



# Consultation summary

## *Material guideline: Construction products*

**Version: Final**

December 2014

**Produced by**

Hyder Consulting Pty Ltd and Department of Environment Regulation

**Published by**

Department of Environment Regulation  
168 St Georges Terrace, Perth, Western Australia

December 2014

**Copyright © State of Western Australia 2014**

All material is the copyright of the State of Western Australia. Permission is not given for any commercial use or sale of this material. No part of the contents of the publication may be reproduced by any process, electronic or otherwise, distributed, adapted, broadcast, performed in public or communicated to the public without the written consent of Department of Environment Regulation, except as permitted under the Copyright Act 1968.

**Disclaimer**

The information contained in this document is provided by Department of Environment Regulation in good faith. However, there is no guarantee of the accuracy of the information contained in this document and it is the responsibility of users to make their own enquiries as to its accuracy, currency, relevance and correctness.

The State of Western Australia and Department of Environment Regulation and their servants and agents expressly disclaim liability, in negligence or otherwise, for any act or omission occurring in reliance on the information contained in this document, or for any incident or consequential loss or damage of such act or omission.

The State of Western Australian is committed to providing quality information and has made every attempt to ensure the accuracy, currency, reliability and correctness of the information contained in this document. However, changes in circumstances and legislation after the time of publication may impact on the correctness or quality of this information.

In addition the accuracy, currency, reliability and correctness of links or references to information sources referred to or provided by third parties is outside the control of State of Western Australia and it is therefore the responsibility of the user to make their own decisions on information found on those external sites. Confirmation of any of the information provided in this document may be sought from the relevant originating bodies or the department providing the information; however, users of this material should verify all relevant representations, statements and information with their own professional advisers.

The State of Western Australia and Department of Environment Regulation reserve the right to amend the content of this document at any time without notice.

The information contained in this document is general. It does not constitute, and should be not relied on as, legal advice. The State of Western Australia recommends that users of this information seek advice from a qualified lawyer on the legal issues affecting them before relying on this information or acting on any legal matter.

**Questions regarding this report should be directed to:**

Department of Environment Regulation  
Locked Bag 33 Cloisters Square  
PERTH WA 6850  
Phone: +61 8 6467 5000  
Fax: +61 8 6467 5562  
Email: [info@der.wa.gov.au](mailto:info@der.wa.gov.au)  
Web: [www.der.wa.gov.au](http://www.der.wa.gov.au)

**Accessibility**

This document is available in alternative formats and languages upon request.

## CONTENTS

<b>Background .....</b>	<b>3</b>
<b>Summary of consultation submissions .....</b>	<b>3</b>
<b>Summary of responses to submissions .....</b>	<b>4</b>
<b>Consultation submissions .....</b>	<b>6</b>
<b>Are there any parts of the guideline where the requirements are not clear? .....</b>	<b>7</b>
<b>Alignment between the sampling approach proposed in the draft material guideline and the Asbestos Guidelines .....</b>	<b>7</b>
<b>Are the guidelines practical and achievable to implement? .....</b>	<b>8</b>
<b>General comments .....</b>	<b>10</b>

## Background

The Department of Environment Regulation (DER) is seeking to encourage the use of waste-derived materials (WDMs) in circumstances where their use does not cause an unacceptable risk to the environment to divert waste from landfill and reduce the demand for raw materials and fossil fuels.

The [Guidance statement: Regulating the use of waste-derived materials](#), published in November 2014, supports this objective. The guidance statement sets out DER's intention to develop material guidelines that establish specifications for the production and use of WDMs. The guidance statement also sets out the "end-of-waste criteria" that DER will apply through the material guidelines to determine when waste has ceased to be waste.

On 19 November 2014, DER released the *draft Material guideline: Construction products*. Comments were invited on any aspect of the draft material guideline in addition to questions on issues of particular interest to DER.

Consultation closed on the 16 December 2014, with 16 submissions received. This document summarises these submissions, the key issues raised, and responses to these issues.

The draft *Material guideline: Construction products* is one of a series of material guidelines that have been developed in accordance with the guidance statement. The development of the draft *Material guideline: Construction products* has been informed by industry stakeholders and key government agencies through workshops and public consultation.

## Summary of consultation submissions

Sixteen submissions were received in relation to the draft *Material guideline: Construction products*. These were generally supportive, and primarily raised issues of clarification.

Key issues raised in the submissions were:

- the draft definition of 'recovered glass' which could potentially result in a reduction in glass recovery rates;
- the statement within the draft guideline that materials are deemed waste until such time as they are assessed to be appropriate for re-use;
- a need for clarification of the product specification section including the source of limits for chemical and other attributes in Table 2;
- a need for clarification of the operational control procedures including the level of perceived risk associated with construction products in the guideline balanced against the extent of required product sampling and testing, and a suggestion for a process flow chart; and
- a suggestion that the scope of authorised uses in section 3.4 be broadened and that the prescription of waste types in section 3.1 include additional waste materials.

