.4.4 A record of each load delivered and accepted shall be kept giving;

a) date
b) nature and quality
c) place of origin (where known)
d) quantity by weighing/volume
e) carrier
f) supplier

3.5 | Method Statement of Production

A method statement shall be prepared detailing the waste recovery process and the range of products produced. A flow chart (example Appendix A) may be used for this purpose with additional qualifications as necessary. The method statement shall form a part of the Factory Production Control System (see 3.1). It should be noted that some incoming wastes can be supplied for certain categories of end use with little or no processing. This should be detailed in the method statement for production.

3.6 Inspection and testing regime including frequency and methods of test for finished product

3.6.1 The inspection and testing regime shall be detailed and appropriate to the material end use, the quality of incoming waste and the complexity of the waste recovery process.

3.6.2 Sampling of the processed/recovered product shall be carried out in accordance with BSEN 932-1. The following minimum test frequencies, in accordance with the FPC system and detailed in the table below, shall be used.

Products shall be sampled and tested in accordance with the minimum test frequencies in order to provide sufficient data to demonstrate compliant product. These testing rates shall be varied to ensure a controlled process.

3.7 Records

3.7.1 Records of incoming wastes and products shall be kept. Statutory record keeping requirements for waste must be observed (eg those arising from a waste management licence or a registered licensing exemption and the duty of care.)

3.7.2 In addition to records kept in accordance with FPC, records shall be kept of all testing carried out on samples taken in accordance with 3.6. Results of tests shall be shown compared to the applicable specification.

3.7.3 If further tests are required for assessment of suitability for a particular end use, then the results shall also be retained.

3.8 Quality Statement

Delivery documentation shall state that the product was produced under a quality protocol conforming to this document.

3.9 Information to be provided by the producer

When requested by the purchaser, the producer shall provide;

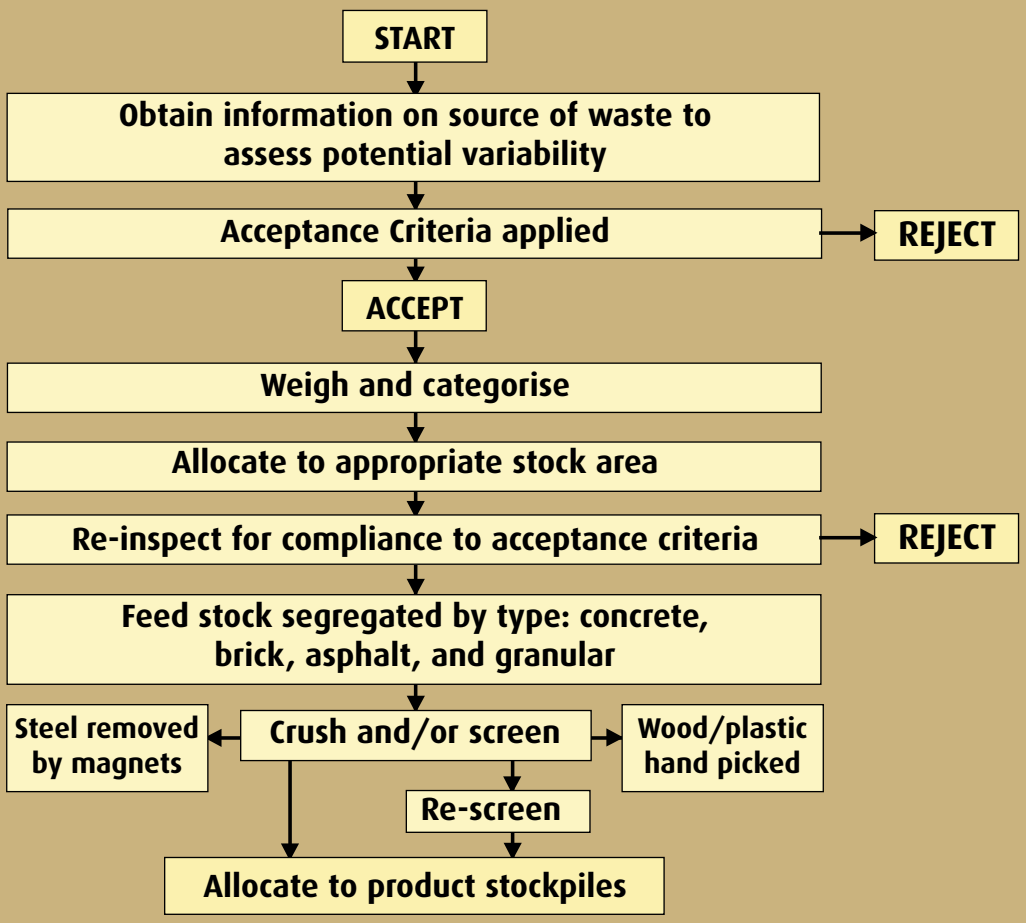
a) test results
b) test procedures
c) outline details of the factory production control manual

