



Licence number	L9127/2018/1
Licence holder	City of Greater Geraldton
Registered business address	63 Cathedral Avenue GERALDTON WA 6530
DWER file number	DER2018/000553
Duration	1/06/2018 to 31/05/2038
Date of amendment	31/05/2021
Premises details	Meru Waste Disposal Facility Landfill Road, NARNGULU WA 6532 Legal description - Lot 204 on Plan 403161 and Lot 2268 on Plan 250829

Prescribed premises category description (Schedule 1, <i>Environmental Protection Regulations 1987</i>)	Assessed throughput capacity
Category 13: Crushing of building material	20,000 tonnes/year
Category 57: Used tyre storage (general)	1,000 tyres
Category 61: Liquid waste facility	4,000 tonnes/year
Category 61A: Solid waste facility	100,000 tonnes/year
Category 64: Class II or III putrescible landfill site	100,000 tonnes/year
Category 67A: Compost manufacturing and soil blending	20,000 tonnes/year

This licence is granted to the licence holder, subject to the attached conditions, on 31 May 2021, by:

**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
29/04/2016	L6462/1992/12	Amendment Notice – extension of licence duration to 11 December 2034
12/01/2017	L6462/1992/12	Amendment Notice 1 – Inclusion of additional categories within the existing licence.
16/03/2018	L6462/1992/12	Amendment Notice 2 - construction of a HDPE geomembrane liner within the western septage pond of the liquid waste facility and the acceptance of waste paint for temporary storage at the premises.
2/05/2018	L6462/1992/12	Amendment Notice 3 – construction of a new lined cell (No. 5) with leachate sump, leachate pond and storm water containment pond.
1/06/2018	L9127/2018/1	Replacement to Licence L6462/1992/12 which ceased due to the late payment of the annual fee. Administrative changes were made, including consolidation of previous Amendment Notices.
12/02/2019	L9127/2018/1	Amendment Notice 1 - extension of operational hours during the construction of Cell 5 and Septage Pond.
31/05/2021	L9127/2018/1	Amendment to authorise the operation of FOGO composting infrastructure constructed under W6231/2019/1.

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:

Infrastructure and equipment

1. The licence holder must ensure that the site infrastructure and equipment listed in Table 1 and located at the corresponding infrastructure location is maintained and operated in accordance with the corresponding operational requirement set out in Table 1.

Table 1: Infrastructure and equipment requirements		
Site infrastructure and equipment	Operational requirement	Infrastructure location
Class III waste cells	Comprising: <ul style="list-style-type: none"> • Cell 1 • Compacted Waste Cell 2 • Compacted Waste Cell 3 (includes burial area for special waste types 1 and 2) • Builders Waste Cell 4 (includes inert waste type 1) • Cell 5 (comprising geosynthetic clay liner and HDPE liner with a thickness of 2mm) 	As located within Attachment 1, Figure 4.
Leachate pond	<ul style="list-style-type: none"> • Comprising geosynthetic clay liner and HDPE liner with a thickness of 2mm. • 7,800 m² in size 	As located within Attachment 1, Figure 4.
Storm water sump	For the containment of uncontaminated storm water to infiltrate to ground	As located within Attachment 1, Figure 5.
Septage ponds	<ul style="list-style-type: none"> • Lined with a HDPE geomembrane liner • Includes a below surface inlet pipe for incoming septage to ensure that the anaerobic crust on the pond is not disrupted. 	As located within Attachment 1, Figure 4.
Composting hardstand	<ul style="list-style-type: none"> • 15 m by 25 m concrete hardstand with a 2.0% cross fall to the centre of the pad and 2% slope to a leachate sump. • Contains 10 concrete bunkers. 	As located within Attachment 1, Figure 6.
Composting leachate sump	<ul style="list-style-type: none"> • 1.6 m in depth with a run-off platform of 15 m by 4.5 m wide and a 1:10 slope. 	As located within Attachment 1, Figure 6.
Security fencing	<ul style="list-style-type: none"> • 2 m high security fence installed around the perimeter of Cell 5 and the leachate pond, with gates to permit vehicle and pedestrian access. 	As located within Attachment 1, Figure 6.

WASTE ACCEPTANCE AND MANAGEMENT

2. The licence holder must only accept onto the premises waste of a waste type, which does not exceed the corresponding rate at which waste is received, and which meets the corresponding acceptance specification set out in Table 2.

Table 2: Types of waste authorised to be accepted onto the premises

Category	Waste type	Rate at which waste is received	Acceptance specification
57	Inert waste type 2 (Used tyres)	1,000 tyres	None specified.
61	Septage waste	4,000 tonnes per annual period	None specified.
	Liquid waste (Paint)	35 tonnes per annual period	Limited to accepting waste paint for temporary storage and disposal off-site through an appropriate facility.
	Liquid waste (waste oil)	75,000 tonnes combined per annual period	Limited to accepting hydrocarbons in the form of waste oil.
61A	Contaminated solid waste		Limited to accepting waste hydrocarbons (used grease) hydrocarbon contaminated soils, hydrocarbon contaminated waste cake, oily rags, hydrocarbon contaminated plastics (excluding polyvinyl chloride products) and used oil filters. Must be supported by documentation that demonstrates compliance with the acceptance criteria for Class III landfills.
61A	Electronic waste		Limited to a maximum of 25 tonnes accepted during an annual period.
13 and 61A	Inert waste type 1		None specified
64	Clean fill	100,000 tonnes combined per annual period	None specified.
	Inert waste type 1		
	Inert waste type 2		
	Putrescible wastes		
	Class III contaminated solid waste		Must be meet the classification criteria as specified in the Landfill Waste Classification and Waste Definitions 1996 (As amended 2009). Must be supported by documentation that demonstrates compliance with the acceptance criteria for Class III landfills. Limited to a maximum of 20,000 tonnes during an annual period.

Category	Waste type	Rate at which waste is received	Acceptance specification
	Special waste type 1		<p>Accept only asbestos waste or material containing asbestos which is sealed in double-lined or double bagged, heavy duty plastic sheeting of at least 0.2 millimetres thickness.</p> <p>Accept only wrapped or otherwise contained asbestos waste or material containing asbestos, which is labelled or marked with the words 'CAUTION – ASBESTOS' in letters not less than 50 millimetres high.</p> <p>Keep a permanent register of each load of asbestos waste or material containing asbestos deposited at the premises, including the date, the name of person that deposited the asbestos or material containing asbestos and the vehicle registration number.</p>
	Special wastes type 2		<p>The Licence Holder, or their representative, must complete and sign the original waste transport certificate noting, in writing, any discrepancies between waste declared and waste received.</p> <p>Must keep a record of the waste transport certificate for at least three years.</p>
67A	Green waste	20,000 tonnes per annual period	No treated timber shall be accepted.
	Food organics and garden organics (FOGO)	Sub-limit of 500 tonnes per annual period for FOGO	Accepted from municipal mobile garbage bins only

- The Licence Holder must ensure that where waste does not meet the waste acceptance criteria set out in Condition 2 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 as soon as practicable.
- The licence holder must ensure that the waste types specified in Table 3 are only subjected to the corresponding process(es), subject to the corresponding process limits and/or specifications.

