



**Licence number** L7782/2002/6  
**Licence holder** Brodan (WA) Pty Ltd  
**ACN (if applicable)** 130 206 274  
**Registered business address** John Osborne and Associates  
70A Kishorn Road  
MOUNT PLEASANT WA 6030

**DWER file number** DEC7348/1

**Duration** 03/05/2012 to 02/05/2032  
**Date of amendment** 11/04/2024

**Premises details** Northsands Resources  
86 Wesco Road  
NOWERGUP WA 6032  
Legal description -  
Part of Lot 6 on Diagram 34734  
Certificate of Title Volume 1500 Folio 124  
As defined by the coordinates in Schedule 2

<b>Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)</b>	<b>Assessed production / design capacity</b>
Category 12: Screening, etc. of material	200,000 tonnes per annual period
Category 13: Crushing of building material	45,000 tonnes per annual period
Category 62: Solid waste depot	5,000 tonnes per annual period
Category 63: Class I inert landfill site	20,000 tonnes per annual period
Category 67A: Compost manufacturing and soil blending	60,000 tonnes per annual period

This licence is granted to the licence holder, subject to the attached conditions, on 11 April 2024, by:

**A/MANAGER WASTE INDUSTRIES - REGULATORY SERVICES**

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

## Licence history

Date	Reference number	Summary of changes
26/04/2012	L7782/2002/6	Licence issued
25/01/2013	L7782/2002/6	Licence amended to include an improvement condition relating to asbestos management
21/03/2017	L7782/2002/6	Amendment Notice 1 - Amendment changed prescribed premises category, include asbestos management conditions and extend licence expiry date.
19/12/2018	L7782/2002/6	Amendment Notice 2 - DWER initiated amendment to finalise the amendments identified but not completed in Amendment Notice 1.
12/04/2019	L7782/2002/6	Amendment Notice 3 - DWER initiated amendment to correct the prescribed premises boundary to accurately reflect Brodan (WA) Pty Ltd's extent of legal occupancy.
26/04/2022	L7782/2002/6	DWER initiated amendment to consolidate separately issued licence amendment notices in the licence and extend the expiry date.
16/05/2022	L7782/2002/6	Notice of Amendment of Licence Reporting Requirements
21/10/2022	L7782/2002/6	Amendment to increase Category 12 production capacity to 200,000 tonnes per annual period and to define the landfill area.
11/04/2024	L7782/2002/6	DWER initiated amendment to extend the duration of licence.

## Interpretation

In this licence:

- (a) the words 'including', 'includes' and 'include' in conditions mean "including but not limited to", and similar, as appropriate;
- (b) where any word or phrase is given a defined meaning, any other part of speech or other grammatical form of that word or phrase has a corresponding meaning;
- (c) where tables are used in a condition, each row in a table constitutes a separate condition;
- (d) any reference to an Australian or other standard, guideline, or code of practice in this licence:
  - (i) if dated, refers to that particular version; and
  - (ii) if not dated, refers to the latest version and therefore may be subject to change over time;
- (e) unless specified otherwise, any reference to a section of an Act refers to that section of the EP Act; and
- (f) unless specified otherwise, all definitions are in accordance with the EP Act.

**NOTE:** This licence requires specific conditions to be met but does not provide any implied authorisation for other emissions, discharges, or activities not specified in this licence.

## Licence conditions

The licence holder must ensure that the following conditions are complied with:

### Waste acceptance

1. The licence holder must only accept onto the premises waste of a type that:
  - (a) does not exceed the rate at which that waste is received, as set out in Table 1;
  - (b) meets the relevant acceptance specification, as set out in Table 1; and
  - (c) does not exceed the acceptance criteria for an Inert (Class I) landfill.

**Table 1: Waste acceptance specifications**

Waste type	Rate at which waste is received	Acceptance specification
Inert Waste Type 1	25,000 tonnes per annual period	(a) Must not contain visible asbestos or ACM
Acid Sulfate Soils	Combined total of 60,000 tonnes per annual period	(a) In accordance with the Acid Sulfate Soil Management Plan
Green Waste		None specified

2. The licence holder must not accept waste onto the premises where it contains, or is suspected to contain, visible asbestos or ACM.
3. The licence holder must:
  - (a) advise all source material providers that asbestos or potentially asbestos contaminated material is not accepted at the Premises; and
  - (b) include a “no asbestos” clause in all contracts with material sources.

### Gatehouse inspection

4. Prior to acceptance of waste onto the premises, the licence holder must visually inspect all loads of waste at the gatehouse:
  - (a) to determine that the waste meets the waste acceptance requirements set out in condition 1;
  - (b) to determine the risk of a load containing asbestos and/or ACM; and
  - (c) classify each load as either a ‘low risk load’ or a ‘high risk load’, in accordance with the risk classification procedure provided in Schedule 3: Asbestos risk classification procedure.
5. Upon acceptance of the waste, the licence holder must direct each classified load to an unloading area designed to ensure the classified load will not mix with other waste prior to further inspection.

### Non-conforming waste

6. During pre-inspection of waste loads at the gatehouse, where waste does not meet the waste acceptance requirements set out in condition 1, the licence holder must:
- (a) reject the waste and not accept the waste onto the premises;
  - (b) record the details of the:
    - (i) waste (type, description and volume);
    - (ii) source of the waste load;
    - (iii) name of the waste carrier;
    - (iv) registration number of the delivery vehicle; and
    - (v) date that the waste load was rejected; and
    - (vi) maintain accurate and auditable records of all waste loads rejected from the premises.
7. After acceptance of waste onto the premises (via the gatehouse), the licence holder must ensure that any waste that does not conform to the waste acceptance requirements set out in condition 1 and 2 due to asbestos content, is covered or bagged and kept within a clearly identified, labelled, segregated and secure container prior to being removed off site to an appropriate authorised facility within 48 hours.