## Summary of responses to submissions

The final *Material guideline: Construction products* include a number of amendments that address issues raised in the consultation.

DER has modified the definition of recovered glass so that it no longer excludes facility fines screenings. A new definition has also been provided for screened and refined glass.

The final *Material guideline: Construction products* reflects the definition of waste in section 3(1) of the *Environmental Protection Act 1986* and section 3(1) of the *Waste Avoidance and Resource Recovery Act 2007*. The [Guidance statement: Regulating the use of waste-derived materials](#) provides further clarity in this regard.

The revised product specifications resolve a number of queries raised by respondents in the consultation, including:

- the requirement that recycled road base or recycled drainage rock must not contain acid sulfate soil or copper chrome arsenate treated timber requirement;
- clarification that recycled road base or recycled drainage rock must not contain more than 1 per cent by weight (combined) of other C&D wastes (other than concrete, bricks, tiles, ceramics, asphalt, natural rock, sand and recovered glass); and
- the amendment of limits for chemical and other attributes in Table 2 to mitigate any significant risk to sensitive environmental receptors from the potential leaching of metals or organic compounds from the recycled material and to be broadly consistent with DER's guideline for *Assessment and management of contaminated sites* (2014). The criteria adopted are based on product use for urban residential, public open space and commercial and industrial land uses only.

The product sampling and testing regime for construction products is designed to ensure statistically significant results to confirm that materials meet the product specification prior to use and that end use of these products does not pose unacceptable risks to the environment or human health.

In the absence of an alternative robust and statistically significant testing regime, the current testing process has not been significantly amended. However, DER remains open to alternative approaches that can demonstrate that they adequately protect the environment and human health.

The operational control procedures have been amended to address a number of issues raised by respondents:

- The method for inspection of C&D waste is now outcome-based.
- The inspection process for non-permitted waste and other potential contamination has been separated.
- The qualifications required for sampling and auditing roles have been differentiated.
- The sampling of recycled road base and recycled drainage rock includes both conveyors and stockpiles.
- The quality assurance and quality control protocols have been specified.

A process flowchart is being developed for publication on DER's website.

The current authorised uses for construction products are limited to recycled road base and recycled drainage rock. These products are the most common waste-derived construction products and pose comparatively low risk for the leaching of contaminants based on the specification limits. DER will consider further uses for waste-derived construction products where specifications can be developed to protect human health and the environment. In addition to the key concerns raised by respondents, minor issues were raised in the consultation submissions and have been considered by DER. Where appropriate, the *Material guideline: Construction products* reflects amendments made to address the minor issues identified.

DER thanks all respondents for taking the time to respond to the consultation.

## Consultation submissions

The consultation paper specifically sought comment in relation to the following three questions:

1. Are there any parts of the guideline where the requirements are not clear?
2. To provide consistency for producers of construction products, the sampling approach proposed in the draft *Material guideline: Construction products* is aligned with that in the [Guidelines for managing asbestos at construction and demolition waste recycling facilities](#), DEC, 2012 (Asbestos Guidelines). Comments are sought on the appropriateness of this approach.
3. Do you consider that the draft *Material guideline: Construction products* will be practical and achievable for industry to implement?

Rather than addressing the specific questions, most organisations chose to provide general feedback, or commented by section. Sixteen submissions were received as listed in Table 1.

**Table 1: Consultation submissions received**

Organisation	Acronym / Abbreviation
Alcock Brown-Neaves Group	ABN
All Earth Group	AEG
Australian Industries Group (Waste Industry Alliance WA)	AIG
Cement Concrete & Aggregates Australia	CCAA
City of Busselton	CoB
Consilium Waste Consulting	CWC
Department of Agriculture and Food, Western Australia	DAFWA
Earthcare Recycling	ER
Housing Industry Association	HIA
Instant Waste Management	IWM
Moltoni Group	MG
Perth Bin Hire	PBH
Rio Tinto Iron Ore (WA)	RTIO
Urban Development Institute of Australia (WA)	UDIA
Waste Management Association Australia (WA)	WMAA
Western Australian Local Government Association	WALGA

## Are there any parts of the guideline where the requirements are not clear?

### Summary of submissions

The main issues requiring clarity related to the operational control procedures and a request for a process flow chart.

Greater clarity was requested on the relationship between the draft *Material guideline: Construction products* and the *Environmental Protection Act 1986* and other relevant legislation.

Some respondents requested clarity on the roles and responsibilities for different stakeholders involved in the production of waste-derived construction products.

### Response to submissions

DER agrees that a process flow chart provide clarity on the requirements to meet the *Material guideline: Construction products* specification. A flow chart is being prepared for publication on DER's website.