Property description	BSEN test method	Minimum Test Frequency
General description	_	Every incoming load by visual inspection
Aggregate composition including organics	Visual sorting of the plus 10mm fraction*	1 per week**
Grading	933-1	1 per week**
Fines Content	933-1	1 per week**
Particle Shape***	933-3	1 per month**

*Test procedure detailed in Highways Agency Specification for Highway Works Clause 710.
**Time periods relate to production periods not calendar periods.
***For unbound aggregates PD 6682-6 recommends that 'no requirement' be adopted in the UK for particle shape.
Note: To illustrate suitability for a particular end use the test methods detailed in Annex B may prove useful.

appendix A

Example of a flow chart for acceptance and processing of inert waste



appendix B

Aggregate Properties

The following test methods may be used as a means of either deciding or illustrating suitability for a particular end use.

	TEST REFERENCE	
	BS EN	**BS**
All end uses		
Particle Density	1097-6	
Resistance to Fragmentation:		
Los Angeles	1097-2	-
Bulk Density	1097-3	
Use in concrete/hydraulically bound materials		
Water Absorption	1097-6	
Magnesium Sulfate	1367-2	-
Abrasion Resistance:		
AAV	1097-8	
Drying Shrinkage	1367-4	
Chlorides	1744-1	
Sulfate and Sulfides	1744-1	
Alkali Silica Reaction*	-	-
Organic Contamination	1744-1	-
*All RCA must be classed as highly reactive		
Uses as fill		
Water Absorption	1097-6	
CBR	-	1377: Part 4
Plasticity of Fines		1377: Part 2
Use as unbound, pipe bedding		
Particle Density	1097-6	
Resistance to Fragmentation:		
Los Angeles	1097-2	-
Plasticity of Fines	-	1377: Part 2
Frost Heave		812: Part 124
Water Soluble Sulfate	1744-1	
Magnesium Sulfate	1367-2	
Use in asphalt		
Particle Density	1097-6	
Water Absorption	1097-6	
Resistance to Fragmentation:		
Los Angeles	1097-2	-
Abrasion Resistance (AAV)	1097-8	
Polishing Resistance	1097-8	
Resistance to heat	1367-5	

appendix C

Wastes considered to be inert waste for the purpose of this Protocol

Provided that there is no suspicion of contamination, the wastes listed below are considered to be inert wastes.

European Waste Catalogue Code	Description	Exclusions
10 11 03	Waste glass based fibrous materials	
15 01 07	Glass packaging	
17 01 07	Concrete	Excluding topsoil, peat
17 01 02	Bricks	
17 01 03	Tiles and ceramics	
17 02 02	Glass	
17 05 04	Soil and stones	
20 01 02	Glass	Excluding topsoil, peat
20 02 02	Soils and stones restricted to parks waste	

In addition, the following definition of inert is taken from The Landfill (Scotland) Regulations 2003 and is included for clarity.

Waste is inert if

(a) it does not undergo any significant physical, chemical or biological transformations;

(b) it does not dissolve, burn or otherwise physically or chemically react, biodegrade or adversely affect other matter with which it comes into contact in a way likely to give rise to environmental pollution or harm to human health; and

(c) it has insignificant total leachability and pollutant content and ecotoxicity of its leachate are insignificant and, in particular, does not endanger the quality of any surface water or groundwater.

