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WORKSAFE VICTORIA

RECYCLING CONSTRUCTION AND DEMOLITION MATERIAL

GUIDANCE ON COMPLYING WITH THE OCCUPATIONAL HEALTH AND SAFETY
(ASBESTOS) REGULATIONS 2003



The information presented in *Recycling Construction and Demolition Material* is intended for general use only. It should not be viewed as a definitive guide to the law and should be read in conjunction with the *Occupational Health and Safety Act 2004*, the *Occupational Health and Safety (Asbestos) Regulations 2003*, the *Environment Protection Act 1970* and the *Environment Protection (Prescribed Waste) Regulations 1998*.

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1. INTRODUCTION

Recycling of construction and demolition materials (C&D materials) is an important industry in Victoria. It is also an important environmental initiative because it reduces the demand for landfill space and demand on raw materials.

This guidance material provides information to assist industry to meet its obligations under the *Occupational Health and Safety (Asbestos) Regulations 2003* (the Asbestos Regulations). The guidance material describes an auditable procedure to verify that asbestos-containing material has been removed from C&D materials prior to recycling.

This guidance material was developed through a tripartite process involving the recycling industry, unions and regulators.

The Asbestos Regulations require that any asbestos that may become disturbed as part of demolition works is, so far as is reasonably practicable, removed prior to the commencement of works. This means that the occupier of the building or structure being demolished or refurbished has responsibility for ensuring that the asbestos is removed in accordance with the Asbestos Regulations.

The Asbestos Regulations require that a licensed asbestos removalist be engaged to remove asbestos from workplaces, other than in a few very limited circumstances. Following removal of the asbestos, the person who commissioned the removal work must obtain a Clearance Certificate from an independent person prior to the site being re-occupied. This is not required where the asbestos-containing material removed was non-friable and less than 10 square metres.

2. SCOPE OF THIS GUIDE



To determine whether this guidance material is applicable to the C&D material being recycled, ask:

1. WHAT IS THE SOURCE OF THE C&D MATERIAL?

For example, concrete footpath, house demolition site, office building refurbishment.



2. WHAT DOES THE C&D MATERIAL CONSIST OF?

For example, brick, concrete, roof tiles.

As a general guide:

Asbestos may be found in items like cement sheet, vinyl tiles, bitumen sheet, caulking, gaskets and expansion joint material.



3. WHEN WAS THE BUILDING OR STRUCTURE BUILT?

As a general guide:

Buildings and structures constructed **after 1990** are unlikely to have had asbestos-containing materials installed.

- Persons who have management and control of the buildings or structures should be questioned to determine whether asbestos-containing materials were subsequently introduced into the building or structure after it was built.
- If there is any uncertainty, an audit of the building or structure should be performed to identify any asbestos-containing materials.

As a general guide:

Buildings and structures constructed **before 1990** may have been built using asbestos-containing materials.

The building or structure should have been audited in accordance with the Asbestos Regulations.



4. IS THE C&D MATERIAL FOR RECYCLING LIKELY TO CONTAIN ASBESTOS?

(Note: consider questions 1, 2 and 3 and any additional information. If asbestos removal works have been completed where the C&D material is being sourced then the material should still be processed utilising this guide as a reference.)

YES



Process C&D material utilising this guidance as a reference, and in accordance with the Asbestos Regulations.

NO



Process C&D material as non-asbestos containing.



3. DEFINITIONS

Asbestos – means the fibrous form of the mineral silicates belonging to the serpentine and amphibole groups of rock-forming minerals and includes actinolite, amosite (brown asbestos), anthophyllite, crocidolite (blue asbestos), chrysotile (white asbestos), tremolite, or any material containing one or more of the mineral silicates belonging to the serpentine and amphibole groups.

Asset Manager – means the person who has management and control of the building/structure to be demolished/renovated. Depending on the contractual terms, this could be the owner, tenant or builder.

Clean Brick – means brick free of any other C&D material.

Clean Concrete – means concrete that is free of any other C&D material.

Clearance Certificate – is a certificate or document issued by an independent person (such as a qualified and experienced hygienist) stating that there is no visible asbestos residue in the area from which the asbestos removal took place as required in the Asbestos Regulations.