Table 3: Waste processing

Category	Waste type	Process(es)	Process limits and/or specifications
13	Inert waste type 1	Crushing and screening of waste	<p>- 20,000 tonnes per annual period</p> <p>- The Licence Holder must only operate the crushing and screening plants as follows:</p> <p>(i) Monday to Friday;</p> <p>(ii) between the hours of 7am to 5pm;</p> <p>(iii) by trained staff; and</p> <p>(iv) only one mobile plant in operation at any given</p>

Category	Waste type	Process(es)	Process limits and/or specifications
			<p>time.</p> <ul style="list-style-type: none"> - The Licence Holder must ensure all crushing and screening equipment operating on the Premises: <ul style="list-style-type: none"> (i) incorporate dust screen fencing surrounding the equipment; and (ii) are fitted with conveyor covers to minimise dust emissions from the processing of any C&D waste. - The Licence Holder must ensure that C&D waste will be handled, processed and stored within a designated area with a minimum separation distance of at least 10 m from all other waste types.
61A	Inert waste type 1 (scrap metal)	Receipt, handling and storage prior to removal offsite	- Scrap metal accepted for storage and recycling/ reuse.
57	Used tyres	Receipt, handling and storage prior to disposal or removal offsite	<ul style="list-style-type: none"> - Maximum of 1,000 tyres to be stored at any given time, for reuse/ recycling. - The Licence Holder must ensure that used tyres are stored in tyre windrows with at least three metres separating each windrow to allow access by fire-fighting equipment.
61	Septage waste	Receipt, handling and storage/ disposal	- Disposed of to the septage ponds as specified in Table 1.
	Liquid waste (Paint)	Receipt, handling and storage prior to removal offsite	<ul style="list-style-type: none"> - Limited to a maximum of 11 tonnes stored onsite at any given time. - All liquid waste to be contained within bunded containment and placed on a low permeability hardstand.
	Liquid waste (waste oil)		<ul style="list-style-type: none"> - Contained within a self-bunded tank or tank placed on a bunded hardstand area. - For final disposal to off-site recycling facility only.
61A	Class III Contaminated solid waste	Receipt, handling and storage prior to disposal or removal offsite.	- Must be disposed of to an active Class III waste cell on the same day of acceptance.
	Electronic waste	Receipt handling and storage prior to removal offsite	- All electronic waste must be stored within bunded containment.
64	Clean fill	Receipt, handling and disposal by landfilling onsite	<ul style="list-style-type: none"> - Must only take place within Class III waste cells as specified in Table 1. - Dispose of waste on the premises at least 35 metres from the premises' boundary. - Place waste within a defined trench or within an
	Inert waste type 1		
	Inert waste type 2		
	Putrescible		

Category	Waste type	Process(es)	Process limits and/or specifications
	wastes		<p>area enclosed by earthen or other bunds.</p> <ul style="list-style-type: none"> - Restrict the non-greenwaste tipping area to a maximum linear length of 30 metres. - Cover waste with at least 230 mm of cover material at least daily or where continuous cover techniques are used, provide a final cover over the waste of at least 100mm every day. - Cover municipal waste within 24 hours of delivery. - Stockpile sufficient cover material to allow waste to be covered in accordance this condition and to cover waste in the event of a fire. - Except where trenches are used, initially spread waste in layers not more than 500mm thickness prior to being compacted with a minimum of five passes with the waste compacting machine. - Manage the active landfill area such that at no time does landfilling result in an exposed face exceeding two metres in vertical height. - Cover waste with a final soil cover of at least one metre. - Placement of waste within the landfill cells is undertaken using a 'bottom up' approach to ensure that the loading of the liner does not compromise liner integrity. - The Licence Holder must dispose of tyres at the premises in accordance with regulation 14 (2) of the <i>Environmental Protection Regulations 1987</i>.
	Other wastes that comply with Class III criteria in the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)		
	Special waste type 1		<ul style="list-style-type: none"> - As soon as practicable and before compaction, cover the asbestos waste or material containing asbestos with a layer of soil at least 300 millimetres thick or with a layer of dense, inert and incombustible material at least 1 metre thick. - Record as grid references on a premises plan all locations used for the disposal of asbestos waste or material containing asbestos and keep this plan as a permanent record. - Witness the covering of the asbestos waste or material containing asbestos and sign the register referred to above within two hours of the covering taking place. - Not deposit any asbestos waste or material containing asbestos within two metres of the final tipping surface of the landfill. - Operate the landfill such that any existing asbestos waste or material containing asbestos deposited at the premises remains undisturbed. - Make all records available for viewing by an inspector upon request.
	Special wastes		<ul style="list-style-type: none"> - Must immediately unload and cover the waste with a minimum depth of one metre of soil or solid

Category	Waste type	Process(es)	Process limits and/or specifications
	type 2		waste. - Must define the disposal area(s) by grid references on the site plan. - Must ensure the disposal areas are not excavated or uncovered during subsequent landfill operations. - Must restrict access to the landfill site where the waste is buried to authorised personnel only. - Must make the information recorded in accordance with this condition available for viewing or copying by the CEO during any inspection of the premises.
67A	Food organics and garden organics	Receipt, handling and storage prior to composting	- Waste must not be stored for longer than 24 hours before being added to the composting process. - Waste must only be accepted and stored onto the composting hardstand specified in Table 1.
		Treatment by composting and pasteurisation	- Waste must only be composted on the composting hardstand specified in Table 1. - Windrows must be turned regularly to ensure aerobic conditions are maintained. - The core temperature of the composting pile is maintained above between 55 °C and 65 °C for a period of at least three consecutive days. - Compost piles must not exceed 3 m in height. - Compost piles must be located within the compost bunkers specified in Table 1. - Composting leachate is collected within the composting leachate sump specified in Table 1 and (i) returned to the composting process; or (ii) removed to a septage pond - The composting leachate sump specified in Table 1 is maintained to be free of debris and accumulated sediment.
		Final compost storage and removal from the premises	- Storage must be undertaken on the composting hardstand specified in Table 1.

