Licence

Licence number	L9006/2016/2
Licence holder	Marshall Exports Pty Ltd
ACN	008 768 821
Registered business address	Unit 2/7 Augusta Street WILLETON WA 6155
DWER file number	DER2016/001909
Duration	09/04/2022 to 08/04/2023
Date of issue	15/03/2022
Premises details	Temporary Soil Processing Plant 63 Alex Wood Drive FORRESTDALE WA 6112 Part Lot 9550 on Plan 63654 As defined by the coordinates in Schedule 1

Prescribed premises category description (Schedule 1, ***Environmental Protection Regulations 1987***)	**Assessed production capacity**
Category *13: Crushing of building material: premises on which waste building or demolition material (for example, bricks, stones or concrete) is crushed or cleaned.*	*100,000 tonnes per annual period*
Category *61A: Solid waste facility: premises (other than premises within Category 67A) on which solid waste produced on other premises is stored, reprocessed, treated, or discharged onto lands.*	*150,000 tonnes per annual period*

This licence is granted to the licence holder, subject to the attached conditions, on 15 March 2022, by:

Jarrod Abrahams
Digitally signed by Jarrod Abrahams
Date: 2022.03.15 09:46:00 +08'00'

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
18/05/2017	*L9006/2016/1*	*Licence granted.*
22/12/2017	*L9006/2016/1*	*Licence amendment to redefine Premises Boundary and extend licence duration*
22/11/2018	*L9006/2016/1*	*Written approval to reduce the sampling frequency of recycling materials at the Temporary Soil Processing Plant*
02/04/2020	*L9006/2016/1*	*Extension to expiry date and minor boundary alterations*
29/05/2020	L9006/2016/1	Licence amendment to extend expiry date
15/03/2022	L9006/2016/2	This Licence renewal to extend expiry date from 8 April 2022 to 8 April 2023, and include reference to an additional impact crusher deployed at the premises.

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 means the version of the standard, guideline, or code of practice in force at the time of granting of this licence and includes any amendments to the standard, guideline or code of practice which may occur from time to time during the course of the licence;

(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 and Processing

1. The licence holder shall only accept waste onto the premises if:

(a) It is of a type listed in Table 1;

(b) The quantity accepted is below any quantity limit listed in Table 1; and

(c) It meets any specification listed in Table 1.

Table 1: Waste acceptance

Waste	Quantity limit	Specification
Clean fill	Combined total of 150,000 tonnes per annual period accepted under Category 61A	None
Inert Waste Type 1		• Residential, construction and demolition, commercial and industrial waste only • Waste containing visible asbestos or ACM shall not be accepted
Inert Waste Type 2		• Restricted to plastics only
Putrescible Waste		• Green waste, timber, pallets, and cardboard only • Excludes putrescible waste from municipal collections

2. The licence holder shall ensure that where waste does not meet the waste acceptance criteria set out in condition 1 it is removed from the premises by the delivery vehicle, or where that is not possible, stored in a Quarantined Storage Area or Container and removed to an appropriately authorised facility within fourteen (14) days of receipt.

3. The licence holder shall ensure that any waste that does not conform to the waste acceptance criteria in Table 1 due to asbestos content is covered or bagged, and kept within a clearly identified, labelled, segregated and secure container prior to being removed offsite to an appropriately authorised facility with 48 hours of receipt.

4. The licence holder shall ensure that wastes accepted onto the premises are only subjected to the processes set out in Table 2 and in accordance with any process limits described in that Table.