Note: The person who commissioned the asbestos removal should require the independent person to review the original Part 6 Audit to check that there are no other potential sources of residual asbestos material at the time of preparation of the Clearance Certificate.

Construction and Demolition Material (C&D material) – means the excess or waste material associated with the construction or demolition of buildings and structures, including concrete, brick, steel, timber, plastics and other building materials and products.

Contaminated Loads Register – is a record of the date and registration details of vehicles delivering C&D material that were rejected because asbestos was identified in the load.

Demolition – Demolition includes the refurbishment or destruction of a building, structure, ship or plant. Demolition does not include minor maintenance works or other works of a minor nature.

Load – means the quantity of C&D material delivered to the stockpiler by truck, bin or trailer.

Part 6 Audit – means an audit for asbestos materials of a proposed construction or demolition workplace that is conducted in accordance with Part 6 of the Asbestos Regulations. This audit is required during detailed investigations of the structure and buildings in order to identify asbestos materials, and assess risk.

Processing – means the complete recycling process, including inspection of incoming loads, removal of extraneous material, crushing and blending of different materials to create a recycled product.

Processor – means the persons who crush and process the waste C&D material to produce a recycled product.

Regulator – is the Victorian WorkCover Authority (WorkSafe) established under the *Accident Compensation Act 1985* and/or the Environment Protection Authority (EPA Victoria) established under the *Environment Protection Act 1970*, where applicable.

Stockpiler – is the employer or self-employed persons who receive and stockpile the C&D material, prior to its processing.

Structure – is any construction, including a bridge, tunnel, shaft, dam, pipe, or access pit, or any part thereof, other than a building or ship.

Vendor – is any employer or self-employed persons selling the recycled C&D product.

Waste Manager – is the employer or self-employed persons engaged to demolish and/or remove material from a construction or demolition site.

4. RESPONSIBILITY TO REMOVE ASBESTOS FROM THE WASTE STREAM



There is widespread recognition that to produce a product that does not come within the scope of the Asbestos Regulations, any asbestos-containing material must be removed **before** the C&D material is crushed. The responsibilities of asset managers, waste managers, transporters, stockpilers, processors and vendors are summarised below. These roles may be completed by one person/company or by different people/companies.

4.1 ASSET MANAGERS

Responsible persons include:

- Person who has management and control of the building or structure, including building owners – commercial, residential, industrial, government.
- Person/s who commission demolition work.

Objective

Ensure, so far as is reasonably practicable, that any asbestos that may become disturbed as a result of demolition works is removed prior to the commencement of these works.

Achieving this objective requires asset managers to determine:

Is the building or structure from which the C&D material is to be sourced likely to contain asbestos?

(See section 2, Scope of this guide for assistance with this question.)

YES, or uncertain

NO

Process material as non-asbestos containing.
Advise waste manager.

If the building or structure is likely to contain asbestos then:

- Review the Part 5 Audit and if necessary conduct a Part 6 Audit (as required by the Asbestos Regulations).
- Engage a licensed asbestos removal contractor to conduct asbestos removal works. Ensure, so far as is reasonably practicable, that any asbestos that may become disturbed as a result of the demolition works is removed prior to the commencement of these works.
- Where greater than 10 square metres of non-friable asbestos-containing material, or any amount of friable asbestos-containing material, is removed arrange for an independent person, for example an experienced hygienist, to issue a Clearance Certificate in accordance with the Asbestos Regulations. It would be good practice to provide a copy of this Clearance Certificate to the Waste Manager.
- Ensure that waste asbestos-containing material is disposed of in accordance with the requirements of EPA Victoria, including the *Environment Protection (Prescribed Waste) Regulations 1998*.



4. RESPONSIBILITY TO REMOVE ASBESTOS FROM THE WASTE STREAM CONTINUED

4.2 WASTE MANAGERS

Responsible persons include:

- Building contractors.
- Demolition contractors.
- Waste or recycling contractors.

Objective

Confirm that asbestos-containing material has been removed from construction waste and demolition material before it leaves the site.

Achieving this objective requires waste managers to determine:

Is the building or structure from which the C&D material was sourced likely to contain asbestos?
(See section 2, Scope of this guide for assistance with this question.)