Note 1: Requirements for landfilling tyres are set out in Part 6 of the *Environmental Protection Regulations 1987*.

Note 2: Additional requirements for the acceptance and landfilling of controlled waste (including asbestos and tyres) are set out in the *Environmental Protection (Controlled Waste) Regulations 2004*.

Note 3: Further requirements for composting of biosolids are set out in the *Western Australian Guidelines for Biosolids Management 2012*

MONITORING OF COMPOSTING ACTIVITIES

5. The Licence Holder must undertake the monitoring in Table 5 according to the specifications in that table.

Table 5: Process monitoring					
Monitoring point	Process description	Parameter	Units	Frequency	Method
Compost piles	Composting	Temperature	°C	Daily	None specified
		Compost quality product testing	None specified	As per sampling Procedure required in AS 4454	Sampling and testing in accordance with AS 4454

6. The Licence Holder must ensure that the testing of all compost product is undertaken in accordance with AS 4454.
7. The Licence Holder must ensure that products are classified according to the product specification and end use(s) as determined by the physical and chemical quality specifications required by AS 4454 prior to sale or distribution to customers.
8. The Licence Holder must record the total amount of product removed from the premises, for each product type listed in Table 6, in the corresponding unit, and for each corresponding time period set out in Table 6.

Table 6: Waste removed from the premises		
Product type	Unit	Time period
Compost	m ³ and tonnes	Each load leaving the premises.

FENCING

9. The Licence Holder must maintain a fence at least 1.8 m high around the whole of the perimeter of the premises, except where there is a lockable gate(s).
10. The Licence Holder must ensure that any entrance to the premises is securely locked when the premises is unattended.
11. The Licence Holder must ensure that weekly inspections of the fence and gates referred to in conditions 17 and 18 are undertaken and that any damage to the fence and gate(s) are repaired within one working day of its discovery.

WIND-BLOWN WASTE

12. The Licence Holder must ensure that wind-blown waste is contained within the boundaries of the active landfill area.
13. The Licence Holder must ensure that any wind-blown waste is removed from the premises' fences and roads, and any wind-blown waste emanating from the premises is collected and removed on a weekly basis or more frequently when directed in writing by the CEO.

MONITORING AND REPORTING

14. The Licence Holder must by **1 March in each year**, provide to the CEO an Annual Audit Compliance Report, signed and certified in the manner required, indicating the extent to which the Licence Holder has complied with the conditions of this licence, and any previous licence issued under Part V of the Act for the premises, during the period beginning 1 January the previous year and ending on 31 December for that same year.
15. The Licence Holder must provide to the CEO a copy of the Annual Environmental Report containing the monitoring data required by any condition of this licence. The report must contain data collected from 1 January to 31 December and must be provided by **1 March each year** in a format approved by the CEO.
16. The report must include, but not be limited to, an assessment of the data against any limits set in this licence or other environmental guidelines or policies and data from previous years' monitoring. It must identify any data exceeding those limits, guidelines or policies and provide information on why the exceedance occurred (if known) and action taken by the Licence Holder to prevent recurrence of such exceedances.
17. The Licence Holder must list any monitoring methods used to collect and analyse data required by any condition of this licence to demonstrate they comply with the methods specified in this licence.
18. The Licence Holder must provide details of:
 - (i) measures taken to control pests and vermin;
 - (ii) number and severity of any fires on site;
 - (iii) measures taken to suppress dust;
 - (iv) measures taken to control windblown waste;
 - (iii) average compaction rates;
 - (iv) records detailing the number of tyres collected, stored, on-sold, and disposed at the premise; and
 - (vi) the number and type of complaints received including the nature of complaint (where appropriate cross referenced with prevailing wind directions) and action taken.

19. The Annual Environmental Report must include any changes to site boundaries, internal buffer zones, asbestos and biomedical waste disposal areas, location of groundwater monitoring bores and surface drainage channels.
20. The Annual Environmental Report must include any issues raised by DWER (e.g. arising from inspections) during the reporting period must be summarised together with details on how these have been addressed/rectified or, if the required work has yet to be completed, how and when they will be rectified/completed.

SIGNAGE

21. The Licence Holder must maintain signage at the entrance to the premises which clearly displays the following:
 - (i) contact telephone number for information and complaints or notification of fires;
 - (ii) a list of materials that are accepted;
 - (iii) the types of waste that must not be deposited on the premises and a contact telephone number for alternative disposal options;
 - (iv) location of designated tyre stockpile area; and
 - (v) a warning, indicating penalties for people lighting fires.
22. The Licence Holder must ensure that used tyres are stored in tyre windrows with at least three metres separating each windrow to allow access by fire-fighting equipment.

LEACHATE POND

23. A freeboard of 0.5 m must be maintained within the leachate pond at all times.

DUST – GENERAL REQUIREMENT

24. The Licence Holder must suppress dust from the open landfill face or trench, stockpiled areas and transport activities, to ensure that no visible dust crosses the boundary of the premises.

BURNING OF WASTE

25. The Licence Holder must not burn or allow the burning of waste on the premises.
26. The Licence Holder must extinguish any fire that may occur within the landfill site immediately on being notified of the fire.
27. The Licence Holder must provide the CEO with a report on an unauthorised fire within 7 days of the fire and include:
 - (i) details of the date, time and location of the fire;
 - (ii) the time the fire was declared safe by the Fire Control Officer for the premises; and
 - (iii) the cause, or suspected cause, of the fire.

FIRE FIGHTING CAPABILITY

28. The Licence Holder must ensure that appropriate fire-fighting equipment is stored on-site that is capable of controlling and/or abating a fire at the premises.
29. The Licence Holder must ensure that a fire management strategy is implemented and updated as required.
30. The Licence Holder must advise the CEO immediately in the event of a fire on the premises.

MANAGEMENT OF STORMWATER AND WASTEWATER

31. The Licence Holder must direct uncontaminated stormwater run-off, such as water from roofs and site drainage, away from the filled and peripheral areas and associated sumps or drains into dedicated stormwater drains.
32. The Licence Holder must ensure stormwater drains on the premises are kept clear of waste to allow for their effective use.
33. The Licence Holder must ensure that any stormwater that has come into contact with waste and any other liquid waste that may result from fire-fighting is diverted into a sump on the premises or otherwise retained on the premises.

PROTECTION OF GROUND AND SURFACE WATERS

34. The Licence Holder must maintain an undisturbed separation distance of at least 2 metres between the base of the current and future waste disposal areas and the highest level of the groundwater.
35. The Licence Holder must maintain a minimum distance of at least 100 metres between the waste disposal site and any superficial water body.