Table 2: Waste processing

Waste	Process	Process limits
Clean fill	Acceptance and storage prior to use in land remediation	• Stockpiles must not exceed 5m in height from the base of the stockpile • All loads to be wet down prior to unloading

Waste	Process	Process limits
Inert Waste Type 1	Acceptance and storage prior to crushing and screening and removal offsite	• Stockpiles must not exceed 5m in height from the base of the stockpile • All loads to be wet down prior to unloading • Crushing is restricted to construction and demolition waste
Inert Waste Type 2	Acceptance and storage prior to removal offsite	• Tyres shall not be accepted onsite • Plastic shall not be landfilled (buried) or burnt onsite
Putrescible Waste	Acceptance and storage prior to removal offsite	• No waste material to be landfilled (buried) onsite • Greenwaste shall be stored in dedicated storage areas. Stockpile dimensions shall be maintained to a height of no greater than 3m and to a width no greater that 5m. A minimum 3m separation distance between the bases of the storage areas shall be maintained. • Greenwaste shall not be processed or shredded on the premises • A 5m firebreak must be maintained around the greenwaste storage area at all times • Greenwaste shall be removed within 7 days of being received onsite

Infrastructure and equipment

5. The licence holder shall ensure that the infrastructure or equipment specified in Table 3 is installed and operated in accordance with the specifications in that Table.

Table 3: Infrastructure and equipment specifications

Infrastructure and equipment	Specification
Telex J1175 Jaw crusher	Fitted with a dust suppression system that will operate at a rate of 13.5L per minute at 45 psi
Impact crusher	Fitted with a dust suppression system to minimise dust emissions
Striker SC16 Scalping screen	Fitted with a dust suppression system that will operate at a rate of 13.5L per minute at 45 psi
Waste stockpiles	Must only be sprayed with water
Sprinkler system	Onsite fixed sprinkler system to be maintained and used to suppress dust as needed
Street-sweeper truck	The licence holder shall deploy a street-sweeping truck to clean the sections of roadway impacted by the premises at least once per fortnight. This includes, but is not limited to, the Public Access Easement LAA 195/196(9550-E) N795057 which connects the eastern and western portions of Lot 9550 on plan 63654, as well as the portions of Alex Wood Drive, Armadale Road and Hensbrook Loop as depicted in Schedule 1 (Figure 3).

Dust and asbestos management

6. The licence holder must advise all source material providers that asbestos or potentially asbestos contaminated material is not accepted at the premises.

7. The licence holder must include a “no asbestos” clause in all contracts with material sources.

8. The licence holder must maintain a clearly visible sign saying “no asbestos” at the entry to the premises.

9. The licence holder must only accept waste onto the premises for storage, sorting or crushing that is Inert Waste type 1 with a signed declaration from the supplier of the source material with each delivery that states that the load does not contain any asbestos or ACM.

10. The licence holder must visually inspect all loads of material when they arrive at the premises prior to unloading and during unloading to determine the risk of a load containing Asbestos or ACM and each load shall be classified in accordance with the Risk Classification Procedure outlined in Schedule 2 (Classified Load).

11. Where the inspection confirms that material does contain asbestos or ACM, the licence holder must:

    (a) Reject the waste material for acceptance;

    (b) Maintain accurate records of all rejected loads on the premises, and the documentation must be made available to department officers upon request; and

    (c) Record the details of the material source, material carrier, registration number of the vehicle and date of rejection.

12. The licence holder must maintain high risk Classified Loads in a damp state using appropriate dust suppression measures.

13. The licence holder must ensure that suspected high risk Classified Loads are isolated, kept damp and appropriately contained.

14. The licence holder must ensure that suspected high risk Classified Loads continue to be managed in accordance with the High-Risk Load Procedure as outlined in Schedule 2.

15. The licence holder must, as a minimum, maintain records of all accepted load inspection and of any loads which have been determined as high risk Classified Loads.

16. The licence holder must continue to visually inspect material on the premises at all stages of the storage and sorting process. Suspected asbestos identified at any stage of the process must be handled in accordance with condition 13 of this licence.

17. The licence / works approval 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; and

    (b) unprocessed waste and product stockpiles are kept clearly separated at a minimum three (3) metre 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 three (3) metre distance from the base of the stockpile; and

(d) clearly visible and legible signage is erected on individual stockpiles to clearly identify and delineate tested products, untested products, and unprocessed waste.

18. The licence holder must ensure that:
a) all stockpiles referred to in condition 17; and
b) all unsealed access roads;
are maintained in a damp state to prevent dust lift-off.