### Infrastructure and equipment

8. The licence holder must ensure that the infrastructure and equipment listed in Table 2 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 2.

**Table 2: Infrastructure and equipment requirements**

Infrastructure and equipment		Operational requirement	Infrastructure location
1.	Crushing and screening plant	(a) Must only be operated when all material passing through the infrastructure and equipment is dampened to prevent dust lift off.	N/A
2.	Inert Class 1 Landfill Area	(a) An undisturbed separation distance of at least 3 m must be maintained between the base of the landfill and the highest level of groundwater at the premises; and (b) Vertex points of the designated landfill area must be pegged and maintained as a visual marker of the landfill boundary in accordance with the coordinates defined in Table 8.	As defined by the coordinates in Table 8 and displayed in Figure 3
3.	ASS Receipt Stockpile Area and Treatment Pad	(a) Must comprise a hardstand of compacted limestone no less than 300 mm in thickness; (b) Run-off from the hardstand must be contained within a lined retention basin; and (c) Uncontaminated stormwater must be diverted away from organic storage and soil blending areas.	N/A

Infrastructure and equipment		Operational requirement	Infrastructure location
4.	Fuel and hydrocarbon storage facility	<p>(a) Must be banded to contain at least 110% of the volume of the largest storage vessel or inter-connected system, and at least 25% of the total volume of substances stored in the facility;</p> <p>(b) The facility floor and bunding must have a permeability of less than <math>1 \times 10^{-9}</math> m/s and be graded or include a sump to allow recovery of liquid;</p> <p>(c) Must be chemically resistant to the substances stored;</p> <p>(d) Must include valves, pumps and meters associated with transfer operations or be adequately protected (e.g. bollards);</p> <p>(e) Must be controlled such that the capacity of the bund is maintained at all times (e.g. regular inspection and pumping of trapped uncontaminated rain water); and</p> <p>(f) Environmentally hazardous chemicals including, but not limited to, fuel, oil or other hydrocarbons (where the total volume of each substance stored on the premises exceeds 250 litres) must be stored within the facility.</p>	Workshop and servicing area as depicted on Figure 2
5.	Site security and fencing	<p>(a) A fence of at least 1.8 m high must be erected and maintained around the whole of the boundary of the premises; and</p> <p>(b) Entrance gates to the premises must be securely locked when the premises is unattended.</p>	N/A
6.	Signage	<p>(a) A sign at the entrance to the premises must be erected and maintained which clearly displays the following:</p> <ul style="list-style-type: none"> <li>(i) hours of operation;</li> <li>(ii) contact telephone number for information and complaints or notification of fires;</li> <li>(iii) a list of materials acceptable for recycling and the location of where they can be deposited on the premises;</li> <li>(iv) the types of waste that must not be deposited on the premises and a contact telephone number for alternative disposal options; and</li> <li>(v) a warning, indicating penalties for people lighting fires; and</li> </ul> <p>(b) Clear visible signage must be erected and maintained that specifies "No Asbestos" at the entry to the premises.</p>	N/A

Infrastructure and equipment		Operational requirement	Infrastructure location
7.	Monitoring bores	(a) Must be maintained free from blockages and in good working order to allow representative groundwater samples to be collected.	As depicted on Figure 4

## Waste processing and operations

9. The licence holder must ensure that the waste types specified in Table 3 are only subjected to the corresponding processes, subject to the corresponding process limits and/or specifications.

**Table 3: Waste processing requirements**

Waste type	Processes	Process limits and/or specifications
1.	Acceptance, handling and storage	(a) Must not contain any visible asbestos or ACM.
2.	Mechanical treatment via crushing and screening	(a) Must not contain any visible asbestos or ACM; and (b) Must be maintained in a damp state during mechanical treatment.
3.	Inert Waste Type 1  Disposal by landfilling	(a) Disposal by landfilling must only take place within the Inert Class 1 Landfill Area specified in Table 2; (b) Only inert building material shall be disposed via landfilling; (c) The landfill tipping face must be restricted to an area with a maximum linear length of 50 m; (d) Landfilled waste must be: (i) placed within a defined trench or within an area enclosed by earthen or other bunds; (ii) deposited and compacted in layers (benches) not exceeding a vertical height of 2 m; (iii) topped with at least 100 mm of sand or limestone aggregate to maintain a trafficable surface for each completed layer; and (iv) covered with a final soil cover layer of at least 1 m. (e) Waste material with the potential to become windblown or cause dust to cross the premises boundary must be covered at the end of each working day with a minimum 100 mm of Clean Fill or Uncontaminated Fill material.