YES, or uncertain

NO

Process material as non-asbestos containing.
Advise stockpiler/recycler.

If the building or structure is likely to contain asbestos then:

- Confirm that the Part 6 Audit has been completed (or that an adequate Part 5 Audit has been completed), that the asbestos has been removed and appropriate Clearance Certificates obtained.
- During the loading process it is good practice to inspect the C&D material to confirm that no residual asbestos-containing material is present (refer to Attachment A for the necessary competencies).
- Develop and utilise a safe system of work to remove any identified residual asbestos-containing material. Ensure disposal in accordance with the requirements of EPA Victoria, including the *Environment Protection (Prescribed Waste) Regulations 1998*.

4.3 TRANSPORTERS

Responsible persons include:

- Transport companies.
- Truck drivers.

Objective

Confirm that the material being transported does not include asbestos-containing material.

4. RESPONSIBILITY TO REMOVE ASBESTOS FROM THE WASTE STREAM CONTINUED



4.4 STOCKPILERS OF CONSTRUCTION WASTE AND DEMOLITION MATERIAL

Responsible persons include:

- Local government councils.
- Commercial transfer stations.
- Employers or self-employed persons who receive and stockpile C&D material.

Objective

Identify and remove any asbestos-containing material prior to stockpiling.

4.4.1 Prior to delivery of C&D material

Stockpilers of construction waste and demolition material should:

- Advise all suppliers that asbestos and asbestos-containing materials will not be accepted.
- Incorporate a 'no asbestos clause' in contracts and advise that loads will be rejected if asbestos is identified.
- Install highly visible signs indicating that no asbestos is accepted at the site.
- Ensure employees who will be supervising and conducting receipt and inspection of C&D materials are trained (refer to Attachment A for the necessary competencies) and, where appropriate, are provided with suitable equipment to complete the task.

Site health and safety plan

- Each site should have a plan that documents a safe system of work and assists in eliminating or minimising risks associated with the identified hazards. The plan should include provision for maintaining training records and keeping records that track the process from receipt of C&D material to the completion of the unloading inspections.
- Health and safety hazards associated with the recycling process must be identified and risks controlled. The plan should take into account employees and other persons, for example visitors and truck drivers.
- Potential hazards at a C&D recycling site include:
 - The work environment – site layout, traffic management, weather, noise, etc.
 - Equipment and materials – trucks, potential contaminants in loads, mobile plant, crushers, conveyors, etc.

4.4.2 Receipt of C&D material

Is the building or structure from which the C&D material was sourced likely to contain asbestos?
(See section 2, Scope of this guide for assistance with this question.)

YES, or uncertain

NO

Receive material in accordance with this section (4.4).

Process material as non-asbestos containing.

A thorough inspection of the C&D material is required prior to processing. Procedures are included in this section for inspecting C&D material upon arrival at the facility where the C&D material is to be stockpiled and during unloading.

As sites have different equipment, personnel and space limitations these procedures may need adjustment to suit the processing arrangements at some sites, still ensuring that a thorough inspection is completed.



4. RESPONSIBILITY TO REMOVE ASBESTOS FROM THE WASTE STREAM CONTINUED

If, for example, the C&D material is unloaded at a time when a thorough unloading inspection is not possible it is important to:

- Ensure that it is clear who is responsible for completing the inspection before stockpiling and processing occurs.
- Be aware that if inspection is delayed it may not be possible to identify the supplier of the material. In this case it will be the stockpiler's responsibility to ensure safe removal and disposal of any asbestos-containing material found.

Inspection procedure at gate

1. Determine whether the guidance material applies.
 - Is the C&D material for recycling likely to contain asbestos? See section 2, Scope of this guide.
 - If the source of the material can be confirmed as not likely to contain asbestos, then the material should be directed to the processing stockpile.
 - If the source of the material cannot be confirmed, or the material is likely to contain asbestos, then it needs to be classified in accordance with the Material Risk Classification Matrix.

Material Risk Classification Matrix

Material type	Source of load	
	Commercial [^]	Public
Clean concrete	Low risk	High risk*
Clean brick	Low risk	High risk*
Mixed loads: containing concrete, bricks, timber, soil, plastics	High risk	High risk*

[^] Includes demolition and civil contractors.