19. The licence holder shall ensure that dust emitted from the premises does not unreasonably interfere with the health, welfare, convenience, comfort, or amenity of any person who is not on the premises.

Product testing

20. The licence holder must ensure that testing of all products is undertaken in accordance with the Product Testing Procedures as outlined in Schedule 2.

21. The licence holder must ensure that products are only supplied to customers if they have been tested in accordance with condition 20 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.

22. The licence holder must ensure that any products that do not conform to the product specification of 0.001% Asbestos weight for weight (w/w) for asbestos content (in any form) are, within 7 days of confirmation of product specification non-conformance, disposed of to an appropriately licenced waste disposal facility.

23. The licence holder must maintain accurate and auditable records of all product testing undertaken in accordance with condition 20. These records must include:

(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) description of any asbestos detected; and

(e) estimate of the concentration of asbestos detected.

24. The records maintained in accordance with condition 23 must be kept for at least two years and must be made available to the department and customers on request.

25. The licence holder is authorised to implement a reduced product testing rate as per the “Reduced sampling criteria” section of the departments Asbestos Guidelines (2021).

Other management controls

26. The licence holder shall take all responsible and practicable measures to ensure that no windblown waste escapes from the premises, and that windblown waste is collected on at least a weekly basis and appropriately contained.

27. The licence holder shall ensure that no waste is burnt on the premises.

28. The licence holder shall implement control measures to prevent infestations of pests, flies, and vermin at the premises.

29. The licence holder must ensure that refueling is undertaken in a bunded, hardstand area.

30. The licence holder must:

(a) Erect and maintain suitable fencing to prevent unauthorised access to the premises; and

(b) Ensure that any entrance gates to the premises are securely locked when the premises is unattended.

31. The licence holder must ensure that operations at the premises only occur between the hours of 07:00 to 19:00, and on the days Monday through to Saturday (excluding public holidays).

Monitoring

32. The licence holder shall undertake the monitoring in Table 4 according to the specifications in that Table.

Table 4: Monitoring of inputs and outputs

Input/Output	Parameter	Units	Frequency
Waste inputs	Clean fill, Inert Waste Type 1, Putrescible Waste (greenwaste, timber and cardboard)	m^3	Each load arriving at the premises
Waste outputs	Waste type as defined in the Landfill Definitions	m^3	Each load leaving or rejected from the premises

Noise validation

33. Within 28 days of the commencement date of this licence, the licence holder must retain the services of a person qualified and experienced in the area of environmental noise assessment and who by their qualifications and experience is eligible to hold membership of the Australian Acoustical Society or the Australian Association of Acoustical Consultants to:

(a) investigate the nature and extent of noise emissions from the premises;

(b) assess in accordance with the methodology required in the *Environmental Protection (Noise) Regulations 1997,* the compliance of the noise emissions from the primary activities, against the relevant assigned levels specified in those Regulations; and

(c) compile and submit to the licence holder within 3 months of the commencement date of this licence (or before a specific date) a report in accordance with condition 34

34. The report prepared pursuant to condition 33(c) is to include:

(a) a description of the methods used for monitoring and/or modelling of noise emissions from the premises;

(b) details and the results of the investigation undertaken pursuant to condition 33(b);

(c) details and results of the assessment of the noise emissions from the premises, against the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997* undertaken pursuant to condition 33(b); and

(d) an assessment of noise levels against the most recent previous noise assessment.

35. The licence holder must submit to the CEO the report prepared pursuant to condition 33(c) within 14 days of receiving it.

36. Where an assessment pursuant to condition 33(b) indicates that noise emissions do not comply with the relevant assigned levels in the *Environmental Protection (Noise) Regulations 1997*, the license holder must:

(a) within 60 days of receiving an assessment report pursuant to condition 33(c)

(b) prepare a plan to ensure the undertaking of the licensed activity will no longer lead to any contravention of the *Environmental Protection (Noise) Regulations 1997;* and

(c) provide to the CEO a copy of the plan prepared pursuant to condition 36(a) within 30 days of its preparation.