Waste type		Processes	Process limits and/or specifications
4.	Acid Sulfate Soils (ASS)	Acceptance, handling, storage and treatment via neutralisation	(a) Must be stored and processed on the ASS Receipt Stockpile Area and Treatment Pad specified in Table 2 and according to the Acid Sulfate Soil Management Plan; (b) Un-neutralised acid sulfate soil must not be buried in any form of at the premises; and (c) Blending of un-neutralised acid sulfate soil with crushed limestone must only occur in the ASS Receipt Stockpile Area and Treatment Pad specified in Table 2; and (d) Must be neutralised in accordance with the DWER ASS Treatment Guideline.
5.		Reuse of neutralised ASS as rehabilitation and cover material	(a) Neutralised ASS must not be the main ingredient in the final cover and rehabilitation material; and (b) Final cover and rehabilitation material containing neutralised ASS must not be applied to a depth greater than 2 m.
6.	Green Waste	Acceptance, handling, storage and mechanical treatment via shredding, prior to disposal or re-use	(a) Unprocessed Green Waste must be stored in windrows that do not exceed the following maximum dimensions: (i) 60 m in length; (ii) 8 m in width; and (iii) 4.5 m in height; (b) Mulched Green Waste must be stored in windrows that do not exceed the following maximum dimensions: (i) 60 m in length; (ii) 8 m in width; and (iii) 3.5 m in height; and (c) Each mulched Green Waste windrow must be aerated on a monthly basis.

Waste type		Processes	Process limits and/or specifications
7.		Disposal via burning	<p>(a) Must be dry and seasoned for at least two months before burning;</p> <p>(b) Must be:</p> <ul style="list-style-type: none"> <li>(i) burnt in a dedicated area at least 25 m from any premises boundary, waste storage area or active fill area; and</li> <li>(ii) provided with an adequate water supply and distribution system to prevent fires from escaping beyond the area;</li> </ul> <p>(c) Must be burnt in windrows or trenches, in a manner that minimises the generation of smoke;</p> <p>(d) Must be burnt in restricted volumes that will completely burn during daylight hours;</p> <p>(e) Must be attended at all times until the fire is extinguished; and</p> <p>(f) The CEO must be advised by email at least 24 hours prior to burning commencing.</p>

#### Landfill cover

10. The licence holder must stockpile sufficient cover material to allow waste to be covered in accordance with Table 3 and to cover waste in the event of a fire.

#### Buffer distances

11. The licence holder must establish and maintain an internal buffer distance of 35 m between the boundary of the premises and any operations conducted on the premises.

#### Asbestos management (load inspection)

12. The licence holder must dampen all Classified Loads prior to unloading and maintain the waste in a damp state throughout the inspection process using appropriate dust suppression measures
13. The licence holder must:
- (a) visually inspect each 'low risk load' while the material is being unloaded, and continue to do so at all stages of the storage, sorting, and screening process, to determine whether any asbestos and/or ACM can be identified;
  - (b) where asbestos and/or ACM is suspected or identified in a 'low risk load', reclassify that load as a 'high risk load'; and
  - (c) visually inspect and handle each 'high risk load' in accordance with the procedure provided in Schedule 4: Post-acceptance inspection procedure.



### Asbestos management (stockpiles)

- 14.** The licence holder must ensure that:
- (a) materials on the premises are maintained in at least three separate stockpiles for unprocessed waste, products tested for asbestos or ACM, and products awaiting testing for asbestos or ACM;
  - (b) unprocessed waste and product stockpiles are kept clearly separated at a minimum 3 m distance from the base of the stockpile;
  - (c) products tested for asbestos or ACM and products awaiting testing for asbestos or ACM are clearly separated by a minimum 3 m distance from the base of the stockpile OR clearly delineated and separated with impermeable barriers; and
  - (d) clearly visible and legible signage is erected on individual stockpiles to clearly identify and delineate tested products, untested products, and unprocessed waste.

## Emissions and discharges

### Dust emissions

- 15.** The licence holder must:
- (a) take measures to prevent or minimise the generation of dust from all material handling operations, stockpiles, crushing and screening operations and transport activities, to ensure visible dust does not cross the premises boundary;
  - (b) ensure unsealed access roads are maintained in a damp state to prevent dust lift-off during operations; and
  - (c) employ routine maintenance and housekeeping practices to ensure that there is no accumulation of waste materials in or around the site which may lead to the generation of airborne dust.

### Windblown waste

- 16.** The licence holder must ensure that all wind-blown waste is contained within the boundaries of the premises.

### Fire related emissions

- 17.** The licence holder must not burn any non-green waste at the premises.

## Monitoring

### Ambient groundwater monitoring

18. The licence holder must monitor groundwater for concentrations of the identified parameters in accordance with Table 4.

**Table 4: Monitoring of ambient groundwater quality**

Monitoring location	Parameter	Unit	Frequency	Method
Bores: 1, 2 and 3 (as depicted on Figure 4)	Standing water level <sup>1</sup>	mAHD and mBGL	Six-monthly	AS 5667.1 and AS 5667.11
	pH <sup>1</sup>	-		
	Electrical conductivity <sup>1</sup>	µS/cm		
	Potassium	mg/L		
	Chloride			
	Bicarbonate			
	Carbonate			
	Sulfate			
	Total dissolved solids			
	Total ammonia			
	Total nitrogen			
	Total phosphorus			
	Aluminium			
	Arsenic			
	Cadmium			
	Chromium			
	Copper			
	Total iron			
	Lead			
	Manganese			
Mercury				
Nickel				
Zinc				

Note 1: In-field non-NATA accredited analysis permitted.

19. The licence holder must ensure that all monitoring pursuant to condition 18 is undertaken in June and December in each six-monthly period.
20. The licence holder must ensure that all sample analysis pursuant to condition 18 is undertaken by laboratories with current accreditation from the National Association of Testing Authorities for the relevant parameters, unless otherwise specified in Table 4.

### Asbestos management (verification testing)

21. The licence holder must ensure that testing of all finished products supplied for reuse is undertaken in accordance with the product testing procedures specified in Schedule 5: Asbestos monitoring and testing.
22. The licence holder must ensure that finished products supplied for reuse are only supplied to customers or reused on the premises if they have been tested in accordance with condition 21 and must not exceed the product specification of 0.001% asbestos weight for weight (w/w) for asbestos content (in any form) within any recycled products.