GROUNDWATER BORES

36. The Licence Holder must maintain groundwater monitoring bores 1 to 3, and MW01 to MW04, as depicted in Attachment 1 - Map of groundwater monitoring bore locations, to enable the monitoring procedures required by condition 48.

GROUNDWATER MONITORING

37. The Licence Holder must take representative groundwater samples from the following monitoring sites and have them analysed for the following parameters:

Monitoring location	Sampling frequency	Parameters (mg/L ¹)
Groundwater monitoring bores 1 to 3 MW01 to MW04	Annual	Arsenic, ammonia-nitrogen, cadmium, copper, chloride, chromium, conductivity, lead, manganese, mercury, molybdenum, nickel, pH ² , selenium, total phosphorus, total nitrogen, total dissolved solids, zinc and standing water level (SWL ²)

Note 1: All parameters to be measured in mg/ L except for pH and SWL

Note 2: In-situ non-NATA accredited sampling permitted; SWL must be determined prior to collection of other water samples.

38. With the exception of pH and conductivity, the Licence Holder must report all measurements in mg/L.
39. The Licence Holder must collect all water samples in accordance with Australian Standard 5667.
40. The Licence Holder must submit all water samples to a laboratory with current NATA accreditation for the analyses specified.
41. The Licence Holder must ensure that the recorded results of the sampling and analysis referred to in conditions 48, 50 and 51 are provided to the CEO in accordance with condition 23.

OPERATION OF THE SEPTAGE TREATMENT SYSTEM

42. The Licence Holder must operate the septage treatment system in the following manner:
- (i) maintain a minimum of 300 mm freeboard in the treatment pond(s) so that overflow does not occur as a result of either wave action alone or wave action coupled with incident or inflowing stormwater;
 - (ii) all stormwater is diverted away from the lagoons to prevent erosion of lagoon embankments; and
 - (iii) there is no discernible leakage from the lagoons.

LIQUID CHEMICAL STORAGE

43. The Licence Holder must store 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) within low permeability (10^{-9} metres per second or less) compound(s) designed to contain not less than 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 compound.
44. The compound(s) described in condition 54 must:
- (i) be graded or include a sump to allow recovery of liquid;
 - (ii) be chemically resistant to the substances stored;
 - (iii) include valves, pumps and meters associated with transfer operations wherever practical. Otherwise the equipment must be adequately protected (e.g. bollards) and contained in an area designed to permit recovery of chemicals released following accidents or vandalism;
 - (iv) be designed such that jetting from any storage vessel or fitting will be captured within the bunded area as per Australian Standard 1940-2004(as amended from time to time);
 - (v) be designed such that chemicals which may react dangerously if they come into contact, are in separate bunds in the same compound or in different compounds; and
 - (vi) 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).
45. The Licence Holder must immediately remove and dispose of any liquid resulting from spills or leaks of chemicals including fuel, oil or other hydrocarbons, whether inside or outside the low permeability compound(s).
46. The Licence Holder must keep a record of any incident that included the loss of chemicals including fuel, oil or other hydrocarbons and provide a summary of each incident in the annual report required in condition 23.

PROCESS MONITORING

47. The Licence Holder must visually inspect all loads of C&D waste 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 Attachment 2 (Classified Load).
48. Where the inspection of C&D waste confirms that material does contain asbestos or ACM, the Licence Holder must:
- (i) reject the waste material for the purposes of acceptance for recycling or reuse;
 - (ii) maintain accurate records of all rejected loads on the Premises and the documentation must be made available to DER officers upon request; and
 - (iii) record the details of the material source, material carrier, registration number of the vehicle and date of rejection.

49. The Licence Holder must maintain Classified Loads in a damp state.
50. The Licence Holder must ensure that suspected “high risk” Classified Loads of C&D waste are isolated, kept damp and appropriately contained in accordance with DER Asbestos Guidelines.
51. The Licence Holder must ensure that suspected “high risk” Classified Loads are managed in accordance with the high risk procedure as outlined in section 3.4 of the DER Asbestos Guidelines (Attachment 3).
52. The Licence Holder must, as a minimum maintain records of all accepted load inspections and of any accepted loads which have been determined as “high risk” Classified Loads.
53. The Licence Holder must continue to visually inspect material on the Premises at all stages of the storage, sorting and crushing process of C&D waste. Suspected asbestos identified at any stage of the process must be handled in accordance with Conditions 59 to 63 of this Licence.
54. The Licence Holder must maintain C&D waste on the Premises in at least three separate stockpiles areas for unprocessed material, processed material tested for ACM and:
 - (i) unprocessed material and processed material areas must be kept clearly separated at a minimum 3 m distance;
 - (ii) processed material tested for ACM and processed material awaiting testing for ACM must be clearly separated by a minimum 3 m distance or clearly delineated and separated with impermeable barriers; and
 - (iii) clearly visible and legible signage must be erected on individual stockpiles to clearly identify and delineate tested processed material, untested processed material and unprocessed material.
55. The Licence Holder must ensure that testing of all finished products used in the construction of infrastructure on the Premises or supplied for re-use must be undertaken in accordance with the product testing procedures as outlined in section 4.3 of the DER Asbestos Guidelines (Attachment 3).
56. The Licence Holder must ensure that finished products used in the construction of infrastructure on the Premises or supplied for re-use are only used or supplied to customers from stockpiles that have been sampled and tested in accordance with section 4.3 of the DER Asbestos Guidelines (Attachment 3) and shown to conform to the product specification of 0.001% asbestos weight for weight (w/w) for asbestos content (in any form) within any recycled products.
57. The Licence Holder must retain all asbestos testing records.

58. The Licence Holder shall ensure that the asbestos content of any recycled output originating from construction and demolition (C&D) waste does not exceed the contamination limits specified in Table 7.

Table 7: Recycled output contamination limits		
Output	Parameter	Limit ¹
Recycled drainage rock	Asbestos (in any form)	0.001% w/w
Recycled sand		
Recycled road base		

Note 1: DER Asbestos Guidelines

DISPOSAL OF SLUDGE MATERIAL FROM SEPTAGE PONDS

59. The Licence Holder must inform the CEO no less than 14 days prior to the desludging of any septage ponds at the premises.
60. The Licence Holder must dispose of sludge from the septage ponds in accordance with the Western Australian Guidelines for Biosolids Management, December 2012.

MANAGEMENT OF BIOSOLIDS

61. The Licence Holder must remove accumulated biosolids from the truck wash separator on a daily basis for incorporation into the green waste processing or disposal into the landfill cell.

Definitions

In this licence, the terms in **Table 1** have the meanings defined.