Records and reporting

37. The licence holder must maintain accurate and auditable books that include 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 5 of this licence;

(c) monitoring programmes undertaken in accordance with conditions 20 and 32 of this licence; and

(d) complaints received under condition 39 of this licence.

38. The books specified under condition 37 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.

39. 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.

40. The licence holder must submit to the CEO by no later than 90 days after the end of each annual period, an Annual Environmental Report for that annual period for the conditions listed in Table 5 and which provides information in accordance with the corresponding requirement set out in Table 5.

Table 5: Annual Environmental Report

Condition or Table (if relevant)	Requirement
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken[1]
20-23	Summary of product testing results
32	Monitoring of inputs and outputs
39	Complaints summary

[1]Notification requirements in the licence shall not negate the requirement to comply with s72 of the EP Act. Reporting forms may be accessed at www.dwer.wa.gov.au

41. The licence holder shall report all breaches of any limit specified in the licence within 48 hours of the breach occurring via the department's Online Pollution Reporting Form.

42. 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 no later than 90 days after the end of that annual period an Annual Audit Compliance Report in the approved form.

Definitions

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

Table 6: Definitions

Term	Definition
ACM	means asbestos containing material
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	means the inclusive period from 1 January until 31 December;.
asbestos	has the meaning defined in the document-means the asbestiform variety of mineral silicates belonging to the serpentine or amphibole groups of rock-forming minerals and includes actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite and any mixture containing 2 or more of those
Asbestos Guidelines (2021)	Department of Water and Environmental Regulation 2021, *Guideline – Managing asbestos at construction and demolition waste recycling facilities*, Government of Western Australia
books	has the same meaning given to that term under the EP Act.
CEO	means Chief Executive Officer of the department. "submit to / notify the CEO" (or similar), means either: Director General Department administering the *Environmental Protection Act 1986* Locked Bag 10 Joondalup DC WA 6919 or: info@dwer.wa.gov.au
classified load	means a load of waste classified during acceptance/post-acceptance based on the risk of waste containing Asbestos or ACM, and through visual inspection. Classification of wastes loads shall be undertaken in accordance with the provisions outlined in Section 3.3 and 3.4 of the Asbestos Guidelines
construction and demolition waste	has the meaning defined in the Landfill Definitions

Term	Definition
department	means the department established under section 35 of the *Public Sector Management Act 1994* (WA) and designated as responsible for the administration of the EP Act, which includes Part V Division 3.
discharge	has the same meaning given to that term under the EP Act.
emission	has the same meaning given to that term under the EP Act.
EP Act	*Environmental Protection Act 1986* (WA)
EP Regulations	*Environmental Protection Regulations 1987* (WA)
Landfill Definitions	means the document titled *"Landfill Waste Classification and Waste Definitions 1996*" published by the Chief Executive Officer of the Department of Environment (as amended)
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.
Online Pollution Reporting Form	Accessed online at https://www.der.wa.gov.au/your-environment/reporting-pollution/report-pollution-form
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.
prescribed premises	has the same meaning given to that term under the EP Act.
psi	means pounds per square inch
putrescible waste	has the meaning defined in the Landfill Definitions
quarantined storage area or container	means a hardstand storage area or sealed-bottom container that is separate and isolated from authorised waste disposal areas and is capable of containing all non-conforming waste and its constituents, these areas must be clearly marked and their access restricted to authorised personnel
waste	has the same meaning given to that term under the EP Act.

END OF CONDITIONS

Schedule 1: Maps

Premises map

The boundary of the prescribed premises is shown in the map below (Figure 1), with a diagram depicting the boundary changes provided in Figure 2.