## Records and reporting

### Records (asbestos management)

23. The licence holder must maintain accurate and auditable records of all asbestos product testing undertaken in accordance with condition 21, including:
  - (a) details of the sample size;
  - (b) a statement of limit of detection of the analysis;
  - (c) results in relation to asbestos detected (positive result exceeding the 0.001% w/w limit) or not;
  - (d) a description of any asbestos detected; and
  - (e) an estimate of the concentration of asbestos detected.

### Records (general)

24. The licence holder must record the following information in relation to complaints received by the licence holder (whether received directly from a complainant or forwarded to them by the Department or another party) about any alleged emissions from the premises:
  - (a) the name and contact details of the complainant, (if provided);
  - (b) the time and date of the complaint;
  - (c) the complete details of the complaint and any other concerns or other issues raised; and
  - (d) the complete details and dates of any action taken by the licence holder to investigate or respond to any complaint.
25. The licence holder must maintain accurate and auditable books including the following records, information, reports, and data required by this licence:
  - (a) the calculation of fees payable in respect of this licence;
  - (b) any maintenance of infrastructure that is performed in the course of complying with condition 8 of this licence;
  - (c) monitoring programs undertaken in accordance with conditions 18 and 21 of this licence; and
  - (d) complaints received under condition 24 of this licence.

- 26.** The books specified under condition 25 must:
- (a) be legible;
  - (b) if amended, be amended in such a way that the original version(s) and any subsequent amendments remain legible and are capable of retrieval;
  - (c) be retained by the licence holder for the duration of the licence; and
  - (d) be available to be produced to an inspector or the CEO as required.

### Reporting

- 27.** The licence holder must:
- (a) undertake an audit of their compliance with the conditions of this licence during the preceding annual period; and
  - (b) prepare and submit to the CEO by 31 May in each year an Annual Audit Compliance Report in the approved form.
- 28.** The licence holder must submit to the CEO by no later than 31 May 2024 and then biennially thereafter, an Environmental Report for the previous two annual periods (or part thereof) for the conditions in Table 5 and which provides information in accordance with the corresponding requirement set out in Table 5.

**Table 5: Environmental Report requirements**

Condition	Requirement
-	<p>General environmental management information such as:</p> <ul style="list-style-type: none"> <li>(a) Measures taken to control pests and vermin;</li> <li>(b) Number and severity of any fires on site;</li> <li>(c) Measures taken to suppress dust;</li> <li>(d) Measures taken to control wind-blown waste;</li> <li>(e) Average compaction rates; and</li> <li>(f) Any changes to site boundaries.</li> </ul>
18	<p>Ambient Groundwater Monitoring for the annual period including;</p> <ul style="list-style-type: none"> <li>(a) a tabulated summary of results, as well as all raw data provided in an accompanying Microsoft Excel spreadsheet digital document/file (or a compatible equivalent digital document/file);</li> <li>(b) an interpretive summary and assessment of results against previous monitoring results;</li> <li>(c) an interpretive summary and assessment of the results against relevant assessment levels for water, as published in the Guideline: Assessment and management of contaminated sites; and</li> <li>(d) the corresponding laboratory certificates of analysis.</li> </ul>
1 and 9	<p>Details of the monitoring program stated in the Acid Sulphate Soils Management Plan.</p>

## Definitions

In this licence, the terms in Table 6 have the meanings defined.

**Table 6: Definitions**

Term	Definition
Acid Sulfate Soil Management Plan	means the report titled <i>Acid Sulphate Soil Management Plan: Northsands Resources Acid Sulfate Soil Neutralisation Operations Lot 6 Wesco Road Nowergup, WA</i> dated November 2011 and authored by Faron Mengler
ACN	Australian Company Number
Annual Audit Compliance Report (AACR)	means a report submitted in a format approved by the CEO (relevant guidelines and templates may be available on the Department's website).
annual period	a 12 month period commencing from 28 April until 27 April of the immediately following year.
Asbestos Guidelines	means the <i>Guideline: Managing asbestos at construction and demolition waste recycling facilities</i> published on the department's website and as amended from time to time
CEO	means Chief Executive Officer of the Department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 Joondalup DC WA 6919 or: <a href="mailto:info@dwer.wa.gov.au">info@dwer.wa.gov.au</a>
clean fill	as defined in the <i>Landfill Waste Classification and Waste Definitions 1996</i> as amended from time to time.
condition	means a condition to which this Licence is subject under s.62 of the EP Act
contaminant concentrations less than Class I landfill acceptance criteria	means that the concentrations of the contaminants in the material is less than the concentration listed in either Table 4 or Table 5 of the <i>Landfill Waste Classification and Waste Definitions 1996</i> as amended from time to time.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994 (WA)</i> and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
DWER	means Department of Water and Environmental Regulation
DWER ASS Treatment Guideline	Means the <i>Guideline: Treatment and management of soil and water in acid sulfate soil landscapes</i> published on the department's website and as amended from time to time
EP Act	<i>Environmental Protection Act 1986 (WA)</i>

Term	Definition
EP Regulations	Environmental Protection Regulations 1987 (WA)
Landfill Waste Classification and Waste Definitions 1996	refers to the document issued by the Chief Executive Officer of the Department of Environment, dated July 2005 and as amended from time to time.
licence	refers to this document, which evidences the grant of a licence by the CEO under section 57 of the EP Act, subject to the specified conditions contained within.
licence holder	refers to the occupier of the premises, being the person specified on the front of the licence as the person to whom this licence has been granted.
premises	refers to the premises to which this licence applies, as specified at the front of this licence and as shown on the premises map (Figure 1) in Schedule 1 to this licence.
Type 1 – Inert Waste	means Inert Waste Type 1 as defined in the <i>Landfill Waste Classification and Waste Definitions 1996</i> as amended from time to time.