Table 1: Definitions

Term	Definition
ACM	means asbestos containing material and has the meaning defined in the Guidelines for Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia, (DOH, 2009).
ACN	means the Australian Company Number.
AER	means Annual Environmental Report.
Annual Period	means a 12 months period commencing from 1 January until 31 December
Approved/ approval	means approved and approval in writing from time to time, respectively.
AS 4454	means the Australian Standard AS 4454 Compost, soil conditioners and mulches.
Asbestos	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 waste	means Special Waste Type 1 – asbestos and asbestos cement products waste as defined in the current version of the 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'.
Asbestos Containing Material (ACM)	has the meaning defined in the 'Guidelines for the Assessment, Remediation and Management of Asbestos Contaminated Sites, Western Australia, (DOH, 2009)'.
AS/NZS 5667.1	means the Australian Standard AS/NZS 5667.1 <i>Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples</i> .
AS/NZS 5667.11	means the Australian Standard AS/NZS 5667.11 <i>Water Quality – Sampling – Guidance on sampling of groundwaters</i> .
Books	has the same meaning given to that term under the EP Act.
Bottom-up	means waste is placed in horizontal lifts evenly across the complete cell floor of the landfill working upwards, and not from one side of the landfill to the other.
Category/ Categories/ Cat.	means categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations.
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 33 Cloisters Square PERTH WA 6850 info@dwer.wa.gov.au
Classified load	means the classification of waste loads during acceptance and post acceptance based on the risk of waste containing Asbestos or ACM and through visual inspection. Classification of wastes loads must be undertaken in accordance with the provisions outlined in Section 3.3 and 3.4 of DER Asbestos Guidelines
Clean fill	has the meaning defined within the <i>Landfill Waste Classification and Waste Definitions 1996 (as amended December 2009)</i> guidelines.

Term	Definition
Compliance Report	means a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO (guidelines and templates may be available on the Department's website).
Condition	means a condition to which this Licence is subject under s.62 of the EP Act.
construction and demolition waste or C&D waste	means materials in the waste stream which arise from construction, refurbishment or demolition activities and as defined within the Landfill Waste Classification and Waste Definitions 1996 (as amended from time to time).
continuous cover technique	means the daily covering of waste with at least 150mm of cover material.
Controlled waste	As defined in the <i>Environmental Protection (Controlled Waste) Regulations 2004</i> .
cover material	means subsoil or other approved inert waste used for covering of waste.
Crushed Recycled Road Base	means material that has been produced in accordance with and meets the specifications in the DER Asbestos Guidelines and the Institute of Public Works Engineering Australasia and the Western Australia Local Government Association Specification for the supply of recycled road base, May 2016.
CS Act	means <i>Contaminated Sites Act 2003 (WA)</i> .
Damp	means moist to the touch.
DFES	means the Department of Fire and Emergency Services Authority of Western Australia.
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
Department Request	means a request for Books or other sources of information to be produced, made by an Inspector or the CEO to the Licence Holder in writing and sent to the Licence Holder's address for notifications, as described at the front of this Licence, in relation to: <ul style="list-style-type: none"> (a) compliance with the EP Act or this Licence; (b) the Books or other sources of information maintained in accordance with this Licence; or (c) the Books or other sources of information relating to Emissions from the Premises.
Discharge	has the same meaning given to that term under the EP Act.
DoH	means the Department of Health.
DER Asbestos Guidelines	means document titled "Guidelines for managing asbestos at construction and demolition waste recycling facilities", published by the Department of Environment and Conservation, as amended from time to time.
DWER	Department of Water and Environmental Regulation.
Emission	has the same meaning given to that term under the EP Act.
Environmental Harm	has the same meaning given to that term under the EP Act.
EP Act	means the <i>Environmental Protection Act 1986 (WA)</i> .

Term	Definition
EP Regulations	means the <i>Environmental Protection Regulations 1987</i> (WA).
Fire Control Officer	means a person who has such qualifications in fire-fighting or fire control as are approved, appointed to that position by the occupier of the premises.
Green waste	means waste that originates from trees or plants.
hardstand	means a surface with a permeability of 1×10^{-9} metres/second or less.
'Inert Waste Type 1' means:	means (a) non-hazardous, non-biodegradable (half-life greater than 2 years) wastes containing contaminant concentrations less than Class I landfill acceptance criteria but excluding paper and cardboard; and (b) materials specified under the heading 'Examples of Type 1 inert wastes' in Table 2 of the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'.
'Inert Waste Type 2' means:	(a) non-hazardous, non-biodegradable (half-life greater than 2 years) wastes containing contaminant concentrations less than Class I landfill acceptance criteria but excluding paper and cardboard; and (b) includes materials specified under the heading 'Examples of Type 2 inert wastes' in Table 2 of the document entitled 'Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)'.
Inspector	means an inspector appointed by the CEO in accordance with s.88 of the EP Act.
Landfill Waste Classification and Waste Definitions 1996 (as amended 2009)	refers to the document issued by the Chief Executive Officer of the Department of Environment and Conservation, dated 2009.
Leachate	means liquid released by or water that has percolated through waste and which contains some of its constituents.
Licence	refers to this document, which evidences the grant of a Licence by the CEO under s.57 of the EP Act, subject to the Conditions.
Licence Holder	refers to the occupier of the premises being the person to whom this Licence has been granted, as specified at the front of this Licence.
Low permeability	means a surface with a hydraulic conductivity of 1×10^{-9} metres/second (m/s) or less.
Material Environmental Harm	has the same meaning given to that term under the EP Act.
'material containing asbestos'	means as defined in the <i>Environmental Protection (Controlled Waste) Regulations 2004</i> .
mm and mg/L	means millimetres, and milligrams per litre, respectively.
mBGL	means metres below ground level.
m ³	means cubic metres.
municipal waste	means waste collected at the kerbside by the local authority collection vehicle or its contractor.