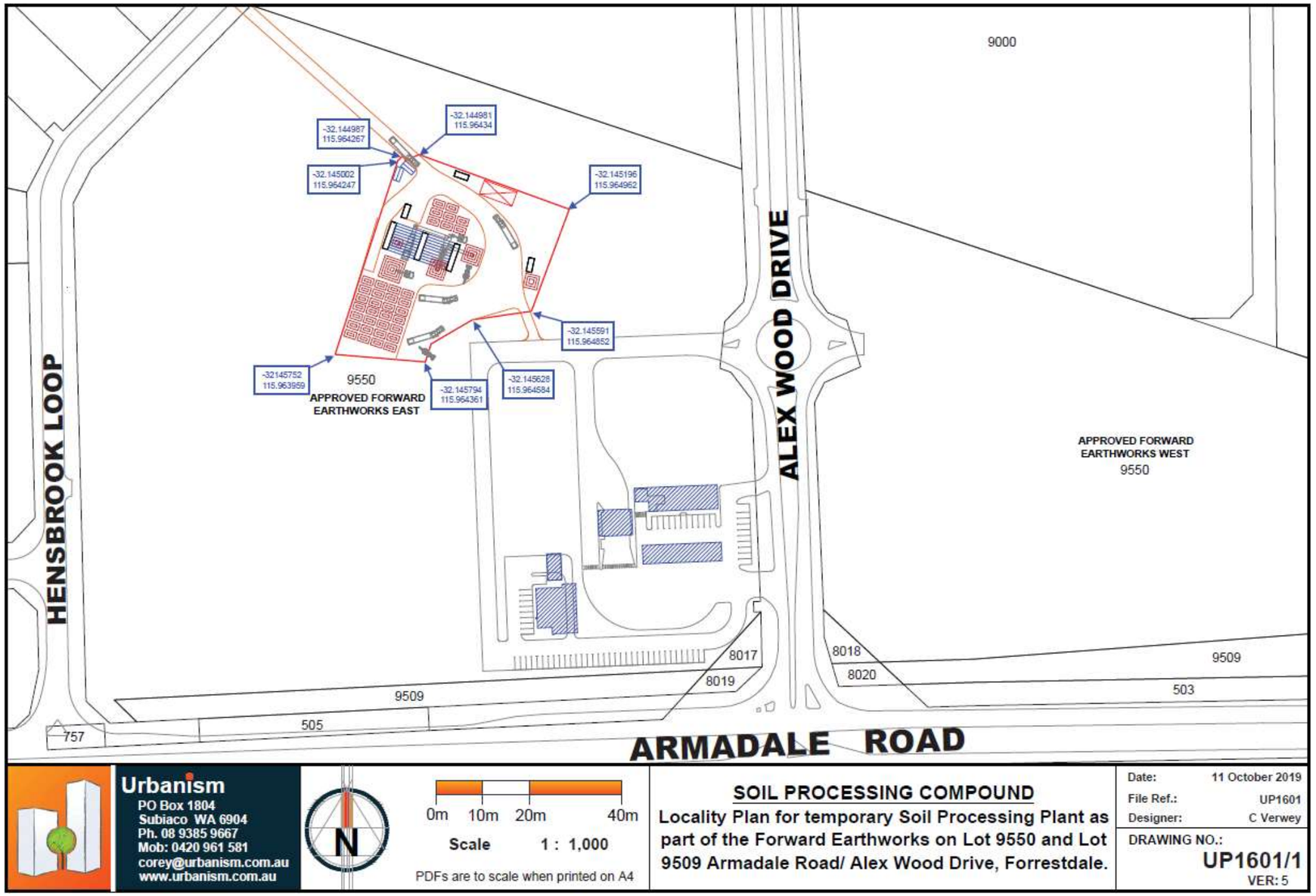

Figure 1: Map of the boundary of the prescribed premises

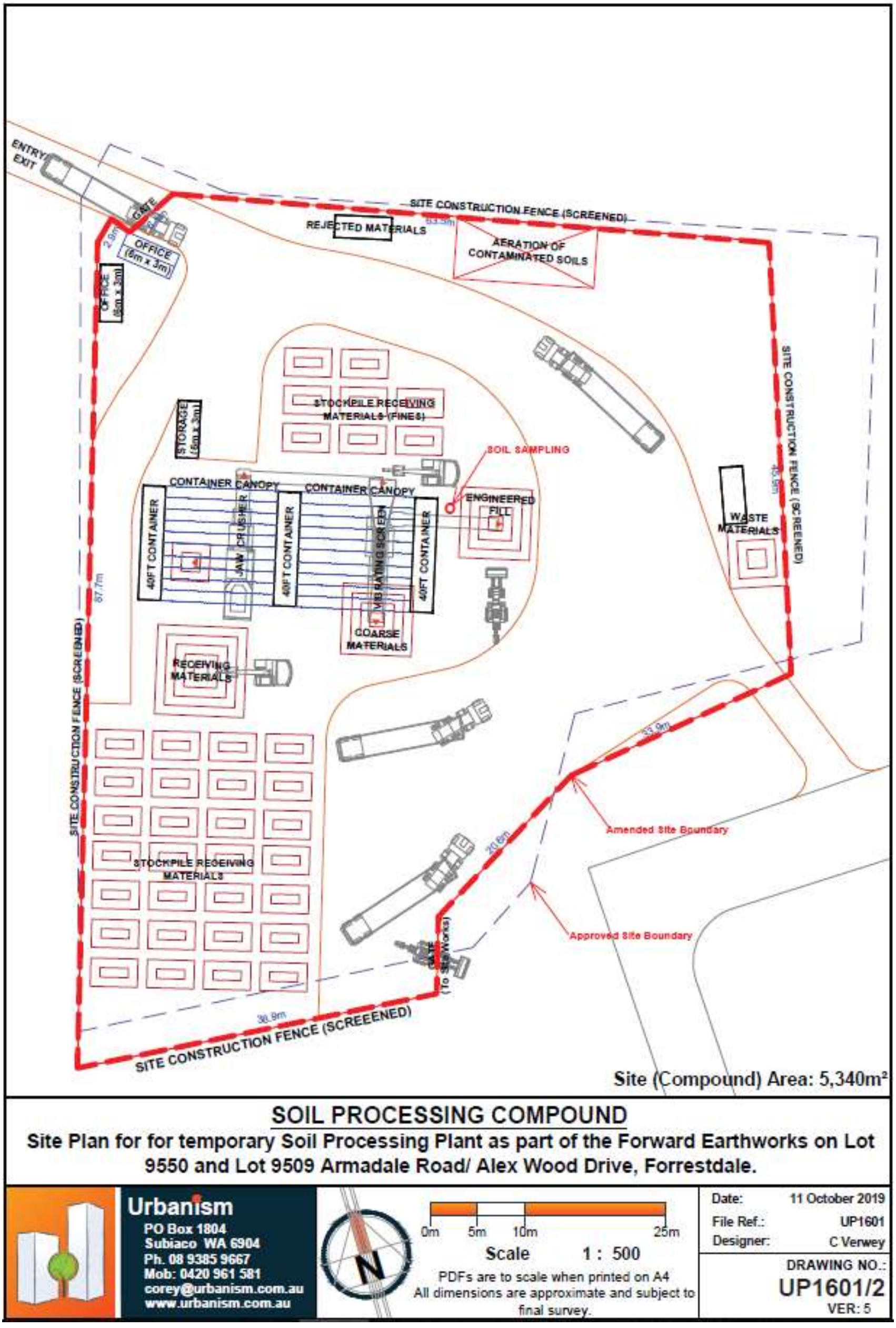

Figure 2: Changes to previous premises boundary

Figure 3: Road alignment to be swept at least once per week (as depicted in purple).

Premises boundary

The premises boundary is defined by the coordinates in Table 7.

Table 7: Premises boundary coordinates

Latitude	Longitude
-32.144987	115.964267
-32.144981	115.96434
-32.145196	115.964962
-32.145591	115.964852
-32.145628	115.964584
-32.145794	115.964361
-32.145752	115.963959
-32.145002	115.964247

Schedule 2

Asbestos risk classification procedure

To determine the risk of an incoming load containing asbestos or ACM, the gatehouse/ site entry operator at the premises must establish:

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

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 in Table 9 below.