* If it is possible to view the entire load of incoming C&D material (e.g. a small trailer with a shallow load) then consideration may be given to classifying these loads as low risk.

2. Classify the material in accordance with the Material Risk Classification Matrix.
 - The load should be visually inspected to identify any suspect asbestos-containing material and the C&D material classified in accordance with the Material Risk Classification Matrix (see above).
 - Where mixed loads, or those containing highly compacted soil and debris, are delivered one option may be to not accept this material for recycling, particularly if the site is not equipped to sort the material and remove the fines.
 - Where available, tools such as a platform or Closed-Circuit Television (CCTV) System may be of assistance in completing the inspection.
3. If material suspected of containing asbestos is sighted, the load should be rejected and the contaminated loads register completed. This register is to be made available for inspection to officers from WorkSafe and the EPA Victoria on request.
 - Care should be taken to observe cement sheet, vinyl tiles, bitumen sheet, caulking, gaskets and expansion jointing material.
4. Record receipt date, name and address of supplier, registration number of vehicle, estimated volume and risk classification of material for loads for which the guidance material applies.
5. Notify unloading supervisor of the risk classification. This could occur via phone or radio or information printed on the weighbridge docket, which is presented upon arrival at the unloading area.
6. Provide instructions to the driver about the location of the unloading area and unloading process.

4. RESPONSIBILITY TO REMOVE ASBESTOS FROM THE WASTE STREAM CONTINUED



4.4.3 Unloading vehicles

Reviewing the material during unloading assists to confirm the initial classification made upon arrival.

The site safety plan should be referred to when determining an appropriate system of work to enable material unloading and visual and/or physical inspection of loads.

A system of work should be in place to ensure that there is appropriate segregation of material being unloaded.

Unloading procedure

1. Ensure the person supervising the unloading of vehicles is aware of the material classification.
2. Advise the driver to deposit the load in an area to ensure materials are not mixed with other loads.
3. If the load is considered '**low risk**', inspect the material by observing while the material is unloaded to confirm that no suspect asbestos-containing material can be identified.
 - If suspect asbestos-containing material is identified, then the load needs to be reclassified as 'high risk' and continue accordingly.
 - Where a visual inspection confirms that the load is clear of suspect asbestos-containing materials, the load may be then added to the stockpile.
4. If the load is classified '**high risk**' then the material needs to be unloaded and spread over a sufficiently large area to enable a comprehensive inspection of all sides of the material.
 - One method of achieving this is to spread the material to a depth of less than 30cm and to turn over material with the use of an excavator or similar. Where appropriate, larger sections of concrete should be inverted to permit a visual check for embedded or underlying asbestos product debris.
 - Highly compacted soils and the presence of fines may require the load to undergo some form of mechanical processing in order to facilitate improved visual inspection of the load.
 - If any suspect asbestos-containing material is identified, it needs to be collected and either:
 - Appropriately stored for testing then, if found to be asbestos-containing material, disposed of in accordance with the requirements of EPA Victoria, including the *Environment Protection (Prescribed Waste) Regulations 1998*, OHS legislation and the individual site safety plan.
 - Deemed to be asbestos-containing material and disposed of in accordance with the requirements of EPA Victoria, including the *Environment Protection (Prescribed Waste) Regulations 1998*, OHS legislation and the individual site safety plan.
 - Having completed the checks noted above, and removing any material suspected to contain asbestos, the load can be added to the stockpile.

Records should be kept to ensure that the process from receipt of C&D material to the completion of the unloading procedure is auditable.



4. RESPONSIBILITY TO REMOVE ASBESTOS FROM THE WASTE STREAM CONTINUED

4.5 PROCESSORS

Responsible persons include:

- Operators of site based plants that crush and process the C&D material to produce a range of commercial recycled products.
- Operators of mobile crushing plants.

Objective

To produce recycled product from C&D material that has been inspected in accordance with this guidance material.

Achieving this objective requires processors of C&D material to determine:

Has the C&D material been stockpiled in accordance with this guidance document?

YES

Commence crushing in accordance with safe operating procedures (refer to the site health and safety plan).