The legal requirements of the *Environmental Protection Act 1986* and the *Waste Avoidance and Resource Recovery Act 2007*, the *Waste Avoidance and Resource Recovery Levy Act 2007* and regulations made under this legislation is beyond the scope of the *Material guideline: Construction products*. Those intending to undertake activities that may be subject to these Acts should seek their own legal advice. The *Material guideline: Construction products* clarifies that certain activities may continue to require regulation under Part V of the *Environmental Protection Act 1986*.

The *Material guideline: Construction products* allocates responsibility for the operational control procedures to producers. Producer is defined in the guideline as “a person who processes, mixes, blends or otherwise incorporates C&D waste into recycled construction products”.

## Alignment between the sampling approach proposed in the draft material guideline and the Asbestos Guidelines

### Summary of submissions

The majority of submissions supported the alignment between the Asbestos Guidelines and the draft *Material guideline: Construction products*.

One submission did not support this approach as it treats all sites as likely to have some asbestos contamination rather than on a case-by-case basis.

### Response to submissions

DER is committed to ensuring that waste-derived construction products do not pose a contamination risk. End users also require evidence that products are free of contamination. An approach consistent with the Asbestos Guidelines has therefore been retained.



## Are the guidelines practical and achievable to implement?

### Summary of submissions

Submissions on the practicality and achievability of the draft *Material guideline: Construction products* primarily related to the operational control procedures.

Two submissions raised specific concerns regarding the acceptance procedures and three submissions were supportive of the acceptance procedures as industry practice. The requirement to spread the material to a depth of less than 30cm to inspect was viewed as onerous, requiring a high number of plant and operational staff, and a large area.

Ten submissions raised concerns with the practicality or achievability of the sampling and testing requirements.

Three submissions were concerned with the practicality of the record keeping requirements.

Respondents who were concerned about the requirements for routine sampling and testing saw them as overly stringent, with potential to create a barrier to using the guidelines, and expensive. This view considered that C&D waste poses a low risk to the environment and human health. Some submissions did not support the requirement for sampling and testing prior to the blending of waste streams.

A few submissions proposed that only the final product be subject to sampling and testing, and that where the final product meets the product specification, this be sufficient to prevent unacceptable risks to the environment or human health.

Recommendations proposed included:

- Reduced sampling requirements once producers have demonstrated that their procedures consistently meet the product specifications.
- Routine sampling should not apply in some circumstances, such as where detailed site investigations have been conducted in accordance with DER's contaminated sites series and can be demonstrated to comply with the product specification.

Three submissions suggested the proposed record keeping requirements were unrealistic and that tracking material generated within an individual site is not practical once stockpiled at a C&D recycling facility.

### Response to submissions

DER has refined the operational control procedures in the final *Material guideline: Construction products* in response to issues raised.

### Acceptance procedures

The final *Material guideline: Construction products* does not prescribe how waste is spread and inspected, and instead provides an outcome-based approach to ensure that a comprehensive visual and odour check is carried out, including that spreading and inspection may be undertaken at the point of material excavation or acceptance.

## Sampling and testing

Construction and demolition source material is variable with multiple potential sources of contamination. Some potential contaminants may not be evident during the pre-acceptance procedures and acceptance procedures (e.g. heavy metal concentrations). Common inert materials, such as concrete, can also leach contaminants over time and may have been treated with potentially toxic substances.

The final *Material guideline: Construction products* testing regime is designed to ensure that waste-derived construction products do not cause environmental harm, pollution, unreasonable emissions, unauthorised discharges or result in contamination of land.

The sampling methodology was derived from the Asbestos Guidelines. The frequency of sampling is the minimum required to characterise the material with statistical significance. The stockpile sampling method is an accepted sampling method based on the *National Environment Protection (Assessment of Site Contamination) 1999* (NEPM) revised in 2013. The variable nature of C&D waste means that any reduction in the frequency may not result in representative sampling of inherently heterogeneous waste material.

The production of recycled road base and recycled drainage is sourced from C&D waste. Under regulation 5(2)(a)(b) of the *Contaminated Sites Regulations 2006*, materials or substances which form part of a building or structure or are wholly contained within a building are not included in the definition of “contaminated”. As a result, such material could not be assessed in accordance with DER contaminated sites management guidelines and there is no basis for variation of the sampling and testing regime.

DER intends to introduce an operating procedure for case-by-case assessment of waste-derived materials as products as foreshadowed in the guidance statement. This will provide an opportunity to determine whether test results from equivalent testing methods are suitable.

DER remains open to including different testing approaches where it can be demonstrated that they are statistically valid.

Blending of waste streams could not meet the final *Material guideline: Construction products* requirements for acceptance, sampling and testing and therefore is not acceptable.