Term	Definition
NATA	means National Association of Testing Authorities.
Non-conforming waste types	means any waste material removed from the Premises that requires disposal, other than at the premises, and which does not conform to the waste acceptance defined under condition 2 of the Licence.
Occupier	has the same meaning given to that term under the EP Act.
Pollution	has the same meaning given to that term under the EP Act.
Premises	refers to the Premises to which this Licence applies, as specified at the front of this Licence and as shown on the map in Attachment 1 to this Licence.
Prescribed Premises	has the same meaning given to that term under the EP Act.
putrescible waste	means <ul style="list-style-type: none"> (a) the component of the waste stream likely to become putrid – including wastes that contain organic materials such as food wastes or wastes of animal or vegetable origin, which readily bio-degrade within the environment of a landfill; (b) includes materials specified under the heading ‘Examples’ in Table 2 of the document entitled ‘Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)’.
Quarter	means every three months.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i> .
Serious Environmental Harm	has the same meaning given to that term under the EP Act.
Special Waste type 1	means <ul style="list-style-type: none"> (a) asbestos wastes; and (b) includes materials specified under the heading ‘Examples of Type 1 Special Waste’ in Table 2 of the document entitled ‘Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)’.
Special Waste type 2	means <ul style="list-style-type: none"> (a) biomedical wastes; and (b) includes materials specified under the heading ‘Examples of Type 2 Special Waste’ in Table 2 of the document entitled ‘Landfill Waste Classification and Waste Definitions 1996 (As amended 2009)’.
SWL	means the standing water level in metres below ground level or AHD (prior to sampling)
tyres	where 100 whole used tyres are the equivalent of 2 cubic metres of shredded, broken or pieces of used tyres; 1 truck tyre = 7 car tyres; 1 light truck tyre = 1.5 car tyres; 1 super single = 14 car tyres; 1 earth moving tyre = 20 car tyres.
tyre windrows	means parallel rows where each row is no more than 3 metres high and no more than 4 metres wide and separated by a minimum of 3 metres of clear ground from any other row.
Unreasonable Emission	has the same meaning given to that term under the EP Act.

Term	Definition
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA).</i>
µg/m ³	micrograms per cubic metre.
µg/L	micrograms per litre.
Waste	has the same meaning given to that term under the EP Act.
WA Waste Strategy	means the Western Australian Waste Strategy, Waste Authority 2012.
WALGA	means the Western Australian Local Government Association.
WHO	means the World Health Organisation.