Table 9: Risk classification matrix

	TYPE OF LOAD		
MATERIAL TYPE	**Commercial**	**Public – utes, cars, and trailers ***	**Skip bins**
Clean concrete (without formwork)	Low	High	High
Clean brick	Low	High	High
Clean bitumen / asphalt	Low	High	High
Mixed construction waste	High	High	High
Mixed demolition waste	High	High	High

* If it is possible to view the entire load of incoming construction and demolition material (such as in the case of a small trailer with a shallow load), then consideration may be given to classifying those loads as 'low risk'.

(Source of information: *Guideline: Managing asbestos at construction and demolition waste recycling facilities*. Department of Water and Environmental Regulation, April 2021)

High risk load procedure

- ‘High risk loads’ must be unloaded and spread over a sufficiently large area to enable a comprehensive visual inspection of all sides and components of the material to be undertaken.
- If asbestos fines and fibres (AF) or fibrous asbestos (FA) is suspected or identified, the load must be isolated, kept wet and once appropriately contained and redirected to an appropriately authorised disposal facility.
- Where ACM is suspected or identified within a load and is not capable of being easily removed by hand, the load must be rejected in full and isolated, kept wet and once appropriately contained and 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:
  - (a) 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 returned to the stockpile to await further processing; or
  - (b) 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 waiting further processing.
- Records must be kept to ensure that the process from receipt of construction and demolition material to the completion of the unloading procedure is auditable and that any loads found to contain suspect asbestos will be traced back to the customer and originating site.

(Source of information: *Guideline: Managing asbestos at construction and demolition waste recycling facilities*. Department of Water and Environmental Regulation, April 2021)

Product testing procedure

Product testing and supply

The testing procedures detailed in this Schedule have application to the three main recycled products:

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

ACM and FA are subject to visual inspection and sampling procedures since they are larger in size (>7 mm) and 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 that 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.

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 material to identify any suspect asbestos material.
- No sampling is required for recycled drainage rock, other than to determine by laboratory analysis 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 ACM 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^3 of product.

Conveyor sampling

- Sampling of road base and screened sand products must occur at a minimum rate of 1 sample per 70 m^3 of a product output. Suspect ACM or areas must be targeted for sampling.

Reduced sampling criteria

Once premises have demonstrated that their procedures are able to consistently produce recycled product that meets the product specification and undertake their activities to a high standard, DWER may authorise a reduced product testing rate including down to 5 locations per 4000 tonnes (1 sample per 600 m^3) of product.

Sample treatment

- Each sample collected must be at least 10 litres in volume and then be divided into 2 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 ACM 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.

Sample analysis method

- **>7 mm sample fractions –**
    - Asbestos concentrations (ACM and FA) should be calculated in accordance with the methods detailed in Appendix 2 of Department of Health (DoH), 2021, *Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia*. 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 fibrous 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*) or be demonstrated to be able to achieve the equivalent level of results to this Australian Standard.

AS 4964 is currently the only method in Australia that has NATA certification; however, the practicable level of detection for this standard polarized light microscopy method (PLM) and dispersion staining 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 DWER 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 specifications 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. Either of the following methods are considered acceptable by DWER:
    - The extraction and weighing of fibre bundles or fibre cement material from the total sample; and
    - Measuring the width and length (i.e. volume) of individual fibre by Phase Contrast Microscopy and calculating the weight of fibres in the extracted sub-sample.

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 criterion, then that stockpile or product process should be deemed potentially contaminated and considered for off-site disposal as Special Waste Type 1, 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 criterion, 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^2 of surface would be deemed to exceed the specification for that area, and for the whole stockpile if repeated in 2 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 the recycled sand material and roadbase. In this case a 1 cm^3 fragment of ACM or FA would be deemed to exceed the specification for a 10 L 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.

(Source of information: *Guideline: Managing asbestos at construction and demolition waste recycling facilities*. Department of Water and Environmental Regulation, April 2021)