From this definition of 'inert' it may also be possible for the wastes below to be considered as inert:

European Waste Catalogue Code	Description	Exclusions
17 03 02	Road base and road planings	
19 12 05	Glass	

The Landfill (Scotland) Regulations 2003:
http://www.scotland-legislation.hmso.gov.uk/legislation/scotland/ssi2003/20030235.htm

Material change for a better environment

Quality Protocol for the production of aggregates from inert waste

Producers' compliance checklist

This is a self-assessment checklist for producers of aggregates wishing to test and demonstrate the compliance of their process to the WRAP Quality Protocol for production of aggregates from inert waste.

Please consider your process and activities and tick "Yes" or "No" as applicable for each question. Refer to the accompanying Guidance Notes for further details as required.

Your process is fully compliant with the Quality Protocol for production of aggregates from inert waste only if you respond "Yes" to all questions.

Measures to correct areas of non-compliance (where ticks have been scored in the "No" column) must be identified and implemented to achieve compliance with the Quality Protocol. Recycled aggregates that are produced by a process not fully compliant with the Quality Protocol are likely to be a waste and subject to Environmental Permitting Regulations (England & Wales) or Waste Management Licensing Regulations (Scotland & Northern Ireland).

Checklist and Summary Guidance[i]	YES	NO
Waste management requirements (QP ref* 3.4.1, 3.4.4, 3.6.1 and 3.7.1) Does your recycling operation have the required environmental permit/waste management licensing/exemptions and is the Duty of Care applied? *NOTE: You must demonstrate that you meet the statutory and regulatory requirements, including use of registered waste carriers and Waste Transfer Notes (WTNs). Please consult the Guidance Notes for further details.*	☐	☐
Acceptance of incoming waste (QP ref 3.4.1 to 3.4.4 and App C) Do you have site/location specific Acceptance Criteria procedures for the incoming waste?	☐	☐
Do your Acceptance Criteria include a description of the types of waste accepted and a description of the method of acceptance? *NOTE: List Of Waste Regulations/ European Waste Code for consistency with the WTNs must be used. You must demonstrate that only inert waste is accepted for production of aggregates to the Quality Protocol. Inspection at receipt and at tipping must be carried out.*	☐	☐
Are material input records kept? *NOTE: A record of each load received and accepted must be kept.*	☐	☐
Do you have a procedure for non-compliant waste? *NOTE: You must demonstrate how you are dealing with non-conforming incoming waste. Please consult the Guidance Notes for further details.*	☐	☐
Production and Standards/Specifications requirements (QP ref 3.1 to 3.3 and 3.5) Have you set up a Factory Production Control (FPC) system, which includes a Method Statement of Production (MSP), describing the waste recovery process and the range of products? *NOTE: FPC is mandatory for production of aggregates to BS EN Standards and common industry specifications and it is a requirement of the Quality Protocol. The MSP may be represented by a flow chart. All materials produced must be listed. Implementation of the FPC must be demonstrated using the detailed list of requirements within the guidance notes.*	☐	☐
Do you produce to established specifications and/or standards? *NOTE: Aggregates must be produced to be fully compliant to established specifications and/or standards.*	☐	☐

Checklist and Summary Guidance[i]	YES	NO
Testing (QP ref 3.6, 3.6.1 and 3.6.2)		
Have you defined what testing to undertake, and how often, for each material you produce? *NOTE: Any material produced to a FPC must have a defined testing procedure and sampling and testing frequency. Please refer to the Guidance Notes for examples of minimum testing frequencies.*	☐	☐
Does your testing regime comply with the requirements of the standards and specifications for the aggregates you are producing? *NOTE: Aggregates produced to standards and specifications must be tested to demonstrate compliance to those standards and specifications.*	☐	☐
Do you have a procedure for dealing with non-conforming products? *NOTE: You must demonstrate that non-compliant products are dealt with in accordance to the FPC.*	☐	☐
Documentation (QP ref 3.7.2, 3.7.3, 3.8 and 3.9)		
Do you keep a record of all the appropriate documents, in accordance with the FPC, and specifically of the results of the tests undertaken as required by the standards and specifications? *NOTE: A list of records that must be kept in accordance to the FPC is provided within the Guidance Notes.*	☐	☐
Does the delivery ticket of your product contain the description of the material in accordance with the industry or client specification and does it include a statement that the aggregate was produced to a quality scheme meeting the Quality Protocol? *NOTE: Details on the delivery ticket must be provided in accordance with the FPC. The statement that the aggregate was produced to a quality management scheme conforming to the Quality Protocol can only be inserted if no "No" cells have been ticked in this self-assessment form.*	☐	☐