ATTACHMENT 1

Figure 1. Map of premises

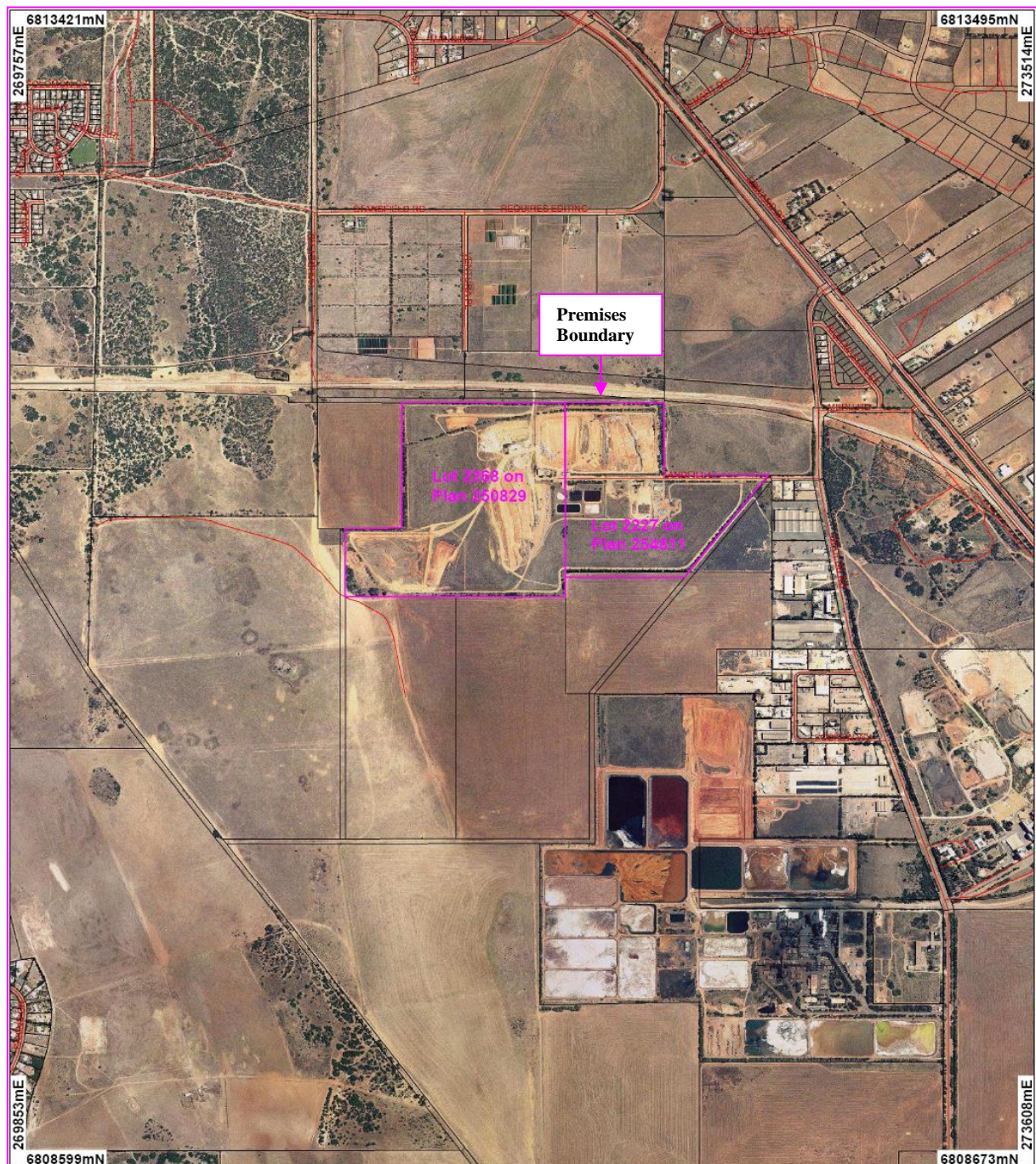


Figure 2. Map of groundwater monitoring bore locations



Figure 3. Map of paint receival, stockpile/ storage area



Figure 4. Premises layout



Figure 5. Map of Cell 5 construction and associated infrastructure layout

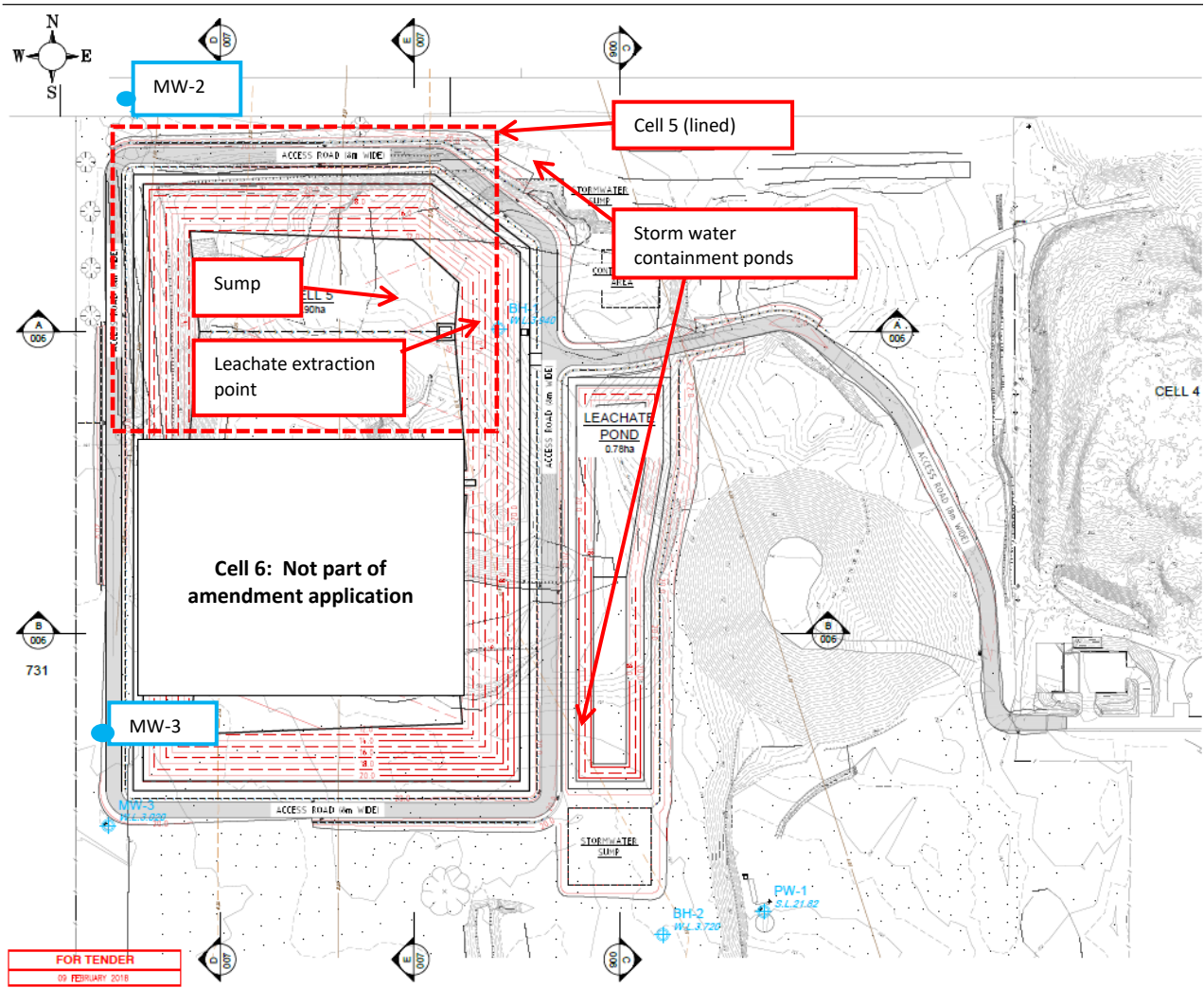
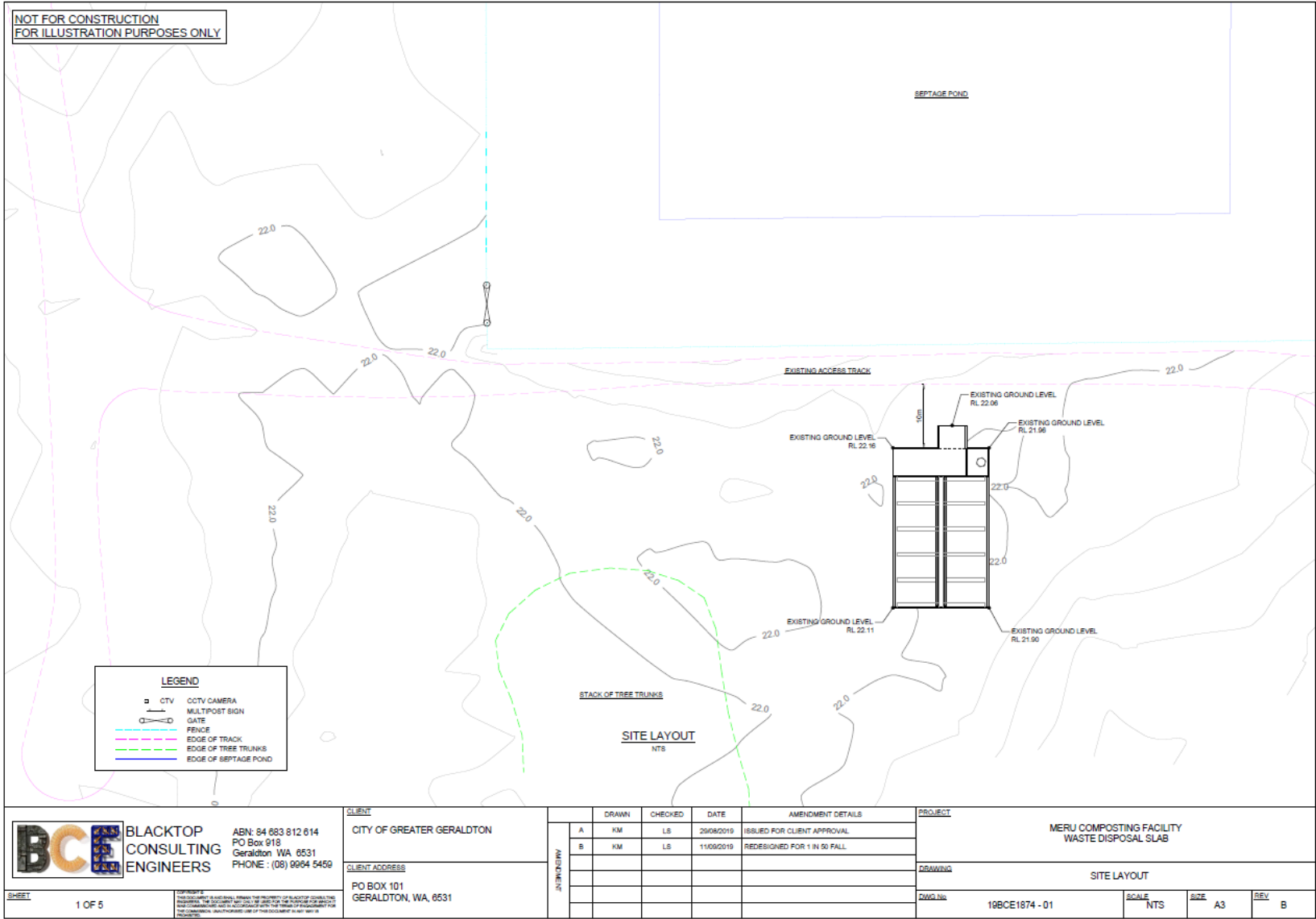


Figure 6. Composting layout





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ATTACHMENT 2: Section 3.4 of DER Asbestos Guidelines (page 11 - 12)

- 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 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.