This crushing process should include monitoring the feed material and the removal of any extraneous substances.

NO

Do not crush material.
Consult with stockpiler.

Ensure that an inspection process equivalent to that outlined in section 4.4, Stockpilers of construction waste and demolition material is undertaken prior to crushing material.

4.6 VENDORS

Responsible persons include:

- Sellers of recycled C&D material.
- Operators who process the C&D material for their own use (e.g. some local government councils).

Objective

To test recycled product made from C&D material prior to sale.

Achieving this objective requires vendors of C&D product to:

- Test the product made from C&D material in accordance with the requirements of the Asbestos Regulations.
- Confirm that the product meets the test requirements noted in the Asbestos Regulations, prior to re-use.

Note: if the C&D material was deemed to be non-asbestos containing and hence has not required processing in accordance with this guidance material, it also does not need to be tested in accordance with the Asbestos Regulations.

5. QUALITY CONTROL AND AUDITING



Responsible persons include:

- Stockpilers.
- Processors.
- Vendors.

Objective

To audit, review and improve the systems in place for recycling C&D material.

The person who has management and control of the recycled C&D material needs to ensure overall compliance with the Asbestos Regulations.

Persons with control of each step in the recycling process should also regularly review their own compliance.

One means of assisting with achieving compliance is the conduct of regular (at least four per year) process reviews. The reviews must be completed by a competent person and include:

- Inspection and processing procedures, including following C&D material from receipt to when its processing has been completed.
- Personnel training.
- Records and document retention.
- Review of the effectiveness of operational procedures.
- Review of the site health and safety plan.

Outcomes from the review should be utilised to improve processing systems and practices.

Records of the reviews and improvement strategies must be made available for inspection by officers from WorkSafe and EPA Victoria on request.

It is good practice for reviews to be conducted intermittently by a competent person who is not involved with the 'day to day' operation of the site. For example, this could mean that some reviews are conducted by:

- Staff from another site.
- A consultant.
- A representative of an appropriate industry body.



ATTACHMENT A: PERSONNEL COMPETENCIES

Load inspection prior to leaving demolition site

Training, experience and understanding of:

- How to visually inspect a load.
- Recognising different types of asbestos-containing material.
- Procedure to remove and dispose of any identified asbestos-containing material.

Load inspection upon arrival at recycling/stockpile site

Training, experience and understanding of:

- How to visually inspect a load.
- Recognising types of material that are likely to be asbestos-containing materials.
- The process for rejecting loads.
- Record keeping procedures.
- Classifying incoming loads in accordance with the Material Risk Classification Matrix.
- The communication procedure, which includes ensuring that the risk level is communicated to the personnel undertaking additional inspections.
- The site layout, including unloading locations for each classification.
- The site health and safety plan.

Load inspection when unloading at stockpile

Training, experience and understanding of:

- The unloading process, including advising the driver to deposit the load in a designated area to ensure materials are not mixed with other loads before the inspection is completed.
- The Material Risk Classification Matrix for incoming materials, and how to unload material of each risk classification, and those that may require additional processing (e.g. high volume of fines). Also when to reclassify a 'low risk' load as a 'high risk' load.
- How to visually inspect a load.
- Recognising types of material that are likely to be asbestos-containing materials.
- The site procedures for collection and disposal of any suspect asbestos-containing material.
- Record keeping procedures.
- The site health and safety plan.



Reference Documents

Environment Protection Act 1970

Occupational Health and Safety Act 2004

Environment Protection (Prescribed Waste) Regulations 1998

Occupational Health and Safety (Asbestos) Regulations 2003

Further Information

Acts and Regulations

All Victorian Government legislation is available from Information Victoria by calling 1300 366 356 or online at www.bookshop.vic.gov.au.

Legislation can also be viewed on the Parliament of Victoria website www.dms.dpc.vic.gov.au (click on 'Victorian Law Today').

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www.worksafe.vic.gov.au

WorkSafe Victoria Advisory Service – 1800 136 089

Environment Protection Authority Victoria

www.epa.vic.gov.au

EPA Information Centre – 03 9695 2722

Sustainability Victoria

www.sustainability.vic.gov.au

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