The competant authority for Environmental Permitting (England and Wales) Regulations is the Environment Agency, for Waste Licensing Regulations in Scotland is the Scottish Environment Protection Agency and in Northern Ireland is the Department of the Environment (Environment and Heritage Service). These agencies are able to confirm or provide information on permits, licences and exemptions to third parties if required. They are also able to require documentary proof of the compliance to the Quality Protocol from recycled aggregate producers who claim to be operating to the Quality Protocol.

* QP refs. are for numbered sections in the three versions of the WRAP Quality Protocol for the production of aggregates from inert waste covering England & Wales, Scotland, and Northern Ireland.

Copies are available from http://www.aggregain.org.uk/quality/quality_protocols/index.html

For additional information on Quality Management Systems go to: http://www.aggregain.org.uk/quality/index.html

[i] Expanded guidance notes are available in a separate document called: Guidance Notes to the Producers' compliance checklist for the Quality Protocol for the production of aggregates from inert waste

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Material change for
a better environment

Quality Protocol for production of aggregates from inert waste

Guidance Notes for the Producers' compliance checklist

Introduction

These Guidance Notes accompany the Producers' Compliance Checklist. The notes provide information on the requirements of the Quality Protocol (QP) for the production of aggregates from inert waste, i.e. the processes and documents that must be set up to provide evidence that the aggregates produced conform to the Protocol, and the relevant standards/specifications.

This will help in determining that the waste used to produce the aggregate has been fully recovered, is no longer waste and that the requirements of standards and specifications are met fully.

Further information on aggregate Quality Management Schemes is available from the 'Quality' section of AggRegain (www.aggregain.org.uk). Information on Environmental Permitting Regulations for England & Wales and for Waste Management Licences for Scotland and Northern Ireland is available from NetRegs (www.netregs.gov.uk)

1.0 Guidance notes

1.1 Waste management requirements (QP ref[i] 3.4.1, 3.4.4, 3.6.1 and 3.7.1)

- Your site/operation must be either permitted or be exempt from the need for a permit under Environmental Permitting Regulations for England & Wales (licensed under the Waste Management Licensing Regulations or have a permit under the IPPC, or the activities undertaken are exempt from licensing for Scotland and Northern Ireland). Permits (licences S & NI) or proof of exemption registration must be available for viewing.
- If transporting waste, including waste from your own construction, excavation and demolition operations, you must have a certificate of registration as a waste carrier licence.
- If you are accepting waste from others and for all residues leaving your site as waste, you must use Waste Transfer Notes (WTNs). You are required to keep WTNs for at least two years.

1.2 Acceptance of incoming waste (QP ref 3.4.1 to 3.4.4 and App C)

You must set up specific site/location Acceptance Criteria procedures for the incoming waste. Failure to establish such procedures results in non-compliance with the aggregates Quality Protocol.

Acceptance criteria must include a list of wastes that are accepted. You must use the same codes used in the Waste Transfer Notes, i.e. referring to the List of Waste Regulations / European Waste Codes.

The process of waste acceptance, to be described in your Acceptance Criteria, is at a minimum a visual inspection of the incoming wastes at receipt (either at the weighbridge or on site of arisings) and at tipping/stockpiling.

A procedure for non-conforming incoming waste must be set up, e.g. rejection of loads, quarantine or disposal. Records must be kept of how the procedure has been implemented.