Risk Classification Matrix			
Material Type	Type of load		
	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 C & D material (eg 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)

3.4 Load inspection after acceptance

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 prior to 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.

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 continue to be processed in accordance with the high risk procedure below. Where the visual inspection confirms that the



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load is clear of suspect ACM, FA and AF, the load may then be added to the waste stockpiles awaiting further processing eg crushing and screening.

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 to be undertaken. One method of achieving this is to spread the material to a depth of less than 30cm 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, kept wet and once appropriately contained in accordance with the Asbestos Factsheet in Appendix A, and 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, kept wet and once appropriately contained in accordance with the Asbestos Factsheet in Appendix A, 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:

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 that 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, DEC will require records of loads found to contain asbestos and action taken by the C&D recycler to address this issue with the customer, to be submitted on a regular basis. DEC will take follow up action with customers delivering asbestos containing waste to the premises as necessary.



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ATTACHMENT 3: Section 4.3 of DER Asbestos Guidelines (page 15 – 20)

4 Monitoring and Testing

Monitoring must be undertaken to confirm that risk management measures are effectively meeting their objectives. This shall include qualitative and quantitative monitoring and product testing.

4.1 Qualitative monitoring

Site operatives must undertake visual inspections whilst the facility is operational to ensure that fugitive emissions of dust are being adequately controlled and are not being carried outside of the premises. Where fugitive dust releases are identified their source must be investigated and all reasonable and practicable measures implemented to prevent or minimise the release.

Where risk management measures are ineffective or likely to be ineffective at preventing visible dust crossing the site boundary, for example during adverse weather conditions, waste processing activities must cease until additional measures have been put in place to prevent the discharge or until the adverse weather conditions have passed.

4.2 Quantitative environmental monitoring

On some sites it may be necessary for ambient dust or asbestos fibre air monitoring to be undertaken to provide further confidence in risk management measures. Such monitoring may be required where recycling sites are located in close proximity to sensitive receptors, are within a relevant Environmental Protection Policy area or have a poor compliance history relating to fugitive dust control. Where quantitative dust monitoring is not proposed, the proponent/operator must provide a risk based justification as to why it is not considered necessary at their premises.

Dust monitoring provides a useful surrogate measure to evaluate the potential generation and distribution of airborne dust and asbestos fibres and will normally be sufficient on most sites. Dust monitoring equipment must demonstrate that dust levels are kept as low as reasonably possible. Tapered Element Oscillating Microbalance (TEOM) (or equivalent) equipment is preferred to provide continuous and accurate perimeter air monitoring for community protection. Any site perimeter monitoring for this purpose should be conducted to ensure compliance with the National Environmental Protection Measure (NEPM) ambient air 24 hour PM₁₀ goal of 50 ug/m³.

Where air quality monitoring is required, an air quality monitoring and reporting strategy must be developed by a person suitably experienced in dust/asbestos sampling and exposure assessment and any associated analysis be undertaken by a laboratory accredited by NATA for this purpose.

4.3 Product testing and supply

To ensure that 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 20-27mm;



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2. Recycled sand, screened to <10mm; and
3. Recycled road-base, <19mm.

The testing must be documented as outlined under Section 5.3.

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% asbestos weight for weight (w/w).

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 (>7mm) and AF (<7mm) 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 the 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 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 1000m³ of product.

Conveyor sampling

Sampling of road base and screened sand products must occur at a minimum rate of 1 sample per 70m³ of a product output. Suspect asbestos material or areas must be targeted for sampling.



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Sample treatment

Each sample collected must be at least 10 litres in volume and then be divided into 2 size fractions (>7mm and <7mm) in the field by sieving through a 7mm screen or spread out for inspection on a contrasting colour fabric. The >7mm fraction should be examined for any suspect asbestos material and this be retained to calculate the level of contamination.

The <7mm 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.

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, DEC may authorise a reduced product testing rate including down to 5 locations per 4000 tonnes (1 sample per 600m³) of product.

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

1. Activities at the premises have been validated through a DEC inspection or audit to comply with these guidelines;
2. DEC has confirmed through an inspection or audit that the conditions of the Part V licence are being met;
3. DEC has not undertaken any enforcement action in relation to the activities at the premises in the last 6 months;
4. Product testing has demonstrated that the product specification has been consistently achieved at the premises for a continuous 6 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 last 6 months and the different sources/types of material processed at the premises; and
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 DEC 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.

DEC 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 DEC. This



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may occur for example where the site is close to sensitive receptors, 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, DEC 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. DEC'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.

DEC will withdraw the approval to implement a reduced sampling frequency where the reduced sampling criteria are not being met on an on-going basis. Where DEC 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 DEC, proponents will be required to make a new reduced sampling frequency request and demonstrate that they have:

1. Implemented appropriate measures to prevent a re-occurrence of the non-compliance that caused the previous agreement for a reduced sampling frequency to be withdrawn; and that
2. The product specification (sampled at the 40 samples per 4000 tonnes rate) has been consistently met for a 6 month period following the implementation of the measures identified in 1. above.

Sample Analysis Method

>7mm sample fractions

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

<7mm sample fractions

Each <7mm 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 (AS4964-2004) or be demonstrated to be able to achieve the equivalent level of results to this Australian Standard.

AS4964-2004 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 (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 used, however DEC recognises that any reporting of concentrations below 0.01%w/w will be outside the conditions set by NATA.



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Therefore, to determine whether recycled products meet the product specification for asbestos content, samples must be a minimum of 500mL 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; and
 - Measuring the width and length (ie 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 DEC.

Whatever analysis methods are adopted by an operator, DEC 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 AS4964-2004 allows for a nil detection if the asbestos is less than a certain concentration and is non-respirable however DEC would consider a positive result to exceed the 0.001% w/w limit;
- Description of any asbestos detected; and
- Estimate of the concentration of asbestos detected if practical to do so.

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 eg 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



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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 10m² 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 >7mm sieve sampling in regard to the recycled sand material and roadbase. In this case a 1cm³ fragment of ACM or FA would be deemed to exceed the specification for a 10L 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.

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.