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**END OF CONDITIONS**

## Schedule 1: Maps

### Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1).



**Figure 1: Map of the boundary of the prescribed premises**



Figure 2: Premises site plan



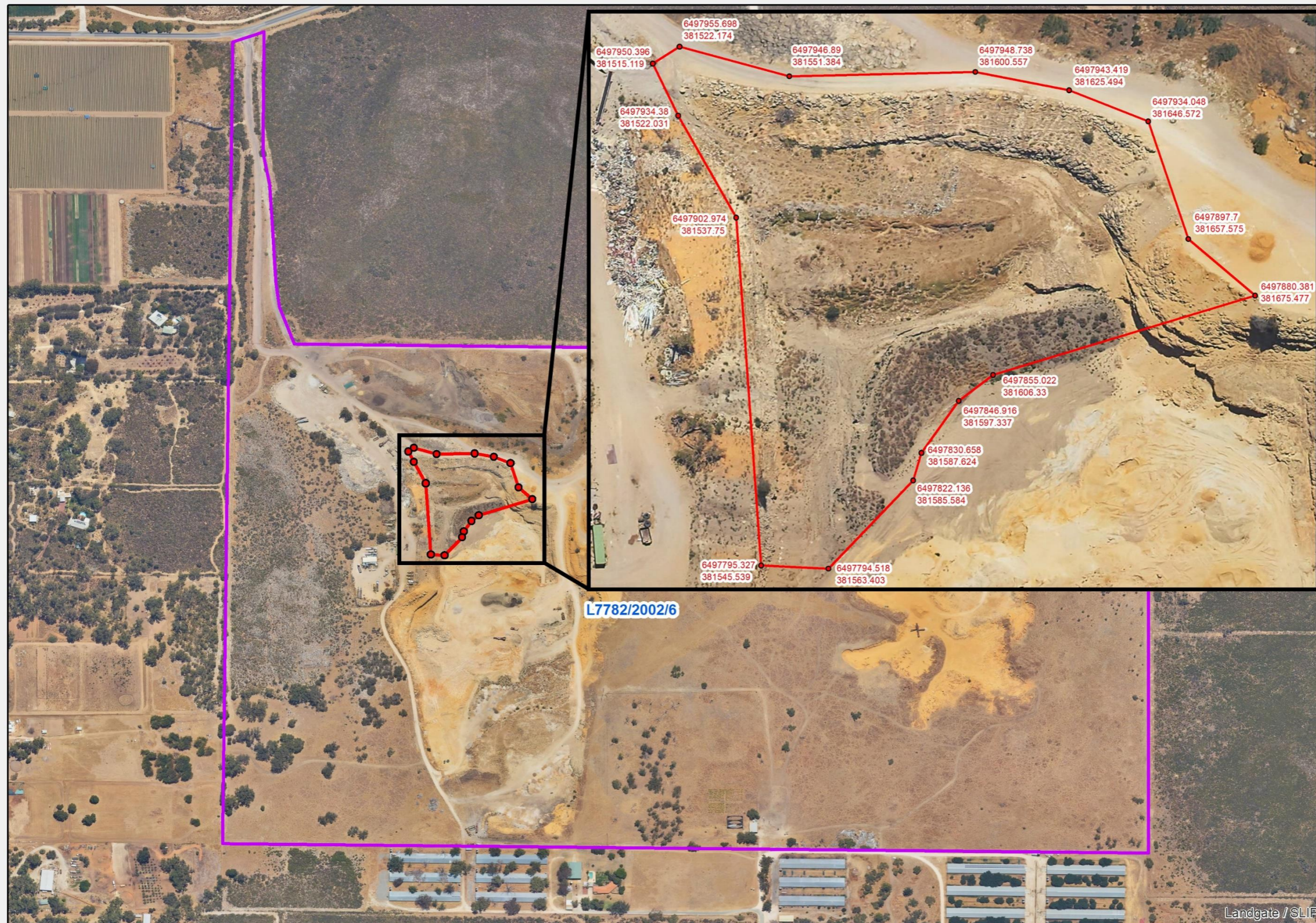


Figure 3: Inert Class I landfill area

L7782/2002/6



Figure 4: Monitoring bore locations

## Schedule 2: Defined Areas

### Premises boundary

The vertices of the premises boundary are the coordinates listed in Table 7.

**Table 7: Premises boundary coordinates (GDA2020 MGA Zone 50)**

Point	Easting	Northing
1.	381321.938	6498580.926
2.	381322.361	6498398.437
3.	381331.300	6498350.948
4.	381335.458	6498289.087
5.	381341.421	6498202.833
6.	381346.168	6498165.929
7.	381366.134	6498110.719
8.	381708.052	6498110.188
9.	381970.231	6498110.114
10.	381988.957	6498061.696
11.	382058.884	6497972.235
12.	382071.169	6497960.619
13.	382153.416	6497893.630
14.	382324.304	6497828.409
15.	382471.207	6497769.523
16.	382475.954	6497356.459
17.	381282.169	6497357.109
18.	381281.675	6498564.769

## Landfill area

The vertices of the landfill area are the coordinates listed in Table 8.