1.3 Production and Standards/Specification requirements (QP ref 3.1 to 3.3 and 3.5)

You are required to set up a Factory Production Control (FPC), which is mandatory when producing to BS EN Aggregate Standards and to the aggregates Quality Protocol. The FPC includes the following quality management requirements, which must be implemented:

1.3.1 Generalities on the procedures

- You must establish a FPC manual documenting how the FPC is implemented and procedures for establishing approval, issue, distribution and administration of documentation and data for internal and external use.
- You must nominate a management representative responsible for ensuring the FPC is implemented.
- The FPC must be periodically reviewed by management to ensure its continuing suitability and effectiveness, and records of such reviews maintained.
- You must define how any sub-contractors will be controlled.

1.3.2 Production and testing

- You must define how the processing equipment is maintained and adjusted during production.
- Input materials must be stocked in a controlled manner in clearly identified locations.
- Material taken from stock for processing must be checked for deterioration.
- The finished product must be identifiable up to the point of sale and procedures must be in place and implemented to maintain the quality of the product during handling, storage, transport and delivery.
- Procedures for the use, control, calibration and maintenance of inspection, measuring and test equipment must be set up and followed. Your equipment must be uniquely identified.

1.3.3 Training

- You must ensure that your personnel are trained on the FPC (including acceptance criteria, procedures for non-compliant input wastes and outputs products, sampling, testing and inspection).

1.3.4 Records

- You must ensure that records of relevant controls and inspections, calibrations, changes and training are maintained for a suitable period of time that must be defined.

You must also produce a Method Statement of Production (MSP), a description or representation of the production process for each product type, to include input materials, equipment used, actions undertaken at each stage from acceptance of waste to allocation to product stockpiles. The MSP represents the recovery process for the incoming waste and it is part of the FPC.

The aggregates must be produced to a recognised specification and/or standard, internal or defined by the customer or recognised industry-wide. The specification will define properties and characteristics of the product, as suitable for its application.

1.4 Testing (QP ref 3.6, 3.6.1 and 3.6.2)

You must define a test plan for your production. This will include type of testing for each product and sampling and testing frequency. The procedures must be appropriate to the end use of the recycled aggregates and testing frequencies must comply with the standards/specifications for the aggregate produced. A summary of the frequencies required for the minimum testing requirements within the mainstream standards is provided in section 1.6 of these Guidance Notes. More detailed testing requirements are defined within the aggregate standards and specifications.

A procedure must be in place for dealing with non-conforming products arising during the production process.

1.5 Documentation (QP ref 3.7.2, 3.7.3, 3.8 and 3.9)

You must be able to supply purchasers, on request, test results from the testing regime undertaken on each product. You must also keep historical records of test results and/or be able to produce summary results, e.g. a running graph of testing results over time.

Delivery documentation shall record the type of aggregate product despatched and state that the aggregate was produced under a quality management scheme conforming to the aggregates Quality Protocol.

1.6 Minimum testing requirements – Frequencies

The following tables collate the minimum test frequencies required within common standards and specifications, including the minimum requirements of the FPC, for the following tests:

- grading;
- particle shape;
- particle density; and
- composition.

Frequencies are defined in terms of "production week" or similar and/or "production day" and those periods should be defined by the producer depending on the throughput of the plant/equipments.

Production week can be defined as the period of 7 consecutive days comprising at least 5 production days or the period taken to complete 5 production days, whichever is longer. Considering a 2,000 tonnes a minimum week's production level, a production day would equate to a minimum of 400t of production.

1.7 Departure from minimum test frequencies

Under special conditions the test frequencies may be decreased below those given within the FPC Annex of the standards. Reasons for this could be:

- highly automated production equipment;
- long-term experience with consistency of special properties;
- sources of high conformity; and
- running a Quality Management System with exceptional measures for surveillance and monitoring of the production process.

Where materials are known to be marginal, or if initial test results show them as such, the frequency of testing should be increased.

The producer shall prepare a schedule of test frequencies taking into account the minimum requirements of the relevant FPC. Reasons for decreasing the test frequencies shall be stated in the FPC document.