## Recordkeeping

The *Material guideline: Construction products* provides a framework to allow a material that would otherwise be classified as waste to be used as a product, and therefore not liable for the payment of the landfill levy. In doing this the guideline requires that producers maintain adequate records to document evidence of compliance with the material guideline. The record keeping requirements no longer require tracking of the material through the producer’s production process as this was viewed as impractical.

## General comments

### Summary of submissions

Respondents raised issues that were not included in the consultation questions. These issues have been considered, alongside the responses to the questions, in the final published version of the guideline. Comments were received on:

- the product specification for construction products;
- the authorised uses of construction products;
- the timeline and triggers for review of the final *Material guideline: Construction products*; and
- views on the direction of the waste industry and the role of the draft *Material guideline: Construction products*. This included the definition of waste in both the EP Act and the WARR Act.

### Product specification

Eight respondents raised issues with the product specification for the draft *Material guideline: Construction products*.

Five submissions noted that the draft definition of ‘recovered glass’ limits the source of glass as most glass from materials recovery facilities in Perth requires further refinement to reduce contamination levels, and does not allow for material that is further processed to ensure it is suitable to be used. There was also confusion about whether the limit of 1 per cent of other C&D waste included recovered glass.

The applicability of the chemical limits from the WA guidelines for biosolids management 2012, and why some limits specified were more conservative than those specified by the ecological investigation level in the DER’s Contaminated Sites Management Series: Assessment levels for Soil, Sediment and Water were also raised.

One respondent was concerned that recycled concrete may have a pH that is above the material specification range of 5 to 9, and therefore material containing concrete would exceed the pH specification and be unable to be used.

### Authorised uses

Eight respondents wanted a wider range of authorised uses for waste-derived construction products; for example, the use of recycled C&D waste for non-structural concrete. The reasoning for this view was that the product specification defines parameters for source material for waste-derived construction products, and therefore there should be fewer limitations on authorised uses.

### Guideline review

Four respondents noted that there was no review time frame or a trigger for review. The Waste Management Association of Australia (WA Branch) suggested that a clear time frame for review should be included, as well as some factors that would trigger a review to provide certainty to stakeholders.

## General issues

Several submissions did not support the definition of waste in the EP and WARR Acts, considering it a barrier to the development of an industry based on waste-derived products.

Other submissions raised general perspectives on the structure and operation of the recycling industry, the role of the draft *Material guideline: Construction products* in driving particular outcomes, and a recommendation that C&D waste be treated separately.

## Response to submissions

### Product specification

DER has reviewed the limits in the product specification for construction products and the total concentration values have been revised to be broadly consistent with DER's guideline for *Assessment and management of contaminated sites* (2014).

One submission suggested the use of AS 4439.3 – 1997 for leachate analysis. Based on the total concentration limits adopted, the material types permitted for use (concrete, brick, tile, ceramics, asphalt, natural rock, sand and recovered glass), the authorised uses allowed, and the recommendation that this material not be used in sensitive environments, DER considers that there is no significant risk of leaching, or therefore need for leachate analysis.

The definition of recovered glass has been amended to include glass fines, but exclude leaded glass, and glass from cathode ray tubes or other glass recovered from electrical equipment or fluorescent or incandescent lights. A new definition has been provided for screened and refined glass. The 1 per cent limit by weight for other C&D waste specifically excludes recovered glass, which is clearly within the permitted C&D waste types.

DER acknowledges that new concrete is alkaline. However DER also notes that at pH levels between 11 and 13, there is a significant risk of mobilisation of heavy metals. DER has therefore modified the relevant section to clarify that fresh concrete should not be used as a construction product until the pH is within the acceptable range. This may require management of stockpiles following the crushing of concrete.

### Authorised uses

The *Material guideline: Construction products* allows for the use of recycled road base and recycled drainage rock. These are the most common waste-derived products, and have more established processing and standards. DER intends to work with industry to allow for the use of additional waste-derived construction products and uses, including an opportunity for public consultation.

In addition, DER is developing a guideline for submitting an application for use of waste-derived materials for case-by-case assessment and determination.

### Guideline review

The *Material guideline: Construction products* is scheduled to be reviewed by 30 January 2016 or within three months of any changes to legislation or policy that affect the guideline.

## General issues

DER notes that concerns in relation to the definition of waste are based on a perception that the term “waste” inhibits re-use or recycling of waste-derived material. DER has modified its terminology to ensure that authorised uses of waste-derived material are referred to as “products” to partly address this, and has discussed the differentiation between the legal meaning of waste under the EP Act and WARR Act, and a more commonly understood approach in the guidance statement.

One submission suggested that construction and demolition wastes be separately addressed but did not provide any details of how this should be done, or what advantages it would give.

Other submissions raised general perspectives on the operation of the waste industry and DER’s regulatory role without suggesting specific changes to the draft *Material guideline: Construction products*.