**Table 8: Landfill area coordinates (GDA2020 MGA Zone 50)**

Point	Easting	Northing
1.	381551.384	6497946.890
2.	381600.557	6497948.738
3.	381625.494	6497943.419
4.	381646.572	6497934.048
5.	381657.575	6497897.700
6.	381675.477	6497880.381
7.	381606.330	6497855.022
8.	381597.337	6497846.916
9.	381587.624	6497830.658
10.	381585.584	6497822.136
11.	381563.403	6497794.518
12.	381545.539	6497795.327
13.	381537.750	6497902.974
14.	381522.031	6497934.380
15.	381515.119	6497950.396
16.	381522.174	6497955.698

## Schedule 3: Asbestos risk classification procedure

### 3.3 Acceptance procedures

When waste arrives at the recycling facility, acceptance procedures must serve to confirm the characteristics of the waste are consistent with the waste types permitted by the Part V licence, and determine the risk of the load containing asbestos.

To follow on from the pre-acceptance procedures, all persons bringing waste onto the premises must be asked to sign a declaration or provide a 'customer warranty' on a vehicle load-specific basis confirming their load is free from asbestos. The associated documentation should be retained on the premises and be available for the department to inspect. Where an individual is not prepared to sign this disclaimer or provide such a warranty, the load shall be refused entry.

All loads must be visually inspected when they arrive at the recycling site. Where the inspection identifies the wastes are not permitted by the licence and/or asbestos is visually identified in the load, it shall be rejected for acceptance. A record of all rejected loads must be maintained on the premises and be available for the department to inspect. As a minimum, a record must be made of the waste producer, waste carrier, registration number of the vehicle and the date of rejection.

The risk of a load containing asbestos is related to the type and source of the waste. In general, buildings and structures constructed after 1990 are unlikely to have ACM within them, whereas buildings and structures constructed before this date may have been built using ACM.

Because large buildings and structures undergo regulated asbestos removal programs and inspections before they are demolished, the probability of asbestos being present in the demolition debris should be low. However, a risk of contamination can remain from asbestos formwork embedded or attached to concrete columns that cannot be readily identified through the asbestos clearance certification process, and from asbestos piping from reclaimed road, car park areas and water supply systems.

It is also common for mixed waste from unknown sources, particularly those in skip bins or from small-scale demolition or refurbishment activities, to contain amounts of asbestos waste. These sources must be considered high risk.

To determine the risk of an incoming load containing asbestos the gatehouse operator shall establish:

- the source of the load, including the site location and, if possible, the age of any building or structure from which the C&D waste originated
- the content/waste types within the load
- the type of load.

Where the source of the load can clearly be determined to be a building or structure constructed after 1990 then the load can be considered to represent a low risk of asbestos contamination and managed as outlined in the following section. Where the waste originates from a building constructed before 1990 or there is uncertainty over this issue, the risks associated with asbestos in the load must be established in line with the Risk Classification Matrix below.

Once classified, each load must be directed to the appropriate area for unloading and further inspection in line with the following sections.

<b>Risk Classification Matrix</b>			
	<b>Type of load</b>		
<b>Material type</b>	<b>Commercial</b>	<b>Public, utes, cars and trailers*</b>	<b>Skip bins</b>
<b>Clean concrete (without formwork)</b>	Low	High	High
<b>Clean brick</b>	Low	High	High
<b>Clean bitumen/ asphalt</b>	Low	High	High
<b>Mixed construction waste</b>	High	High	High
<b>Mixed demolition waste</b>	High	High	High

\* 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 (Risk Matrix Classification adapted from WorkSafe Victoria 2006 and WMAA 2009).

## Schedule 4: Post-acceptance inspection procedure

Each accepted and classified load shall be directed to an unloading area at the site, which is appropriately designed and constructed to ensure the waste will not mix with other waste. Where feasible, separate unloading areas shall be provided for low-risk and high-risk wastes.

All loads shall be dampened before unloading and maintained in a dampened state throughout the inspection process. Operators will need to ensure there are adequate facilities on the premises to achieve this.

### 3.4.1 Low-risk load procedure

Loads classified as 'low risk' must be visually inspected while the material is being unloaded to determine whether any asbestos can be identified.

If suspect fibrous asbestos (FA) or asbestos fines/fibres (AF) are detected, the load must be isolated, kept wet and once appropriately contained in accordance with the Asbestos factsheet in Appendix A, redirected to an appropriately authorised disposal facility. If suspect ACM is identified, the load must be reclassified as 'high risk' and be processed in accordance with the high-risk procedure below. Where the visual inspection confirms that the load is clear of suspect ACM, FA and AF, the load may then be added to the waste stockpiles awaiting further processing (e.g. crushing and screening).

### 3.4.2 High-risk load procedure

Loads classified as 'high risk' must be unloaded and spread over a sufficiently large area to enable a comprehensive visual inspection of all sides of the material. One method of achieving this is to spread the material to a depth of less than 30 cm and to turn over the 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.

If suspect FA or AF are detected, the load must be isolated and kept wet. Once appropriately contained in accordance with the Asbestos factsheet in Appendix A, it should be redirected to an appropriately authorised disposal facility.

Where suspect ACM is identified within a load and is not capable of being easily removed by hand, the load must be rejected and should be isolated and kept wet. Once appropriately contained in accordance with the Asbestos factsheet in Appendix A, it should be redirected to an appropriately authorised disposal facility.