Table 1: Minimum test frequencies – requirements from standards and specifications

Property	BS EN test method	Product standards/specifications	Minimum test frequency
Grading	BS EN 933-1	BS EN 12620 Aggregates for concrete	1 per week of production working days
		BS EN 13043 Aggregates for bituminous mixtures	
		BS EN 13242 Aggregates for unbound and hydraulically bound mixtures	
		MCHW series 500/600/800 references BS EN 13242	
		MCHW series 900 references BS EN 13043	
		MCHW series 1000 references BS EN 12620	
Particle shape	BS EN 933-3 and BS EN 933-4	BS EN 12620 Aggregates for concrete	1 per month of production working days
		BS EN 13043 Aggregates for bituminous mixtures	
		BS EN 13242 Aggregates for unbound and hydraulically bound mixtures	PD 6682-6 recommends 'no requirement'
Particle density	BS EN 1097-6	BS EN 12620 Aggregates for concrete	1 per month of production working days
		BS EN 13043 Aggregates for bituminous mixtures	
		BS EN 13242 Aggregates for unbound and hydraulically bound mixtures	
Composition	BS EN 933-11	BS EN 12620 Aggregates for concrete	1 per month of production working days
		BS EN 13043 Aggregates for bituminous mixtures	
		BS EN 13242 Aggregates for unbound and hydraulically bound mixtures	
	Annex B of BS 8500-2	BS 8500-2	
	MCHW clause 710	All recycled aggregates for MCHW series	

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Copies of Checklists and Guidance notes are available from http://www.aggregain.org.uk/quality/quality_protocols/index.html

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recycle

Waste Inspection Report

Consignment Details			
Date		Transfer Note No.	
Source		SEPA Registration	
Waste Carrier		Vehicle Reg. No.	
Waste Producer		Driver	
Waste Quantity		Container Type	

Waste Description (Duty of Care)		
Waste description / category and EWC code as defined on waste transfer note.	EWC Code	Category

Inspection Report (√ Appropriate Box)					
Pass	☐	Fail	☐	Non-Conformance (Test Required)	☐
Inspected By :	Name		Signature		
	Job Title				

Non-Conformance Details
Description:
Action Taken:

Test Results (√)		Non Conformance Report (√)			
Pass	☐	Refusal Certificate Issued	☐	Certificate No.	
Fail	☐	SEPA Informed	☐	Date	

Confirmed By:			
Name (Print):		Signature	
Title (Print):		Date	

LEITHS

TECHNICAL SERVICES

QUARRY:

YEAR:

RECYCLED MATERIALS

PRODUCTION DAYS

Please fill in the table below.
After 5 production days, please inform Technical Services that you require a sample to be taken.

MATERIAL PRODUCED	PRODUCTION DAYS	DESIGNATED STOCKPILE	STOCKPILE LABEL

Waste Refusal Certificate

Refusal Certificate Number		Date of Issue	
Inspection Report Number		Date of Issue	