Where suspected ACM fragments capable of being easily removed by hand are identified in a load, the suspect ACM must be removed from the load and either:

1. appropriately isolated and covered for asbestos testing. If testing of representative samples confirms the material is ACM it must be redirected to an appropriately authorised disposal facility. If testing confirms the material is not ACM the waste can be added to the stockpile awaiting further processing; or

2. assumed to be ACM and redirected to an appropriately authorised disposal facility.

All suspected or assumed ACM must be segregated. Material must be clearly labelled, kept secure and sufficiently contained to prevent the release of asbestos, including wind-blown fibres.

Once all suspected or assumed ACM has been removed from a load in line with the above procedure the residual waste can be added to the stockpile awaiting further processing.

Records must be kept to ensure the process from receipt of C&D material to the completion of the unloading procedure is auditable and that any loads found to contain suspect asbestos can be traced back to the customer and originating site. Through Part V licence conditions, the department will require records to be submitted on a regular basis detailing loads found to contain asbestos and action taken by the C&D recycler to address this issue with the customer. The department will take follow-up action with customers delivering asbestos-containing waste to the premises as necessary.



## Schedule 5: Asbestos monitoring and testing

To ensure recycled products have been produced to the required specification in relation to asbestos content it is necessary for product testing to be undertaken. The testing procedures detailed in this section have application for the three main recycled products:

1. Recycled drainage rock 20–27 mm.
2. Recycled sand, screened to <10 mm.
3. Recycled road base, <19 mm.

The testing must be documented as outlined under section 5.3.

### 4.3.1 Product specification

To ensure the health of those using or coming into contact with recycled C&D products is protected, the asbestos content (in any form) of any recycled products must not exceed 0.001 per cent asbestos weight for weight (w/w).

### 4.3.2 Inspection and sampling requirements

All types of recycled product must be inspected and/or sampled and tested for ACM, FA and AF, as outlined below. Inspections and sampling may be undertaken by staff employed by the licensee as long as they have received the required asbestos training for operational staff set out in section 5.2.

ACM and FA are subject to visual inspection and sampling procedures since they are larger in size (>7 mm). AF (<7 mm) is assessed by submitting samples for laboratory analysis.

Recycled products may be sampled from conveyors or stockpiles. Whichever approach is adopted, the operator will need to ensure they have appropriate systems in place to allow them to identify where in the product stockpiles each sample is from to allow further testing or separation to occur if required.

### 4.3.3 Stockpile inspection and sampling

In the case of recycled drainage rock and recycled road base, a visual inspection should be undertaken in a systematic grid fashion over any new stockpile to identify any suspect asbestos material.

No sampling is required for recycled drainage rock, other than to determine by laboratory analysis if necessary whether a suspect fragment is asbestos.

For recycled road base and screened sand, sampling is necessary and must be spread evenly over the whole stockpile surface, or samples may be taken at regular intervals (as per conveyor sampling) during construction of the stockpile. Suspect asbestos material or areas must be targeted for sampling.

Sampling of road base and screened sand products must occur at a minimum rate of 40 locations per 4000 tonnes, or 14 samples per 1000 m<sup>3</sup> of product.

#### **4.3.4 Conveyor sampling**

Sampling of road base and screened sand products must occur at a minimum rate of one sample per 70 m<sup>3</sup> of a product output. Suspect asbestos material or areas must be targeted for sampling.

#### **4.3.5 Sample treatment**

Each sample collected must be at least 10 litres in volume and then be divided into two size fractions (>7 mm and <7 mm) in the field by sieving through a 7 mm screen or spread out for inspection on a contrasting colour fabric. The >7 mm fraction should be examined for any suspect asbestos material and this be retained to calculate the level of contamination.

The <7 mm fraction will need to be a minimum 500 ml, be wetted, and submitted for laboratory analysis. This sample size is considered necessary to improve the limit of detection for asbestos in the analysis procedure.

#### **4.3.6 Reduced sampling criteria**

Once premises have demonstrated their procedures are able to consistently produce recycled product that meets the product specification and that they undertake their activities to a high standard, the department may authorise a reduced product testing rate, including down to five locations per 4000 tonnes (one sample per 600 m<sup>3</sup>) of product.

The criteria that the department will use to consider and determine a reduction in product sampling frequency are:

1. activities at the premises have been validated through an inspection or audit to comply with these guidelines
2. the department has confirmed through an inspection or audit that the conditions of the Part V licence are being met
3. the department has not undertaken any enforcement action in relation to the activities at the premises in the past six months
4. product testing has demonstrated that the product specification has been consistently achieved at the premises for a continuous six-month period
5. the presence of mitigating factors such as best practice management measures, high control of source material or use of the product for low-risk purposes
6. the quantity of waste processed in the past six months and the different sources/types of material processed at the premises
7. DoH has agreed to the reduction in product sampling rate at the premises.

All requests for a reduced product sampling rate must be submitted in writing to the relevant industry regulation regional leader for the premises, details of which can be found in the interpretation section of the Part V licence for the premises.

The department will refer all requests to the DoH and operators must ensure that all requests include sufficient evidence, particularly in relation to product testing, to support compliance with the above criteria.

Proponents should note, however, that despite a premises meeting the above reduced sampling criteria, there may be occasions where a reduced sampling rate is not approved by the department. This may occur, for example, where the site is close to sensitive receptors, is contentious and/or there is a need to provide public confidence in the activities at the site.

Where a reduced sampling rate is approved at a premises, the department will provide written notification of the approval and will continue to closely monitor that premises to ensure it remains compliant with the reduced sampling criteria. The department's monitoring of the premises will be further supported by the annual process audits required by section 5.1 and the results of the product sampling.

The department will withdraw the approval to implement a reduced sampling frequency where the reduced sampling criteria are not being met on an ongoing basis. Where the department withdraws approval for a reduced sampling frequency, proponents will be provided with the reasons for the withdrawal.

In the event that approval for a reduced sampling rate is withdrawn by the department, proponents will be required to make a new reduced sampling frequency request and demonstrate that:

1. they have implemented appropriate measures to prevent a reoccurrence of the non-compliance that caused the previous agreement for a reduced sampling frequency to be withdrawn
2. the product specification (sampled at the 40 samples per 4000 tonnes rate) has been consistently met for a six-month period following the implementation of the measures identified in 1. above.

#### **4.3.7 Sample analysis method**

##### *>7 mm sample fractions*

Asbestos concentrations (ACM and FA) should be calculated in accordance with the methods detailed in section 4.1.7 of DOH's [Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia](#). (May 2009). As detailed in the DoH guidelines, averaging asbestos levels across the stockpile is not appropriate and asbestos levels within each sample should be reported.

##### *< 7 mm sample fractions*

Each <7 mm sample fraction must be analysed for FA and AF.

Asbestos analysis must be undertaken by an independent NATA-certified laboratory and comply with [Australian Standard Method for the Qualitative Identification of asbestos in bulk samples](#) (AS 4964–2004) or be demonstrated to be able to achieve the equivalent level of results to this Australian Standard.

AS 4964-2004 is currently the only method in Australia that has NATA certification; however, the practicable level of detection for this standard polarised light microscopy method (PLM) and dispersion staining (DS) is 0.01% w/w. It is possible, however, to measure asbestos contamination at or lower than 0.001% w/w where an increased sample size is used; however, the department recognises that any reporting of concentrations below 0.01% w/w will be outside the conditions set by NATA.

Therefore, to determine whether recycled products meet the product specification for asbestos content, samples must be a minimum of 500 ml in size. Proponents must adopt one of the following analytical approaches:

1. Detected/non-detected – where any quantity of asbestos is detected by the PLM method it must be assumed, without further analysis, to be in concentrations above the product specification limit of 0.001% w/w. A weight-of-evidence approach may be adopted, i.e. the frequency and occurrence of other positive results in the stockpile can be taken into account, to determine whether the stockpile being assessed is considered to meet the product specification or not; or
2. Where any quantity of asbestos is detected by the PLM method, the sample is subject to further testing in the form of a semi-quantitative method with a lower level of detection for asbestos. A number of laboratories have developed such semi-quantitative methods for the analysis of low levels of asbestos. Techniques include:
  - the extraction and weighing of fibre bundles or fibre cement material from the total sample
  - measuring the width and length (i.e. volume) of individual fibre by Phase Contrast Microscopy (PCM) and calculating the weight of fibres in the extracted sub-sample.

The use of either of these methods is considered acceptable to the department.

Whatever analysis methods are adopted by an operator, the department expects a number of assessment-based statements to be included in all laboratory analytical reports. These include:

- details of the sample size
- a statement of limit of detection of the analysis
- results in relation to asbestos detected or not – note that AS 4964-2004 allows for a nil detection if the asbestos is less than a certain concentration and is non-respirable; however, the department would consider a positive result to exceed the 0.001% w/w limit
- a description of any asbestos detected
- an estimate of the concentration of asbestos detected if practical to do so.

#### **4.3.8 Interpreting inspection and sampling results**

If the visual inspection, sieve sample or analytical results identify asbestos above or possibly above the 0.001% w/w criteria then that stockpile or product process should be deemed potentially contaminated and considered for off-site disposal as asbestos waste, or subject to further actions to remediate it or to demonstrate its acceptability by further assessment. A record should be made of the decision-making and action taken (e.g. off-site disposal, further assessment undertaken etc) in relation to that stockpile.

In addition to the above, where asbestos is identified above or possibly above the 0.001% w/w criteria, an investigation into the likely cause for the presence of asbestos in the product should be undertaken and measures implemented to prevent a reoccurrence. A record of the investigation and its findings, together with the details of any preventative measures implemented at the site, should be made.

As a guide, in the case of recycled drainage rock, identification of a piece of ACM or FA per 10 m<sup>2</sup> of surface would be deemed to exceed the specification for that area, and for the whole stockpile if repeated in two or more other separate areas. A single fragment exceedance can be considered an isolated occurrence in the absence of other contamination evidence and the stockpile allowed for beneficial use. If there is multiple contamination only of a localised area then that area can be excavated to the extent of any visible asbestos and then the remainder of the stockpile considered to be suitable for use.

For laboratory analysis it is important that each result be considered on its own merits in regard to the asbestos control specification and that there is no averaging across samples. In the case of a single exceedance at a level less than 0.01% w/w, the stockpile (nominally 4000 tonnes) may not be deemed contaminated if repeat samples of immediately adjacent areas do not demonstrate specification exceedances.

The same approach as indicated in the preceding paragraph can be applied to the results of the >7 mm sieve sampling in regard to recycled sand material and road base. In this case a 1 cm<sup>3</sup> fragment of ACM or FA would be deemed to exceed the specification for a 10-litre sample.

It should be noted that specification exceedances in regard to different assessment methods for the same type of stockpile should not be viewed in isolation from each other.

#### **4.3.9 Product supply**

Recycled products should only be supplied to customers from stockpiles that have been sampled and tested in accordance with section 4.3 and shown to conform to the product specification.