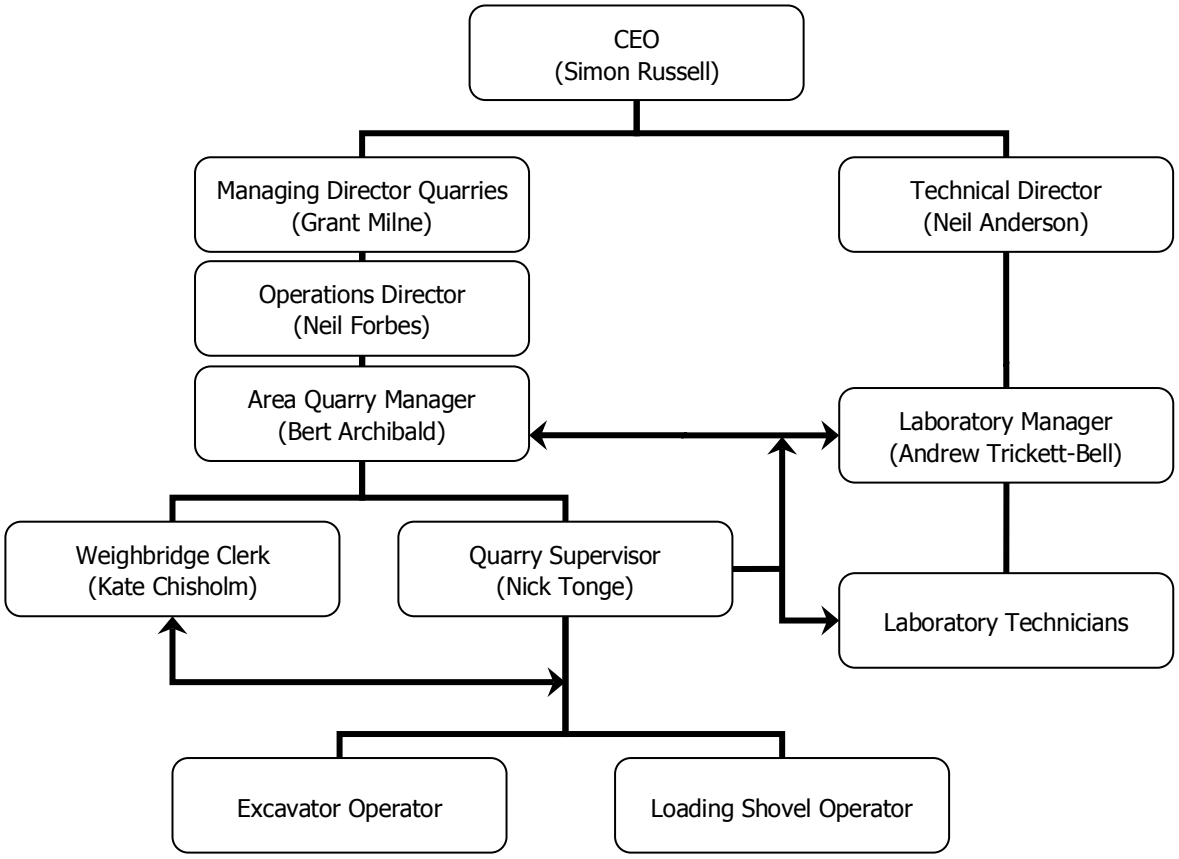
Consignment Details			
Date / Time		Transfer Note	
Waste Carrier		Waste Producer	
SEPA Licence No.		Vehicle Reg. No.	
Waste Quantity		Driver	
Source		Container Type	

Reason for Refusal / Description of Waste				
Test Carried Out (√ Appropriate Box)	Yes	☐	No	☐
Test Results				

Action Taken								
SEPA Informed	Yes	☐	No*	☐	Date		Contact Name	
** Note: SEPA will be informed and both a refusal certificate and inspection certificate will be copied to SEPA for each load refused.*								

Name (Print):		Signature	
Title (Print):		Date	

EXAMPLE - Blackhills Quarry



- The **CEO** has overall responsibility for the production of recycled materials within all centres.
- The **Managing Director Quarries** and the **Operations Director** have responsibility for the production of recycled materials to the WRAP Quality Protocol and the site Factory Production Control system.
- The **Technical Director** has responsibility for quality of all recycled materials and review of all quality and environmental procedures including the site Factory Production Control system.
- The **Area Quarry Manager** has responsibility for the production of recycled materials, operational plant management and maintenance and and site management / implementation of the Factory Production Control system.
- The **Laboratory Manage**r is responsible for Quality Control and all testing.
- The **Quarry Supervisor** is responsible for the day to day implementation of the quality and environmental management procedures including the Factory Production Control system.
- The **Excavator Operator and Shovel Operators** are responsible for ensuring the production of recycled materials is carried out in accordance with operational procedures and the FPC.
- The **Weighbridge Clerk** is responsible for documentation of incoming and outgoing materials and liaison with clients at the weighbridge.
- The **Laboratory Technicians** are responsible for sampling and testing all recycled products.

All individuals are equally responsible in ensuring that the efficiency of production is optimised while minimising the environmental impact, maintaining the quality of products produced and ensuring health and safety is not compromised.